Portland Industrial Land Strategy

Urban Design Assessment

Prepared by Urban Designs (Vic) & MacroPlan Dimasi for WSP Parsons Brinckerhoff, the Glenelg Shire Council & the State Government of Victoria

22 July, 2015
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Urban Designs (Vic) Pty. Ltd.
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Introduction

Scope of this study

Urban Designs (Vic) Pty Ltd in collaboration with MacroPlan Dimasi prepared the following Urban Design Assessment (UDA) as part of the Portland Industrial Land Assessment being prepared jointly with WSP Parsons Brinckerhoff (the Lead Consultant).

The UDA involved field investigations and desktop analysis prepared by specialists in the areas of:

- Land use economics
- Urban design
- Planning

The UDA focusses on areas identified as candidates for new industrial developments within the Portland study area.

The Portland study area is industrial zoned land within Portland’s north, west and south. Within this study area ten candidate precincts were identified for detailed analysis as part of the background investigations and this PEPA provides information specific to these areas.

The amount of industrial land in the study areas as determined by this report may differ slightly to that determined by other technical reports undertaken as part of this Strategy due to slight differences in methodology used. These differences will be reconciled upon review of all technical reports to achieve a uniform amount for later stages of the Strategy.

The candidate precincts were determined based on outcomes of initial discussions with Glenelg Shire Council, Regional Development Victoria (RDV) and key stakeholders.

General Approach

Part 1

In accordance with the scope of Task 12.4 (Urban Design Assessment), the UDA identifies, documents and assesses the implications of individual site and precinct characteristics, including:

- Physical features, including:
  - prevailing land uses;
  - nearby infrastructure;
  - transport networks; and
  - natural or man-made development constraints.

- A description of the interactions between the identified industrial areas within their context and surrounds.

- The inter-relationships between precincts and sites, with an examination of internal and external interfaces to key areas, such as:
  - residential land;
  - industrial-related infrastructure;
  - land with conservation significance;
  - activity centres;
  - public spaces; and
  - physical infrastructure like highways, rail and port areas.

Part 2

In accordance with the scope of Task 12.4 (Urban Design Assessment), the results of the UDA have been synthesized with the industrial land demand and supply assessment to illustrate the suitability of land for industrial development and other uses.

A list of recommendations concerning constraints, issues and opportunities for land use and development in Portland is presented reflecting the above synthesis.

Design options to minimise land use conflicts within industrial precincts and between industrial and non-industrial uses is presented using sketches, diagrams and maps.

- Initiatives to minimise land use conflicts within industrial precincts;
- Suggested buffer and interface treatments between industrial and nonindustrial uses;
- Identification of opportunities for connectivity through interface areas and within industrial precincts; and
- Confirming notional development and potential floor space areas in response to the economic assessment.

Details of opportunities for connectivity through interface areas and industrial precincts is provided.

Limitations

Parts 1 and 2 of this UDA have been prepared in large part independently and without detailed review of all other technical assessments including the Preliminary Environmental Planning Assessment (PEPA) prepared by WSP Parsons Brinckerhoff.
_Study Area_

The Portland study area is described as industrial zoned land within Portland’s north, west and south. This includes land within:

1. Portland township and surrounds;
2. Portland airport and surrounds;
3. Portland to Heywood corridor, adjacent to the Henty Highway; and

_Precincts_

Ten candidate precinct areas have been identified for detailed analysis as part of the background investigations for the Project.

The candidate precincts have been determined based on outcomes of initial discussions with Council, RDV and key stakeholders and through a review of relevant literature.

The ten selected candidate precincts are described in the table below. Further details of each precinct are contained in the maps overleaf.

<table>
<thead>
<tr>
<th>Precinct</th>
<th>Land Area (approx. gross hectares)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>660Ha</td>
<td>Includes predominantly Industrial 2 Zone (IN2Z) land located west and east of the national standard gauge railway line, north of Wilsons Road and Rural Conservation Zone – Schedule 2 (RCZ2) west of School Road. This precinct also contains areas of Public Park and Recreation Zone (PPRZ) and Public Use Zone 2 (PUZ2 - Education) land.</td>
</tr>
<tr>
<td>2</td>
<td>55Ha</td>
<td>Industrial 1 Zone (IN1Z) land and a small pocket of IN2Z land to the east of Henty Highway, north of Scott Street.</td>
</tr>
<tr>
<td>3</td>
<td>55Ha</td>
<td>Industrial 3 Zone (IN3Z) land east and west of the railway line, north of Francis Street and including IN3Z land between Percy Street and Otway Street.</td>
</tr>
<tr>
<td>4</td>
<td>20Ha</td>
<td>IN3Z and IN1Z land west of Madeira Packet Road.</td>
</tr>
<tr>
<td>5</td>
<td>930Ha</td>
<td>IN2Z land to the south of Portland including Portland Aluminium and land surrounding the Wannon Water Reclamation Plant (zoned Public Use Zone 1 (PUZ1) as well as the Farming Zone (FZ) buffer to the north.</td>
</tr>
<tr>
<td>6</td>
<td>30Ha</td>
<td>IN3Z land to the south of Wilsons Road, west of Henty Highway.</td>
</tr>
<tr>
<td>7</td>
<td>7,750Ha</td>
<td>Land within the Portland to Heywood corridor, including land west and east of the Henty Highway, zoned FZ, RCZ2, Rural Living (RLZ) and Public Conservation and Resource Zone (PCRZ).</td>
</tr>
<tr>
<td>8</td>
<td>2,400Ha</td>
<td>FZ land surrounding Portland Airport.</td>
</tr>
<tr>
<td>9</td>
<td>480Ha</td>
<td>RCZ land within Cape Nelson and surrounds.</td>
</tr>
<tr>
<td>10</td>
<td>7.5Ha</td>
<td>IN1Z land west of the Port of Portland.</td>
</tr>
</tbody>
</table>
Introduction
Introduction
Introduction
Part 1
Site & Precinct Characteristics
1. Site & Precinct Characteristics

1.1 Overview

The author provides the following general description of each of the study area nodes containing each of the precincts identified in this study.

1. Portland township and surrounds;
2. Portland airport and surrounds;
3. Portland to Heywood corridor, adjacent to the Henty Highway; and

General Remarks

Of the four study area nodes identified, only the Portland Township and its surrounds contains existing industrial land uses, and vacant (zoned) industrial land. The land use pattern of the established township of Portland possesses a range of land use conflicts due to:

- The presence of the Port of Portland and the nearby Incitec Pivot facility;
- Former industrial precincts and resultant land contamination;
- Encroachment on industrial zoned land and the Port area by residential development;
- Historic slow growth of general industrial use; and
- Land requirements for port-related uses, such as timber storage and treatment, truck-yards, etc.

The three nodes identified outside of Portland each possess opportunities for specific industrial uses to be accommodated. However, it is unlikely that demand for industrial zoned land in Portland will require that opportunities in all four study areas will be required.

1. Portland Township / Surrounds

The Portland township contains a number of established and former industrial precincts. The majority of established industrial areas have existing interfaces with residential uses, creating localised land use conflicts and road network issues.

Some areas of industrial zoned land within Portland township remain vacant as a result of former uses having ceased, and the site locations being inappropriate for a new industrial use.

