



Town Planning Management Engineering



GRACETOWN

Local Structure Plan



16-002580
March 2017

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

13th December 2017 Date

Signed for and on behalf of the Western Australian Planning Commission

[Signature]
an officer of the Commission duly authorised by the Commission pursuant to Section 16 of the
Planning and Development Act 2005 for that purpose, in the presence of:

[Signature] Witness

13 December 2017 Date

13 December 2027 Expiry

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REVISION TABLE

Rev No.	PURPOSE	DATE
1	Study Team Review	11.07.2008
2	Study Team Review	22.07.2008
3	Study Team Review	30.07.2008
4	Study Team Review	11.08.2008
5	Lodged with Council.	29.08.2008
6	For Advertising	19.02.2010
7	For Project Team Review	12.05.2010
8	For Project Team Review	07.09.2010
9	For Project Team Review	22.09.2010
10	For Project Team Review	12.10.2010
11	Lodged with Council for Review	26.10.2010
12	Lodged with Council for Review	24.03.2011
13	Lodged with Council for Review	18.04.2011
14	For Advertising	25.03.2013
15	For Client Review	25.02.2014
16	For Council Review	08.03.2014
17	For Council Review	02.07.2014
18	For Council Review	29.08.2014
19	For Council Review	15.09.2016
20	For Council Review	04.11.2016
21	WAPC Modification	21.03.2017

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TECHNICAL APPENDICES

No.	Subject	Consultant	Date	Comment
Environmental				
1	Re-assessment of the Botanical Values on the Proposed Gracetown Development Site	Mattiske Consulting Pty Ltd	October 2008	
2	Survey for the Western Ringtail Possum Pseudocheirus occidentalis within the Gracetown Expansion Area	Green Iguana	June 2008	
3	Fauna Survey (Level 2)	Greg Harewood B.Sc. (Zoology)	February 2009	
4	Gracetown Proposed Residential Development Preliminary Subterranean Fauna Assessment	Biota Environmental Services	August 2008	
5	Gracetown Development A Fauna Assessment	Western Wildlife	September 2007	
6	Environmental Management Plan	Strategen	December 2012	
7	Summary of Environmental Assessment	Strategen	October 2013	
8	Department of Parks and Wildlife Submission	Department Parks and Wildlife	August 2013	
Fire Management				
9	Independent Risk Assessment Gracetown Second Access Road	Strategen	March 2013	
10	Fire Management Plan	Strategen	October 2015	
Engineering Servicing				
11	Gracetown Townsite - Preliminary Servicing Report	Calibre Consulting Pty Ltd	March 2017	
12	Gracetown Residential Development - Urban Development Preliminary Design Report	GHD	October 2009	
Traffic				
13	Traffic Management Report	Transcore Pty Ltd	June 2010	
14	Second Access Road Investigation	Transcore Pty Ltd	June 2010	
Landscape				
15	Gracetown Landscape Assessment Report - Landscape Visual Assessment and Site Analysis	Ecoscape	November 2013	
Geotechnical				
16	Gracetown Residential Development - Geotechnical Report	GHD	July 2009	
17	Gracetown Residential Development - Additional Geophysical and Drilling Investigation	GHD	January 2013	
Water Management				
18	Gracetown Residential Development - Hydrogeological Investigation	GHD	October 2009	
19	Gracetown Residential Development - Local Water Management Strategy	GHD	August 2010	
Contaminated Sites				
20	Gracetown Residential Development - Contamination Investigation	GHD	August 2009	
21	Gracetown Residential Development - Additional Investigation Salter Street / Langley Crescent	GHD	December 2011	
Aboriginal Heritage				
22	Report of the Aboriginal Heritage Survey of the proposed LandCorp Development at Gracetown	Fisher Research	October 2008	
Design Guidelines				
23	Gracetown Building Heights Management Report	Ecoscape	October 2013	
24	Gracetown Development Photomontages	Ecoscape	October 2013	
Financial Management				
25	Review of Trility's Financial Model for the Gracetown Recycled Water Scheme Draft	Marsden Jacob Associates	November 2013	
Telecommunications				
26	Gracetown Telecommunications Strategy	Worrad Associates	May 2011	

EXECUTIVE SUMMARY

This structure plan has been prepared under the provisions of Section 6.2 of the Shire of Augusta Margaret River Local Planning Scheme No. 1.

The objective of the structure plan is to fulfil a 2005 State government initiative to develop limited additional residential and tourist development at Gracetown. Initial LandCorp proposal suggested creation of approximately 140 residential lots and a 50 key tourist facility. In 2009 the Minister for Regional Development and Lands determined not to proceed with the tourist component of the proposal.

The landscape and environmental qualities of the Leeuwin-Naturaliste Ridge have been recognised for many years. The Western Australian Planning Commission has sought to balance these qualities and increasing development pressures by way of the Leeuwin-Naturaliste Ridge Statement of Planning Policy.

These unique features have been recognised in a structure plan which has sought to recognise the unique circumstances and incorporate design solutions which push the boundaries of sustainability.

Unique elements of the structure plan include:

- A servicing scheme which will see the existing settlement and urban expansion area deep sewer and provided with an innovative reticulated water supply system (for details see Appendix 11 - Gracetown Townsite - Preliminary Servicing Report, March 2017);
- Ceding in the order of 230.77 hectares of land to the Leeuwin-Naturaliste National Park;
- Introducing Fire Management measures which are unique and set a new standard for isolated communities;
- Subdivision and urban design outcomes which minimise the need for clearing, provide for increased community interaction and will be visually acceptable;
- Result in upgrading of a range community facilities and services for the betterment of the town and those visiting; and,
- Related Scheme Amendment and Gracetown Expansion Project were determined by the EPA and the then DSEWPAC (now the Department of Environment) to not require environmental assessment. The Structure Plan has been prepared to address identified environmental issues.



Structure Plan Summary Table

Item	Area Ha.	No.	% of SP Area
Existing			
Area of Structure Plan			
Unallocated Crown Land	259.06	1	90.0%
Reserves	17.08	4	5.9%
Roads	11.74		4.1%
Total	287.89		100.0%
Proposed			
Residential Yield			
Area	6.53		2.3%
Lots		136	
Dwellings		146	
Public Open Space			
Transferred to National Park	230.77		80.2%
Recreation and Fire Management	22.70		7.9%
Public Open Space	4.20		1.5%
Sub Total	257.68		89.5%
Public Purposes			
Community Services, Infrastructure and Fire Management	7.80		2.7%
Roads	15.88		5.5%
Total	287.89		100.0%

Note: Minor rounding off of areas



Part One: Implementation

1.0 STRUCTURE PLAN AREA

- 1.1 This structure plan shall apply to the land detailed in *Figure 1 - Land Title Details* and contained within the inner edge of the line denoting the structure plan boundary on *Figure 2 - Local Structure Plan Map*.

Lot	Street Name	Ownership	Volume	Folio	Area (ha)
175	Salter Street	Reserve Under Management Order (Shire)	LR3021	481	0.3571
180	Salter Street	Reserve Under Management Order (Shire)	LR3122	697	1.6676
181	Salter Street	Reserve Under Management Order (Shire)	KR3122	698	11.08
176	N/A	Reserve Under Management Order (Shire)	LR3146	472	3.999
300	N/A	Unallocated Crown Land	LR3140	543	258.9482

Figure 1 - Land Title Details

2.0 STRUCTURE PLAN CONTENT

- 2.1 This structure plan comprises:
- a) **Part 1 - Statutory**
This section contains the Structure Plan Map and statutory planning provisions and requirements.
 - b) **Part 2 – Non-statutory**
This section is to be used as a reference guide to interpret and justify the implementation of Part One.
 - c) **Appendices**
This section contains technical reports, plans and maps supporting the Structure Plan.

3.0 INTERPRETATION AND RELATIONSHIP WITH THE SCHEME

- 3.1 Unless otherwise specified in this part, the words and expressions used in this Structure Plan shall have the respective meanings given to them in the Shire of Augusta Margaret River Town Planning Scheme No. 1 including any amendments gazetted thereto.
- 3.2 *Figure 2 - Local Structure Plan Map* outlines land use classifications applicable within the Structure Plan boundary. Due regard is to be given to these land use classifications when determining subdivision and development applications applicable to the Structure Plan.

- 3.3 The provisions, standards and requirements specified under Part One of this Structure Plan, shall be given due regard in any planning decision making.
- 3.4 Part Two of this Structure Plan and all appendices are to be used as a reference only to clarify and guide interpretation and implementation of Part One.
- 3.5 Concurrently with each stage of subdivision, scheme amendments will be required to appropriately zone the land to reflect the land use classifications identified on the Structure Plan.

4.0 OPERATION

- 4.1 In accordance with the Scheme, this structure plan shall come into operation when it is certified by the Western Australian Planning Commission (WAPC) pursuant to clause 6.2.6.10 of the Scheme and adopted by Council pursuant to clause 6.2.6.15 of the Scheme.

5.0 ZONING AND RESERVATION

- 5.1 *Figure 2 - Local Structure Plan Map* outlines the land use classifications applicable within the Structure Plan boundary. Due regard is to be given to these land use classifications when determining subdivision and development applications applicable to the Structure Plan. Following subdivision and prior to development, scheme amendments will be required to appropriately zone and/or reserve the land to reflect the land use classifications identified on the Structure Plan.



Figure 2 - Local Structure Plan Map

6.0 SUBDIVISION

- 6.1 Subdivision will occur in a manner consistent with the Gracetown Local Structure Plan.
- 6.2 The land identified on the Local Structure Plan as future National Park will be set aside for that purpose as a condition of the first stage of subdivision.
- 6.3 The subdivider will prepare and implement the following plans as conditions of the first stage of subdivision:
 - a) A Fire Management plan;
 - b) A Landscape Masterplan and Implementation and Management Strategy;
 - c) A Traffic Impact and Management Plan;
 - d) Design and Sustainability Guidelines;
 - e) A Local Development Plan; and;
 - f) An Environmental Management Plan.
- 6.4 Council will require a Local Development Plan incorporating Design and Sustainability Guidelines to be prepared and approved in accordance with clause 6.2.8 of the Scheme as a condition of the first stage of subdivision.
The Local Development Plan shall address:
 - a) Location, orientation, height, setbacks and design of buildings;
 - b) Finished site levels and drainage;
 - c) Vehicular access & parking;
 - d) Visual amenity;
 - e) Built form guidelines;
 - f) Application and variation of the R-Codes;
 - g) Sustainability principles;
 - h) Servicing requirements;
 - i) Aspirational objectives, which landowners and the community are encouraged to pursue in order to meet sustainability objectives; and,
 - j) Such other matters considered relevant by the Council.

7.0 LAND USE PERMISSIBILITY AND DEVELOPMENT

- 7.1 Planning decision makers are to give due regard to the Structure Plan when making subdivision and development decisions applicable to land within the Structure Plan boundary.

8.0 ONGOING MANAGEMENT

- 8.1 No development will be permitted until a Specified Area Rate has been established by Council in collaboration with the subdivider to provide for on-going implementation of:
 - a) Local Government responsibilities of the Fire Management Plan; and;
 - b) Manage the open space and road reserve network.

9.0 COMMUNITY COMMITMENTS AND OBLIGATIONS

- 9.1 Prior to the approval of subdivision proposed by an endorsed Structure Plan, a Developer Contributions Plan shall be prepared in conjunction with and to the satisfaction of the Shire of Augusta Margaret River in accordance with the commitments outlined in *Figure 3 – Gracetown Townsite Expansion Community Commitments and Obligations*.

PROJECT	SCOPE	PRIORITY / STAGING
Dual use path extension from main beach to caravan park	1. In consultation with GPA and Shire, select preferred route and materials, design path	Stage 1
	2. Construct path from Main Beach to North Point carpark	Stage 2
	3. Construct Path from North Point to Caravan Park	Stage 3
Main Beach upgrade works	Trim and Grade carpark, fence/bollard carpark boundary	Stage 1
	Define carpark entry and exit points and seal crossover	Stage 2
	Servicing of public toilets at Main Beach	Stage 2
	Upgrade/define picnic area and plant additional shade, with provision of suitable area for future playground	Stage 1
	Electric barbecues at Main Beach	Stage 1
	Upgrade beach shelters at Main Beach	Stage 1
Upgrade Community Centre (for fire refuge)	As detailed in endorsed Fire Management Plan	As per Fire Management Plan requirements
South Point Upgrades	Servicing of public toilets at South Point carpark	Stage 2
Melaleuca Beach picnic area	Electric barbecues at picnic area – replacement of existing wood barbecues	Stage 1
Footpath Connection	Footpath from Salter/ Langley intersection to South Point carpark	Stage 2

Figure 3 - Gracetown Townsite Expansion Community Contributions

Part Two: Non Statutory Section

NOTE: This Explanatory Report (Part 2) Contains an outdated servicing approach to the provision of water supply and effluent disposal. The current and supported approach is contained within the 'Gracetown Townsite - Preliminary Servicing Report (March 2017)' which forms Appendix 11 to this Structure Plan.

1.0 PLANNING BACKGROUND

1.1 Introduction and Purpose

1.1.1 Project Overview

The landscape and environmental qualities of the Leeuwin-Naturaliste Ridge have been recognised for many years. The Western Australian Planning Commission has sought to balance these qualities and increasing development pressures by way of the Leeuwin-Naturaliste Ridge Statement of Planning Policy No. 6.1 adopted in 1998.

The Policy identifies opportunities for limited, sensitive development on Crown Land at Gracetown, with funds generated being used to implement strategic conservation and infrastructure objectives. *Figure 4 - Site and Situation* places Gracetown in its geographic context.

Preliminary studies undertaken between 1999 and 2003 identified the land at Gracetown most suitable for development (Koltasz Smith and Partners, Gracetown Stage One Development Investigation Report, 2000, Ministry for Planning). In 2005, LandCorp was requested by the State Government to develop limited additional residential and tourist development at Gracetown. LandCorp's initial investigations suggested the creation of around 140 residential lots and a 50 key tourist facility,

In February 2009 after further investigation and consultation with Council and the local community, the State Government through the Minister for Regional Development and Lands has determined not to proceed with the tourist component of the proposal.

The Gracetown residential expansion precinct provides an opportunity to explore more sustainable forms of coastal development, in recognition of increasing worldwide trends toward the sustainable use of resources.

A scheme amendment has been prepared to appropriately zone the land for residential development and put in place the requirement for a structure plan. The structure plan details how development will occur on the site and will require separate planning approval.

This report outlines the proposed residential expansion and highlights innovative concepts and design principles. It should not be concluded that all of the innovations listed have been developed specifically for Gracetown. Rather, these innovations represent a significant step towards sustainability goals, compared to contemporary urban development.

This report has been prepared to support the amendment and structure plan, and provide a rationale accessible to the wider community, which explains the proposals they contain. The concepts explored are supported by a range of studies prepared by specialist consultants.



Figure 4 - Site and Situation

1.1.2 Amendment Overview

This Structure Plan and the accompanying Amendment seeks to amend the Shire of Augusta Margaret River District Local Planning Scheme No. 1 by rezoning 14.42 ha of land within the Gracetown townsite from "Parks and Recreation" reserve to "Future Development" zone and including the land within a "Structure Plan Area" and "Development Contribution Area".

The purpose of the "Future Development" zone is laid out in the scheme:

"To provide for additional sustainable urban development within and around existing settlements within the scheme area"

Furthermore the scheme objectives for the "Future Development" zone are set out as follows:

- To designate land considered to be generally suitable for future urban purposes and to prevent such land being used or developed in a manner which could prejudice its possible future use for planned urban development;
- To provide for the sustainable development of land in an orderly manner with appropriate levels of physical infrastructure and human services;
- To require, as a pre-requisite to the local governments support for subdivision proposals and approval to development for urban purposes, the preparation and approval by the local government together with endorsement by the Western Australian Planning Commission of a structure plan in accordance with the provisions at Part 6 of the scheme; and,
- To guide and control the development so as to achieve compact urban areas linked by open space, natural areas and functional open space consistent with the objectives of attaining sustainable development.

The scheme goes on to state that development other than a single house cannot be approved by council until such time as a structure plan has been prepared and endorsed and that once a structure plan is approved any proposed residential development shall be consistent with the R codes as implemented by the provisions of the approved structure plan.

The land to be rezoned and subject of this Structure Plan is outlined in *Figure 4 - Site and Situation*.

The Structure Plan and Amendment statutory approval processes have run in parallel to ensure the necessary integration and delivery of concepts.

The amendment will also provide for a development contribution plan to be lodged at a future date to provide for the timely provision of infrastructure and facilitate the equitable sharing of the costs of infrastructure provision.

1.1.3 Structure Plan Overview

In order to fulfil the requirements of the Shire of Augusta-Margaret River Local Planning Scheme No 1, a structure plan is required to be prepared for the expansion area at Gracetown.

The Town Planning Scheme details the process for formal adoption of structure plans which incorporate:

- The Structure Plan being submitted to Council for preliminary consideration;
- Council adoption of the structure plan for the purposes of public advertising;
- The structure plan being advertised for a period of 42 days;
- Council considering any submissions received regarding the structure plan and adopting the plan with or without modifications;

- The structure plan being submitted to the Western Australian Planning Commission for consideration along with any submissions received during the advertised period; and,
- Commission adopts the Structure Plan with or without modifications. The purpose of the Structure Plan is to put in place a series of provisions to control subdivision development and ongoing management. The Structure Plan provisions will also be used as a vehicle to call up further detailed investigations, or presentation of information in support of the Gracetown expansion.

Subsequent to advertising, the format of the Structure Plan has been modified to accord with the WAPC Structure Plan Preparation Guidelines. This has entailed significant modification to the appearance of the Structure Plan Document but has not materially affected the essential proposals of the plan.

