



Urban Forest Strategy 2016—2026



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FORWARD

The Town's urban forest consists of all trees and vegetation located within the municipal boundary and comprises all the trees, irrespective of whether the trees are in parks, river foreshores, bushland areas, along road verges or within the public realm of ownership in resident private gardens.

The Town of Bassendean's Urban Forest Strategy will secure the urban forest as a sustainable asset, which further contributes to the liveability of the Town and quality of life for all its residents.

A thriving urban forest should be seen as a desirable quality, supporting sustainable growth in population, property and industry and therefore the livelihoods, lifestyles and health of the entire community.

The following strategic document provides a foundation for how Council will continue to enrich and enliven our neighbourhood character and amenity through the continued management of our most valuable assets, for current and future generations.

Council's Strategic Community Plan 2013-2023 states the following:

Town Planning & Built Environment:

Objectives: Foster enhanced public space and street appearance.
Strategies: Planting of trees in Streetscape in accordance with Street tree Master Plan

Environmental Sustainability and Adaption to Climate Change:

Objectives: Maintain a healthy environment which supports a diverse range of flora and fauna.
Strategies: Continue to develop and maintain biodiversity corridors to provide breeding places and food sources for native flora and fauna.

The management of our trees is a critical aspect of Council's function and with increasing urban density, and the loss of the traditional back yard, our community expectations and demands are increasing, with the management of these important assets is becoming more difficult and complex.

The Town's tree canopy coverage is estimated at 15.7%, which includes all parks and reserves, and whilst we do not have a full quantitative understanding of the environmental and financial benefits our trees have on the Perth metropolitan area, the Department of Planning, Western Australian Local Government Association report titled "the Urban Forest Perth & Peel Strategic Report, states the major benefits of trees in urban areas are:

- Reduction of air pollution
- Reduction in volume of stormwater
- Mitigation of wind and noise
- Provision of habitat and support for biodiversity
- Reduction in UV exposure
- Air cooling through evapotranspiration
- Enhanced sense of place and identity
- Improved mental wellbeing
- Encouragement of outdoor activity
- Reduced demand for energy (lower GHG emissions)
- Increased property values

Given the pressure to plan for greater population, which is projected by the State Government to increase to 3.5 million in the Perth-Peel region by 2031, the increased urban density and climate change, these issues provide a clear opportunity to communicate the importance and benefits of urban forests in creating resilient, sustainable cities that provide healthy and enjoyable places for people to live and work.

It is proposed that the Town's Urban Forest Strategy will transform and strengthen the Town's Street Tree Master Plan by building upon the present and the past plantings and provide a resilient, healthy and diverse tree canopy which will contribute to the health and wellbeing of our community and to further improve the liveability of the built and natural environment.

Council has adopted a suite of policies to protect and manage all street trees and has the power in Local Planning Scheme No. 10 to make Tree Preservation Orders on private land and, for the public realm; Council has established a Significant Tree Register and Amenity Tree Evaluation Policies for calculating the amenity value of our trees.

The focus on individual trees is associated with issues such as tree species selection, planting, establishment and maintenance through to maturity. Whilst not abandoning the recognition of the importance of individual trees, this strategy focuses on our populations of urban trees, or the urban forest.

BACKGROUND

The Western Australian Planning Commission report titled the Urban Forest of Perth & Peel states that an urban forest is measured on the percentage of tree canopy cover within an area, not the number of individual trees.

Trees have many environmental, economic and social benefits. The challenges identified in the Bassendean 2023 Community Strategic Plan under the Town Planning & Built Environment, is to “foster enhanced public space and street appearance” by “planting of trees in streetscape in accordance with Street Tree Master Plan”, and under the Environmental Sustainability and Adaption to Climate Change, it is to “maintain a healthy environment which supports a diverse range of flora and fauna” by “continuing to develop and maintain biodiversity corridors to provide breeding places and food sources for native flora and fauna”.

This Urban Forest Strategy responds to that challenge by promoting a vision of the urban forest for the future and by setting out principles for the management of the urban forest within the Town of Bassendean.

CONTEXT

1. A Model of Urban Forest Sustainability, by JR Clark et al. (1997), was one of the formative works applying principles of sustainability to urban trees. ‘The most significant outcome of a sustainable urban forest is to maintain a maximum level of net environmental, ecological, social and economic benefits overtime.’
2. Urban forestry has yet to be well researched, implemented and evaluated in an Australian context. There is a reliance on research from the U.S., Europe, Scandinavia and Asia to guide our thinking and programs. Whilst Australia, and particularly Western Australia, is some way behind in providing robust research and literature on the topic, Australian cities are by no means behind in current management and planning of urban trees and vegetation. We have been practicing the art and science of urban forestry for years through tree and park planning, arboriculture, horticulture and urban design.
3. Urban forestry, as distinct from arboriculture and horticulture, considers the cumulative benefits of an entire tree population across a town or city. Looking holistically at the urban forest and its associated ecosystem services allows for consideration of the broader issues of climate change, urban heat island effects and population growth that can be influenced by, and that can affect, an urban forest.
4. The Town of Bassendean is a metropolitan municipality, 10 kilometres north east of the Perth central business district (CBD) and approximately 20 kilometres from the coast. The Town covers an area of 10.4 square kilometres, maintains over 97 km of roads and has an estimated population of 14,404 (2011 - Australian Bureau of Statistics).
5. The Town of Bassendean incorporates the suburbs of Bassendean, Eden Hill and Ashfield and is bounded by 7 kilometres of the Swan River frontage to the east, by the City of Swan to the north and east and by the City of Bayswater to the west.
6. Directions 2031 Spatial Framework for Perth and Peel, the State Government’s planning framework for the Perth Metropolitan Area, serves as the highest level spatial framework and strategic plan. Its objective is to guide the planning and delivery of housing, infrastructure and services for the region. Its vision is “By 2031, Perth and Peel people will have created a world class liveable city: green, vibrant, more compact and accessible with a unique sense of place”. Perth’s population is projected to increase to 3.5 million in the Perth-Peel region by 2031. In response to this, planning the Town of Bassendean recognises that the existing housing density will intensify, creating a more compact community.

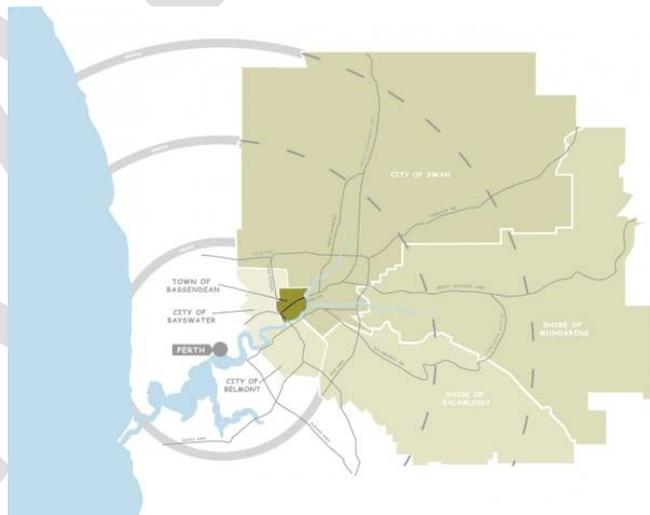


Figure 1 – Town of Bassendean location map

7. The Department of Planning report titled “Urban Forests of Perth and Peel 2014” states under “High risk – commercial, residential and industrial street blocks” that “Trees on private lots are at the greatest risk of development pressures because there is very limited protection for established trees under statutory policies. While residential extensions and redevelopments are a common cause of canopy loss, trees can be removed on private land at any time. It is likely that planning policies, schemes and structure plans that increase densities and allow for further subdivision will trigger increased development activity and subsequent tree canopy loss”.
8. With the increase in urban density in the suburbs of Ashfield, Bassendean and Eden Hill, tree canopy density and tree numbers on private property have declined. Currently the Town of Bassendean has 15.7% total tree canopy.
9. The Town is located within a recognised global biodiversity hotspot, the Southwest Botanical Province, and although much of the area has been modified or developed for human use, there are still important biodiversity resources within the region, and a need to protect and conserve those resources and implement appropriate environmental management. As a result Council endorsed (OCM1 – 4/09/09) a Collective Biodiversity Strategy developed for the Town of Bassendean, the Cities of Bayswater and Belmont based on the Local Government Biodiversity Planning Guidelines (2004). The focus of the strategy is the protection and effective management of natural areas directly managed by the three local governments. The collective approach enables the consideration of ecological linkages within a broad landscape beyond municipal boundaries.
10. The Town of Bassendean’s Environmental Management Plan 2014 - 2024 (OCM – 18/03/14) provides for officers a strategic overview six key focus areas, being:
 - Governance and Communication
 - Land Use and Cultural Heritage
 - Atmosphere and Climate Change
 - Biodiversity
 - Waste Management
 - Water Conservation
11. The Environmental Management Plan provided overarching strategic direction to numerous operational programs, which include but are not limited to, the following:
 - ACeR – Achieving Carbon Emissions Reduction Program
 - Bushcare Volunteer program
 - Local Climate Change Adaptation Action Plan
 - Natural Resource Management Plan
 - Schools Waste Reduction Program
 - Street Tree Master Plan and planting program
 - TravelSmart program
 - Volunteer Bushcare Program
 - Water Campaign
 - Water Conservation Plan (WCP) for Management of Groundwater
 - Water Quality Monitoring & Improvement program

12. The Planning & Development Act 2005 (WA) and the respective Local Government Planning Schemes do not currently provide a mechanism for contributions for the loss of tree canopy on development sites. The Town of Bassendean therefore currently focuses on protecting verge trees by limiting the number of crossovers; ensuring setbacks are sufficient to protect trees, or imposes a developer contribution for the loss of street trees where no alternative access can be provided.
13. Tree canopy cover is a key criterion by which we measure the urban forest's ability to produce benefits for the community and the environment. Increasing the extent of tree canopy throughout the municipality is vital for achieving the greatest environmental and public health benefits.