To the north-west of the township, extensive areas of industrial land are available that is well suited to new development. The Portland Aluminium Smelter is located to the south, separated from the residential area in the south of the township by an extensive buffer area, which is zoned for farming.

2. Portland Airport / Surrounds

The Portland Airport and its surrounds presents a new opportunity for industry to locate within the airport precinct. This area is currently rural in nature, and is accessible via rural standard road links into the Portland Township to the east.

The precinct contains areas of environmental significance, generally in the south and west of the precinct, with some scattered vegetation throughout the more-cleared eastern sector.

3. Portland to Heywood Corridor

The Portland to Heywood corridor is a 29 kilometre long precinct that contains the Henty Highway and the national standard gauge railway line running through it between the two townships. A small industrial precinct is established at Heywood, and the corridor extends north from the existing industrial area in the north-west of Portland.

The corridor is currently rural in nature, with a mix of rural residential, agricultural and timber industry land uses. Woodland areas of environmental significance (including nature reserves and State forest) adjoin the corridor to the east and west, presenting significant bushfire risk to the corridor.

4. Cape Nelson & Surrounds

Cape Nelson is an isolated precinct that is currently occupied by livestock holding yards used in association with exports to the Port of Portland. The stockyards directly adjoin the Cape Nelson State Park, which contains significant tourism locations including the Greater Southern Walk and the Cape Nelson lighthouse.
1.2 Preliminary Planning & Environmental Analysis (PPEA)

WSP Parsons Brinckerhoff has prepared a Preliminary Environmental Planning Assessment (PEPA, 15 May, 2015) containing a series of technical assessments relating to:

- Planning and environment
- Cultural heritage due diligence
- Ecology
- Contamination
- Geotechnical
- Vacant land

The high level preliminary findings of each of these assessments are noted here and the general implications for future development of industrial land are discussed elsewhere in this assessment.

Planning, Land Use and Environmental Assessment

The Planning, Land Use and Environmental Assessment undertaken by WSP Parsons Brinckerhoff provides a summary of existing planning controls, land uses, key tenants and local context for each of the 10 nominated precincts.

The assessment indicates that there is a combination of port related industries, retail and commercial land use, heavy industry and light industry occupying land within many of the precincts, as well as residential uses, rural and farmland uses and public land.

The assessment notes that many of the precincts have known land use conflicts that should be addressed, including industrial/residential interfaces, contaminated land in established areas and areas of environmental significance.

Cultural Heritage

The Cultural Heritage Due Diligence Assessment identifies cultural heritage constraints (which apply to industrial zoned land) for all precincts with the exception of Precinct 3, 6 and 7. The constraints include the presence of cultural heritage features and legislated areas of Aboriginal Cultural Sensitivity.

Native title rights applies to land within the Portland study area including land within and adjacent to candidate Precincts 1, 3, 5, 7, 8 and 9.

Contamination

The Contaminated Land Assessment indicates Precincts 2 and 10 (which are largely developed), have been identified as containing a high proportion of sites which are potentially contaminated.

Parcels of land within Precinct 1, 3, 4, 5 have been identified as containing areas of land with a high potential for contamination.

Ecological

The Ecological Assessment demonstrates moderate to high risk areas of environmental significance are located within parts of Precinct 1, 5, 7, 8 and 9.

Precincts 2, 3, 4, 6, and 10 were found to be devoid of vegetation and suitable habitat for threatened species is unlikely to be present within these areas.

Geotechnical

A Geotechnical Desktop Study Report prepared by Parsons Brinckerhoff identifies a number of engineering and geology risks within the Portland study area including sinkholes, reactive soils, collapsible soils, weak soils, acid sulfate soils, variable ground, cliff instability and flooding. The mapping provided as part of the Geotechnical assessment shows that the key risks and locations are:

- Sinkholes – known sinkholes located along the coastline, north and south of the Port, applying to a large area of the Portland locality.
- Risk of subsidence – area within Portland’s centre and north is identified as containing soils with potential for subsidence.
- Acid sulfate soils (ASS) – potential ASS are identified with the area surrounding Fawthrop Lagoon and also along the coastline just east of the Portland study area boundary.
- Collapsible soils – identified along the coastlines within Cape Nelson, Cape Bridgewater and Cape Sir William Grant, extending to the area surrounding Portland’s airport.
- Reactive soils – identified within Portland’s centre and to the north.
- Weak soils – identified in the area surrounding Wattle Hill Creek, wetlands as well as the Cape Nelson Livestock assembly area.
- Flooding – identified as an issue for the area surrounding Wattle Hill Creek and Finn St Creek. Extensive flooding is observed at the confluence of these creeks, starting at Fawthrop Lagoon then spreading north as far north as Otway Street, and to the west, as far as Henty Highway.
1.3 Precinct Characteristics

Precinct 1

Precinct 1 includes predominantly Industrial 2 Zone (IN2Z) land located west and east of the national standard gauge railway line, north of Wilsons Road and Rural Conservation Zone – Schedule 2 (RCZ2) west of School Road. This precinct also contains areas of Public Park and Recreation Zone (PPRZ) and Public Use Zone 2 (PUZ2 - Education) land.

Prevailing Land Uses include industrial development, generally focused along Portland Nelson Road and Darts Road, which runs centrally through the precinct. A range of engineering, fabrication, warehousing and fertiliser manufacturing and storage businesses are located throughout the precinct, generally on larger allotments.

Large areas of vacant, zoned industrial land are located in the north-east sector and in the south of the precinct. A more recent industrial subdivision has commenced in the north of the precinct, fronting Westlakes Road.

Physical features include two large wetlands areas, located in the eastern sector, and immediately west of the railway line, south of Westlakes Road.

### Physical Features

<table>
<thead>
<tr>
<th>Item</th>
<th>Existing Conditions Description</th>
<th>Implications for future development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nearby Infrastructure</td>
<td>National Standard Gauge Rail Line, running north-south through the precinct.</td>
<td>The presence of the rail line creates opportunities for freight and logistics/port related uses to develop inter-modal infrastructure.</td>
</tr>
<tr>
<td>Road Network</td>
<td>Excellent access from the Henty Highway and Portland-Nelson Road, with secondary access from Darts Road, Westlakes Road and School Road.</td>
<td>The precinct is well placed to cater for increased industrial development, as the road network can accommodate heavy vehicle movements to and from main roads without causing amenity impacts on established residential areas.</td>
</tr>
<tr>
<td>Natural Constraints</td>
<td>Two large wetlands areas, located in the eastern sector, and immediately west of the railway line, south of Westlakes Road.</td>
<td>Large areas of undevelopable land, which will also require sensitive drainage strategies to be designed for adjacent land that is being developed.</td>
</tr>
<tr>
<td>Man Made Constraints</td>
<td>The Portland North Primary School is located on the eastern side of School Road.</td>
<td>The school is a significant constraint on land currently zoned for heavy industrial uses, as its presence prevents development of the land for its intended purpose.</td>
</tr>
</tbody>
</table>
1.3 Precinct Characteristics

**Precinct 1**

Inter-relationships between the precinct and surrounding areas:

- Precinct 6 adjoins this precinct at its southern boundary (being Wilsons Road). Precinct 6 is zoned IN3Z as an intended buffer area to Precinct 1, however this land is yet to be developed for any industrial use.
- Precinct 2 adjoins this precinct to the south-east, which is a largely established industrial precinct, generally with a smaller-lot subdivision pattern.
- Precinct 7 adjoins this precinct at its northern boundary (being Westlakes Road), and comprises rural allotments, with some dwellings on larger lots located close to Westlakes Road, creating potential interface issues for new industrial development in the north of the precinct.
- Rural residential areas adjoin the precinct to the north and west. These areas are a mix of agricultural/grazing properties and some larger residential dwellings, creating inconsistent interfaces.