1.2 Land Description

1.2.1 Location

The land subject of this structure plan sits on the western aspect of the Leeuwin-Naturaliste Ridge, immediately adjacent to the existing settlement of Gracetown. The Townsite of Gracetown is situated on the north facing Cowaramup Bay 41 Kms southwest of Busselton and 13 kms northwest of Margaret River.

Figure 4 – Site and Situation depicts the extent of the structure plan area and its relationship to the existing settlement at Gracetown.

1.2.2 Area and Land Use

The land subject of the structure plan totals 287.89 hectares including existing road reserves.

The vast majority of the land is unallocated Crown Land which contains little development or active land use with the exception of access tracks linking to the beach and providing informal access along the Leeuwin-Naturaliste Ridge and adjoining National Park.

Portion of the site immediately adjacent to the existing Cowaramup settlement contains community facilities including a hall, sporting grounds and a local bush fire brigade building.

1.2.3 Legal Description and Ownership

Figure 5 - Existing Lot Configuration depicts the subject land, identifies existing lot boundaries and provides ownership and management details of the various reserves which make up the structure plan area.

The unique circumstances of the Gracetown townsite expansion provide considerable opportunity for the pursuit of development and sustainability innovations.

It is important to note that the Crown reserve containing the site is currently subject to native title claims. It is anticipated that issues in relation to these claims will be finalised prior to the Subdivision Plan being endorsed for final approval.

1.3 An Opportunity for Innovation

1.3.1 Land Tenure

The subject land is contained within lot 300, which is currently in Crown ownership as outlined in *Figure 5 - Existing Lot Configuration*. This figure also gives details of adjoining Crown land. Lot 300 has a total area of 259.06 hectares and this amendment seeks to rezone 6.53ha to accommodate residential expansion.

An adjoining area of approximately 22.70ha is proposed to be used for 'Recreation, Fire Management and Servicing' under the existing "Parks and Recreation" reservation. The remaining area of lot 300 will be transferred to the adjoining National Park when the residential sites are subdivided (approximately 230.77ha).

Overall development control is simplified by the site and adjoining land being in Crown ownership, allowing innovative design to be pursued in a holistic manner and development profits to be directed towards achieving environmental and community outcomes.

1.3.2 Regional Context

The Leeuwin-Naturaliste Ridge Statement of Planning Policy provides a unique context for sensitive urban expansion at Gracetown. The foresight of this policy provides for profits from development to be directed towards environmental and community outcomes and encourages the use of innovative servicing solutions.

The amendment and structure plan are consistent with the policy.

1.3.3 Environment and Landscape

The western aspect of the Leeuwin-Naturaliste Ridge is a wild landscape characterised by secluded sandy beaches and rocky headlands giving way to a steep incline, with limestone and granite outcrops amongst coastal heath, before reaching the north south oriented ridge line.

Responding to this unique environment requires sensitivity and a high degree of confidence in the base environmental data used for design. For this reason, extensive empirical research has been completed in respect to vegetation, fauna and geotechnical matters. These studies and relevant management plans are contained in a separate Environmental Management Plan to be assessed by the Environmental Protection Authority.

The extent of research work provides a strong foundation for conceptual and detailed design.

The qualities of the natural landscape at Gracetown, and the value assigned to these qualities by the local and wider community, challenge us to clearly define acceptable limits of visual impact from development. Management strategies for servicing infrastructure and built form are therefore needed to ensure that Gracetown remains an iconic coastal village.

1.3.4 Fire Management

Risk of wildfire at Gracetown is exacerbated by a combination of 14 degree slopes; proximity to National Park; isolation from major fire fighting resources; limited water supply; and large, seasonal population fluctuations. Further complicating fire management strategies, is a desire to protect as much remnant vegetation as possible. Reconciling vegetation protection and fire management strategies has generated the need to undertake independent risk management assessment to ensure that the design outcomes meet acceptable safety standards.



Figure 5 - Existing Lot Configuration

1.3.5 Second Access Road

Intrinsically linked to the Bush Fire Management Plan is an investigation into the requirement for a second access road for the settlement to address fire issues and emergency service access. An Independent Risk Assessment has been undertaken to evaluate the need for a second access road and has ultimately determined that upgrading of the existing access road is a better option based on risk, environmental management and community outcome.

Further discussion on this issue can be found in *Section 2.7 - Fire Management and Second Access Road*

1.3.6 Sustainability

LandCorp has continuously sought community input as part of an iterative process while putting together proposals for residential development at Gracetown. This consultation highlighted the importance of environmental, social and economic sustainability in designing the townsite expansion. Hence this report includes a series of sustainability objectives developed for Gracetown relating to key areas including water, energy, housing design and diversity.

Sustainability initiatives are expanded further in *Section 2.5 – Sustainability Framework*

1.3.7 Servicing

Considerable work has been undertaken, including community input, to develop appropriate servicing options for the expansion of Gracetown. Servicing solutions have been sought that are responsive to the local environment; are more sustainable; and, are able to be applied to other isolated towns in other parts of the State.

The preferred servicing option is characterised by:

- Being largely self-sustaining in water supply, utilising rooftop catchment;
- Waste water collection and treatment to “fit for purpose” highly treated non-drinking water supply standards, and reticulation back to dwellings as a non-potable supply;
- Provision of a waste water collection and non-potable supply network to the existing Gracetown dwellings;
- Introduction of a non-potable water and wastewater service provider;
- Sustainable energy solution potentially utilising a combination of wind and solar power. Subject to further investigation;
- A local drainage network which is integrated into the local open space network, seeking to minimise the use of pipe networks and maximise the infiltration of run-off as close to the source as possible;
- Utilisation of solar powered hot water systems; and,
- Energy efficient, low impact solar powered street lighting where essential for safety.

1.3.8 Community

Gracetown enjoys a strong, close knit community, typical of many small towns in the southwest of the State. The community is highly active and the Gracetown Progress Association and other individuals have consistently contributed to the development of the expansion proposal.

Balancing local and wider community aspirations through a comprehensive community consultation process, involving design workshops, briefing sessions, community surveys and an information website, continued through the statutory approval process and added considerably to the quality of the project.

1.4 Planning Framework

1.4.1 Regional Context and Policy Framework

The regional planning context for the Gracetown townsite expansion is provided by the State Planning Strategy and the Leeuwin-Naturaliste Ridge Statement of Planning Policy (SPP 6.1) adopted in 1998.

The State Planning Strategy was endorsed by the Western Australian Planning Commission and State Cabinet in 1997 with the objective of helping the State generate wealth; preserve and enhance the environment; and build vibrant and safe communities, for the present and future enjoyment of Western Australians.

The Strategy recognises the significance of the South West to both local communities and the State, and identifies the need for sound growth management in the Leeuwin-Naturaliste Region. The Strategy recommends preparation of a South West Urban System Implementation Study to identify long-term urban expansion opportunities as a priority.

This requirement is fulfilled by the South West Framework released by the WAPC in October 2009. The framework identifies Gracetown as a Village with a Medium growth potential. *Figure 6 – Settlements* is an extract from the framework. The Gracetown Expansion proposals are consistent with the framework.

The Leeuwin-Naturaliste Ridge Statement of Planning Policy was prepared by the Western Australian Planning Commission and adopted under section 5AA of the Town Planning and Development Act in 1998. The Leeuwin-Naturaliste Ridge Statement of Planning Policy provides guidance to local governments in the preparation of town planning schemes and is used by the Western Australian Planning Commission as a basis for decision-making on subdivisions, structure plans and town planning scheme amendments.

Gracetown is identified as a “Coastal Node” in the Policy settlement hierarchy. This classification provides for growth to accommodate a permanent population of 500 people, subject to provision of reticulated water, sewer and power.

The Policy also identifies an indicative area suitable for urban expansion. However, subsequent examination of environmental constraints and community aspirations by the Department of Planning suggests that a significantly reduced area of land should be identified. *Figure 7 – Leeuwin-Naturaliste Ridge Statement of Planning Policy Land Use Strategy Plan* depicts the land originally identified for urban development in the Policy, while *Figure 8 – Development Investigation Area* identifies the land now being considered.

An important aspect of the Leeuwin-Naturaliste Ridge Statement of Planning Policy is the encouragement of innovative approaches to townsite expansion, settlement patterns and servicing. The current concept for development at Gracetown is consistent with the policy.

The land being considered for urban expansion is identified as being within the National Park Influence Area as identified in the Leeuwin-Naturaliste Ridge Statement of Planning Policy. There are a number of policy statements within this area which are required to be addressed relating to remnant vegetation, fire management, control of vermin and building controls. The policy also encourages local government to include special provisions within its local planning scheme to address these matters.



Figure 6 - Settlements

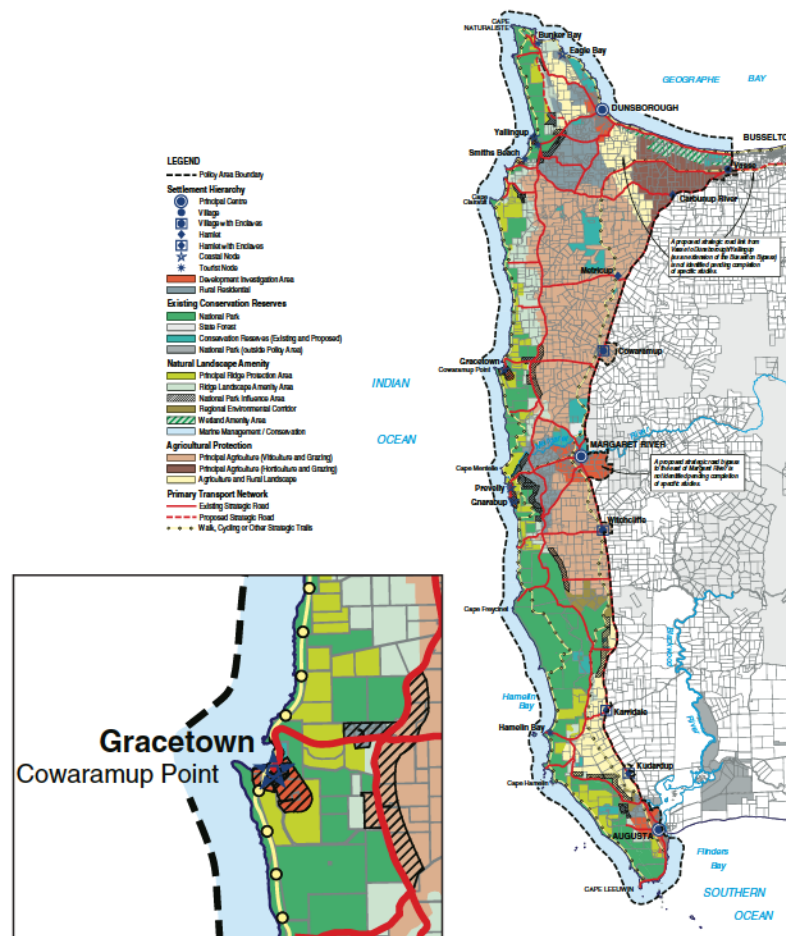


Figure 7 - Leeuwin-Naturaliste Ridge Statement of Planning Policy Land Use Strategy Plan

The Shire of Augusta Margaret River Town Planning Scheme No. 1 includes a provision requiring planning applications within the National Park Influence Area to demonstrate compliance with the policies of the Leeuwin-Naturaliste Ridge Statement of Planning Policy. To address this requirement, a number of plans have been prepared, including the Environmental Management Plan, Visual Management Plan, Landscape Master Plan, Fire Management Plan and Design Guidelines. These are discussed in greater detail in Section 3.0 of this report.

1.4.2 Zoning and Reservations

The land being considered for townsite expansion is zoned “Parks and Recreation” in the Shire of Augusta Margaret River Local Planning Scheme No. 1.

The Draft Local Planning Strategy divides the policy area into several ‘Planning Units’. The Gracetown urban expansion area is contained within ‘Planning Unit A’, which is identified as a ‘Development Investigation Area’.

Figure 9 – Planning Context places the proposed rezoning within the context of the scheme and the Draft Local Planning Strategy.

1.5 Concept Development Process

The formulation process for the Gracetown residential expansion has been extensive.

Extensive background research and concept development has occurred, including a high level of community involvement in the design process.

Figure 10 – Inputs Table details the supporting investigations and technical advice required to support approvals at each stage of the Gracetown project. Column 3 details the level of information anticipated to support the related town planning scheme amendment and column 4 details the inputs to Structure Planning.



