

# Indian Ocean Drive

## Planning Guideline

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# Indian Ocean Drive Planning Guideline

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# 1. The Guideline

## 1.1 Introduction

Indian Ocean Drive (IOD) is a scenic coastal road that passes for most of its length through rural and natural landscapes. The road is one of Western Australia's principal tourist routes linking the Perth metropolitan area with the Pinnacles, Jurien Bay Marine Park and the coastal settlements and attractions of Lancelin, Cervantes, Jurien Bay, Green Head, Leeman and Dongara. IOD offers an alternative to the Brand Highway for tourists travelling to the north of the State and for people commuting between Perth, Geraldton and the coastal towns. The crayfish and agricultural sectors also use the road to transport their products.

Indian Ocean Drive is approximately 270 kilometres in length. It extends from the intersection of Yanchep Beach Road, 55 kilometres north of Perth, to the intersection with the Brand Highway, 24 kilometres south of Dongara (Figure 1).

Indian Ocean Drive was designed for the primary purpose of creating a regional scenic coastal tourist route with the alignment of the road to follow the natural lines of the coast and in close proximity to the coastal towns of Guilderton, Seabird, Ledge Point, Lancelin, Cervantes and Green Head. It currently passes through the towns of Leeman and Jurien Bay. A bypass around Jurien Bay is planned for the long-term. IOD was opened in September 2010 with the completion of the final section of sealed road between Lancelin and Cervantes.

Prior to IOD opening, Lancelin Road connected the Perth metropolitan area with the southern coastal settlements of Guilderton and Lancelin. Access to the settlements further north (Cervantes, Jurien Bay, Green Head and Leeman) was limited, with long feeder roads connecting these coastal towns to the Brand Highway and no direct north-south road linking the towns.

The construction of IOD has made the coastal areas, from Woodridge in the south to the intersection with Brand Highway in the north, more accessible. Growth of the coastal settlements is anticipated and visitor and commuter traffic along the road is expected to increase. There is a need to provide for this growth while retaining IOD's distinctive attributes to be enjoyed by Western Australians and visitors into the future.



Indian Ocean Drive passes through five local governments – Gingin, Dandaragan, Coorow, Carnamah and Irwin. This document seeks to provide these local governments and State agencies with an overarching planning framework focused on consistent land use decision-making on IOD.

This Guideline has been prepared by the Department of Planning with input from a Technical Working Group that includes representatives of the five local governments, Main Roads and the Department of Parks and Wildlife (DPaW).

## 1.2 Purpose

This Guideline sets out broad guidelines for the location, siting and design of various land uses and development in the locality of IOD. It provides an integrated approach to land use decision making across five Shires with the purpose of retaining the rural and natural landscape and enhancing the provision of services and facilities available to all users of this scenic coastal road.

The IOD Planning Guideline supports strategic planning for the Guilderton to Dongara coastal areas. It is classed as an operational policy bringing together State and regional policies that form part of the State Planning Framework and apply to land use and development more

generally, such as the State Planning Strategy and Planning and Infrastructure Frameworks for the Mid-West and Wheatbelt. The intent is not to prevent development but to guide its location, siting and design.

### 1.3 Area of application

As shown in Figure 1 this Guideline applies specifically to a 500 metre corridor on either side of the IOD road reserve from the Woodridge rural settlement, south of Guilderton, to the intersection of IOD with the Brand Highway. It also applies more generally to land that is outside of that corridor but may be prominently viewed from IOD.

This Guideline does not apply to land use and development within the town sites of Jurien Bay and Leeman, through which IOD passes. The Guideline also does not apply to existing rural living and other development within the area of application. However landowners are encouraged to consider the guidance provided in the document when reconstruction, improvements or maintenance of existing development is to occur. Where land use and development has been approved prior to the Guideline being endorsed, landowners and proponents are to take cognisance of the Guideline when finalising structure plans or building design.

The Guideline is applicable to both private and public land.



### 1.4 Structure of the Guideline

The Guideline comprises:

- an overview of the policy context (Section 2);
- a broad review of planning considerations such as land tenure, land use, services and facilities (Section 3);
- an assessment of landscape character (Section 4);
- guidelines for maintaining the scenic character of IOD (Section 5.1);
- specific land uses and associated guidelines for consideration in decision making. These land uses include tourist development, roadside stopping places, service stations/roadhouses, rural living development, mining and utilities, signage and branding (Section 5.2);
- proposed mechanism for implementation of the Guideline (Section 6); and
- recommendations for future investigations arising from preparation of the Guideline (Section 8).

## 2. Policy context

This Guideline has regard to State and regional planning policies and facilitates their application to IOD. The policies and strategies mentioned below provide a framework for land use planning and development in the vicinity of IOD:

1. *State Planning Strategy* (2013) that provides the context for land use planning decision making in Western Australia. The Strategy recognises tourist values along IOD and identifies Jurien Bay as a sub-regional centre.
2. *State Planning Policy 3 Urban Growth and Settlement* (SPP3), *State Planning Policy 2.5 Agricultural Rural Land Use Planning* (SPP 2.5), *State Planning Policy 3.5 Historic Heritage Conservation* (SPP 3.5), and *Development Control Policy 3.4 Subdivision of Rural Land* (DC 3.4) promote sustainable settlement in, and adjacent to, existing urban areas, the protection of agricultural land and protection and enhancement of environmental, historic heritage, landscape and cultural assets.
3. *State Planning Policy 2 Environment and Natural Resources* (SPP 2), *State Planning Policy 2.6 State Coastal Planning Policy* (SPP 2.6) and *Development Control Policy 6.1 Country Coastal Planning Policy* (DC 6.1) seek to protect, conserve and enhance coastal values whilst achieving a balance between the protection of environmental quality and the provision for the social and economic needs of the community.
4. *Development Control Policy 1.10 Location and Design of Freeway Service Centres* (DC 1.10) provides guidance for the provision of service centres on freeways in the metropolitan area. Some aspects of DC 1.10 have relevance to IOD.
5. *Planning for Tourism, Planning Bulletin 83-2013* (WAPC, 2013) provides guidance on subdivision, development and scheme amendment proposals for tourism purposes.
6. *Mid-West Regional Planning and Infrastructure Framework* (draft, 2011) identifies the towns of Leeman and Green Head as local centres and the *Wheatbelt Planning and Infrastructure Framework* (working draft, 2012) identifies a coastal growth corridor within the Shires of Gingin and Dandaragan to cater for expected population growth. Jurien Bay's role as a key activity centre is recognised with Cervantes and Lancelin providing facilities and services to serve broader catchment areas.
7. *Visual Landscape Planning in WA* (WAPC, 2007) provides a method for undertaking assessments of visual landscape. This methodology has been used to assess the visual aspects of the landscape through which IOD passes.
8. Local planning strategies. The strategic direction for future growth and development for the coastal parts of the five local government areas are set out in their individual local planning strategies (LPS). The LPSs recommend that future development along the coast should be focused on the regional centres of Jurien Bay and Dongara, with the existing town centres of Lancelin, Guilderton, Leeman, Green Head and Cervantes as major local centres. Gingin's LPS recognises the existing rural living settlements in and close to the coastal towns and identifies locations for an expansion of this land use. The development of the tourist and recreational sectors is provided for with sites such as Freshwater Point and North Cliff identified as having development potential. The full text of local planning strategies and schemes can be found on the respective local governments' websites.
9. Main Roads' operational policies i.e.
  - *Roadside Stopping Places Operational Policy 3A* that outlines the types of roadside stopping places, locational criteria and design guidelines;
  - *Guide to the Management of Roadside Advertising* that sets out the size and shape and site selection criteria for various types of signs on roads managed by Main Roads and approval procedures; and
  - *Conducting Works on Roads* that sets out the process for obtaining approval for works proposed to be undertaken within a Main Roads road reserve.



## 3. Planning context for Indian Ocean Drive

### 3.1 Land ownership

Most of the large land parcels along IOD are State or Commonwealth land, either as part of the conservation estate or for defence purposes. All land on IOD in the Shires of Coorow and Carnamah, and the majority of land in the Shire of Dandaragan, is publicly owned. Land tenure along IOD is shown in Figure 2.

Freehold land is mainly clustered near the existing towns of Leeman, Green Head and Jurien Bay. However, there are several large freehold lots on the road between Guilderton and Lancelin, four large contiguous lots near Freshwater Point, south of Dongara and two lots 48 kilometres south of Cervantes.

### 3.2 Zoning and land use

Land managed by Department of Parks and Wildlife on IOD, and recreation reserves managed by individual shires, is used for conservation and recreation.

Freehold land remote from the towns is generally zoned 'Rural' or 'General Farming' in the local planning scheme. The general intent of these zones is to protect land for agricultural purposes and to ensure the retention and protection of rural character and amenity. Most of the freehold rural/agricultural land south of Jurien Bay has been cleared while land to the north and east of Jurien Bay contains significant areas of remnant vegetation.

Land in the vicinity of Guilderton, Lancelin and Jurien Bay is zoned for 'Rural Living' purposes. Seven rural living estates abut IOD:

- Woodridge, Sovereign Hill, Redfield Park, Seaview Estate and Ocean Farm estates within the Shire of Gingin; and
- the Hill River and Marine Fields estates within the Shire of Dandaragan.

Three other rural residential estates are prominently viewed from IOD i.e. Alta Mare and Jurien Bay Heights estates in Jurien Bay and Marine Fields.



Within the Shire of Gingin and the Shire of Dandaragan there are a number of areas along the road zoned for future rural living estates that have not been developed. These include the southern expansion of the Marine Fields estate in Jurien Bay and Stage 2 of Lancelin South.

The Shire of Gingin's Local Planning Strategy identifies additional rural living areas between Guilderton and Lancelin that may be considered for this use in the future. The Shire of Dandaragan

is currently preparing its coastal Local Planning Strategy and additional areas for rural living in the vicinity of IOD may be identified.

There is a 'Special Development' zone on the western side of IOD between Jurien Bay and the Hill River which has an endorsed structure plan for Beachridge Residential Estate. There is also a 'Special Development' zone at North Head, about 10 kms north of Jurien Bay.

Within the shires of Gingin and Dandaragan there are a number of other areas zoned for future urban and rural residential development that directly abut or would be visible from IOD. Without mitigation, urban and rural living uses could potentially dominate significant stretches of IOD, in an otherwise natural and undeveloped rural landscape.

This Guideline sets out issues to be considered when proposing development within existing zoned land or a change in zoning to accommodate new uses.

### 3.3 Existing and approved services and facilities

Indian Ocean Drive passes through the towns of Jurien Bay and Leeman and close to Guilderton, Seabird, Lancelin, Cervantes and Green Head. All these towns offer different levels of services and facilities, dependent on the town's size and population. The construction of IOD as a scenic coastal tourist route and local road was intended to support these towns by providing improved access for visitors and a growing resident population. The location of existing and approved services and facilities along IOD are shown in Figure 3.

#### Service stations

There are seven separate locations providing service station/roadhouse facilities within the vicinity of IOD (Figure 3). Two directly abut IOD and the remaining five are between two and seven kilometres from IOD within the existing coastal town sites.

There are service stations/roadhouses in the towns of Guilderton, Lancelin, Cervantes, Jurien Bay as well as Green Head and Leeman which provide a local and regional function. They serve the needs of local residents, commuters and visitors.

In the smaller centres of Cervantes, Leeman and Green Head the viability of the service stations

remains dependent on the additional trade from commuters and visitors, but population growth is expected to strengthen the local market.

In addition, there are currently five sites on IOD that are zoned to accommodate service stations but have not been developed. Three of the sites are located within the Shire of Gingin at significant road junctions, where intensification of surrounding land uses has already occurred, or is planned to occur, and significant population growth is expected. For example there is a zoned service station site at the junction of IOD and the access road to Guilderton. The fourth site is located south of Jurien Bay within the special development zone. The fifth site is located on Brand Highway at its junction with IOD south of Dongara in the Shire of Irwin.





As the resident population increases and traffic volumes on IOD rise, existing service stations are expected to extend their hours of service and development of the already zoned sites should occur.

### Stopping places

Stopping places include rest areas, information bays, scenic lookouts and parking bays. IOD provides eleven roadside stopping places which are managed by Main Roads (within road reserves) or Department of Parks and Wildlife (within managed reserves). Most of these stopping places are south of Jurien Bay. These places are either in the form of a parking bay, an information bay, a rest area or a scenic lookout stop at a prominent tourist location e.g. Wedge Island Lookout.

The stopping places do not currently provide drinking water or toilet facilities. Main Roads has recently established a new stopping place along the northern section of the road near Knobby Head (Shire of Irwin) and there is potential for additional stopping places in the northern section of the road.

Public toilet facilities are provided by the local authorities in each of the towns and at other locations along the road, with several of these having provision for people with a disability (refer to Appendix 4 for further clarification on what facilities are available). In addition, Department of Parks and Wildlife provides toilets within some reserves which are in close proximity to the road e.g. at Hangover Bay and the Pinnacles.

