

# Chapter 10: Site Access and Traffic Management

Site Access and Traffic Management

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## 10. Site Access and Traffic Management

This chapter provides a description of the predicted traffic movements during both the construction and operational phases of the wind farm, the suitability of the existing roads and structures and the consultation process undertaken as part of the assessment. Proposed traffic management measures are also outlined.

This chapter will form the basis of a full Traffic Management Monitoring Plan (TMMP) that will be prepared in conjunction with detailed design for implementation during the construction period. Whilst the predominant traffic impacts occur during construction and thus the focus of this chapter, it is also intended that a TMMP for the project's operational and decommissioning phases will be prepared.

The construction TMMP will form part of the contract between Pacific Hydro and the main construction contractor/s. The purpose of the TMMP will be to put in place control measures to ensure public safety on roads which may be used by the construction traffic.

Both the construction and operational TMMPs will be prepared in consultation with the Mid-Murray and Barossa Councils, Department Planning Transport and Infrastructure (DPTI) and other stakeholders as appropriate.

It is also understood that Mid-Murray Council may seek a separate legally binding agreement (i.e. a Deed of Agreement) that will govern road upgrades and maintenance during construction and operations.

The following information is presented within this chapter:

- Overview
- Predicted traffic movements
- Consultation and traffic management / route considerations
- Proposed access routes to site for over-mass or over-size vehicles
- Necessary road improvements
- Traffic management measures

The preferred routes to site are illustrated in Figure 10.1.

### 10.1 Overview

The main off site traffic impacts of the proposed Keyneton Wind Farm will arise during the construction phase of the project due to the compressed construction duration and the required deliveries to site, including over-dimensional vehicles.

A detailed list of the likely predicted traffic movements is outlined in Table 10.5.

Once the wind farm is operational, associated traffic movements will be consistent with other rural and agricultural land uses. The general maintenance and operational functions are expected to require an operational team of six to eight staff. Major maintenance (e.g. - gearbox oil changes are likely to be required approximately every five years) may generate short term increases in staff numbers on site.

In the event of any unexpected events on site, such as failure of a turbine or gearbox, appropriate maintenance works will be carried out immediately. Similarly, there may be occasional requests to visit the site from external groups (e.g. – schools, environmental groups, local Councils). These visits are not expected to be frequent, would be limited in number and only permitted under the supervision of the Wind Farm Manager. The Operations TMMP will establish protocols for the associated traffic impacts (if any) of such events.

Responsible authorities for the roads that are proposed for use to access the site include:

- Transport SA, Department of Transport, Planning and Infrastructure (e.g. Sturt Highway, Mt Pleasant – Angaston Road)
- Mid Murray Council
- Barossa Council

## **10.2 Construction Traffic**

### **10.2.1 Predicted Traffic Movements**

Wind farm construction for a 42 wind turbine site is expected to take approximately 24 months in total. This construction timeframe can be broadly categorised into four phases as follows:

- Phase 1 – Civil works, roads, access tracks and foundations (Months 1-10)
- Phase 2 – Electrical works (Months 11-12)
- Phase 3 – Turbines - delivery and erection (Months 13-20)
- Phase 4 – Continuing construction and site works (Months 21-24)

Whilst there is some overlap between these phases and transition from one phase to the next at different sections of the site is staggered, with the majority of the traffic movements occurring between months 4-12 and 14- 20. The initial phase comprises construction of the roads, turbine foundations and electrical components with the second phase being the wind turbine installation period.

During the construction phase a number of key activities lead to increased traffic movements. These activities typically include:

- Delivery of Wind Turbine components and equipment
- Delivery of construction materials and equipment
- Transportation of construction personnel and site work activities

The working times associated with the over-mass and over-size traffic (or over-dimensional hereafter) that will be generated by the wind farm will be dependent upon the DPTI permit process (pursuant to the *Road Traffic Act 1961*). This process takes into account the various conditions of the road, road users and also categorises the load type into A or B categories. Category A loads are 'heavy loads' and will be restricted to particular days and times of travel to minimise traffic disruption and avoid conflict with other permit loads. Category B loads are 'very heavy loads' and



are typically restricted to Sunday morning or other times of very low traffic density or specific days and times as determined by DPTI in accordance with its requirements.<sup>1</sup>

Unless specified or required by the DPTI permit process (e.g. – for over-dimensional loads), it is not proposed that deliveries to site are undertaken outside normal working hours (i.e. – construction hours generally restricted to 7.00am to 6.00pm Monday to Friday and 7.00am to 1.00pm Saturday).