Figure 8 - Development Investigation Area

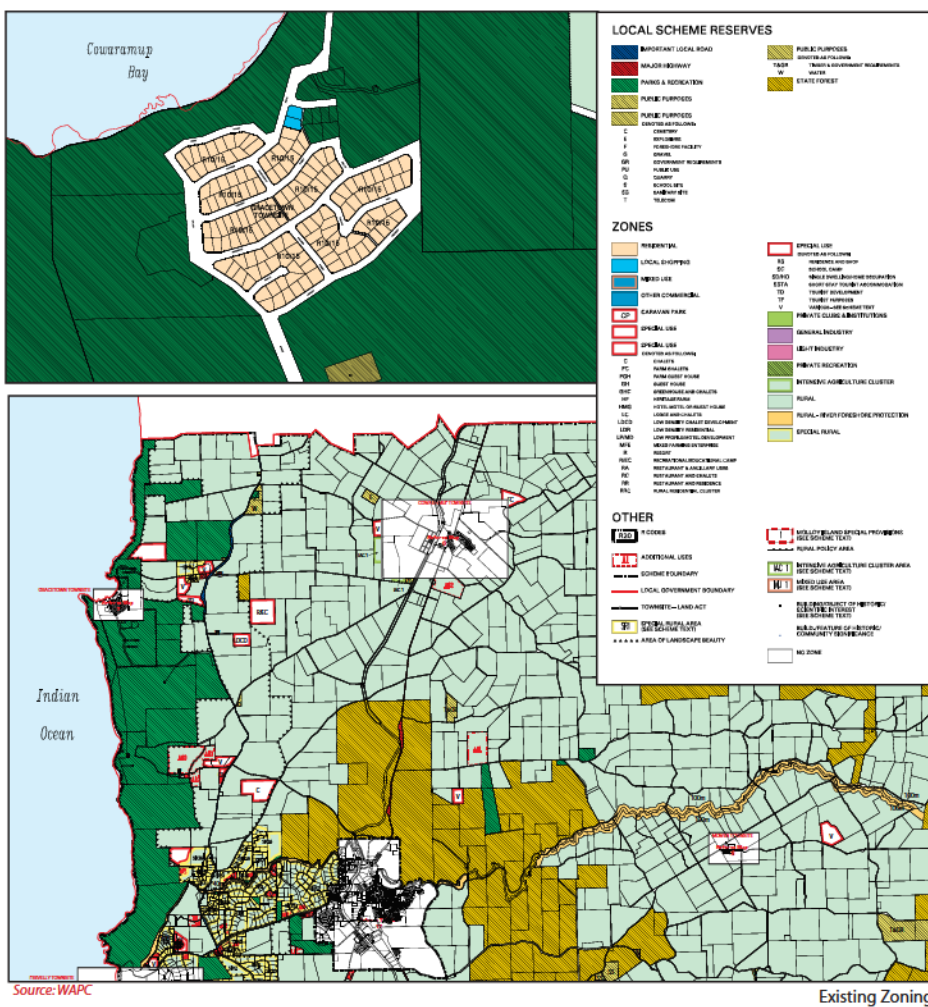


Figure 9 - Planning Context

Discipline/Planning Phase	Pre Planning	Scheme Amendment	Structure Planning	Subdivision Application	Condition of Subdivision
Engineering	Water Supply	Consultation with statutory authorities and community, investigation and reporting of feasibility and technical issues for sustainable supply options including provision of fire hydrants.	Provisions included in amendment to facilitate servicing solutions.	Input to subdivision design. Input to design guidelines in respect to lot owners responsibilities and requirements with respect to rain portable water.	Non potable water system design, documentation, site and DRS approval, tender, tender assessment contract award, construction and acceptance by site and DRS.
	Recycled Water Collection System	Consultation with statutory authorities and the community, investigation and reporting of feasibility and technical issues for treatment, disposal and sustainable reuse and supply options.	Provisions included in amendment to facilitate servicing solutions.	Input to subdivision design. Input to design guidelines in respect to lot owners responsibilities and requirements with respect to the recycled water collection system.	licence from EPA, Design, tender assessment contract award, construction and acceptance by statutory authorities.
Drainage	Investigation and reporting of collection and disposal options with reference to site requirements, geotechnical, physical and	Provisions included in amendment to facilitate servicing solutions.	Summary of findings from preplanning and preferred option. Preparation of a combined District and Local Water Management Strategy.	Input to subdivision design.	Design, documentation, site approval, tender, tender assessment contract award, construction and acceptance by site.
	Power	Consultation with statutory authorities and the community, investigation and reporting of feasibility and technical issues for sustainable supply options.	Provisions included in amendment to facilitate servicing solutions.	Input to subdivision design.	Design, documentation, Western Power approval, tender, tender assessment contract award, construction and acceptance by statutory authorities as necessary.
Telecommunications	Consultation with telecom to provide state of the art telecommunications.	Provisions included in amendment to facilitate servicing solutions.	Summary of findings from preplanning and options protected.	Further visual modelling to justify mobile phone tower locations.	Design, documentation, site approval, tender, tender assessment contract award, construction and acceptance by site.
	Roads, Paths and Earthworks	Consultation with statutory authorities and the community, investigation and reporting of feasibility and technical issues for construction	Provisions included in amendment to facilitate servicing solutions.	Input into subdivision design	Design, documentation, site approval, tender, tender assessment contract award, construction and acceptance by site.
Traffic	Traffic Assessment Report.	Provisions included in amendment to facilitate proposals.	Summary of findings and recommendations included in Structure Plan.	Input to subdivision design.	Proposals incorporated into civil works contract.
Landscape	Visual Assessment	Preliminary visual assessment undertaken with community consultation to determine landscape preferences to landscape.	Landscape design principles included in Structure Plan.	Input to subdivision design. Input to Design and Sustainability Guidelines.	Approval to Landscape Masterplan. Proposals incorporated into civil works contract.
	Seed Collection Strategy	Develop seed collection strategy.	Ongoing implementation of seed collection strategy.	Ongoing implementation of seed collection strategy.	Ongoing implementation of seed collection strategy.
3D Model	Precise 3D model of visual impacts of development.	Test requirement for preparation and adherence to visual impact objectives.	Summary of findings and recommendations included in Structure Plan.	Input to subdivision design. Input to Built Form and Sustainability Guidelines.	Adoption of Built Form and Sustainability Guidelines.
	Architectural	Community design session to determine community preferences to built form.	Built form design principles included in Structure Plan.	Input to subdivision design. Input to Built Form and Sustainability Guidelines.	Preparation of Design Guidelines.
Built Form Management	Design and Sustainability Guidelines	Test requirement for preparation of design guidelines.	Pre Management Plan submitted with the Management Plan for a differential rate to maintain vegetation to the standards it proposed.	Input to subdivision design. Input to Design and Sustainability Guidelines.	Implementation of Fire Management Plan.
	Built Fire Management Plan	Test requirement for preparation of the Management Plan.	Pre Management Plan submitted with the Management Plan for a differential rate to maintain vegetation to the standards it proposed.	Input to subdivision design. Input to Design and Sustainability Guidelines.	Implementation of Fire Management Plan.
Community Consultation	Briefings to Community	Reliability require and cash compensation with Graceton community representatives.	Ongoing communications with Graceton community representatives.	Ongoing communications with Graceton community representatives.	Ongoing communications with Graceton community representatives.
	Workshops	Three community consultation workshops held with Graceton community; Sustainable neighbourhood Day re Preliminary Concept Plan.	Consultation on water infrastructure.	Ongoing communications with Graceton community representatives.	Ongoing communications with Graceton community representatives.
Website	Provide ongoing information on project status and feedback mechanism.	Ongoing project status information and feedback mechanism. Support statutory advertising.	Ongoing project status information and feedback mechanism.	Ongoing project status information and feedback mechanism. Support statutory advertising.	Ongoing project status information and marketing of land.
	Stakeholder letters	Direct mail invitation to attend workshops.	Direct mail communication with Graceton community. Advice of statutory advertising period.	Direct mail communication with Graceton community. Advice of statutory advertising period.	Direct mail communication with Graceton community. Advice of statutory advertising period.
Facilities	Proposed water infrastructure and renewable energy alternatives.	Water infrastructure concept.	Water infrastructure concept.	Ongoing direct access to project team.	Ongoing direct access to project team.
	Graceton information line	Dedicated phone line for project queries.	Ongoing direct access to project team.	Ongoing direct access to project team.	Ongoing direct access to project team.
Dedicated Graceton email	Dedicated email address for project queries.	Provide ongoing direct access to project team.	Provide ongoing direct access to project team.	Provide ongoing direct access to project team.	Provide ongoing direct access to project team.
	Quarterly Newsletters	Quarterly reporting on project status. Database of local community, landowners and other stakeholders.	Ongoing reporting on project status. Ongoing email communications to community.	Ongoing reporting on project status. Ongoing email communications to community.	Ongoing reporting on project status. Ongoing email communications to community.
Statutory Advertising	Statutory Advertising	42 Days statutory advertising with comments considered by Council. The Management Plan and the WMC.	Statutory advertising for a period nominated by Council with comments considered by Council and the WMC.	Statutory advertising for a period nominated by Council with comments considered by Council and the WMC.	Statutory advertising for a period nominated by Council with comments considered by Council and the WMC.
	Community Notice board	Distribution of project information, community information and site information on the project.	Ongoing distribution of project information to community.	Ongoing distribution of project information to community.	Ongoing distribution of project information to community.
Environmental	Environmental Management	Prepare Environmental Review (including assessment of residential amenity) to allow assessment of scheme amendment (addressing flora, fauna, soil, surface water/ water quality, landscape heritage and visual amenity) and BVE.	Summary of findings and recommendations included in Structure Plan.	Input to subdivision design. Input to Design and Sustainability Guidelines.	Implement endorsed BVE.
	Sustainability	Develop sustainability indicators and targets. Community consultation regarding indicators and targets.	Summary of findings and recommendations included in Structure Plan.	Input to subdivision design. Input to Design and Sustainability Guidelines.	Implement sustainability initiatives.
Aboriginal Heritage	Native title agreement	Native title claim negotiations commenced. Archaeological heritage survey and search of DIA database conducted.	Summary of findings and recommendations included in Structure Plan.	Input to subdivision design.	Native Title negotiations concluded.
	Heritage Assessment	Heritage Assessment	Summary of findings and recommendations included in Structure Plan.	Input to subdivision design.	Conduct further archaeological and archaeological support of the proposed residential development site at construction stage.

Figure 10 - Inputs Table

2.0 SITE CONDITIONS AND CONSTRAINTS

2.1 Aboriginal Heritage

Cowaramup Bay is a place of cultural significance for the local Aboriginal community as it was traditionally used for fishing. Protection of the environmental values of the beach and marine life, as well as Aboriginal access to the beach, will allow the Aboriginal community to maintain cultural ties with Cowaramup Bay.

A search of the Register of Aboriginal Sites, maintained by the Department of Indigenous Affairs, identified one Aboriginal heritage site as occurring within the proposed residential development area, although the coordinates of the site are considered unreliable by the Department of Indigenous Affairs.

An Aboriginal heritage survey by Fisher Research, was completed in 2008 in cooperation with local Aboriginal communities affiliated with the Native Title claimants. (See *Appendix 22*)

There are current negotiations occurring with two Native Title claimants and formal agreements have been prepared in order to facilitate the required Native Title Clearance and Aboriginal heritage surveys processes. If sites of Aboriginal heritage are identified, they will be avoided if possible. Consent to disturb the sites has been sought from the Minister for Indigenous Affairs through a Section 18 application under the Aboriginal Heritage Act 1972, and approved in July 2009.

2.2 Community Aspirations

2.2.1 Consultation

Extensive consultation with both the local and wider community has been undertaken in the preparation of the concept plan for Gracetown.

Three community information workshop sessions were undertaken in 2006 and 2007 to explore and invite input on servicing options and the design principles.

Of particular importance are the outcomes of the Landscape, Planning and Built Form Workshop. This workshop utilised a new technique whereby participants were presented with a range of visual cues to forms of development. Participants were encouraged to discuss and rank their preferred design outcomes.

Figure 11 - Community Preferred Design Principles summarises the outcomes of this workshop.

These sessions have been complemented by regular media statements and a website providing project information. In addition to public consultation outside of the statutory planning process advertising of the Structure Plan and accompanying amendment has occurred.

2.2.2 Council

The Shire of Augusta Margaret River has been an active participant in the development of Gracetown townsite expansion proposals. The Shire has contributed to the Leeuwin-Naturaliste Ridge Statement of Planning Policy (1998) and the Gracetown Stage One Development Investigation Report (2000), and has endorsed the Cabinet position statement.

Councillors and staff have also participated in the community consultation program.

The Shire of Augusta Margaret River has articulated the following key objectives for expansion at Gracetown:

- To achieve a scale of development this is consistent with the existing character and amenity of Gracetown;
- To ensure that the local and regional community have the opportunity to participate in the concept development process; and,
- To pursue a high level of sustainability, and in particular to explore new sustainability initiatives for servicing solutions that may be appropriate for other settlements in the local government area.

2.3 Environmental Considerations

2.3.1 Environmental Assessment Process and Outcomes

The proposed Gracetown Expansion Concept and the accompanying Town Planning Scheme Amendment have been referred to the Western Australian Environmental Protection Authority (EPA) and the Australian Government Department of Environment.

The outcome of these referrals was the EPA determination that the project did not require assessment under the EP Act and Department of Environment determination that the proposed residential elements of the project did not require assessment under the EPBC Act.

The environmental assessment process identified the key relevant environmental issues as:

- Bio diversity values (vegetation, flora and terrestrial fauna);
- Karst (including geology and geomorphology, as well as subterranean fauna);
- Surface water and ground water;
- Aboriginal heritage;
- Visual amenity; and,
- Leeuwin-Naturaliste National Park.

2.3.2 Bio Diversity Values

A comprehensive range of environmentally based technical assessments and submissions are contained in *Appendices 1 - 8*.

A total footprint of approximately 35.77 hectares is expected to be disturbed to accommodate the proposed residential development, areas of open space and fire management measures. Within the residential precinct a commitment has been given to maintain a minimum of 40% of the site for public open space which will aid in retaining some of the existing flora. 230.77 hectares of land are proposed to be added to the adjoining national park.

The vegetation complex identified within the area in which clearing will occur has been determined to be well represented in the coastal area and conservation estate, including the Leeuwin-Naturaliste National park, with this representation being in the order of 71% remaining.

The 2 priority listed species within the area to be cleared have been determined to have representation outside the scheme area. No Declared Rare Flora was identified within the area which will be cleared. Thirty five introduced species were identified.

Consistent with EPA objective the abundance, species diversity, geographic distribution and productivity of flora at species and ecosystem levels will be maintained thereby conserving regional biological diversity (see *Appendices 3 and 4*).

Fauna species of conservation significance observed through Level 1 and 2 Fauna Studies included Baudin's Cockatoo, the Western Ringtail Possum and Carpet Python.

LANDSCAPE ELEMENTS

What should be the Overall Landscape Impact of development?
Even distribution of bushland and development



What is the appropriate Streetscape for new development in Gracetown?
Preserved bushland planting, flexible street parking, footpaths



What is the appropriate Street Lighting for new development in Gracetown?
Preservation of darkness, individuals provide light



What is the appropriate Lot Landscaping for new development in Gracetown?
Minimal earthworks, small building footprint, preservation of existing vegetation, no lawn

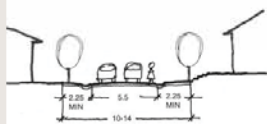


What type of Public Open Space is to be provided in the new development?
Landscape Preservation: minimal pathways, bushland management



PLANNING ELEMENTS

What is the appropriate road pavement width for the new development in Gracetown?
Creating a 5.5 metre pavement which creates a pedestrian environment and allows two way traffic with pedestrians utilising the road pavement for access. Limited opportunity for on street parking.



What is the most appropriate road orientation to the prevailing contour for new development in Gracetown?

Creating an organic road network which is sensitive to contours, create softer slopes, requires less earthworks but in which solar orientation is less rigorous. Views can be lost.



What is the most appropriate road drainage system for new development in Gracetown?

Roads with no kerb and utilising a road side swale create a local character. The system utilises infiltration and treatment at source but increases the risk of erosion on steep roads



What is the most appropriate form of drainage retention for new development in Gracetown?

Creating an informal Bioretention basin will allow nutrient management in a manner more complementary to the existing landscape and would require a larger land area.



What is the form of pedestrian linkage most appropriate for new development in Gracetown?

Creating informal pedestrian links utilising rustic materials such as timber sleepers or limestone in order to protect adjoining vegetation and make it easier for cycling.



What is the appropriate road/lot orientation for new development in Gracetown?

Roads following natural contours result in low road grades and give best solar orientation. More extensive road earthworks are generally required and less length of retaining walls are generally required but these can be higher.



What is the appropriate treatment of earthworks to accommodate new residential development on slopes at Gracetown?

Gracetown permits a unique design solution incorporating limited retaining permitted in specific locations at the rear of properties. This solution can be complemented by vehicles being required to be parked at the rear of houses on the high side of roads



What is the appropriate housing mix for new development in Gracetown?

Predominately single residential development utilising lots ranging from 300m² to 900m² containing one and two storey development would utilise the 14 hectare development site. This lot size provides space for a front vegetation setback and water storage



BUILT FORM ELEMENTS

What would be an appropriate height for new development in Gracetown?

Defined Height Limit: generates consistent streetscape; allows flexibility of built form within height limit; minimises conflict between privacy and loss of views; removes queries on 'what is a storey'; heights to comply with overshadowing restrictions.



Is it appropriate that new developments provide front balconies/terraces to promote a sense of community and neighbourliness for new development in Gracetown?

Front Balconies/Terraces: Provides natural surveillance of the street; provides a positive relationship to the streetscape; activates the streetscape; articulates façade; can maximises view opportunity; characteristic of coastal hillside living.



Where should the Car Parking/Garages be located for new development in Gracetown?

Rear: cars concealed from public view; landscaped frontage maximised; reduced building bulk



What would be an appropriate roof form for new developments in Gracetown?

Skillion: Reduces building height and bulk; projecting eaves for shade; increases opportunity for winter solar gain; opportunity for high point for egress of hot internal air; characteristic of coastal vernacular



Figure 11 - Community Preferred Design Principles

It has been determined that Baudin's Cockatoo was observed feeding on the site but the area to be cleared was not determined to be a significant part of its nesting habitat due to the absence of hollow bearing eucalyptus. Furthermore the feeding habitat extends well outside of the area to be cleared. One Western Ringtail Possum was observed outside of the development footprint however, five Western Ringtail Possum dreys were observed within the proposed development footprint area. The dreys were considered unlikely to be regularly used due to their low stature, quality of vegetation and limited quantities of preferred food resource.

A Carpet Python was observed within the area to be cleared. The habitat for this species extends well beyond the area to be cleared.

Consistent with EPA objectives the abundance, diversity, distribution and productivity of fauna at species and ecosystem levels will be maintained and the environmental impacts of the proposed development were determined to be acceptable.

2.3.3 Karst

Karst features are a common landscape component along the Leeuwin-Naturaliste Ridge however; investigations have not indicated the presence of subterranean channels, sinkholes or caves within the area to be developed.

An assessment of the presence of subterranean fauna consisting of stygofauna and troglifauna has not been undertaken however the potential impacts of development on these fauna are all at the "very low" risk level (see *Appendix 4*).

2.3.4 Surface Water and Ground Water

There is likely to be a high infiltration and through flow of surface water and ground water within the area to be developed due to the geomorphology and high porosity of soils and geology. Rainwater is expected to flow westerly towards to coastline.

Current Gracetown residents use septic tanks to dispose of household wastewater which is most likely causing contamination to groundwater supplies and potentially to local marine waters.

The proposed development will incorporate a reticulated sewerage scheme which will remove this risk and the incorporation of water sensitive urban design strategies will minimise any risk of urban drainage contamination.

2.3.5 Aboriginal Heritage

The reader is referred to *Section 2.1 – Aboriginal Heritage* of this report which addresses Aboriginal Heritage issues.

2.3.6 Visual Amenity

The landscape values of the scheme amendment area were assessed by Ecoscape in terms of their biophysical character and socio-cultural character (see *Appendix 15*).

Potential impacts to these key landscape values will be minimised by the strategic design and lot layout of the proposed residential development.

Further discussion of this issue and management measures can be found at *Section 3.7 – Visual Management* of this report.

2.3.7 Leeuwin-Naturaliste National Park

The Leeuwin-Naturaliste National Park was established in 1957 and stretches 120 kms from Cape Naturaliste to Cape Leeuwin. The Leeuwin-Naturaliste National Park is listed on the register of the National Estate.

The proposed development area is currently outside and will not directly affect the Leeuwin-Naturaliste National Park. The Fire Management area associated with the development may result in 0.2 hectares of the existing national park being directly affected by fire services access buffer and fire vehicle access.

Potential impacts on the national park are those arising from human presence and vehicle movement which can be largely managed by controlling access to and activities permitted within the park.

The Gracetown Townsite Expansion Project will result in approximately 230 hectares of land being protected and transferred to the Leeuwin-Naturaliste National Park with the first stage of residential subdivision.

2.4 Sustainability Framework

Consistent with State and local government initiatives a sustainability matrix has been developed which identifies key environmental, economic and social factors relevant to the expansion of Gracetown. These key factors are:

- Water;
- Water quality;
- Energy and greenhouse emissions;
- Biodiversity;
- Land form;
- Waste;
- Materials;
- Visual amenity/landscape;
- Cultural heritage;
- Motor vehicles;
- Housing design and diversity;
- Safety and security (including fire risk);
- Stakeholder consultation/involvement;
- Local community development;
- Local employment;
- Tourist development and promotion; and,
- Development contributions.

For each factor the matrix further identifies objectives, indicators, minimum initial targets, and design rules/management measures.

Objectives	Outcomes which are sought.
Indicator	Measure to assess if the objective is being met.
Minimum Initial Target Expansion.	Target to be achieved as part of the Gracetown townsite
Design Rules/Management Measures/Options	Initiatives that should be pursued during design and construction, or as ongoing management strategies, to assist in achieving nominated targets.

Figure 12 - Sustainability Framework depicts the sustainability framework for Gracetown. It should be noted that this is a work in progress and will be addressed further as the project progresses.