The lack of signage directing the travelling public to, and providing information about, these services and facilities adds to the view of some that there are insufficient facilities along the road. The longest distance between toilets directly on IOD is between the rest area at Moore River and Jurien Bay (136 kilometres). There are sites zoned for service stations/roadhouses where toilet facilities will be provided in the future (turnoffs to Woodbridge, Guilderton and Seabird) and existing toilets close to the road at Hangover Bay, the Pinnacles and Cervantes. The distance between toilet facilities directly on IOD is commensurate with that on other similar roads such as on the South West Highway (Manjimup to Walpole 120 kilometres) and Muirs Highway (Mount Barker to Manjimup 162 kilometres).







### 3.4 Tourist accommodation

Tourist accommodation is generally located within the existing towns. There are caravan parks and camping facilities, cabins, guest houses, bed and breakfasts and holiday homes for rent in most of the coastal towns. Lancelin, Cervantes, Jurien Bay and Green Head offer motel/hotel accommodation.

Currently there are no tourist accommodation providers directly abutting IOD outside towns. A number of proposals for tourist development in the vicinity of IOD are being considered. These include a caravan park and chalets on the eastern side of the road near the Moore River crossing, accommodation and other tourist facilities at North Head (north of Jurien Bay) and a caravan park on freehold land in the vicinity of Knobby Head. The provision of tourist accommodation at the Wedge and Grey settlements is being considered as part of structure planning for these areas that is being led by Department of Parks and Wildlife.

### 3.5 Signage

Roadside signage on IOD comprises signs with a variety of purposes, including regulatory, warning, directional and gateway, tourist, township/local government area welcome, road user services, community facility, commercial facility and advertising, including land sales signs. Informational and interpretive signs are provided at prominent stopping places and scenic lookouts.

Main Roads is responsible for all traffic signs including regulatory and warning signs, and guide and hazard markers, along IOD. All other signs and advertising devices on, in the vicinity of, or visible from IOD are controlled under the *Main Roads (Control of Advertising) Regulations 1996*. The regulations are supported by Main Roads' guidelines for the management of advertising signs within and beyond road reserves. These guidelines should be referred to during preparation of any application for signage along IOD.

All forms of signage are considered as development under the *Planning and Development Act 2005* and as such are also regulated by the local government. It is standard protocol that Main Roads will only assess an application for a sign or advertising device where it has received an approval from the local government.

Under the local planning schemes, except for certain specified signs which are exempt from requiring planning approval, all other signs on zoned land require planning approval.

Tourism WA, in conjunction with Main Roads, has developed tourist signage guidelines to address the issues of safety, aesthetics, and compliance with national industry and road authority standards. These guidelines apply throughout the State. Tourist attraction signs are only permitted for establishments that are recognised as being of significant interest to tourists and meet some essential assessment criteria such as the core business being tourism-based and strongly committed to providing visitor services.

'Australia's Coral Coast', 'Experience Perth', 'Turquoise Coast' and 'Sunset Coast' (the tourism promotional bodies representing the IOD's coastal areas) also play a role in signage for branding and marketing purposes on IOD.

Currently, signage on IOD is disparate and there is a lack of informational signs that alert road users to the existing services and facilities.



### 3.6 Road usage

The construction of IOD has improved access to one of WA's key tourist destinations, the Pinnacles, to other conservation and recreational areas such as Jurien Bay Marine Park and Lesueur National Park, and to commercial tourist and recreational operations in the vicinity of the road.

The road is predominantly used by cars, motorcycles, coaches and vehicles towing caravans. Heavy vehicle usage of the road is limited with most heavy vehicles travelling from Geraldton to Perth continuing to use the alternate Brand Highway. Vehicle classification data shows that heavy vehicles comprise approximately 8 per cent of traffic surveyed on IOD (2013 data). Heavy vehicles that do use the road are generally associated with the local crayfish, agricultural lime and primary production industries and the delivery of goods to the coastal towns.

Traffic volumes have been increasing steadily – by more than 22 per cent over the last two years. The latest data shows Annual Average Daily Traffic (AADT) of 1,978 vehicles, up from 1,617 vehicles in 2010/11. Data also shows that a significant amount of light vehicle traffic has been diverted from the Brand Highway.

Traffic volumes vary throughout the year due to seasonal factors with peaks during school holidays and the wildflower season (August/September). As a result, the level of service required along IOD varies during the year.

The trend of increased traffic on IOD is expected to continue. The extent and rate of the growth will be influenced by population growth, particularly in and around Lancelin, Guilderton, Cervantes and Jurien Bay. In addition, the development of the tourist sector and associated increase in visitation to the coastal towns plus a rise in general traffic to Geraldton is expected to boost AADT volumes.

The speed limit on the road is generally 110 kilometres per hour except through the Jurien Bay town site (50 kilometres per hour) and Leeman town site (80 kilometres per hour). Older sections of IOD north of Jurien Bay have recently been upgraded to cater for additional usage and to improve road safety. Main Roads continues to assess network performance, to inform decisions on investment and upgrade strategies, and to prioritise future road improvements. The intersection of IOD and Lancelin Road is under consideration



for upgrading (acceleration lane for slow/heavy vehicles to join the highway).

Motor crash statistics, since IOD has been completed, indicate that fatigue is generally not a significant safety issue on the road. About half of all accidents involve collisions with animals or objects on the road.

Services and facilities on IOD will need to cater for the expected increased volume of traffic on the road.

In general, Main Roads resists new accesses or intersections to IOD. In particular, no direct residential lot access is permitted. Any works or activities in the road reserve, including new or amended accesses/intersections, require permission from Main Roads and need to comply with design specifications, to ensure the safety of all road users.



## 4. Assessment of Indian Ocean Drive as a scenic route

Indian Ocean Drive provides travellers with an experience that contrasts with that of Brand Highway, the inland route between Perth and Dongara. Brand Highway passes through both natural and rural landscapes, while the landscape surrounding IOD is mostly natural in character, with limited agricultural land visible along the road north of Lancelin. In contrast to Brand Highway, views along IOD are more often restricted, enclosed by dune ridges that run parallel to the road or to the coast. A key difference between the two routes is that ocean views and glimpses are available from sections of IOD, due to its close proximity to the coastline.

IOD does not support the heavy through traffic that uses Brand Highway. It provides an alternative that offers opportunities for more leisurely travel where motorists can readily stop to take photos of the ocean, mobile dunes and wildflowers at the numerous stopping places and lookouts provided.

### 4.1 Landscape character

The following subsections focus on describing the visual characteristics of landscape, consistent with the WAPC's landscape manual. Four landscape character units along IOD have been identified, based on landform, vegetation and land use. They are indicated in Figure 4 and described in the first column of Appendix 1.

#### 4.1.1 Landform

Indian Ocean Drive passes through two dune systems: the younger, often active, Quindalup dunes which are generally adjacent to the coast; and the older, higher, Spearwood dunes, which are generally located inland from the Quindalup dunes. The most distinctive individual landform features are the large mobile dune sheets, moving northwards at various speeds. Their leading edges are very steep, and in windy conditions, loose sand is visible swirling off their tops and sides, creating a 'mist' effect. The bright white of the mobile dunes contrasts strongly with the dark green foliage of the vegetation it is engulfing.



The Quindalup dunes take a wide range of forms, including: steep, narrow ridges that generally run parallel to the coast; undulating, hummocky terrain with hills, swales, hollows and blowouts; and occasional, isolated, cone-shaped dunes. The tops of the linear ridges create long, straight or gently undulating skylines that are often close to the road, enclosing views.

Spearwood dunes have a core of coastal limestone, which may outcrop at the surface e.g. as pinnacles. They may form dune ridges that run parallel to the shore, with slopes that are gentler than those of the Quindalup dunes. Spearwood dunes are located at both ends of IOD: north of Lancelin, for instance in the Nilgen vicinity; and within the Shire of Irwin, where the limestone is very prominent along the coast that adjoins the road, in the form of a series of rocky headlands and low cliffs.



Spearwood dunes are generally higher, broader and wider than the Quindalup dunes, creating a more simple landscape, with moderate slopes, amphitheatre-like valleys below the ridges, and wide swales. Smooth contours are occasionally broken by outcropping limestone.

The land between both types of dunes is generally flat and may include salt lakes. IOD crosses two surface rivers which discharge into the ocean; the Moore and Hill Rivers along the southern sections of the route. Other water courses either end in lakes or pass into the ocean underground. Where the road crosses the two rivers it only dips slightly, and the rivers are narrow and heavily vegetated, so they are scarcely noticeable to most travellers.

In several locations north of Leeman the road passes less than 20 metres from the coastline, which comprises narrow beaches, some rock platforms, low limestone cliffs and headlands with their bases at the waterline.

The ocean adjacent to IOD contains visible features: reefs that run parallel to the shore result in visible lines of breaking surf which vary depending on tides and the weather. There are also some small rocky islands, including several that are vegetated.

#### 4.1.2 Vegetation

Within the natural landscape setting there are trees at either end of IOD. In the south, around Guilderton, there are tuarts and marris by the roadside or in paddocks, either as scattered individual trees or in groves, as well as scattered, orange-flowered Christmas trees (*Nuytsia floribunda*), Acorn banksia (*Banksia prionotes*), and prickly bark (*Eucalyptus tottiana*). At its far northern end the road passes through continuous shrublands of local mallee species (e.g. Dongara mallee, *Eucalyptus dongarrensensis*).

There are a few species of trees that have been planted along IOD, confined to a few localities: tuarts, along the roadside between Leeman and Green Head; Norfolk Island pines and non-local sheoaks, at the entrance to Jurien Bay; tuarts, tamarisks and coastal moorts by the shoreline in isolated pockets, to provide shelter for shacks; coastal moorts adjoining the Beachridge Estate at Jurien Bay and, at the southern end, some rows of pines as rural windbreaks, and scattered planting of trees within rural living estates.

Plant communities along IOD comprise low-growing heath, shrublands and thickets. The Quindalup dunes, along the coastline, support the typical small range of coastal species, the principal ones being dark-foliaged wattles and melaleucas, which may grow in tall, dense thickets along the roadside, as a result of soil disturbance, which provide a spectacle when in flower, e.g. the bright yellow flowers that cover the wattles. However, in contrast to the Quindalup dunes, the Spearwood dunes, which are generally further inland, support a very large diversity of species growing within low heath communities. There is much variety occurring in a small area. Features include: dryandra, with its holly-shaped leaves; one-sided bottlebrush, (*Calothamnus quadrifidus*), with its noticeable red flowers; wispy, silver-leaved smokebush; the orange-coloured climber, dodder; the cream-flowering clematis climber, the pale-foliaged quandongs; very dark, needle-foliaged sheoaks; and distinctively-shaped grass trees, or balgas with their stark, fire-blackened trunks and very tall flower spikes.



### 4.1.3 Visual character of land use

The vast majority of IOD passes through natural landscapes in public ownership, in which the only forms of 'development' other than the roadway itself comprise structures associated with Main Roads, including roadside pullover bays, road signs, and sporadic roadside infrastructure, with almost no fencing. At the route's southern end a number of rural living estates are glimpsed between Guilderton and Lancelin. The only agricultural land visible from IOD is located at the road's southern end. There are rural living estates prominent on both sides of the road, south of Hill River (Hill River Heights and Marine Fields), and two estates in which buildings are located on an inland ridge that overlooks Jurien Bay (Alta Mare and Jurien Bay Heights). Almost no buildings are evident along IOD between Lancelin and Leeman, other than within or adjacent to Jurien Bay.

The rural living estates are most noticeable where they are identified by formal 'entry statements', which reinforce an urbanised landscape appearance. A number of individual buildings are prominent, largely due to their location on the skyline, light coloured materials, and the lack of screening landform or vegetation.

A series of shacks are visible from the IOD on the coastal side of the road north of Leeman, including at small coves at the base of headlands. The shacks are very informal in appearance, with a variety of recycled materials in use, mainly weathered galvanised iron sheets. They are single storey, with low-profile roofs and toilets are free-standing, of the same materials. They are often set amongst bushy, low planted trees, and objects related to their use, such as thick ropes, craypots, dinghies and water tanks.

Stand-alone commercial signs are located sporadically along IOD, mainly near towns. The largest signs are billboards advertising land sales, in and south of Jurien Bay.

Roadside stopping bays and lookouts vary in their design, from the more urbane style constructed by Main Roads, to those developed by Department of Parks and Wildlife, which more strongly borrow from the natural landscape.



## 4.2 Views

Indian Ocean Drive has been aligned to utilise the flatter land along its route, avoiding steep dunes and the downwind side of mobile dunes wherever feasible. It passes through deflation basins, foredune plains and old lagoon sites, with short sections through ridges and dunes only where necessary. This has resulted in a fairly flat route overall, which lies close to sea level for much of its length, especially between Grey and Illawong. The more elevated portions of the road are those that occupy the Spearwood dunes, which are generally inland from the Quindalup dunes.

The naturally low height of most of the vegetation along IOD means that views are usually only limited by landform i.e. dunes and dune ridges. Limited visibility occurs where views are screened by low dune ridges that running close to, and parallel with, the road. In the northern sections of IOD, views may be restricted by a roadside 'hedge' of tall, dense shrubs such as wattles, which have grown prolifically as a result of roadside soil disturbance.



