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Infrasound levels near windfarms and in other environments

Infrasound levels near windfarms and in other environments

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Executive summary

This report presents the findings of a study into the level of infrasound within typical environments in South Australia, with a particular focus on comparing wind farm environments to urban and rural environments away from wind farms.

Measurements were undertaken over a period of approximately one week at seven locations in urban areas and four locations in rural areas including two residences approximately 1.5 kilometres away from the wind turbines. Both indoor and outdoor measurements were undertaken, with the outdoor measurements necessitating development of a specific technique for the outdoor measurement of infrasound. The indoor and outdoor measurement procedures are summarised in Appendix A of this report.

Urban environments

The following findings have been drawn from the measurements conducted in the locations in urban areas:

- Infrasound levels of between 60 and 70dB(G) commonly occur in the urban environment.
- Infrasound levels were typically 5 to 10dB(G) higher during the day than at night time.
- Noise generated by people and associated activities within a space was one of the most significant contributors to measured infrasound levels, with measured infrasound levels typically 10 to 15dB(G) higher when a space was occupied. Infrasound levels up to approximately 70dB(G) were measured in occupied spaces.
- Traffic may also influence the infrasound level in an urban environment, with measured levels during the daytime periods typically 10dB(G) higher than between midnight and 6 am, when traffic would be expected to be at its lowest.
- At two locations, the EPA offices and an office with a low frequency noise complaint, building air conditioning systems were identified as significant sources of infrasound. These locations exhibited some of the highest levels of infrasound measured during the study.

Rural environments

The measurements conducted within rural environments included simultaneous measurements of outdoor and indoor infrasound. It was found that the outdoor infrasound levels were similar to or marginally above the indoor infrasound level.

The following findings have been drawn from the measurements conducted in the locations in rural areas:

- Infrasound levels at houses adjacent to wind farms (Locations 8 and 9) are no higher than those at houses located a considerable distance from wind farms (Locations 10 and 11). For example, the outdoor infrasound levels at Location 8 are significantly

lower than those at Location 11, despite the house being located much closer to operational wind turbines (1.5 kilometres compared to 30 kilometres).

- Infrasound levels in the rural environment appear to be controlled by localised wind conditions. During low wind periods, levels as low as 40dB(G) were measured at locations both near to and away from wind turbines. At higher wind speeds, infrasound levels of 50 to 70dB(G) were common at both wind farm and non-wind farm sites.
- Organised shutdowns of the wind farms adjacent to Location 8 and Location 9 indicate that there did not appear to be any noticeable contribution from the wind farm to the G-weighted infrasound level measured at either house. This suggests that wind turbines are not a significant source of infrasound at houses located approximately 1.5 kilometres away from wind farm sites.

From an overall perspective, measured G-weighted infrasound levels at rural locations both near to and away from wind farms were no higher than infrasound levels measured at the urban locations. Furthermore, both outdoor and indoor infrasound levels were typically below the perception threshold by a significant margin. The most apparent difference between the urban and rural locations was that human activity and traffic appeared to be the primary source of infrasound in urban locations, while localised wind conditions are the primary source of infrasound in rural locations.

An additional analysis of the frequency content of the measured infrasound levels was conducted for each location. At both of the wind farm sites, peaks in the frequency spectrum corresponding to the turbine blade pass frequency and related harmonics (0.8Hz, 1.6Hz and 2.5Hz) were identified that may be attributable to the wind turbines. However, these peaks were only detectable during periods of low wind speed and therefore ambient infrasound at the residences. The peaks in the spectrum were found to be no higher than infrasound levels measured at these frequencies at both rural and urban locations away from wind farms, and also significantly (at least 50dB) lower than the threshold of perception for these very low frequencies.

Summary of results

The range of measured $L_{eq,10min}$ infrasound levels at each of the measurement locations is presented in Figure 1 on the following page, with the lines corresponding to the minimum, 25^{th} percentile, median, 75^{th} percentile and maximum infrasound levels from left to right.

It is clear from the results that the infrasound levels measured at the two residential locations near wind farms (Location 8 near the Bluff Wind Farm and Location 9 near Clements Gap Wind Farm) are within the range of infrasound levels measured at comparable locations away from wind farms. Of particular note, the results at one of the houses near a wind farm (Location 8) are the lowest infrasound levels measured at any of the 11 locations included in this study.

This study concludes that the level of infrasound at houses near the wind turbines assessed is no greater than that experienced in other urban and rural environments, and that the contribution of wind turbines to the measured infrasound levels is insignificant in comparison with the background level of infrasound in the environment.

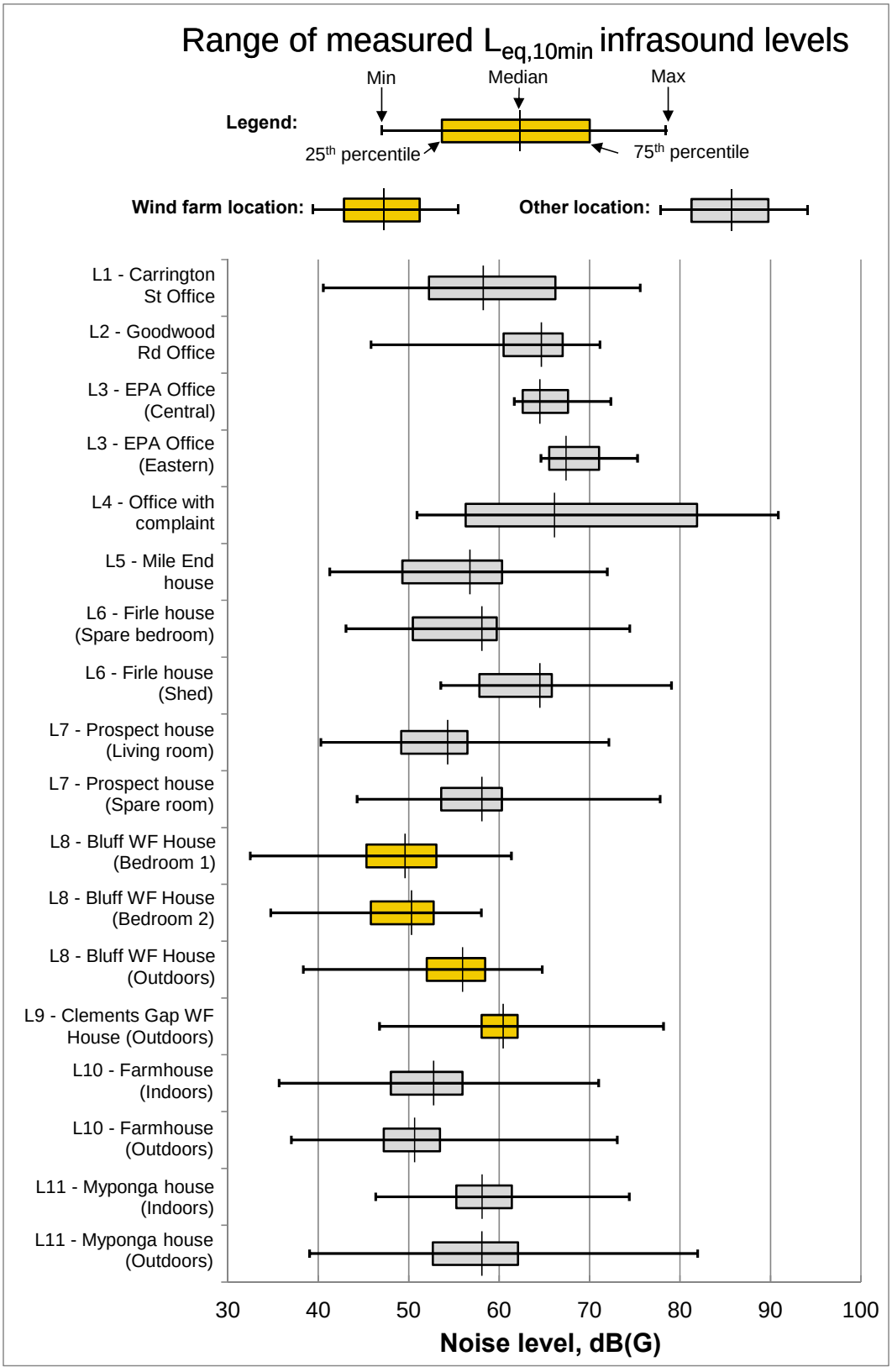

Figure 1 – Range of measured $L_{e\ ,10min}$ infrasound levels at each measurement location

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1 Introduction

This report presents the findings of a study into the levels of infrasound that people are exposed to within typical environments in South Australia. The aim of the study is to compare the levels of infrasound measured within the different environments in order to benchmark the levels at residential properties measured adjacent to wind farms.

Infrasound levels were measured over a period of days (typically one week) inside eleven buildings, including each of the following environments:

- urban areas:
  - offices in the Adelaide CBD and on major roads
  - residences in suburban areas
  - residences near transport routes
- rural areas:
  - residences near to wind farms
  - residences away from wind farms.

In addition to the above, simultaneous indoor and outdoor measurements of infrasound were also undertaken at the four locations in rural areas.

The measurement procedure employed during this study is outlined in Appendix A. This includes a discussion of the procedure used to measure outdoor infrasound levels, for which standard noise measurement equipment was not suitable.

A comparison between simultaneous outdoor and indoor measurements of infrasound is provided in Appendix B, to investigate whether any change in infrasound levels results from typical residential structures.

2 Background information

Infrasound is very low frequency noise, defined by ISO 7196[1] as:

> *Sound or noise whose frequency spectrum lies mainly in the band from 1Hz to 20Hz.*

Due to the typical levels of sound at these frequencies in the environment, infrasound is commonly thought of as occurring below the limit of the audible range of frequencies. However, sound at frequencies below 20Hz can be perceived by humans as long as the level is high enough (Leventhall, 2006), with hearing thresholds determined down to frequencies as low as 2Hz (Watanabe &Møller, 1990).

2.1 G-weighting

The G-weighting function is defined in ISO 7196 and is used to quantify sound that has a significant portion of its energy in the infrasonic range. The function weights noise levels between 0.25Hz and 315Hz to reflect human perception of infrasonic noise levels, and has been used throughout this study to characterise the level of infrasound.

Figure 2 shows the G-weighting function across the frequency range between 0.25Hz and 315Hz. The weighting shown is applied directly to the linear (unweighted) noise levels.

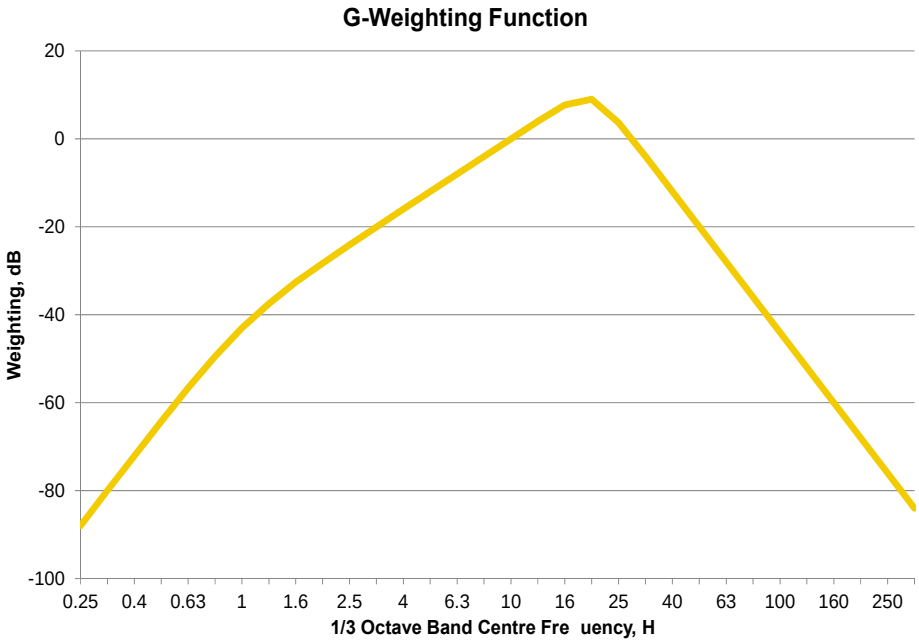

Figure 2 – G-weighting function

The perception of noise in the infrasonic range is greatest at 20Hz, with perception of infrasonic sound reducing as frequency decreases from that point. Sound above 20Hz is not the primary interest of either the G-weighting function or this study as this sound is better characterised by other acoustic descriptors. The G-weighting therefore negatively

[1] ISO 7196-2:1995, *Acoustics – Frequency-weighting characteristic for infrasound measurements*.

weights sound at frequencies above 25Hz, and discounts all sounds at frequencies above 315Hz.

Møller (1987) undertook a study into the relationship between G-weighted noise levels and annoyance from infrasound. There was found to be a close relationship between the annoyance rating and the G-weighted level of perceptible levels of infrasound, indicating it is an appropriate weighting to use to assess infrasound in the environment.

2.2 Thresholds of perception

Infrasound can be perceived by humans if the level is high enough. There has been debate about whether very low frequency noise levels are heard or rather felt through the body but current available evidence suggests that infrasound is heard through the ears at the onset of perception (Møller&Pedersen, 2004).

To investigate the perception of very low frequency noise through other parts of the body than the ears, Yamada et al. (1983) conducted an experiment with normally hearing and profoundly deaf subjects. The threshold of sensation of the deaf subjects (who felt sensations mainly in the chest) was 40 to 50dB above the hearing threshold of the normally hearing subjects up to a frequency of 63Hz. A study conducted by Landström, Lundström and Byström (1983) also demonstrated that normally hearing subjects reacted to levels of infrasound above the hearing threshold that deaf subjects did not react to. The conclusion from these two studies is that the perception of very low frequency noise and infrasound occurs first through the ears, at significantly lower levels than is required for perception through other parts of the body.

The threshold of perception for noise at low frequencies has been determined in a number of studies, using a range of different methodologies. The key studies are summarised in Figure 3 from Møller & Pedersen (2004). The standardised hearing threshold from 20Hz to 1kHz specified in ISO 226[2] is also presented.

It can be seen that, while there is variation in the thresholds reported by various studies, the hearing threshold increases as the frequency of sound decreases and significantly more sound energy is required to exceed the threshold below 10Hz than is required above 100Hz.

Of the studies summarised in Figure 3, Watanabe & Møller (1990) demonstrate the closest agreement with the ISO 226 threshold at and above 20Hz, and are also reflective of the lower determined hearing thresholds. The mean hearing threshold reported in their study is presented in Figure 4, with error bars corresponding to the standard deviation. The standard deviation in the low frequency hearing threshold of approximately 5dB, shown in Figure 4, is consistent with that of other studies (Møller& Pedersen, 2004).

[2] ISO 226:2003, *Acoustics – Normal equal-loudness-level contours*.

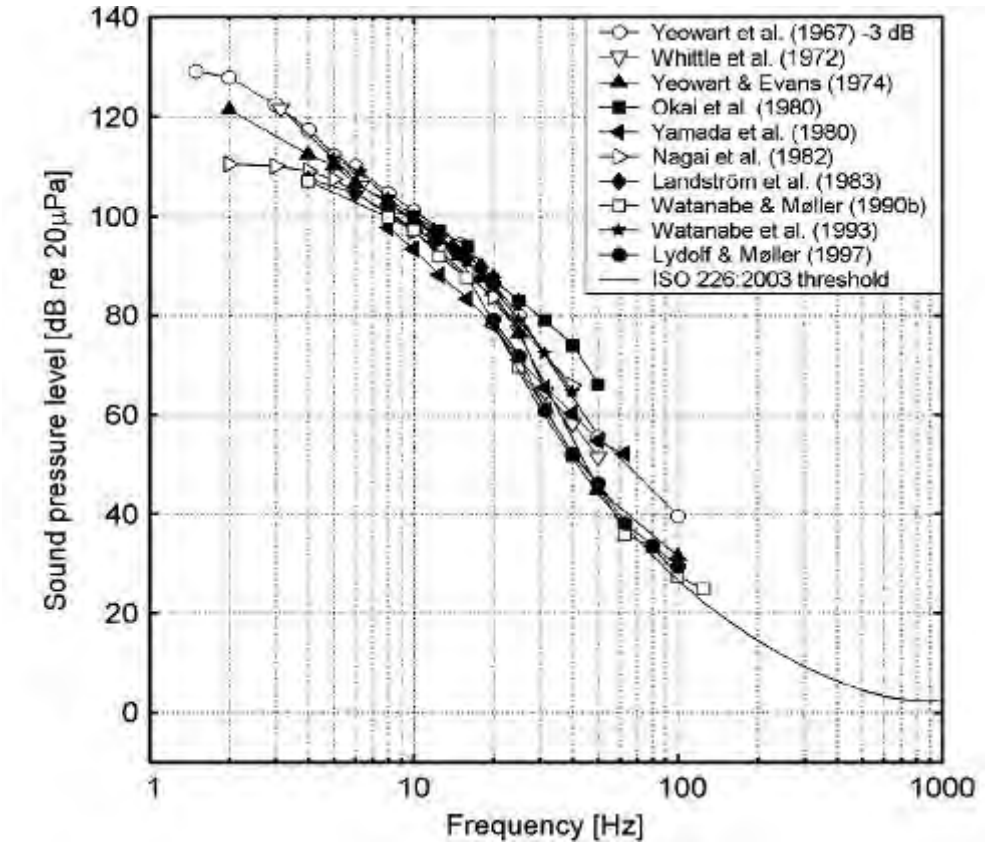

Figure 3 – Determined hearing thresholds below 1 kH (M ller Pedersen, 2004)

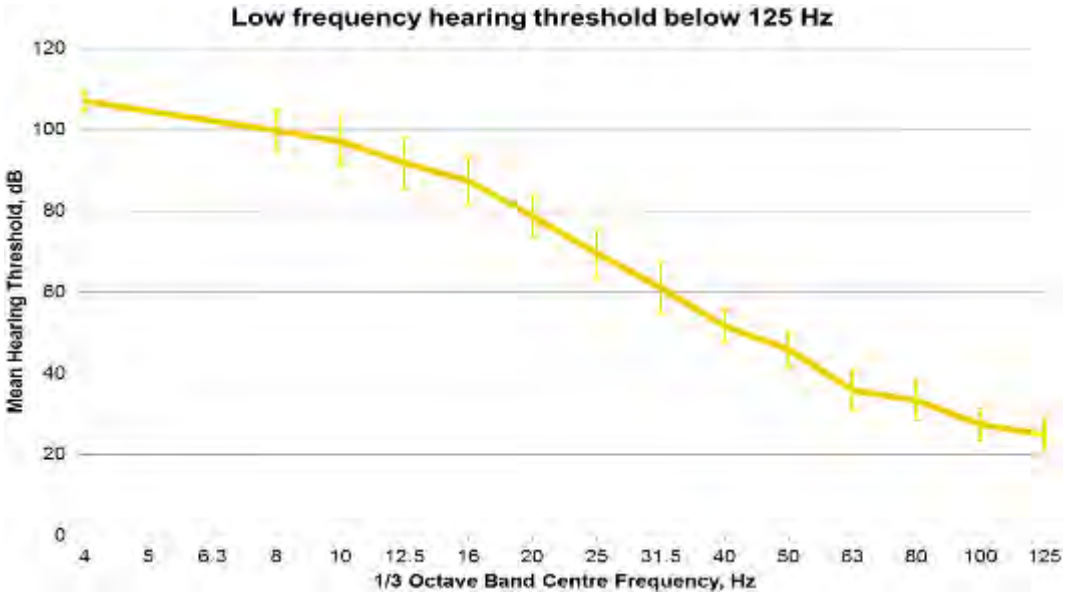

Figure 4 – Hearing threshold below 125H (Watanabe M ller, 1 0)

It is also important to note that these low frequency hearing thresholds have been determined on the basis of pure tones, i.e. a noise energy concentrated at the considered frequency. In reality, infrasound in the environment is much more likely to be relatively

broadband across the infrasonic frequency range. Landström (1987) suggested that the hearing threshold to broadband infrasonic noise is approximately 1-5dB below the determined threshold curve for tones, consistent with the findings of Yeowart et al. (1969) but inconsistent with those of Nagai et al. (1982) who found the hearing threshold to broadband noise to be approximately 6dB higher than that of pure tones at 2 to 5Hz.

Regardless, the reported differences in the hearing thresholds between broadband infrasonic noise and pure tones appear to be relatively small. Møller & Pedersen (2004) state that “the pure-tone threshold can with a reasonable approximation be used as a guideline for the thresholds also for nonsinusoidal sounds”.

2.3 Infrasound and annoyance

A study conducted by Møller (1984) analysed the performance of sixteen subjects as they undertook various tasks while exposed to inaudible infrasound, audible infrasound, traffic noise and a relatively quiet level (as a control):

> *The most conspicuous effect of infrasound was a high rating of annoyance and a feeling of pressure on the ear at less than 20dB above the threshold of hearing. No influence on the cardiovascular system was seen and the performance only deteriorated in one of nine tasks. Infrasound below the hearing threshold had no effect.*

These findings are consistent with those of Landström and Byström (1984), who found that infrasound levels above the hearing threshold could be correlated to a reduction in wakefulness but that no clear effect was observed at pressure levels below the hearing threshold.Landström, Lundström and Byström (1983) linked this reduction in wakefulness to levels above the hearing threshold by studying the reaction of hearing and deaf subjects to a level of 115dB at 6Hz (equivalent to approximately 107dB(G)). It was observed that “reduced wakefulness was noticed among the hearing subjects but not among the deaf subjects”.

While it is apparent that infrasound only becomes annoying when levels exceed the hearing thresholds, it is important to note that the degree of annoyance can increase markedly for only relatively small increases in the infrasonic noise level once it is above the hearing threshold. In determining equal annoyance contours for infrasonic frequencies (shown in Figure 5), Andresen and Møller (1984) stated “the closeness of the curves in the infrasonic region implies that small changes in sound pressure may cause relatively large changes in annoyance”.

Møller (1987) found that, for infrasound, “annoyance ratings of 1/3 octave noise did not deviate from ratings of pure tones with the same sound pressure level”. This effect may be due to the relatively small bandwidths of 1/3 octave bands in the infrasound frequency range. The same study also identified that the annoyance rating given to noises with a high level of noise in the infrasonic range did not significantly change whether or not the infrasound was combined with noise at frequencies above 20Hz.

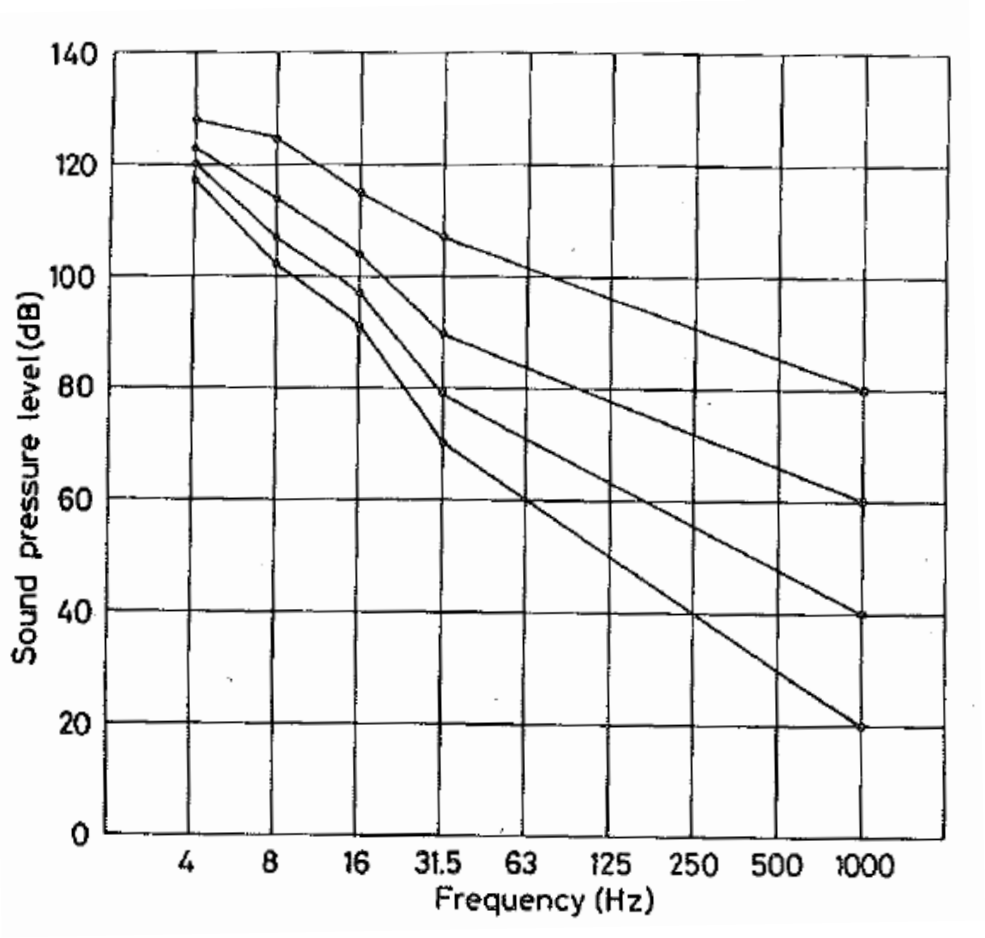

Figure 5 – E ual annoyance contours for pure infrasonic tones (Andresen M ller, 1 84)

In summary, the following conclusions can be drawn from research regarding effects of infrasound:

- The key effect of infrasound can be a high level of annoyance when the level exceeds the hearing threshold, i.e. it must be perceptible to have an effect.
- No physiological effects have been found to occur below the level of perceptibility.
- Once infrasound is perceptible, annoyance can increase faster than for noises at higher frequency as the level increases.
- Annoyance to infrasound does not change where noise above 20Hz is present in the signal.

2.4 Assessment criteria

There are no widely accepted assessment criteria for infrasound. Normally, criteria that do exist have been proposed for infrasound and very low frequency noise based on the threshold of perception. For example, ISO 7196 states that sound pressure levels below 90dB(G) will “not normally be significant for human perception”. Andresen and Møller

(1984) proposed a criterion of 95dB(G) based on the onset of annoyance from perceptible infrasound.