The estimated trip numbers and associated timeframes are based on Pacific Hydro's experience during the construction of wind farms in South Australia and Victoria. Table 10.1 summarises the estimated vehicles required to deliver the turbine components and equipment to site.

**Table 10.1: Delivery of Wind Turbine Components and Equipment**

Components	Estimated Total Construction Traffic for Turbine components	
	Estimated Total Trips (One Way)	Vehicle Type
<b>Tower Sections (includes embed/ foundation components)</b>	160	Extended Articulated Vehicle (Over Size)
<b>Blades</b>	126	Extended Articulated Vehicle (Over Size)
<b>Hubs</b>	42	Semi Trailer
<b>Nacelle</b>	42	Heavy Duty Semi Trailer (Over Mass / Over Size)
<b>Tools – shipping container</b>	42	Semi Trailer
<b>Crane (including de-mobilisation and mobilisation between north and south)</b>	30	25 Trucks 5 Over size Semi trailer
<b>Escort Vehicles</b>	333	Light vehicle
<b>Total Light Vehicle Movements (one-way)</b>	<b>333</b>	<b>Car / Light Commercial</b>
<b>Total Truck Movements (one-way)</b>	<b>442</b>	<b>Trucks</b>

<sup>1</sup> Information obtained from  
[http://www.transport.sa.gov.au/pdfs/freight/policy\\_indivisible\\_vehicles.pdf](http://www.transport.sa.gov.au/pdfs/freight/policy_indivisible_vehicles.pdf)

Table 10.2 summarises the estimated vehicles required to deliver the Construction Materials and Equipment to site and the number of one way vehicle trips required.

**Table 10.2: Delivery of Construction Materials and Equipment**

Components	Estimated Total Construction Traffic for Construction Materials	
	Estimated Total Trips (One Way)	Vehicle Type
<b><u>Foundations and Road Materials</u></b>		
Concrete – footings (substation & Turbines)	2,800*	Agitator Truck
- Option A – source off site		
- Option B – on site batch plant	1,200	Semi-trailer / Truck
Reinforcement	120	Semi-trailer
Road Aggregate	1,400**	Truck
Water	595	Truck
Select Fill	50	Truck
Gravel (sub-station)	225	Truck
Misc equipment	100	Semi-trailer
Misc materials	50	Semi-trailer
<b><u>Electrical Equipment</u></b>		
Substation transformers	2	Heavy Duty Semi Trailer (Over Mass / Over Size)
Kiosk transformers	42	Semi-Trailer
Under ground cables	90	Semi-Trailer
Over head cables & poles	10	Extended Articulated Vehicle (Over Size)
Misc substation equipment	40	Semi-Trailer
<b>Total Light Vehicle Movements (one-way)</b>	-	<b>Car / Light Commercial</b>
<b>Total Truck Movements (one-way)</b>	<b>3,924 – 5,524 (i.e. variation dependent on source of concrete)</b>	<b>Trucks</b>

\* Figure based on each turbine requiring 360 m<sup>3</sup> concrete and delivery using a 6 m<sup>3</sup> concrete truck, therefore 42 turbines x 60 concrete trucks. In addition approx. 10% contingency has been allowed for. This is a conservative estimate as, depending on the turbine model, the foundation may be smaller. On-site batching or rock anchoring would further reduce vehicle movements (See Section 3.1.2)

\*\* Sourcing of road material on-site would reduce traffic generation associated with road aggregate requirements

Table 10.3 summarises the estimated vehicles required to transport staff to the site and site works activities.

**Table 10.3: Transportation of Construction Staff and Site works activities**

Components	Estimated Total	
	Estimated Total Trips (One Way)	Vehicle Type
Site Establishment	5	Semi-trailers
Construction Equipment	20	Semi-trailers
Staff and contractors	16,650*	Car
Site de-mobilisation	5	Semi-trailers
<b>Total Light Vehicle Movements (one-way)</b>	<b>16,650</b>	<b>Car / Light Commercial</b>
<b>Total Truck Movements (one-way)</b>	<b>30</b>	<b>Trucks</b>

\*Assuming 2 contractors per vehicle

### Total Estimated Vehicle movements

Tables 10.4 and 10.5 summarises the estimated vehicle numbers by type required in total to construct the wind farm. These figures assuming a reinforced concrete base foundation (as opposed to rock anchoring) and that the concrete and road aggregate is sourced off-site.