### Panoramic views

The type of key views typical of scenic travel routes are panoramic views, in which extensive areas of the landscape are visible, usually from elevated locations. Along IOD these are only available at a few locations as the road is rarely at higher elevations than the surrounding landscape. Because of their rarity along the route, panoramic views are particularly important. They occur at Nilgen (with lookout), above Wedge Island (with lookout), and at Lawry Bay south of the Pinnacles (several stopping points).

Views over the ocean can also be considered 'panoramic', or at least very wide, even where the elevations are not high, as the ocean is visible for a long distance for up to  $\sim 180^\circ$ .

However, ideally there would be a variety of views as well as panoramic views, to create a more varied and interesting experience. For example, IOD also provides views that are broad and long due to low vegetation and views that focus on a particular feature, are enclosed or framed by vegetation or landform, are canopied below trees or which form an axis or avenue. Feature views are the most common type of 'scenic' views along IOD.



### Feature views

Feature views are those that are dominated by individual landform or other features that stand out in the general landscape. Features along IOD comprise:

- ocean, including islands and surf breaking over reefs
- shoreline rock features: limestone headlands, cliffs

- stark, white mobile dunes/sand sheets
- individual dune formations e.g. conical dunes, steep ridges, deep swales
- salt lakes
- vegetation - trees (tuarts, marris), groves of 'shrubs' (balgas, quandongs), Christmas trees, wattles, smaller plants when in bloom
- fishing shacks.

### Focal views

In focal views, features are located straight ahead, at focal points. Focal views occur where the road curves, enabling the feature to appear as if it is in the centre of the road, in the distance. Several important focal views occur along IOD, when the road is orientated directly towards a mobile dune, stand-alone dune, or headland.

### Enclosed views

Enclosed views are constrained by landform, vegetation or buildings. They are typical along much of IOD's length, due to the road having been constructed in flat corridors between parallel dune ridges, restricting views to a distance of up to 1 kilometre either side. Where enclosure is created by tall roadside shrubs, this results in restriction of views to the road corridor itself.

### Framed views

Views of distant features may be framed on one or both sides by a landscape element. The ocean is often seen along IOD as framed between foreground dunes.

### Canopied views

Trees may form a canopy over the road. Along IOD there are partial canopies in small pockets in southern section, where tuart and marri grow adjacent to the road e.g. near Moore River.



### Detailed views

Small, detailed-scale features in the landscape, such as flowers or balgas, may be prominent in the foreground of views. This applies to much of IOD, where heath vegetation dominates the landscape.



### Axial/avenue views

The view ahead may be down a row of trees. There are two examples along IOD: an avenue of tuarts planted between Leeman and Green Head, mostly on the road's inland side; and a very prominent avenue of tall Norfolk Island pines and tall non-local sheoaks at Jurien Bay. These views do not occur in the natural landscape and as such are only suited to built or rural landscapes.



### Serial or sequential views

Views may change and open up in a sequence over a short distance, such as when a road winds. The best example of a sequential viewing experience on IOD is travelling north, above Wedge Island where the road heads west, coming down from the higher elevation of the Spearwood dunes to the low coastal plain, then turning north. It includes another import category, 'first views', in this case, the first view of the ocean north of Lancelin. Other features include dune formations and mobile dunes.

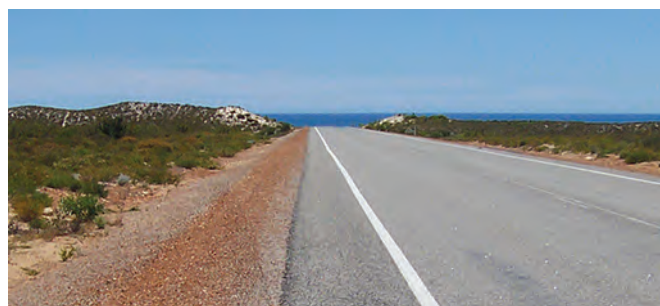
### Landmark views

Views may be dominated by a distinctive, individual feature that is a known landmark. Along IOD, landmarks comprise the individual mobile dunes, which do not have individual, published

names, and the limestone headlands north of Leeman. There are also several small, individual conical dunes which are unnamed.

### First views

Along IOD, significant 'first views' refer to when the two main features along the road, i.e. the ocean and the mobile dunes, are first seen. Travelling north beyond Lancelin, both ocean and mobile dunes are first seen near Wedge Island. Travelling south, the ocean is first seen north of Freshwater Point, with the first mobile dune visible near Coolimba.



The types of views described above refer to individual views. However, sections of IOD which provide more significant views than elsewhere along the route have also been identified. They may include sections that pass through more varied terrain, with a number of features in the one locality, or provide elevated or sequential views. These are shown in Figure 5 and summarised below.

- **Nilgen:** panoramic views from the highest elevations along IOD
- **Wedge:** first views of the ocean and mobile dunes north of Lancelin, when travelling north; long views inland, when travelling south
- **Wedge Island to Cervantes, especially around Lawry Bay:** road winds along the coast between distinctive ridges and five large blowouts, with ocean views
- **Immediately north of Jurien Bay:** views inland across 'amphitheatre' to ridge that overlooks town of Jurien Bay
- **Coolimba/shire boundary:** road winds amongst dunes, salt lakes and mobile dunes, with some changes in elevation
- **Illawong to north of Freshwater Point:** road often very close to the coastline, with views of the shoreline itself, comprising small coves, low rocky cliffs and craggy headlands, with scattered fishing shacks.



## 5. Guidelines for assessing land use and development proposals

When considering land use change and new development on IOD, the safeguarding of the road's key function as a 'scenic, coastal tourist route' should be the overarching objective.

- **Scenic:** to protect the primarily natural landscape character of the route, while restoring and enhancing character and environmental outcomes where needed.
- **Tourist:** to provide opportunities for visitors and commuters to experience a safe, enjoyable journey along the road, encouraging them to utilise services and facilities in existing towns and stay longer in the region.
- **Coastal:** to provide a variety of views of the ocean and coastline from the roadway, as well as adequate access from the road to recreational sites.

### 5.1 Guidance to maintain the scenic character

This section of the Guideline focusses on the scenic character objectives that need to be considered when assessing land use change in a general location (Figure 4) and when assessing the siting or design of specific types of development (Section 5.2). The intent is not to prevent development but to guide its location, siting and design.

*Visual Landscape Planning in Western Australia: a manual for evaluation, assessment, siting and design* (WAPC, 2007) outlines the three broad, basic visual objectives for managing landscape character: 'protection and maintenance'; 'restoration and enhancement'; and 'best practice siting and design'.

Along IOD there are areas in which each of these objectives are relevant, although overall the primary objective is 'protection and maintenance', given that IOD has high value as a scenic route and much of the land along it is reserved for conservation purposes. However, there are portions of IOD where the other broad objectives would be appropriate, such as restoration of roadside vegetation quality by removal of weeds, revegetation of vacant cleared areas and screening

of development that impinges on views and upgrading of signage.

To meet these very broad objectives, the WAPC's landscape manual recommends the use of three specific objectives regarding the visibility of development. In applying these to IOD, development should be:

- inevent from the road;
- be visible but 'blend' with its setting; or
- comprise a prominent feature along the road.

These three specific objectives, which comprise statements of intent, or a broad policy position, for visual landscape character, are discussed below and guidance specific to IOD is provided in Appendix 1 and in Section 5.2.





## Objective 1: 'Inevident'

### Location

The most basic strategy for ensuring that development is inevident as viewed from the road or its lookouts is to locate it behind either a permanent screen provided by landform, such as dunes, or behind a less reliable screen provided by existing or planted vegetation. The degree to which landform can provide a screen can be determined by producing terrain cross-sections and 'seen area'/viewshed maps. Vegetation screening can also be assessed by this method, with the understanding that it is not a dependable screen as vegetation may be removed by fire, disease, draught, vehicles etc.

Another means for making development inevident is to simply locate it at a distance where the human eye cannot perceive it, taking care that it does not then impinge on views from other roads. This approach has been used for locating transmission lines and wind turbines between IOD and Brand Highway.

Along most of IOD there are no trees and the vegetation is too low to provide a suitable screen. The dune ridges that run parallel to IOD and the coast may provide a screen, if they are tall enough to obscure the full height of the proposed development. For example, dunes provide a natural screen between IOD and the Pinnacles Desert Discovery Centre.

Where screening behind a landform is not feasible and the only screening option is to use vegetation, the species chosen should be local native species adjacent to land managed by Department of Parks and Wildlife or other remnant native vegetation. Elsewhere, if suitable local species are not available, those chosen should have similar form, texture and colour to local vegetation i.e. trees such as pines and figs would not be appropriate.

Vegetation used for screening would need to be high enough to screen development from designated viewing locations along the road, and other factors should also be considered: density of foliage; height of foliage off the ground; planting layout and width of planting belt; and future maintenance requirements. For example, maintenance may be required where vegetation is located near the road and large

branches could be dropped, creating hazards for road users. Vegetation should only be used where sight distances from accessed or side roads would not be detrimentally affected.

It is important that screening vegetation looks natural enough that it does not become a prominent element in the landscape in itself, especially where vegetation that is as high as the screen does not naturally occur in this part of the landscape. Planting should not create an unnatural 'hedge' effect. A natural appearance is more likely to be achieved if local indigenous species are used e.g. use of Dongara mallee, or local wattle and banksia species. (Appendix 3).

### Siting

Careful siting of development in relation to screening can address situations in which it is desirable to screen development from the road while still maintaining views from the development to features such as the ocean or headlands.

### Design

Design aspects of development, such as orientation towards viewers, dark colour or shadows, rough texture and low degree of reflectivity, can also have an impact on its visibility, where structures would be located in the middle-ground (500 m – 6.5 kilometres) or background (>6.5 kilometres).



## Objective 2: 'Visible but blending'

The objective that a proposed development should 'blend' with its setting requires identification of the nearby landscape characteristics that the proposed development is to 'blend' with; the specific forms (e.g. dunes), lines (e.g. ridge-top skyline), colours (e.g. greens found in nearby vegetation, colour of sand) and textures (e.g. rough, sandy surfaces). The landscape's natural features should remain prominent, and should dominate the landscape. Development may be visible but not prominent.

### Location

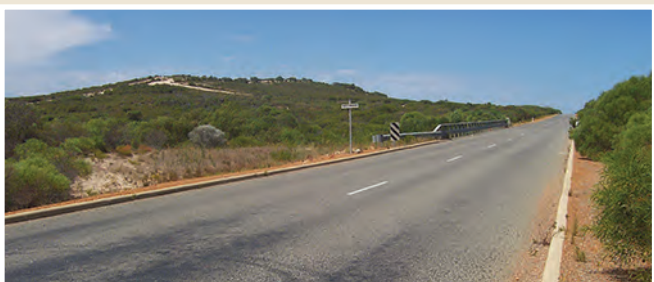
Sensitive locations should be avoided, for example, the sides of dunes or ridges that face the road, nearby skylines, headlands, focal points of views or areas within important views, especially the foreground. Appropriate locations could include terrain that is at least partly obscured by dunes, areas that are level with the road and can be at least partially screened by vegetation.

### Siting

Development needs to be sited with care to ensure that individual components that have the potential to draw attention, such as reflective roofs and windows, are not visible.

### Design

The forms, lines, colours and textures of a development do not need to be identical to those found in nature, but they need to appear compatible to the extent that any contrasts do not draw attention.



## Objective 3: 'Prominent'

It is unlikely that there are locations along IOD in which it is appropriate to design development to be 'prominent' within its landscape setting, other than within the built landscapes through which the road passes i.e. Jurien Bay and Leeman. Elsewhere along the route, in natural and rural landscapes, this objective would be inconsistent with maintaining IOD as a 'scenic, coastal, tourist drive'.

Development that is designed to be prominent in the landscape should still display a relationship to that landscape, e.g. a nautical themed structure by the coast.

*On top of the ridge behind Jurien Bay, white-roofed buildings are prominent, while the darker shaded green or blue roofs are not.*



## 5.2 Guidelines for specific land uses

These guidelines have been developed to provide a consistent set of matters to be considered when local government, land holders, developers and State agencies are assessing land use change or development on IOD. The guidelines generally focus on the location, siting and design of specific land uses and associated development.

**Location:** broad guidance about where specific land uses should occur. This guidance applies to the preparation and review of Local Planning Strategies and Schemes and to amendments to these documents.

**Siting:** to guide the location of development within a specific site. Consideration of this guidance applies at subdivision and structure planning.

**Design:** guidance that relates to the appearance of components of a development. The traditional visual elements of form, line, colour and texture are relevant, as are general image and architectural style. Design decisions are generally made as part of the development approval process and need to be consistent with siting and location objectives.

Addressing the guidelines when land use change and development is considered on IOD will enable the overarching objective, i.e. safeguarding the road as a scenic, coastal, tourist route, to be met.

The next section sets out the guidelines for the following land uses: tourism development, service stations, rural living, residential development, mining and utilities, signage and roadside stopping places.