Consider also Phases - pre-construction, construction, post construction for each factor

CONCEPT DEVELOPMENT			
Factor	Objective	Indicator	Design rules/Management Measure/options
Water Supply	Set efficiency water supply	Water source	Minimum initial target's Zero use of imported sources of water (all phases)
	Improved water use efficiency	Water consumption per dwelling per year	50% reduction in water consumption compared with Perth development (post construction)
Water Quality	Decrease in nutrient discharge to Groundwater	Groundwater quality	Reduce groundwater contamination
	Improve surface water quality	Surface Water Quality	Improved water quality within the Cowaramup Brook
Energy & Greenhouse	Reduced usage of energy	Energy consumption per dwelling per year	60% reduction in the energy consumption of traditional households (post construction)
	Reduced usage of energy from fossil carbon sources	GHG emissions per dwelling per year	Zero greenhouse gas emissions from the use of electricity (post construction)
Biodiversity	Reduced embodied energy	Embodied energy per dwelling	25% reduction in the embodied energy of traditional households (post construction)
	Protection of local biodiversity values	Vegetation left undisturbed	Retention and protection of 100% of existing fauna communities within the development area
Landform	Minimise changes to local landforms	Area of Enclave	Retention and protection of key ecological linkages
	Maintain the condition of dunes and foreshore	Area of rehabilitation	Rehabilitate vegetation and riparian areas within the development area
Waste	Reduce waste going to landfill	Area of topsoil left undisturbed	60% reduction in construction waste going to landfill
	Reduce waste going to landfill	Area of topsoil left undisturbed	40% of land clearing or earthworks material is kept on-site
Materials	Increased usage of low environmental "core" materials	Area of topsoil left undisturbed	75% reduction in domestic waste (compared to Perth development) including green waste going to landfill
	Increased usage of low environmental "core" materials	Area of topsoil left undisturbed	Minimum of 40% of construction materials are made from a combination of reused resources, renewable materials etc

Figure 12 - Sustainability Framework
(continues on following page)

Visual Amenity/landscape	Minimal risk to key landscape and coastline Cowarrup Bay	Visual assessment (DEC methodology)	Community acceptance of code of impact	Design rules compatible to natural landscape preservation, including
Cultural heritage	Preserve darkness	POI usage and function	Design low-key recreational facilities	- boundary landscaping, and
	Conservation of cultural and built heritage	Night sky clarity	Can see stars on a clear night from public places within residential development	- clustered development with vegetation amongst infrastructure
Motor vehicles	Minimise the impact of vehicles and vehicle use within Gracetown	Heritage surveys	No loss of aboriginal and/or local heritage values	- retaining was restricted to max. of 1.3m and composed of limestone
		Consultation program	Interpretation signage and cultural public educational programs and opportunities	- location of FESA track
Housing design and diversity	To encourage housing diversity to meet demographic demands	Dominance and usability of pedestrian network	High level of community understanding of the development concept and issues	- location of footways
		Separation and safety of vehicle and pedestrian networks	Understand the impact of the development on the environment	- Upgrade the existing Gracetown Oval
Safety and security (incl fire risk)	To create a safe secure community	% housing mix provided	Compliance with minimum dwelling ratio mix including:	- Upgrade the existing Gracetown Oval
			- 30% single and two bedroom dwellings	- Upgrade the existing Gracetown Oval
Stakeholder Consultation /involvement	Provide a high level of community consultation during project stages	Housing that provides opportunity for the wider community to enjoy	% of dwellings are available for short term leasing	- Upgrade the existing Gracetown Oval
		Scheme amendment proposed and approved	Land use controls which provide opportunities for short term leasing	- Upgrade the existing Gracetown Oval
Local Community Development / design	Create a sense of "community self" in all aspects of community life	Audit of design rules	Exceed indoor quality standards	- Upgrade the existing Gracetown Oval
		Measures of community satisfaction	Compliance with CIED guidelines	- Upgrade the existing Gracetown Oval
Local employment	Provide key facilities to limit the need for residents to travel to other towns	Interface with public realm	Measures of community satisfaction	- Upgrade the existing Gracetown Oval
		Community Services/Facilities	Measures of community satisfaction	- Upgrade the existing Gracetown Oval
Development Contributions	Encourage permanent residents within Gracetown	% permanent residents	Measures of community satisfaction	- Upgrade the existing Gracetown Oval
		Local workforce engaged in construction phase	Measures of community satisfaction	- Upgrade the existing Gracetown Oval
	Promote local employment during construction phase	Local employment and business opportunities	Measures of community satisfaction	- Upgrade the existing Gracetown Oval
			Measures of community satisfaction	- Upgrade the existing Gracetown Oval
	Development that reflects the unique environmental	Stakeholder/Community support for the development proposal	Measures of community satisfaction	- Upgrade the existing Gracetown Oval
		Use of the sustainability framework on other projects	Measures of community satisfaction	- Upgrade the existing Gracetown Oval
	To use Gracetown as a model for Coastal Housing with a light touch	Contribution to National Park	Measures of community satisfaction	- Upgrade the existing Gracetown Oval
		Contribution to Local Regional Project	Measures of community satisfaction	- Upgrade the existing Gracetown Oval
	The development will provide a financial contribution to the management of the National Park	New dwelling	Measures of community satisfaction	- Upgrade the existing Gracetown Oval
		Initial service for existing properties	Measures of community satisfaction	- Upgrade the existing Gracetown Oval
	Provide an initial third pipe service for the existing Gracetown Settlement	Initial service for existing properties	Measures of community satisfaction	- Upgrade the existing Gracetown Oval
			Measures of community satisfaction	- Upgrade the existing Gracetown Oval

Figure 12 - Sustainability Framework (Continuation of previous page)

Implementation

New initiatives, continuous innovation and improvement will require regular audit, review and update of the Gracetown sustainability key performance indicators through the project.

2.5 Community and Townsite Integration

Any proposed expansion of Gracetown must be considered in the context of the existing settlement. Good planning dictates that any additional development must complement the existing development and be consistent in character. Traffic and pedestrian movement should be integrated and the capacity of services and facilities upgraded to accommodate new development. In summary, the townsite expansion should be a logical extension of the existing townsite, not a new estate.

Figure 13 – Townsite Integration Principles demonstrates the major opportunities and constraints to townsite integration. *Section 3.2 – Community Integration* expands further on these issues.

2.6 Fire Management and Second Access Road

2.6.1 Second Access Road Risk Assessment

Throughout the development of the Gracetown Expansion Structure Plan the provision of a second access road into the settlement has been the subject of considerable discussion by government agencies and community stakeholders. Given the significance of this issue an independent risk management assessment (see *Appendix 9*) has been undertaken in respect to the provision of a second access road in the context of:

- Bush fire management;
- Traffic implications;
- Secure the assessment to the settlement; and,
- Any adverse environmental impacts.

The independent risk management assessment has been undertaken in accordance with Australian Standard/New Zealand Standard AS/NZS ISO 31000/2009 Risk Management: Principles and Guidelines.

Figure 14 – Key Outcomes of the Risk Management Assessment details the findings of the assessment.

The conclusion of the risk assessment details that the risk to Gracetown may be acceptable under a single access option with appropriate mitigation including:

- Upgrading the community centre as a safe refuge facility during emergency situations;
- Preparing an acceptable evacuation procedure during emergencies;
- Undertaking fuel hazard reduction adjacent to Cowaramup Bay Road and the townsite;
- Undertaking further upgrades to Caves Road/Cowaramup Bay Road intersection, reduce speed limits along Cowaramup Bay Road and implement passing lanes, turn around points and under grounding power along Cowaramup Bay Road;
- Providing or upgrading the ability of Gracetown to received sea or air emergency support.

The independent risk management assessment provides a range of detailed recommendations in respect to implementation of the single access option.

On the basis of these outcomes the Structure Plan does not provide for a second access road into Gracetown.

Key Outcomes of the Risk Management Assessment

The key outcomes of the risk management assessment are as follows:

1. Some potential benefits can be perceived from the implementation of a second access road, including:
 - a. a possible reduction in the number traffic-related incidents along Cowaramup Bay Road
 - b. An improvement to townsite security of access in most situations.
2. Increased costs, inherent risks or impacts may arise from construction of a second access road, including:
 - a. an increase in the occurrence of bush fires due to increased public access in extreme bush fire hazard areas provided by the second access road (refer to Appendix 2)
 - b. inhibited public and emergency access along the second access road in the event of uncontrolled bush fire, potentially causing entrapment by the oncoming fire front
 - c. greater environmental impacts through disturbance of native vegetation (some within LNNP)
 - d. high financial costs and delays incurred through obtaining relevant approvals and subsequent road construction
 - e. Ongoing environmental management (e.g. fuel hazard reduction adjacent to the road, weed and dieback control).
3. The various incident risk scenarios contained in Appendix 3 of the report provide examples where a second access road would improve security of access to the townsite during low to moderate risk incidents. However, during high risk incidents, especially those involving high intensity, uncontrolled bush fires, it is likely that a second access road will be compromised and may provide a greater risk to Gracetown visitors and residents choosing to use the access road as a means of escape.
4. The risk analysis determined that Gracetown visitors and residents may not necessarily be exposed to greater unacceptable risk from an emergency event if single access to the townsite was maintained with appropriate risk mitigation measures in place. This is due to refuge locations provided by an upgraded community centre and or the local beach, as well as the ability for a sea or air rescue to be mounted if required.
5. The cost incurred under implementation of dual access to the townsite is substantially greater than that required under maintenance of the existing single access.

Figure 13 - Key Outcomes of the Risk Management Assessment

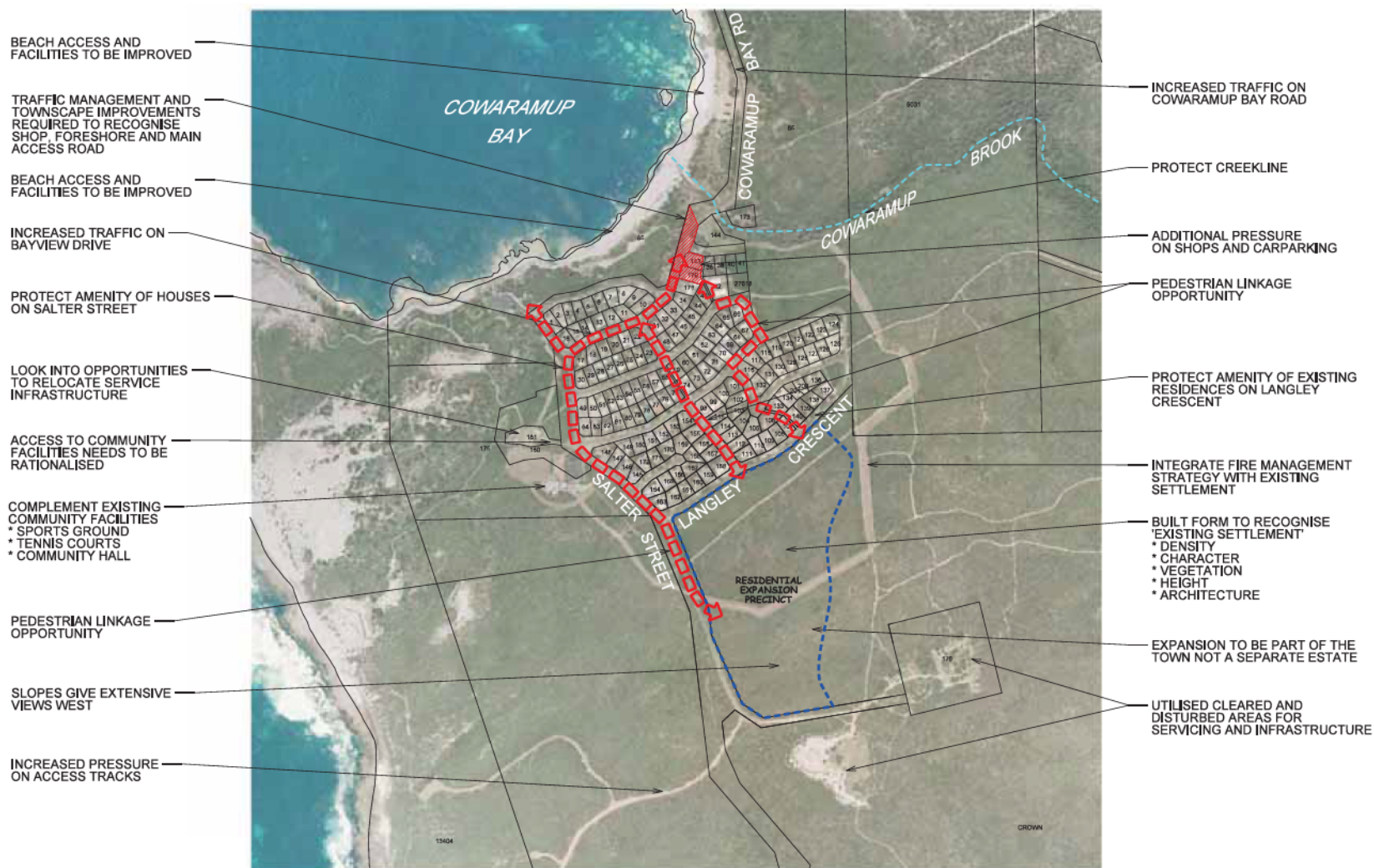


Figure 14 - Townsite Integration Principles

2.6.2 Fire Management

An updated Fire Management Plan has been produced by Strategen (October 2015) to further inform the Gracetown Expansion Structure Plan (see *Appendix 10*). The adopted Fire Management Plan has been prepared in accordance with the requirements of the Planning for Bush Fire Protection Guidelines (Edition 2) prepared by the Western Australian Planning Commission.

Figure 15 - Summary of Key Bush Fire Issues details the key bush fire issues for Gracetown taking into consideration developing bush fire risk mitigation measures for the proposals contained in the Gracetown Expansion Structure Plan.

Section 3.7 *Fire Management* details how these constraints have been incorporated into the Structure Plan and the Draft Fire Management Plan.

Summary of Key Bush Fire Issues

1. The Gracetown locality and broader Margaret River district has incurred recent, frequent occurrences of uncontrolled bush fire, with the predominant sources of ignition being escapes from camp fire and accidental causes.
2. Much of the bushland surrounding Gracetown located within LNNP, Crown Land or private property has not been subject to controlled burning for a number of years. This has resulted in the accumulation of very high available fuel loads enclosing the Gracetown townsite and potentially a very long fire run from the north.
3. On the basis of the above information, there is a high risk of bush fire ignition and potential bush fire occurrence with the potential to cause severe impact on life and property assets due to the presence of very high available fuel loads.
4. Response times to an uncontrolled bush fire occurring within or adjacent to Gracetown are around 30 minutes from the Gracetown volunteer bush fire brigade, with a more significant response from surrounding DPaW units based in Margaret River, Busselton and Kirup available within 60 – 90 minutes.
5. Predominant vegetation types in and adjacent to Gracetown consist of open heath (Shrubland vegetation class; within 10 t/ha available fuels), closed heath (Shrubland vegetation class; 10–20 t/ha available fuels), closed scrub (Scrub vegetation class; 20–30 t/ha available fuels) and open forest (Forest vegetation class; 30–40 t/ha available fuels).
6. The predominant vegetation type in and adjacent to Lot 300 and the Structure Plan area is closed scrub (Scrub vegetation class; 20–30 t/ha available fuels).
7. The existing Gracetown townsite and Structure Plan area is situated on the northwest aspect of the Leeuwin-Naturaliste Ridge, which contains slopes of up to 17 degrees. Proposed built assets of the development will be located up-slope from predominant vegetation on areas of between 10–11 degrees.
8. The pre-development on-site and surrounding bush fire hazard level is 'Extreme', due to the presence of shrubland, scrub and forest vegetation types, long unburnt nature of the vegetation, high available fuel loads and steep slopes.
9. According to PFBFP Guidelines, land with an assessed 'Extreme' bush fire hazard level is classified as bush fire prone land, which triggers application of AS 3959–2009 for any proposed development.
10. As a precautionary approach, construction requirements applicable to BAL 19 (for all external lots) and BAL 12.5 (for all internal lots) are recommended for dwellings within the proposed development.
11. The above BAL ratings comply with the proposed 65 m low fuel separation distance, which will be provided between individual dwellings and the predominant vegetation, consisting of a 25 m BPZ and a 40 m HSZ.
12. Performance criteria and acceptable solutions will be implemented for a moderate bush fire hazard level, focussing on the key elements of development location, vehicular access, water supply, siting of development and design of development.
13. The inherent bush fire risk to current and proposed life and property assets of Gracetown is high, based on the proximity to 'Extreme' bush fire hazards; scale of current and proposed assets; and occurrence of recent and frequent uncontrolled bush fire events.

Figure 15 - Summary of Key Bush Fire Issues

3.0 STRUCTURE PLAN PROPOSALS

3.1 Overview

The Concept depicted in *Figure 16 - Gracetown Townsite Expansion Concept* proposes a residential precinct comprised of 136 lots which will accommodate 146 housing units.

Extensive research and visual modelling has informed the location of the residential expansion precinct. The location is a logical expansion of the existing residential areas, assisting with integration of the development.

Key elements of the Fire Management Plan have been incorporated into the Concept Plan, given that they have a significant impact in the form of fire breaks and vegetation modification.

The Concept Plan also identifies land in lot 300 to be set aside as National Park, totalling approximately 231 hectares. The combination of fire management measures around the periphery of the townsite and land being transferred to national park effectively limits opportunities for further townsite expansion, which is consistent with project objectives.

The amendment provisions set by the Shire establish sustainability, built form, community and implementation objectives and further work that will be required to be investigated and resolved as part of the future structure planning process.

3.2 Community Integration

One of the key objectives of the Gracetown expansion is to ensure that the townsite remains an integrated community, and to avoid any division between the existing settlement and the expansion area. This objective will be pursued through the following principles:

- The proposed residential use is consistent with the existing townsite land uses;
- The character of subdivision and built form in the expansion area will complement the existing settlement;
- The protection of remnant vegetation will be rigorously pursued;
- The servicing innovations, including a reclaimed water scheme, will be extended to the existing settlement;
- The pedestrian access links in the existing settlement will be upgraded and extended into the expansion area; and,
- The expansion area will utilise the existing facilities in Gracetown, including the shops and community hall.