Implications for future development of industrial land:

- Precinct 6 should be maintained as a buffer and/or transition area between the industrial zoned land and the low density residential land located further south.
- The south-east sector of Precinct 1 is developing as an expansion area from the more established Precinct 2. As such, there is no need for design treatments in terms of buffers or transition areas.
- Potential bushfire risk for land located within Precinct 7 to the north will require that measures are taken to ensure that any bushfire risk is contained within Precinct 7 and does not impact on the existing IN2Z land within Precinct 1.
1.3 Precinct Characteristics

**Precinct 1**

**Inter-relationships between sites and precincts**

**Site interdependencies**
- Internal Interfaces to established road and rail network
- External Interfaces to Precincts 2 and 6 to the south-east and south respectively, providing opportunity for consolidation of industrial uses. Precinct 7 adjoins Precinct 1 at its northern boundary.
- Industrial related infrastructure includes the existing rail line.
- Land with conservation significance potentially includes the two established wetland.
- Hard infrastructure includes the Henty Highway and Portland-Nelson Road.

**Precinct interdependencies**
- Abuts Precincts 2 and 6 to the south-east and south respectively, providing opportunity for consolidation of industrial uses.
- Abuts Precinct 7, potentially providing a logical expansion area for industrial uses.

**Legend**
- Future potential development area
- Land use barrier
- Road connections
- Adjacent precinct
- Green linkages and buffers
- Significant landscape features
- Non-industrial uses
1.3 Precinct Characteristics

**Precinct 2**

Precinct 2 includes Industrial 1 Zone (IN1Z) land and a small pocket of IN2Z land to the east of Henty Highway, north of Scott Street.

This precinct is a largely established industrial land precinct, which contains a number of older, vacant industrial buildings, as well as trucking yards and logistics business due to its location on the main trucking routes to the Port of Portland.

The main rail line through Portland runs through the precinct towards its northern end, and continues along its eastern boundary.

The precinct along contains some residential dwellings on industrial zoned land at its southern end.

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**Physical Features**

<table>
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<th>Item</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Nearby Infrastructure</td>
<td>National Standard Gauge Rail Line, running through the north of the precinct and along its eastern boundary.</td>
<td>Does not constrain development, however limited opportunities to utilise rail access due to insufficient land area.</td>
</tr>
<tr>
<td>Road Network</td>
<td>The precinct is bordered by the Henty Highway along its western boundary.</td>
<td>The precinct is likely to continue to be used for freight and logistics, given its main road location on the key route into the Port of Portland.</td>
</tr>
<tr>
<td>Natural Constraints</td>
<td>Nil.</td>
<td>N/A</td>
</tr>
<tr>
<td>Man Made Constraints</td>
<td>Existing dwellings are located within the industrial zoned land. Established residential areas are also located to the east of the precinct, separated by the railway line.</td>
<td>Reverse amenity controls may impact the ability to increase industrial activity within the precinct where interfaces with residential uses occur.</td>
</tr>
</tbody>
</table>
1.3 Precinct Characteristics

Precinct 2

Inter-relationships between the precinct and surrounding areas:

- Precinct 1 is located generally north-west of this precinct, and provides a logically area for similar type industrial uses to expand into.
- Precinct 6 is located west of this precinct, and currently contains only a service station located at the intersection of the Henty Highway and Wilsons Road. This IN3Z precinct does not currently contain any other industrial land uses.
- Precinct 3 is located east of this precinct, separated by a thin strip of residential zoned land. This precinct contains generally smaller scale industrial uses, and creates amenity issues for adjacent residential land by requiring truck movements through residential areas between precincts 2 and 3 to access it.

Implications for future development of industrial land:

- Precinct 2 is largely established, and with substantial greenfield industrial land available in close proximity to this site (in Precinct 1) redevelopment of existing buildings is unlikely.
- Given the established nature of the precinct, visual improvement to the Henty Highway “gateway” into Portland is more likely to occur with public realm/road reservation improvements, and is less likely through redevelopment within the precinct.
1.3 Precinct Characteristics

Precinct 2

Inter-relationships between sites and precincts

Site interdependencies

- Internal Interfaces to established road and rail network.
- External Interfaces to Precincts 1 and 6 to the north-west and west respectively, providing opportunity for consolidation of industrial uses.
- Industrial related infrastructure includes the existing rail line.
- Hard infrastructure includes the Henty Highway and Portland-Nelson Road.

Precinct interdependencies

- Abuts Precincts 1 and 6 to the north-west and west respectively, providing opportunity for consolidation of industrial uses.
1.3 Precinct Characteristics

Precinct 3

Precinct 3 includes Industrial 3 Zone (IN3Z) land east and west of the former railway land that runs through the precinct from north-west to south-east, and further industrial land north of Francis Street and including IN3Z land between Percy Street and Otway Street.

West of the railway line, there is a number of vacant land parcels, some low scale service industry and warehousing, and some residential dwellings within the IN3Z land. East of the railway line is a substantial area of vacant land, which was previously occupied by a fuel depot and truck yard.

The eastern area of the precinct is adjoined by commercial zoned land, and is largely developed with commercial and light industrial land uses.

Physical Features

<table>
<thead>
<tr>
<th>Item</th>
<th>Existing Conditions Description</th>
<th>Implications for future development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nearby Infrastructure</td>
<td>A former railway line runs through the precinct, which is currently not utilised.</td>
<td>If determined that the rail reservation will not be required in the future, this land area could be utilised as an open space linkage through the precinct.</td>
</tr>
<tr>
<td>Road Network</td>
<td>The precinct fronts on to Percy Street at its eastern boundary, the main road leading into the Portland Town Centre. Road access into the precinct is otherwise via the local street network.</td>
<td>Poor road access to the vacant industrial land in the precinct suggests that this land may not be suitable for industrial development.</td>
</tr>
<tr>
<td>Natural Constraints</td>
<td>Nil.</td>
<td>N/A</td>
</tr>
<tr>
<td>Man Made Constraints</td>
<td>Residential encroachment constrains development of the precinct for any substantial industrial land use.</td>
<td>Encroachment by residential uses is likely to impact the competitiveness of this land in comparison with relatively unconstrained broadhectare land located on the outskirts of Portland.</td>
</tr>
</tbody>
</table>
1.3 Precinct Characteristics

Precinct 3

Inter-relationships between the precinct and surrounding areas:

- Precinct 2 is located west of this precinct, which contains more traditional industrial, and freight and logistics land uses. Road linkages between these two precincts run through residential areas, creating adverse amenity impacts and limiting the attractiveness of Precinct 3 in comparison to other industrial land located north and west of Precinct 2.
- Precinct 3 is otherwise surrounded by residential land, impacting on its ability to accommodate industrial uses of any scale.