### 5.2.1 Tourism development

#### Definitions

**Tourism precincts:** Localities of tourism value or amenity that incorporate or have the potential to incorporate the '5A's' of tourism destination development (attractions, accommodation, access, amenities, activities) in accordance with Planning for Tourism - Planning Bulletin 83-2013.

**Tourism sites:** Sites which are zoned for tourism purposes or have an existing tourism function, and have qualities and attributes which necessitate their retention for tourism purposes.

#### Statement of intent for visual landscape character

Tourist accommodation and commercial attractions should be either inevident, or should blend with their landscape setting, depending on their location on IOD (refer to Appendix 1 for guidance on specific locations). In general, they should blend with their surroundings when located in built or rural landscapes, and should ideally be inevident in natural landscapes.

Tourists need to be aware of the existence of accommodation and commercial attractions, but they do not require direct exposure to IOD. Guidance on addressing landscape impacts of coastal tourism development is provided in the WAPC's landscape manual, page 76.

#### Guidelines

1. New tourism sites should be located in or adjoining the existing coastal towns or at strategically identified tourism precincts which have been supported by the local government and the WAPC.
2. The setting of the tourism site should have an aspect and outlook that supports recreational tourism activities and/or the creation of a tourism character and ambience, such as immediately adjacent to a beach.
3. The site should ideally be located near to a recreation resource of size/quality that is commensurate with the size and style of development proposed.
4. Tourism developments outside towns should preferably be located in areas where they can be screened by natural landforms such as dunes or ridges. Where this is not



feasible, they should be located where there is sufficient setback to create a vegetation screen of a height that would obscure the development, preferably in areas in which vegetation of this height grows naturally. Locally indigenous plant species that are common along IOD and will grow to the required height and density should be used in the vegetation screening (Appendix 3).

5. Where rooftops will be visible outside towns, they should preferably be made of non-reflective materials, not be of a steep pitch, and be oriented to minimize glare for road users. Roof colour should blend with the setting; usually dark grey colours are preferable. However, concerns for energy efficiency may require alternative design solutions, depending on a site's visual prominence.
6. Development in visually dominant sites, such as at the focal point of an important view, should not be supported. Any development should be sited in such a manner that it does not obstruct the view to be preserved.
7. Tourism development proposals, and their associated new infrastructure, should be supported by a site level visual landscape assessment (Appendix 2), conducted by a suitably qualified and experienced landscape assessor.
8. A proposal should be appropriate to the site's natural characteristics and should not detract from the natural character.
9. The local and regional context should be considered in the building design and layout. Examples of style and materials that borrow their themes from IOD's landscape include: casual, low-key coastal holiday style; natural materials such as limestone and rammed earth using local soil; materials reminiscent of local shacks, such as corrugated iron and wooden window frames.
10. Signage may be visible from IOD but not dominate the view, and it should be located where it does not impair sight distance from adjacent accesses or side roads.
11. The site should have adequate existing or proposed transport links to provide suitable access for visitors.
12. All new utility services, including power lines, that serve the tourism development

should not be located within the IOD viewshed corridor when it is feasible to locate them elsewhere. They should be installed underground where possible. If located above ground level they should be located on the inland side of the road or located as to be inconspicuous from IOD, shielded from view from the scenic corridor within existing vegetation and/or revegetation.

### 5.2.2 Service stations

#### Definition

Premises used for the retail sale of petroleum products, motor vehicle accessories and goods of an incidental/convenience retail nature; the carrying out of greasing, tyre repairs and minor mechanical repairs to motor vehicles, but not including premises used for a transport depot, panel beating, spray painting, major repairs or wrecking; and incidental land uses including cafe, restaurant and/or convenience store.

#### Statement of intent for visual landscape character

Service stations should be designed to blend with their landscape setting. It is inappropriate for them to be inevident within the landscape, as they need to be clearly visible. It is also inappropriate for them to be designed as prominent landmarks, as this is inconsistent with the management objectives elsewhere on IOD.

#### Guidelines

It is acknowledged there are a number of sites on IOD already zoned for service station use within the relevant local planning scheme. The location guidelines below do not apply to the existing zoned sites however developers should consider the guidance related to siting and design when seeking further approvals.

1. New service stations should be located in existing town sites or at intersections between IOD and access roads to the coastal towns. Where possible, service station access should generally be from a side road, rather than directly from IOD.
2. A proposal for a service station requires an amendment to the relevant local planning scheme for the land to be zoned as 'Special Use', with the services and facilities provided restricted to those which are

essential for driver safety and amenity. The following provisions that relate to a 'Special Use - Service Station' site should be inserted into the relevant local planning scheme:

- a. restaurant facilities – eating area to be no greater than 80 square metres (equivalent to approximately 50 sit-down customers) with limited take-away food retailing contained within a single building without a drive through fast-food facility;
  - b. convenience shop – with an aggregate retail floor space no greater than 65 square metres;
  - c. a fuel outlet – retail outlet only with no bulk fuel service;
  - d. vehicle servicing – limited to emergency breakdown repairs and one bay for carrying out greasing, tyre repairs and minor mechanical repairs (excluding premises used for a transport depot, panel beating, spray painting, major repairs or wrecking);
  - e. toilet facilities including provision for the disabled and an infant changing room;
  - f. overnight accommodation to be prohibited; and
  - g. parking for a range of vehicles.
3. Proposals for service stations should be supported by a site level visual landscape assessment (Appendix 2), which also addresses associated infrastructure.
  4. Proposals in visually dominant sites, such as at the focal point of an important view, will not be supported.
  5. A landscaped setback of an appropriate size should be provided at the front and sides of the development. The extent of landscape setbacks at the front and side boundaries of the service station should be assessed on a site-specific basis and be dependent on outcomes of site level visual landscape assessment. Locally indigenous plant species that are common along IOD and will grow to the required height and density should be used in the landscape treatment (Appendix 3).
  6. The local and regional context should be considered in the building design and layout. Examples of style and materials that borrow their themes from IOD landscape

include: casual, low-key coastal holiday style; natural materials such as limestone and rammed earth using local soil; materials reminiscent of local shacks, such as corrugated iron and wood window frames.

7. All new utility lines, including power, telephone and data lines, that serve the proposed development should not be located within the IOD viewshed corridor when it is feasible to locate them elsewhere. They should be installed underground where possible. If located above ground level they should be located on the inland side of the road or located as to be inconspicuous from IOD shielded from view from the scenic corridor within existing vegetation and/or revegetation.
8. Proposals should demonstrate that access can be provided to IOD, without detriment to the operation of IOD, to the satisfaction of Main Roads. The standard of construction and other issues regarding access should be to the satisfaction of Main Roads.
9. Signage may be visible from IOD but not dominate the view and should be in accordance with Main Roads requirements.

### 5.2.3 Rural living estates

#### Definition

A land use that is residential in nature, generally characterised by a grouping of lots in the order of one to forty hectares. In terms of land use zones this includes, but is not limited to, rural residential, special residential, rural living, rural retreat, special rural, rural smallholdings, and landscape protection zones.

#### Statement of intent for visual landscape character

New rural living estates along IOD should be inevident from the road. Even in existing rural landscapes, rural living areas should ideally be inevident, although the blending objective may be suitable if care is taken with specific locations, and with siting and design factors such as use of local colours and height restrictions. The WAPC's landscape manual provides guidance on rural residential development on page 104.



### Guidelines

1. Rural living estates should preferably be located and sited where they can be screened behind landforms such as dunes and ridges.
2. Where it is not feasible to screen rural living estates using landform they should be located where there is sufficient setback to create a vegetation screen of a height that would obscure the development. Locally indigenous plant species that are common along IOD and will grow to the required height and density should be used in the vegetation screening (Appendix 3).
3. Where vegetation screening would be inconsistent with the landscape's natural character, e.g. where natural vegetation comprises low heath, this may be a factor in restricting rural living development.
4. Proposals for rural living estates and associated infrastructure, should be supported by a site level visual landscape assessment at zoning and structure planning stages (Appendix 2), conducted by a suitably qualified and experienced landscape assessor.
5. Rural living estates should be designed so that:
  - a. there are no entry statements, structures or signage in relation to the proposal on IOD;
  - b. where rooftops will be visible they are preferably made of non-reflective materials, not be of a steep pitch and be oriented to minimise glare for road users. Roof colour should blend with the setting – usually dark greys; and
  - c. in rural landscapes, where the planting of trees throughout the estate is feasible, their location is determined as part of an overall strategic planting plan that is designed to minimise the visibility of the development.
6. Components of development, including dwellings, ancillary buildings, driveways, roads and firebreaks, should not be seen from IOD.
7. All new utility lines, including power, telephone and data lines, that serve the estate should not be located within the IOD viewshed corridor when it is feasible

to locate them elsewhere. They should be installed underground where possible. If located above ground level they should be located as to be inconspicuous from IOD shielded from view from the scenic corridor within existing vegetation and/or revegetation.

### 5.2.4 Residential development

#### Definition

A building or portion of a building, together with rooms and outbuildings separate from such building but incidental thereto; such building being used or intended, adapted or designed to be used for the purpose of human habitation.

#### Statement of intent for visual landscape character

Residential areas should preferably be inevident along IOD frontage other than within existing towns, although there may be scope for some screening within towns, such as utility infrastructure. This is to avoid the appearance of residential sprawl beyond the extent of present settlements, especially along the coast. Where this is not feasible, residential use should be located and designed to blend with its natural or rural landscape setting, with a minimal amount visible. If existing wide, elevated ocean views will be dominated by new housing, these views should be screened from IOD.

#### Guidelines

1. Residential proposals should be located and sited where they can be screened behind landforms such as dunes and ridges. Where this is not feasible, they should be located where there is sufficient setback to create a vegetation screen of a height that would obscure the development. Locally indigenous plant species that are common along IOD and will grow to the required height and density should be used in the vegetation screening.
2. Residential proposals should be supported by a site level visual landscape assessment at zoning and structure planning stages (Appendix 2) conducted by a suitably qualified and experienced landscape assessor.

3. Residential proposals should be designed so that:
  - a. entry statements, structures or signage in relation to the proposal are not apparent from IOD;
  - b. no solid, urban-style fencing or walls are apparent from IOD; and
  - c. where rooftops will be visible they are preferably made of non-reflective materials, not be of a steep pitch and be oriented to minimise glare for road users. Roof colour to blend with the setting – usually dark greys.
4. Components of development, including dwellings, ancillary buildings, driveways, roads and firebreaks, should not be seen from IOD.
5. All new utility services, including power, that serves the estates should not be located within the IOD viewshed corridor when it is feasible to locate them elsewhere. They should be installed underground where possible. If located above ground level they should be located as to be inconspicuous from IOD, shielded from view from the scenic corridor within existing vegetation and/or revegetation.

### 5.2.5 Mining, extractive industries and utilities

#### Definitions

**Mining** refers to the extraction and processing of minerals as defined in the *Mining Act 1978*.

**Extractive industry** means the extraction, quarrying, removal, storage and treatment of basic raw materials.

**Utilities** infrastructure means land used to accommodate any part of the infrastructure of a utilities network and includes any line, equipment, apparatus, tower, antenna, tunnel, duct, hole, pit, solar panels or other structure used, or for use in or in connection with, a telecommunications network.

#### Statement of intent for visual landscape character

Basic raw material extraction sites and waste depots should be inevent from IOD. Utility towers such as water tanks, transmission lines, wind turbines and telecommunication towers may need to be in prominent locations for functional reasons, but they should still blend with their landscape setting. These uses are addressed in the WAPC's landscape manual, in the sections on utility towers (page 128), and mining and industry (page 144).

#### Guidelines

1. Sand and rock extraction sites and waste depots:
  - a. should be located and sited where they can be screened behind landforms such as dunes and ridges. Where this is not feasible they should be located where there is sufficient setback to create a vegetation screen of a height that would obscure the development. Locally indigenous plant species that are common along IOD and will grow to the required height and density should be used in the vegetation screening;
  - b. should not have their entry points located at positions that are prominent within important views such as at focal points;
  - c. entry points should be designed to the minimum dimensions allowed by Main Roads' standards, to reduce their prominence; and
  - d. should be designed such that signage is visible to motorists but is of a minimal size and prominence, and does not dominate the view.
2. Utility infrastructure:
  - a. should be located and sited where it does not occupy prominent positions in the landscape, for instance, on hills, ridge tops or headlands, at focal points directly ahead of the road, or near prominent natural features such as mobile dunes;
  - b. should be designed such that where elevated positions on hills, ridges or headlands are essential for functional reasons, consideration be given to

planting roadside vegetation that, while unlikely to screen infrastructure, may obscure its base or provide a visual distraction;

- c. should be designed such that its colour blends with the backdrop against which it will be prominent in important views e.g. vegetation backdrop could result in a green colour, or a sky backdrop could result in a light grey;
- d. should be located on the inland side of IOD, at the furthest practicable distance; and
- e. proposals may need to be supported by a visual landscape assessment.