**Table 10.4: Total number of Estimated Vehicle movements required during the construction of the wind farm**

Deliveries		Estimated Total		
	Vehicle Types	Estimated Total Trips (One Way)	Northern Cluster (22 turbines)	Southern Cluster (20 turbines)
<b>Foundations &amp; Roads</b>	Light Vehicles	-	-	-
	Trucks	5,340	2,800	2,540
	Over-mass or Over-size	-	-	-
<b>Electrical Works</b>	Light Vehicles	-		
	Trucks	172	114	58
	Over-mass or Over-size	12	6	6
<b>Turbine Works</b>	Light Vehicles	333	174	159
	Trucks	109	57	52
	Over-mass or Over-size	333	174	159
<b>Construction Staff &amp; Site Works</b>	Light Vehicles	16,650	8,720	7,930
	Trucks	30	15	15
	Over-mass or Over-size	0	0	0
<b>Totals</b>		<b>22,979</b>	<b>12,060</b>	<b>10,919</b>

\*Assuming 2 contractors per vehicle

Construction will occur over a period of 24 months during which time there will be different levels of activity occurring. Table 10.5 shows the breakdown of deliveries associated with each phase, assuming the concrete will be batched off site and delivered to site.

Table 10.5: Number of estimated Vehicle deliveries associated with each phase of the development

Deliveries	Total number of Vehicle deliveries (one way)										
	Vehicle Types	Phase 1 (10 mths)	Average per month (Phase 1)	Phase 2 (2 mths)	Average per month (Phase 2)	Phase 3 (8 mths)	Average per month (Phase 3)	Phase 4 (4 mths)	Average per month (Phase 4)	Estimated Total Trips (One Way)	Estimated Total Trips (Two Way)
Foundations & Roads	Light Vehicles									-	-
	Trucks	4,432	443/mth	898	449/mth			10	2.5/mth	5,340	10,680
	O/D										
Electrical Works	Light Vehicles									-	-
	Trucks	157	15.7/mth	15	7.5/mth					172	374
	O/D	12	1.2/mth							12	24
Turbine Works	Lights Vehicles					333	42/mth			333	666
	Trucks					109	13.6/mth			109	218
	O/D					333	42/mth			333	666
Construction Staff & Site Works	Lights Vehicles	9,000	900mth	1,800	900/mth	5,450	681/mth	400	100/mth	16,650	33,300
	Trucks	15	1.5/mth	5	2.5/mth	5	0.6/mth	5	1.25/mth	30	60
	O/D										
Totals		13,616	1,362/mth	2,718	1,359/mth	6,230	779/mth	415	104/mth	22,979	45,958

### **10.2.2 Consultation and Traffic Management / Route Considerations**

Identification of suitable routes to site for over-dimensional vehicles commenced with a combination of familiarisation with the site and the surrounding road network gained through multiple site visits, reference to defined over-dimensional road networks and consultation with the community.

Following initial identification of routes to site consultation, with respect to traffic, commenced in May 2011 with representatives from the Mid Murray Council, Barossa Valley Council and DPTI.

In June and September 2011, at the community consultation sessions community members were also asked for further feedback regarding the proposed over-dimensional routes to site. At that stage, the route to the northern half of the site was from the Sturt Highway via Angaston's over-dimensional routes (i.e. gazetted B-Double routes) and to site along the Angaston – Sedan Road.

The following concerns and considerations were raised during these initial consultations with the respective responsible roads' authority's representatives and community feedback at the community consultation sessions.

#### **DPTI**

- Where possible, ensure that the components are travelling on established over-size routes.
- Ensure that the over-dimensional vehicles avoid the tourist area at Angaston.
- Travel on the roads that have less traffic volumes to reduce interference.
- Reduce the need for tree trimming
- Safety related matters – road widths, safe pull off areas, line of sight, trees, services, existing traffic volumes and users, schools, existing road conditions, designated speed, structures etc

#### **Mid-Murray and Barossa Councils**

- Any alterations to make the roads suitable for the wind farm loads would be at Pacific Hydro's expense (e.g. tree trimming, capping, verge upgrades, etc.)
- Proposal to upgrade Med Wrights Road and intersection at Rhine Park Road / Med-Wright's Road and Jutland Roads will need further discussion to ensure compliance with Council and State standards.