In Australia, the Queensland Department of Environment and Resource Management's (DERM) Draft *ECOACCESS Guideline – Assessment of Low Frequency Noise* recommends an internal noise limit of 85dB(G) for dwellings, consistent with that recommended in Denmark (Jakobsen, 2001). This Queensland Guideline has remained in draft form and has not been formally released.

The proposed 85dB(G) and 95dB(G) limits are compared to the low frequency hearing threshold, from Watanabe &Møller (1990), and other low frequency noise assessment criteria between 0.5Hz and 20Hz in Figure 6.It can be seen that an infrasound criterion of 85dB(G) is reflective of the typical lowest assessment criteria applied to very low frequency noise, and lower than the mean hearing threshold up to a frequency of 20Hz.

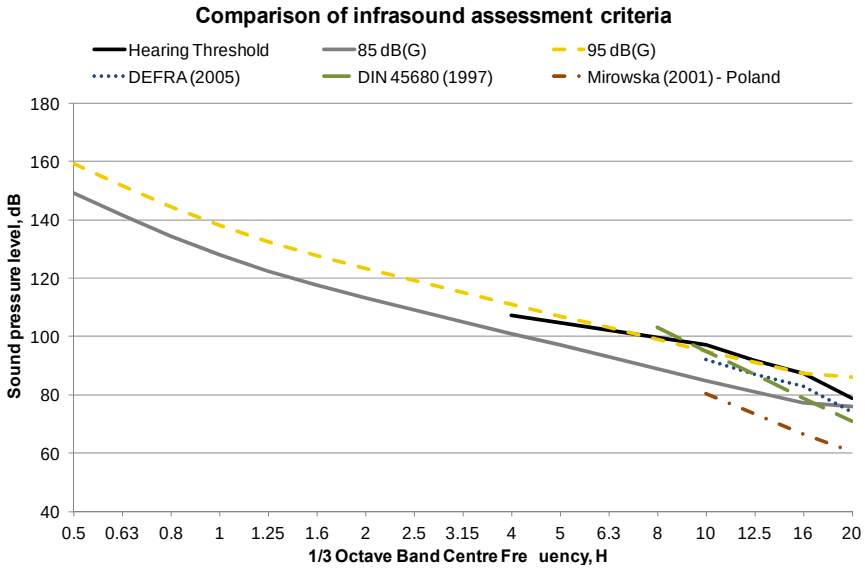

Figure – Comparison of infrasound assessment criteria

Given that an 85dB(G) criterion is 5 to 10dB lower than the mean hearing threshold, it could be considered a conservative criterion that takes into account expected variations in individual hearing thresholds and any potential difference in the hearing thresholds between pure infrasonic tones and more broadband infrasonic noise.

The assessment criteria presented in Figure 6 allow measured infrasound levels as part of the present study to be placed in context. While the aim of this study is to compare infrasound levels between different environments rather than against assessment criteria, it is important to recognise that levels below 85dB(G) would be unlikely to cause adverse response in humans.

3 Measurement results – urban environments

Infrasound measurements were undertaken at seven locations within the Adelaide metropolitan area, to determine typical levels of infrasound within the urban environment.

The seven urban locations were:

- Location 1 – Office on Carrington Street, Adelaide
- Location 2 – Office on Goodwood Road, Goodwood
- Location 3 – EPA office on Victoria Square
- Location 4 – Office with low frequency noise complaint
- Location 5 – residence in Mile End under flight path
- Location 6 – residence in Firle on a minor road and local bus route
- Location 7 – residence in Prospect near a major road.

3.1 Location 1 – Office on Carrington Street

Measurements were undertaken at an office located in Carrington Street in Adelaide from 10 to 13 August and from 22 to 24 August 2012. The measurements were undertaken with the SVAN 945A sound level meter, located in the centre of the office. The office had windows that faced onto Carrington Street, a relatively low-trafficked street in the Adelaide area, which were left closed during the measurement period.

Figure 7 and Figure 8 present the measured infrasound levels over each 10-minute period at Location 1 for both measurement periods. Both the L_{eq} and L_{max} levels are presented. It can be seen that the higher measured levels occur during the daytime, with lower levels occurring at night time when the office was unoccupied. The maximum (L_{max}) levels are typically approximately 10dB(G) higher than the L_{eq} levels.

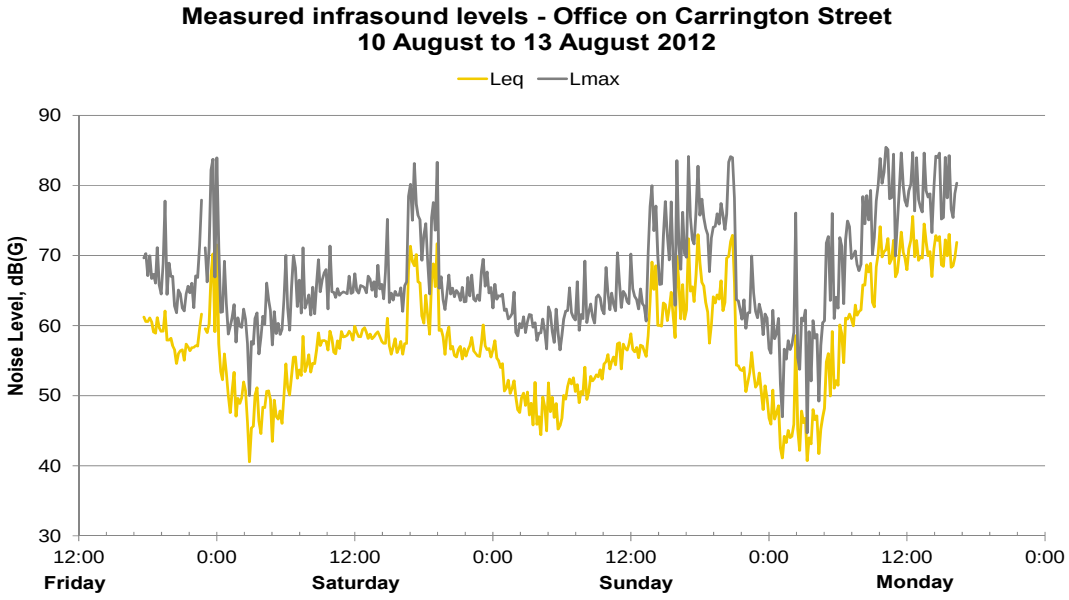

Figure – Measured infrasound levels at Location 1 (Period 1)

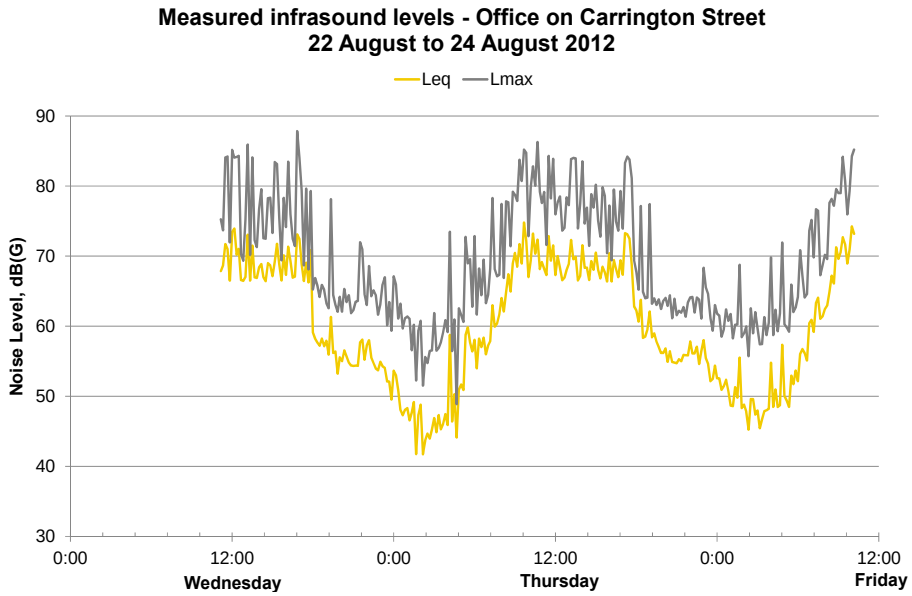

Figure 8 – Measured infrasound levels at Location 1 (Period 2)

Table 1 summarises the measured L_{eq}, L_{10} and L_{90} infrasound levels over both the day and night periods. The L_{10} and L_{90} levels may be considered representative of the typical measured upper and lower noise levels respectively. A night period of 10pm to 7am has been selected as this corresponds to the night time period specified in the *Environment Protection (Noise) Policy 2007*.

Table 1 – Measured infrasound levels in dB(G) at Location 1

Time period	L_e	L_{10}	L_0
Day, 7 am to 10 pm	67	68	51
Night, 10 pm to 7 am	56	57	41

The primary factor affecting the measured infrasound levels at Location 1 appears to be occupation of the office, as evidenced by the marked rise in the measured levels at approximately 4pm on Saturday and 2pm on Sunday when staff were noted to enter the office. The $L_{eq,10min}$on weekdays was typically 66 to 73dB(G), while during the night time it was significantly lower (typically between 45 and 55dB(G)).

To investigate whether this increase in infrasound levels when people were in the office was a result of people generating breezes across the microphone, which had been fitted with a standard 90mm windshield while indoors, infrasound levels were remeasured in the Carrington Street office using the Soundbook system. The two measurement channels were located immediately adjacent to each other, and the microphone of one channel was fitted with a standard 90mm windshield while the microphone of the second channel was fitted with the outdoor windshield to minimise any wind-induced noise. Over a period of 24 hours, no difference was noted in the measured infrasound levels between the two measurement microphones, and the same increase was noted in the G-weighted levels from both measurement channels when the office was occupied. This confirmed that the increase in infrasound levels when people were present in the office was not a result of wind-induced noise.

It also appears that traffic within the local area affected the level of infrasound as the daytime levels on the weekend when the office was unoccupied were 10 to 15dB(G) higher than that at night time.

3.2 Location 2 – Office on Goodwood Road

Measurements were undertaken at an office located on Goodwood Road in Goodwood from 7 to 12 September 2012. The measurements were undertaken with the Soundbook system, with the microphone located in the centre of the main room with windows facing onto Goodwood Road. The windows were kept closed during the measurement period.

Figure 9 presents the measured L_{eq} and L_{max} infrasound levels for each 10-minute period at Location 2. The maximum (L_{max}) levels are between 5 to 10dB(G) higher than the L_{eq} levels.

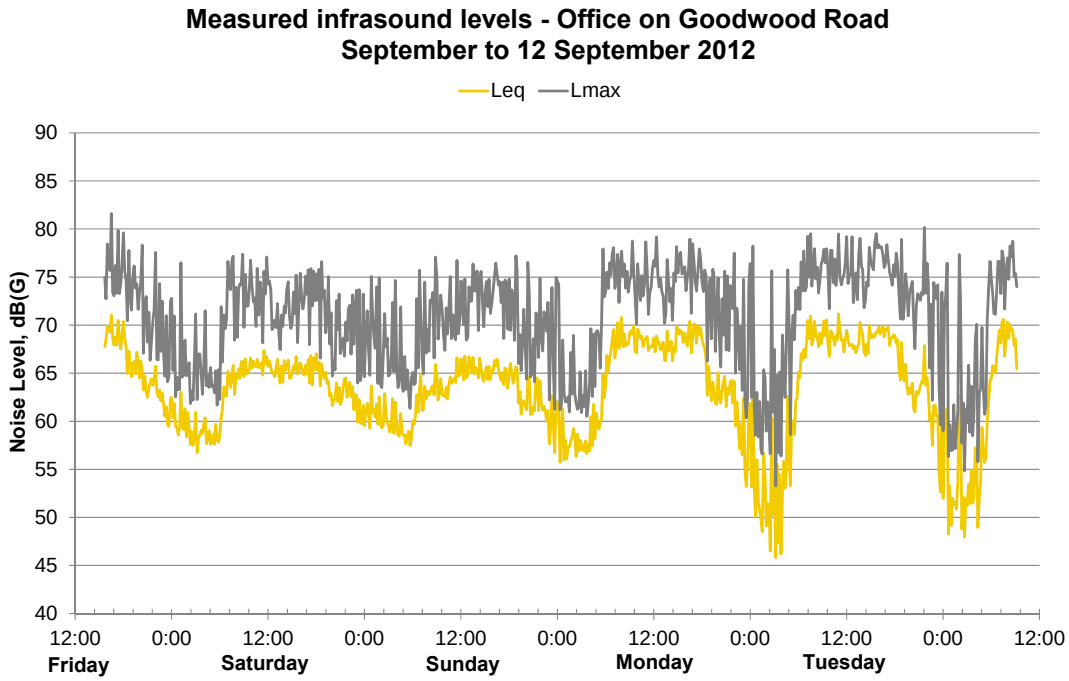

Figure – Measured infrasound levels at Location 2

Table 2 summarises the measured L_{eq}, L_{10} and L_{90}infrasound levels at Location 2 over both the day and night periods.

Table 2 – Measured infrasound levels in dB(G) at Location 2

Time period	L_e	L_{10}	L_{0}
Day, 7 am to 10 pm	67	70	61
Night, 10 pm to 7 am	61	63	48

As for Location 1, the measured infrasound levels are higher during the daytime and when the office is occupied. The daytime L_{eq} levels on weekdays were 4 to 5dB(G) higher than those on the weekend, and up to 20dB(G) higher than those at night. This suggests that both occupation of the office and traffic have affected the infrasound levels.

It can also be seen that the night time infrasound levels at Location 2 on the weekend were higher than those on weeknights. The measurements were undertaken during the opening week of the Royal Adelaide Show at the nearby Wayville Showgrounds and this may have increased night time traffic near the office.

3.3 Location 3 – EPA office

Measurements were undertaken at the EPA office, located on Level 9 of a building on Victoria Square in Adelaide, from 1 to 9 November 2012.The building has a central atrium and is equipped with an automatically timed air conditioning system that serves the entire building. The measurements were undertaken with the Soundbook system, with one microphone located in the office area nearer the atrium and the second microphone located towards the eastern glazed facade of the building, facing away from Victoria Square.

Figure 10 presents the measured L_{eq} infrasound levels for each 10-minute period at Location 3, with the central location referring to that near the atrium and the eastern location referring to that nearer the facade. The maximum (L_{max}) levels are not presented for clarity but were typically 2 to 4dB(G) higher than the L_{eq} levels.

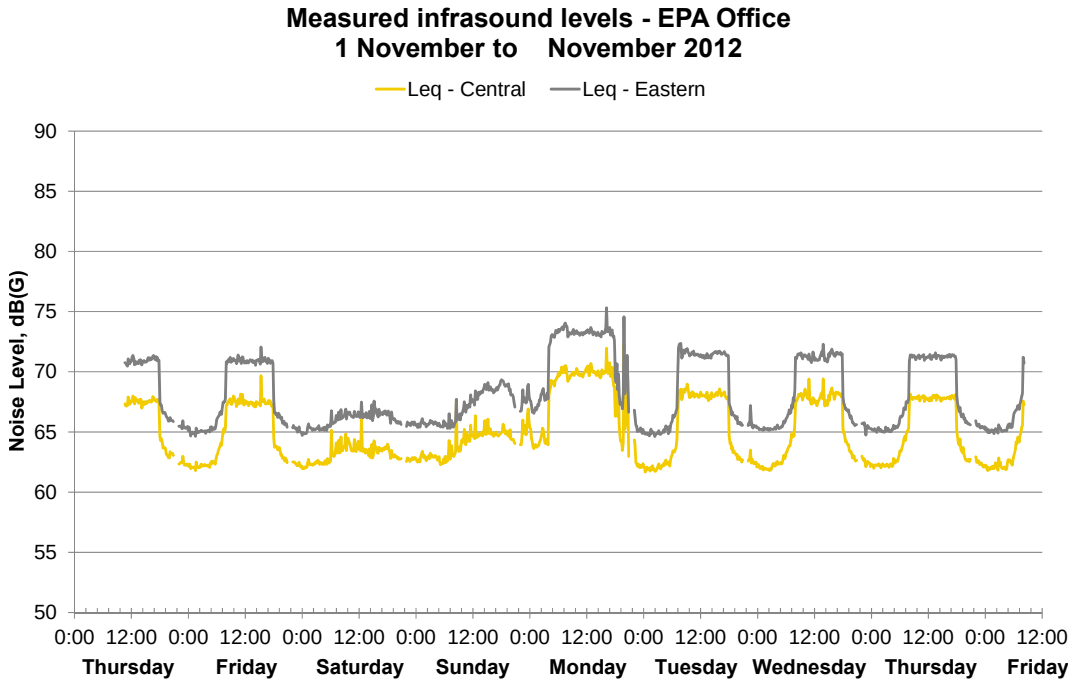

Figure 10 – Measured infrasound levels at Location 3

Table 3summarises the measured L_{eq}, L_{10} and L_{90} infrasound levels at Location 3 over both the day and night periods.

Table 3 – Measured infrasound levels in dB(G) at Location 3

Time period	Central			Eastern		
	L_e	L_{10}	L_0	L_e	L_{10}	L_0
Day, 7 am to 10 pm	67	67	66	70	70	66
Night, 10 pm to 7 am	63	63	62	66	66	65

The measurements indicate that L_{eq} infrasound levels in the EPA office range from 68 to 74dB(G) during weekdays, remaining steady throughout the day. This suggests that there is a constant source of the infrasound during these periods and, based on the start and end times, it is believed to be the result of mechanical plant located on the building roof. Infrasound levels at night and on weekends are lower but still remain at higher levels than in other locations, typically 62 to 66dB(G). As the increase is relatively steady, it suggests that this is the result of other rooftop plant operating 24 hours a day.

There also appears to be a relatively steady difference of 3dB(G) between infrasound levels in the two measurement locations, with the microphone located near to the building facade measuring higher levels than that located near the central atrium. This indicates that transmission of infrasound from rooftop plant is greater through the glazed facade.

Overall, the measured infrasound levels in the EPA office represent some of the highest levels measured at any of the urban and rural locations.

3.4 Location 4 – Office with LF noise complaint

Measurements were undertaken at an office located in the metropolitan Adelaide area where a low frequency noise complaint had been received. The source of the low frequency noise complaint was the air conditioning system for the building. The measurements were undertaken using a Brüel & Kjær Type 2250 sound level meter, and therefore the actual G-weighted noise levels will be marginally lower than presented in this report (as the instrument only measures to 6.3Hz).

Figure 11 presents the measured L_{eq} infrasound levels over each 15-minute period at Location 4, with the microphone located in the area from which the complaint was received. All windows to the office were closed and the air conditioning system was operating on the weekdays but not on the weekend.

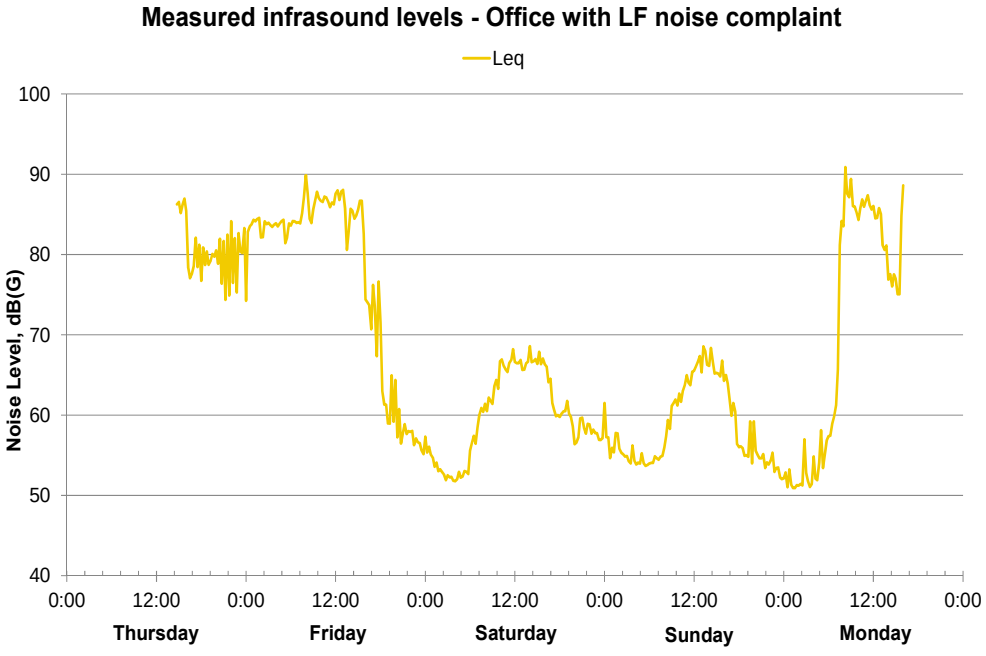

Figure 11 – Measured infrasound levels at Location 4

Table 4 summarises the measured L_{eq} infrasound levels at Location 4 over both the day and night periods.

Table 4 – Measured infrasound levels in dB(G) at Location 4

Time period	L_e
Day, 7 am to 10 pm	82
Night, 10 pm to 7 am	76

The measurement results at Location 4 indicate that infrasound levels increased significantly when the air-conditioning system was operating. The measured $L_{eq,15min}$ infrasound levels at Location 4 regularly reached 85 to 90dB(G) when the system was operating, suggesting infrasound may have been just perceptible to occupants at times. However, it should be noted that noise levels measured within this building were controlled within the frequency range of 20 to 40Hz and therefore any adverse reaction of the office occupants may have been caused by low frequency noise rather than infrasound.

Over the weekend when the air conditioning system was not operating, measured infrasound levels were 20 to 30dB(G) lower. At these times, it appears as though traffic was the primary source of infrasound, with higher levels recorded during the daytime.

3.5 Location 5 – House at Mile End

Measurements were undertaken at a house located in Mile End, under an Adelaide Airport flight path, from 25 to 29 August 2012. The house is located approximately 3 km from the Adelaide Airport main runway and 300 metres from South Road. The measurements were undertaken with the SVAN 945A sound level meter, located in the living room, and the house was occupied during the majority of the measurement period.

Figure 12 presents the measured L_{eq} and L_{max} infrasound levels for each 10 minute period at Location 5. As for the other urban locations, measured infrasound levels at Location 5 appear to be controlled by human activity, increasing sharply at the beginning of the day and decreasing suddenly at night.The maximum (L_{max}) levels are typically 10 to 15dB(G) higher than the L_{eq} levels during both the day and night time periods.

Table 5 summarises the measured L_{eq}, L_{10} and L_{90} infrasound levels at Location 5 over both the day and night periods.

Table 5 – Measured infrasound levels in dB(G) at Location 5

Time period	L_e	L_{10}	L_0
Day, 7 am to 10 pm	61	61	52
Night, 10 pm to 7 am	53	53	43

Measured infrasound levels were noted to increase when aircraft from Adelaide Airport were taking off or landing, and this appears to be the cause of the larger difference between the measured L_{eq} and L_{max} levels at this location relative to the other urban locations. However, the overall measured L_{eq} infrasound levels at this location were typically lower than those measured at the office locations.

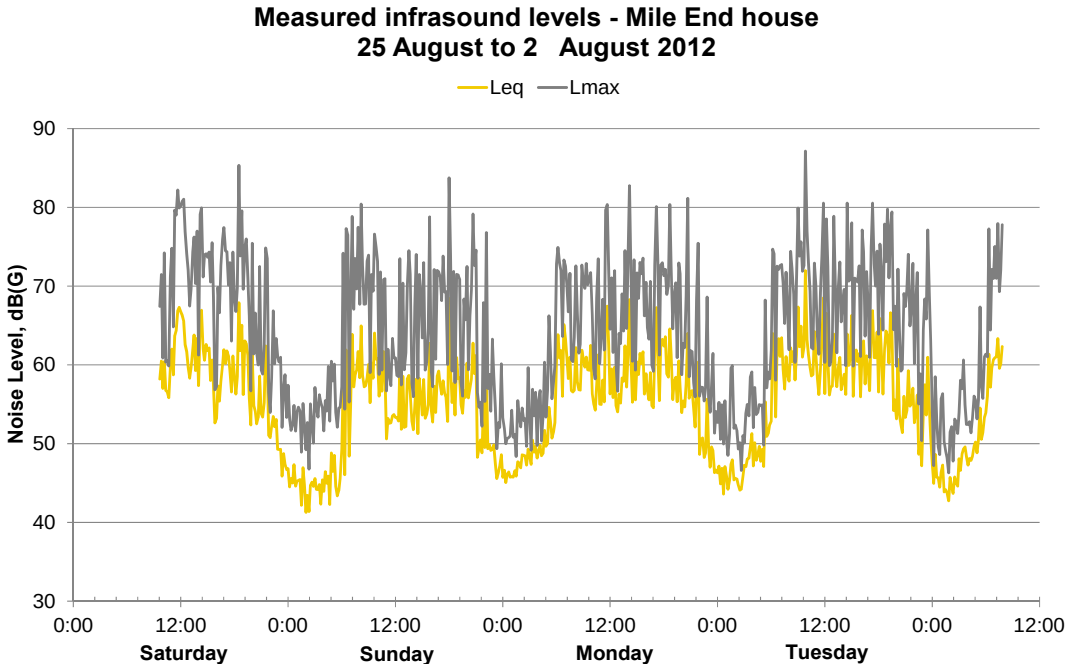

Figure 12 – Measured infrasound levels at Location 5

3. Location – House at Firle

Measurements were undertaken at a house located in Firle, from 30 August to 4 September 2012. The house is on a local bus route but is located over 200 metres from the nearest major road.

The measurements were undertaken with the Soundbook system, with one microphone located in a spare bedroom of the residence and the second microphone located in a closed shed towards the rear of the property. The house was unoccupied for some of the measurement period, including from approximately 11 am on Saturday until approximately 4 pm on Monday.