### 5.2.6 Signage and branding

#### Definitions

**Advertisement** means any word, letter, model, sign, placard, board, notice, device or representation, whether illuminated or not, in the nature of, and employed wholly or partly for the purposes of, advertisement, announcement or direction, and includes any hoarding or similar structure used, or adapted for use, for the display of advertisements. The term includes any airborne device anchored to any land or building and any vehicle or trailer or other similar object placed or located so as to serve the purpose of advertising.

**Advertising device** means any poster, hand bill, placard, notice or sign affixed to or painted or supported by a hoarding and other advertising structures including a tri-vision illuminated and pylon mounted sign.

#### Statement of intent for visual landscape character

Other than directional signage, all signage including branding of IOD as a scenic tourist route and town identification structures/'entry statements', should be evident but not prominent in views from IOD. Signage should not dominate the landscape, by virtue of its positioning, size, colours and the like. As IOD passes almost entirely through natural or rural landscapes, any signage or related structures will be noticeable to road users, even if they are not large or contain bright colours.

#### Guidelines

1. All proposals should be assessed against criteria provided in Main Roads' guidelines for the management of advertising signs within and beyond road reserves.
2. Signage should be located:
  - a. close to the feature to which it refers;
  - b. away from focal points in views or other prominent locations, such as skylines;
  - c. outside important views unless this is unavoidable; and
  - d. where it does not impair sight distance from adjacent access or side roads.
3. Other than standardised road and directional signs, signage and town entry structures should be designed such that:
  - a. they reflect typical or unique characteristics of the landscape along IOD or within the adjoining towns. Examples of style and materials that borrow their themes from the IOD landscape include casual, low-key coastal holiday style; natural materials such as limestone and rammed earth using local soil; materials reminiscent of local shacks, such as corrugated iron and wood window frames;
  - b. the base of entry structures is generally flush with the natural ground level, rather than being raised on a plinth or mound;
  - c. branding of IOD utilises exact colours and forms that are typical or unique along the route, such as a colour theme of turquoise ocean, dark melaleuca foliage, contrasting with the white of the mobile dunes;
  - d. signage outside towns is not as high or as large compared to typical billboards; and
  - e. design and construction is of a high standard.
4. Signs related to facilities and businesses in towns should be contained in a single signage bay at town entry points, with the bays designed to reflect typical or unique characteristics of IOD.



### 5.2.7 Roadside stopping places

#### Definitions

Roadside stopping places primarily service the convenience and rest needs of road users.

**Parking bay:** a safe parking space adjacent to the road, constructed for drivers to stop for a short period and rest or check their vehicles and load.

**Rest area:** an off-roadway space physically separated from the through carriageway with provision for the parking of vehicles and the resting of drivers and passengers.

**Information bay:** an unattended stopping place featuring large display boards with information on services and attractions of interest to visitors to the town or area.

**Scenic lookout:** an area where motorists should be able to safely park their vehicles beyond the edge of the shoulder, view the scenery, and take photographs in safety.

#### Statement of intent for visual landscape character

Roadside stopping places need to be clearly visible but blend with their landscape setting. It is not appropriate for them to be designed as prominent features in the landscape. It would be preferable if off-road lookouts were not evident, in order to retain the landscape's natural character. This is especially important where lookouts are located at elevated vantage points close to and overlooking the road.

#### Guidelines

1. Proposals should comply with Main Roads' operational policy 'Roadside Stopping Places 3B', and need to be approved by Main Roads.
2. The Department of Defence should be consulted in the event of major changes to existing roadside facilities or if additional stopping places are proposed adjoining Lancelin Defence Training Area.
3. Stopping places should be located where people are likely to want to stop to enjoy the view, such as where the ocean or mobile dunes are seen for the first time along the route, or where the view is wider than typical, is from a more elevated position or

is closer to particular features. They may provide views of a type that is not currently available, such as a lookout on a coastal headland or stopping places near the coast with walking paths that link to the shoreline, by one-way trails or loops.

4. Scenic lookouts should be located where they can provide views that are not otherwise available from the roadway of IOD itself, generally by virtue of being at a higher elevation as the roadway is elevated above the surrounding landscape in only a few locations.
5. Stopping places should be staggered in the direction of approaching traffic to discourage cross median vehicular movements and to deter drivers from parking on shoulders and walking across the carriageway to access facilities or to view attractions.
6. Any vertical structures such as shelters, toilets or sculptures should not be designed as prominent features. These structures, as well as paving, walls, bench seating, bins and so on should relate to the specific environment of IOD e.g. utilise forms, colours and textures found in the vegetation, rock, soil and dune formations that naturally occur along the route. The main built components, i.e. shelters and toilets, should take their cues from typical or unusual built features found along IOD, such as coastal shacks.
7. Toilets should not be sited prominently at stopping places e.g. in front of the main view, or at a focal point as people enter parking areas.
8. Additional facilities such as toilets and drinking water should be provided in rest areas where they can be adequately justified based on estimated use and the cost of maintenance and cleaning. These facilities should also be placed with other developed or proposed recreational facilities e.g. walking trails or viewing points.

## 6. Implementation of the Guideline

Various options for the implementation of this Guideline, each offering different levels of flexibility and inclusion in terms of the Guideline's application to strategic and statutory decision making along IOD, have been considered by the Technical Working Group. The preferred option is for the WAPC to endorse the document and for the five local governments to adopt a uniform local planning policy. The local planning policy would incorporate the key guidance in the document and Council would have due regard to this guidance in their decision making on matters within the Guideline's area of application. This approach is outlined below.

### WAPC endorsement and local planning policy

- The Guideline is classified as a B5 Operational Policy under *State Planning Policy 1 State Planning Framework Policy* and endorsed by the WAPC.
- WAPC would have due regard to the Guideline when considering sub-regional plans, new local planning strategies and schemes, amendments to local planning strategies and schemes and subdivision applications.
- Amendments to rezone land within the area of application of the Guideline would include a provision that development permitted under Clause 8.2 of the Scheme, such as single houses, sheds, water tanks and fencing, would require prior planning approval.
- Local governments would adopt a uniform local planning policy under Clause 2.2 of their Scheme and the local planning policy to be considered by Council when dealing with a planning application under Clause 10.2.f.
- The adoption of the document as a 'Guideline' by the WAPC and as a local planning policy by local government would allow modifications to be easily made.
- The usefulness and effectiveness of the Guideline would be monitored for a two year period after endorsement. Subsequently its content and status as a B5 Operational Policy and Local Planning Policy, would be reviewed.



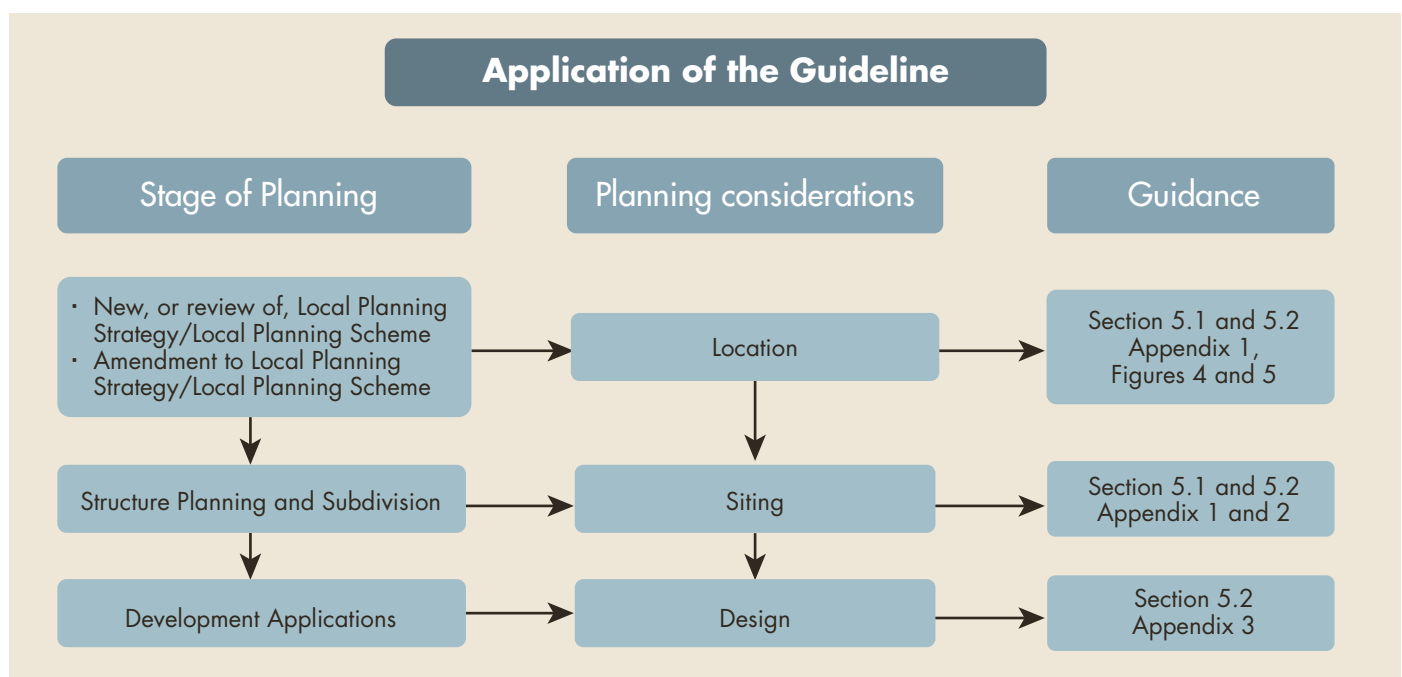
## 7. Application in the planning system

This Guideline applies at all stages of planning, from the preparation of local planning strategies to development approval. The diagram below identifies the section of the document where relevant guidance is available for decision making.

### Additional landscape information

The Guideline provides strategies to assist in achieving an 'inevident' or 'blending' objective. These include the use of vegetation screens or landscaping. An approach that local governments can use to promote the implementation of landscaping requirements by landowners and developers is outlined below:

- Scheme amendments to rezone land could, where necessary, include provisions that control the siting and screening of development, based on the outcomes of a visual landscape assessment;
- Endorsed structure plans could identify the landscaping requirements on private land, and on public land when applicable. Instruments such as covenants and bonds could be utilised to ensure that buffers on private land are maintained; and
- Local planning policy could require consideration of landscaping requirements on private land at development approval stage.





## 8. Recommendations for future investigations

The following recommendations for further consideration and analysis are additional to those that form the Guideline:

1. Establish a permanent forum for shire planning officers from the Shires of Gingin, Dandaragan, Coorow, Carnamah and Irwin with Department of Planning, Main Roads and Department of Parks and Wildlife officers support as needed. This will result in an ongoing coordinated and cooperative approach to strategic and statutory planning along IOD and the broader coastal area. The IOD planning officers' forum would initiate the tasks listed below.
2. Prepare a uniform local planning policy to be adopted by the five local governments to guide decision-making in relation to land use and development along IOD.
3. Prepare model provisions that could be incorporated into local planning schemes when rezonings are considered that would assist in controlling the siting and screening of development, based on the outcomes of a visual landscape assessment.
4. Investigate mechanisms that could be incorporated into local planning schemes to ensure that permitted development such as sheds, single houses, fencing and water tanks are consistent with this Guideline. For example, Clause 5.21 in the Shire of Dandaragan Town Planning Scheme No.7 requires approval for any development within 200 metres of IOD.
5. Based on consultation with stakeholders, including tourism associations, develop design guidelines and agreed approval processes for signage either within the road reserve or adjacent to and visible from IOD.
6. Improve signage on IOD to identify the location and distance to stopping places and toilets, such as at Hangover Bay and Cervantes, and to inform road users of fuel availability along the road.
7. Consider new look-outs in the northern section of IOD, such as at Freshwater Point (Shire of Irwin) and the upgrading of existing look-outs, such as at Lions Lookout (Shire of Dandaragan).