#### **Community Consultation**

- Pacific Hydro must maintain roads and be responsible for all required road improvements.
- Worried about construction traffic on Milk Run Road (Note: Milk Run Road has subsequently been deleted as a nominated secondary access route).
- Rhine Park Road can be dangerous, poor camber and corners, has been history of accidents
- Angaston-Sedan Road (in particular between Angaston and Keyneton), whilst a defined or gazetted B-double route is completely unsuitable for over-dimensional traffic and in urgent need of upgrade – is narrow with no (or soft) shoulders in many sections, has a dilapidated surface, is uneven with many tight corners / turns.
- Angaston- Sedan Road is used regularly for school pick-up and drop offs at school.
- Eden-Valley-Moculta Road is a bus route.
- Concerns over maintenance requirements and dust created by vehicles on unsealed roads, in particular on Rhine Park Road.

### 10.3 Proposed Traffic Routes

In consultation with the DPTI, Barossa Council and Mid Murray Council, Pacific Hydro has developed the proposed traffic routes for over-size and over-mass transport as attached at Figure 10.1. Site access points are proposed at: 1) from Angaston – Sedan Road (at Sedan Hill) to access the northern cluster of 22 turbines; 2) from Med Wrights Road to access the southern cluster of 20 turbines (See Figure 10.1).

Generally the traffic will use State and Council controlled roads and the point of origin for road use is likely to commence from one or more of the following locations:

- Port Adelaide - turbine components
- Adelaide suburbs – manufacture of components, potentially including turbine tower
- Locally sourced construction materials
- Locally based staff and contractors

For these reasons the Sturt Highway has been proposed as the main access road from Adelaide for over-dimensional vehicles. If goods such as turbine tower sections are being transported via Princes Highway (A1) (from Victoria) the gazetted over - mass / over- size roads between Murray Bridge and Sedan will be used.

Light and commercial vehicles associated with the project are likely to be associated with locally or regionally sourced construction materials, contractors and staff and thus will not necessarily follow defined over-dimensional routes from Adelaide. Light and commercial vehicles will comply with standard vehicle laws and not currently proposed to have the same restrictions as over-dimensional vehicles on road usage, however drivers will be required to comply with any restrictions applied by the project's approved TMMP.

The secondary access track on site (between the northern and southern clusters (Figure 10.1) will not be utilised by over-dimensional vehicles except to the extent required to construct the proposed overhead line.

The preferred route to the site for over-dimensional vehicles has been inspected by representatives of South Australian Police (with respect vehicle escorts), DTPI and Rex J Andrews Pty Ltd (heavy and wind farm haulage specialists). Mid Murray and Barossa Councils have agreed in principle with these routes, subject to formal approval and the development of a detailed TMMP.

#### **Proposed Over-Dimensional Route (from Sturt Highway) to Southern Cluster**

To access the southern cluster, it is proposed that over dimensional vehicles will use the following route:

- Sturt Highway (A20) turnoff at Stockwell at Carrara Hill / Light Pass Road, travelling for a short distance on Carrara Hill Road before turning right onto Stockwell Road Road (Angaston Heavy Vehicle Bypass route)
- Follow Stockwell Road over Murray Street and left at Crennis Mines Road (Angaston Heavy Vehicle Bypass route)
- Turn right into Long Gully Road and then left onto Hurns Road (Angaston Heavy Vehicle Bypass route)
- Turn right onto Mount Pleasant – Angaston Road (B10) and continue through the Eden Valley township

- Turn left at Rhine Park Road, then travel over Jutland Road and onto Med-Wrights Road to the access point onto the wind farm's southern cluster.

#### **Proposed Over-Dimensional Route Route (from Sturt Highway) to Northern Cluster**

Access to the northern cluster will be via:

- Sturt Highway (A20) turnoff at Annadale onto Halfway House Road
- Continue onto Blanchetown Road and turn right at Sedan onto Angaston-Sedan Road
- Access to the site is approximately 10 kilometres heading west from Sedan

Secondary routes as shown on Figure 10.1 are intended to denote alternate route options for non over-dimensional vehicles.