Implications for future development of industrial land:

- Buffer requirements and interface treatments with surrounding residential land is likely to impact on the competitiveness of this land with other less constrained greenfields locations.
- The former rail reservation forms a barrier through the centre of the precinct. Land located to the west contains more existing (though low scale) industrial uses which will take longer to transition out, should a rezoning from industrial take place.
1.3 Precinct Characteristics

**Precinct 3**

Inter-relationships between sites and precincts

**Site interdependencies**
- Internal Interfaces to established road and former rail corridor
- External Interfaces to Precinct 2 to the north-west, and established residential elsewhere.
- Hard infrastructure includes the established local road network, and land fronting Percy Street in the east of the precinct.

**Precinct interdependencies**
- Abuts Precinct 2 to the north-west.
- Development of vacant industrial land within Precinct 3 is significantly constrained by the established surrounding residential land.
1.3 Precinct Characteristics

Precinct 4

Precinct 4 includes IN3Z and IN1Z land west of Madeira Packet Road, generally located between Hislop Street and Cellana Court in the south. The land is surrounded by residential development to the north, west and south.

The Pivot facility is located east of this precinct across Madeira Packet Road, on land located in a Port Zone (PZ).

Industrial zoned land located around George Street and Cellana Court, generally in the south of the precinct is largely developed for light and service industrial uses. The balance of the precinct remains vacant.

Physical Features

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Nearby Infrastructure</td>
<td>The precinct is located proximate to the Port of Portland (to the north), and the Incitec Pivot facility to the east.</td>
<td>The future development potential of the vacant industrial land is unclear due to the immediately adjacent residential land. Potential rezoning of the land is constrained by nearby Port related uses.</td>
</tr>
<tr>
<td>Road Network</td>
<td>The precinct is accessed via Madeira Packet Road, providing convenient access directly into the port land.</td>
<td>Low scale port related uses may be attracted to this land, where they can operate with minimal impact on nearby residential areas.</td>
</tr>
<tr>
<td>Natural Constraints</td>
<td>Topography of the precinct prevents a direct link between this precinct and the PZ land.</td>
<td>The topography assists to some degree in creating a buffer between the Port and the nearby residential land, however issues related to dust and noise (from the Port) are likely to continue. As such, it is likely that there would be significant community opposition to any significant industrial development on the vacant IN3Z land.</td>
</tr>
<tr>
<td>Man Made Constraints</td>
<td>Residential encroachment.</td>
<td>Nearby residential land uses are likely to prevent the full potential of this precinct being realised for industrial development.</td>
</tr>
</tbody>
</table>
1.3 Precinct Characteristics

Precinct 4

Inter-relationships between the precinct and surrounding areas:

- The Incitec Pivot facility located east of this precinct requires that a buffer area be maintained (where possible) between that use and residential development.
- Nearby residential development will continue to constrain the potential for this precinct to be developed for any significant industrial activity.

Implications for future development of industrial land:

- Industrial development on the vacant land parcels in the north of the precinct is unlikely to occur at any scale given the residential interface to the west.
- The established industrial precinct is well placed between the Port of Portland and the Portland Aluminium Smelter, with many associated businesses located in this precinct.
1.3 Precinct Characteristics

Precinct 4

Inter-relationships between sites and precincts

Site interdependencies

- External Interfaces include the Incitec Pivot facility to the east and established residential land to the west.
- Industrial related infrastructure include Madeira Packet Road as the principal access.
- Hard infrastructure includes the Port of Portland, located immediately to the north.

Precinct interdependencies

- Precinct 4 is located between the Incitec Pivot facility to the east and established residential land to the west, which creates land use conflict that impacts the orderly development of this precinct.
1.3 Precinct Characteristics

**Precinct 5**

IN2 land to the south of Portland including Portland Aluminium, land surrounding the Wannon Water Reclamation Plant (zoned Public Use Zone 1 (PUZ1)), and Port Zoned land located at the Portland Quarry. There is a large buffer area (for the aluminium smelter) located within the Farming Zone (FZ) that separates that smelter from the established residential area to the north.

Madeira Packet Road and Quarry Road provide road connections to the north and north-west, linking the precinct with the major road network of Portland. The former airport site, located immediately north of Portland Aluminium is currently used for open-air storage.

Area of land surrounding the Portland Aluminium site are heavily vegetated, potential restricting the development potential of this land. Large vacant parcels of IN2Z land are located in the west of this precinct. This land continues to be used for grazing/agricultural purposes.

**Physical Features**

<table>
<thead>
<tr>
<th>Item</th>
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</thead>
</table>
| **Nearby Infrastructure** | • Portland Aluminium Smelter  
• Port of Portland/Portland Aluminium Conveyor  
• Wannon Water Reclamation Plant  
• Former Airfield Land  
• Portland Quarry               | The continued presence of the aluminium smelter will influence the ability for other development to locate within this precinct.  
In the longer term, potential exists for modern industrial uses with large water requirements to locate proximate to the Wannon Water plant. |
| **Road Network**       | Madeira Packet Road and Quarry Road provide convenient links to the north and north-west into Portland. | The precinct is located away from existing truck routes through Portland into the Port, potentially making it difficult for this land to compete with the significant supply of industrial land to the north-west of the town. |
| **Natural Constraints** | • Existing native vegetation.                                                                 | The significance of this vegetation will determine the developability of some large industrial zoned parcels within this precinct. |
| **Man Made Constraints** | • Portland Aluminium Smelter.                                                               | Significant buffer areas, controlled by Portland Aluminium may become available for some industrial development, subject to feasibility of bringing required infrastructure to this land. |
1.3 Precinct Characteristics

Precinct 5

Inter-relationships between the precinct and surrounding areas:

- This precinct is physically separated from the Portland township by the FZ buffer area for the Portland Aluminium Smelter.
- Established residential development to the north of the precinct potentially presents a constraint to significant industrial development taking place within the buffer area in the future.
- The existing smelter operation will continue to be linked with the Port of Portland, through both truck movements between the two precincts and the direct conveyor link that runs between them.

Implications for future development of industrial land:

- Industrial land uses with the Portland Aluminium buffer land (currently zoned FZ) could be considered, subject to these uses not creating adverse amenity issues with nearby residential land to the north.
- The large scale, vacant IN2Z parcels located in the west of the precinct are capable of accommodating significant industry.
1.3 Precinct Characteristics

Precinct 5

Inter-relationships between sites and precincts

Site interdependencies:
- External Interfaces include the Portland Golf Club, and nearby residential land along the northern edge of the precinct, and farming land to the west.
- Industrial related infrastructure includes the Portland Aluminium Smelter and associated buffer land.
- Land with conservation significance includes the coastline along the eastern and southern edges of the precinct, and some heavily vegetated parcels within.
- Public spaces include the Great Southern Walk, located along the coastline of this precinct and Bald Hill Recreation Reserve.
- Hard infrastructure includes Madeira Packet Road.

Precinct interdependencies:
- Precinct interdependencies include the Portland Golf Club, and nearby residential land along the northern edge of the precinct, and farming land and Bald Hill Recreation Reserve to the west.
1.3 Precinct Characteristics

Precinct 6

Precinct 6 includes IN3Z land to the south of Wilsons Road, and west of Henty Highway.