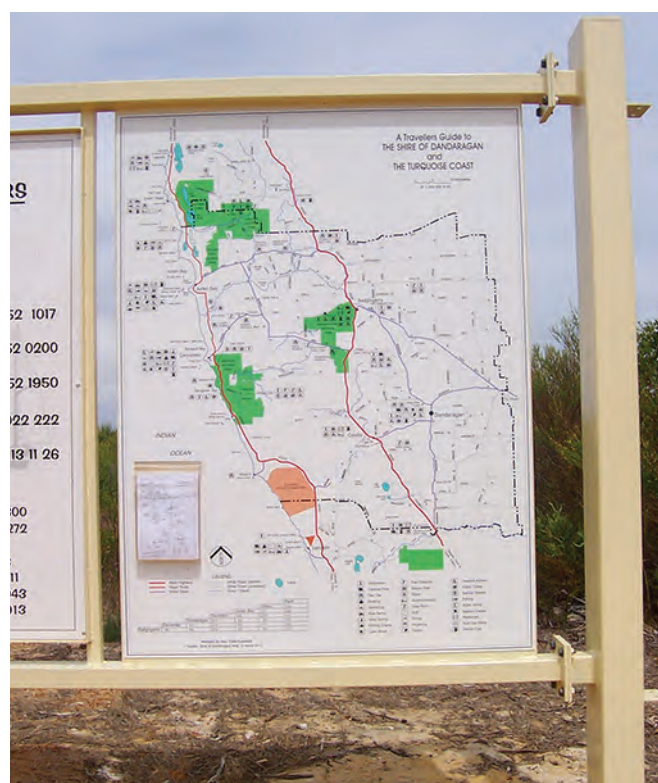


*Freshwater Point may be suitable for a new lookout, to complement those along the southern portion of IOD*



*Lions Lookout, Jurien Bay*

8. Progress planning for additional toilet facilities approximately mid-way between Perth and Jurien Bay (that are close to the road, safely accessible but unobtrusive) either at the Wedge Lookout or at the roadside stopping places on both sides of the road north of the Nilgen Lookout.
9. Consider enhancing opportunities for travellers to enjoy the landscape and its natural features through the construction of walk trails of various lengths, starting from roadside bays, e.g. from the Wedge lookout down to the coast, or from one roadside stopping place to the next, taking care to locate trails beyond the noise and sight of traffic.
10. Consider the guidelines and strategies regarding form and colour as reflected in the Guideline when maintenance, improvements or reconstruction of Main Roads' stopping places occur.
11. Determine the need for additional telecommunications infrastructure to improve mobile phone coverage in areas that currently lack that access such as north of Coolimba and between Nilgen and Grey, south of Cervantes.
12. Prepare a fire and vehicle accident risk assessment and associated procedures for the management of emergencies, including evacuation, utilising IOD and the connecting road network.
13. Develop a mobile phone 'application' for road users, particularly visitors, that provides information about the facilities such as stopping places, tourist destinations and service stations, on and in the vicinity of IOD, as well as interpretative information about the environment.





## Indian Ocean Drive Planning Guideline

# Appendices and Figures





## Appendix 1

## Landscape character units, visual management objectives and guidance

Numerical and alphabetical references refer to Figure 4.

**LANDSCAPE CHARACTER UNIT****1. Moore River (at Woodridge Estate) to Lancelin (north boundary of Ocean Farms Estate)**

Mix of natural and rural landscapes with areas of built character in the form of rural living estates, providing variety of types of views, from small pockets of tall trees, such as tuarts near Moore River, to distant views of the ocean and sand sheets above Lancelin.

**Objectives**

The **'protect and maintain'** objective should apply to natural areas.

In other areas the broad objective should be for development to **'blend'**, although there are some portions, e.g. important viewsheds, where **'inevident'** would be preferable, such as southwest of the turnoff to Lancelin.

The **'restore and enhance'** objective would apply to existing rural living areas where they are visible from the road.

**Guidance for management of impacts**

Where new rural living estates or dwellings have been approved for locations that are prominent from the road, measures to reduce visibility should be employed, including location behind dune ridges, potential for vegetation screen planting, and building design e.g. to reduce reflective surfaces.

Existing rural living estates would blend better with some restorative work to enhance the degree of roadside screening on private land, and redesign of the entry statements so that they look more compatible with the surrounding landscape.

## LANDSCAPE CHARACTER UNIT

### 2. Lancelin (north boundary of Ocean Farms Estate) to Cervantes

- 2a. Lancelin to northern end of Lancelin Defence Training Area:** panoramic views from elevated ridge at Nilgen.
- 2b. Northern end of Lancelin Defence Training Area to Wedge corner (base of dune):** transition to the coast - start of mobile dunes, first ocean view.
- 2c. Wedge Island to Cervantes:** low elevation, hummocky/varied terrain, views featuring the ocean seen between and over dunes, and extensive, white, mobile dunes.

Objectives	Guidance for management of impacts
<p>The <b>'protect and maintain'</b> objective should apply to this entire stretch of relatively pristine, natural landscape.</p> <p>Signage and roadside facilities should <b>'blend'</b> with the natural setting, and any other development should be <b>'inevident'</b>.</p>	<p>Measures should be taken to reduce the infestation of roadside weeds that typically follows new road construction.</p>
<p>There may be a future requirement for telecommunications towers in this character unit. If it is not feasible for these to be built where they are <b>'inevident'</b> from IOD, they should be located where they <b>'blend'</b> with the landscape.</p>	<p>See WAPC's landscape manual for strategies on telecommunications siting and design.</p>
<p>Within the enclave of private, rural land located along the north side of the Defence land, <b>'restore and enhance'</b> is the relevant goal.</p>	<p>Restoration and enhancement of private land would include: upgrading the entrance to the sand extraction site; softening the strong lines of planted trees that delineate the southern lot's boundary e.g. by planting an understory of local shrubs; and revegetation of the hard stand area using local native shrubs planted in a naturalistic layout; reducing the prominence of the commercial billboard to enhance its compatibility with the natural landscape.</p>
<p>Roadside facilities require <b>'enhancement'</b>, so that they visually relate to their natural surroundings.</p>	<p>Consideration should be given to: replacing urban heritage style bollards with bollards more suited to the natural setting such as weathered timber; covering the urban-style brickwork walls with a natural-coloured, rough textured render; and replacing the shiny metal bench seats with those of more rustic material.</p>

**LANDSCAPE CHARACTER UNIT****3. Cervantes to Leeman**

- 3a. Cervantes to Jurien Bay:** Cervantes existence identified by roadside banners, road currently passes through the built landscape that is Jurien Bay, glimpses of buildings near Hill River and on the Molah Hill ridge, both of which are local landscape features.
- 3b. Jurien Bay to Green Head:** amphitheatre effect created by inland ridge north of Jurien Bay with some buildings visible on the skyline, long dunes in vicinity of North Head, scattered mobile dunes, glimpses to Mount Lesueur on the horizon in the distance.
- 3c. Green Head to Leeman:** continuous avenue of tuarts on inland side of road and part avenue on coastal side, very straight road with little diversity of views.

Objectives	Guidance for management of impacts
The 'protect and maintain' objective should apply to reserved natural areas, and to the Hill River where it passes between developing areas.	
The broad objective should be for development in this character unit to 'blend'. However, there are some important viewsheds where development would preferably be 'inevident', including the ridge east of Jurien Bay, the Molah Hill ridge, and the North Head development. Concern about the Molah Hill site is reflected in Schedule 11.2 of the Shire of Dandaragan's TPS 7.	On ridges overlooking IOD, buildings should be sited and designed with care, e.g. avoid skyline building sites, choose roof colours that will blend better, such as dark grey colours and minimise reflective surfaces. No entry structures should be built at new estates. See WAPC's landscape manual 'coastal landscapes' (p73), 'prominent elevated landscapes' (p84), and 'rural residential development' (p104), for further guidance.
Ideally new rural living, residential and tourism accommodation along the road, other than within existing Jurien Bay, would be 'inevident', to avoid the appearance of urban sprawl along the coast. As this is not now feasible between Cervantes and Jurien Bay, a feasible objective is that development here should 'blend'.	Provide roadside planting to screen houses that will be built south of the current Jurien Bay town site.
The North Head residential and tourist development should be 'inevident' from IOD.	The North Head development can be made inevident from IOD by a combination of siting development behind the dune ridge that runs parallel to IOD, attention to building height, colours and materials, taking care with any higher structures such as water or phone towers and increasing setbacks, particularly in the northwest corner.



## LANDSCAPE CHARACTER UNIT

### 3. Cervantes to Leeman (continued)

- 3a. Cervantes to Jurien Bay:** Cervantes existence identified by roadside banners, road currently passes through the built landscape that is Jurien Bay, glimpses of buildings near Hill River and on the Molah Hill ridge, both of which are local landscape features.
- 3b. Jurien Bay to Green Head:** amphitheatre effect created by inland ridge north of Jurien Bay with some buildings visible on the skyline, long dunes in vicinity of North Head, scattered mobile dunes, glimpses to Mount Lesueur on the horizon in the distance.
- 3c. Green Head to Leeman:** continuous avenue of tuarts on inland side of road and part avenue on coastal side, very straight road with little diversity of views.

Objectives	Guidance for management of impacts
The 'restore and enhance' objective would apply to existing rural living and towns where they are viewed from the road.	<p>Existing development in rural living areas that are visible from the road could be enhanced by roadside planting on private land.</p> <p>The town entry structures could be further enhanced, for instance by erecting a more substantial structure at Cervantes, pruning the lower trunks of the sheoaks at the northern entrance to Jurien Bay to improve the avenue effect, and planting at the base of the structures at Green Head and Leeman so that they 'sit' better in their settings.</p> <p>Rehabilitate the tuart avenue between Green Head and Leeman, by replanting specimens in poor condition or where they have already been removed. This will reinstate the avenue effect. The avenue should not be extended beyond this stretch from Green Head to Leeman, and there should be no further avenues elsewhere along IOD.</p> <p>Within the town of Jurien Bay, the use of distinctive local native plants within the road reserve, including the median strip, would create stronger visual links with IOD.</p> <p>Weed control along the roadside and revegetation with local native species would assist in recreating some foreground diversity, especially between Green Head and Leeman.</p>

**LANDSCAPE CHARACTER UNIT****4. Leeman to Brand Highway**

- 4a. Leeman to Illawong:** varied views as the road winds between dunes and roadside salt lakes, gaining some elevation north of Coolimba, a short, close view of rocky cliffed shoreline just north of Leeman, some shacks visible, and sections where tall shrubs along the roadside form a 'hedge'.
- 4b. Illawong to Brand Highway:** very close views of the ocean and parts of the shoreline itself, especially in the vicinity of several prominent rocky headlands, at Knobby Head and Freshwater Point, shacks prominent scattered amongst shrubs along the roadside and nearby coastal locations, sections where tall shrubs along the roadside form a 'hedge'.

Objectives	Guidance for management of impacts
The ' <b>protect and maintain</b> ' objective should apply to natural areas.	
The broad objective should be for new development to ' <b>blend</b> ' with its setting. There are some portions where ' <b>inevident</b> ' would be preferable, such as at the focal point of important views near headlands and on dune ridges along the inland side of the road.	The WAPC's landscape manual provides guidance for development in coastal landscapes (p73).
A ' <b>restore and enhance</b> ' objective would apply to some sections which appear 'untidy', where there are a myriad of tracks, weeds and some discarded objects associated with coastal shacks.	This character unit could be further enhanced by judicious pruning or removal of shrubs that form a visual barrier, where longer views can be obtained, presuming that shrubs have grown prolifically as a result of roadside soil disturbance.

## Appendix 2: Site level visual assessment

*Visual Landscape Planning in Western Australia: a manual for evaluation, assessment, siting and design* (WAPC, 2007), includes detailed descriptions of visual landscape evaluation and visual impact assessment appropriate for regional, local and site level assessments. A simplified version of a site level assessment is presented below.

1. Consider the overall character of the landscape in which the site is located, referring to the character units identified in this guideline, in terms of landform, vegetation and land use.
2. Identify individual features of the site e.g. dune ridges, and distinctive vegetation such as a stand of balgas or Christmas trees.
3. Determine the degree to which the proposed development may be visible from IOD and its associated lookouts, using terrain cross-sections if needed. Identify important views in which the site may be visible.
4. If the proposed development may be visible from IOD, consider the potential for locating the development behind landform features such as dune ridges. If this is not feasible, consider whether a vegetation screen may be feasible, and if so, whether it would look appropriate in this landscape setting.
5. Consider potential measures which could assist in 'blending' the development into the landscape, such as building siting and design, and strategic planting across the site, in addition to roadside screen planting.
6. Identify the appropriate visual management objective/s for the site, and determine whether this can be achieved, taking into account potential siting and design measures.



*Limestone is a traditional building material that blends well in this landscape*



## Appendix 3: Roadside vegetation screening

The goal of roadside screening on private land adjacent to the road reserve is to obscure development from IOD, while ensuring that screening looks like a natural component of the landscape. It is preferable that species chosen are from the landscape character unit in which the screening is located. If this is not feasible, species from elsewhere along IOD may be appropriate, if they resemble local species. However, where screen planting is to be adjacent or close to DPaW managed lands or other remnant vegetation, there should be liaison with DPaW to ensure that the species chosen are not likely to spread into areas of native vegetation thereby compromising conservation values. For example, coastal moorts (*Eucalyptus platypus*) are known to be invasive and should not be used adjacent to DPaW reserves.

It is preferable not to locate development where the landscape's natural character comprises low vegetation. The creation of a vegetation screen of tall shrubs and trees in these circumstances would not be consistent with maintenance of this character.

Shrubs generally create a better screen than trees, because as trees mature they lose their lower branches. A combination of trees and shrubs may be required to fit with landscape character and achieve the ultimate desired height. To create a long-lived screen, a combination of short and long-lived species is required. Local native plants and others that have already proven to grow well in the area should be used.

Screening should comply with the following attributes:

### 1. To obscure development

Height of foliage from the ground, and top height of foliage

Foliage needs to begin within about 1 metre from the ground, and be as high as required to block views of the top of development. Height can be determined using terrain cross-sections from the road to top of structures. If foliage on the key species starts too high off the ground, for example, with trees, they need to be supplemented with other, bushier plants. The foliage on canopy trees can create the top level of the screen, while shrubs fill the lower levels.