It is important to note that expansion of the settlement will place added pressure on existing services and facilities at Gracetown:

- Additional pressure on the town beach, which may require improved access and facilities;
- Additional pressure on the existing shop, which currently experiences parking and access issues. These issues need to be addressed if additional traffic is going to utilise Cowaramup Bay Road to access expansion areas; and,
- Traffic Management has been investigated in order to assess what pressure will be placed upon the existing traffic network resulting from the development. A list of recommended modifications is listed under Section 3.9 - *Traffic Management* of this document.

Part One of this structure plan details the various commitments that the developer has agreed to and which will assist with integration.

3.3 Land Use and Subdivision

The concept developed for the residential expansion precinct recognises the complex interrelationship of environmental responses, community aspirations and servicing constraints.

The current design seeks to be a natural extension of the existing Gracetown settlement by making road alignments sympathetic to contours allowing for greater recognition of the natural topography and facilitating design of east-west orientated lots, and preserving areas that contain extensive remnant vegetation. Road reserves will vary in width to provide for maximum vegetation protection.

In accordance with project objectives and planning *best practice*, a range of lot sizes is proposed in the draft concept. Around 140 lots will be created, ranging from 300 to 900 square metres, with the majority of lots in the order of 400m². *Figure 17 - Lot Yield* provides an indicative breakdown of the proposed lot sizes. It will be noted from the design that 119 of the lots achieve an east-west orientation, thereby maximising the northern aspect. The remaining 17 lots have a north-south orientation, which also provides for reasonable solar access with appropriate built form design.

The proposed lots have been clustered, allowing access ways to be shared minimising the need for clearing vegetation along road alignments for additional accesses. The clustering of lots using a battleaxe configuration also allows for the length of road in the precinct to be almost half that of a conventional subdivision, reducing drainage and clearing requirements.

A comprehensive pedestrian network has been created to complement the reduction in bitumen roads and encourage physical activity. A high degree of permeability is achieved through extensive open space corridors, which also accommodate drainage and servicing functions. Many lots are orientated towards the open space network to achieve greater visual amenity; promote social integration; and provide for passive surveillance.

The subdivision design also incorporates provision of road reserves of varying widths. The philosophy behind this design principle is to provide for maximum vegetation protection. In effect, the front setback of lots has been incorporated into the road reserve to place the street verge under single ownership and ensure consistency in vegetation protection. This allows for all of the land within a lot to be cleared, minimising the responsibility of Council to protect vegetation through the development process, and simplifying the responsibilities of private landowners with respect to clearing.

Figure 18 - Residential Subdivision Concept depicts the extent of the road reserves and the complementary open space network. Maintenance of vegetation in road reserves and the open space network is expected to be the responsibility of Council, and funded through a specified area rate applicable to the townsite expansion precinct.

INTEGRATION CONCEPT



Initiatives

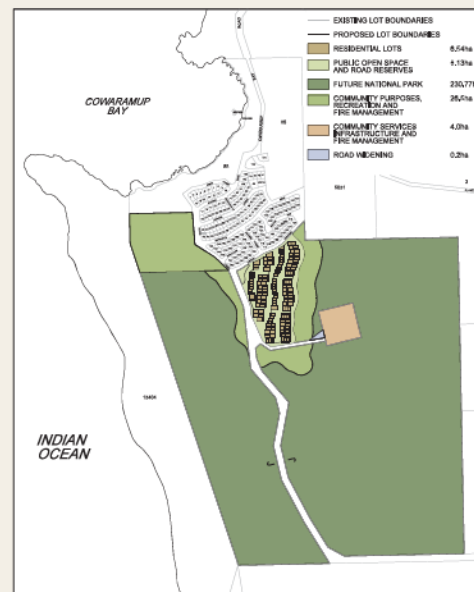
Servicing Initiatives

- All new housing will require the installation of a suitably sized tank and roof catchment to achieve an adequate potable water supply.
- Recycled water collection scheme linked to all dwellings in the existing settlement and proposed expansion.
- Recycled water treatment to fit for purpose quality and reticulated to all dwellings in the existing settlement and proposed expansion for internal and external use.
- Solar powered, low impact street lighting in selected locations for safety reasons.
- Solar hot water systems.
- All new houses to have suitably sized photovoltaics linked to the State grid and utilising supplementary green power.
- Reclaimed water treatment plant power demand to be offset by a sustainable energy source.
- Broadband and mobile phone coverage.

Built Form Initiatives.

- Passive solar design buildings designed along a long, East West access and designed to promote natural cross ventilation, natural light and provide adequate shade structures to glazed areas.

LANDUSE CONCEPT

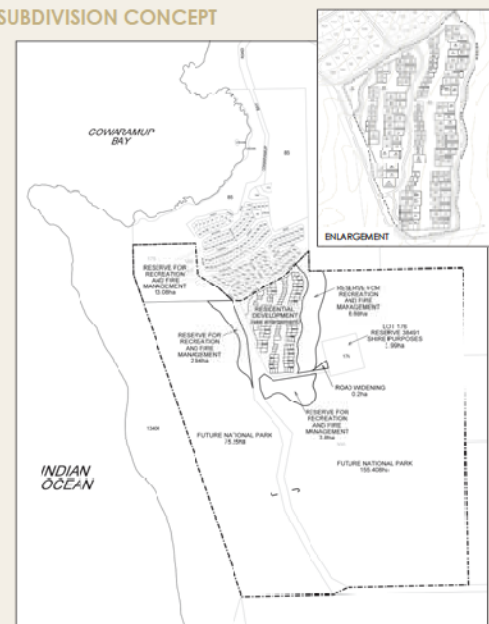


- Outdoor living areas to recognize coastal lifestyle and encourage overlooking of open space.
- Building forms that respond to the natural topography by exploiting natural falls with split-level and whole construction.
- Minimal retaining and fencing will be permitted.
- New dwellings should address the Street and the open space with a light elegance, characterised by transparency, generous openings, flexible walls and shade devices. Car parks and storage areas will be concealed from the street.
- Height limitations measured as a plane from natural ground level and contemporary roof forms, including skillion, low pitched, multiplanar, curved, flat and hovering will be pursued. Building heights will generally be 1 - 2 storeys, however, will be subject to approval in accordance with the adopted Design Guidelines.
- Housing insulation, to achieve better than BCA standards.

Sustainability and Management Initiatives

- Introduction of a sustainability framework, which takes clear, sustainability objectives and develops targets, design rules and implementation strategies and ultimately allocates management responsibility.
- Establishment of an integrated, sustainable, local water supply, reclaimed scheme to replace existing effluent disposal and water supply systems.

SUBDIVISION CONCEPT



- Potential introduction of photovoltaic power generation on each new household, complemented by the purchase of Green Power, and utilisation of wind turbines, set low in the landscape, to offset the reclaimed water supply treatment plant.
- Application of a specified area rate to fund fire management plan, open space management.

Landscape Initiatives

- Visual landscape response which controls height and the location of development.
- Potential car parking and access upgrade for Main Beach.
- Cowaramup Bay Road upgrade to improve access, car park and aesthetics in the vicinity of the existing shops.
- Landscape treatments of the multiuse corridors, which reflect the beachside character, assist with drainage treatments and protect remnant vegetation.
- Utilisation of indigenous and local plants in ecosystem restoration.
- Preparation of a fire management plan, which responds to vegetation and landscape protection initiatives, while maintaining risks within acceptable Australian standards.

Figure 16 - Gracetown Townsite Expansion Concept

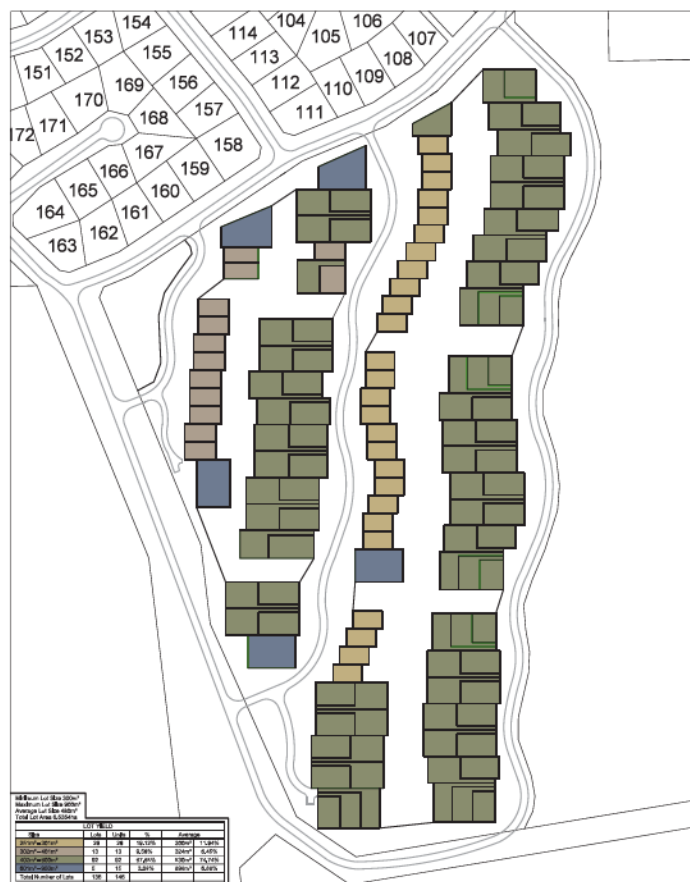


Figure 17 - Lot Yield

3.4 Environmental Responses

Environmental assessment has been undertaken to support this amendment and a range of initiatives are incorporated in the Concept Plan and will be implemented through environmental approvals, future structure planning, subdivision approvals and the preparation of design guidelines. *Appendix 7* provides a summary of the environmental assessment for the project. The key environmental initiatives are discussed below.

3.4.1 Management of Vegetation

Vegetation clearing will be required at various locations within the expansion area to facilitate development. This clearing will affect the three native vegetation communities identified at the site. Assessment and survey confirms these communities comprise vegetation complexes which are well represented locally within formal reserves, including the adjacent Leeuwin-Naturaliste National Park. No declared rare flora will be affected.

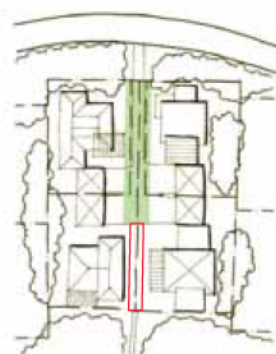
Management strategies for vegetation include:

- The surplus area of lot 300 will be transferred to the LNNP. This is currently estimated at 231 ha;
- Retaining approximately 40% of the developed portions of the site as Public Open Space (approx. 5.8ha);
- Utilising existing disturbed areas (such as firebreaks and tracks) to minimise clearing requirements in areas of vegetation considered to be of a higher quality;
- Disturbed areas not required for development will be revegetated immediately following construction with species native to the area, particularly those that are pre-existing and those with significant habitat/ecological value;
- Designated roadways and pathways will be created for public access and pedestrians directed away from areas of undisturbed vegetation and habitat;
- The clearing of lots will be defined through a Detailed Area Plan and design guidelines for the site to minimise site disturbance and retain native vegetation. A maximum of 30% of each lot shall be subject to cut and fill;
- Residents of the development will be subject to additional conditions designed to manage potential impacts by residential activity on vegetation and flora and restrict the planting of exotic flora species; and,
- Seed collection and propagation is already underway.

3.4.2 Integrity of Vegetation Linkages

The integrity of vegetation linkages within the proposed development site, as well as linkages to areas surrounding the site, may be impacted by necessary clearing. Several specific design elements have been incorporated into the Concept Plan to minimise the effects of vegetation clearing. These include:

- Nested battleaxe lots to reduce clearing required for driveway access;
- Road reserves have been negotiated with the Fire and Emergency Services Authority to allow some remnant vegetation to be maintained;
- "Local Community Activity Areas" have been positioned along access tracks for use by residents, thereby focusing activity and minimising the need for clearing;
- Pedestrian pathways link to external pathways to provide access to community facilities and beaches;
- Lot and house design minimise vegetation clearing required by utilising pole construction, allowing for cars to be parked beneath houses; and,
- Minimisation of road and track width to decrease fragmentation effects.



- Reciprocal Rights of Pedestrian Access
- Reciprocal Rights of Carriageway

GRACETOWN TOWNSITE EXPANSION NESTLED BATTLEAXE LEGAL ACCESS STRUCTURE



Wide road reserves to protect remnant vegetation in Crown Land

Remnant vegetation protected in Public Open Space

NOTES:

1. Ongoing Higher Order Maintenance of Public Open Space and remnant vegetation in road reserves recommended to be funded by Specified Area Rate.
2. Modified servicing alignments within road reserves will need to be negotiated.

GRACETOWN TOWNSITE EXPANSION OPEN SPACE AND VEGETATION MAINTENANCE



GRACETOWN TOWNSITE EXPANSION DESIGN PRINCIPLES AND RESPONSE TO COMMUNITY CONSULTATION

Figure 18 - Residential Subdivision Concept

3.4.3 Stormwater Management

Drainage at Gracetown is of a local nature and there is no requirement to integrate with a district drainage scheme. The focus of stormwater management will therefore be based on pursuing infiltration at source, reducing the use of pipe systems and addressing the risk of erosion, given that much of the site has a slope in the order of 14 degrees. The Structure Plan pursues the integration of stormwater management with open space networks in a manner that complements the existing character of the townsite and provides improved recreational opportunities. Stormwater quality treatment will occur in bio-retention areas within and adjacent the development. Additional stormwater treatment will occur as water percolates through the existing soil and into the underlying geology and aquifer.

3.4.4 Management of Fauna

Native fauna rely on native vegetation to provide food, shelter and breeding sites. The loss or degradation of native vegetation will reduce the capacity of the habitat to support the range of fauna that would be present in an undisturbed state. Partial clearing of vegetation for development will remove habitat, and increase fragmentation within the development area.

The environmental review document outlines fauna management including the following measures in the structure plan and subsequent town planning scheme amendments, subdivisions and site management plans:

- Ceding approximately 231 ha of lot 300 to the LNNP and retaining around 40% of the amendment area as Public Open Space;
- Minimising clearing and disturbance of vegetation/habitat;
- Implementing a fauna removal and relocation program ahead of construction.
- Local, native vegetation, particularly that with a known habitat or feeding value, will be used in rehabilitation of disturbed areas following development; and
- A dog fence will be constructed between the interface of the scheme amendment area and future Leeuwin-Naturaliste National Park boundary to limit access by any pets that may escape residences within the scheme amendment area.

Four Western Ringtail Possum (WRP) dreys (self-built bird like nests) were located within the residential development area (see Appendix 2). The value of these areas for habitat for the WRP is reduced by the limited amount of preferred food resource, lack of available summer water, high predator presence combined with the low stature of vegetation and established fragmentation, and the high fire frequency.

The risk of subterranean fauna being significantly adversely affected is considered low at this stage, given that the development does not involve large scale excavation of the area and depth to groundwater in the area (see Appendix 4).

3.4.5 Impact on National Park

The State Government supports the balance of the Crown reserve (lot 300) being transferred to the Leeuwin-Naturaliste National Park as part of the project.

The decision will see approximately 231ha of the 259ha site transferred to the park, as depicted in *Figure 19 – Land to be transferred to the National Park*. Part of the project revenue will also be contributed to management of the National Park.

Management strategies and mitigation measures for the National Park interface are detailed within the Environmental Management Plan (see Appendix 6) and will be implemented through the Structure Plan and subsequent town planning scheme amendment, subdivisions and management plans, including the following:

- An appropriate buffer will be maintained between the development and the National Park, with fencing and informational/educational signage being placed along the boundary of the development area to deter public access to the National Park;
- Provision of suitable access ways and restriction of public access to undisturbed vegetation and habitat within the proposed development area and adjacent areas, including the Leeuwin-Naturaliste National Park;
- No direct pedestrian access from the development to the National Park unless otherwise agreed with DPaW; and
- Residents of the development may be subject to conditions to manage potential impacts of residential activity on vegetation, flora and fauna. Such conditions may prohibit planting of declared plants in gardens.

3.4.6 Responding to Coastal Location and Karst Features

In accordance with the Geotechnical and Geophysical assessments (see *Appendices 16 and 17*) the development site is underlain by Tamala Limestone, covered by Spearwood dune sand. The underlying geology is characterised by shallow weathered limestone-based sands and limestone overlying a granite bedrock. To prevent concentration of stormwater run-off and erosion on the slopes, good drainage design and practice will be required for the development. The sands that underlie these sites exhibit medium permeability with good drainage characteristics.

The limestone surface forms a caprock or thin layer of medium to very high strength rock of varying thickness and at varying depths across the development. On steep slopes and during periods of high rainfall, groundwater may run down the sand-limestone contact and surface down the slope, where it may cause localised slope instability or seepage. Determining the depth and position of cap rock on each individual lot is likely to be required.

Investigations so far have not found any significant evidence of karst formations within the development area. Due to the complexity, depth and unpredictability of karst formations, it is not possible to prove that all areas of the site are karst free. However, karst features, such as caves, sinkholes and dolines, are known to occur in the greater Margaret River area. On-going inspections will be required during construction to assess the possible presence of karst features. Notwithstanding this, it should be noted that extensive development has previously occurred in similar ground conditions in Western Australia including the development of the existing townsite. As such, specific design elements have been incorporated into the concept plan to address issues relating to karst topography, including:

- Buildings utilise pole construction, which minimises earthworks;
- Pathway and road areas have been minimised to reduce vegetation removal, allowing retention of ground cover which 'anchors' topsoil;
- Pathways are to be 'paved' with porous material, which minimises runoff and erosion; and,
- Roadside swales will promote local infiltration, where practicable, rather than allowing flow accumulation across the landscape, thereby reducing potential for erosion.