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ECONOMIC BENEFITS

Urban forest benefits that can be quantified in dollar terms span a range of industries and disciplines including health, engineering, planning, sustainability, geology and real estate industries. Bringing these together to form a solid economic business case for urban forests is a powerful tool for decision makers, as most infrastructure and design decisions are based on economic cost benefit analysis. Research findings have identified the following economic benefits of an urban forest:

- **Reducing energy costs:** Major economic benefits come through Energy Efficient Design Principles such as shading buildings in summer, reducing the need for air conditioning, which in turn cut energy costs. Careful building design and strategically planted trees can easily achieve internal temperatures 5°C warmer in winter and 10°C degrees cooler in summer than in typical, poorly designed homes. Increasing tree cover by 10% – or strategically planting about three shade trees per building lot – has been estimated to save an estimated \$50 to \$90 per dwelling annually in heating and cooling costs.
- **Increasing property values:** Trees in streets enhance neighbourhood aesthetics and as a consequence are proven to increase property values. A book published in 2012, titled “Landscape and Urban Planning,” states that the effect of street trees on property value in Perth, Western Australia differs depending on tree type and location and that it had been shown by a number of studies that urban trees are valued by the home owners (Abbott & Klaiber, 2010; Anderson & Cordell, 1988; Dombrow, Rodriguez, & Sirmans, 2000; Tyrväinen & Miettinen, 2000). The authors advised that trees are valued differently depending on whether they are located within the property boundary (private space), on the neighbouring property, or on the street verge adjacent to the property (public space). A tree on the street verge, but not on the property, increases the median property price of a house by about AU\$16,889 (4.27%).
- **Avoiding costs of infrastructure damage and renewal:** Urban forests that provide significant canopy coverage improve the lifespan of certain assets such as asphalt by shading them from harmful UV rays – potentially by 30%. Tree canopies and root systems also help to mitigate flood levels during extreme events and have the ability to lower stormwater flows into drainage infrastructure.
- **Decreasing health costs:** The Department of Health published the “Health Promotion Strategic Framework 2012-2016” document to set out WA Health’s strategic direction & priorities for the prevention of avoidable chronic diseases and injuries. The report indicates the following for the Town of Bassendean’s Health Profile :
 - 36.3 % of Males and 23% of Females are overweight – not obese
 - 19 % of Males and 16.8% of Females are obese
 - 55% of persons have at least one of the four health risks factors
 - 3.6% of the population have type 2 diabetes

The Australian Institute of Health and Welfare states that modifiable health risk factors are those over which individuals have some influence and which can be grouped into health-related behaviours, eg diet, exercise, smoking and alcohol consumption. Modifiable health risk factors are important targets for preventive health interventions. Research suggests that a healthy green city helps alleviate the burden on national health systems. While it is difficult to create a direct link and quantify dollar savings, it is likely that urban forests reduce health costs associated with sedentary behaviour, obesity and mental illness. A view of green space, including trees, can also encourage hospital patient recoveries, reducing the amount of time spent in hospital.

- **Marketing the City:** Green spaces play a role in defining the culture and image of our Town. A better image makes a locality more competitive, thus expanding its political and economic influence. Tourism is of increasing importance to many Local Governments, and green space can help to promote tourism, as main attractions or – more commonly – as attractive ‘settings’ for various types of events and activities that boost the local economy. For example the City of Melville each year has the Jacaranda festival.
- **Storing and sequestering carbon:** During photosynthesis, trees convert carbon dioxide and water into sugar and oxygen and store carbon within their biomass. Urban trees therefore make an impact in absorbing carbon from the atmosphere. Tools such as i-Tree Eco (i-tree Eco Australia www.arboriculture.org.au/i-Tree-Australia) model air pollution reduction, greenhouse gas and carbon storage, and energy savings benefits.

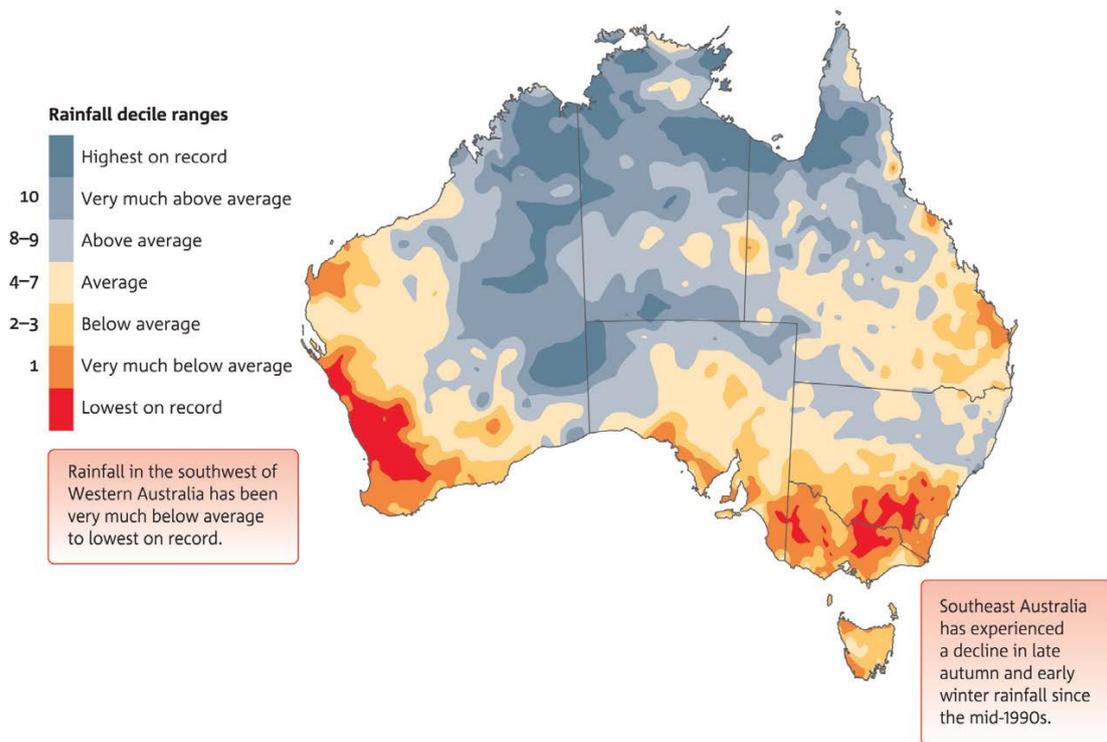
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ENVIRONMENTAL ISSUES

The Western Australian Department of Water is responsible for planning and managing water for our future. To achieve this, in 2008 “Better Urban Water Management” (WAPC) process was developed to provide guidance on the implementation of State Planning Policy 2.9 Water Resources (Government of WA, 2006), which is a requirement of the State Water Strategy for Western Australia (Government of WA, 2003).

The CSIRO and the Bureau of Meteorology in 2015 released climate change projections for Australia in a publication titled “Thirsty Country: Climate Change and Drought” in Australia” that provide updated national and regional information and confirmed that most of the climatic changes observed over recent decades will continue into the future.

Whilst some parts of Australia are getting wetter, particularly the northwest of the continent, some of the most populous and agriculturally productive regions in the south are becoming drier (CSIRO and BoM 2014)

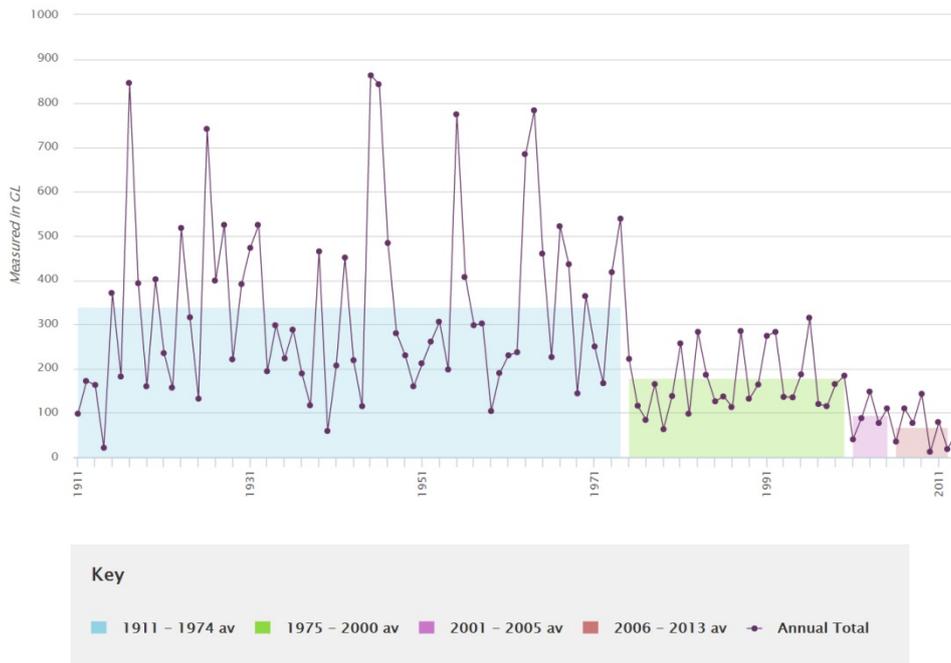


A long-term drying trend is particularly evident in the southwest and southeast of Australia, with rainfall deficiencies and declines in soil moisture indicative of dry conditions that have persisted in recent decades (CSIRO and BoM 2015).