Figure 13 presents the measured L_{eq} infrasound levels for each 10-minute period in the spare bedroom of the residence and in the shed. L_{max} infrasound levels have not been presented for clarity but were between 5 to 15dB(G) above the L_{eq} infrasound levels in both measurement locations.

Table 6 summarises the measured L_{eq}, L_{10} and L_{90} infrasound levels at Location 6 over both the day and night periods.

Table – Measured infrasound levels indB(G) at Location

Time period	Bedroom			Shed		
	L_e	L_{10}	L_0	L_e	L_{10}	L_0
Day, 7 am to 10 pm	61	62	52	66	68	60
Night, 10 pm to 7 am	54	54	44	60	63	54

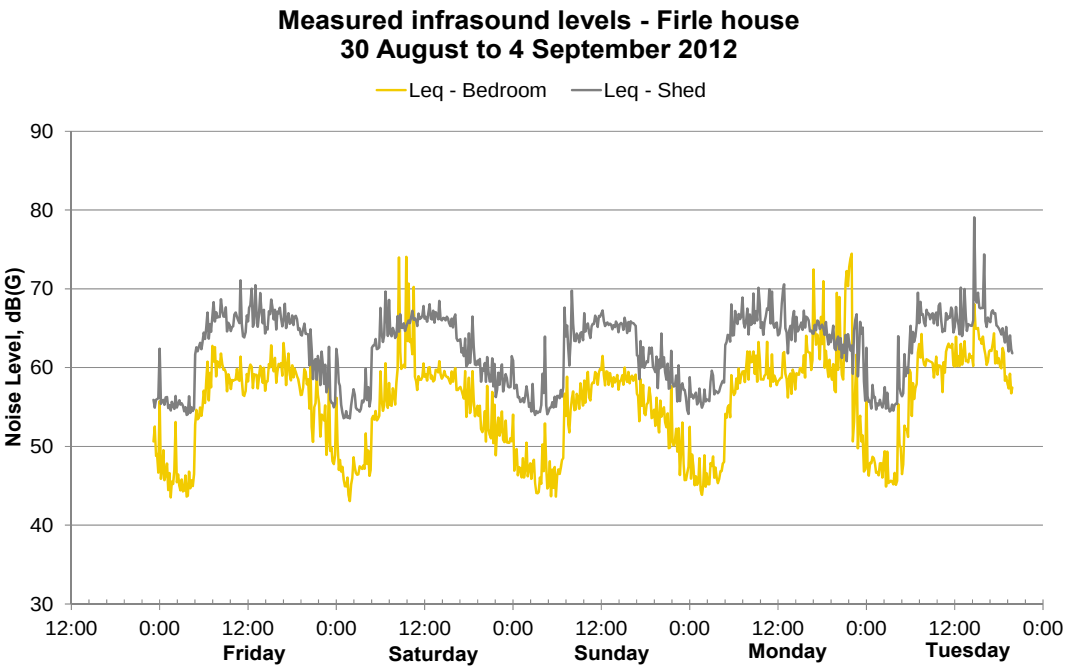

Figure 13 – Measured infrasound levels at Location

The measurement results at Location 6 indicate that infrasound levels are higher during the daytime than at night, suggesting that traffic and human activity is the primary source of infrasound. Activity within the house was also a source of higher levels of infrasound as, while the spare bedroom was generally unoccupied with the door closed, the occupants of the house entered the room from approximately 9 to 11 am on Saturday and 9 to 11 pm on Monday resulting in a marked increase in both the measured L_{eq} and L_{max} levels.

It can also be seen that infrasound levels in the shed were typically 5 to 10dB(G) higher than the infrasound levels in the spare bedroom. A review of the frequency content for both locations found that this was due to noise levels in the shed being considerably higher than those in the bedroom across the frequency range from 16 to 31.5Hz. This frequency range typically controls the G-weighted noise level and therefore resulted in higher measured G-weighted noise levels in the shed relative to the bedroom.

The shed is constructed from sheet metal whereas the house is of a double brick construction. The house appears to provide a considerably higher attenuation of infrasound levels.

3. Location – House at Prospect

Measurements were undertaken at a house located in Prospect, approximately 45 metres from Regency Road, between 24 August and 30 August 2012. The measurements were undertaken with the Soundbook system, with one microphone located in the downstairs living area and the second microphone located in the upstairs spare room (from 27 August). The house was occupied during the measurements.

Figure 14 presents the measured L_{eq} G-weighted infrasound levels for each 10-minute period in the downstairs living area and the upstairs spare room.

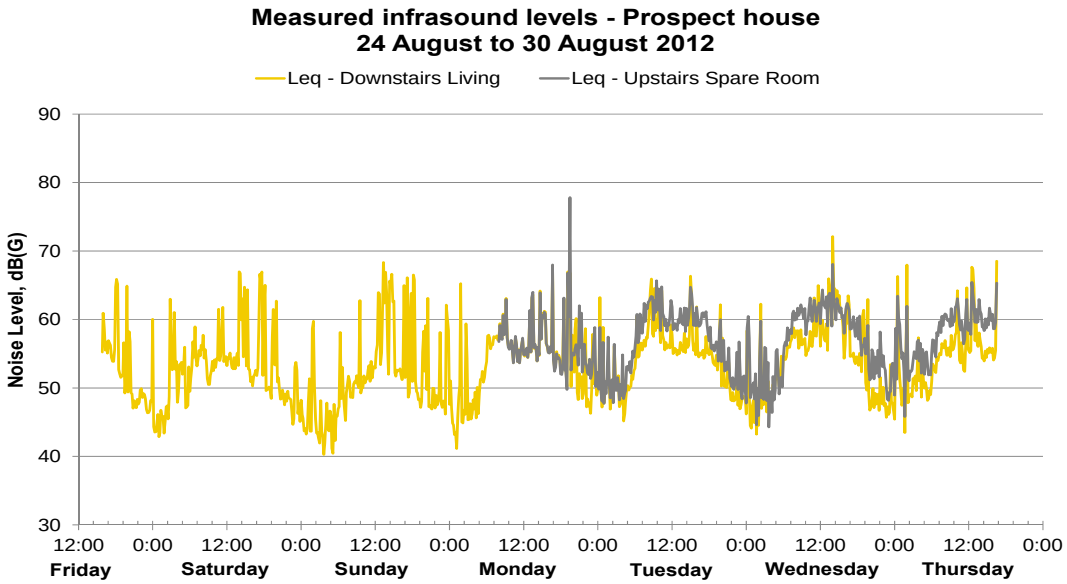

Figure 14 – Measured infrasound levels at Location

Table 7 summarises the measured L_{eq}, L_{10} and L_{90}infrasound levels at Location 7 over both the day and night periods.

Table – Measured infrasound levels in dB(G) at Location

Time period	Downstairs living area			Upstairs spare room		
	L_e	L_{10}	L_0	L_e	L_{10}	L_0
Day, 7 am to 10 pm	59	59	49	61	62	52
Night, 10 pm to 7 am	53	54	43	54	57	45

The measured infrasound levels at this location are similar to those at the other residential locations, with measured $L_{eq,10min}$ levels between 45 and 65dB(G). This suggests that the relative proximity to a major road (when compared to Location 5 and Location 6) has not significantly influenced the measured levels. Infrasound levels increase during the day and decrease at night, with peaks in the measured levels corresponding to periods when the rooms were occupied.

The measured noise levels in the upstairs spare room were higher than those in the downstairs living area despite the room being unoccupied for considerably longer periods. This is believed to have been the result of a window in the spare room being slightly ajar for the majority of the measurement period.

3.8 Summary of measured urban infrasound levels

Table 8 summarises the measured infrasound levels, across both the day and night periods, at each of the urban locations.

Table 8 – Summary of measured urban infrasound levels in dB(G)

Location	Day, am to 10 pm			Night, 10 pm to am		
	L_e	L_{10}	L_0	L_e	L_{10}	L_0
1	67	68	51	56	57	41
2	67	70	61	61	63	48
3 – Central	67	67	66	63	63	62
3 – Eastern	70	70	66	66	66	65
4	82	–	–	76	–	–
5	61	61	52	53	53	43
6 – Bedroom	61	62	52	54	54	44
6 – Shed	66	68	60	60	63	54
7 – Downstairs living	59	59	49	53	54	43
7 – Upstairs spare	61	62	52	54	57	45

From the measurement results, it is clear that day time infrasound levels of between 60 and 70dB(G) commonly occur in the urban environment. Infrasound levels are generally between 5 to 10dB(G) lower during the night time period.

Given the differences in level noted between unoccupied and occupied periods at each location, and between the day and night time periods:

- Noise generated by people within a space is the most significant contributor to measured infrasound levels, as the measured levels during occupied periods were 10 to 15dB(G) higher than unoccupied periods.
- Traffic may also influence the infrasound level in an environment, with measured levels during the daytime periods typically 10dB(G) higher than between midnight and 6am, when traffic would be expected to be at its lowest.

At Location 3 (the EPA office), infrasound generated from rooftop mechanical plant appeared to control levels during weekdays. Levels of between 68 and 73dB(G) were measured in the office while the rooftop plant was operating. Similarly, at Location 4, where there was a low frequency noise complaint, infrasound levels regularly exceeded 85dB(G) during operation of the air conditioning system causing the complaint. These results suggest that mechanical air-conditioning plant can be a significant source of infrasound as these two locations exhibited some of the highest levels of infrasound measured during the study.

4 Measurement results – rural environments

Infrasound measurements were undertaken at four rural locations, for comparison with measurements gathered in the urban environments:

- Location 8 – house located adjacent to Bluff Wind Farm
- Location 9 – house located near Clements Gap Wind Farm
- Location 10 – farmhouse located near Jamestown, 10 km from nearest wind turbine
- Location 11 – house located near Myponga, 30 km from nearest wind turbine.

Both outdoor and indoor infrasound measurements were undertaken at each of these locations. It was found that the indoor level of infrasound was typically similar to or slightly lower than the outdoor level of infrasound at each of the locations, once the effect of extraneous noise sources had been discounted. Refer to Appendix B for a discussion of the difference between the measured outdoor and indoor infrasound levels.

4.1 Location 8 – House near Bluff Wind Farm

Measurements were undertaken at a house located near to the Bluff Wind Farm, northwest of Hallett. The wind farm is comprised of 24 Suzlon S88 2.1 MW turbines and one Suzlon S97 2.1 MW turbine, with the house located approximately 1.5 kilometres from the nearest turbine. North Brown Hill Wind Farm is also located to the west of the house, and is comprised of the same S88 2.1MW turbines. The nearest turbine at North Brown Hill is positioned 8 kilometres from the measurement location, and 22 of the turbines at the Bluff Wind Farm were closer than the nearest turbine at North Brown Hill.

The measurements were undertaken between 2 October and 10 October 2012. During this period, the house was unoccupied and the mains power and water supply were switched off, minimising influences from extraneous noise sources. The SVAN 945A was located in one bedroom (Bedroom 1) with one measurement channel of the Soundbook system positioned in the second bedroom (Bedroom 2). The second measurement channel of the Soundbook system was located outside, approximately 10 metres from the window of Bedroom 2.

The house is of a masonry construction and is estimated to be approximately 100 years old, typical of many rural residences in South Australia. The two bedrooms used for the indoor measurements both had sash windows facing towards the Bluff Wind Farm. The windows in each bedroom were able to be properly closed such that wind-induced noise across the indoor microphone was not of significant concern to the measurement results.

Figure 15 presents the measured indoor $L_{eq,10min}$ and L_{max} infrasound levels across the measurement period at Location 8. The 10-minute average hub height (80 metres above ground level) wind speed measured at the nearest meteorological mast at the Bluff Wind Farm is also presented on the figure for comparison. The mast is located approximately 1.4 kilometres from the house.

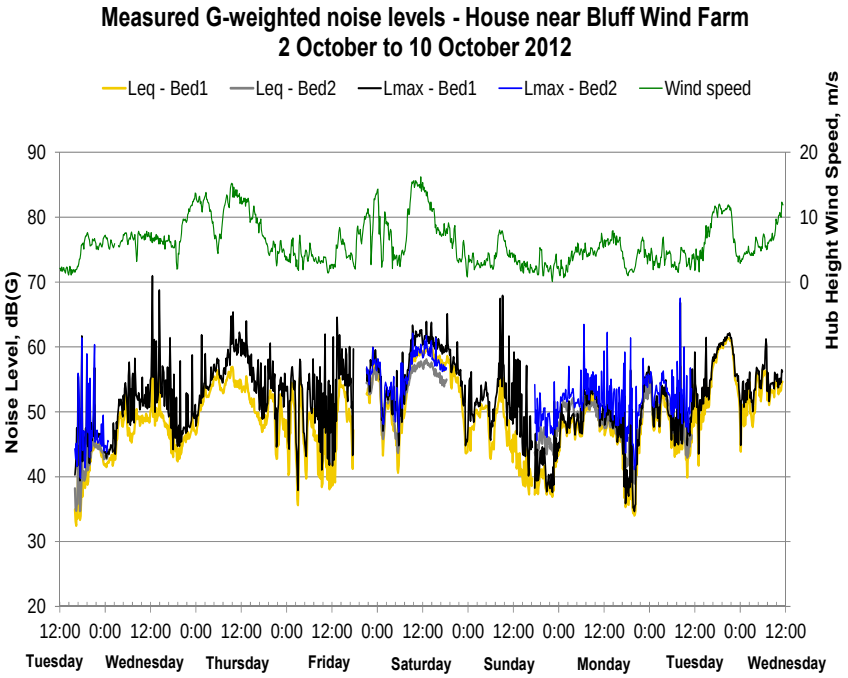

Figure 15 – Measured indoor infrasound levels at Location 8

Note that gaps in the datasets are due to the battery supply to the Soundbook system running low (as there was no mains power at the measurement site) or due to data being downloaded from either of the analysers. Semi-regular trips were made to replace batteries but only a limited dataset could be gathered each time on the Soundbook system, which requires significantly more power than the SVAN 945A.

The results demonstrate that infrasound levels at the house located near the wind farm typically range from 40 to 60dB(G).The measured levels were approximately equivalent in both rooms, suggesting that there is not a significant variation in infrasound levels across different rooms facing towards the wind farm.

Unlike the urban locations, the infrasound levels at Location 8 do not show a clear correlation with time of day, with night time levels sometimes higher and at other times lower than the levels measured during the daytime. It can also be seen from Figure 15 that the L_{max} infrasound levels are typically 3 to 10dB(G) above the L_{eq} levels, and that short-term infrasound levels at Location 8 are no greater than at the urban locations.

The measured outdoor infrasound levels have not been presented on Figure 15 for clarity, but the L_{eq} levels were found typically to be about 5dB(G) above the measured indoor L_{eq} infrasound levels. The measured outdoor infrasound L_{max} levels were typically 2 to 10dB(G) above the measured L_{eq} levels. Further discussion of the difference between outdoor and indoor infrasound levels is provided in Appendix B.

Table 9 summarises the measured L_{eq}, L_{10} and L_{90}infrasound levels at Location 8 over both the day and night periods.

Table – Measured infrasound levels in dB(G) at Location 8

Time period	Bedroom 1			Bedroom 2			Outdoor		
	L_e	L_{10}	L_0	L_e	L_{10}	L_0	L_e	L_{10}	L_0
Day, 7 am to 10 pm	53	53	43	51	50	43	58	55	52
Night, 10 pm to 7 am	50	53	43	51	52	45	56	57	55

Figure 16 presents the measured indoor infrasound levels at Location 8 versus hub height wind speed at the wind farm site. The results are presented separately for downwind conditions (e.g. wind blowing from the wind farm to the measurement location within ±45° from the line connecting the measurement location and the nearest turbine) and for all other wind directions. There appears to be some correlation in the datasets with wind speed at the wind farm site, with infrasound levels generally increasing as the wind speed increases. However, the correlation is relatively weak, such that wind speed at the wind farm site does not appear to be the main factor affecting infrasound levels at the house.

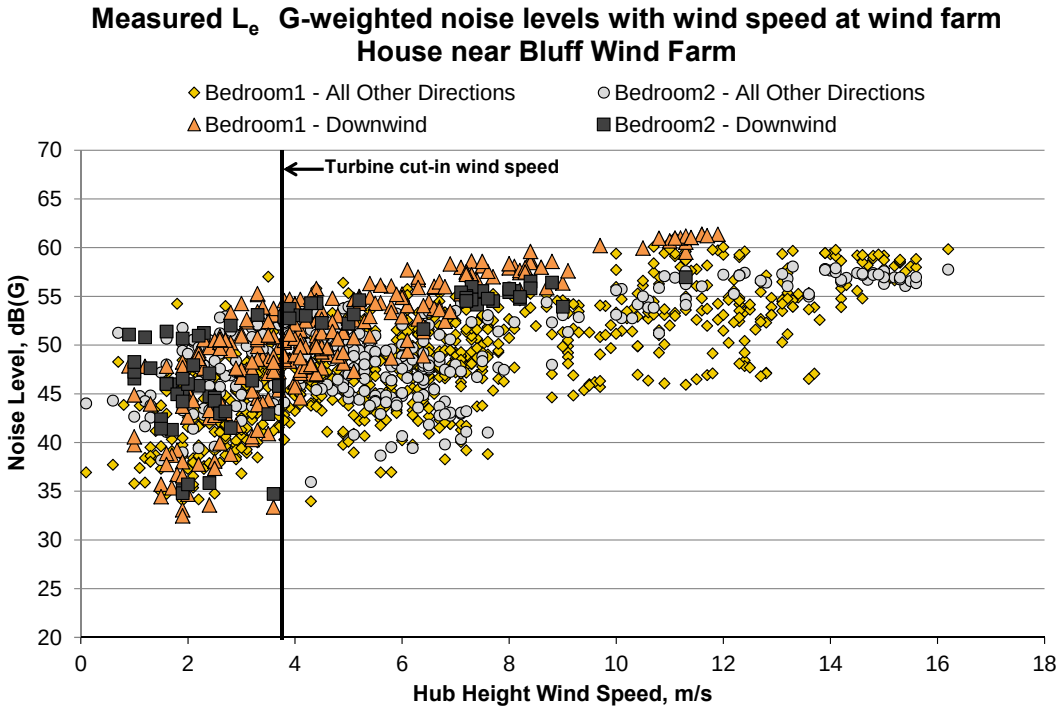

Figure 1 – Measured indoor infrasound levels with wind speed, Location 8

Similarly, infrasound levels appear to increase during downwind conditions but this increase is noted even when the wind speed is below the turbine cut-in wind speed (4 m/s) and the turbines are not operating. Therefore, this downwind increase is less likely to be a result of the operation of the wind farm.

Figure 17presents the measured outdoor infrasound levels at Location 8 with hub height wind speed at the wind farm site. A similar result can be seen as in Figure 16, where there is some correlation in the datasets with wind speed, but that the correlation is still somewhat limited.

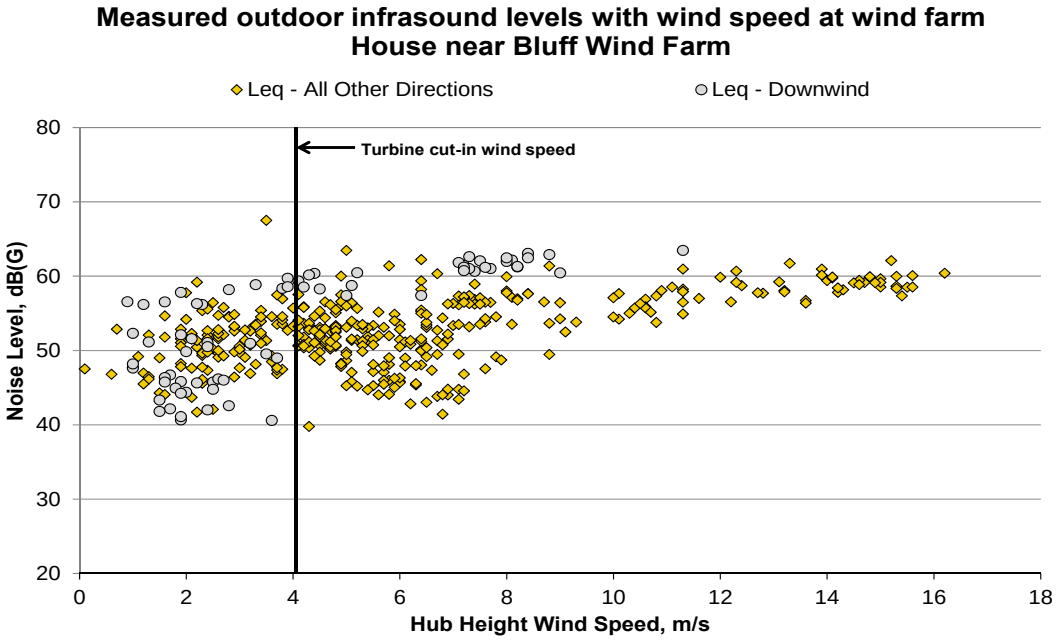

Figure 1 – Measured outdoor infrasound levels with wind speed, Location 8

Based on the lack of strong correlation between noise level and wind speed at the wind farm it appears that localised wind conditions, rather than wind conditions at the wind farm, may control infrasound levels at the house. This could also explain the increase in infrasound levels in Bedroom 1 and Bedroom 2 under downwind conditions, as these rooms would be more exposed to wind during downwind periods (when they would be in the most exposed facade) than during other periods when they would be shielded by the other parts of the house.

To confirm the contribution of the Bluff Wind Farm to infrasound levels at the house, a shutdown of the whole wind farm was arranged to occur from approximately 9pm to 10pm on 5 October 2012. During the shutdown, the 10-minute wind speed measured at the meteorological mast was 10 to 12 m/s and the wind direction was approximately 90° relative to the line from the nearest turbine to the house (i.e. crosswind conditions).

The measured infrasound levels at Location 8 both during and after the shutdown period are shown in Figure 18, along with the wind speed measured at the nearest meteorological mast at the Bluff Wind Farm. A period approximately four hours after the shutdown is highlighted for comparison as the same wind conditions (speed and direction) occurred as occurred during the shutdown.

It can be seen that the typical levels of infrasound in the two bedrooms during the shutdown were 51 to 55dB(G) L_{eq} and 54 to 58dB(G) L_{max}. The outdoor infrasound levels were 5 to 7dB(G) above the indoor levels. In the period immediately following the shutdown, the wind direction changed by approximately 90° (to upwind) and the measurement results are unable to be directly compared. However, it appears as though the infrasound levels remained relatively steady following the shutdown, with a marginal 2 to 3dB(G) increase in the infrasound levels corresponding to an increase in the wind speed relative to the shutdown period.

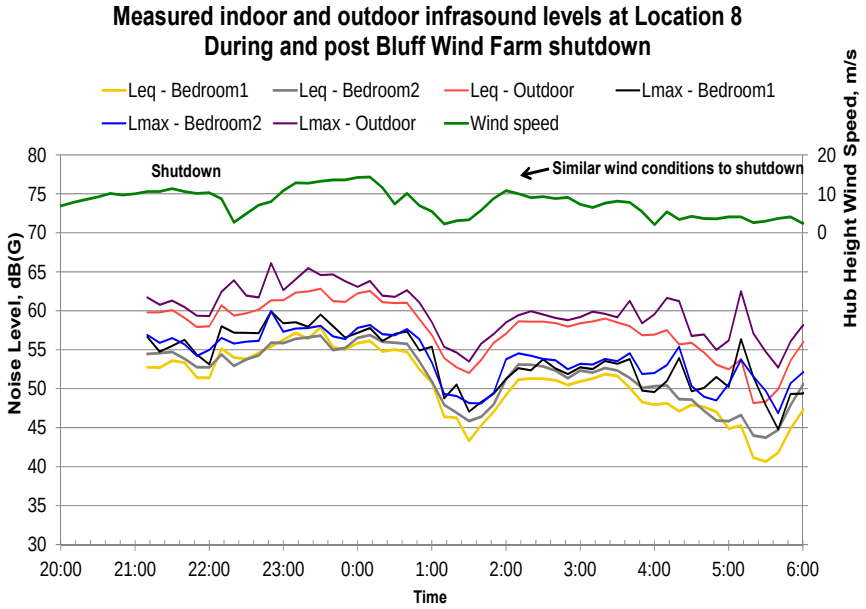

Figure 18 – Measured infrasound levels during and after Bluff Wind Farm shutdown

From 2 am to 2:20 am on 6 October (4 hours after the shutdown) the wind speed and wind direction at the meteorological mast was similar to that during the shutdown allowing a comparison between the two periods. The measured infrasound levels both during the shutdown and with the wind farm operational are summarised in Table 10, including the wind speed and wind direction relative to the house (0° corresponds to upwind).

Table 10 – Infrasound levels in dB(G) at Location 8 during and after shutdown

Date	Time	Bedroom 1		Bedroom 2		Outdoor		Wind conditions	
		L_e	L_{max}	L_e	L_{max}	L_e	L_{max}	Speed, m/s	Relative direction (0 upwind)
Shutdown periods									
5/10	21:10	53	57	55	57	60	62	10.6	103°
5/10	21:20	53	55	55	56	60	61	10.6	100°
5/10	21:30	54	56	55	56	60	61	11.3	96°
5/10	21:40	53	56	54	57	59	61	10.6	92°
5/10	21:50	51	54	53	54	58	59	10.1	92°
5/10	22:00	51	53	53	55	58	59	10.3	82°
Operational periods									
5/10	23:00	56	58	56	57	61	63	10.8	46°
6/10	00:20	55	56	56	57	61	62	11.6	43°
6/10	02:00	49	51	51	54	57	59	10.8	87°
6/10	02:10	51	53	53	55	58	59	10	96°

It can be seen that a marginal 2 to 3dB(G) increase in infrasound levels occurred during the measurements at 11 am and 12:20 am, but that this could well have resulted from a change in wind conditions (a small increase in wind speed and 40° to 50° shift in wind direction).

The periods at 2am and 2:10am provide a more direct comparison as wind conditions were very similar to the shutdown periods. During these periods, the infrasound levels

measured at the house with the wind farm operating were up to 4dB(G) lower than that measured during the shutdown.