This precinct has not been developed for any industrial land uses. A fertiliser business operates from the property at the eastern end of the precinct, on the south-west corner of the Henty Highway and Wilsons Road.

Some residential dwellings remain on larger land parcels throughout the precinct.

The precinct is intended as a buffer area between the Industrial 2 Zone (IN2Z) land to the north of Wilsons Road and a residential precinct located to the south. The IN2Z land to the north is largely undeveloped.

Physical Features

<table>
<thead>
<tr>
<th>Item</th>
<th>Existing Conditions Description</th>
<th>Implications for future development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nearby Infrastructure</td>
<td>NIL</td>
<td>N/A</td>
</tr>
<tr>
<td>Road Network</td>
<td>The precinct extends west from the Henty Highway and Wilsons Road intersection, with all parcels have access available from Wilsons Road.</td>
<td>Once development of the industrial land to the north takes place, it is likely that lower order industrial uses would be attracted to this precinct that are suited to an industrial/residential interface.</td>
</tr>
<tr>
<td>Natural Constraints</td>
<td>Nil</td>
<td>N/A</td>
</tr>
<tr>
<td>Man Made Constraints</td>
<td>Residential interface to the south.</td>
<td>This is likely to impact on the competitiveness of this land until the less-constrained industrial land to the north is exhausted, noting that there is extensive supply currently available.</td>
</tr>
</tbody>
</table>
1.3 Precinct Characteristics

Precinct 6

Inter-relationships between the precinct and surrounding areas:

- This precinct is intended as a buffer area between industrial land to the north of Wilsons Road and residential land south of the precinct, reflected in the IN3Z applied to the land.

Implications for future development of industrial land:

- When required for development, this land will need to incorporate a setback and appropriate interface treatments to the low density residential land located to the south.
- Given this constraint, it is unlikely that this land would be taken up for development until substantial industrial development has occurred within Precinct 1 to the north, which is less constrained in some areas.
1.3 Precinct Characteristics

Precinct 6

Inter-relationships between sites and precincts

Site interdependencies:
- Internal Interfaces to established road network including the Henty Highway to the east and Wilsons Road.
- External Interfaces to Precincts 1 and 2 to the north and east respectively, providing opportunity for consolidation of industrial uses, and transition to established residential area to the south.
- Land with conservation significance potentially includes the ephemeral creek corridor along the southern edge of the precinct.
- Hard infrastructure includes the Henty Highway and Wilsons Road.

Precinct interdependencies:
- Abuts Precincts 1 and 2 to the north and east respectively, providing opportunity for consolidation of industrial uses, and provision of buffer to the south.
1.3 Precinct Characteristics

Precinct 7

Precinct 7 refers to land within the Portland to Heywood corridor, including land west and east of the Henty Highway, zoned FZ, RCZ2, Rural Living (RLZ) and Public Conservation and Resource Zone (PCRZ). Two industrial zoned precincts are located in Heywood at the northern end of the corridor.

This precinct is approximately 7,750Ha in size. The corridor is used for a range of semi-industrial purposes, as well as agricultural and rural residential land uses.

The precinct adjoins Precinct 1 at its southern boundary, and potential presents a future expansion area to Precinct 1 (in the long term) once this industrial supply is exhausted.

A range of uses suited to a rural environment such as the timber industry (chipping, storage and processing sites) have sought to locate in this corridor.

<table>
<thead>
<tr>
<th>Item</th>
<th>Existing Conditions Description</th>
<th>Implications for future development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nearby Infrastructure</td>
<td>• National standard gauge rail line &lt;br&gt;• SP Ausnet electrical substation</td>
<td>Opportunities potentially exist for large scale land uses, such as inter-modal facilities to locate within this corridor in order to access the railway corridor.</td>
</tr>
<tr>
<td>Road Network</td>
<td>The Henty Highway runs north-south through the precinct.</td>
<td>The Henty Highway is the major road access into Portland, making this corridor potentially attractive to transport related industries with large land requirements.</td>
</tr>
<tr>
<td>Natural Constraints</td>
<td>Areas of significant native vegetation are located along the eastern and western side of the corridor, presenting biodiversity and bushfire risks to land in the corridor.</td>
<td>Potential biodiversity and bushfire risk throughout the corridor could potentially impact on the development potential of land throughout the corridor.</td>
</tr>
<tr>
<td>Man Made Constraints</td>
<td>Rural residential development throughout the corridor.</td>
<td>The presence of existing residential properties throughout the corridor could impact on the ability for some industries to operate in close proximity.</td>
</tr>
</tbody>
</table>
1.3 Precinct Characteristics

**Precinct 7**

Inter-relationships between the precinct and surrounding areas:

- Precinct 7 is located immediately north of Precinct 1, which consists of existing zoned industrial land to the north-west of Portland.
- The township of Heywood is located at the northern end of the corridor, and contains two small industrial precincts that are currently underutilised.
- Areas of extensive native vegetation along the eastern and western sides of the corridor present biodiversity and bushfire risks to the developability of land within the corridor itself.

Implications for future development of industrial land:

- The southern end of this large investigation area is potentially a future expansion area of Precinct 1 to the south. The requirement for this land and likely timing of take-up is yet to be determined.
- Opportunities for development throughout the corridor will be subject to site specific investigations to determine impact on existing residential properties, landscape impacts and potential bushfire risk.
- Opportunities for development of industrial zoned land at Heywood should be encouraged where it can take advantage of rail and/or road links into the Port of Portland.
1.3 Precinct Characteristics

Precinct 7

Inter-relationships between sites and precincts

Site interdependencies

- Some internal interfaces to established woodland areas with significant bushfire risk.
- Existing Heywood industrial precinct in the north of the corridor services Heywood township.
- External interfaces to Precinct 1 and potentially provides a logical, modest expansion area for industrial uses.
- Industrial related infrastructure includes the existing rail line.
- Land with conservation significance includes surrounding native bushland and plantations.
- Hard infrastructure includes the Henty Highway (running north-south) and the Princes Highway to the east.

Precinct interdependencies

- Abuts Precinct 1, and potentially provides a logical, modest expansion area for industrial uses.
1.3 Precinct Characteristics

Precinct 8

Precinct 8 refers to FZ land surrounding Portland Airport. The investigation area is approximately 2,400Ha in size.

Land surrounding the airport is generally used for grazing, agriculture and plantations, with some rural residential properties.

The precinct could potentially accommodate commercial/industrial operations that link with the airport operations, such as freight and logistics or export-based agriculture.

Physical Features

<table>
<thead>
<tr>
<th>Item</th>
<th>Existing Conditions Description</th>
<th>Implications for future development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nearby Infrastructure</td>
<td>Portland Airport.</td>
<td>Opportunities exist for industrial type activities that may benefit from locating in close proximity to the airport, which may be attracted to Portland due to the presence of the Port.</td>
</tr>
<tr>
<td>Road Network</td>
<td>Heath Road, providing access into the Portland township to the east.</td>
<td>Heath road provides a direct route into Portland, however is not currently a part of the primary freight routes in and around Portland, which may deter potential industrial tenants.</td>
</tr>
<tr>
<td>Natural Constraints</td>
<td>Native vegetation (with some commercial plantations) located generally south and west of the airport.</td>
<td>Large areas of land within the precinct are constrained by commercial plantations or existing native vegetation, however extensive land areas remain within the precinct that are relatively unconstrained.</td>
</tr>
<tr>
<td>Man Made Constraints</td>
<td>Airport flightpaths.</td>
<td>Development under existing flightpaths for Portland Airport will be restricted in terms of potential building height and materials.</td>
</tr>
</tbody>
</table>
1.3 Precinct Characteristics

Precinct 8

Inter-relationships between the precinct and surrounding areas:

- The precinct is separated from the township of Portland, and is surrounded by rural land within the Farming Zone.
- Whilst road connections to the Airport are direct, it is not located on existing primary freight routes which may impact on competitiveness of this land, other than for specific businesses attracted to a location with the airport.