Future drying trends in Australia are projected to be most pronounced over southwest Western Australia and the “Thirsty Country: Climate Change and Drought” report stated this could have significant implications for metropolitan Perth, which has already experienced a reduction of nearly 80% in total annual inflow into its dams since the mid-1970s.

Historical streamflow

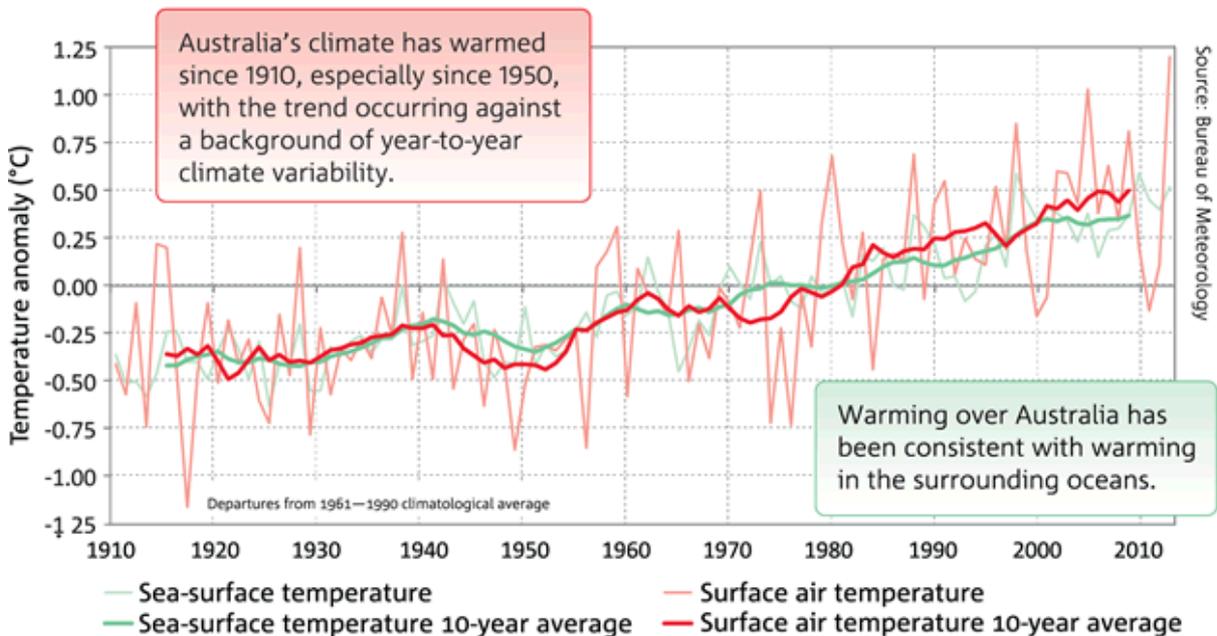
We need steady, regular rain in order to soak our catchments and get the streams flowing into our dams. Slowly declining rainfall means Perth's dams receive much less streamflow than in years past.



*In order to provide an accurate historical comparison streamflow from Stirling, Wokalup and Samson Brook Dams are not included in this data as these dams only came online in 2001. Inflow is therefore modelled on Perth dams pre-2001.

Water Corporation of Western Australia

State of the Climate 2014 report states that Australia's climate has warmed by 0.9°C since 1910, and the frequency of extreme weather has changed, with more extreme heat and fewer cool extremes.



In 2015, a study by Murdoch University Centre of Excellence for Climate Change research fellow Dr Niels Brouwers states that changes in climate are having a significant impact on

forested ecosystems, causing increases in tree mortality rates, and decreases in tree growth and health.

The Federal Government's Department of Environment, Water, Heritage and Arts assessment of Australia's Terrestrial Biodiversity outline that higher temperature, elevated CO₂ and changing rainfall patterns are a direct threat to the biodiversity of almost all ecosystems.

As a consequence these environmental issues need to be taken into to consideration when maintaining the Town's existing trees or with plans to increase the Town's Urban Forest.

In addition, over the hot summer months Bassendean sands become water repellent due to the dehydration of an organic skin coating around the sand particles. Generally with good winter rains this organic skin rehydrates to permit water filtration. However, with a drying climate, on occasions there has been insufficient rain over winter to hydrate the organic skin to allow the rain or applied additional water to filtrate into the deep into ground. As a result natural area land managers, including the Town of Bassendean, have increasingly found it difficult to achieve satisfactory plant establishment rates in our bush areas due to the reduced rainfall. In regards to the Town's new street tree plantings, they currently require up to 2-3 years of supplementary watering along with the regular applications of a wetting agent to improve water filtration over summer. Should rainfall continue to reduce, additional supplementary watering will need to be provided.

The Centre for Urban Greenery and Ecology in the USA published report titled Adapting Urban Forests to Climate Change which states "changes to the urban forest will have a number of important flow-on effects for management, urban ecosystems, and the urban public. With regard to management activities, these will include increased tree removal, pruning, and planting in response to damage, decline, and mortality. There will also be greater uncertainty about the outcomes of management actions in the urban forest". The article goes on to say that "recognising the importance of trait shifts as a result of this adaptation will allow managers to plan for a healthy urban forest that satisfies cultural and natural heritage needs".

LOCAL PLANNING SCHEME

Directions 2031

The Planning & Development Act 2005 (WA), the State Government's operational policies: Liveable Neighbourhoods and Directions 2031 and Beyond and the various local government planning schemes create the structure and build form of our communities and determine the extent of public open space.

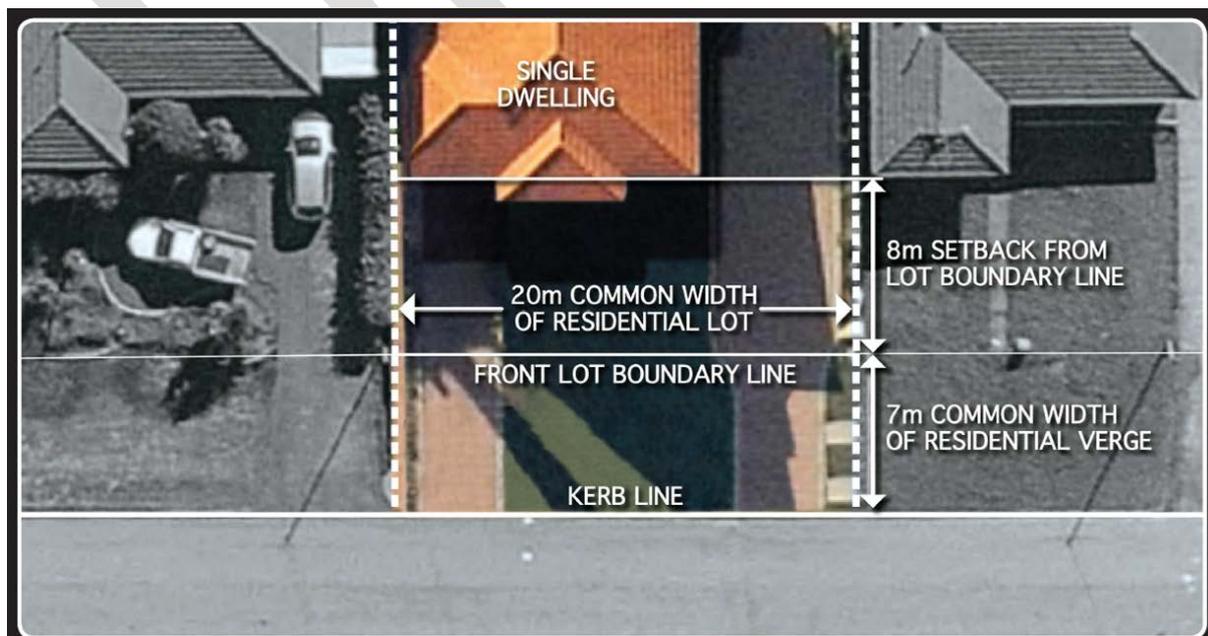
Directions 2031 and Beyond sets an urban infill housing target in a report titled "Towards Perth & Peel 3.5 million - Urban Consolidation". This report states that the aim is for the majority of all new infill residential development, approximately 75 per cent, to occur within the identified urban consolidation areas of activity centres, corridors and station precincts. It is therefore necessary to broadly assume that 25 per cent of all new infill in the Central sub-region will occur as a result of incremental infill growth in existing built-up areas within traditional suburban streets (that is, outside of the urban consolidation areas).

The "Delivering Directions 2031 Report Card 2013" states the Town of Bassendean infill housing target of 2,430 dwellings by 2031 and an additional 890 new dwellings after 2031. Between 2011–2016 the report states the Town of Bassendean's target is 700 new dwellings. The Town's records indicate that between 2011 to February 2016, the Town has had a net increase of 503 new dwellings.