Ongoing management issues associated with the coastal location of the proposed development include:

- Minimising soil disturbance by machinery;
- Maintaining planned pathways to ensure no erosion occurs and to minimise disturbance of intact areas;
- Limiting the extent of residential gardens and discouraging (through education) the application of fertilisers, pesticides, and other chemicals; and,
- Maintaining roadside swales to promote local infiltration and minimise erosion.

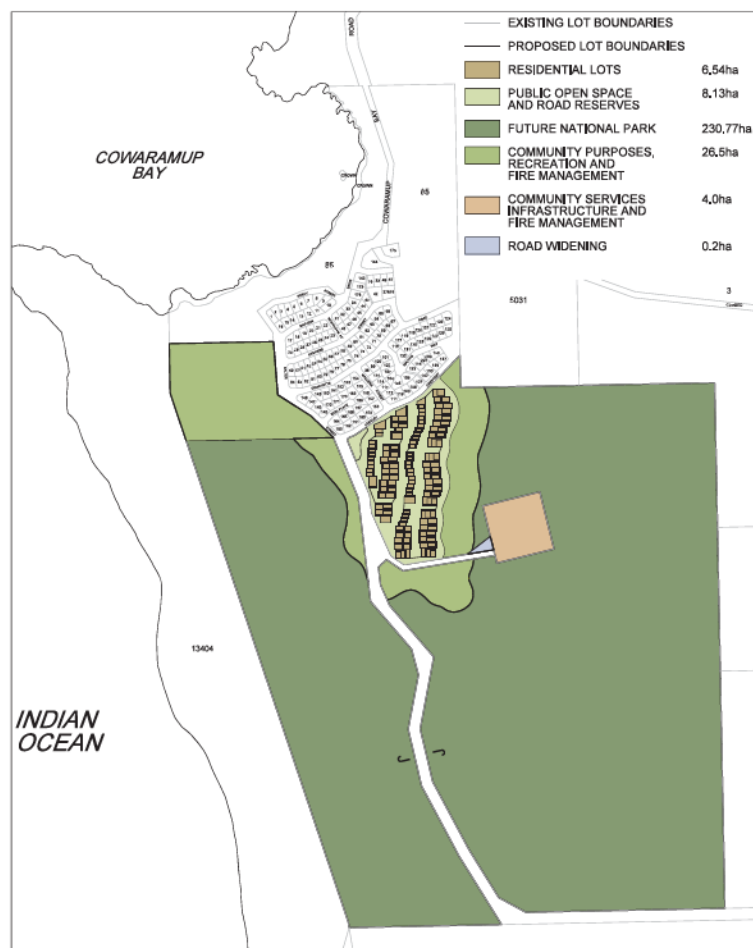


Figure 19 - Land to be transferred to the National Park

3.4.7 Contaminated Sites

An area with evidence of sly tipping has been identified in the north-west corner of the proposed development area (opposite existing housing) and contains some small pieces of asbestos cement panelling. Prior to construction, investigations will be conducted in this area in accordance with the (draft) Guidelines for the Assessment, Remediation and Management of Asbestos Contaminated Sites in Western Australia (DoH 2008) and the Contaminated Sites Management Series (DEP 2001).

Two other contaminated sites are situated in the vicinity of the development area. These are a landfill site on lot 176 and the former quarry site on lot 300. These sites, no longer in use, are being investigated to determine potential effects on the surrounding environment and the extent of any remediation required.

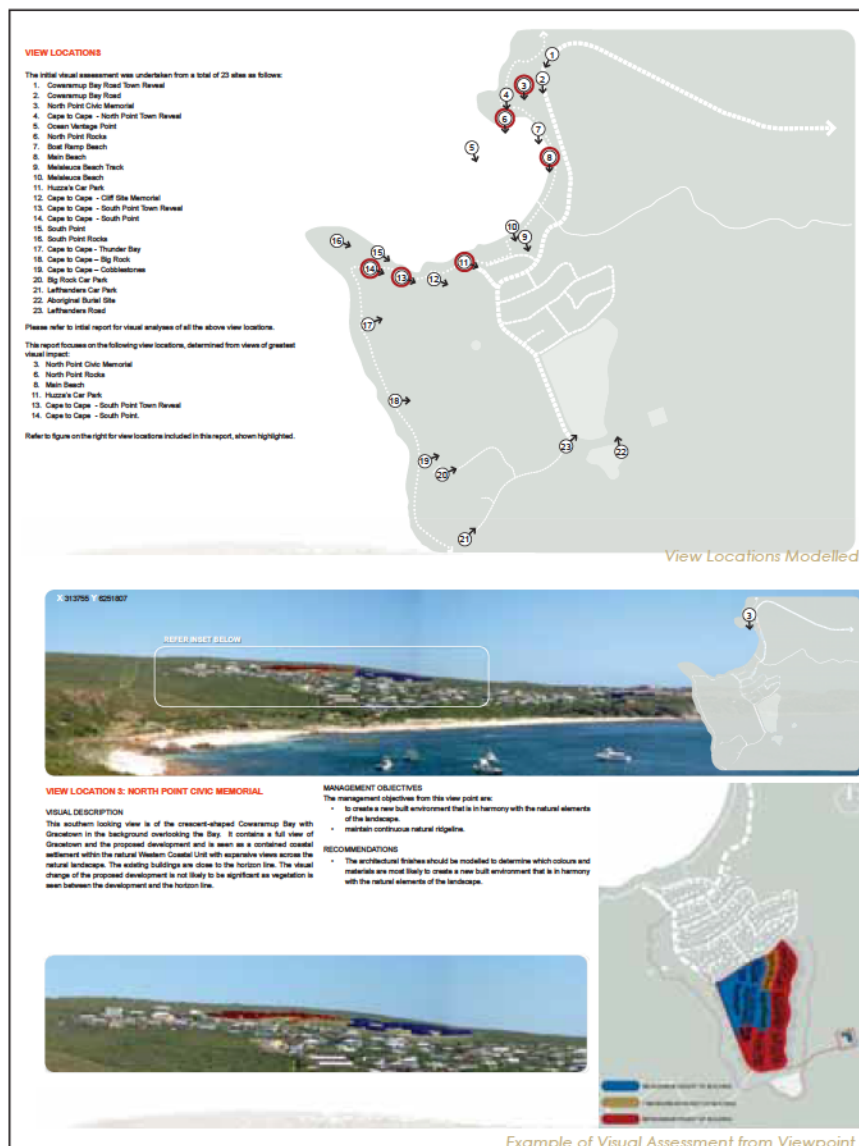
3.5 Visual Management

A landscape assessment (see *Appendix 15*) has been undertaken to support the Structure Plan. The methodology used for the visual assessment is the DPaW's psychological model concerned with people's experience of the landscape. The assessment model used for the site analysis is an adaptation of the Australian Heritage Council's amalgamated model concerned with all the environment values, both visual and non-visual, attached to a site.

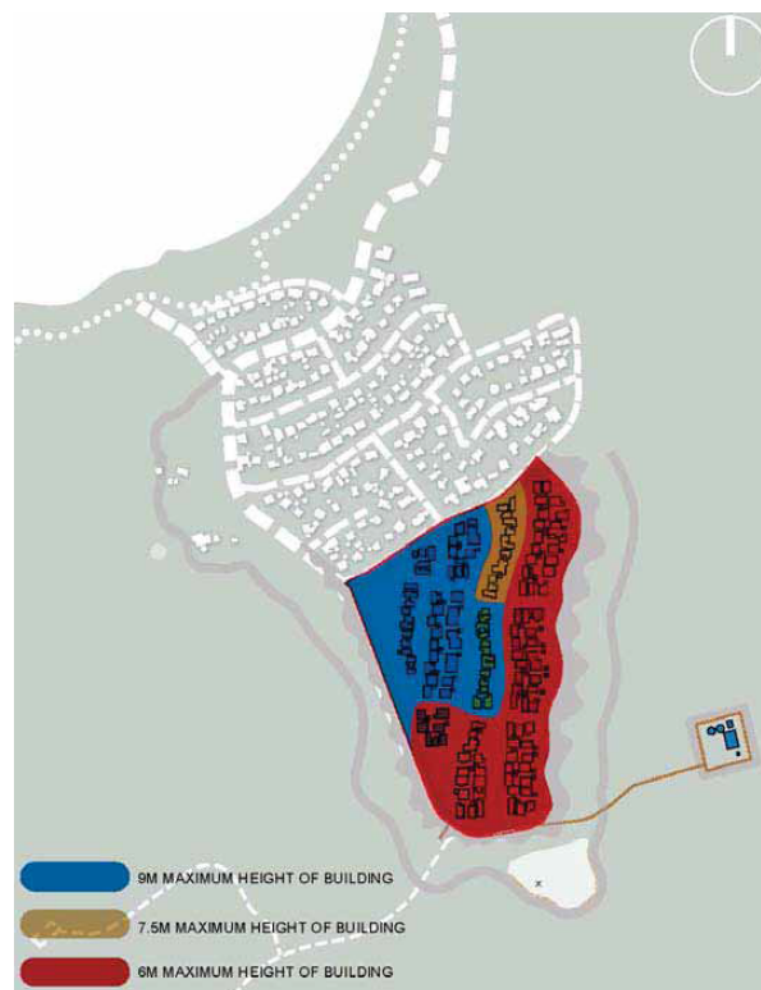
The visual impact assessment has informed and reinforced several key project objectives, including:

- Retain existing vegetation where permitted by fire protection policy;
- Replicate natural vegetation character where rehabilitative work is proposed;
- Minimise regrading of existing topography;
- Align roads on existing contours;
- Avoid interruption of the natural ridgeline through height controls on new houses ("sky-lining" of houses);
- Locate footpaths to protect pedestrians from the hot easterly winds and access cool afternoon breezes in the summer months;
- Provide natural shade to pedestrian routes;
- Align roof pitch with pitch of slope where applicable and/or provide shade from summer sun and access to winter sun; and,
- Connect the new development with the existing town through legible pedestrian access ways within public easements in Gracetown.

To assist in assessing the visual impact of development, three-dimensional modelling was undertaken by inserting two-storey, 9m high dwellings into a topographic model. The outcomes of this model are shown in *Figure 20 – Visual Impact Modelling*, which identifies the areas where building height should be limited. Height limits will be established via a Detailed Area Plan.



Example of Visual Assessment from Viewpoint 3



Extract from Building Heights Management Report

Figure 20 - Visual Impact Modelling

3.6 Landscape Masterplan

The residential concept is complemented by a landscape masterplan presented in *Figure 21 – Landscape Masterplan* and expanded upon in *Figure 22 – Indicative Landscape Images*.

Open space within the residential enclave is characterised by a network of pedestrian pathways, oriented north-south along the existing contours and complemented by east-west pathways that interlace with the stormwater drainage system dropping down the slope. The pathways allow public pedestrian movement through the residential community and semi-public pedestrian access to clusters of houses. The coastal scrubland, through which the pathways are directed, will be modified for fire management. The scrub is slashed to a height of 50mm to reduce fuel loads, but clumps of the existing Acacia and Peppermint trees are retained throughout. The dimensions of the pathways along the contours allow fire vehicle access in the event of a fire.

A series of shelters is proposed along the pathway system to provide places for rest, shade, exercise and interpretation.

Universal access is proposed across the existing slope (generally a 14 degree incline) by way of gentle, switchback paths opposing switchback drainage swales. Bridges are positioned where the paths and swales meet. A series of feature rock walls are located down the slope and a path with steps provides direct pedestrian access up and down.

The public open space between the outer roadway and the boundary of the Leeuwin-Naturaliste National Park will be characterised by retained site vegetation, with periodic slashed fire access buffers to manage fuel loads for fire management.

A range of actions to manage landscape impact will be implemented through the structure plan and site management plans to ensure that best practice management is achieved throughout the project. Key initiatives will likely include:

Clearing

- Clearing boundaries will be marked on construction plans and drawings;
- Clearing boundaries will be surveyed, marked and verified;
- Permanent fencing will be provided where needed to protect existing vegetation;
- Environmentally significant areas will be clearly marked and/or temporarily fenced prior to the commencement of construction activities;
- No additional clearing of native vegetation for servicing site compounds, lay-down areas or side tracks will be permitted;
- Weed infested areas will be identified and cleared separately;
- No weed infested material will be reused for rehabilitation on site;
- All on-site organic material that is free from weeds will be incorporated in the revegetation and bush regeneration program; and,
- Cleared vegetation from areas free from weeds will be used for mulch.

Erosion and Stormwater

- Preservation of existing vegetation and revegetation of corridors with deep-rooted vegetation to reduce runoff and provide an opportunity for infiltration, acting as a stormwater sink;

- Vegetated swales are to be the preferred conveyer of stormwater; and,
- Preference will be given to planted slopes over walls, except where a wall system allows for the protection of more existing vegetation. If required, walls will be composed of dry limestone rubble ideally less than 600mm in height, or be cut into on-site limestone.

Indigenous Plants

- New plantings will be restricted to indigenous local species, to ensure that the new development complements the character of the existing landscape;
- Seed collection has already commenced to facilitate the extensive replanting program; and,
- Lawn will not be permitted in new private or public areas.



Figure 21 - Landscape Masterplan



Multiuse Corridor Concept



Main Beach Carpark Option



Main Street Concept

Source: Ecoscape

Figure 22 - indicative Landscape Image

Soil Structure

Given that the soils in the locality are generally coarse textured sands, the potential to recapture and recycle any runoff is limited. However, water will be collected from stormwater runoff and infiltrated back into groundwater and natural drainage systems.

Nutrient Management

The background nutrient concentration available in irrigation water sources will be taken into account in determining fertiliser application rates for plant establishment only.

Lawn

Lawn grass will not be permitted in public or private areas within the development. This will reduce water and fertilizer use and limit the spread of grass weeds to the fire management zones and preserved bush land.

Lighting

At the request of the community via the community consultation process, street and public space lighting will be minimal and only used where required for safety purposes. It will be solar-powered or energy efficient low-voltage lighting to reduce energy needs. No high level pole lighting is proposed.

Paving and Walls

Preference will be for materials obtained on site for paving and walls where possible. The pedestrian paths are proposed to be constructed in stabilised crushed limestone. Where walls are required to reduce the extent of clearing, construction through a combination of cutting into on-site limestone and on-site dry limestone rubble is proposed.

Where materials are not available on-site, preference will be given to materials that are locally sourced, recycled or recyclable, and with regard to cost, durability and maintenance requirements.

Fencing

To help create the project vision, strict controls on fence materials, colours and heights are proposed.

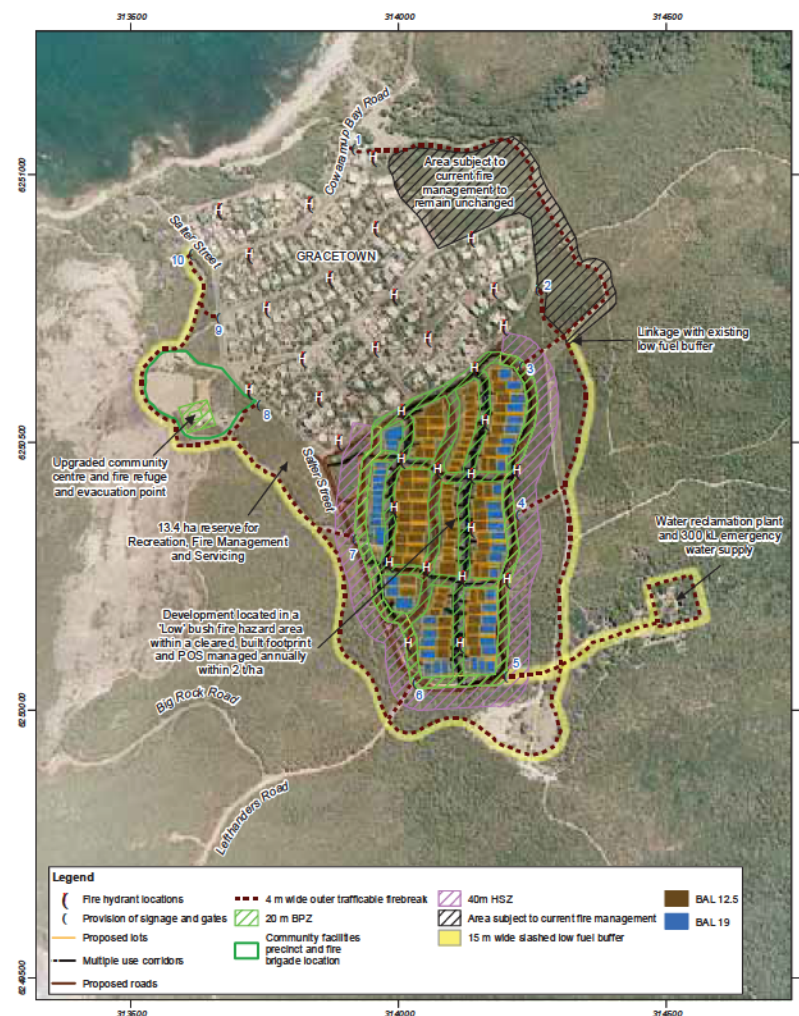
3.7 Fire Management

An updated Fire Management Plan has been prepared with the objective of reducing the threat to residents and fire fighters in the event of fire within or near Gracetown.