The analysis of the measured infrasound levels both during and after the Bluff Wind Farm shutdown indicates that the wind farm did not contribute to the level of infrasound at the house.

4.2 Location – House near Clements Gap Wind Farm

Measurements were undertaken at a house located near to the Clements Gap Wind Farm, southwest of Crystal Brook. The wind farm is comprised of 27 Suzlon S88 2.1 MW turbines. The house made available for the measurements adjacent to Clements Gap Wind Farm is located approximately 1.4 kilometres from the nearest turbine.

The measurements were undertaken between 30 November and 9 December 2012. During this period, the house was unoccupied although the resident was undertaking renovation work during daytime hours. One measurement channel of the Soundbook system was located inside a room that had a window facing towards the Clements Gap Wind Farm. The second measurement channel of the Soundbook system was located outside, approximately 5 metres from the window of the bedroom.

The house is of a masonry construction and is estimated to be approximately 100 years old (similar to Location 8). The room used for the indoor measurements had two windowsand one external door (as part of an adjoining room) facing towards Clements Gap Wind Farm, and a third window facing in another direction. The house was in the process of renovation and there were gaps in the facade and around windows and external doors.

During occasional visits to site, it was found that the external door had been left open, which with the gaps in the facade of the room may have resulted in air movement in the room with the indoor microphone. A sheet of iron held by a single nail in one corner was also noted to be banging (and generating infrasound) on the roof near the measurement room during a site visit at a time of high winds near the conclusion of the measurements. These observations during the measurements lead to significant concern about the accuracy of the indoor measurements, and the outdoor measurements at this location are considered to be a more reliable data set for this study. However, it should be noted that the outdoor measurements were also conducted relatively close to the loose sheet of roofing iron, and this may have affected the measurements during high winds.

Figure 19presents the measured indoor and outdoor $L_{eq,10min}$ and L_{max} infrasound levels across the measurement period at Location 9. The 10-minute average hub height (80 metres above ground level) wind speed from the nearest turbines at the Clements Gap Wind Farm is also presented on the figure for comparison.

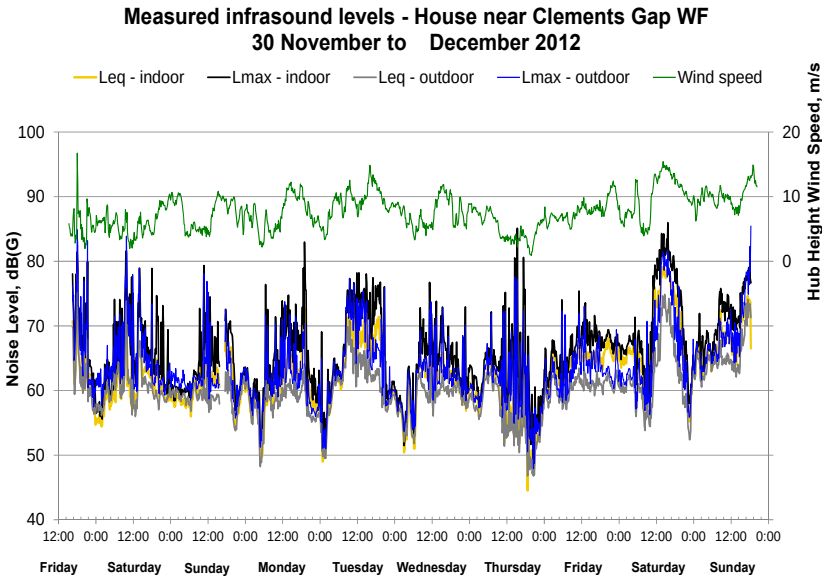

Figure 1 – Measured indoor and outdoor infrasound levels at Location

The results indicate that outdoor infrasound levels at Location 9 range from 50 to 75dB(G) L_{eq}, with L_{max} levels typically between 5 to 15dB(G) above the L_{eq} levels. It can also be seen that the indoor infrasound levels are often similar to the outdoor levels but that there are extended periods where the indoor levels are markedly higher than the outdoor. Based on the occasional site inspections, a number of these periods were identified as times when renovation work was occurring or when the external door was open, suggesting that the infrasound levels measured outdoors provide a better representation of the actual infrasound levels at Location 9.

Table 11 summarises the measured L_{eq}, L_{10} and L_{90} noise levels over both the day and night periods.

Table 11 – Measured infrasound levels in dB(G) at Location

Time period	Indoor			Outdoor		
	L_e	L_{10}	L_0	L_e	L_{10}	L_0
Day, 7 am to 10 pm	66	71	58	62	66	56
Night, 10 pm to 7 am	57	65	55	56	62	55

The measured levels at Location 9 show a slight change with time of day, with measured magnitudes during daytime typically higher than those at night. This also suggests that renovation works at the house influenced the infrasound levels. However, there does also appear to be some relationship with wind speed at the wind farm during particular periods.

Figure 20presents the measured infrasound levels with at Location 9 with hub height wind speed at the wind farm site. The results are presented separately for downwind conditions (e.g. wind blowing from the wind farm to the measurement location) and for all other wind directions. It can be seen that there is an upward trend in the measured levels with wind speed, but that there is a considerable spread in the dataset. The data points collected during downwind conditions do not seem to be noticeably higher than those collected during other wind conditions, suggesting there is no reason to believe that infrasound levels are higher when the measurement location is positioned downwind of

the wind farm. A lack of strong correlation between hub height wind speed at the wind farm and infrasound levels at the house, and no sudden reduction in infrasound levels below turbine cut-in is noted, which suggests the wind farm may not be a significant contributor to the infrasound levels at the measurement locations.

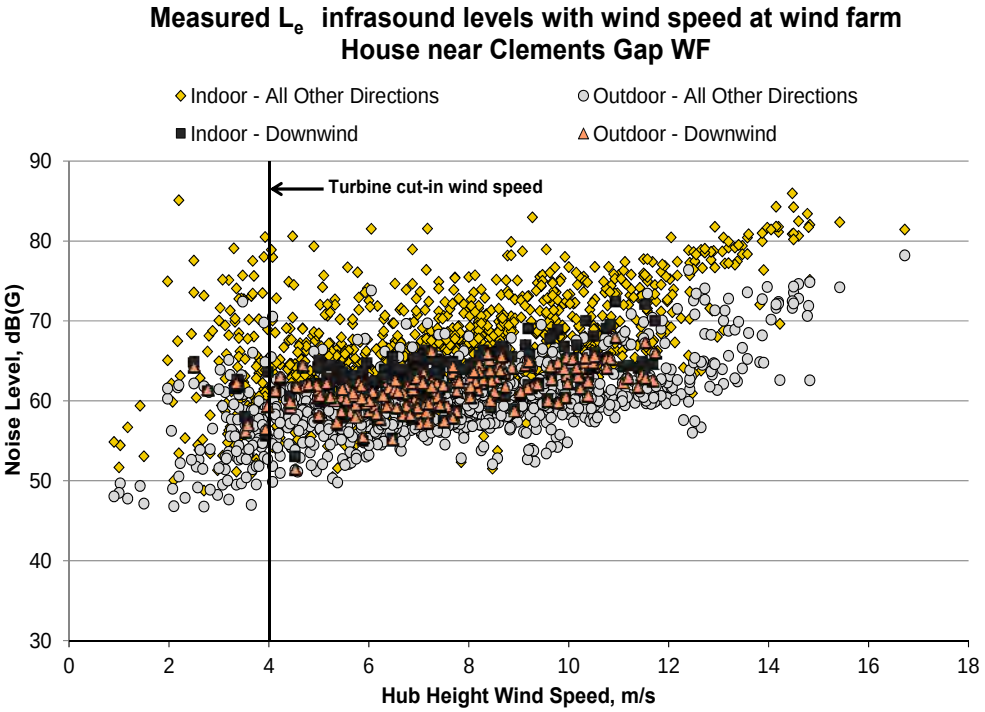

Figure 20 – Measured infrasound levels versus wind speed, Location

It is also apparent that there is considerable scatter in the indoor dataset, confirming that the indoor location was more affected by extraneous noise sources.

It should be noted that the relatively high levels of infrasound measured under high winds at this location are believed to be a result of the loose sheet of iron on the roof immediately above the room in which the indoor microphone was located. The sheet at Location 9 was found to be noticeably rattling under high wind conditions and would have influenced the measurement results at the indoor location in particular.

To check the contribution of Clements Gap Wind Farm to the infrasound levels at the Location 9, the wind farm was shutdown from approximately 8:20pm to 10:50pm on 8 December 2012. During this period, the hub height wind speed at the wind farm was between 9 to 11 m/s, and the wind direction was approximately 70º to 80º relative to the house (crosswind, slightly upwind conditions).The measured indoor and outdoor infrasound levels at the house near the wind farm before, during and after the shutdown are shown in Figure 21. Note that the indoor levels are presented for information only as it is believed that these measurements were unduly affected by extraneous noise or wind-induced noise both during and outside of the shutdown period.

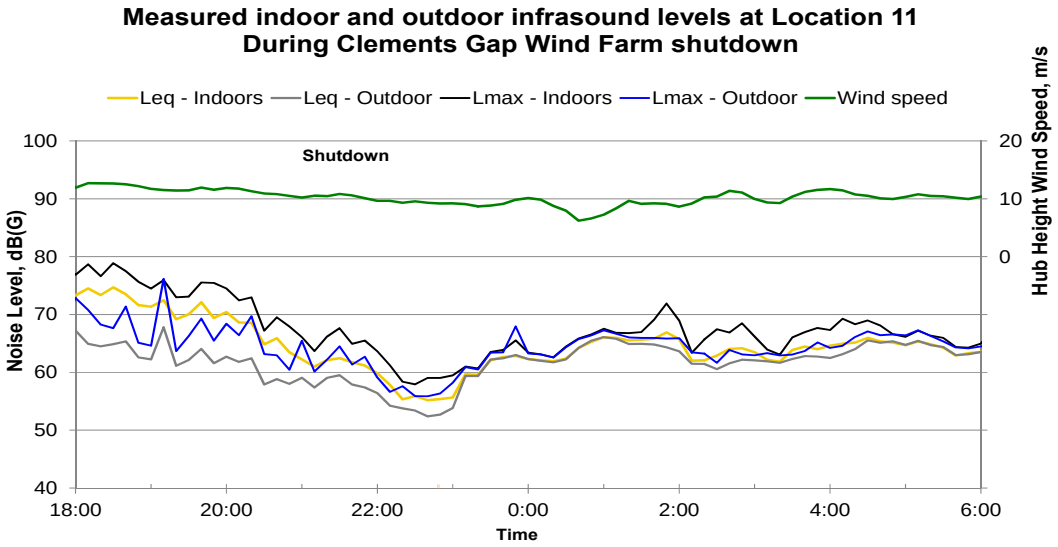

Figure 21 – Measured infrasound levels during shutdown of Clements Gap Wind Farm

While the measured infrasound levels during the shutdown are lower than those measured immediately before and after, no direct conclusions can be drawn as to the contribution of the wind farm to the measured infrasound level as the wind speed was reducing relative to the period before the shutdown and a change in wind direction was observed immediately after the shutdown. This change in wind direction (approximately 50° to 60° in magnitude, towards downwind) is the most likely reason for the marked increase in infrasound levels that occurred after the shutdown.

Similarly, while there was a marked increase in the measured infrasound levels of approximately 5dB(G) at around the time that the turbines became operational, this was not matched by a reduction of the same magnitude when the turbines were originally shutdown. This suggests that other factors may have caused or contributed to these changes.

Figure 22 presents the outdoor infrasound levels versus wind speed for both the shutdown periods and the operational periods under that particular wind direction. Note that the shutdown periods at low wind speed occurred when the wind speed at the turbines was below the cut-in wind speed. A 25º wide wind direction sector has been considered for this analysis, to match the wind directions observed during the shutdown.

The results presented in Figure 22 indicate that, while the shutdown period resulted in some of the lower levels of infrasound during the measurements at Location 9, similar levels of infrasound were measured at the same wind speeds while the turbines were operating. Similarly, the infrasound levels measured at wind speeds below the cut-in wind speed of the turbines were higher than those measured during a number of periods at higher wind speeds when the turbines were operating. Therefore, the typical level of ambient infrasound in the environment around Location 9 is similar to that measured when the turbines are operating.

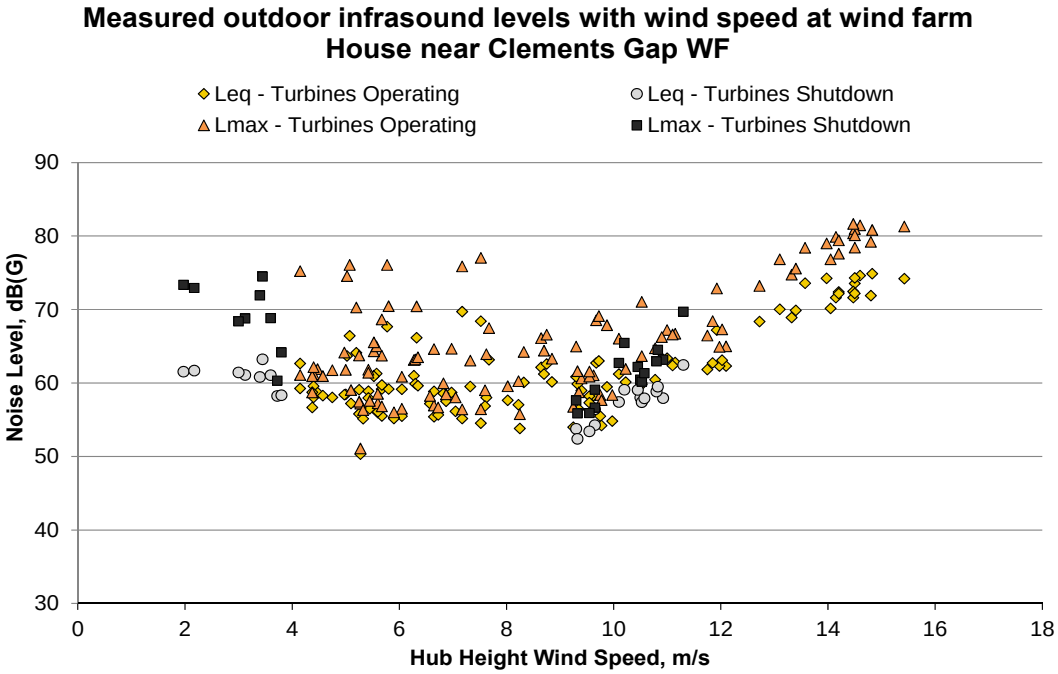

Figure 22 – Measured infrasound levels during same wind direction as shutdown period, Location

Overall, the measurement results at Location 9 demonstrate that, while there may be a relatively minor contribution to measured infrasound levels due to operation of the Clements Gap Wind Farm, the wind farm is not resulting in infrasound levels at the house that are any higher than the existing level of infrasound in the environment.

4.3 Location 10 – Farmhouse near Jamestown

To provide a comparison of rural infrasound levels at a location further away from wind turbines, measurements were undertaken at a farmhouse situated near Jamestown. The farmhouse is about 10 kilometres away from the nearest wind turbine at the North Brown Hill Wind Farm.

The measurements were undertaken between 14 October and 23 October 2012, and the house was occupied during this period. One measurement channel of the Soundbook system was located in a living room and the second measurement channel was located outside, approximately 8 metres from the living room window.

The house is of a weatherboard construction and approximately 60 years old. The living room in which the measurements were taken has a single large window, which was kept closed during the measurement period. The living room is on the side of the house facing away from the North Brown Hill Wind Farm.

Figure 23 presents the measured indoor and outdoor $L_{eq,10min}$ and L_{max} infrasound levels across the measurement period at Location 10. The 10-minute average hub height (80 metres above ground level) wind speed measured at the nearest meteorological mast at the North Brown Hill Wind Farm is also presented on the figure for comparison. The mast is located approximately 11 kilometres from the house.

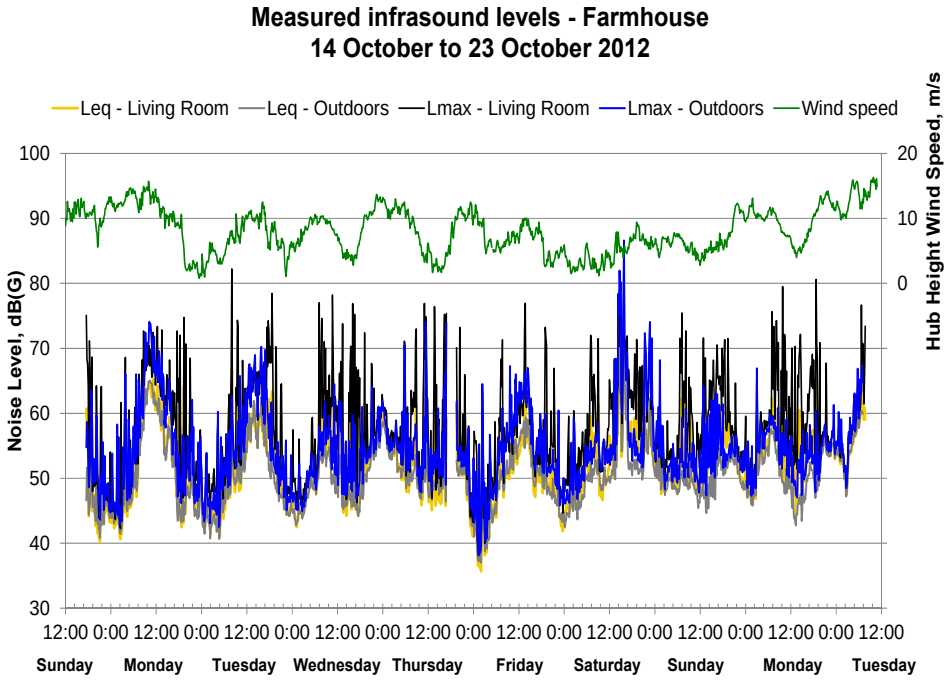

Figure 23 – Measured infrasound levels at Location 10

The measurement results indicate that infrasound levels within the living room at Location 10 typically range between 45 and 65dB(G) L_{eq}, with the L_{max} levels generally 5 to 15dB(G) higher than the L_{eq} levels. The highest levels appear to occur during the daytime periods when people are moving about and generating noise. Noise levels at night are considerably lower, although infrasound magnitudes of up to 60dB(G) L_{eq} were measured during some night periods.

The outdoor L_{eq} levels are typically similar to the indoor levels, but the L_{max} levels measured outdoors are often much lower than the indoors L_{max} levels, particularly during the daytime periods. This suggests that human activity in the house was the source of the higher indoor L_{max} levels.

Table 12 summarises the measured L_{eq}, L_{10} and L_{90} noise levels over both the day and night periods.

Table 12 – Measured infrasound levels in dB(G) at Location 10

Time period	Living room			Outdoor		
	L_e	L_{10}	L_0	L_e	L_{10}	L_0
Day, 7 am to 10 pm	54	61	47	52	58	46
Night, 10 pm to 7 am	47	56	43	47	55	43

Figure 24 presents the measured indoor and outdoor infrasound levels at Location 10 referenced against the hub height wind speed from the nearest meteorological mast at North Brown Hill Wind Farm. It shows that, while there is a slight upwards trend in infrasound levels with wind speed, the correlation is poor. Note that the highest levels of infrasound appear to be the result of human activities within the house, similar to what was found to occur at the urban locations. On average, indoor infrasound levels are greater than outdoor levels, which suggests that the occupants' activities and operation of home appliances appear to be controlling the infrasound level within the house.

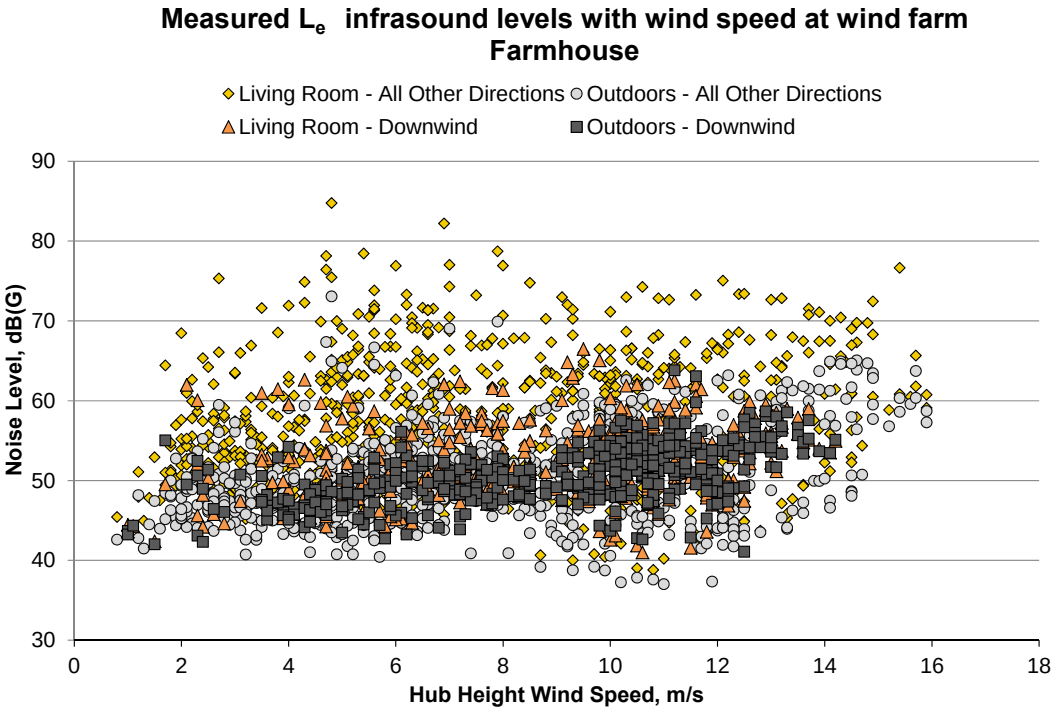

Figure 24 – Infrasound levels with wind speed at wind farm at Location 10

Infrasound levels measured during periods when the farmhouse was downwind of the turbines at North Brown Hill are also presented separately on the graph. The level of infrasound during these downwind periods was typically lower than for other wind conditions. We note that the facade of the living room and outdoor measurement location are both more sheltered under this wind direction, suggesting lower infrasound levels are measured at times of lower localised wind speeds.

The lack of correlation between wind speed at the wind farm, the strong correlation between activity in the house and infrasound, and no change in infrasound at speeds below 4 m/s (turbine cut-in wind speed speed) all indicate that infrasound levels at the house are not related to wind farm operation, but rather are representative of the ambient infrasound environment at the farmhouse.

4.4 Location 11 – House near Myponga

An additional comparison of infrasound levels at rural properties was obtained by undertaking measurements at a house located near Myponga. The house is situated approximately 30 kilometres from the nearest wind turbine (at Starfish Hill Wind Farm).

The measurements were undertaken between 10 November and 18 November 2012. The house was unoccupied during the weekdays, but was occupied on the weekends. One measurement channel of the Soundbook system was located in a living room and the second measurement channel system was positioned outside, approximately 10 metres from the living room window. The house is of a modern construction, with masonry and glazed external walls. The interior of the house is open plan and the living room in which the indoor microphone was located is open to the rest of the house. The house has large glazed areas, including one fully glazed facade.

Figure 25 presents the measured $L_{eq,10min}$ and L_{max} infrasound levels across the measurement period at Location 11. The 10-minute average wind speed (at a height of 10 metres above ground) measured at a mast located at the house is also presented on the figure for comparison. It can be seen that the measured infrasound levels at Location 11 regularly range from 50 to 70dB(G) L_{eq}, even excluding the period during which it was occupied (both weekends). Measured L_{max} levels are typically 5 to 10dB(G) higher than the L_{eq} levels.

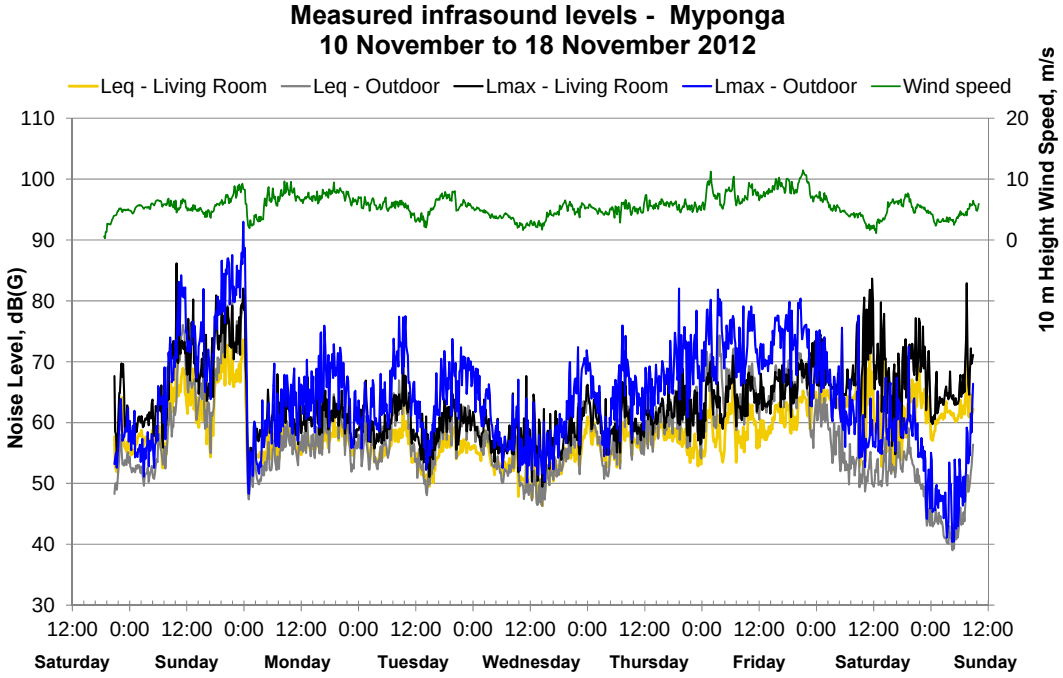

Figure 25 – Measured infrasound levels at Location 11

Outdoor infrasound levels were typically similar to the indoor levels with the exception of the final weekend when measured infrasound levels in the living room increased due to human activity. The measured L_{max} levels outdoors were generally 10 to 15dB(G) higher than the measured L_{eq} levels.