Typical R 20 Lot Prior to Urban Consolidation

The Town of Bassendean's Local Planning Scheme No. 10 outlines precincts within the municipality where lots can be consolidated. Typically, the adopted local planning strategy seeks to:

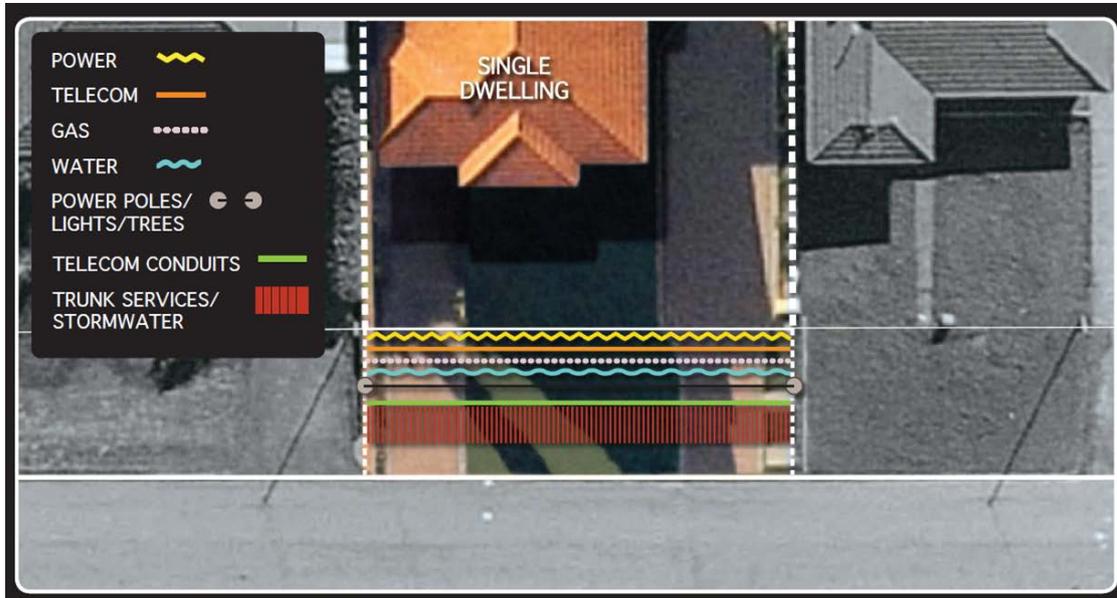
- increase the base coding to R25 for the majority of the scheme area
- apply densities of R100 within the 400 metre walkable catchment of Train stations
- apply densities of R60 within the 800 metre walkable catchment of the Train stations
- apply densities of R40 to selected areas currently coded R30.



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Typical Utility alignment in verge

The road verge is occupied by underground and overhead utilities on a predetermined set of alignments, upgrading these utilities to service urban consolidation will require repeated excavation and disturbance to the verge over time.



Crossover and Tree Planting Alignment

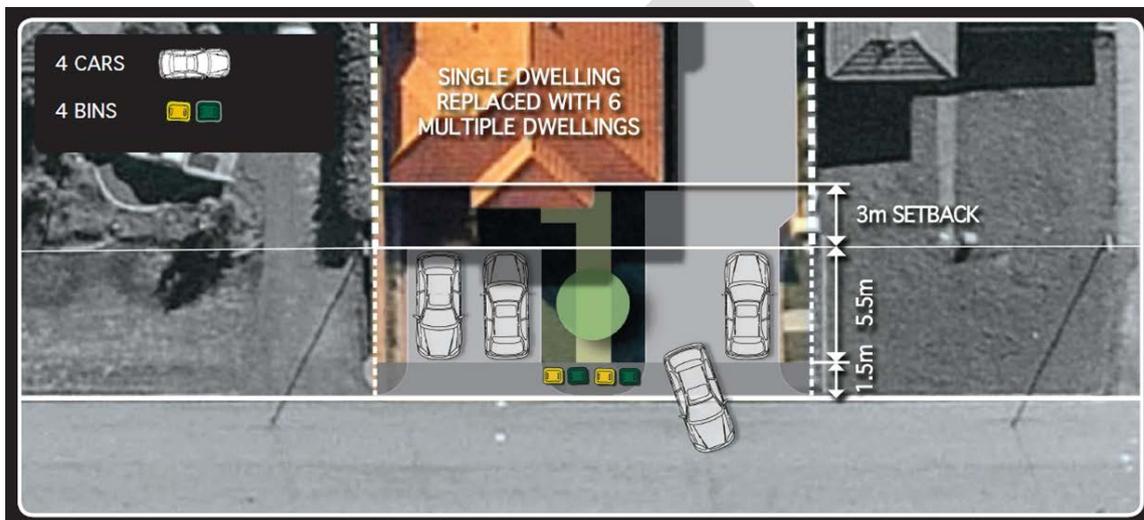
In addition to the areas reserved for underground and overhead utilities the verge is also required to accommodate crossovers and street tree. As a result the location where these can be located closely circumscribed.



Many of the Town's verges are below 7 metres

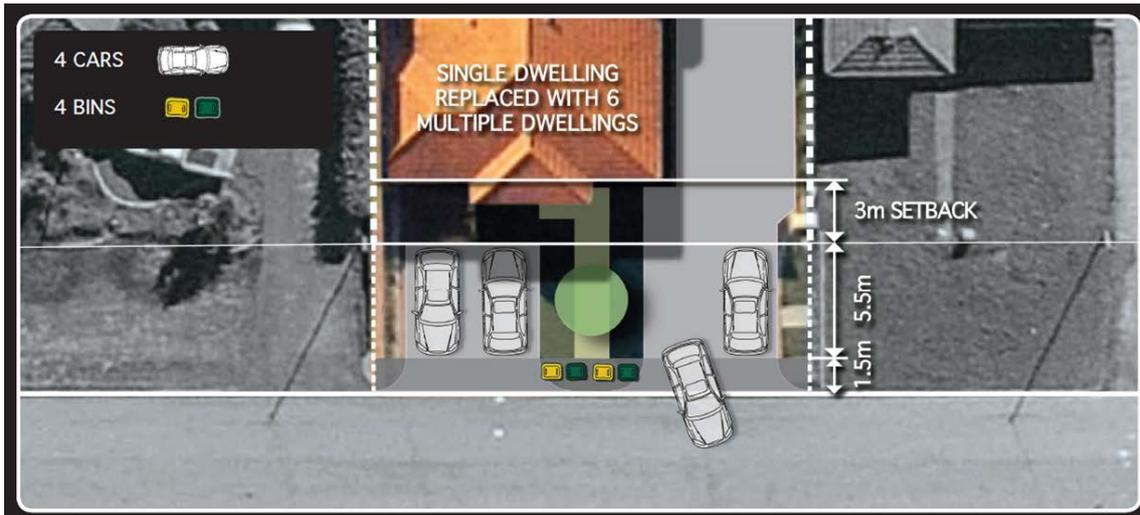
Theoretical Outcome of Rezoning

- Changes to the State Government's R-Coding has permitted an increased density of multiple dwellings on each lot with less provision of on-lot parking. This will lead to an increased demand for car parking on the road verge. The State Government has reduced parking in close proximity to public transport infrastructure – this issue applies beyond Multiple Dwellings
- A typical 800 square metre R20 Lot rezoned for R40 could be redeveloped with six multiple dwellings.
- The Town's crossover policy does not currently allow for two crossovers, with the introduction of multiple dwellings. A 2nd 6 meter wide crossover per lot is likely to become an increasingly common occurrence.
- Currently the Town of Bassendean provides 2 waste bins. Yellow-top recycling bin – fortnightly service and a Green-top rubbish bin – weekly service.



Potential Outcome of Rezoning & Western Australian Waste Strategy

- No space for 2-3 Bin system (general waste – weekly services, co-mingled recycling – fortnightly service and green organics waste – fortnightly service) without street or blocking parking bays.
- Conflict between neighbours over parking bay access likely.
- Refuse collection is estimated to take longer due to street parking.
- Degraded streetscape appearance due to increase in front boundary fencing, no street trees, ad-hoc paving materials and design on a lot by lot basis.
- Repeated repairs to verge paving will arise from need to upgrade utilities over time.
- Limited or no grass or tree canopy planting on either the house lot or the road verge – storm water implications.
- Dwellings in close proximity without shade will encourage close windows/use of air conditioning – increase residential CO2 output.
- Dwellings in close proximity which do not provide sufficient tree canopy cover contribute to the Urban Heat Island Effect and therefore increase air conditioner usage which in turn, increases our Carbon footprint, and increases cooling costs.



The Western Australian Waste Strategy sets out targets to move WA to a low-waste society. The strategy contains targets to divert municipal solid waste from landfill

The Waste Authority supports a three-bin system (general waste, co-mingled recycling and green waste), because it encourages source separation, which is important to maximising recovery.

The Town of Bassendean in conjunction with the EMRC have been investigating the 3 bin system.

Typical Existing R20 housing Block

Currently 1 dwelling per lot with large front and rear gardens and grassed verge with tree canopy.



Typical Housing Block, Post Urban Consolidation

- Multiple dwelling developments, no permeable areas.
- More intensive (large) single residential housing developments, no permeable areas
- No trees or vegetation, poorly defined crossover locations. Difficult to determine where best to plant street trees.
- Parking conflicts between neighbours.
- High dependence on air conditioners due to built structure -restricted air flow, the urban heat island effect, no tree canopy shade.



Planning & Development Act 2005 (WA) & Local Planning Scheme No.10

The Western Australian Planning & Development Act 2005 provides for a system of land use planning and development in the State and for related purposes.

The Town of Bassendean's, Local Planning Scheme No.10 applies to the Scheme area which covers all of the local government district as shown on the Scheme Map – Appendix 2, however this scheme does not currently provide a mechanism for developers to off-set or contribute for the loss of tree canopy on development sites.