Density of foliage

The width of screening strips needs to be sufficient to block visibility. This will vary depending on the density of foliage of the species used. Denser foliated vegetation requires a narrower buffer than vegetation with sparser foliage, as the screening effect may be achieved with possibly two rows of the key species. Where foliage is sparse more rows would be required, supplemented by other species.

### 2. To blend with landscape character

Local species should be used wherever feasible. Otherwise, it is preferable to use plants that have a generally similar appearance. For example, the coastal moorts that are used in south Jurien Bay look similar to Dongara mallee, which is found along northern sections of IOD.

The buffer should normally be graded in height, with smaller shrubs closest to the road, grading to the tallest plants at the back. But if trees are to be used and it is expected that in the longer term their lower limbs will be lost, then shrubs could be used to form a green backdrop behind the trees.

The required overall height and density determines spacing. Closer spacing may result in taller plants with less foliage, with planting further apart resulting in lower, but denser plants. A higher buffer could be achieved with closer spacing of plants to encourage them to reach a taller height, with a lower layer of more spaced shrubs. Buffers should not appear regimented in their layout, with obvious rows.

To achieve a long-term buffer as well as gaining an immediate screen, both short and long-lived species should be used.



Native vegetation that may be suitable for screen planting includes *Dongara mallee*, *banksia* species, swamp sheoaks, and local wattle and *melaleuca* species (pictured clockwise, starting top left)



Screen planting on the right side of Indian Ocean Drive closely resembles the natural vegetation on the left, at Beachridge Estate, South Jurien Bay



A narrow buffer is sufficient to provide a very effective screen between IOD and Beachridge Estate, using coastal moort (*Eucalyptus platypus*)



## Appendix 4: Existing and approved services and facilities

### Analysis of existing public services and facilities on Indian Ocean Drive

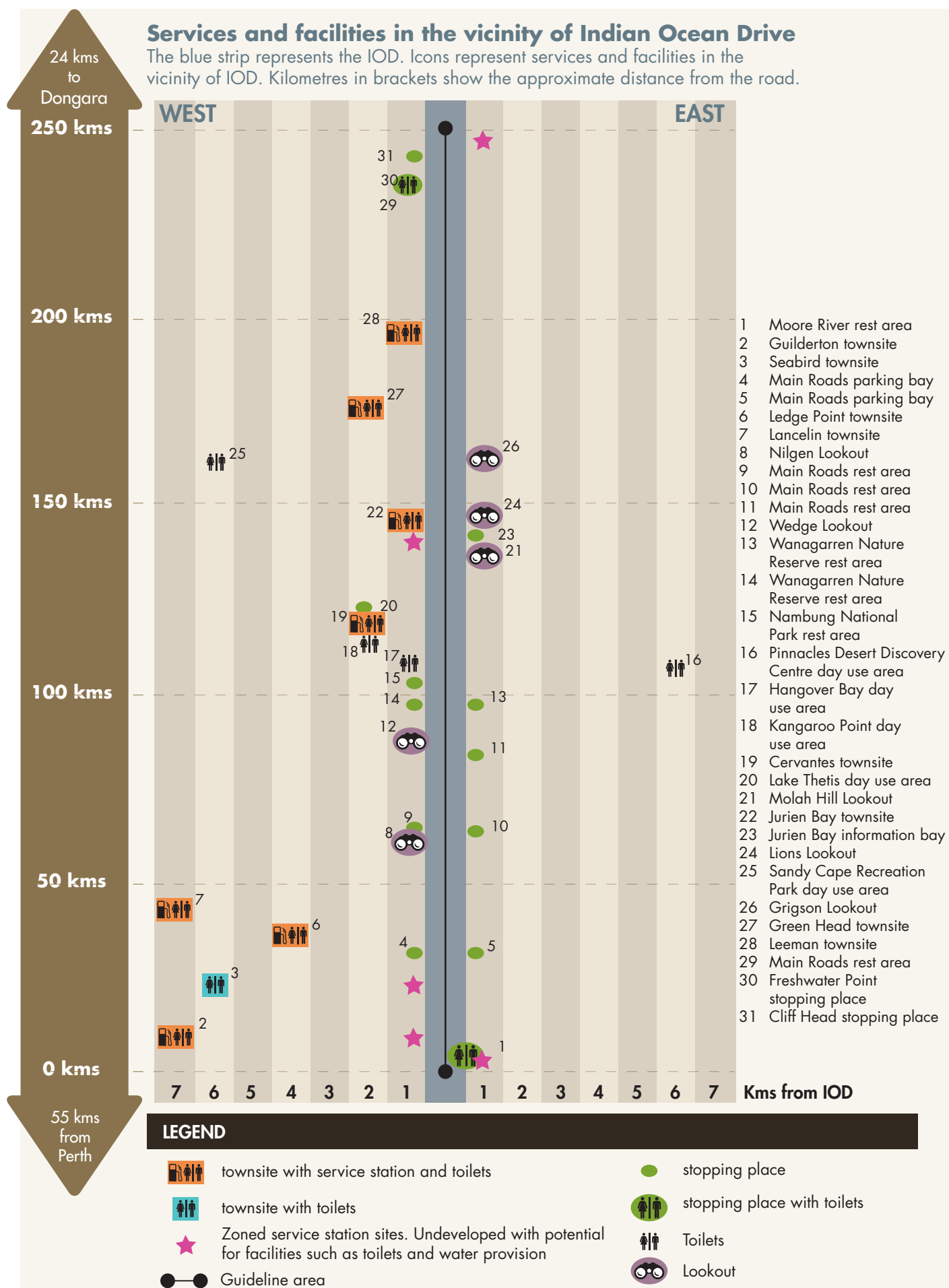
Amenity numbers in the first column relate to the diagram on page 40. They are also referenced in Figure 3 on page 44.

Amenity number	Amenity type	Amenity description	Provided by	Distance from IOD	Side of road	Bin	Bench/table	BBQ	Toilet	Water	Shelter	Disability access
1	<b>Rest area</b>	Moore River	Main Roads	roadside	East	✓	✓	✓	✓	x	✓	✓
2	<b>Townsite</b>	Guilderton	Shire of Gingin	7 km	West	✓	✓	✓	✓	✓	✓	✓
3	<b>Townsite</b>	Seabird	Shire of Gingin	6 km	West	✓	✓	✓	✓	✓	✓	✓
4	<b>Parking bay</b>		Main Roads	roadside	West	✓	✓	x	x	x	x	x
5	<b>Parking bay</b>		Main Roads	roadside	East	✓	x	x	x	x	x	x
6	<b>Townsite</b>	Ledge Point	Shire of Gingin	4 km	West	✓	✓	✓	✓	✓	✓	✓
7	<b>Townsite</b>	Lancelin	Shire of Gingin	7 km	West	✓	✓	✓	✓	✓	✓	✓
8	<b>Scenic lookout</b>	Nilgen Lookout	DPaW and Main Roads	500 m	West	✓	✓	x	x	x	✓	✓
9	<b>Rest area</b>		Main Roads	roadside	West	✓	✓	x	x	x	✓	x
10	<b>Rest area</b>		Main Roads	roadside	East	x	✓	x	x	x	✓	x
11	<b>Rest area</b>		Main Roads	roadside	North	✓	✓	x	x	x	✓	x
12	<b>Scenic lookout</b>	Wedge Lookout	DPaW and Main Roads	100 m	South	✓	✓	x	x	x	✓	x
13	<b>Rest area</b>	Wanagarren Nature Reserve	Main Roads	roadside	East	✓	✓	x	x	x	✓	x
14	<b>Rest area</b>	Wanagarren Nature Reserve	Main Roads	roadside	West	✓	✓	x	x	x	✓	x
15	<b>Rest area</b>	Nambung National Park rest area	Main Roads	roadside	West	✓	✓	x	x	x	✓	x



Amenity number	Amenity type	Amenity description	Provided by	Distance from IOD	Side of road	Bin	Bench/ table	BBQ	Toilet	Water	Shelter	Disability access
16	<b>Day use area</b>	Pinnacles Desert Discovery Centre	DPaW	6 km	East	x	✓	x	✓	x	✓	✓
17	<b>Day use area</b>	Hangover Bay	DPaW	1 km	West	x	✓	✓	✓	x	✓	✓
18	<b>Day use area</b>	Kangaroo Point	DPaW	1 km	West	x	✓	✓	✓	x	✓	x
19	<b>Townsite</b>	Cervantes	Shire of Dandaragan	2.5 km	West	✓	✓	✓	✓	✓	✓	✓
20	<b>Day use area</b>	Lake Thetis	DPaW	2.5 km	West	x	✓	x	x	x	x	✓
21	<b>Scenic lookout</b>	Molah Hill Lookout	DPaW	1 km	East	x	✓	x	x	x	x	✓
22	<b>Townsite</b>	Jurien Bay	Shire of Dandaragan	roadside	West	✓	✓	✓	✓	✓	✓	✓
23	<b>Information bay</b>	Jurien Bay	Main Roads	roadside	West	✓	x	x	x	x	x	x
24	<b>Scenic lookout</b>	Lions Lookout	Shire of Dandaragan	1 km	East	✓	✓	x	x	x	✓	x
25	<b>Day use area</b>	Sandy Cape Recreation Park	Shire of Dandaragan	6 km	West	✓	✓	x	✓	x	x	✓
26	<b>Scenic lookout</b>	Grigson's Lookout	DPaW	500 m	East	x	✓	x	x	x	x	✓
27	<b>Townsite</b>	Green Head	Shire of Coorow	2 km	West	✓	✓	✓	✓	✓	✓	✓
28	<b>Townsite</b>	Leeman	Shire of Coorow	roadside	West	✓	✓	✓	✓	✓	✓	✓
29	<b>Rest area</b>		Main Roads	roadside	West	✓	x	x	x	x	x	x
30	<b>Stopping place</b>	Freshwater Point	Shire of Irwin	300 m	West	x	x	x	✓	x	x	x
31	<b>Stopping place</b>	Cliff Head	Shire of Irwin	300 m	West	x	x	x	x	x	x	x

Recreational vehicle waste disposal points are available at:  
 Shire of Dandaragan: Cervantes Waste Transfer Facility; Jurien Bay Caravan Park; Jurien Bay Sandy Cape Recreation Park.



## Appendix 5: Glossary of acronyms

AADT	Annual Average Daily Traffic
DC	Development Control Policy
DPaW	Department of Parks and Wildlife
IOD	Indian Ocean Drive
LPS	Local Planning Strategy
SPP	State Planning Policy
WAPC	Western Australian Planning Commission