Implications for future development of industrial land:

- Development opportunities in the Portland Airport precinct should be encouraged, and are likely to be driven by specific business opportunities seeking a location proximate to both an airport and a port.
- Rezoning of appropriate land parcels proximate to the airport terminal buildings will allow for approvals for these opportunities to be facilitated.
1.3 Precinct Characteristics

Precinct 8

Inter-relationships between sites and precincts

Site interdependencies
- Internal Interfaces include Portland Airport and surrounding farming, bushland and plantations.
- External Interfaces include surrounding farming, bushland and plantations.
- Industrial related infrastructure includes the Portland Airport.
- Land with conservation significance includes existing native bushland generally in the south and south-west of the precinct.
- Hard infrastructure includes established rural road network.

Precinct interdependencies
- Includes surrounding farming, bushland and plantations which creates significant bushfire risk.

Legend
- Future development area
- Land use barrier
- Road connections
- Green linkages
- Discrete entry points to sub precinct
1.3 Precinct Characteristics

Precinct 9

Precinct 9 refers to RCZ and PPRZ land within Cape Nelson and surrounds. This is a 480Ha precinct that is currently used for livestock holding/assembly in association with livestock experts through the Port of Portland.

The precinct is surrounded by the Cape Nelson State Park at its southern, eastern and western boundaries. Some land within the precinct itself also contains native vegetation, potentially restricting any development potential. The precinct currently operates under a unique statutory planning mechanism to ensure appropriate site management.

<table>
<thead>
<tr>
<th>Item</th>
<th>Existing Conditions Description</th>
<th>Implications for future development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nearby Infrastructure</td>
<td>Existing stockyards infrastructure within the precinct.</td>
<td>A current proposal exists to expand the existing stockyards within the precinct.</td>
</tr>
<tr>
<td>Road Network</td>
<td>Cape Nelson Road provides a direct link into Portland, to the north-east of the precinct.</td>
<td>Potential conflict could occur between increases to freight movements through this precinct and traffic movements to the Cape Nelson Lighthouse tourism area located at the southern end of the precinct.</td>
</tr>
<tr>
<td>Natural Constraints</td>
<td>Cape Nelson State Park adjoins the precinct to the south, east and west.</td>
<td>Any increase on intensity of use of this land could impact on adjacent environmentally significant areas.</td>
</tr>
<tr>
<td>Man Made Constraints</td>
<td>The Cape Nelson Lighthouse tourism area is located south of the precinct (at the southern end of Cape Nelson).</td>
<td>As discussed above, potential conflict could occur between increases to the intensity of use of this land and the Cape Nelson Lighthouse tourism area and the Great Southern Walk, located at the southern end of the precinct.</td>
</tr>
</tbody>
</table>
1.3 Precinct Characteristics

Precinct 9

Inter-relations between the precinct and surrounding areas:

- The precinct adjoins the Cape Nelson State Park, which contains the Greater Southern Walk and the Cape Nelson Lighthouse tourist precincts.
- Cape Nelson Road provides access to the existing stockyards for heavy vehicles, as well as being the tourist route to the lighthouse precinct in the south of the Cape.
- Rural farming land is located to the east of the precinct.

Implications for future development of industrial land:

- This precinct is currently not utilised for general industrial activity and has no relationship with established industrial precincts or freight routes (with the exception of livestock movements to the precinct and to the Port of Portland).
- Any introduction of general industrial activities would alter the role and function of Cape Nelson Road and potentially have visual amenity impacts on areas of tourism and landscape significance.
1.3 Precinct Characteristics

**Precinct 9**

**Inter-relationships between sites and precincts**

**Site interdependencies**
- Internal Interfaces includes Cape Nelson Road and the surrounding bushland of the Cape Nelson coastline.
- External Interfaces to the Cape Nelson coastline, and Cape Nelson State Park, and existing farming land to the east.
- Land with conservation significance includes the Cape Nelson coastline and Cape Nelson State Park, and potentially existing farming land to the east.
- Hard infrastructure includes the existing rural road network, including Cape Nelson Road.

**Precinct interdependencies**
- Includes the Cape Nelson coastline, Cape Nelson State Park, and existing farming land to the east, which potentially presents bushfire risk.
1.3 Precinct Characteristics

**Precinct 10**

Precinct 10 refers to IN12 land west of the Port of Portland, fronting onto the Henty Highway. This precinct is 7.5Ha in size, and is largely established with industrial and port related uses including timber handling, maintenance, truck-yards and warehousing.

The Canal Court hardstand storage area is located to the north of the precinct, adjacent to the port rail link and the Henty Highway.

Established residential development adjoins the precinct to the south, east and west.

<table>
<thead>
<tr>
<th>Item</th>
<th>Existing Conditions Description</th>
<th>Implications for future development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nearby Infrastructure</td>
<td>The direct rail link into the Port of Portland is located immediately north of the precinct, across the Henty Highway.</td>
<td>The precinct is likely to continue to operate in its current fashion, providing a location for port-related industry in a convenient location to the Port of Portland and associated railyards.</td>
</tr>
<tr>
<td>Road Network</td>
<td>The precinct is directly accessed by the Henty Highway.</td>
<td>The location of this precinct along the Henty Highway will ensure it remains an important location for port-related industry.</td>
</tr>
<tr>
<td>Natural Constraints</td>
<td>Nil</td>
<td>N/A</td>
</tr>
<tr>
<td>Man Made Constraints</td>
<td>Residential development adjacent.</td>
<td>The industrial-residential interface will restrict the range of industrial uses that can be accommodated in the precinct.</td>
</tr>
</tbody>
</table>
1.3 Precinct Characteristics

Precinct 10

Inter-relationships between the precinct and surrounding areas:

• The Port of Portland and associated storage areas, and the direct rail link are located north and east of this precinct.
• Established residential areas adjoin this precinct at its southern, eastern and western boundaries.

Implications for future development of industrial land:

• This largely established precinct will continue to play an important role in providing land for industries associated with the Port of Portland.
• Surrounding residential land will need to be taken into account when considering redevelopment opportunities within Precinct 10.
1.3 Precinct Characteristics

Precinct 10

Inter-relationships between sites and precincts

Site interdependencies

- External Interfaces include the Henty Highway and Port of Portland along the northern precinct boundary, established residential to the east and south, and Burswood Homestead and gardens to the west.
- Industrial related infrastructure includes the Port of Portland to the north.
- Public spaces include Burswood Homestead and gardens, and Portland RSL Memorial Bowling Club.
- Hard infrastructure includes the Henty Highway and the freight rail line of the Port of Portland.