Discussions have been held with Planning Departments from other Western Australian Local Government Authorities concerning the Planning & Development Act 2005 (WA), and their respective Local Planning Schemes. Our investigations have confirmed that two important State Government operational policies: Liveable Neighbourhoods and Directions 2031 and Beyond, are currently eroding both the existing urban forest canopy and producing environments where a canopy cannot be established in the future.

With increased urban densities the assumption that the tree canopy can be established on either the lot or the street is misguided unless developments are designed around trees.

The Town of Bassendean currently focuses on protecting verge trees by limiting the number of crossovers; ensuring setbacks are sufficient to protect trees, or imposes a developer contribution for the loss of street trees where no alternative access can be provided. Where a developer seeks concession on landscaping, Council may consider concessions to plant additional trees in parks.

Whilst Council can allocate funding to increase the number of trees planted within the public realm (e.g. verges and public open space), it is critical that resources and funding be allocated to permit the Town to identify significant trees or groups of trees on private property and for Council to serve a notice in accordance with Planning Scheme No.10 Trees on Development Sites clause 1.8, which states the following:

Tree Preservation Orders

The Local Planning Scheme No. 10 gives Council the power to make tree preservation orders, having regard to a tree's aesthetic quality, historical association, rarity or other characteristics, which in the opinion of the local government, makes the tree worthy of preservation.

Any land owner or developer who allows a tree, the subject of a tree preservation order, to be cut or removed without the local government's consent, commits an offence under the Scheme and is liable for prosecution.

The Scheme also gives the power for Council to make a tree preservation order where there is a risk of imminent damage to a tree requiring an order to be made or amended as a matter of urgency, without consultation with the owner in advance.

To ensure Town of Bassendean's percentage of tree canopy has the capacity to increase, it is essential that Council investigates a mechanism through the Local Planning Scheme, to implement a regulatory tool that sets out the procedural framework governing the removal and the requirements to offset the loss of tree canopy. Should trees be retained, Tree Preservation Orders need to be applied and an arborist engaged to manage the pruning, alteration of soil levels close to trees and on-going management for the trees on private land. This is critical in order to protect trees and ensure the existing tree canopy is retained and to ensure the collective loss of trees across the Town is balanced by tree canopy replacements.

Developers, property owners and public authorities have certain obligations with respect to the protection of trees, and responsibilities for any damages or injury associated with the presence failure or growth of trees. Tree management in the urban environment is about balancing the various risks against the benefits that trees provide to ensure the best outcomes for the community as a whole and not just for developers.

VERGES

The portion of land between a property boundary and the carriageway or road is referred to as the verge. In accordance with Town of Bassendean's Activities on Thoroughfares and Trading in Thoroughfares and Public Places Local Law 2010, property owners or residents of land abutting the verge may install a permissible verge treatment.

The Town's Thoroughfares and Trading in Thoroughfares and Public Places Local Law 2010 states:

- Division 1 - General prohibitions : A person must not plant any plant except grass within 6m of an intersection
- Division 3 - Permissible Verge treatments:
 - (1) *An owner or occupier of land, which abuts on a verge, may on that part of the verge directly in front of her or his land install a permissible verge treatment.*
 - (2) *The permissible verge treatments are:*
 - (a) *the planting and maintenance of a lawn;*
 - (b) *the planting and maintenance of a garden provided that:*
 - (i) *clear sight visibility is maintained at all times for a person using the abutting thoroughfare in the vicinity of an intersection or bend in the thoroughfare or using a driveway on land adjacent to the thoroughfare for access to or from the thoroughfare;*
 - (ii) *where there is no footpath, a pedestrian has safe and clear access of a minimum width of 2m along that part of the verge immediately adjacent to the kerb;*
 - (iii) *it does not include a wall or built structure; and*
 - (iv) *it is not of a thorny, poisonous or hazardous nature; or*
 - (c) *the installation of an acceptable material; or*
 - (d) *the installation of an acceptable material or other verge treatment in accordance with paragraph (c), and the planting and maintenance of either a lawn or a garden on the balance of the verge in accordance with paragraph (a) or (b).*

Council determined the following acceptable materials and other verge treatments and the non-acceptable materials:

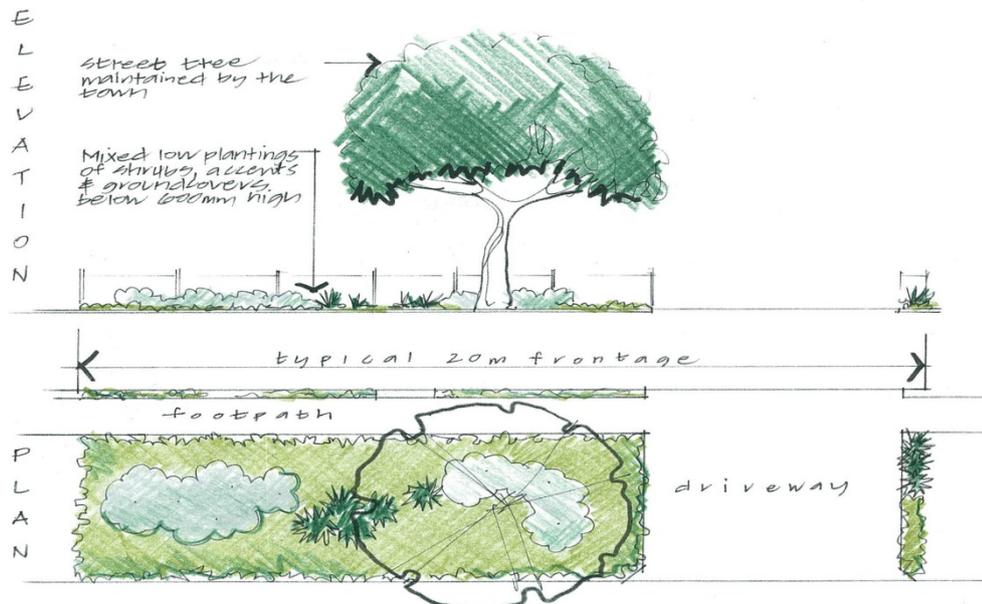
Acceptable materials	Conditional requirements
1. Composted mulch or chipper mulch material	<ul style="list-style-type: none"> ➤ Street Tree Protection policy requirements are applied to ensure the long-term health of the tree ➤ To protect the tree roots, all earth works under the tree drip line shall be performed using hand tools
2. Small format Permeable/ Porous Pavers	<ul style="list-style-type: none"> ➤ Verge pavers shall be at least 20 percent porous ➤ Storm water on verge shall be managed on site ➤ Verge pavers shall not be laid within 2 metres from base of existing tree trunk
3. Irrigation system	<ul style="list-style-type: none"> ➤ A minimum of 2 metre wide street tree planting bay (s) shall be provided for future street tree (s)
4. Grass	<ul style="list-style-type: none"> ➤ No more than one third of the verge shall be paved excluding the crossover
5. Low growing ground cover plants	<ul style="list-style-type: none"> ➤ Mulch or paving once installed shall not be higher than the adjacent kerb line, footpath or crossover ➤ Paving shall tolerate limited vehicle traffic ➤ Below ground irrigation / pop up sprinklers

Examples of Non - Acceptable materials	Reason
1. Frangible objects such as mounds, rocks, sleepers, walls, and garden kerbs 2. Loose objects such as gravel or aggregate 3. In-situ concrete, concrete slabs, and bitumen 4. Artificial turf	<ul style="list-style-type: none"> ➤ Frangible objects may be considered unsafe, cause damage or be used to cause damage ➤ Loose objects impact upon pedestrian safety ➤ Concrete & bitumen have poor water permeability and contribute to storm water flow ➤ Synthetic turf may reduce soil health and contribute to the urban heat island effect by absorbing sunlight and emitting heat

In regards to the landscaping of the verge, Town of Bassendean residents are encouraged to plant endemic (local native) low growing groundcovers and shrubs and informed when submitting an application, to ensure clear sight visibility for both pedestrians and vehicles be provided at all times. Where there is no footpath safe and clear, residents are advised to ensure access is provided for pedestrians.

The sketch landscape plan below is provided to assist the owner / occupier of the lot abutting a verge, and appreciate visually the verge planting requirements. In this plan, the plants have been arranged so that grass or a similar ground cover plant covers are placed at edges and low growing plant towards the middle of the verge area.

Below is an example of a verge landscaped plan:



Where street trees are growing under the overhead power lines, residents are advised that the Town’s approved contractors will require appropriate machinery access to carry out street tree pruning operations.

STREET TREE MASTER PLAN

In developing the 2009 Street Tree Master Plan, Council took into consideration the mix of existing trees in each street that have been planted over a number of years, and the cultural or natural association of these trees to the area. Many of the trees planted in the 1970's, 1980's and 1990's were poorly selected and as a result, Council adopted the following tree selection criteria to guide the selection and development of the plan:

- “Boulevard” style streetscapes;
- Biodiversity Corridors;
- Historical, cultural or natural association;
- Form and scale;
- Impact on utility services;
- Drought tolerance;
- Performance record;
- Response to pruning;
- Planting tolerance in paved areas;
- Resistance to pest and diseases;
- Verge widths;
- Long lived; and
- Limb shear.

It is from the above criteria that the list of street trees suitable for the Town's streetscapes was prepared, and after extensive community consultation, Council adopted the 2009 Street Tree Master Plan. The 2009 Street Tree Master Plan links streetscapes to Public Open Space and natural areas by providing biodiversity corridors which in the long term will create “Boulevard” style streetscapes.