The Western Australian Planning Commission requires preparation of the plan, which is in accordance with the provisions of "Planning for Bushfire Protection" (DoP Guidelines 2010). The fire plan will form part of the structure plan and will be assessed/determined by the local authority with input from FESA.

Figure 23 – Fire Management Plan depicts the key aspects of the Draft Fire Management Plan and protection measures proposed for the Gracetown Expansion Precinct.

The key elements of the management plan are summarised in Figure 24 – Summary of Bush Fire Risk Mitigation Measures.



Source: Strategen

Figure 23 - Fire Management Plan

Bush fire risk mitigation location	Recommended works	Mandatory	Optional	Timing	Responsibility
Development location	Undertake development in accordance with the Gracetown Townsite Expansion Structure Plan. Refer to FMP Section 5.1.	Yes	No	On implementation of the proposed development	Developer
	Manage the internal 5.8 ha POS network annually within 2 t/ha or 100 mm in height via mechanical slashing and hand removal of understorey grasses, trash and litter fuels (overstorey trees can be retained). Refer to FMP Section 5.1.	Yes	No	Annually prior to the onset of the designated bush fire season	Developer during development, AMRSC thereafter
Vehicle access	Implement the Traffic Management Plan and upgrade Cowaramup Bay Road with 'road pull-off' points every 200 m where practicable with all works undertaken within the designated road reserve. Refer to FMP Section 5.2.1.	Yes	No	On implementation of the proposed development	Developer
	Create a 20 m wide low fuel buffer across all land tenures on either side of Cowaramup Bay Road, in consultation with landowners/managers of adjoining lands, maintained annually within 5 t/ha. Refer to FMP Section 5.2.1.	Yes	No	On implementation of the proposed development	AMRSC and landowners/managers of adjoining lands
	Provide an internal public access network, where all public roads, private driveways and proposed battle axe access are constructed to specifications in accordance with Main Roads WA and DFES requirements. Refer to FMP Section 5.2.2.	Yes	No	On implementation of the proposed development	Developer
	Construct multiple use corridors with fire hydrants at strategic locations and 3 m wide limestone sheeted footpaths capable of accommodating fire appliances. Refer to FMP Section 5.2.2.	Yes	No	On implementation of the proposed development	Developer
	Construct a slashed, 15 m wide low fuel buffer within the internal perimeter of the external POS reserve, maintained annually within 2 t/ha or 100 mm in height. Refer to FMP Section 5.2.3.	Yes	No	On implementation of the proposed development	Developer during development, AMRSC thereafter
	Construct a 4 m wide outer trafficable firebreak, maintained annually, constructed to mineral earth within the internal perimeter of the existing and proposed low fuel buffer, with gates and signage erected at linkages with the public road network. Refer to FMP Section 5.2.3.	Yes	No	On implementation of the proposed development	Developer during development, AMRSC thereafter
	Construct eight additional fire service access routes linking the outer trafficable firebreak with the public road network. These access routes will also be 4 m wide, constructed to mineral earth and maintained annually, with gates and signage erected at linkages with the public road network. Refer to FMP Section 5.2.3.	Yes	No	On implementation of the proposed development	Developer during development, AMRSC thereafter
	Construct a slashed, 15 m wide low fuel buffer within the internal perimeter of the proposed water reclamation plant, maintained annually within 2 t/ha or 100 mm in height. Refer to FMP Section 5.2.3.	Yes	No	On implementation of the proposed development	Developer during development, AMRSC thereafter
	Construct a 4 m wide trafficable firebreak, maintained annually, constructed to mineral earth within the internal perimeter of the low fuel buffer around the proposed water reclamation plant. Refer to FMP Section 5.2.3.	Yes	No	On implementation of the proposed development	Developer during development, AMRSC thereafter
	Construct a 4 m wide fire service access route linking the trafficable firebreak around the proposed water reclamation plant with the public road network to the southeast of the proposed development. The access track is to contain a slashed, 15 m wide low fuel buffer on either side (maintained annually within 2 t/ha), along with a gate and signage erected at the linkage point with the public road network. Refer to FMP Section 5.2.3.	Yes	No	On implementation of the proposed development	Developer during development, AMRSC thereafter
Water supply	Install a 70 kL rainwater tank with a hydrant or standpipe for fire fighting purposes for each proposed dwelling. Refer to FMP Section 5.3.	Yes	No	On implementation of the proposed development	Developer then landowner
	Install a reticulated, non-potable water supply via a 300 kL capacity water tank for fire fighting purposes. Refer to FMP Section 5.3.	Yes	No	On implementation of the proposed development	Developer during development, landowner thereafter
	Provide a network of hydrants along the internal road network at locations which meet relevant water supply authority and DFES requirements. Refer to FMP Section 5.3.	Yes	No	On implementation of the proposed development	Developer during development, landowner thereafter
Slashing of development	Implement a 5 m wide BPZ around each individual dwelling. Vegetation within the BPZ will be free of trees and maintained annually via hand slashing to within 2 t/ha or 100 mm in height. Refer to FMP Section 5.4.1.	Yes	No	On implementation of the proposed development	Developer during development, landowner thereafter
	Implement a 20 m wide BPZ around all external lots. The BPZ will be maintained annually within 2 t/ha or 100 mm in height. Some individual trees and shrubs will be retained in this area to achieve aesthetic objectives. Refer to FMP Section 5.4.1.	Yes	No	On implementation of the proposed development	Developer during development, AMRSC thereafter
	Implement a 40 m wide HSZ around the 20 m wide BPZ. The HSZ will be maintained annually within 5 t/ha. Vegetation will be retained in some areas of the HSZ to achieve aesthetic and environmental objectives. Refer to FMP Section 5.4.1.	Yes	No	On implementation of the proposed development	Developer during development, AMRSC thereafter
	Increase the level of construction standard to BAL 19 for all external lots and BAL 12.5 for all internal lots. Refer to FMP Section 5.4.2.	Yes	No	On implementation of the proposed development	Developer
	Upgrade the existing community centre as per the recommendations from Strategem (2013). In addition, implement BAL 29 construction standards and a 20 m wide BPZ around the building perimeter to be maintained annually within 2 t/ha or 100 mm in height. Refer to FMP Section 5.4.3.	Yes	No	On implementation of the proposed development	Developer during development, AMRSC thereafter
Design of development	Comply with all acceptable solutions for development location (Element 1), vehicular access (Element 2), water supply (Element 3) and siting of development (Element 4). Refer to FMP Section 5.5.	Yes	No	On implementation of the proposed development	Developer
Fire safe refuge areas	Residents and visitors to take refuge in the upgraded community centre (primary evacuation point) or local beach (secondary evacuation point). These refuge areas should be located on a townsite evacuation plan, which should be made available to residents and visitors of Gracetown on request. Refer to FMP Section 5.6.	Yes	No	On implementation of the proposed development	Residents and visitors
Fire appliances	Provide a 30 minute fire suppression response utilising fire appliances from the Gracetown volunteer bush fire brigade if bush fire occurs on or adjacent to the site. Refer to FMP Section 5.6.	Yes	No	In the event of bush fire on or adjacent to the site	Gracetown volunteer bush fire brigade
Annual fuel hazard inspections	Comply with the current AMRSC firebreak order. Refer to Appendix 4.	Yes	No	Annually prior to the onset of the designated bush fire season	Developer, AMRSC and prospective landowners
	Undertake a fuel hazard inspection across Gracetown to assess compliance with the FMP and AMRSC firebreak order. Refer to FMP Section 5.6.	Yes	No	Annually prior to the onset of the designated bush fire season	AMRSC
Landowner education and awareness	Issue work orders or fines where compliance with the Bush Fires Act 1954 or the FMP has been compromised. Refer to FMP Section 5.6.	Yes	No	Annually prior to the onset of the designated bush fire season	AMRSC
	Distribute bush fire information booklets to prospective landowners. Refer to FMP Section 5.6.	No	Yes	Annually	Developer, prospective landowners, AMRSC
	Place a Section 70A notification on the title of each lot to advise prospective landowners that the lot is located in a bush fire prone area and that compliance is required with an overarching FMP. Refer to FMP Section 5.6.	Yes	No	During sale of individual lots	Developer
Optional building requirements	Restrict the installation of evaporative air-conditioners.	No	Yes	On implementation of the proposed development	Developer, prospective landowners
Restricted and prohibited burning times	Comply with the annual AMRSC firebreak order and DFES/AMRSC-determined burning periods. Refer to Appendix 4.	Yes	No	As specified by DFES/AMRSC	AMRSC, prospective landowners
FMP review and update	Review the FMP and update with new information as required (e.g. changes to development design, alterations in the surrounding environment, recent bush fire occurrences, changes to bush fire risk mitigation measures, etc.). Refer to FMP Section 1.4.	Yes	No	Annually	Developer until development has been fully implemented, AMRSC thereafter
	Review the social, financial and environmental benefits of the FMP and level of compliance, and update accordingly with any corrective actions. Refer to FMP Section 1.4.	Yes	No	Annually	Developer until development has been fully implemented, AMRSC thereafter

Figure 24 - Summary of Bush Fire Risk Mitigation Measures

It is proposed the non-drinking water reticulation system will also supply water for fire fighting through hydrants in the town.

Risk management for the use of reclaimed water will include:

- Additional disinfection unit at the outlet of the storage tank to ensure a chlorine residue in the reticulation system;
- All pump stations will have a duty/standby arrangement;
- Automated monitoring and telemetry throughout the treatment plant will ensure that post-treatment water quality meets the desired requirements;
- Groundwater or tankered water will be used as a backup supply during maintenance or system failure; and,
- A treated water quality management plan will be prepared along with a nutrient irrigation management plan.

3.8.4 Non-Drinking Reticulation Network Design

The reticulation design for the supply of non-drinking water is based on conventional water supply design practices which assume that:

- All connections are to be at the front of lots;
- Gravity supply using a high level storage;
- Network design concepts compliant with WSAA dual reticulation supply requirements outlined in Dual Water Supply Systems, First Edition, Version 1.2, A Supplement to the Water Supply Code of Australia, WSA 03—2002;
- A reticulated water supply network capable of supplying fire fighting requirements; and,
- A standard looping network design.

3.8.5 Supply from Groundwater

The water supply network may need a backup supply during exceptional events or maintenance periods. It is intended that this backup supply for non-drinking water be from groundwater sources, utilising the existing town bore and new bore that has been constructed by LandCorp, adjacent to the existing bore.

It is expected that any water drawn from the bore in exceptional circumstances will be more than offset by excess treated water, which will have been recharged into the aquifer.

3.8.6 Reclaimed Water Collection Network

The elevated position of the proposed new development allows for all properties to be served by the gravity sewer water system. The lower part of the existing town will require the installation of local pump stations or the use of low pressure sewerage units. Three possible concepts for the recycled water network for the existing town have been developed, being:

- Gravity sewer network with direct pipeline connection to WRP, with lower areas being pumped from two small pump stations at PS1 and PS2;
- Gravity sewer pipeline with a low pressure network system for lower areas of town, with individual small pump stations at each lot; and,
- Gravity sewer pipeline with low pressure (front of lot connection) system network (no back of lot sewer pipeline connections for existing development area).

A decision regarding the most appropriate recycled water reticulation option to be implemented will occur at the subdivision stage.

The recycled water reticulation for the expansion area is intended to be a gravity network, as depicted in *Figure 27 – Sewer Network Options*.

3.8.7 Retrofitting of Existing Town

It is currently proposed that the sewer and non-drinking water networks will be extended and available to the existing settlement. The provision of the sewer and non-drinking water network within the existing settlement has become desirable for a number of reasons including:

1. The existing septic tanks installations are believed to be contaminating the shallow ground water aquifer located beneath the Settlement.
2. Existing landowners are currently drawing contaminated groundwater through bores to supplement their water requirements.
3. Water provision within the town is currently unreliable.
4. Insufficient water capacity within the settlement for fire management purposes.
5. Gracetown is not within a Water Corporation licensed area and therefore not eligible for infill sewerage program.
6. The proposed sewer and non-drinking water network has been designed as an all of settlement system.

The provision of the sewer and non-drinking water network to service the existing town will be funded by the new development however the cost of plumbing connections from the lot boundary to the house to access these services will be shared by lot owners, together with an incentive or subsidy scheme. The subsidy scheme will be set up by the developer to encourage early connection of existing houses to the sewerage scheme as follows;

- A fund of an amount agreed with Council being established to support the contribution scheme.
- An initial contribution of 50% of the average connection cost per developed lot connection is proposed.
- Payment of the contribution to lot owners be conditional upon:
 - Completed connection to the sewerage scheme;
 - Connection being completed within 2 years of the Treatment Plant commencing operation;
 - The connection being for a dwelling in existence prior to commencement of the WRP;
- The fund would be administered by the developer for a period of two years from the date of the Treatment Plant commencing operation.
- The contribution scheme will terminate 2 years after the Treatment Plant commencing operation or upon the Incentive fund being depleted.

The cost of retrofitting the sewer and non-drinking water services to houses in the existing settlement is dependent upon the construction method of each individual home. Some houses may require new plumbing for the non-drinking water supply due to the increased pressures experienced in network

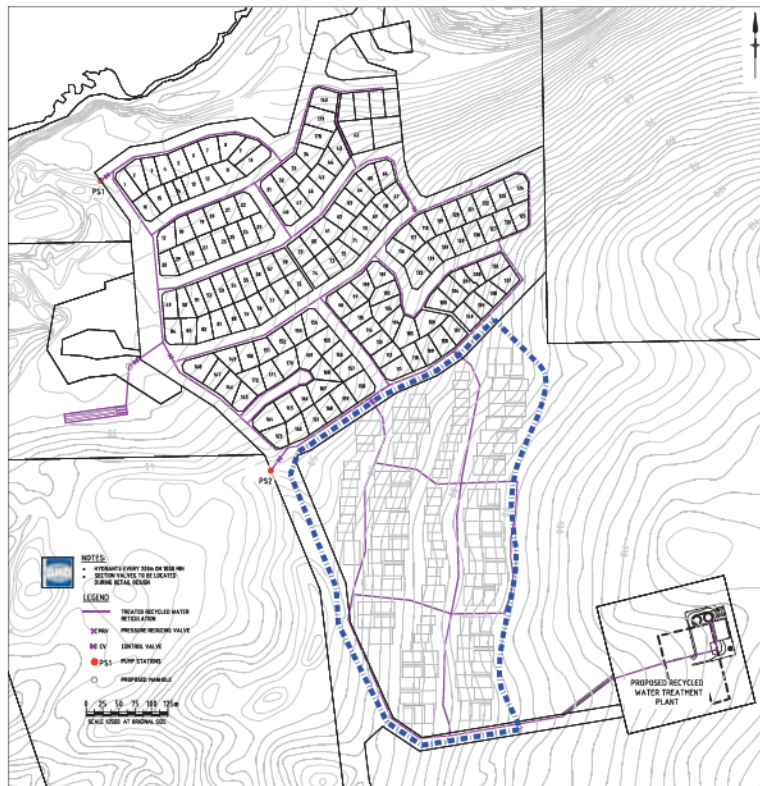


Figure 26 - Conceptual Non-Drinking Supply Network

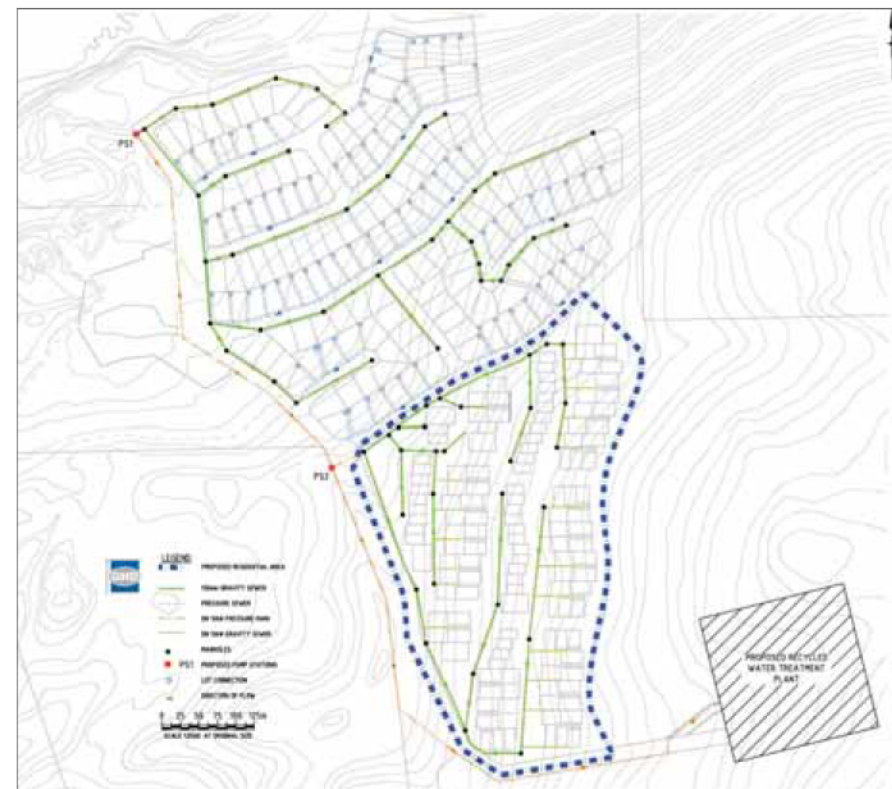


Figure 27 - Sewer Network Options

supply, compared to those in a rooftop catchment system. Existing households will also be encouraged to undertake the same installation and maintenance requirements for the drinking water supply as those being instituted in the new development.