Precinct interdependencies

- Includes the Henty Highway and Port of Portland along the northern precinct boundary, established residential to the east and south, and Burswood Homestead and gardens to the west which impacts on industrial activities within the precinct.
Part 2
Land Suitability Assessment
2_Land Suitability Assessment

2.1_Overview

This section synthesizes the results of the UDA and the industrial land demand and supply assessment to illustrate the suitability of land for industrial development and other uses.

A list of recommendations concerning constraints, issues and opportunities for land use and development in Portland is presented reflecting the above synthesis.

Design options to minimise land use conflicts within industrial precincts and between industrial and non-industrial uses is presented in this section using high level sketches, diagrams and maps.

Options include:

- Initiatives to minimise land use conflicts within industrial precincts;
- Suggested buffer and interface treatments between industrial and nonindustrial uses;
- Identification of opportunities for connectivity through interface areas and within industrial precincts; and
- Confirming notional development and potential floor space areas in response to the economic assessment.

Details of opportunities for connectivity through interface areas and industrial precincts is provided.

2.2 Synthesis of UDA / Economic Assessment

UDA

Analysis of the 10 precincts identified for this investigation demonstrates there is a large amount of potentially developable industrial land. The precincts have a range of constraints and interface issues, however these issues can generally be resolved if it is determined that the land is required for industrial purposes.

Some precincts identified for assessment are largely established, and will not contribute to the future potential supply of industrial land for growth. Not all precincts are considered suitable for all general industrial uses.

Many precincts currently zoned for future industrial development have interfaces with established residential areas. These precincts have the opportunity to incorporate interface treatments, such as setbacks and landscaping to ensure adverse amenity impacts are minimised when this land is developed.

The combined area of Precincts 1, 2, 4 and potentially Precinct 7 is likely to be a focus for industrial development for Portland going forward. Interfaces between these precincts, and ensuring appropriate connections are created will be important to ensure efficient use of land.

It has been determined through this assessment that Precinct 9 is not suitable for industrial development.

Economic Assessment

The Economic Assessment undertaken for Portland has found that existing zoned industrial land supply in Portland is more than sufficient to cater for forecast demand.

The Greater Portland Study Area has 1,092ha of industrial zoned land, 53.5% of which is vacant or under-occupied. The Portland-Heywood Infrastructure Corridor has 38.6ha of industrial zoned land, 77.2% of which is vacant or under-occupied.

Population and employment levels in Portland have remained stagnant in recent years, and many industries which occupy industrial zoned land have been in decline for some time.

There is an oversupply of industrial zoned land in Portland in its current form. Any negative ‘shocks’ to the economy that occur are likely to exacerbate this oversupply.

The PILS must review whether planning reforms or other intervention will lead to increased occupancy of industrial land in Portland.

Without any changes in investment activity among enterprises located in Portland seeking industrial land; or businesses within the wider Portland and Glenelg regional supply chain, the forecast is for stagnation in the consumption of industrial land in Portland.
2_Land Suitability Assessment

2.3 Suitability of land for industrial development and other uses

Based on the above synthesis of the UDA and industrial demand and supply assessment, the following table discusses the suitability of land for industrial development and other uses and highlights the implications for future development and delivery of industrial land to market.

<table>
<thead>
<tr>
<th>Item</th>
<th>Suitability for industrial development</th>
<th>Implications for future development and delivery of industrial land to market</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precinct 1</td>
<td>• 5: The majority of land within the precinct is well suited to industrial development. Some localised interface issues currently exist, however the precinct contains sufficient developable land to cater for the majority of the industrial land requirement of Portland.</td>
<td>• This precinct is likely to continue to be the focus of new industrial development for the foreseeable future.</td>
</tr>
<tr>
<td>Precinct 2</td>
<td>• 4: This precinct is largely established on the key road entrance to Portland. Some interface issues exist with adjacent residential development.</td>
<td>• This precinct provides a desirable location for industry, however is largely established and occupied, with the exception of some older buildings located in the northern end of the precinct. With the availability of land in nearby Precinct 1, redevelopment of sites within Precinct 2 is considered unlikely.</td>
</tr>
<tr>
<td>Precinct 3</td>
<td>• 1: Land use conflicts exist between the existing industrial land and surrounding residential areas.</td>
<td>• Given existing land use conflicts, it is unlikely that this land will be attractive to the industrial land market in the future.</td>
</tr>
<tr>
<td>Precinct 4</td>
<td>• 3: The established industrial precinct serves an important role for businesses seeking to locate close to the Port and Portland Aluminium. Further development of the vacant land however is constrained by adjacent residential.</td>
<td>• Future development of the vacant land within this precinct is constrained by adjacent residential development to the west. Availability of alternative industrial land in proximity to this precinct (e.g. Portland Aluminium buffer land to the south) would likely alleviate any requirement for this land to be developed.</td>
</tr>
<tr>
<td>Precinct 5</td>
<td>• 5: Precinct is ideally suited to major/heavy industry that require a significant buffer to residential, as this area already exists for the Portland Aluminium Smelter.</td>
<td>• Large, vacant industrial land parcels in this precinct could be set aside for specific industrial uses that are land intensive and require significant buffers (both on and off their site).</td>
</tr>
<tr>
<td>Precinct 6</td>
<td>• 3-4: Land is generally unconstrained for light industrial uses, consistent with the IN3Z that applies to this precinct.</td>
<td>• This precinct is unlikely to be required until significant development occurs in the large Precinct 1 to the north.</td>
</tr>
<tr>
<td>Precinct 7</td>
<td>• 2-3: with potentially opportunities for localised expansion at Haywood and expansion of precinct 1.</td>
<td>• Long term potential exists for a northern expansion of Precinct 1 into the southern end of this precinct, should it be required.</td>
</tr>
<tr>
<td>Precinct 8</td>
<td>• 3: Land surrounding the Portland Airport is generally unconstrained for industrial uses subject to appropriate safeguarding of future airport operations.</td>
<td>• Industrial development within this precinct is likely to suit unique/specific industries that would benefit from proximity to both an airport and a port.</td>
</tr>
<tr>
<td>Precinct 9</td>
<td>• Precinct 9 is remote and has no relation to existing pattern of industrial precincts or existing freight routes.</td>
<td>• No impact.</td>
</tr>
<tr>
<td>Precinct 10</td>
<td>• 3-4: subject to industrial uses being directly related to the Port of Portland.</td>
<td>• Precinct is largely established and complements the Port of Portland.</td>
</tr>
</tbody>
</table>

A scorecard for each of the above characteristics has then been applied to each of the precincts identified using a score from 1 to 5, where 1 is low and 5 is high.

- Low - (mainly 1,2) = low level of observed conditions relating to the criteria.
- Medium - (3,4) = moderate level of observed conditions relating to the criteria.
- High - (mostly 5) = high level of observed conditions relating to the criteria.
## 2.4 Recommendations concerning constraints, issues and opportunities

A list of recommendations concerning constraints, issues and opportunities for land use and development in Portland is presented below.