In 2014 the Town sought community feedback on the current plan and in the 2015/2016 financial year allocated funding to review the Street Tree Master Plan. In early August 2015 a Street Tree Master Plan Review – Project Working Group considered the project brief and has been working towards the required actions. As part of this process, the Town signed up to Network <http://2020vision.com.au/> with the aim of developing an Urban Forest Strategy proposal for Council consideration.

As part of Street Tree Master Plan review, the Town will increase species diversity by reviewing the street tree list. In addition, the Town will identify existing remnant endemic (local native) tree species and list for Council consideration their inclusion onto the Significant Tree register.

The revised Street Tree Master Plan and the revised Tree Species Information – Appendix 3, does not preclude the Town from considering other trees for streetscape features so long as the tree selection criteria is used in consultation with an Arborist for the specific location in order to minimise future expenditure on tree related issues due to inappropriate or high risk, high maintenance species being planted.

URBAN FOREST

State government planning documents such as the Liveable Neighbourhoods and the Urban Forest of Perth and Peel, detail the benefits urban forests provide, as being:

- Reduction in Air Pollution
- Control of storm water
- Mitigation of wind and noise
- Improves biodiversity
- Reduces Ultra Violet light exposure
- Reduces heat island effect and energy demand
- Enhances sense of place and wellbeing
- Increases property values
- Encourages outdoor activity

Urban warming, commonly referred to as the 'Urban Heat Island' Phenomenon (UHI) is a well-documented topic, and the magnitude of the UHI has been studied mostly in terms of the temperature difference between rural and urban locations. UHI is considered one of the major problems in the 21st century as a result of urbanization and industrialization of human civilization. With the rapid growth of the Perth metropolitan area, changes to urban form have resulted in unintended environmental consequences such as increases in local ambient temperatures. Paved surfaces, buildings and other infrastructure have replaced pre-existing natural landscapes, and these hard surfaces absorb a greater amount of solar energy resulting in an increase of urban temperatures. They are also impervious, meaning that water drains away rapidly leaving little moisture in the ground layer, consequently reducing evapotranspirative cooling.

The UHI effects are particularly noticeable at night, when heat that is stored in the urban landscape is slowly released, increasing the temperature differential between urban and rural areas. Studies have found that UHI effect can add between 1°C to 6°C to ambient air temperature and is likely to be further exacerbated by climate change. The adverse effects of UHI includes the deterioration of living environment, increase in energy consumption, elevation in ground level ozone and even increase in mortality rates.

Perth population is projected to increase to between 3.5 million in the Perth-Peel region by 2031. In response to this, future development should restrict urban sprawl and create compact communities with housing and transportation choices near jobs, shops and schools. Many studies have reported and successfully applied measures on mitigating UHI with promising financial and environmental benefits.

On the East Coast of Australia, State and Local governments have worked together to create the 202020 vision. This vision is a mass collaboration of organisations working together to create 20% more green space in our urban areas by 2020. On the 5th November 2015, the Town signed up to <http://202020vision.com.au/network/> with the aim of developing an urban forest strategy for Council consideration with the long term vision to increase tree canopy and mitigate the impact of UHI within Town of Bassendean.

A review of 5 International, 13 Australian articles concerning Urban Forests and 7 Urban Forest strategies, has been undertaken in order to guide the development of the Town of Bassendean's Urban Forest Strategy and to identify potential management and operational improvement opportunities.

One of the measures to mitigate the Urban Heat Load is to increase the tree canopy which also improves carbon sequestration, filters air pollution, reduces the urban heat load, provides shade for pedestrians, increases walkability of neighbourhoods, makes our suburbs more attractive and increases the biodiversity for insects and birds

Therefore urban forests play a vital role in the health, social framework and economic sustainability and help build stronger communities.

TREE CANOPY COVER - MAPPING

A publication titled “Criteria and Indicators for Strategic Urban Forest Planning and Management” published by Arboriculture & Urban Forestry 2011. 37(3), states “All too often, urban forest management programs are driven by the need to increase urban forest canopy cover. Setting canopy cover goals has many implications, including the associated need for increased tree planting, watering and the long-term resources required to manage the expanding urban forest”.

The concept of using criteria and indicators as sustainable forest management tools originates from the 1994 meeting of the Working Group on Criteria and Indicators for the Conservation and Sustainable Management of Temperate and Boreal Forests in Geneva, Switzerland, as part of the Montréal Process. Since then, many sets of criteria and indicators of sustainable forest management have been developed around the world.

In 2002, American Forests (a branch of the United States Department of Agriculture - USDA) identified canopy cover targets by land use. They recommended the ideal canopy to maximise the benefits canopy provides (depending on climate and land use patterns). The recommended canopy cover is:

- 15% in central business district and industrial areas.
- 25% in urban residential and light commercial areas.
- 50% in suburban residential areas.

Canopy cover targets are now being developed by many Local Government Authorities throughout the world.

Direct comparisons cannot be made between different Local Governments existing canopy cover and their targets. Each municipality has different factors affecting their urban forest, with key differences being: existing canopy in public and private realm, planning and urban density, surrounding land use (central business district, residential, rural), climate (rainfall, temperature), soil types and maintenance budgets.

Therefore, the first step is to map or measure the existing canopy coverage in order to understand the extent of the municipality’s urban forest, as this data will then be used to guide our strategic directions –including setting canopy cover targets.

The Town of Bassendean’s tree canopy coverage is estimated at 15.7% which includes all private and public realm.

Apart for the 2006 Arborlogic Street Tree Audit data the Town obtained for the existing street trees, the other essential parameters of canopy mapping has not been undertaken in order to provide the base line data for all private and public realm existing tree species distribution, tree diversity, tree heights and other parameters in order to set specific canopy targets.

Information obtained from other Western Australian Local Governments tree canopy reports states that there has been substantial growth in its residential sector since the 1990’s and

early 2000's. This has resulted in a significant decline in canopy coverage in areas zoned "Residential", attributed to urban infill and densification.

In order to complete this section of the report, it is suggested that Council allocate funds to undertake a GIS-based tree canopy study using aerial photography and LiDAR (light detection and ranging) data. The study will provide data on the height of the vegetation throughout the Town of Bassendean in four height categories (>20m, 10-20m, 5-10m and 3-5m) and a percentage breakdown of canopy coverage within the streets, parks and private properties of each suburb. If required the study can provide an analysis of the Town's canopy cover in the commercial areas, Tonkin Park Industrial Area to assist in determining target canopy targets.

It is therefore recommended that Council allocate funds to map the Town's private and public realm tree canopy in order to identify canopy cover targets by land use, which in turn permits the ongoing evaluation of success in implementing the urban forest strategy.

IMPROVE URBAN FOREST DIVERSITY

Urban forest diversity comes in two main forms: the plants' age and their species. Diversity is important as the urban forest is a living and natural asset; it has a lifespan, it provides sustenance, homes and other benefits to other living organisms and it is also susceptible to pests and diseases.

The Town of Bassendean is committed to, and has developed numerous policies and plans such as the collective Biodiversity Strategy which was used to develop 2009 Street Tree Master Plan, the numerous TPS No.10 Planning Policies in order to guide the development of a diverse urban forest.

The Town's 2009 Street Tree Master Plan is currently under review and where necessary the plan will be transformed and strengthened by building upon the present and the past plantings and provide a resilient, healthy and diverse tree canopy.

OUR FUTURE URBAN FOREST STRATEGY

Vision:

The Town's Urban Forest Strategy will transform and strengthen the Town's Street Tree Master Plan by building upon the present and the past plantings and provide a resilient, healthy and diverse tree canopy which will contribute to the health and wellbeing of our community and further improve the liveability of the built and natural environment

Objectives:

The overall objective of developing an Urban Forest Strategy is as follows:

- Improve the quality and quantity of tree canopy within the Town of Bassendean;
- Provide and integrate strategic / systematic planning framework;
- Manage the conceptual shift from dealing with our trees on an individual basis, to manage the vegetation as a collective and integrated canopy;
- Contribute to the health and wellbeing of our community.

The Town recognises its responsibility to maintain an asset that is dynamic and subject to increasing environmental changes in both built and natural environments. This Strategy embraces the opportunity to generate a new legacy for the Town of Bassendean and create a forest for future generations. This document sets out how our urban forest will become diverse, robust and resilient in the face of current and future challenges. We know that climate change and increasing density and growth within our Town will place new pressures on our urban forest, but the targets we have set in this document will go a long way to meet those challenges

Goals:

Prior to Council determining the urban canopy goals, it is essential funding be allocated to map the Town's private and public realm tree canopy in order formally identified canopy cover targets by land use, which in turn permits the ongoing evaluation of success in implementing the urban forest strategy.

A MILESTONE APPROACH

As outlined above, it is essential funding be allocated to investigate a mechanism through the Local Planning Scheme to implement a regulatory tool which sets out the procedural framework governing the removal and the requirements to offset the loss of tree canopy.

With no changes or minimal management, the remaining trees within the urban environment will likely be those in verges and public open space, which will be segmented and isolated by built infrastructure. With some management, street trees can be replaced, however there is likely no security for those trees and ongoing loss will most likely result in further reduction in canopy coverage.

Applying best management practices, the urban forest can be sustainable and enhanced so that the canopy coverage is maintained or increased and result in the continued provision of health, economic and social benefits to the community.

It is the Town's view that the implementation of this Strategy will result in best management practices and ensure that the Town is providing secure urban forest.