The proposed design assumes that the plumbing to bypass the existing septic tanks (these will then be decommissioned) will connect directly to the new sewer system. A key requirement for connection to the non-drinking water supply is that the house be connected to the sewer system.

3.8.8 Water Reclamation Plant Management

In order to operate the proposed Water Reclamation Plant a licenced operator will need to be identified and contracted in accordance with the provisions of the Water Services Act (The Act). To ensure the continuity of the service, the Licensing system provides mechanisms to protect the community and Council of any contingent liabilities as follows;

- The Act requires that applicants must demonstrate that they have, and are likely to continue to have, the financial ability to provide the water services that will be covered by the licence through an extensive business case analysis.
- The ERA will not license a provider unless they can demonstrate they have the financial ability to fund contingencies should there be a shortfall from funds through the ERA regulated charges.
- In addition to demonstrating their financial capacity, the ERA requires providers to have a sufficient bond/bank guarantee that is held with the ERA.
- Once an area is licenced the Act requires that it be covered by a Supplier of Last Resort
- The Authority must invite expressions of interest from licensees in being appointed as the supplier of last resort.
- If the Authority receives no, or no suitable, expressions of interest the Minister may, with the concurrence of the Treasurer, appoint a water corporation as the supplier of last resort for the area in relation to the provision of that class of water service.
- The supplier of last resort may apply to the Minister to recover, from the State, its reasonable costs and expenses arising from it operating the water service. In the first instance it is likely that treasury would use the bond provided to the ERA to fund this.

3.8.9 Power Grid Supply

A conventional approach would see the potential for 146 new dwellings connected to the existing electricity grid for supply from the electricity connection provider (Western Power). Power would then be provided from the South West Interconnected System (SWIS), which is predominately supplied from gas and coal-fired power stations. This is the simplest and cheapest method of providing power to the whole settlement. Upgrades to existing networks would also be required, including:

- A 500 kVA capacitor bank installed in a suitable location between Bussell Highway and Caves Road;
- Minor conductor checks and upgrades carried out along the B897 spur to the Gracetown townsite; and

- A new high voltage transformer, switchgear and ringmain unit to be installed, to service the new development.

Note that Western Power has advised that the precise scope of infrastructure upgrades cannot be properly determined until such time as the developer submits a firm connection proposal, which must be done at least 40 weeks prior to the desired connection date.

A range of options have been explored with a view to providing a more sustainable power supply to the Gracetown Residential precinct. Extensive analysis, including investigation of wind and wave power generation, suggest that the most appropriate, sustainable power supply solution for Gracetown is to utilise "Green Power" offered by an electricity retailer such as Synergy, complemented by the following initiatives:

- Solar Powered Street Lighting - offers the most visible, high impact sustainable energy option for lighting in the new development, although it should be noted that there is little financial benefit. Given that street lighting is to be limited within the settlement, and, this option should be pursued for its consistency with community aspirations.
- Solar Hot Water Systems - A sustainable energy option is the use of solar hot water systems, boosted by bottled LPG at the household level. Rebates are available for gas-boosted solar water heating systems assessed as being in the areas without reticulated gas, which includes Gracetown. Solar water systems are also eligible to generate renewable energy certificates (RECS), which can be used to offset the installation costs. Lifecycle costing analysis for a fully occupied household shows that, with the subsidised capital cost (rebate and RECS), a gas-boosted solar hot water system is not significantly more expensive than a conventional system. If a bulk or preferred supplier discount can be obtained this will be the most cost effective option over a 30-year period.
- Household Photovoltaics - The most viable option for supplying sustainable energy for electricity consumption is a grid-connected 1kW or 1.5kW household photovoltaic (PV) array. Small photovoltaic systems are also eligible to generate renewable energy certificates (RECS), which can be used to offset the installation costs. Three system sizes (600W, 1 kW and 1.5 kW) have been analysed, with lifecycle economic analysis showing the 1.5kW system to be the preferred option on both sustainability and economic grounds under the current Solar Credits rebate scheme. The net feed in tariff introduced in WA will further enhance the viability of these systems.
- Powering Water Reclamation Plant - Installation of a wind power generator to offset the majority of power demand for the water reclamation plant has been investigated and requires further assessment.

3.8.10 Telecommunications

A telecommunications strategy is to be prepared and implemented for the townsite in order to offer residents coverage for broadband internet, mobile phone and digital television. Council has recently granted development approval for construction of a 60m guy wired Telstra tower at the site of the Waste Water Treatment Plan. This tower is also expected to be suitable as the sea rescue communications tower.

The preferred site for the above mentioned infrastructure has been outlined in the Structure Plan Concept diagram in *Figure 16 - Gracetown Townsite Expansion Concept*.

3.9 Traffic Management

A traffic assessment has been undertaken of the concept plan for the Gracetown expansion area. This assessment has been based on current traffic counts, complemented by forecasts of future impacts expected to be generated by the proposed residential development. *Figure 28 – Traffic Counts* provides existing traffic counts plus post development traffic projections.

Traffic management measures are to be implemented as part of the development. Some of these include:

- The 60km speed zone immediately outside the townsite should be extended from the bend in Cowaramup Bay Road to the entrance to the townsite immediately north of the commercial land uses. Cowaramup Bay Road from the bend to Caves Road would need to have a speed limit of 80km per hour (existing). The speed limit in the vicinity of the commercial land uses should be 40km per hour. All other roads within the townsite would need to have a speed limit of 50km per hour, as per default speed limit in build up and residential areas. The new speed limits will need to be supported by signage. Any change in traffic speeds will need to be endorsed by Main Roads WA.
- The intersection of Cowaramup Bay Road and the Boat Ramp area will should be improved and formalised including improvement to the left turn geometry out of the Boat Ramp area. There is an opportunity to increase parking in the Boat Ramp area.
- Entry treatments to the townsite in the vicinity of the commercial land uses in the form of change in pavement texture/colour and landscaping/street furniture.
- Legibility in the vicinity of the commercial land uses should be improved through formalisation of existing and additional parking. Additional parking is possible opposite the shops on the other side of the road and at the north-eastern corner of the shops. Improved pedestrian amenity would need to be provided across Bayview Drive in this vicinity.
- The intersection of Bayview Drive and Salter Street should be improved possibly through a roundabout.
- The standard of Salter Street from Bayview Drive to the South Beach access and Left Handers Car Park will need to be improved to provide consistency and to provide a pavement width of 5.5 to 6 metres.
- Improvements to the intersection of Salter Street and Langley Crescent, through improved radii and formalisation are recommended.
- The intersection of Salter Street and the South Beach access should be formalised.
- The existing footpath along Bayview Drive and Salter Street should be extended further east to Langley Crescent.
- Another footpath along the southern side of Salter Street should be considered.
- There is a footpath along the alignment of Galliers Street. This footpath should be upgraded, lit through bollards, and extended to connect Langley Crescent to Bayview Drive.
- There is an opportunity to increase parking at the main beach to the north of the townsite. The existing car park can be extended further south and facilities including the existing toilet block would need to be improved.



Current Traffic Counts



Source: TRANSCORE PTY LTD

Post Development Traffic Projections

Figure 28 - Traffic Counts

3.10 Built Form

Achieving desirable built form outcomes has consistently been identified as a key issue through the community consultation process to date. Built form will contribute greatly in meeting amenity and sustainability objectives.

The proposed Structure Plan, Detailed Area Plan and Built Form Guidelines will be based on the following design vision and principles.

3.10.1 Built Form Vision

The vision for the Gracetown expansion area is to create a pedestrian-oriented community with public spaces and architecture that encourage community interaction. Approximately 40% of the site will contain vegetated open space areas providing separation between housing nodes and a close association with the natural environment. Low impact housing will be developed complementing the natural contours of the Western oriented ridge, and concealing roadways while allowing extensive views of the Indian Ocean.

3.10.2 Built Form Guidelines

The built form guidelines provide specific direction to residents and Council in relation to building construction in the expansion area, with the objective of realising the built form vision.

Passive solar design

The new dwellings should be designed to respond to the coastal climate, and demonstrate sustainable living solutions, including taking advantage of passive solar heating, cooling, ventilation and daylight strategies and reducing energy usage of the home.

- New blocks are generally aligned along an east-west axis. Dwellings should reflect this, with living areas on the north side to maximise northern exposure and solar gain in the winter months;
- The dwelling should be designed and orientated to promote natural cross ventilation to cool the house, through devices such as breeze ways, louvered walls and windows, or open internal courtyards;
- The use of natural day lighting (through glazing and other openings) over artificial lighting should be maximised where possible;
- The roof (or other device) should provide sufficient shading for all glazed openings, particularly on the north, east and west sides of the building. Innovative roof design is encouraged;
- Large, over-sailing roofs to provide shading from the summer sun, particularly on glazed areas, are encouraged; and,
- Ceiling fans should be provided to all habitable rooms and outdoor living areas.

Outdoor living

The local climate and coastal environment of Gracetown provide excellent opportunities for outdoor living. Designs which promote open plan and outdoor living, such as oversized verandas, balconies, and internal courtyards, are encouraged, as they provide multi-functional living spaces highly suited to the local climate.

- A strong connection between indoor and outdoor living should be provided by large openings, such as bi-fold doors, flexible walls and/or shutters to control sun and wind;

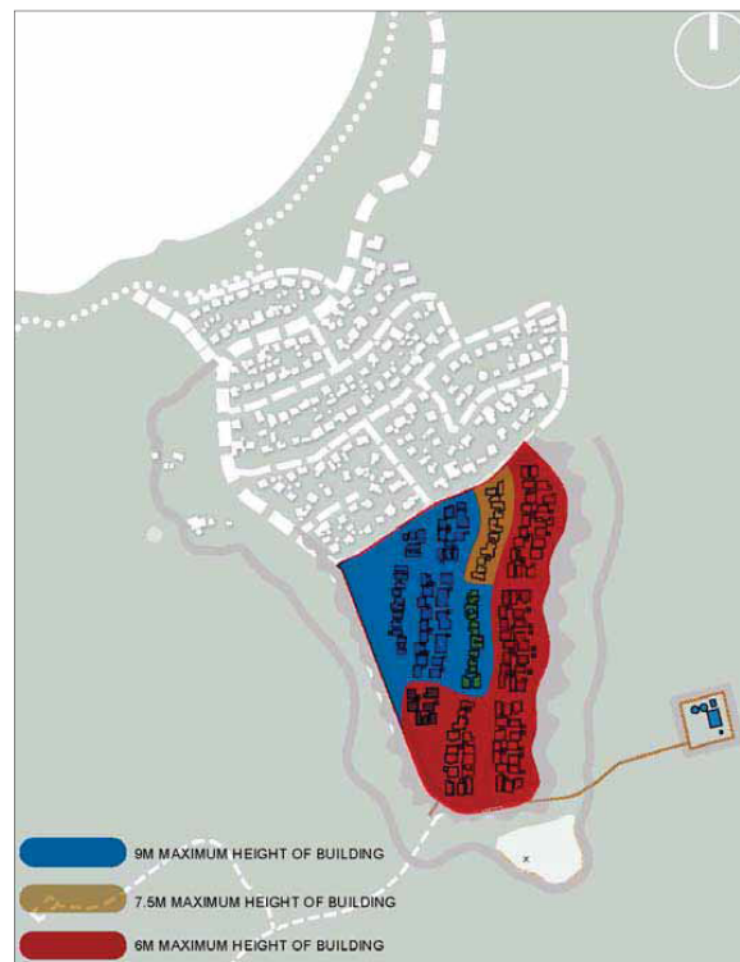


Figure 29 - Maximum Building Heights

- Upper level balconies and/or terraces should be of sufficient dimensions to facilitate functional use; and,
- Outdoor spaces should be located to take advantage of positive climactic conditions, including consideration to sun paths, cooling south-westerly summer breezes, coastal views and opportunity for community interaction.

Built Form

The design of the dwellings should cause minimal disturbance to the natural environment through site responsive design of homes. This will define the architectural character of the expanded townsite and in turn create a strong sense of local identity, related to the distinct character of the hillside coastal environment. This will be achieved by:

- Dwellings should be built so that the natural fall of the land is not disturbed but rather be allowed to continue across the whole of the site;
- Dwellings should either incorporate split levels within the dwelling or be of a lightweight pole and frame construction, to respond to the natural levels of the site;
- Buildings are to be seen 'in the round' within the landscaped setting, with facades articulated;
- Natural levels should be retained wherever possible, with the exception of vehicle parking areas;
- Minimal earth retaining will be permitted; and,
- Each dwelling design will be required to incorporate a self sufficient drinking water storage sized for the individual household needs but with a capacity of greater than 55,000 litres or 55m³.

Addressing the street

Building design should create an informal coastal atmosphere and promote a positive relationship with the street and pathways to encourage physical interaction between buildings and pedestrians. This can be achieved by:

- All new dwellings should have a front door which addresses the street. This is best achieved through the use of paths, lighting and entry canopies;
- Elevations should have a simple elegance and exhibit a sense of lightness and transparency, with generous openings, flexible walls and shade devices;
- Living areas should be arranged to provide a view to the street to enhance community security through passive surveillance; and,
- Garages and/or car ports should be concealed from the street wherever possible. Ideally, car parks should be located at the rear of the dwelling or underneath dwelling if utilising pole construction.

Defined height limit

- Building height limits will be defined in the Detailed Area Plan to achieve a consistent streetscape, privacy, and retention of views, and to ensure that the ridge line is not broken; and,
- Building Heights will be a response to the visual assessment in accordance with Figure 29 – Maximum Building Heights.

Roofs

Roofing is to be of a scale, form and material which reflect a distinctive coastal architectural theme and local architectural character. Innovation in roof form will be actively encouraged.

- Contemporary roof forms including skillion, low pitched, multiplanar, curved, flat and hovering roof forms will be required;
- Roof tops should be articulated to facilitate solutions to natural light, orientation and ventilation, whilst maintaining an orderly aesthetic to the skyline;
- Roof forms should provide summer shade to outdoor/indoor living areas whilst allowing in the winter sun;
- Light coloured roof materials should be used to reduce heat gain; and,
- A minimum effective roof area per dwelling is required to harvest rainwater this will be sized to achieve the required reliability. A mandatory minimum effective roof area of 200 m² is currently expected.

Privacy

Every homeowner expects, and is entitled to, privacy in their home.

- Homes should be designed to safeguard against overlooking of neighbouring internal living spaces. Screening may be required as necessary; and,
- Consideration should be given to the location and size of screening to ensure that views are maintained from the residence to the coast and ocean.

Materiality

The selection of materials and colours can reduce heat gain and retention within the building, improving occupant comfort and the thermal performance of the home. Materials and colours should also reflect the local landscape and help develop a sense of place. Note that all buildings will be required to comply with Australian Standard AS 3959.

- Materials should be appropriate to the coastal environment, taking into account salt corrosion, coastal storms and so forth;
- The use of prefabricated components and recycled construction materials are encouraged;
- The dominant colour palette should be synonymous with the coastal landscape; and,
- Materials should be used as a device to break up the building bulk, through the clever blending of materials and colours, and variation to wall and roof lines.

Thermal Efficiency

The appropriate use of insulation can dramatically reduce heat gain in the summer and improve heat retention in the winter, improving the comfort of occupants and the overall thermal performance of the residence.

- All homes should be provided with a combination of ceiling, wall and floor insulation as part of a compliance with a required minimum 6 star rating for thermal efficiency.

Distinct Beach/Coastal Features

- The inclusion of outdoor showers in the design is encouraged;
- Store rooms should be larger than the minimum area required in the R-codes to provide adequate storage for outdoor equipment, such as surf-skis, kayaks, and so forth; and,
- Storerooms should be integrated into the design of the home.

3.11 Community Contributions

Community Contributions are those elements of the Gracetown Expansion Plan which are in whole or part generated by the expansion plan but are over and above the accepted range of contributions normally required of developers at the time subdivision occurs.

The rationale behind Community Contributions is to:

- Fulfil regional commitments given by government;
- Respond to an objective analysis of the impacts of the proposed development;
- Respond to a subjective analysis of the less tangible impacts of the proposed development; and,
- Respond to community requests and priorities for the provision of facilities.

The implementation of unique servicing solutions, including a reclaimed water scheme, requires that contributions be made over and above standard servicing. These contributions extend to provision of the reclaimed water plant, extending sewer and water networks to the existing townsite and contributing financially to connection costs by landowners.

An objective traffic and pedestrian analysis has been undertaken recognising existing traffic volumes, the proposed townsite expansion and visitor growth generated by being a regional beachside destination. This analysis has identified road upgrading requirements, intersection requirements and development of an integrated pedestrian network.

Combined with the Traffic and Pedestrian Analysis there has been community consultation which established priorities to:

- Develop and entrance statement to the townsite;
- Improve pedestrian access to the beach;
- Manage traffic and pedestrian movement at the shop site;
- Improve the parking at Town Beach; and,
- Improve the access to Left Handers Beach.

A range of community initiatives are linked to fire management. An objective Risk Analysis has been undertaken and a Fire Management Plan developed which embraces the shortfalls in fire management currently experienced by the existing settlement and the measures by which the proposed townsite expansion can contribute to a lessening of these risks. Measures embraced in the Community Contributions include upgrading the community hall to AS 3959 defining a vegetation management regime for the area surround the townsite, upgrading the elements of the access road into the settlement and facilitating establishment of a specified area rate to ensure there is ongoing funding available to implement and maintain the fire management regime.

Community Contributions also include provision of sites for a marine rescue facility, servicing infrastructure and sustainable power generation.

The full schedule of Community Contributions can be found in section 9.0 *Community Commitments and Obligations* in Part 1: *Statutory Section of this structure plan*.

Technical Appendices
provided in the attached CD