<table>
<thead>
<tr>
<th>Item</th>
<th>Issues, Opportunities, Risks</th>
<th>Recommended Urban Design Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precinct 1</td>
<td>• Precinct 1 has direct interfaces with precincts 2, 6 and 7.</td>
<td>• Maintain existing landscape buffer to western rural conservation area.</td>
</tr>
<tr>
<td></td>
<td>• Lack of coordinated approach to Portland urban boundary, including existing industrial use.</td>
<td>• Establish defined urban boundary at Precinct 1 and 7 interface.</td>
</tr>
<tr>
<td></td>
<td>• Existing wetlands and wildlife habitat impact development potential.</td>
<td>• Maintain and enhance wetlands and wildlife habitats and explore connections to coastline.</td>
</tr>
<tr>
<td></td>
<td>• Existing rail line dissects Precinct 1.</td>
<td>• Improve rail line interface and explore a new grade separated crossing.</td>
</tr>
<tr>
<td></td>
<td>• Henty Highway forms a barrier between Precinct 1 and Precinct 2.</td>
<td>• Consolidate and improve connections between precincts at the intersection of Henty Highway and Wilsons Road.</td>
</tr>
<tr>
<td>Precinct 2</td>
<td>• Precinct is substantially developed.</td>
<td>• New landscape buffer required to eastern residential interface.</td>
</tr>
<tr>
<td></td>
<td>• Established residential land impacts industrial uses.</td>
<td>• Consolidate and improve connections between precincts along Henty Highway and along rail corridor.</td>
</tr>
<tr>
<td>Precinct 3</td>
<td>• Established residential land impacts industrial uses.</td>
<td>• New landscape buffer required to all residential interfaces.</td>
</tr>
<tr>
<td></td>
<td>• Former rail corridor underutilised.</td>
<td>• Consolidate and improve connections to Precinct 2 potentially along former rail corridor.</td>
</tr>
<tr>
<td>Precinct 4</td>
<td>• Established residential land impacts industrial uses.</td>
<td>• New landscape buffer required to western residential interface.</td>
</tr>
<tr>
<td></td>
<td>• Existing conflict between industrial and residential traffic.</td>
<td>• Restrict traffic movements between industrial and residential areas.</td>
</tr>
<tr>
<td>Precinct 5</td>
<td>• Existing Portland Aluminium Smelter impacts on visual amenity of coastline.</td>
<td>• Improve screen planting proximate to core smelter buildings.</td>
</tr>
<tr>
<td></td>
<td>• Status of Portland Aluminium buffer area is unclear.</td>
<td>• Determine potential future buffer area uses.</td>
</tr>
<tr>
<td>Precinct 6</td>
<td>• Existing land is underdeveloped with existing residential uses to the south.</td>
<td>• New landscape buffer required to southern residential interface.</td>
</tr>
<tr>
<td></td>
<td>• Precinct 6 has direct interfaces with precincts 1 and 2.</td>
<td>• Consolidate and improve connections between precincts.</td>
</tr>
<tr>
<td>Precinct 7</td>
<td>• Established woodlands create bushfire risk.</td>
<td>• New industrial should be located away from existing woodlands.</td>
</tr>
<tr>
<td></td>
<td>• Lack of coordinated approach to Portland urban boundary, including existing industrial use.</td>
<td>• Establish defined urban boundary at Precinct 1 and 7 interface.</td>
</tr>
<tr>
<td>Precinct 8</td>
<td>• Viability of Portland Airport must be maintained.</td>
<td>• Provide appropriate protection for airport operations.</td>
</tr>
<tr>
<td></td>
<td>• Established woodlands create bushfire risk.</td>
<td>• New industrial should be located away from existing woodlands.</td>
</tr>
<tr>
<td>Precinct 9</td>
<td>• Land is not suitable for industrial development</td>
<td>• N/A</td>
</tr>
<tr>
<td>Precinct 10</td>
<td>• Precinct is fully developed.</td>
<td>• N/A</td>
</tr>
</tbody>
</table>
2.5 Design Options

Design options to minimise land use conflicts within industrial precincts and between industrial and non-industrial uses is presented in this section using high level sketches, diagrams and maps.

Options include:

- Initiatives to minimise land use conflicts within industrial precincts;
- Suggested buffer and interface treatments between industrial and non-industrial uses;
- Identification of opportunities for connectivity through interface areas and within industrial precincts; and
- Confirming notional development areas in response to the economic assessment.

Details of opportunities for connectivity through interface areas and industrial precincts is provided.
2_Land Suitability Assessment

Precinct 1 Recommendations

- Initiatives to minimise land use conflicts within industrial precincts include improvements to the rail line interface and access.
- Buffer and interface treatments between industrial and non-industrial uses may include maintaining residential buffer to the west, and improving roadside vegetation to Henty Highway.
- Opportunities for connectivity through interface areas and within industrial precincts includes connections between Precinct 1 to precincts 2, 6 and 7.
- Notional development area is approximately 300Ha.
2_Land Suitability Assessment

Precinct 2 Recommendations

- New landscape buffers to existing residential land on eastern boundary.
- Explore new roadside landscaping to Henty Highway.
- Improve connections along existing rail line to link Precincts 1 and 3.
- Infill development opportunities are encouraged.
2_Land Suitability Assessment

Precinct 3 Recommendations

- New landscape buffers to existing residential land on all boundaries.
- Explore new local street planting including Perry Street landscape upgrade.
- Improve open-space connections along former rail line to link Precinct 2.
- Infill development opportunities only.
2_Land Suitability Assessment

Precinct 4 Recommendations

- No initiatives to minimise land use conflicts within industrial precincts are required.
- Buffer and interface treatments between industrial and non-industrial uses includes a new residential buffer to the west.
- Restrict vehicular access between industrial and residential to the west.
- Notional development area is approximately 10 hectares.
### Precinct 5 Recommendations

- Improve screen planting proximate to core smelter buildings to enhance coastline interface.
- Establish potential buffer area uses to determine extent of future industrial growth.
- Upgrade intern access road network.
2_Land Suitability Assessment

Precinct 6 Recommendations

- Maintain existing landscape buffer to western rural conservation area.
- Maintain and enhance drainage line and creek corridor connecting the rural conservation zone to the industrial precincts.
- Consolidate and improve connections between precincts at the intersection of Henty Highway and Wilsons Road.
- Create new buffer and interface treatment to existing residential to the south.
- Notional development area is 16Ha.
2_Land Suitability Assessment

Precinct 7 Recommendations

- Preserve and enhance significant woodlands and farming land as appropriate.
- New industrial should be located away from existing woodlands.
- Establish defined Portland township urban boundary at Precinct 1 and 7 interface.
- Industrial land expansion should be limited to low impact/land intensive uses.
2_Land Suitability Assessment

Precinct 8 Recommendations

- Existing woodlands minimise potential land use conflicts.
- Ensure appropriate aviation buffer to Portland Airport and provide perimeter buffers to north and east of potential industrial land.
- New internal local road network required to access potential industrial land.
- Notional development area is approximately 250Ha.
2_Land Suitability Assessment

Precinct 9 Recommendations

- Land is not considered suitable for industrial development.
- As a result, an opportunity exists to enhance the tourism experience through improvements to the coastal landscape in and around Point Nelson.
2_Land Suitability Assessment

Precinct 10 Recommendations

- The precinct is substantially developed with an opportunity for infill development only in the order of 2Ha.
- Introduce new noise buffer and landscape interface treatment to surrounding existing residential land.
- Opportunity for enhanced connectivity along Henty Highway to Port of Portland.