The below table outlines the varying maturity of tree management and their supposed impacts on the quality and quantity of tree canopy and as a consequence the liveability and our environment:

No Management; No Program or Plan	Management Plans; and Planting Plans	Best Practice; Strategies, Policies and Management Plans
<ul style="list-style-type: none"> • Wide scale loss of tree canopy in Public and Private realm. • Increased heat island effect • Isolated tree pockets within Public Open Space • Loss of biodiversity • Tree health deterioration. • Potential loss of community identity • Decreased property values. • Less opportunity to undertake modifiable health risk intervention plans. 	<ul style="list-style-type: none"> • Tree protection in public realm only • Tree replacement and tree planting within available spaces. • Poorly selected and spaced trees provide limited canopy • Segmented community identity. • Progress towards street trees and shaded parks. • Localised heat island effect • Limited modifiable health risk intervention plans. 	<ul style="list-style-type: none"> • Street Tree Audit • Tree amenity evaluation • Developer Streetscape contribution • Local Planning Scheme – tree protection orders • Public realm tree protection and significant tree register • Tree Management. • Compensated replacement • Street Tree Plan & associated polices • Biodiversity Corridors • Urban Forest Strategy • Local Planning Scheme - mechanisms to implement a regulatory tool that sets out the procedural framework governing the removal and the requirements to offset the loss of tree canopy Incorporating the Perth & Peel Green Growth Plan • Integrating environmental protection and land use planning • Increasing permeability of hard surfaces • Incorporating water sensitive urban designs into streetscape • Minimised heat island effect eg high thermal emittance surfaces. • Incorporate modifiable health risk intervention plans

To formalise the ongoing implementation of the Urban Forest Strategy, the Town intends to implement a five-milestone structure, similar to what has been used in the Town's Cities for Climate Protection (CCP) Program which assisted local governments to reduce their greenhouse gas emissions through a five milestone process.

The five milestones of the Urban Canopy Strategy are:

- Milestone 1
 - Develop a Urban Forest Strategy which includes total estimated tree canopy coverage in the private and public realm.

- Milestone 2
 - Purchase GIS -3D aerial laser photographic maps or similar to permit tree mapping
 - Undertake a GIS-based tree canopy study to provided data on the height of the vegetation throughout the Town of Bassendean in four height categories (>20m, 10-20m, 5-10m and 3-5m) and a percentage breakdown of canopy coverage within the streets, parks and private properties of each suburb. In addition, provide an analysis of the Town's canopy cover in the commercial areas, Tonkin Park Industrial Area to assist in determining target canopy targets
 - Review the Street Tree Audit data and estimate asset values
 - Identify endemic (local native) trees for inclusion to the Significant Tree register

- Milestone 3
 - Develop the Canopy Plan and an Urban Canopy Policy for Council consideration.
 - Finalise the revised Street Tree Master Plan
 - Amend the Urban Forest Strategy accordingly
 - Investigate a mechanism through the Local Planning Scheme to implement a regulatory tool which sets out the procedural framework governing the removal and the requirements to offset the loss of tree canopy.
 - Consult with community/Council and formalise goals.

- Milestone 4
 - Allocate adequate resources and funding to commence implementation of the actions in order to achieve the strategy objectives and goals.

- Milestone 5
 - Review and evaluate progress towards the canopy target in regards to strategic objectives.

Milestone 5 will assist in identifying any gaps, or indicate areas of improvement towards the target. At Milestone 5, it may also be identified that the targets set at Milestone 2 and 3 require amendment to either further enhance the canopy coverage or maintain it. On completion of Milestone 5, the Town of Bassendean can revise the original Strategic Objectives in comparison to what has been achieved. This process ensures the Town is continually improving its management of the urban forest.

IMPLEMENTATION FRAMEWORK, RESOURCING AND FINANCIALS

The full implementation of the Strategy will require the development of a detailed Canopy Plan. The Plan will be a living document with continuous reporting and improvements to ensure that the Town is working towards.

Once the canopy plan is available, the Urban Forest Strategy will be refined to include the recommended goals and the respective implementation time-frames, human and financial resources, can be listed for Council considering.

RELEVANT LEGISLATION

There is no legislative requirement to establish Urban Forests however there are a number of State and Federal acts and regulations that the Town of Bassendean must comply with in regards to general environmental issues. These acts and regulations assist with the protection of environmental assets and the legal operational requirements of the council. For more information about the legal acts and regulations which the Town is obligated to, in relation to the environmental issues, please refer to Appendix 1.

SUPPORTING POLICIES, PLANS, REPORTS & INFORMATION

The development of the Urban Forest Strategy has been undertaken as cross-directorate collaboration, expanding across various internal service areas. This is primarily due to the compounding benefits a healthy urban forest returns and how it complements the work the Town of Bassendean already undertakes.

The following is a list of the Town of Bassendean Council Policies, Plans, Reports and community Greening Bassendean information sheets that will support this strategy:

Council Policies

Town planning & Build Environment

- Significant Tree Policy
- Verge Treatment and maintenance policy
- Street Tree Protect Policy
- Street Tree Removal, Pruning & replacement Policy
- Amenity Tree Evaluation Policy
- Dangerous Trees on Private Property Policy
- Local Planning Scheme No. 10 – Power to make Tree Preservation Orders
- Local Planning Policy No. 13 – Trees on Development Sites
- Local Planning Policy No. 18 – Landscaping with Local Plants

Environmental Sustainability and Adaptation to Climate Change

- Sustainable Bassendean Policy
- Natural Areas Management Policy
- Local Biodiversity Policy
- Landscaping with Local Plants Policy
- Foreshore Restoration Policy
- Water Sensitive Urban Design and Water Conservation Policy
- Nutrient and Irrigation Management Policy
- Wetlands Policy

Leadership and Governance

- Communication & Consultation, Community & Stakeholders
- Financial Sustainability Policy
- Risk Management Policy

Open Space Plans

- Street Tree Master Plan
- Street Tree Master Plan – Tree Species Information
- Collective Biodiversity Strategy
- Local Climate Adaptation Action Plan
- Environmental Management Plan
- Bush Weed Management Plan
- Water Conservation Plan for the Management of Groundwater in the TOB
- Play Spaces Implementation Plan
- Physical Activity Strategic Plan
- Optimizing Sporting & Cultural Activities
- Bassendean Bike Plan

Infrastructure Strategies & Reports

Asset Management Implementation Strategy

Recreational Asset Management Plan - Including (but not limited to) assets within areas such as:

- Parks reserves
- River Foreshore
- Native bushland and conservation areas
- Flood plains
- Medians and verges

Existing Street Tree Management Programs and Reports

- Adopt- A -Tree program
- Significant Tree - Register
- Significant Tree - Arborist reports
- Significant Tree - PiCUS Sonic Tomography Tests

Greening Bassendean General Information sheets available for residents:

- Adopt-a-Tree
- Building Material on Verge – Permit
- Bushfire Prevention – firebreaks, inspections, penalties, contacts
- Garden Bores – Restrictions, Penalties, Complaints
- Garden compost- How to Make, Use , Health Risks
- Garden (mixed green) Waste – verge collection dates
- Garden Verge Treatments'
- Garden – watering restrictions for households
- Graffiti Removal & management
- Grey Water – reuse of
- Mowing of Verges
- Mulch – availability of
- Rainwater tanks – general information
- Significant Tree – Identify, protect & manage
- Soak Wells – removal & decommissioning
- Street trees – Adopt –A Tree
- Street Tree – Planting, Pruning Removal
- Street Tree – Protection
- Street Tree – Significant
- Trees – Dangerous trees on private property
- Verge (Road Reserve) - Control and care of
- Verge – Disused materials on verge
- Verge maintenance - mowing
- Verge – permissible verge treatment