#### **10.3.1 Other Routes Considered**

The preferred route for over-dimensional vehicles identified in this application has been nominated based on advice from Barossa and Mid Murray Councils, Transport SA and input from the local community. The following routes were considered for over-dimensional vehicles, although have been subsequently rejected as unsuitable for use for the reasons stated:

- Pine Hut Road – Pine Hut Road was investigated for access to the site's southern half from Cambrai to the east of the site. Whilst its use may be technically feasible, this route was rejected by Pacific Hydro prior to the initial community consultation sessions due to the number of large mature eucalyptus trees adjacent to the roadside, creek crossings (with short sections of steep grades) and the close presence of stone walls. As a result of this, an alternative access point to the southern cluster was investigated. Access to the southern cluster will be direct from Med Wright Road as shown on Figure 10.1. It is proposed to cross Pine Hut Road for access from the south to turbine 23 and otherwise only be used by OD vehicles that are retractable and exiting the site following unloading (i.e. reverted to standard truck/vehicle size) to travel west back to Rhine Park Road from the southern section of the wind farm site.
- Angaston –Sedan Road (between Angaston and Keyneton) – As detailed above this route was ultimately rejected for over-dimensional vehicles due to the poor condition of the road between Angaston and Keyneton Road, considered unsuitable for over dimensional traffic. Avoidance of this route also allowed routes around the northern and eastern edges of the Angaston township to be avoided. Whilst suitable routes for over dimensional vehicles were feasible, their closer proximity to the central Angaston tourist area and schools was preferable to avoid the Angaston Heavy Vehicle Bypass route detailed above provides a more suitable alternative.
- Via Murray Bridge – As noted above, if components such as turbine tower sections are being transported via Princes Highway (A1) (from Victoria) the gazetted over - mass / over- size roads between Murray Bridge and Sedan will be used (See Figure 10.1 and Attachment 10.1). Otherwise, routes to site from Murray Bridge are not proposed to be utilised by over-dimensional vehicles. The probable sources of over-dimensional loads are Port Adelaide (i.e. turbines) and potentially northern Adelaide suburbs (i.e. tower components). As such, travel to site via Murray Bridge would require significantly longer routes than are proposed utilising the Sturt Highway. There are restrictions on over-dimensional load envelopes on some tunnels between Adelaide and Murray Bridge on the A1 Prince Highway. Furthermore direct access to the southern half of the site from Cambrai along Pine Hut Road is not preferred as outlined above.



### 10.3.2 Upgrades to Infrastructure

#### Med Wrights Road

Med-Wright's Road will need to be upgraded for approximately 1 km. This road is currently in a poor condition and will be required to be constructed to meet the Mid-Murray Council requirements and the specifications of the over-size and over-mass vehicles (loaded) that are proposed to use this road. This road will need to be an all weather access road. Minor tree trimming and removal of roadside shrubs may also be required.

#### Intersection of Med Wrights Road / Jutland and Rhine Park Road

This intersection is in poor condition and the road structure is dilapidated. This intersection will be required to be reconstructed to enable all weather access and to comply with the Barossa and Mid Murray Councils' requirements (i.e. the intersection is upon the boundary between the two Councils) and the necessary vehicle specifications.

#### Miscellaneous

Miscellaneous tree trimming, service relocation, intersection widening and sign post sleeving may be required. In consultation with DPTI, measurements of the required envelope for the largest component (i.e. tower base) were used on site to assess the impact on trees and services. A small number of overhead services (Telstra) located within the main street of Eden Valley will need to be temporarily relocated and some minor tree trimming will be required. Where possible the over-sized deliveries will be guided to avoid service relocation and tree trimming, however as part of the DPTI permitting process a detailed survey will be conducted and any obstructions will be dealt with through that process.

DPTI has provided advice regarding speed restriction for over dimensional vehicles for structures along the DPTI roads at the following locations:

- On the Mannum - Sedan Rd, 5kph down the centre line over bridge over Marne River 10.19km North of Mt Pleasant /Walker Flat Rd (i.e. only relevant if access required from Murray Bridge on defined over-dimensional routes (07620 / 07387 / 07386)
- On the Angaston-Sedan Rd, 5kph down the centre line over bridge over North Rhine River
- Stockwell Rd, 10kph over Spangels Bridge over North Para River (approximately 3km south of Stockwell)
- Mt Pleasant - Angaston Rd, 10kph over North Para River at Collingrove (approximately 5km south of Angaston).

At the two site access points road works and cautionary signage will be installed as necessary to ensure safe exit and entrance to the wind farm and for the users of the Angaston-Sedan and Med-Wright's Road.

### 10.3.3 Traffic Management Plan

The Contractor awarded the construction contract will be responsible for developing a detailed construction TMMP. The purpose of the TMMP will be to ensure adherence to the conditions outlined within this chapter, development approval conditions and any DPTI road permits. The TMMP will ensure public safety and minimise temporary inconvenience and delays on the surrounding road network.

DPTI, Mid Murray and Barossa Councils' will be consulted during the development and implementation of this detailed TMMP. A range of traffic management measures will be implemented as required including speed limits, signage, traffic control at intersections, public notifications, road escort vehicles, etc.