Table 13 summarises the measured indoor L_{eq}, L_{10} and L_{90} noise levels over both the day and night periods.

Table 13 – Measured indoor noise levels in dB(G) at Location 11

Time period	Living room			Outdoor		
	L_e	L_{10}	L_{0}	L_e	L_{10}	L_{0}
Day, 7 am to 10 pm	59	65	52	61	68	51
Night, 10 pm to 7 am	57	64	54	59	65	46

As for the other unoccupied rural locations (Location 8 and Location 9), there does not appear to be a significant change in infrasound levels with time of day, other than during the period when the house was occupied. When the house was unoccupied, measured infrasound levels during the night are often higher than during the day.

There does appear to be a relationship between the infrasound levels and measured 10 metre wind speed at the house, including a sharp drop in measured infrasound level that

occurred just after midnight on the Monday and matched a sharp drop in the wind speed. The wind speed and direction data for this period was reviewed and it was found that this sudden drop in wind speed also corresponded to a change in the wind direction. Prior to this period, higher infrasound levels were detected while a strong wind was blowing directly at the glazed facade. Afterwards, lower infrasound levels were measured at similar wind speeds but while the wind was blowing in almost the opposite direction (so the windows were shielded from the wind). Like measurements at Location 10, this suggests that wind direction can have a significant influence on both indoor and outdoor infrasound levels.

Figure 26 presents the measured indoor and outdoor infrasound levels with wind speed for Location 11. The final two days of data collected in the living room have been excluded from the figure for clarity as they were significantly influenced by the activity of people in the house. Note that the wind speed is measured at 10 metres above ground and can therefore not be directly compared to the hub height wind speed measurements used for the other rural sites.

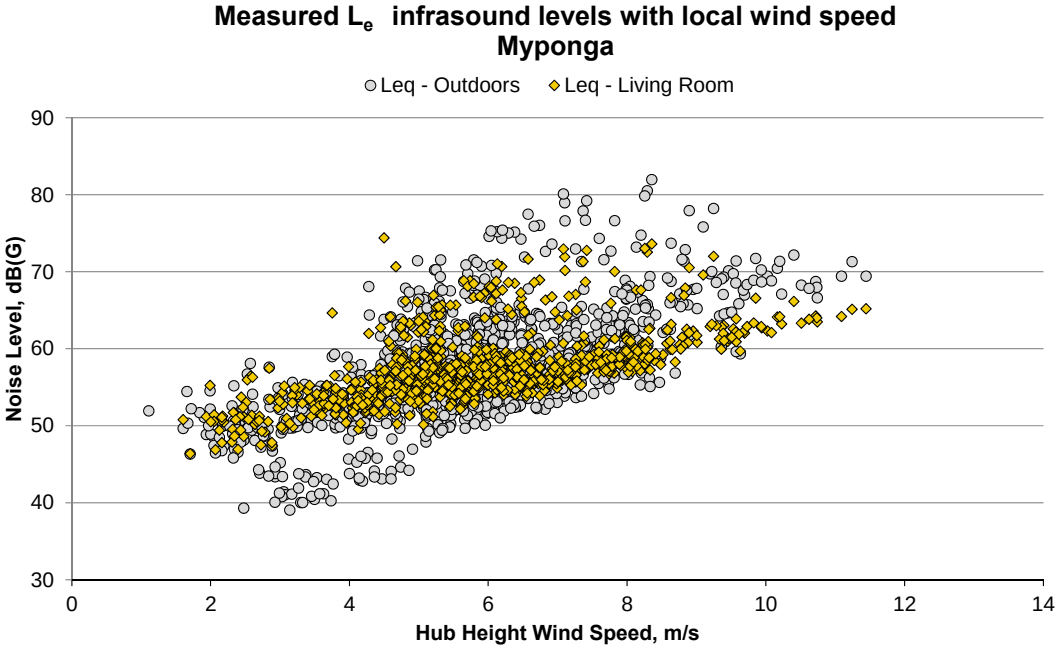

Figure 2 – Measured infrasound levels with localised wind speed at Location 11

It can be seen that there is a good correlation between the measured infrasound level and local wind speed. This confirms that local wind speed (and localised turbulence) is a primary cause of infrasound levels at a location, and have a similar effect on both outdoor and indoor levels of infrasound.

4.5 Summary of measured rural infrasound levels

Table 14 summarises the measured indoor infrasound levels, across both the day and night periods, at each of the rural locations.

Table 14 – Summary of measured rural infrasound levels indB(G)

Location	Day, am to 10 pm			Night, 10 pm to am		
	L_e	L_{10}	L_0	L_e	L_{10}	L_0
8 – Bedroom 1	53	53	43	50	53	43
8 – Bedroom 2	51	50	43	51	52	45
8 – Outdoor	58	55	52	56	57	55
9 – Outdoor	62	66	56	56	62	55
10 – Indoors	54	61	47	47	56	43
10 – Outdoors	52	58	46	47	55	43
11 – Indoors	59	65	52	57	64	54
11 – Outdoors	61	68	51	59	65	46

The measurement results demonstrate that infrasound levels at houses adjacent to wind farms (Locations 8 and 9) are no higher than those at houses located a considerable distance from wind farms (Locations 10 and 11). For example, the outdoor infrasound levels at Location 8 are significantly lower than those at Location 11, despite Location 8 being located much closer to operational wind turbines (1.5 kilometres compared to 30 kilometres).

Based on the measurement results collected, infrasound levels in the rural environment appear to be controlled by localised wind conditions. During low wind conditions, levels as low as 40dB(G) were measured at locations both near to and away from wind turbines. At higher wind speeds, infrasound levels of 50 to 70dB(G) were common at both wind farm and non-wind farm sites.

At all of the rural locations, the equivalent infrasound levels were generally significantly below the threshold of perception. This was with the exception of brief periods where they appeared to be affected by extraneous sources, such as activities associated with people, in which case the margin below the typical infrasound perceptibility limit was lower.

The results also indicate that wind turbines are unlikely to be significantly contributing to the infrasound levels at houses considered as part of this study, and this was confirmed through the comparison of measured infrasound levels under the same wind conditions both while the nearest wind turbines were operational and while they were shutdown. It was found that there was no discernible difference in the measured G-weighted infrasound levels during operational and non-operational periods at two houses located approximately 1.5 kilometres from two separate wind farms.

5 Fre uency analysis

The G-weighting has been used throughout this study to characterise infrasound levels as previous research has shown it to correlate well with human perception of infrasound (Møller, 1987). However, a review of the frequency content of the measured infrasound levels between the different locations has also been undertaken as part of an additional analysis of the measurement results.

A summary of the measured average unweighted sound pressure levels in third octave bands between 0.25 and 20Hz(the infrasonic frequency range) are presented in this Section. A more detailed discussion of the results presented is provided in Appendix C.

5.1 Comparison between urban and rural residences

Figure 27 provides a comparison of measured infrasound levels with frequency for medium wind speeds at the indoor locations at the three rural residences and for the night time period at the four urban residences. This represents the period with the lowest infrasound magnitudes for the urban residences and the period with the lowest infrasound magnitudes for the rural residences when wind turbines could potentially be operating.

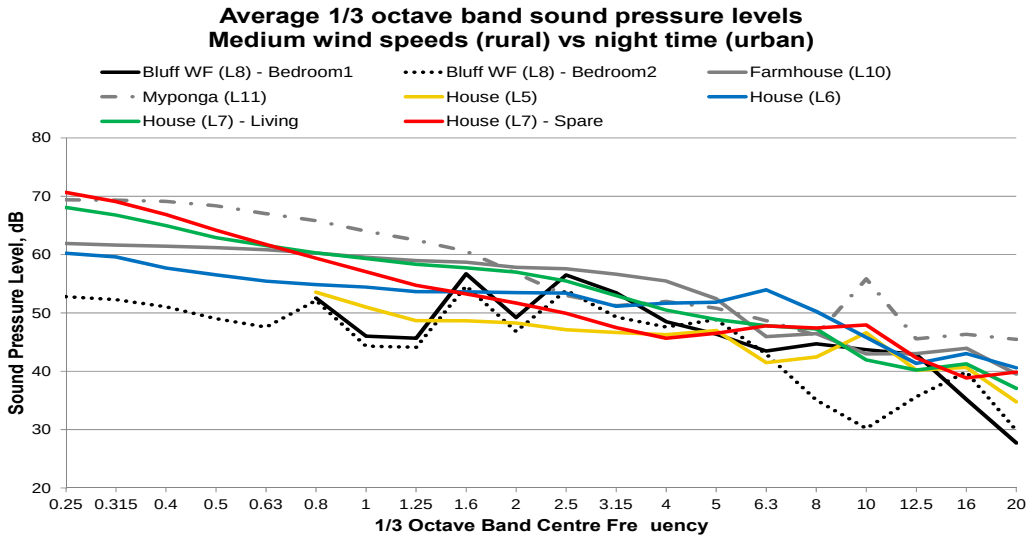

Figure 2 – Comparison of measured sound pressure levels with fre uency for medium wind speeds (rural locations) and night time (urban locations)

The measured data for higher wind speeds at the rural locations and the day period at the urban locations is presented in Figure 28.

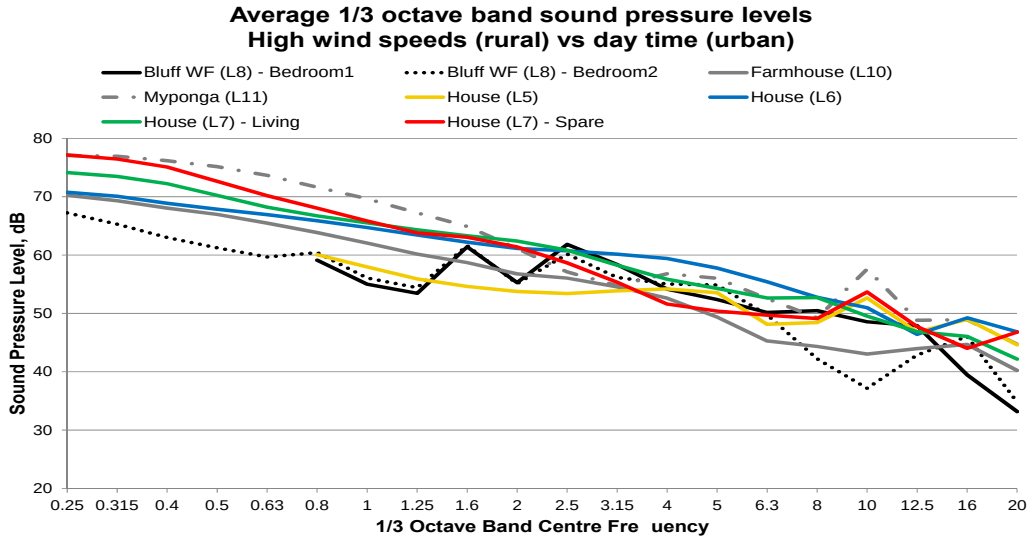

Figure 28 – Comparison of measured sound pressure levels with fre uency for high wind speeds (rural locations) and daytime (urban locations)

From Figure 27and Figure 28, it can be seen that there is a reasonable degree of similarity in sound pressure levels in the infrasonic frequency range between these residential locations. The measurements conducted at the two bedrooms in the house near the Bluff Wind Farm typically resulted in the lower levels across the frequency range from 0.25 to 20Hz.

The results suggests that indoor infrasound levels at rural residences near to wind farms are no higher than those at rural residences away from wind farms, nor than infrasound levels at residences within urban areas.

5.2 Wind farm shutdown periods

To determine any contribution from the wind farms at specific frequencies within the infrasonic range, the measured sound pressure levels with frequency were compared at the house near the Bluff Wind Farm (Location 8) and the house near Clements Gap Wind Farm (Location 9) with the wind farm on and the wind farm off.

Figure 29 presents the measured average 10-minute sound pressure levels across the infrasonic frequency range for Bedroom 2 at the house near the Bluff Wind Farm (Location 8) for periods with the wind farm shutdown and equivalent periods when it was operational. The hub height wind speed and direction for each of the periods presented in the figures is as summarised in Table 10 in Section 4.1.

The measured sound pressure levels for Bedroom 1 and the outdoors location at Location 8 demonstrate similar results and are presented in Appendix C (Figure C6 and Figure C8).

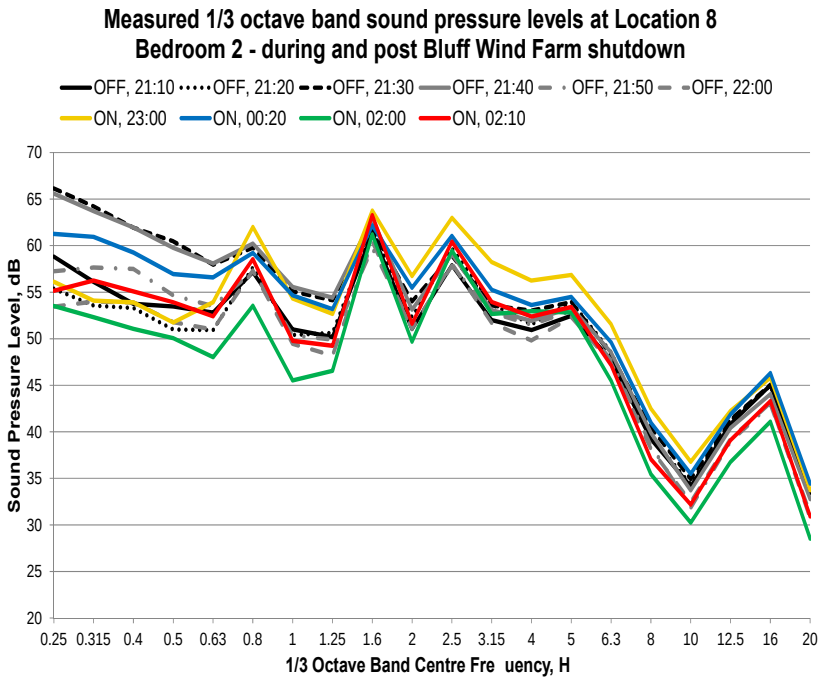

Figure 2 – Measured sound pressure levels with wind farm on and off, Bedroom 2 at house near Bluff Wind Farm

Figure 29 indicates that there does not appear to be any significant increase in sound pressure level at frequencies below 20Hz when the wind farm is operating, relative to when it was shutdown. While sound pressure levels did marginally increase at some frequencies during the operational periods at 23:00 and 0:20, these periods were also characterised by a change in wind direction relative to the shutdown period.

The periods at 2:00 and 2:10 provide a better comparison to the shutdown periods as the wind speed and direction measured at the meteorological mast was the same as during the shutdown. During these two periods, there was no noticeable increase in sound pressure levels across the frequency range from 0.25 to 20Hz.

It can also be seen that, although there is a peak in the frequency spectrum at the blade pass frequency and next two harmonics (0.8Hz, 1.6Hz and 2.5Hz third octave bands) at all three locations, this peak is also present to a similar degree during the shutdown periods. These results are discussed further in Section 5.3.

Figure 30 presents the measured average 10-minute sound pressure levels across the infrasonic frequency range for the outdoors location at the house near the Clements Gap Wind Farm (Location 9), for periods with the wind farm shutdown and operational. During the shutdown, the hub height wind speed at the wind farm varied between 9 and 11 m/s. Therefore, two operational periods (denoted (1) and (2)) were selected for comparison at each of these wind speeds which most closely matched the wind speed and direction of the corresponding shutdown period.

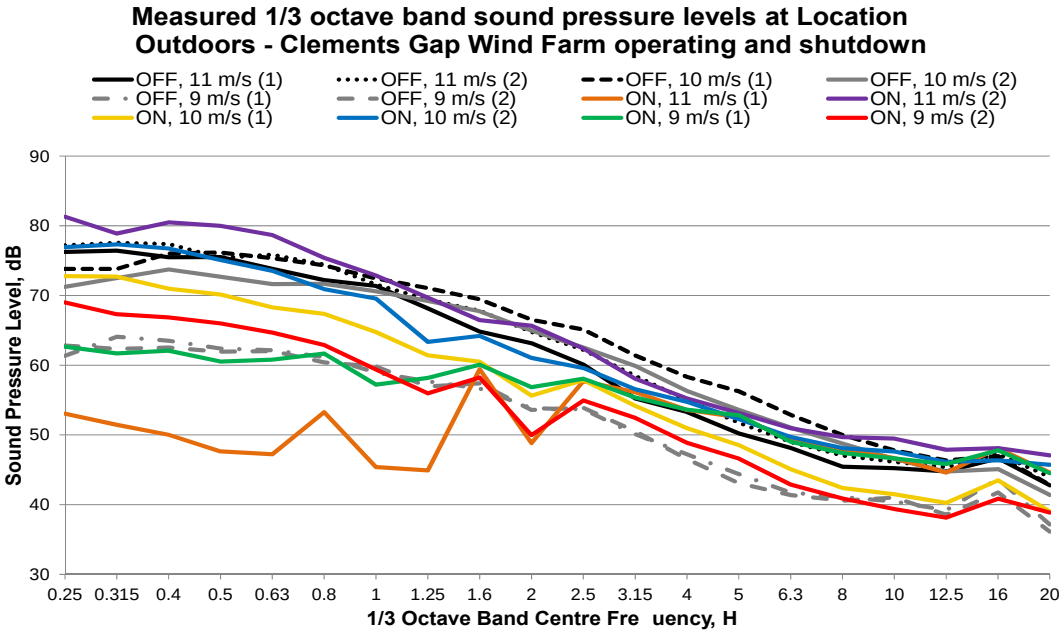

Figure 30– Measured sound pressure levels with wind farm on and off, Outdoors at house near Clements Gap Wind Farm

As for the result at Location 8, the overall sound pressure levels at frequencies of 20Hz and below do not increase when the Clements Gap Wind Farm is operating relative to when it is shutdown. While there is considerable variation in sound pressure levels in the infrasonic frequency range for the measurement periods shown in Figure 30, this occurs during both the shutdown and operational periods leading to the conclusion that it is a result of localised wind conditions rather than wind farm operation.

During some of the quietest operational periods, a peak is evident in the frequency spectrum at the blade pass frequency of the wind turbines and the next two harmonics (0.8Hz, 1.6Hz and 2.5Hz). Peaks at 1.6Hz and 2.5Hz were also visible during the shutdown measurements, but to a much lesser degree. The difference in level between the peaks during the shutdown and operational periods may indicate that the peak is a result of wind turbine operation. However, a review of the full Clements Gap data set indicated that the measured sound pressure levels of the peaks at these frequencies appear to be in the order of 53 to 63dB(Lin), a similar or lower level than typically measured sound pressure level at these frequencies at non-wind farm locations, and at least 50dB below the threshold of perception. These results are discussed further in Section 5.3.

The sound pressure levels measured at the indoor location at Clements Gap Wind Farm are presented in Appendix C (Figure C9). These results indicated that there were markedly higher sound pressure levels measured indoors at frequencies between 2Hz and 20Hz, which occurred at the same level whether the wind farm was operating or shutdown. This is believed to be the result of the loose sheet of iron on the roof rattling and significantly affecting the measured sound pressure levels within the infrasonic frequency range. Therefore, only limited relevant data could be obtained from the indoor measurements at Location 9.

Overall, the comparison of frequency spectra at Location 8 and Location 9 during wind farm shutdown periods and comparable operational periods indicate that there is very little change in the measured sound pressure levels at frequencies below 20Hz. This indicates that there is minimal contribution from either the Bluff Wind Farm or the Clements Gap Wind Farm to sound pressure levels in the infrasonic region at the houses located approximately 1.5 kilometres away.

5.3 Blade pass fre uency

As identified in Figure 30, wind farm operation appears to result in relatively low level peaks in sound pressure levels at the third-octave frequency bands that correspond to the blade pass frequency (and associated harmonics) of the wind turbines – 0.8Hz, 1.6Hz and 2.5Hz. Of the identified maximums, the peak at 1.6Hz was found to occur at higher sound pressure levels than the peak at 0.8Hz and at 2.5Hz.

At Location 9 near Clements Gap Wind Farm, these peaks could occasionally be seen in the spectrum when the overall measured infrasound level at the outdoor location was low, but were not evident when the sound pressure levels increased due to infrasound generated by localised wind conditions. From a review of all data collected at Location 9, the peaks also occurred at a much lower level during comparable shutdown periods suggesting the cause was wind farm operation. However, the absolute levels of the peaks at these frequencies were such that they were often masked by the ambient levels of infrasound in the environment.

At Location 8 near the Bluff Wind Farm (Figure 29), the peaks were detected at a similar level during both operational and shutdown periods. While this suggests that the cause of the peaks may not be the wind farm, there is a possibility that the peaks in the spectrum during the shutdown resulted from operation of North Brown Hill Wind Farm which was noted to be very faintly audible at Location 8 during the shutdown. North Brown Hill Wind Farm is comprised of the same type of wind turbines as the Bluff Wind Farm.

As the nearest turbine at the North Brown Hill Wind Farm is located more than 8 kilometres from the measurement location (whereas the nearest turbine at the Bluff Wind Farm is 1.5 kilometres away), the level of these low frequency peaks could reasonably have been expected to decrease during the shutdown if the turbines were the source. However, no change in measured level was observed during the shutdown.

Table 15 presents the range of measured $L_{eq,10min}$ sound pressure levels in each of the 0.8Hz, 1.6Hz and 2.5Hz third octave bands for periods when the peak at blade pass frequency or either harmonic was observed at Location 8 and Location 9. For comparison, the typical range (5^{th} to 95^{th} percentile) of measured $L_{eq,10min}$ sound pressure levels observed in these third octave bands at the other non-wind farm measurement locations are also presented.

It can be seen that the maximum $L_{eq,10min}$ sound pressure levels in these third-octave bands, that may be due to the operation of the wind farm, are typically between 60 to 65dB. However, similar or greater sound pressure levels were also observed at the majority of the other measurement locations away from wind farms. Therefore, sound pressure levels at these blade pass frequencies are no greater at residences adjacent to wind farms than at other locations.

Table 15 – Range of measured sound pressure levels at blade pass fre uency and second and thirdharmonics

Location	Measured sound pressure level in dB at blade pass fre uency and harmonics		
	0.8H	1. H	2.5H
Range of measured $L_{eq,10min}$ sound pressure levels when peak observed at blade pass frequency and/or harmonics			
Location 8 – Bedroom 1	39 – 64	41 – 66	40 – 63
Location 8 – Bedroom 2	47 – 62	38 – 64	37 – 62
Location 8 – Outdoors	46 – 60	38 – 64	36 – 62
Location 9 – Indoors	47 – 62	45 – 63	44 – 61
Location 9 – Outdoors	47 – 58	41 – 62	43 – 60
Range of measured $L_{eq,10min}$ sound pressure levels at non-wind farm locations			
Location 1	42 – 71	37 – 69	36 – 68
Location 2	47 – 63	44 – 60	37 – 59
Location 3 – Central	47 – 67	42 – 66	40 – 62
Location 3 – Eastern	47 – 67	42 – 67	42 – 63
Location 5	48 – 65	42 – 60	40 – 59
Location 6 – Bedroom	47 – 72	41 – 69	40 – 67
Location 6 – Shed	46 – 70	40 – 64	38 – 60
Location 7 – Living Room	48 – 72	44 – 69	44 – 66
Location 7 – Spare Room	52 – 71	47 – 65	44 – 62
Location 10 – Indoors	40 – 69	37 – 65	36 – 63
Location 10 – Outdoors	39 – 75	36 – 69	33 – 64
Location 11 – Indoors	50 – 76	44 – 70	38 – 64
Location 11 – Outdoors	56 – 86	49 – 81	43 – 77

Figure 31 presents the range of measured $L_{eq,10min}$ sound pressure levels within the 1.6Hz third-octave frequency band, which produced the peaks with the greatest sound pressure levels, for the identified peaks at Location 8 and Location 9, and for the measurements conducted at the other locations away from wind farms for which data was available at 1.6Hz. It shows that the sound pressure levels of the peaks, that may be produced by the wind farms, are within the range of sound pressure levels measured at 1.6Hz at other comparable locations.

It is also important to note that, while the threshold of perceptibility of sound pressure levels at frequencies of 0.8Hz and 1.6Hz has not been well defined, available evidence of the threshold at a frequency of 2.5Hz suggests that it would be at least 110dB (refer Figure 3 in Section 2.2). It would be reasonable to assume that the threshold of perception at frequencies lower than 2.5Hz would be higher than this. Therefore, the level of infrasound produced by the wind farms near Location 8 and Location 9 were more than 40dB below the threshold of perceptibility at blade pass frequency and associated harmonics.

Similarly, the G-weightings applied at the third-octave band frequencies of 0.8Hz, 1.6Hz and 2.5Hz are -49.5dB, -32.6dB and -24.1dB respectively. This reflects the low sensitivity of humans to levels at these frequencies.