Figure 1: Location of Indian Ocean Drive

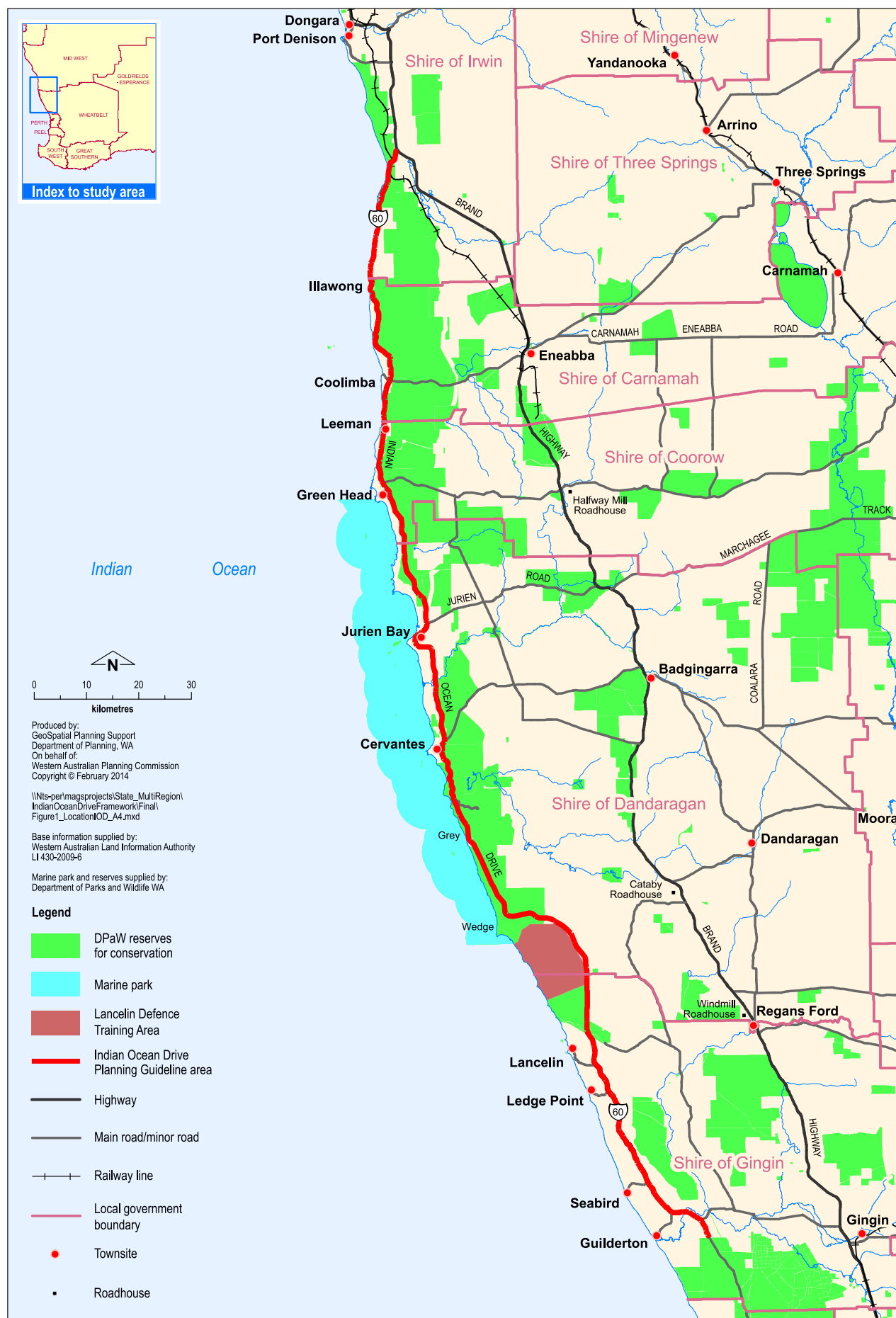


Figure 2: Indian Ocean Drive land ownership

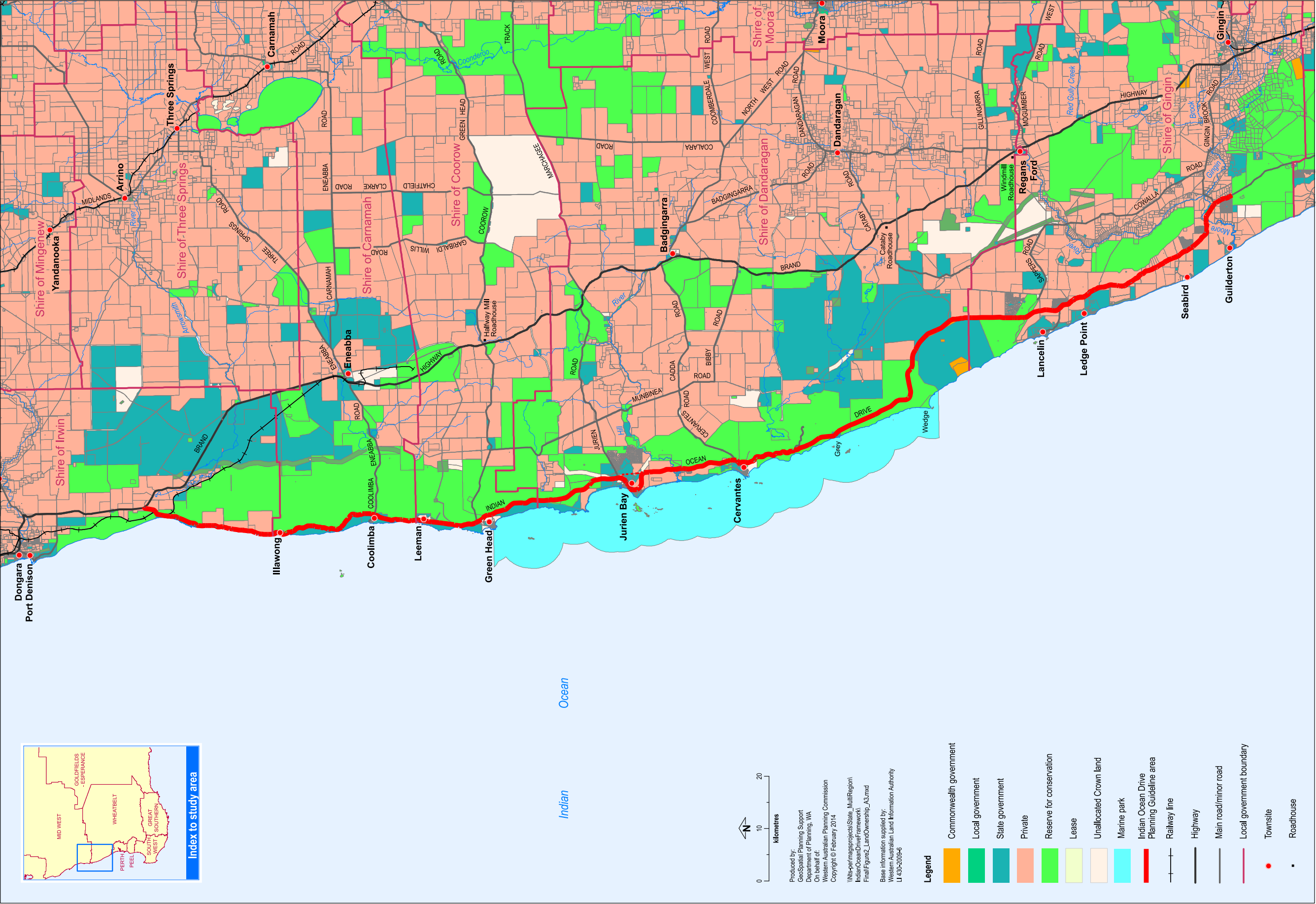


Figure 3: Indian Ocean Drive existing and approved services and facilities

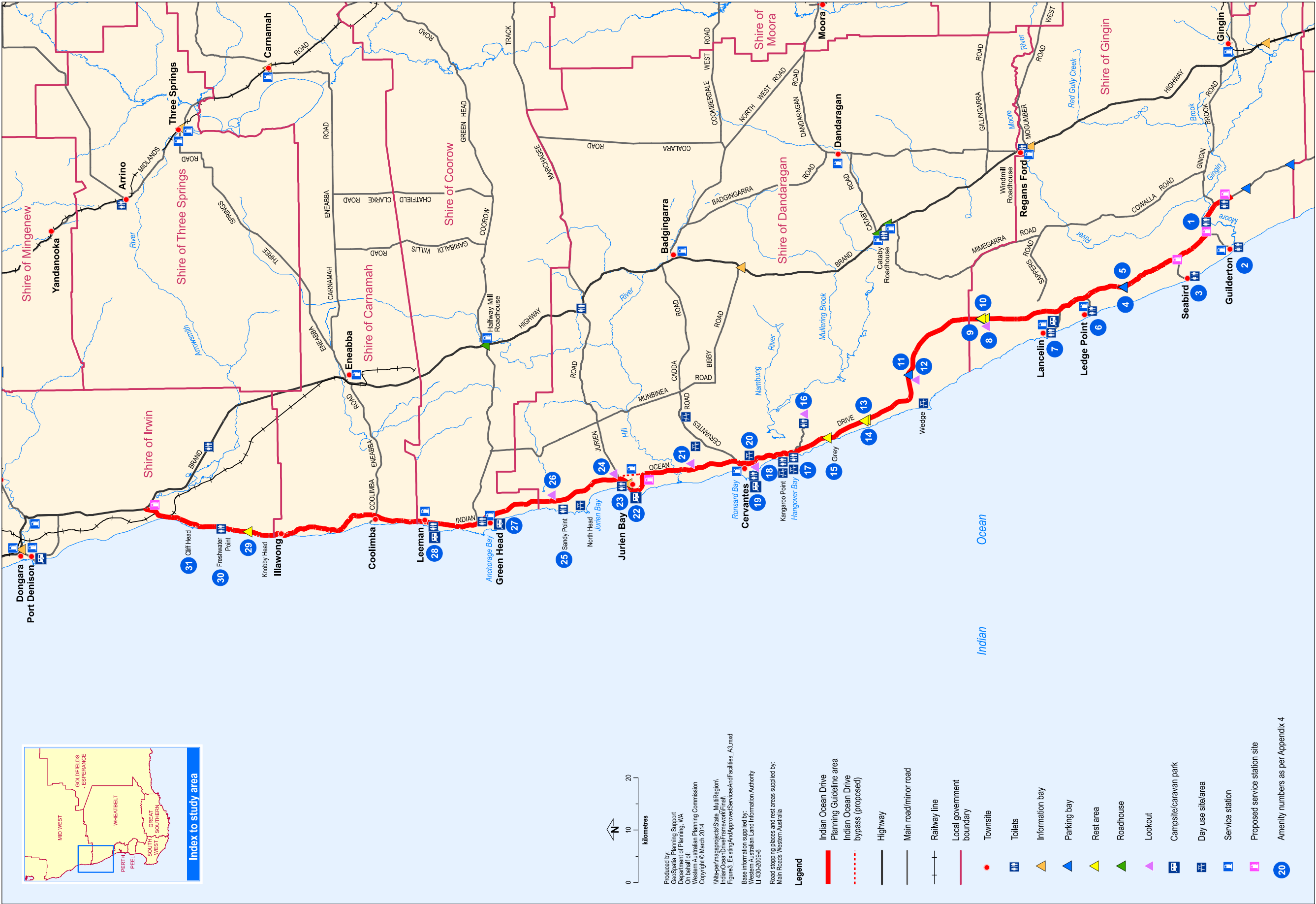




Figure 4: Indian Ocean Drive landscape character units

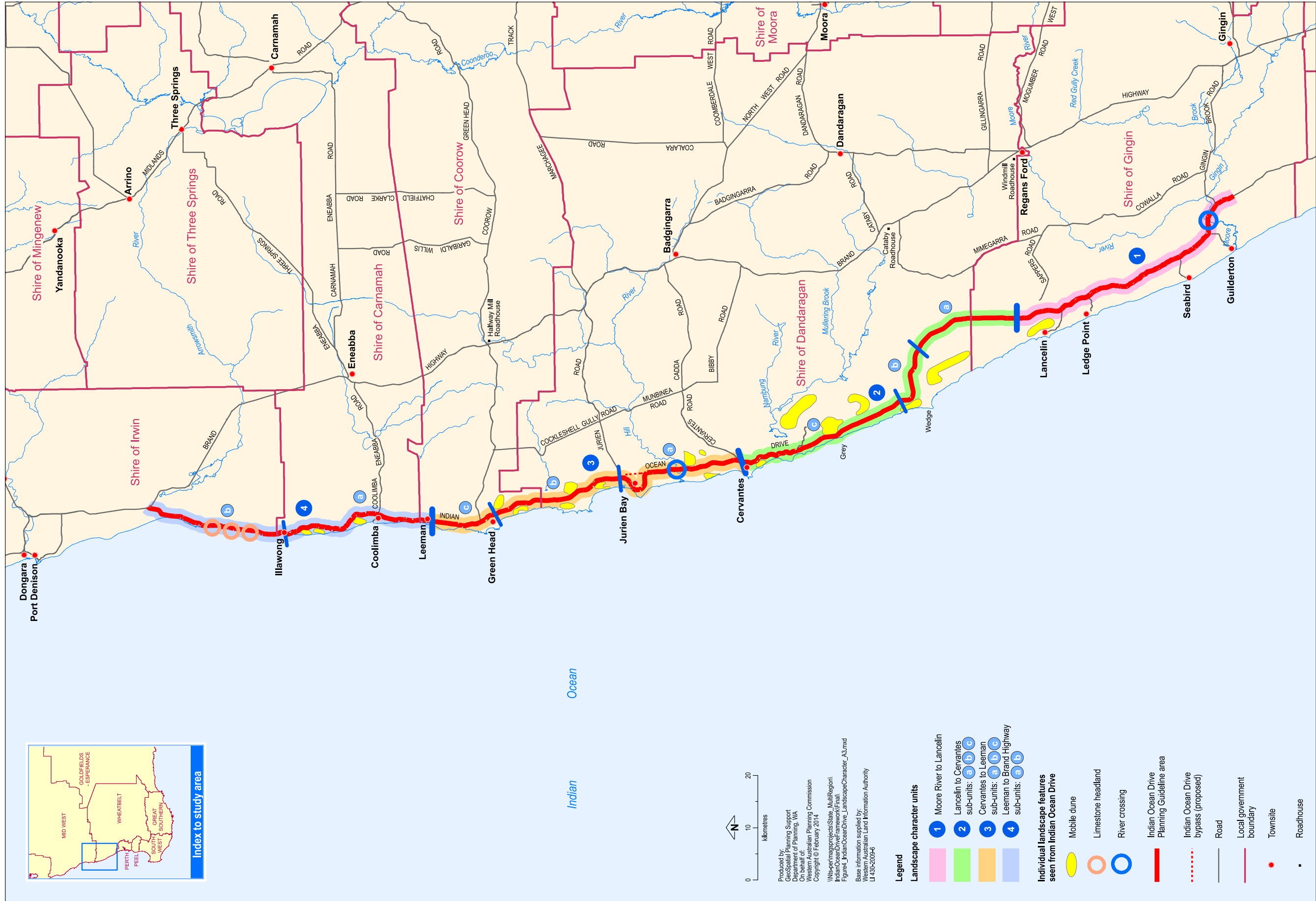


Figure 5: Indian Ocean Drive views