Full contact details of the Construction Manager will be provided to residences along the local road network adjacent to the site in advance of construction and in order that any issues and concerns arising can be discussed and addressed.

In addition, Pacific Hydro will ensure the Contractor fulfils the following obligations:

- The existing public access roads used during the period of the construction of the wind farm will be maintained to the appropriate standard during this period. Maintenance will include filling of potholes, grading corrugations and dust suppression as required. All construction vehicles will be required to give way to any stock and wildlife on the site and surrounding roads.
- All construction vehicles will give way to vehicles using public roads when entering public roads from site roads (all road rules apply).
- All posted stop and give way signs must be obeyed on and off the site.
- Adequate signage will be provided by the Contractor, on public roads, to warn other road users of any construction activities or transportation activities that may impact on other road users.
- Turbine transport will be controlled by the DPTI permitting system which specifies conditions that the Contractor must legally comply with – such as escorts, speed restrictions etc.
- The site's secondary access track (between the northern and southern clusters (See Figures 1.1. and 1.2) will not be utilised by over-dimensional vehicles except to the extent required to construct the proposed overhead line

## **10.4 Summary**

In summary:

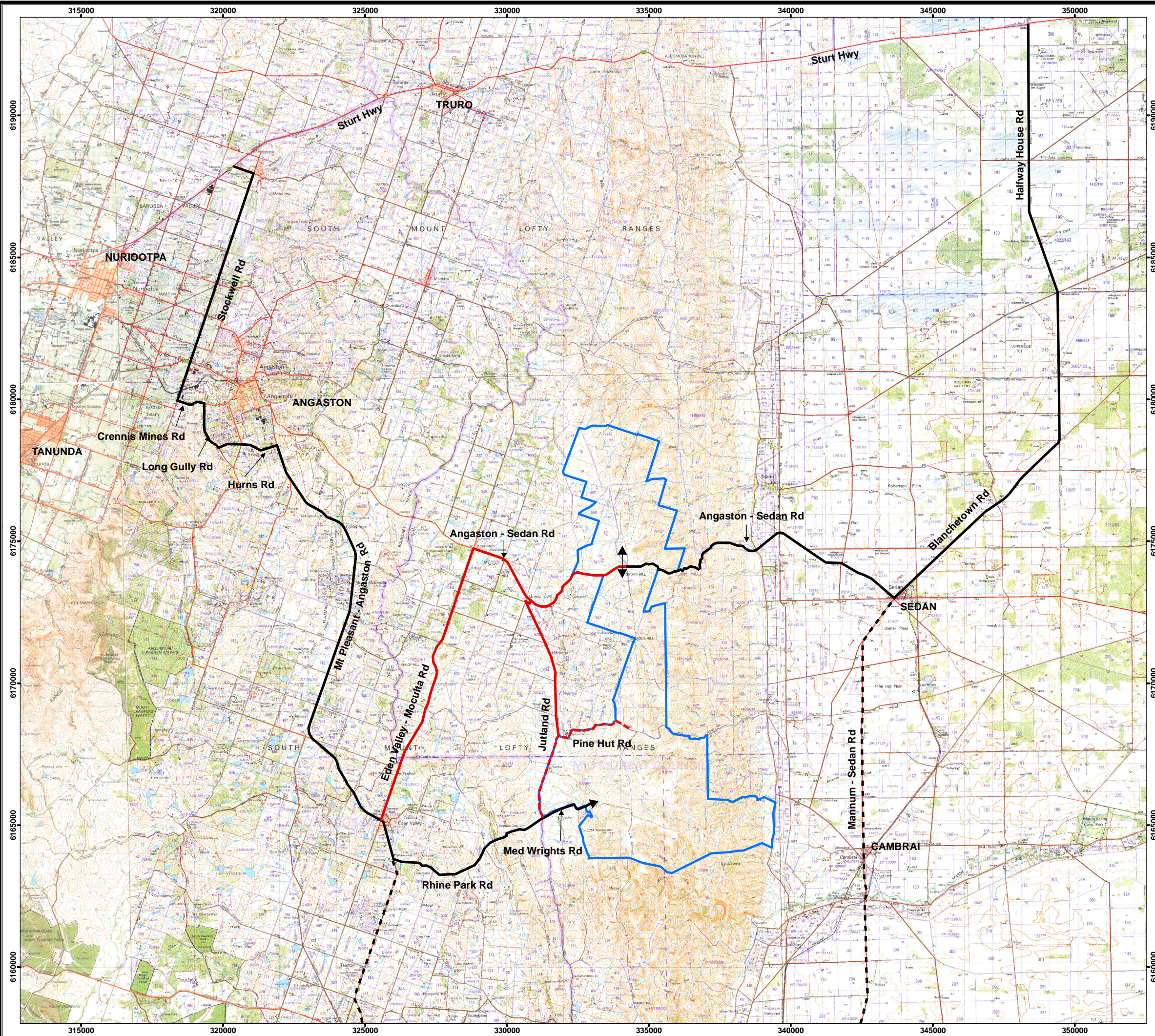
- The Keyneton Wind Farm will noticeably increase the volume of construction related traffic in the local area during two phases of the construction period (between months 4 & 12 and months 14 and 20 over a 24 month period). The other construction periods and the operational phase of the project will see an increase in traffic however these will be minor or insignificant.
- Measures such as DPTI permit process, public notices, traffic controls and cautionary road signage will assist in mitigating any impacts to local traffic during the construction phase.
- The existing public access roads used during the period of the construction of the Wind Farm will be maintained to the appropriate standard during this period. Maintenance will include filling of potholes, grading corrugations and dust suppression as required
- Reconstruction of Med Wrights Road and the intersection of Jutland Rd with Rhine Park / Med Wrights Roads will be undertaken to ensure a safe and all weather road access.
- Road widening and cautionary signage will be installed at access points to provide safe entrance and exit to the site as well as ensuring the safety of other road users.
- Pacific Hydro has consulted with the DPTI, Barossa Valley Council, Mid Murray Council and the community and has implemented changes to the initial proposed traffic routes as a consequence.
- A full TMMP will be prepared in conjunction with detailed design for implementation during the construction period. The construction TMMP will ensure adherence to the conditions outlined within this chapter, development approval conditions and any DPTI road permits. The purpose of the TMMP will be to put in place control measures to ensure public safety on roads which may be used by the construction traffic.
- Whilst the predominant traffic impacts occur during construction and thus the focus of this chapter, it is also intended that a TMMP for the project's operational phase be prepared.