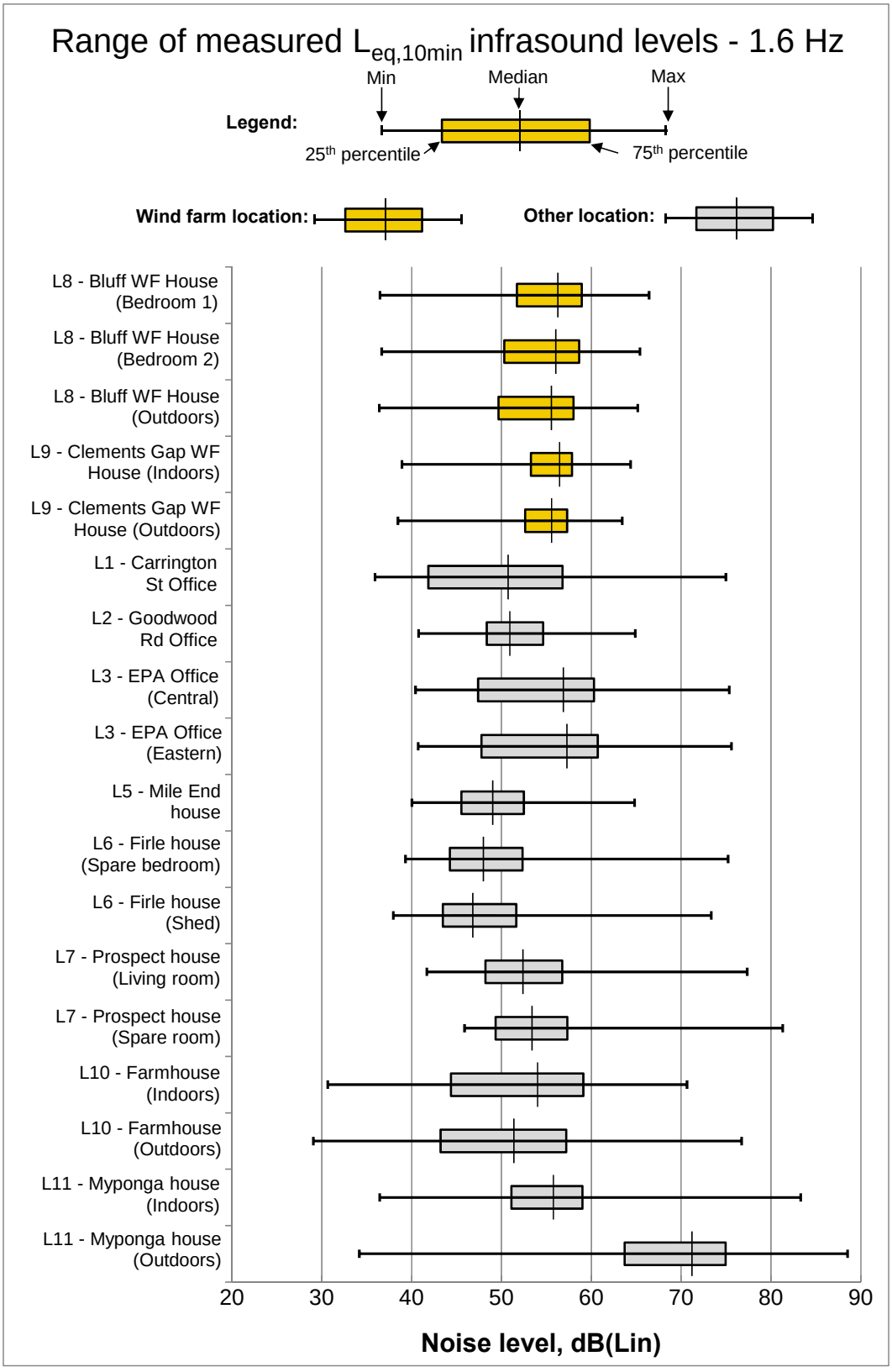

Figure 31 – Range of measured $L_{e,10min}$ infrasound levels at each measurement location for 1. H 1/3 octave band

5.4 Summary of fre uency analysis

Additional analysis of the infrasonic frequency content at the 11 measurement locations considered in this study indicates that there does not appear to be any significant difference in frequency content between sites adjacent to wind farms and sites located away from wind farms. Sound pressure levels measured across the infrasonic frequency range at houses located adjacent to wind farms were at or below the levels measured at comparable locations away from wind farms.

At times, there were peaks in the frequency spectrum at the third-octave band frequencies of 0.8Hz, 1.6Hz and 2.5Hz at the two locations adjacent to the wind farms. This may have been attributable to the operation of wind turbines, as the frequencies correspond to the blade pass frequency and the next two harmonics. However, this effect is not consistent and was also observed during wind farm shut down periods. When the absolute sound pressure levels of these peaks were compared to the sound pressure levels at these frequencies at non-wind farm sites, levels at the wind farms were no greater than those measured at other sites.

Conclusion

This report presents the findings of a comparative study into the level of infrasound within typical environments in South Australia, with a particular focus on comparing wind farm environments to urban and rural environments away from wind farms.

Measurements were undertaken over a period of approximately one week at seven locations in urban areas and four locations in rural areas including two residences approximately 1.5 kilometres away from the wind turbines.

From an overall perspective, measured G-weighted infrasound levels at rural locations both near to and away from wind farms were no higher than infrasound levels measured at the urban locations. The most significant difference between the urban and rural locations was that human activity and traffic appeared to be the primary source of infrasound in urban locations, while localised wind conditions appeared to be the primary source of infrasound in rural locations. Of particular note, the results at one of the houses near a wind farm (Location 8) are the lowest infrasound levels measured at any of the 11 locations included in this study.

This study concludes that the level of infrasound at houses near the wind turbines assessed is no greater than that experienced in other urban and rural environments, and is also significantly below the human perception threshold.

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Glossary

Decibel (dB or dB(Lin))	Unit of sound pressure level, referenced to 20 µPa. Where dB is used in this report, it refers to the level in decibels with no frequency weighting applied.
dB(G)	Unit of sound pressure levels which have had the G-weighting applied to them.
Fre uency	Rate of sound pressure variations – noise or sound is composed of energy across a wide range of frequencies including 20Hz or lower (infrasound).
G-weighting	Frequency weighting as defined in ISO 7196:1995, used to approximate how the human ear responds to infrasonic noise levels.
Hert (H)	Unit of frequency – one Hz is equivalent to one cycle per second.
Infrasound	Sound or noise where the energy lies mainly in the frequency range below 20Hz.
L_{10}	Noise level exceeded for 10% of the measurement period. Typically used to represent the typical upper noise level in an environment.
L_{0}	Noise level exceeded for 90% of the measurement period. Typically used to represent the background noise level in an environment or typical lower noise level.
L_e	Equivalent noise level – energy averaged noise level over the measurement period. Most common descriptor used to quantify noise sources.
$L_{e,10min}$	Equivalent noise level over a 10 minute measurement period.
$L_{e,15min}$	Equivalent noise level over a 15 minute measurement period.
L_{max}	Maximum noise level in the measurement period.

Appendix A – Measurement procedure

Measurement of noise levels in the infrasonic range is complicated by factors that do not affect measurements in the normal audible range of sounds, in particular the use of equipment with an accurate measured response to a low enough frequency. The majority of sound level meters and microphones are generally designed to only measure noise levels accurately at audio frequencies (20Hz – 20kHz), and are insufficient for the accurate determination of G-weighted noise levels.

An additional complication for the measurement of infrasound is the effect of wind-induced noise when measurements are undertaken outdoors. Atmospheric and self-generated noise as a result of airflow through and across the windshield makes outdoor measurements inherently noisy at low and infrasound frequencies (Strassberg, 1988, Morgan &Raspet, 1992, Hessler et al, 2008, Shams et al, 2008). Even relatively slight levels of wind can significantly increase measured infrasound and low frequency noise levels, causing significant problems in the identification of the actual infrasound levels generated by any noise source of interest.

All measurements in this report have been taken at a height of 1.2 to 1.5 metres above floor/ground level with the exception of the below ground measurements. All microphones have been firmly fixed onto tripods or microphone poles. It should be noted that very low frequency noise levels (i.e. less than 10Hz) are not able to be accurately measured during hand-held measurements due to errors introduced through the movement of the instrument during the measurement.

E uipment

Measurements were carried out using the equipment listed in Table A1. All equipment holds current calibration certificates from a certified laboratory.

Table A1 – Measurement e uipment

Analyser	Microphone	Calibration due	Fre uency range[1]
SVANTEK SVAN 945A (S/N 8603)	GRAS 40AN (S/N 54371)	July 2014	0.8Hz – 20kHz
Sinus SoundbookQuadro+ (S/N 06364)	Brüel&Kjær Type 4193[2] (S/N 2751414)	March 2014	0.2Hz – 20kHz
	Brüel&Kjær Type 4193[2] (S/N 2751414)	March 2014	0.2Hz – 20kHz

1. Frequency range determined based on the minimum of the analyser or microphone.
2. Fitted with a Brüel&Kjær Type UC-0211 low frequency noise adaptor.

The SVAN 945A sound level meter meets the requirements of ISO 7196, and is capable of measuring both G-weighted noise levels and third-octave band noise levels from 0.8Hz to 20kHz.

Two Brüel&Kjær Type 4193 microphones have been used for simultaneous two-channel measurements with the Soundbook data acquisition system. The calibration chart for the data acquisition system shows negligible deviation of the instrument frequency response to frequencies as low as 0.1Hz. The microphone calibration charts also show negligible

deviation of the instrument frequency response but are only reported to a frequency of 1Hz. To expand the frequency range over which the microphones had uniform frequency response, they have each been used in combination with a Brüel&Kjær Type UC-0211 low frequency adaptor and a GRAS 26AK pre-amplifier. The sensitivity of this measurement system at 0.2Hz was calculated in accordance with information obtained from the manufacturer (Brüel&Kjær, 1995) and found to deviate by less than 0.5dB. Therefore, measured levels using this measurement system could be considered across the entire frequency range required by ISO 7196 (0.25 to 315Hz).

Some additional measurements were carried out at one additional non wind-farm location (Location 3) using a Brüel&Kjær Type 2250 Class 1 sound level meter, with a Type 4189 microphone. This sound level meter and microphone is capable of accurately measuring third-octave band levels down to 6.3Hz. Therefore, the G-weighted sound pressure levels calculated will be lower than the actual G-weighted noise levels in the environment. However, the difference in G-weighted noise level is likely to be relatively small as the G-weighting reduces noise levels at frequencies of 6.3Hz and lower by more than 20dB relative to the peak sensitivity at 20Hz.

Reported descriptors

The equipment was configured to measure the linear (unweighted) L_{eq} noise levels in third-octave bands from 0.2 (or 0.8) to 315Hz every 10 seconds during the measurement period. A basic integration period of 10 seconds was selected in accordance with Appendix A of ISO 7196, which states:

> *The integrating time constant chosen should be sufficiently long for the observed value to be representative of the noise being measured. Usually, this will be the case for an integration time/time constant of 10 s.*

The measured $L_{eq,10s}$ noise levels were then G-weighted and used to determine L_{eq}, L_{10}, L_{90} and L_{max} noise levels over each 10 minute period during the measurements. A 10 minute period was selected as it is recommended as the basic interval for use during wind farm noise monitoring in many regulatory documents, and matches the typical wind mast logging interval.

Indoor measurement procedure

In order to determine the levels of infrasound that people are most commonly exposed to within the environment, the majority of measurements as part of this study have been undertaken indoors. By undertaking the measurements indoors, it was also possible to minimise the influence of wind-generated turbulence on the measured infrasound levels. The microphone was fitted with a 90mm windshield and located near the centre of the room. For the majority of the measurement period in each location, windows and doors were kept closed.

It is known that low frequency noise levels can vary within a room due to the modal response of rooms to noise at wavelengths on a similar scale to the physical dimensions of the room. However, a study conducted by DELTA (2008) showed the measurement position within a room has minimal effect on noise levels at frequencies of 50Hz and below, which will control the G-weighted levels.

To test this finding, simultaneous measurements were taken using the two measurement channels of the Soundbook system, within a room in the rural house near the Bluff Wind Farm (Location 8 in Section 4). The approximate dimensions of the room were 3 m (L) x 3.5 m (W) x 3.5 m (H). Measurements of the noise level across each third octave band in the infrasonic region were taken simultaneously for a period of approximately one minute at both the centre of the room and at each of the corners of the room. An additional measurement was undertaken at the centre of the room and the window facing the Bluff Wind Farm.

The results of the measurements between 0.25 and 20Hz are shown in Figure A1, with the deviation in noise level from the centre of the room shown for each location. The maximum variation from the level at the centre of the room in any third octave band was 5.6dB. This occurred in the lowest frequency for which there is a large negative G-weighting, and therefore is not important for the reported G-weighted measurements. From the 0.5Hz band to 20Hz, the maximum difference at any position was 2.2dB.

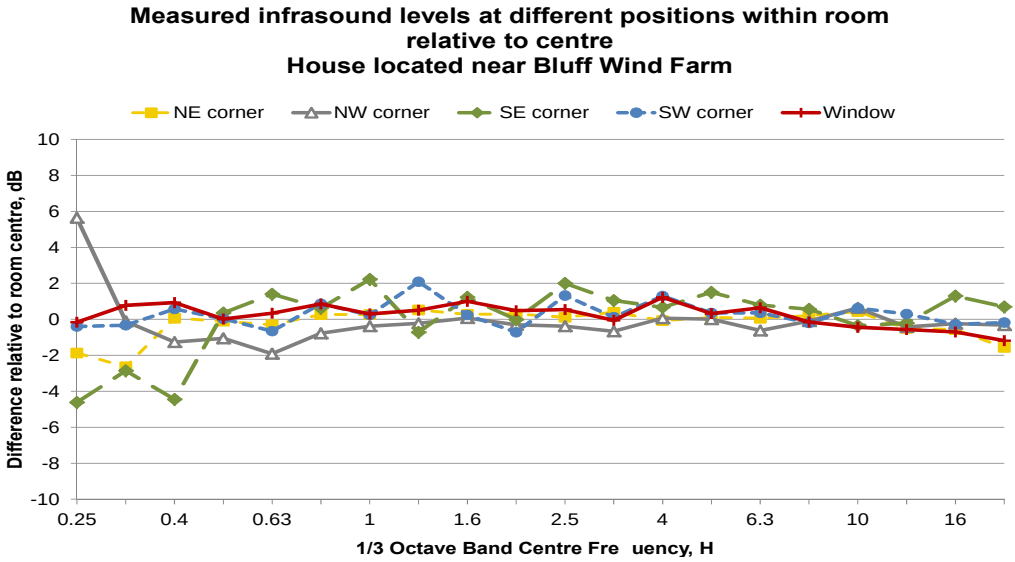

Figure A1 – Comparison of measured infrasound at different positions within room

Overall, the difference in G-weighted noise levels between the centre of the room and any of the other locations was negligible, with a maximum difference of 1.1dB(G). Therefore, having the microphone positioned near the centre of each room in which measurements have been undertaken is considered sufficient to characterise indoor infrasound levels for the purpose of this study.

Outdoor measurement procedure

In addition to indoor measurements, outdoor infrasound measurements were also taken at the four rural locations, with the aim of identifying whether rural houses provided any reduction in or amplification of infrasound levels.

Wind-induced noise on a microphone can be a problem during all types of outdoor noise measurements, particularly during infrasound and low frequency noise measurements, as it results in erroneously high measurements of the noise level. While standard (90mm diameter) windshields are sufficient to control wind-induced microphone self-noise for

general environmental noise measurements, they are unsuitable for the protection of microphones during outdoor measurement of infrasound.

In order to remove this wind-induced effect from outdoor measurements of infrasonic frequencies, Betke et al (1996) developed a method whereby the microphone was located in a small cavity in the ground. The cavity was covered with a windshield, in addition to the standard microphone windshield. However, we note this method is not accurate for measurements at higher non-infrasonic frequencies and would not be suitable to undertake outdoor measurements over a period of days due to the potential for rain to collect in the cavity and the potential safety hazard.

Therefore, an alternative measurement setup was developed and used during this study, with the microphone protected by a standard 90mm wind screen and three layers of acoustically transparent fabric at diameters of 250mm, 400mm and 750mm. The fabric at 250mm was slightly thicker than that at the other diameters. The setup is shown diagrammatically in A2.

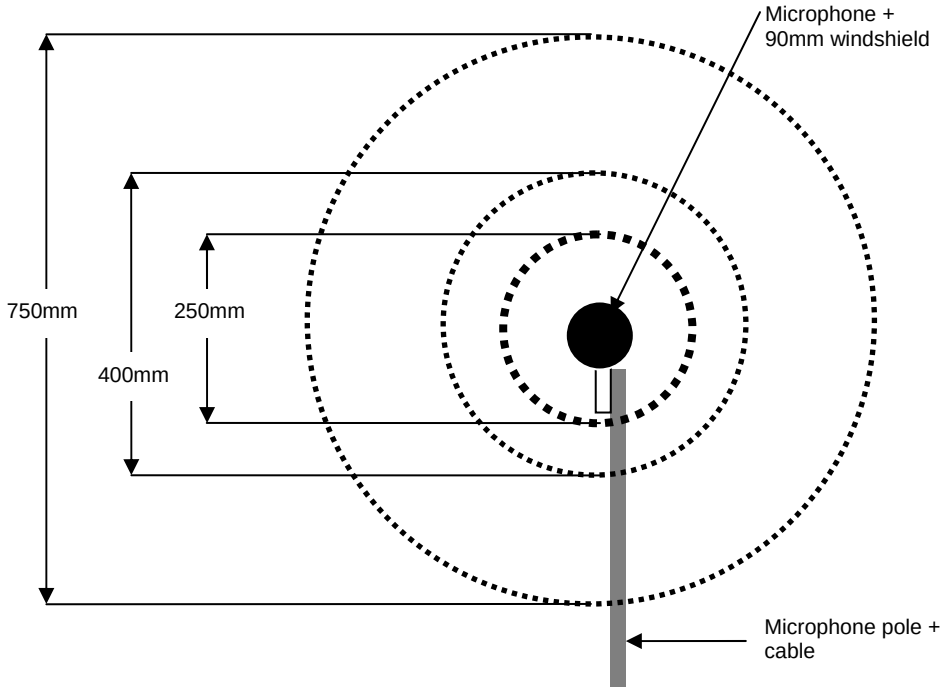

Figure A2 – Outdoor measurement setup

The suitability of the developed 750mm windshield for the measurement of infrasound was confirmed through testing to check that:

- The 750mm windshield mitigated wind-induced noise due to air movement past the microphone diaphragm.
- The 750mm windshield did not attenuate sound at infrasonic frequencies.

The results of the testing are discussed in the following sections. The testing results also highlight the potential errors (approximately 20dB(G)) that can arise from the use of standard 90mm windshields for outdoor infrasound measurements, even at relatively low wind speeds.

Testing for reduction of wind-induced noise

The testing of the mitigation of wind-induced noise by the 750mm windshield was undertaken away from any wind farms in the middle of an open paddock, which had been recently cut with a windrower to a height of approximately 100mm in preparation for baling hay. Measurements were undertaken to compare the effectiveness of a standard 90mm windshield, the 750mm windshield, and a microphone placed in a cavity in the ground (the Betke method). The cavity measured 500 x 500 x 500mm and was covered using a 100mm thick layer of open cell foam, with the microphone in the cavity protected using a standard 90mm windshield.

Both noise levels and wind speed at the height of the microphone (1.5m) were logged in 1 minute intervals during the test. The anemometer logging wind speed was located approximately 1.5 metres from the test microphones and crosswind so that results were not affected by the wake of either the anemometer or wind shield.

Figure A3 shows the relationship between the measured G-weighted noise level and wind speed for the different windshield setups. The measurements indicate that the 750mm diameter windshield performance was very similar to that of the below ground method, with performance significantly better than a standard 90mm windshield.

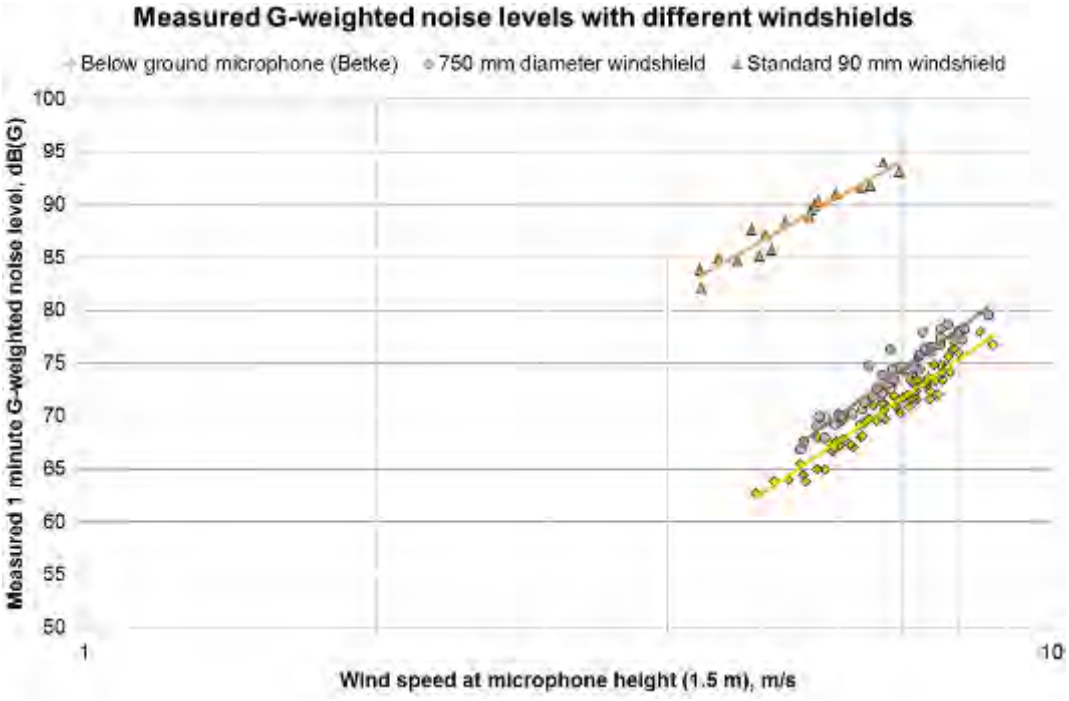

Figure A3– G-weighted noise level from wind induced noise on the microphone.

The measurements using a standard 90mm windshield indicated that a wind induced G-weighted noise level of 85 to 95dB(G) will result from wind speeds of just 4.5 to 7 m/s at the microphone. The apparent wind induced noise on the microphone therefore falsely indicated an exceedance of the 85dB(G) criterion at wind speeds that would be anticipated to occur at residential locations near to wind farms. The use of standard 90mm windshields during outdoor measurements of infrasound from a wind farm is therefore not acceptable practice, even at relatively low wind speeds.

Wind speeds were also measured at the microphone during the infrasound measurements conducted at the four rural locations (Section 4), with the results in Figure A3 used to check whether wind induced self-noise was controlling the measurement result. During higher wind speed measurements, some influence of wind induced noise on was noted typically at frequencies up to 2.5Hz at all of the outdoor locations. As noted previously, magnitudes at such low frequencies are not important for reporting G-weighted infrasound measurements due to the character of the G-weighting. The 750mm diameter windshield provided adequate protection of the microphone from wind induced G-weighted noise, with the exception of some high wind speed measurements at the Myponga measurement location.

Testing for attenuation of the windshield

Measurements were undertaken to confirm whether the addition of three layers of lightweight fabric around the microphone was resulting in any attenuation of infrasound, when compared to measurements using a standard 90mm windshield.

The assessment of windshield attenuation was undertaken during relatively still conditions, such that wind-induced noise could be excluded from the results. The tests were undertaken using two channels on the Soundbook system. Two microphones were set up side by side, one protected using a 90mm windshield, and the other protected using the 750mm diameter windshield. A noise source placed equidistant from the two microphones was measured simultaneously on the two measurement channels, with the measurement results compared to determine the attenuation through the windshields.

Figure A4 presents attenuation of the 750mm windshield relative to the standard 90mm windshield. Note that, while every attempt was made to take the measurements under completely still wind conditions, the occasional slight air movement during the test was noticeably influencing the very low frequency results from the microphone protected with only the 90mm windshield. For this reason, results below 2.5Hz are not presented on Figure A4.

From Figure A4, the attenuation of the 750mm diameter windshield was negligible at frequencies of less than 40Hz (frequencies of significant contribution to infrasound levels). The attenuation of the 750mm diameter windshield was also found to be no more than 2dB at frequencies up to 12.5 kHz.

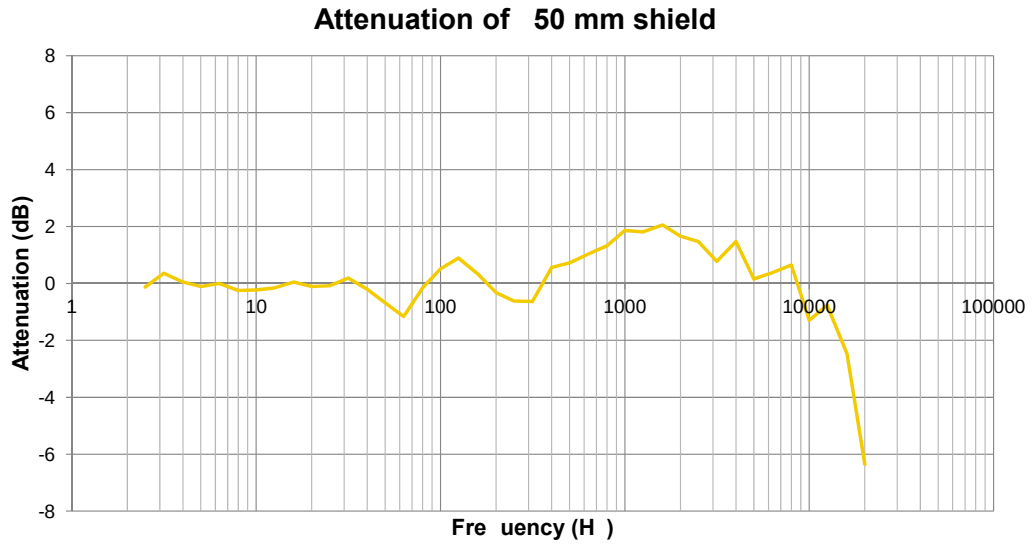

Figure A4 – Attenuation of 50mm diameter windshield compared to standard 0mm windshield.

Appendix B – Outdoor-to-indoor comparison

In order to determine the typical reduction in infrasound levels provided by residential structures, simultaneous outdoor and indoor measurements of infrasound were undertaken at the four rural locations (Location 8 to Location 11). One measurement channel of the Soundbook system was located within a room with a closed window, while the second measurement channel was located outside and approximately 5 metres from the window.