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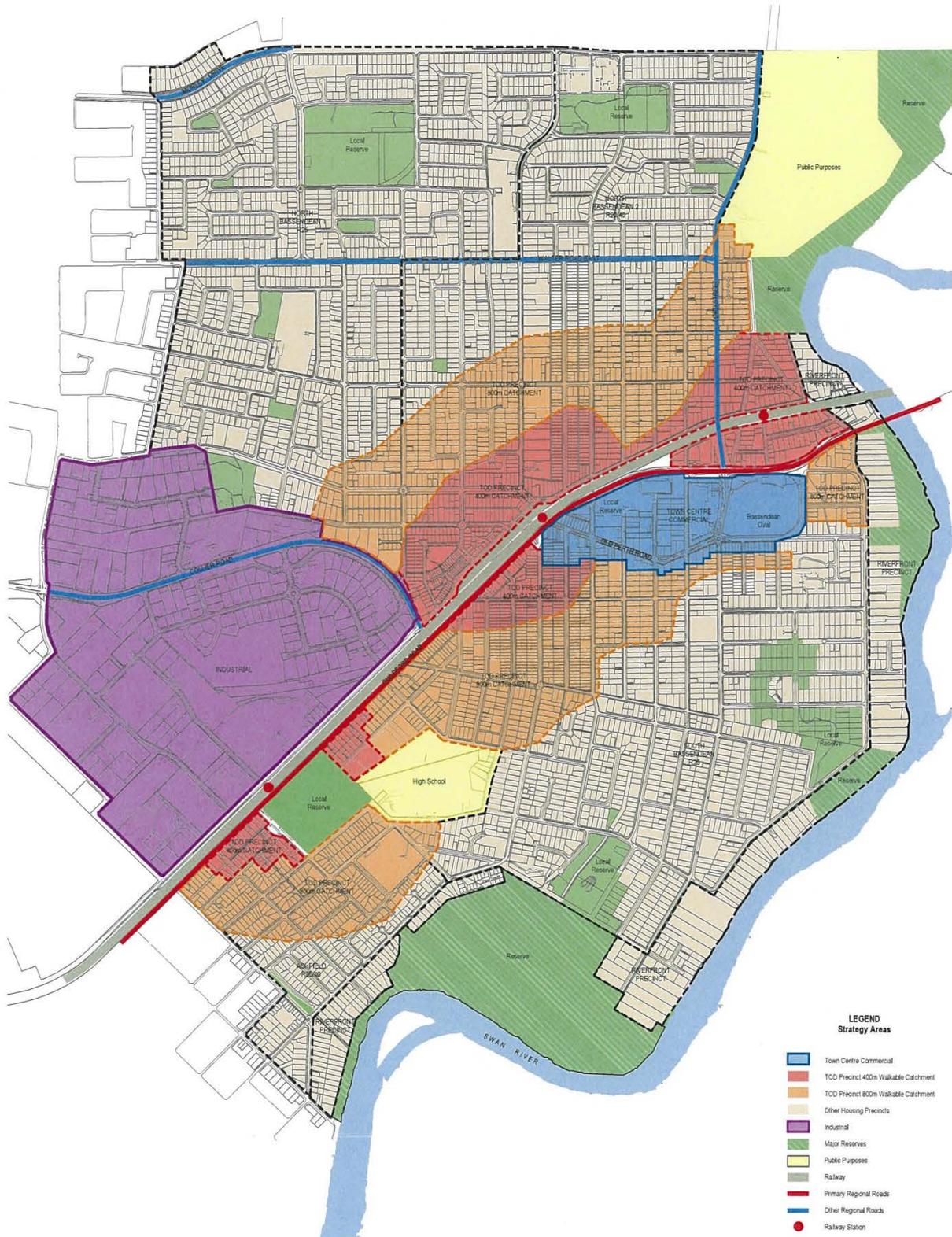
Appendix 1 – Relative Legislation

Legislation	Summary
<i>Planning & Development Act 2005 (WA)</i>	An Act to provide for a system of land use planning and development in the State and for related purposes.
<i>Environmental Protection Act 1986 (WA)</i>	<p>The Act is the key legislation for environmental management in the state and is the main method of considering the environmental impacts of major developments. The Act:</p> <ul style="list-style-type: none"> ▪ established the Environmental Protection Authority (EPA) and its governance arrangements; ▪ allows for the development of environmental protection policies; ▪ outlines the environmental impact assessment process including: referral and assessment of proposals; ▪ establishes the state's environmental regulations including pollution and environmental harm offences, clearing of native vegetation, and prescribed premises, works approvals and licences; and ▪ provides for enforcement of regulations including legal proceedings.
<i>Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)</i>	<p>The Act provides a legal framework to protect and manage nationally and internationally significant flora, fauna, ecological communities and heritage places. The Australian Government Department of the Environment, Water, Heritage and the Arts administers the Act. The objectives of the Act are to:</p> <ul style="list-style-type: none"> ▪ provide for the protection of the environment, especially matters of national environmental significance; ▪ conserve Australian biodiversity; ▪ provide a streamlined national environmental assessment and approvals process; ▪ enhance the protection and management of important natural and cultural places; ▪ control the international movement of plants and animals (wildlife), wildlife specimens and products made or derived from wildlife; and ▪ promote ecologically sustainable development through the conservation and ecologically sustainable use of natural resources.
<i>Clean Energy Act 2011 (Commonwealth)</i>	<p>The Act provides a legal framework to encourage the use of clean energy, and for other purposes. The objects of the Act are as follows:</p> <ol style="list-style-type: none"> a) to give effect to Australia's obligations under: <ol style="list-style-type: none"> (i) the Climate Change Convention; and (ii) the Kyoto Protocol; b) to support the development of an effective global response to climate change, consistent with Australia's national interest in ensuring that average global temperatures increase by not more than 2 degrees Celsius above pre-industrial levels; c) to: <ol style="list-style-type: none"> (i) take action directed towards meeting Australia's long-term target of reducing Australia's net greenhouse gas emissions to 80% below 2000 levels by 2050; and (ii) take that action in a flexible and cost-effective way; d) to put a price on greenhouse gas emissions in a way that: <ol style="list-style-type: none"> (i) encourages investment in clean energy; (ii) supports jobs and competitiveness in the economy; and (iii) supports Australia's economic growth while reducing pollution.

Legislation	Summary
<i>Local Government Act 1995 (WA)</i>	The Local Government Act 1995 is an act of the Western Australian Parliament which lays down the responsibilities, powers and procedures of Local Government Bodies. Section 5.56.- Planning for the future, states: (1) A local government is to plan for the future of the district. (2) A local government is to ensure that plans made under subsection (1) are in accordance with any regulations made about planning for the future of the district.
<i>Rights in Water and Irrigation Act 1914 (WA)</i>	This Act provides the legislative basis for the planning, regulation, management, protection and allocation of water resources in Western Australia. The objectives of the legislation include providing for the management, sustainable use and development of water resources to meet the needs of current and future users, and for the protection of their ecosystems and the environment in which water resources are situated.
<i>State Planning Policy 2.9 Water Resources (WA)</i>	This policy is directly related to the overarching sector policy SPP 2 Environment and Natural Resources policy and provides clarification and additional guidance to planning decision-makers for consideration of water resources in land use planning.
<i>Better Urban Water Management (WA)</i>	Better Urban Water Management has been designed to facilitate better management of our urban water resources by ensuring an appropriate level of consideration is given to the total water cycle at each stage of the planning system. It also provides guidance on the implementation of State Planning Policy 2.9 Water Resources.
<i>Planning Bulletin 92 Urban Water Management (WA)</i>	This planning bulletin provides guidance on urban water management matters to be taken into account by the Western Australian Planning Commission (WAPC), local governments and applicants in considering planning proposals and applications for new residential, rural-residential, commercial and industrial areas.
<i>Wildlife Conservation Act 1950 (WA)</i>	The Act provides for the conservation and protection of all native flora and fauna. Under the Act, individual species of plants and animals are protected, with the level of protection varying depending on whether the species is rare or endangered. Flora and fauna that needs special protection because they are under identifiable threat of extinction, are rare, or otherwise in need of special protection are placed on the threatened species list.
<i>Conservation and Land Management Act 1984 (WA)</i>	The Act establishes a comprehensive set of legislative provisions dealing with state conservation and land management matters. It also provides for the vesting or reservation of land, particularly state forest or timber reserve, and the ability to enter into agreements with private landholders, state conservation and land management matters.
<i>Contaminated Sites Act 2003 (State)</i>	Imposes significant responsibilities on parties causing contamination, and on owners of contaminated land. Land owners, occupiers and polluters are required to report known or suspected contaminated sites to the Department of Environment Regulation (DER). Reported sites are then classified, in consultation with the Department of Health, based on the risks posed to the community and the environment and responsibility for clean-up is allocated.
<i>Health Act 1911 (State)</i>	This is the primary Act dealing with all matters relating to public health, including waste management, sanitary provisions, pest controls and environmental health and defines local government responsibilities. Note a new Public Health Act is being developed for Western Australia to better protect and promote public health as well as prevent illness and injury.

Legislation	Summary
<i>Heritage of Western Australia Act 1990 (WA)</i>	<p>The Act provides for, and encourages, the conservation of places which have significance to the cultural heritage in the state and established the Heritage Council of Western Australia. The objectives of the Act are to:</p> <ul style="list-style-type: none"> ▪ identify, conserve and where appropriate enhance those places within Western Australia which are of significance to the cultural heritage; and ▪ in relation to any area, to facilitate development that is in harmony with the cultural heritage values of that area; and ▪ to promote public awareness as to the cultural heritage, generally.
<i>Native Title Act 1993 (Commonwealth)</i>	<p>The Act was enacted as a result of the decision made by the High Court of Australia in <i>Mabo v Queensland (No.2)</i> 1992. It:</p> <ul style="list-style-type: none"> ▪ recognises and protects native title; ▪ provides that native title cannot be extinguished contrary to the Act; ▪ provides for agreement making - Indigenous Land Use Agreements (ILUAs); ▪ validated any past grants of freehold or leasehold interests that were thrown into doubt by the Mabo decision; and ▪ created a National Native Title Tribunal to administer claims to land by Aboriginal people.
<i>Aboriginal Heritage Act 1972 (WA)</i>	<p>An Act to make provision for the preservation on behalf of the community of places and objects customarily used by or traditional to the original inhabitants of Australia or their descendants, or associated therewith, and for other purposes incidental thereto.</p>
<i>Electricity Act 1945 (WA)</i>	<p>An Act to make provision as to the examination and licensing of persons in respect of their competency to carry out works relating to electricity, and the examination, prohibition or approval of electrical appliances</p>
<i>Rights in Water & Irrigation Act 1914 (WA)</i>	<p>An Act relating to rights in water resources, to make provision for the regulation, management, use and protection of water resources, to provide for irrigation schemes, and for related purposes</p>

Local Planning Strategy Map



LOCAL PLANNING STRATEGY MAP
Town of Bassendean

28 February 2015
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Figure 1

Appendix 3 - Street Tree Master Plan

Please note the Street Tree Master Plan is currently under review.

When Milestone 3 of the Urban Forest Strategy is completed, the revised Street Tree Master Plan and revised Street Information list will be added.

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