- Both the construction and operational TMPs are proposed to be prepared in consultation with the Mid-Murray and Barossa Councils, Department Planning Transport and Infrastructure (DPTI) and other stakeholders as appropriate.
- It is also acknowledged that a decommissioning TMP will be necessary to control the vehicle movement and ensure public safety at that stage.
- It is expected that a separate legally binding agreement (i.e. a Deed of Agreement) that will govern road upgrades and maintenance during construction and operations will be implemented between Pacific Hydro, Mid-Murray and Barossa Councils.

# Chapter 10 Figure

## Figure 10.1: Preferred Access Routes











PROJECT		Keyneton, South Australia	
TITLE		Figure 10.1 Preferred Access Routes	
FOR EXTERNAL DISTRIBUTION			
CREATED		A.Liu	
CLEARED		D.Curtis	
APPROVED		M.Barnett	
DATE		05/06/12	
SCALE		1:130,000	A3
DATUM		MGA94 (z54)	
DRAWING NO		PH-0882	REV
			A

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 PacificHydro

Level 11, 474 Flinders Street, Melbourne Victoria 3000 Australia  
Telephone +61 3 8621 6000 Facsimile +61 3 8621 6111  
www.pacifichydro.com.au

-  Site Boundary
- Access Routes**
-  Preferred O/D Access Route\*
-  Secondary Access Route
-  Over Dimensional Vehicles\*\*
-  O/D Access Route\*\*\*

The preferred O/D routes have been identified following consultation with Mid-Murray and Barossa Councils and consultation/site inspection with DPTI; however these routes remain subject to their formal consent/approval.