This Appendix presents a comparison of the measured $L_{eq,10min}$ indoor and outdoor infrasound levels with wind speed to determine if there is any significant attenuation of infrasound provided by a building facade.

Location 8 – House near Bluff Wind Farm

The arithmetic difference in noise levels between the outdoor and indoor measurement location at the house near the Bluff Wind farm is provided in Figure B1. As the house was unoccupied for the duration of the measurements, the indoor measurements at this site are less influenced by extraneous noise than the other rural locations. This house was of masonry construction, with a window facing out towards the outdoor measurement location and wind farm.

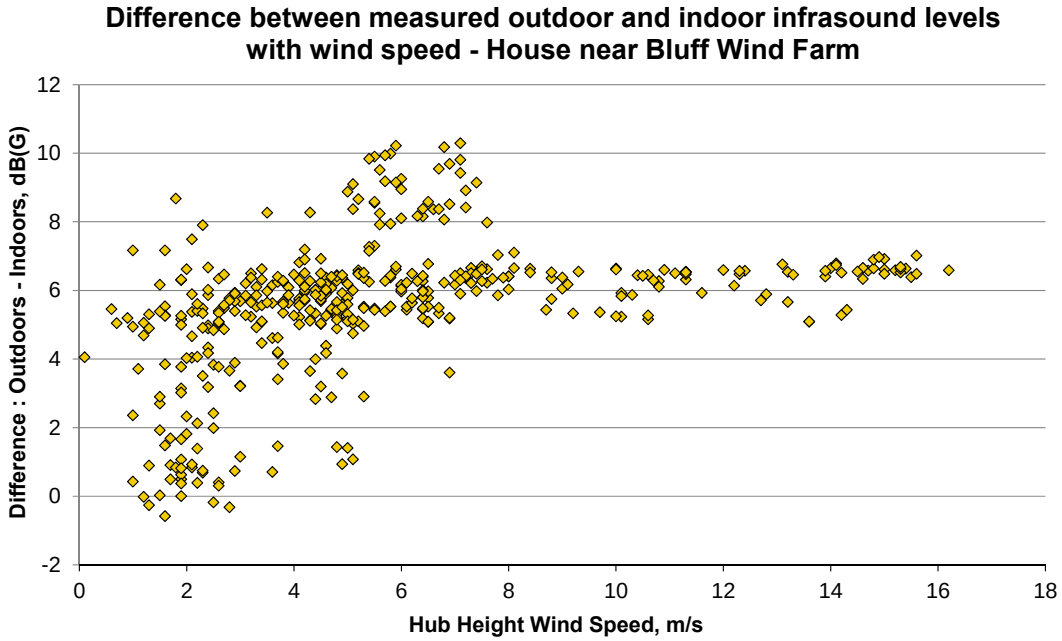

Figure B1 – Reduction in infrasound levels from outdoors to indoors with wind speed at Location 8

Figure B1 indicates that the reduction in noise levels between the outdoor and indoor measurement location was typically 5 to 7dB(G). Variations in attenuation outside this 5 to 7dB(G) range were found to be the result of either:

- localised extraneous noise affecting one of the microphones;

- significant change in spectrum of the noise, such that the G-weighted noise level was controlled by noise at frequencies of 20Hz and above, and more attenuation was provided by the building facade.

Review of the data points that showed a difference of levels from outdoors to indoors of close to 0dB indicates that these data points all occur when the measured infrasound level was 40dB(G) or lower. It is suspected that the lack of a decrease in indoor noise levels at these very low wind speeds is responsible for this effect. The cooling fans on the inverter used to power the Soundbook appeared the most likely source of the indoor noise.

Location – House near Clements Gap Wind Farm

The house located adjacent to the Clements Gap wind farm was also of masonry construction, but was currently being renovated. The house was therefore occupied for some of the measurement period, and doors and windows in the facade left wide open for several periods during the measurements. Air gaps were noted between the top of the external walls and ceiling of the measurement room. As discussed in Section 4.2, these factors appear to have significantly affected a considerable portion of the indoor measurements and only limited conclusions on the attenuation of infrasound through the facade can be made from the dataset at this location.

Figure B2 indicates that a range of arithmetic differences in facade attenuation were measured at this house. Extraneous noise from the renovation works appears to be the cause of the periods when a large increase in indoor levels relative to outdoor levels was measured. When only the night time period is considered (times when renovations were not occurring), the outdoor and indoor levels were normally within 2dB(G) of each other.

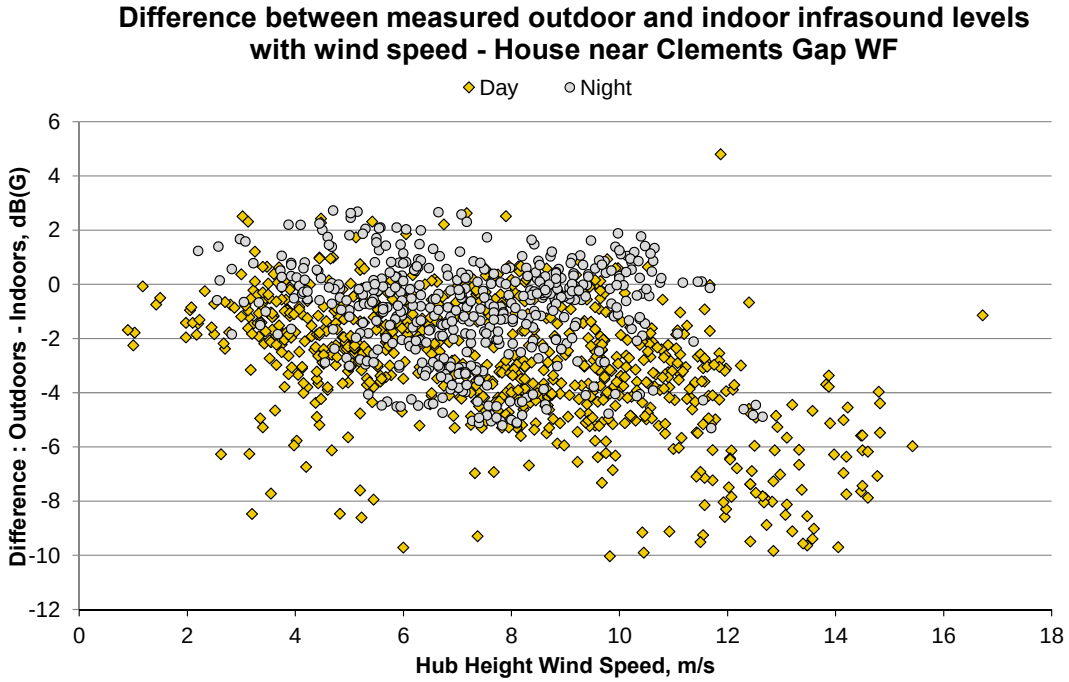

Figure B2 – Reduction in infrasound levels from outdoors to indoors with wind speed at Location

Review of the difference in outdoor and indoor measured noise levels indicated some relationship with wind direction (cross winds typically resulting in higher internal noise levels than measurements when the site was downwind of the wind farm), suggesting there may be extraneous noise on the indoor microphone as wind moved through the various openings in the facade, and rattled a loose sheet of iron on the roof.

Location 10 – Farmhouse near Jamestown

The farmhouse located near Jamestown is of weatherboard construction and was occupied for the full duration of the test. The arithmetic difference in noise levels between the outdoor and indoor measurement location at this location is presented in Figure B3. As the house was occupied during the measurements, the results are presented separately for day and night.

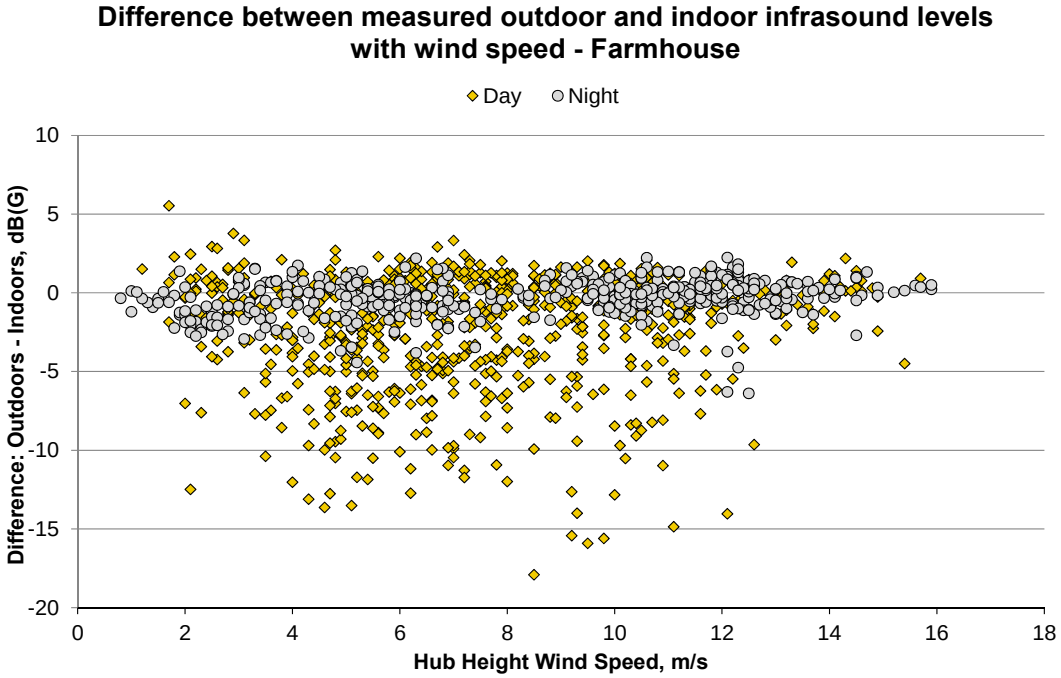

Figure B3 – Reduction in infrasound levels from outdoors to indoors with wind speed at Location 10

The results in Figure B3 indicate that the difference between outdoor and indoor measured infrasound levels was typically within 2dB(G) during the night time, when the occupants were generally asleep.

During the daytime periods, the difference between outdoor and indoor levels varies more significantly and this was found to be due to extraneous noise affecting the results, primarily a result of the activities of the occupants of the farmhouse.

Location 11 – House near Myponga

The house located near Myponga was of modern construction, with masonry and glazed external walls. The house was occupied during the weekend periods, but unoccupied between Monday and Friday.

Figure B4 presents the arithmetic difference between the measured outdoor and indoor infrasound levels at the house. The periods during which the house was occupied are presented separately to those periods during which it was unoccupied.

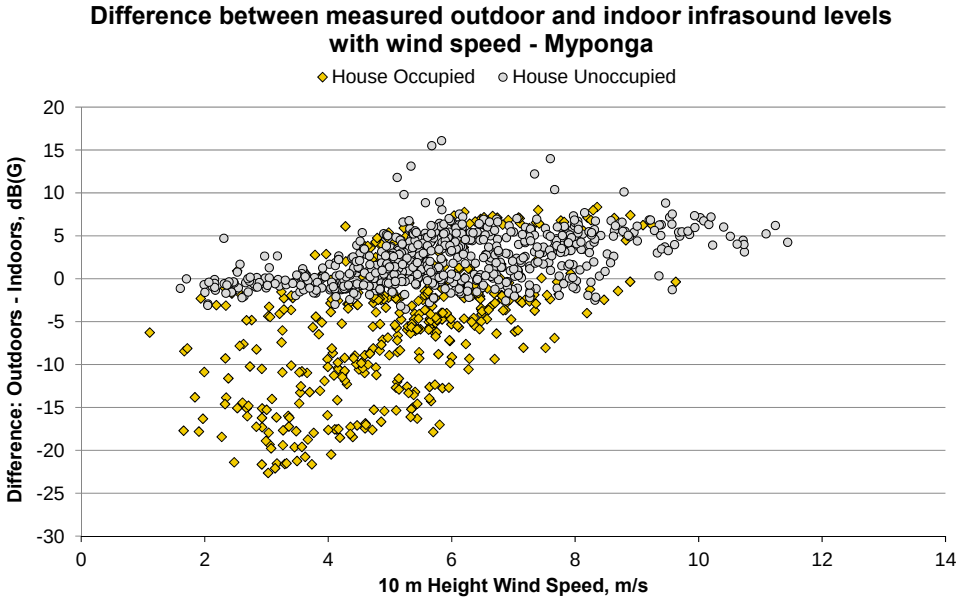

Figure B4 – Reduction in infrasound levels from outdoors to indoors with wind speed at Location 11

Figure B4 indicates a significant difference in the apparent transmission loss across the facade for the periods during which the house was occupied and unoccupied. The apparent increase in infrasound levels by up to 22dB(G) during times when the house occupied is the result of extraneous indoor noise due to the activities of the occupants, rather than an actual change due to the structural amplification or decrease in the facade performance.

Data measured while the house was unoccupied indicates that the typical reduction in infrasound achieved across the facade is typically -1 to 5dB(G).

Summary of outdoor-to-indoor comparison

Based on simultaneous outdoor and indoor infrasound measurements conducted at the four rural measurement locations, there is no significant change in infrasound levels between outdoors and indoors. The difference (outdoors less indoors) was found to normally be in the range of -2 to 7dB(G) once extraneous sources of infrasound had been excluded from the dataset. This result is relatively consistent with wind speed.

Most notably, the outdoor-to-indoor infrasound reduction at the house near the Bluff Wind Farm (Location 8) is typically around 6dB(G). This is the only location were the vast majority of the reported data is unaffected by human activities and operation of home appliances or domestic machines (since mains power and water supplies were switched off). This location is therefore considered to provide the most reliable dataset for the comparison of outdoor and indoor infrasound levels.

This indicates that outdoor measurements of infrasound, using appropriate equipment to reduce wind-induced noise across the microphone, can be used to represent indoor G-weighted levels of infrasound. Outdoor measurements of infrasound have the advantage that they are far less susceptible to the influence of the often significant extraneous infrasound that is generated by occupants of the house or the operation of home appliances.

Appendix C – Fre uency analysis

The measured average unweighted sound pressure levels in third octave bands between 0.25Hz and 20Hz (the infrasonic frequency range) are presented in the following sections. This Appendix is intended to provide additional information to that presented in Section 5.

Urban locations

As identified in Section 3, the measured infrasound levels at the seven urban locations appear to vary considerably with time of day. Therefore, average spectral levels for both the day (7 am to 10pm) and night (10pm to 7 am) periods have been determined for each location.

Figure C1 and Figure C2 present the average sound pressure levels with frequency for the day and night time periods respectively.

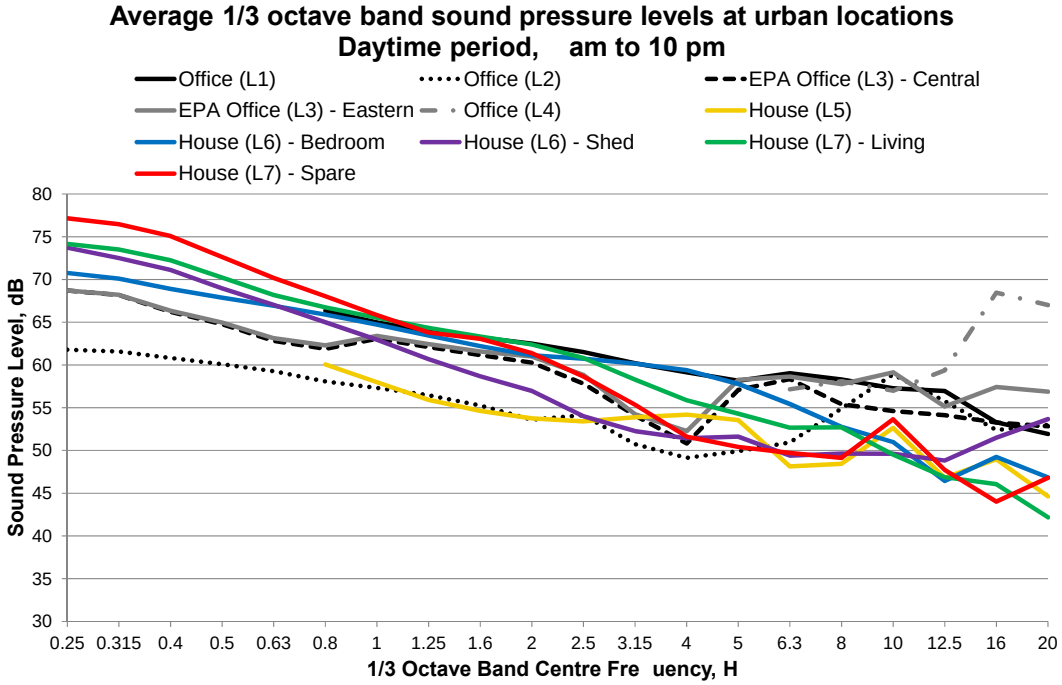

Figure C1 – Average day sound pressure levels for infrasonic fre uencies at urban locations

Comparison of the figures indicates that there is a considerable increase in the average levels during the daytime at frequencies below approximately 5Hz, suggesting noise at these frequencies is associated with human activities.

The measured daytime levels at the four office locations are markedly higher at frequencies above approximately 6.3Hz. This daytime increase is a result of both mechanical plant noise (particularly Location 3 and Location 4) as well as human activity within the space.

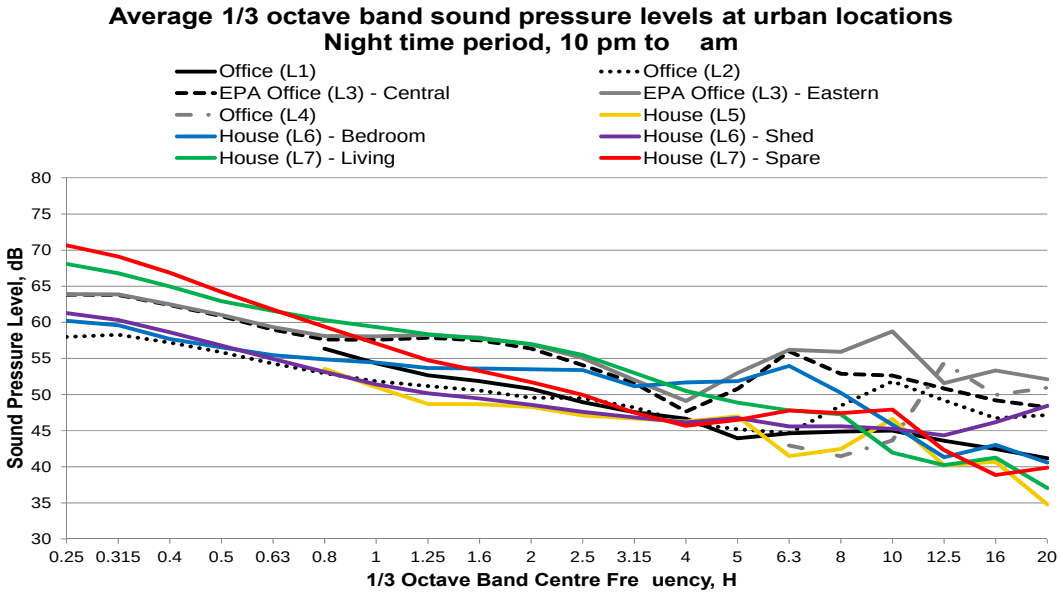

Figure C2 – Average night sound pressure levels for infrasonic fre uencies at urban locations

Rural locations

Unlike the urban locations, the measured infrasound levels at the four rural locations appear to change more with wind speed than with time of day. Therefore, average spectral levels have been grouped according to the following low, medium and high wind speed ranges:

- Low, wind speeds of 0 to 3 m/s at typical turbine hub height (80 metres) – at these low wind speeds, wind turbines are not operating.
- Medium, wind speeds of 5 to 7 m/s at 80 metres – at these medium wind speeds, wind turbines would be operating and emitting noise but would not have reached the level of maximum noise emission.
- High, wind speeds of 9 to 14 m/s at 80 metres – at these high wind speeds, wind turbines would be operating near to or at the level of maximum noise emission.

Note that measurements at Location 11 were against a 10 metre height mast located at the house, rather than an 80 metre hub height mast. To allow approximate comparison of measurements at Location 11 to the remaining locations, the low, medium and high wind speed ranges used for location 11 are 0 – 2 m/s, 3 – 5 m/s, and 6 – 10 m/s respectively.

Figure C3, Figure C4 and Figure C5 present the average sound pressure levels with frequency at the four rural locations for low, medium and high wind speeds respectively.

We note that the indoor results at the Clements Gap wind farm are influenced by an extraneous source (which was also present during the shutdown periods). The indoor results are presented for information only, and are not indicating higher infrasound due to the operation of the wind farm in the frequency range of particularly 10 to 20 Hz.

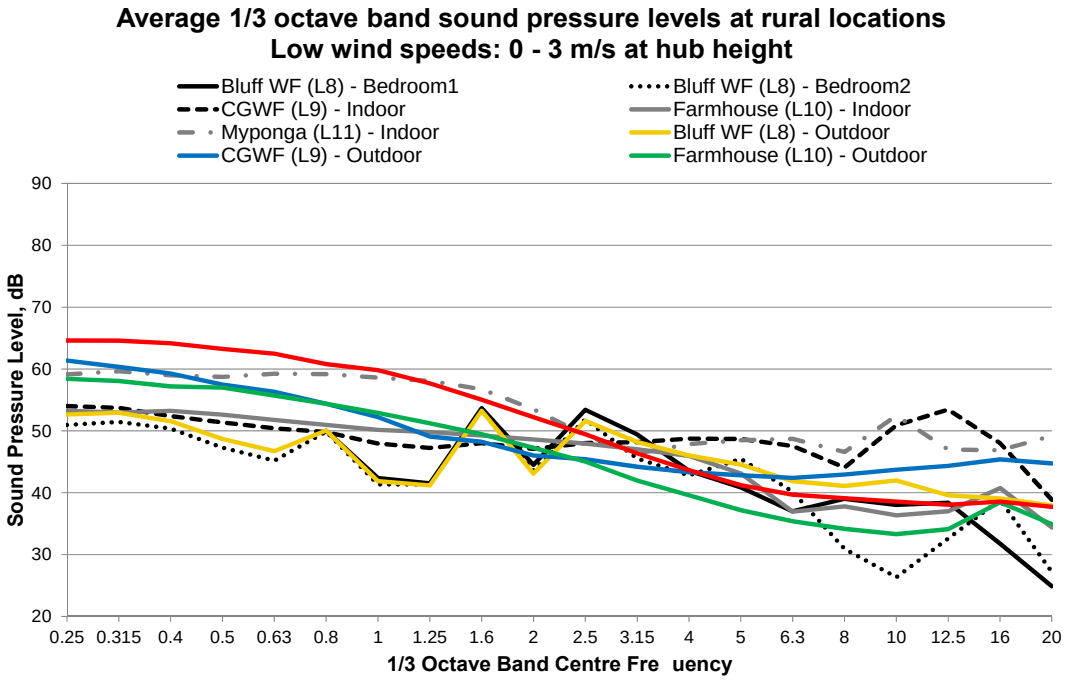

Figure C3 – Average low wind speed sound pressure levels for infrasonic fre uencies at rural locations

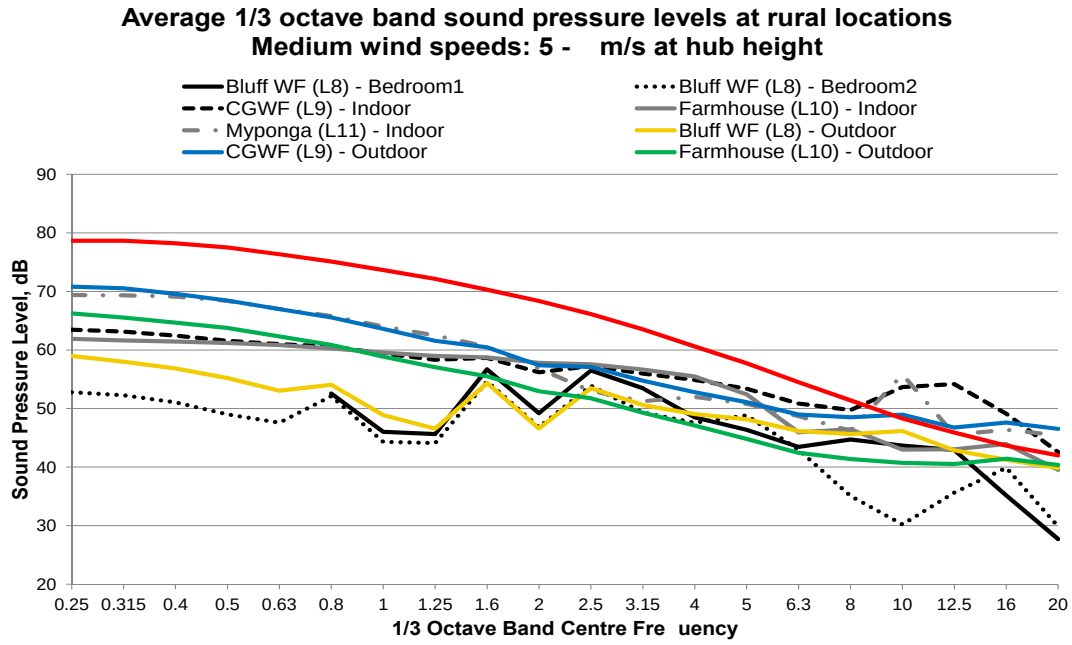

Figure C4 – Average medium wind speed sound pressure levels for infrasonic fre uencies at rural locations

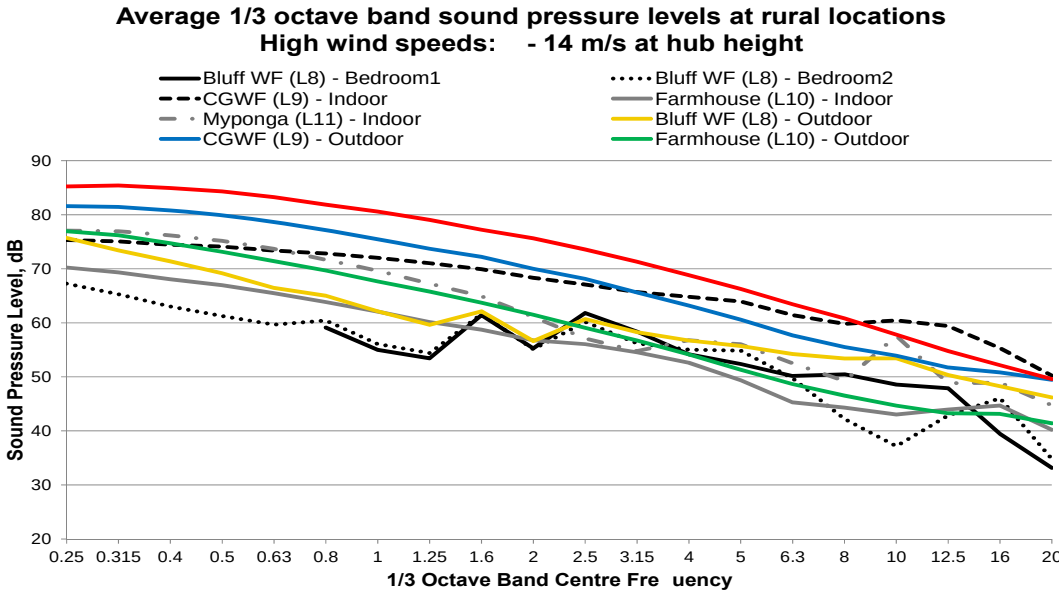

Figure C5 – Average high wind speed sound pressure levels for infrasonic fre uencies at rural locations

Note that the levels measured at the four outdoor locations appear to have been affected by wind-induced noise generated by localised wind turbulence at low frequencies. This wind-induced noise is evident at frequencies typically below approximately 5Hz, and characterised by the smooth steady increase in sound pressure levels with decreasing frequency. This effect is most pronounced at Location 11, which is away from the wind farms. As noise at these frequencies is of little importance for human perception, these frequencies are subject to relatively large negative weightings by the G-weighting function. The wind induced results at very low frequencies would therefore not have noticeably affected the G-weighted infrasound levels presented in Section 4.