\*Over Dimensional (O/D) routes including tower and turbine components

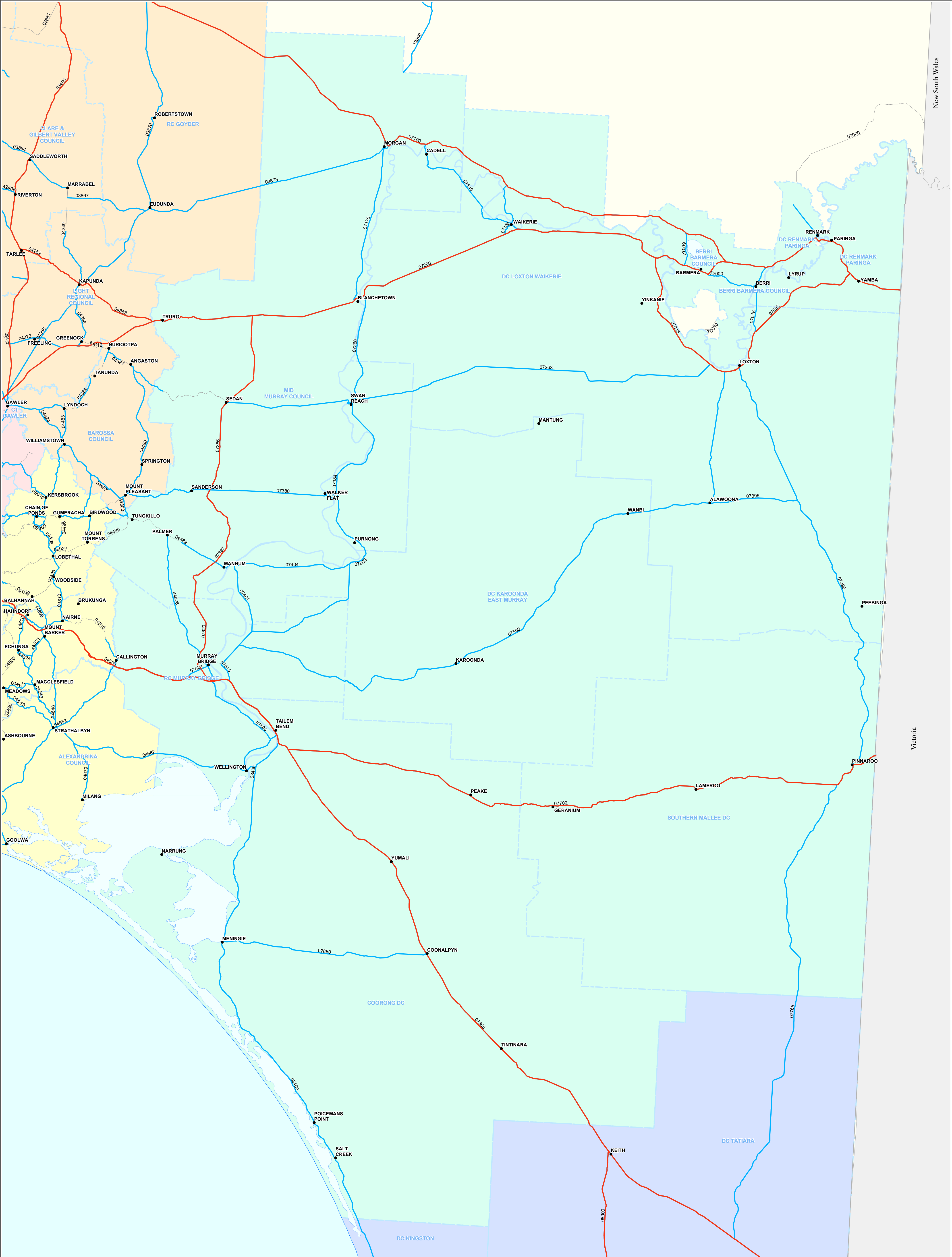
\*\*Pine Hut Road between site entrance and North Rhine Road is proposed for retractable O/D vehicles that are exiting site following unloading (ie - reverted to standard vehicle / truck size)

\*\*\*Alternative O/D access route for any transport from Murray Bridge (Princes Highway A1) via defined High Mass Limit (HML) route network for articulated vehicles.



# Attachment 10.1

Route Network for HML for Articulated Vehicles  
(Murray and Mallee LGA)



Local Government Regions and Associations

- CENTRAL LOCAL GOVERNMENT REGION
- EYRE PENINSULA LGA
- METROPOLITAN AREA
- MURRAY AND MALLEE LGA
- SOUTH EAST LGA
- SOUTHERN AND HILLS LGA
- Local Government Area

Higher Mass Limits (HML) Route Network

- Key HML Routes for Articulated Vehicles
- General HML Routes for Articulated Vehicles

**Note:**  
This map forms part of the HVAF to assist with the strategic Development and Planning of Freight Networks in SA, and does not necessarily represent the legal Gazette Route that apply to the operation of the various Restricted Access Vehicle Categories.  
December 2008

Produced by: Spatial Intelligence & Road Assets - November, 2008

# ROUTE NETWORK FOR HIGHER MASS LIMITS (HML) FOR ARTICULATED VEHICLES MURRAY AND MALLEE LGA

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