The measurement location at the house near the Bluff Wind Farm (Location 8) was the most sheltered of all of the rural measurement locations. It is evident that the sound pressure levels measured at the house near to the Bluff Wind Farm are lower than at the majority of other locations across the frequency range from 0.25 to 20Hz. The measured outdoor levels at the house near the Clements Gap Wind Farm are representative of some of the higher measured levels, but are still generally lower than those measured outdoors at Location 11 at Myponga (away from any wind farm). The measurement location at the Myponga site was the most wind exposed measurement location, closely followed by the measurement location at the house near Clements Gap Wind Farm (Location 9).

The measured levels at the house near the Bluff Wind Farm do show a slight peak in the spectrum at frequencies of 0.8Hz, 1.6Hz and 2.5Hz. These frequency bands correspond to the blade pass frequency of the wind turbines (which normally operate between approximately 15 to 17rpm) as well as the second and third harmonics, and so the peaks may be a result of wind turbine operation. The measured sound pressure levels at the blade pass frequency and the two harmonics are also discussed further in Section 5.3 of the main body of the report.

Overall, comparing the infrasonic frequency spectra for low, medium and high wind speeds suggests that there is no significant change in frequency content between locations near to and at significant distances away from wind turbines. In terms of long term average exposure, the levels measured over the infrasonic frequency range were not found to be any higher at the locations near to wind farms than at comparable locations away from wind farms.

Wind farm shutdown periods

To determine any contribution from the wind farms at specific frequencies within the infrasonic range, the measured sound pressure levels with frequency were compared at the house near the Bluff Wind Farm (Location 8) and the house near Clements Gap Wind Farm (Location 9) with the wind farm on and the wind farm off.

Figure C6, Figure C7 and Figure C8 present the measured average 10-minute sound pressure levels across the infrasonic frequency range for Bedroom 1, Bedroom 2 and the outdoors location respectively at the house near the Bluff Wind Farm for periods with the wind farm shutdown and periods with similar environmental conditions when it was operational. The hub height wind speed and direction for each of the periods presented in the figures is as summarised in Table 10 in Section 4.1.

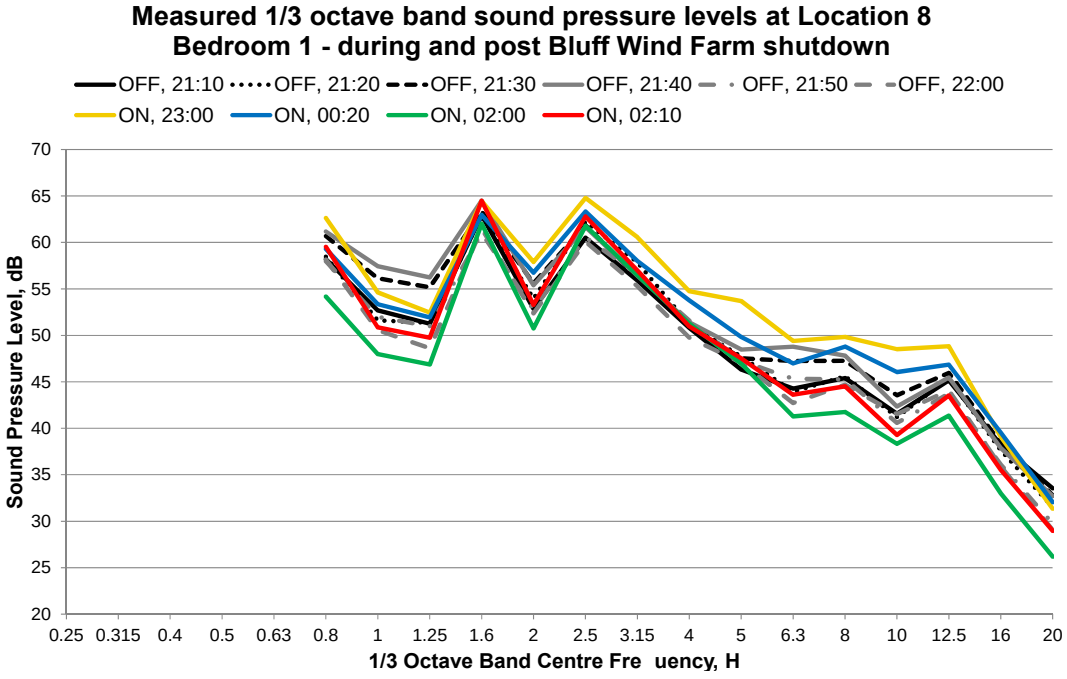

Figure C – Measured sound pressure levels with wind farm on and off, Bedroom 1 at house near Bluff Wind Farm

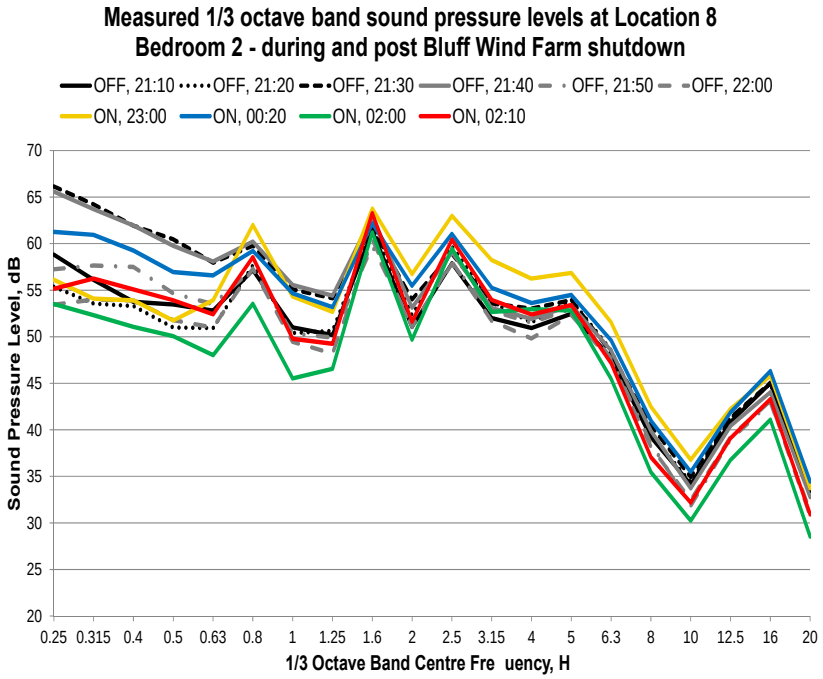

Figure C – Measured sound pressure levels with wind farm on and off, Bedroom 2 at house near Bluff Wind Farm

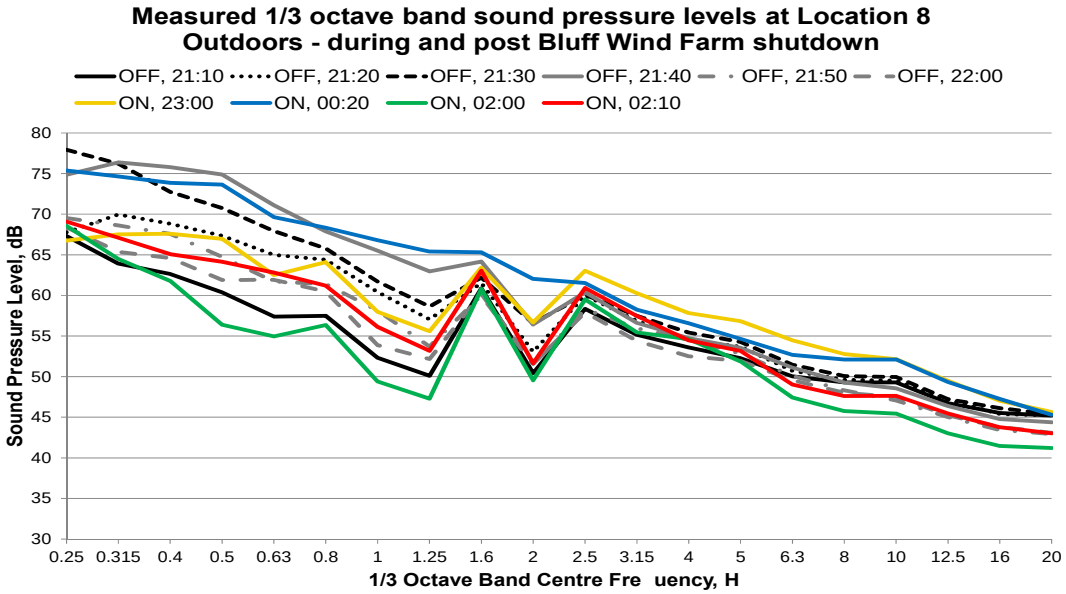

Figure C8 – Measured sound pressure levels with wind farm on and off, Outdoors at house near Bluff Wind Farm

The figures indicate that there does not appear to be any significant increase in sound pressure level at frequencies below 20Hz when the wind farm is operating, relative to when it was shutdown. While sound pressure levels did marginally increase at some frequencies during the operational periods at 23:00 and 0:20, these time intervals were also characterised by a change in wind direction relative to the shutdown period.

The periods at 2:00 and 2:10 provide a better comparison to the shutdown periods as the wind speed and direction measured at the meteorological mast was the same as during the shutdown. During these two periods, there was no noticeable increase in sound pressure levels across the frequency range from 0.25 to 20Hz.

It can also be seen that, although there is a peak in the frequency spectrum at the blade pass frequency and the next two harmonics (0.8Hz, 1.6Hz and 2.5Hz third octave bands) at all three locations, this peak is also present to a similar degree during the shutdown periods. These results are discussed further in Section 5.3 of the report.

Figure C9 and Figure C10 presents the measured average 10-minute sound pressure levels across the infrasonic frequency range for the indoor and outdoor locations at the house near the Clements Gap Wind Farm (Location 9), for periods with the wind farm shutdown and operational. During the shutdown, the hub height wind speed at the wind farm varied between 9 and 11 m/s and the house was unoccupied. Two operational periods were selected for comparison at each of these wind speeds which most closely matched the wind speed and direction of the corresponding shutdown period.

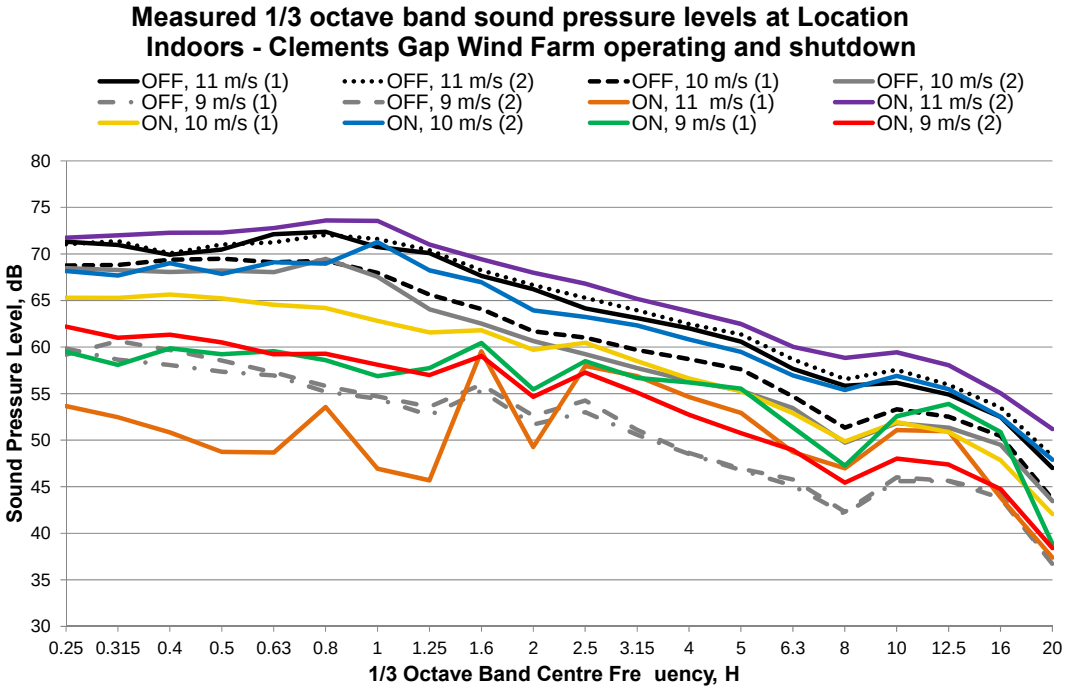

Figure C – Measured sound pressure levels with wind farm on and off, Indoors at house near Clements Gap Wind Farm

When compared to other locations, there are time periods when the sound pressure levels measured indoors at Location 9 (Figure C9) are markedly higher at frequencies between 2 and 20Hz. This effect occurred both when the wind farm was operating and when it was shutdown. This is believed to be the result of the loose sheet of iron on the roof rattling and significantly affecting the measured sound pressure levels within the infrasonic frequency range.

Therefore, while the measurement results at the indoor locations with the wind farm operating and shutdown demonstrated there was no clear change across the infrasonic frequency range, only limited relevant data could be obtained from the indoor

measurements at Location 9. This also supports the findings regarding the accuracy of measurements at this location discussed in Section 4.2 of the report.

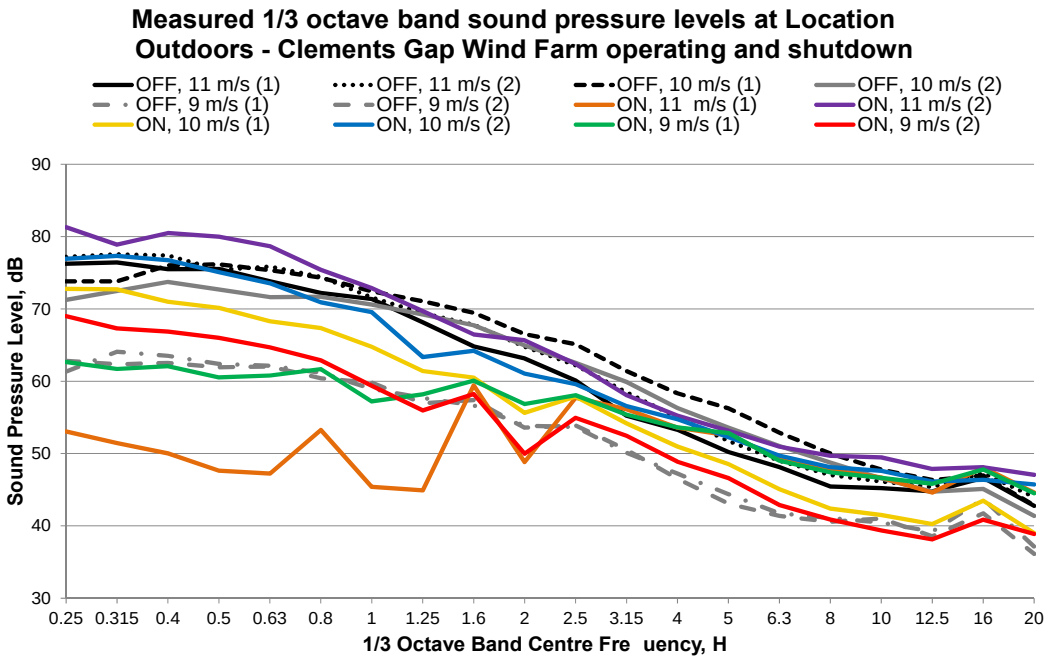

Figure C10 – Measured sound pressure levels with wind farm on and off, Outdoors at house near Clements Gap Wind Farm

As for the result at Location 8, the overall sound pressure levels at frequencies of 20Hz and below do not increase when the Clements Gap Wind Farm is operating relative to when it is shutdown. While there is considerable variation in sound pressure levels in the infrasonic frequency range for the measurement periods shown in Figure C10, this occurs during both the shutdown and operational periods leading to the conclusion that it is a result of localised wind conditions rather than wind farm operation.

During some of the quietest operational periods, a peak is evident in the frequency spectrum at the blade pass frequency of the wind turbines and the next two harmonics (0.8Hz, 1.6Hz and 2.5Hz). Peaks at 1.6Hz and 2.5Hz were also visible during the shutdown measurements, but to a much lesser degree. The difference in level between the peaks during the shutdown and operational periods may indicate that the peak is a result of wind turbine operation. However, a review of the full Clements Gap data set shows that the measured sound pressure levels of the peaks at these frequencies appear to be in the order of 53 to 60dB(Lin), a similar or lower level than typically measured sound pressure level at these frequencies at non-wind farm locations, and approximately 50dB below the threshold of perception. Therefore, these peaks are often masked by the background noise levels at these frequencies. These results also are discussed in Section 5.3 of the report.

Overall, the comparison of frequency spectra at Location 8 and Location 9 during wind farm shutdown periods and comparable operational periods indicates that there is very little change in the measured sound pressure levels at frequencies below 20Hz. This demonstrates that there is insignificant contribution from either the Bluff Wind Farm or the

Clements Gap Wind Farm to sound pressure levels in the infrasonic region at the houses located approximately 1.5 kilometres away.

Development Plan

Port Pirie Regional Council

Consolidated – 31 October 2017

Please refer to Port Pirie Regional Council page at www.sa.gov.au/developmentplans to see any amendments not consolidated.

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Introduction Section

Amendment Record Table

The following table is a record of authorised amendments and their consolidation dates for the Port Pirie Regional Council Development Plan since its inception on 29 August 2002. Further information on authorised amendments prior to this date may be researched through the relevant Council, Department of Planning, Transport and Infrastructure or by viewing Gazette records.

CONSOLIDATED	AMENDMENT – [Gazetted date]
29 August 2002	Port Pirie (City), Pirie (DC) and Crystal Brook-Redhill (DC) Development Plans – General Review and Consolidation PAR – [29 August 2002] Industry Buffer (SAMAG) PAR (by the Minister) – [22 August 2002] Note: The Industry Buffer (SAMAG) PAR affecting the former Pirie (DC) Development Plan was consolidated with the Port Pirie (City), Pirie (DC) and Crystal Brook-Redhill (DC) Development Plans – General Review and Consolidation PAR
9 October 2003	Wind Farms PAR *(Ministerial)* – [24 July 2003]
11 March 2004	Heritage PAR (Interim) – [11 March 2004]
10 March 2005	Heritage PAR – [10 March 2005]
14 July 2005	Section 29(2)(b)(2) Amendment – [14 July 2005]
6 October 2005	Port Pirie Tourist Accommodation and Regional Centre PAR – [6 October 2005]
18 May 2006	Section 29(2)(b)(2) Amendment – [18 May 2006]
25 January 2007	Bushfire Management (Part 2) PAR *(Ministerial)* – [14 December 2006]
28 June 2007	Residential and Rural Living PAR – [28 June 2007]
12 July 2007	Editorial Correction to Map PtPi/29 – [–]
5 June 2008	Section 29(2)(b)(ii) Amendment – [28 February 2008] Regional Centre DPA – [29 May 2008]
28 August 2008	Ranges Zone DPA (Interim) – [28 August 2008]
7 May 2009	Ranges Zone DPA – [7 May 2009]
29 April 2010	Bushfires (Miscellaneous Amendments) DPA *(Ministerial)* (Interim) – [10 December 2009]
7 October 2010	Statewide Bulky Goods DPA *(Ministerial)* (Interim) – [1 June 2010] Risdon Park Residential DPA – [7 October 2010]
10 March 2011	Bushfires (Miscellaneous Amendments) DPA *(Ministerial)* – [9 December 2010] Statewide Bulky Goods DPA *(Ministerial)* – [13 January 2011] General DPA – [10 March 2011]
12 January 2012	Statewide Wind Farms DPA (Interim) *(Ministerial)* – [19 October 2011] Industrial Rezoning DPA – [12 January 2012]
10 January 2013	Termination of the Statewide Wind Farms DPA *(Ministerial)* and its removal from the Port Pirie (RC) Development Plan – [18 October 2012] Statewide Wind Farms DPA *(Ministerial)* – [18 October 2012] Section 29(2)(c) Amendment – [29 November 2012]
31 October 2017	Better Development Plan Council Wide and Zones Amendments DPA – [31 October 2017]

Consolidated: The date of which an authorised amendment to a Development Plan was consolidated (incorporated into the published Development Plan) pursuant to section 31 of the *Development Act 1993*.

Gazetted: The date of which an authorised amendment was authorised through the publication of a notice in the Government Gazette pursuant to Part 3 of the *Development Act 1993*.

Introduction to the Development Plan

Welcome to the Development Plan for the Port Pirie Regional Council.

This introduction has been prepared by the Department of Planning, Transport and Infrastructure as guide to assist you in understanding this Development Plan.

For full details about your rights and responsibilities, you are advised to refer to the *Development Act 1993* and the associated *Development Regulations 2008* and/or consult your council.

A number of guides and additional information regarding South Australia's Planning and Development Assessment System are available via the website www.saplanningportal.sa.gov.au or by contacting the Department of Planning, Transport and Infrastructure.

Overview of the Planning System

South Australia has an integrated planning and development system, with three distinct but interrelated parts, these being:

- Legislation
- The Planning Strategy
- Development Plans.

The **legislative framework** establishing the planning and development system and setting out its statutory procedures is provided by the *Development Act 1993* and associated *Development Regulations 2008*. The *Development Act* is the core legislation enacted by the South Australian Parliament to establish the planning and development system framework and many of the processes required to be followed within that framework (including processes for assessing development applications). The Regulations provide more details about the framework and are updated from time to time by the Governor (on the advice of the Minister for Planning).

The State Government's broad vision for sustainable land use and the built development of the state is outlined in the **Planning Strategy**. The relevant volume of the Planning Strategy for this Development Plan is the Mid North Region Plan (May 2011).

The Planning Strategy, which covers a full range of social, economic and environmental issues, informs and guides policies both across Government and in local area Development Plans. The Planning Strategy is required under section 22 of the *Development Act 1993* and is updated by the State Government every few years. Local councils also prepare strategic plans which guide the same matters but at a local level. These strategic plans are not, however, development assessment tools, that is the role of Development Plans.

Development Plans are the key on-the-ground development assessment documents in South Australia. They contain the rules that set out what can be done on any piece of land across the state, and the detailed criteria against which development applications will be assessed. Development Plans cover distinct and separate geographic areas of the state. There is a separate Development Plan for each one of the 68 local council areas, plus a handful of other Development Plans covering areas not situated within local government boundaries. Development Plans outline what sort of developments and land use are and are not envisaged for particular zones (eg residential, commercial, industrial), and various objectives, principles and policies further controlling and affecting the design and other aspects of proposed developments.

What is Development?

'Development' is defined in Section 4 of the *Development Act 1993* as:

- a change in the use of land or buildings
- the creation of new allotments through land division (including Strata and Community Title division)
- building work (including construction, demolition, alteration and associated excavation/fill)

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- cutting, damaging or felling of significant trees
- specific work in relation to State and Local heritage places
- prescribed mining operations
- other acts or activities in relation to land as declared by the Development Regulations.

No development can be undertaken without an appropriate **Development Approval** being obtained from the relevant authority after an application and assessment process.

How does the Development Plan relate to other legislation?

The Development Plan is a self-contained policy document prepared under and given statutory recognition pursuant to *the Development Act 1993.*

It is generally independent of other legislation but is one of many mechanisms that control or manage the way that land and buildings are used.

The *Development Act, 1993* and *Development Regulations, 2008* contain a number of provisions to ensure that development applications are referred to other government agencies when appropriate.

What doesn't a Development Plan do?

Development Plans are applicable only when new development is being designed or assessed. They do not affect existing development (see above for a description of what constitutes 'development').

Once a Development Approval is issued, the details contained within the application and any conditions attached to that approval are binding.

Development Plan policies guide the point in time assessment of a development application but do not generally seek to control the on-going management of land, which is the role of other legislation (eg the *Environment Protection Act 1993, Natural Resources Management Act 2004, Liquor Licensing Act 1997)*.

When do you use the Development Plan?

The Development Plan should be used during a development application process. This may include:

- when undertaking or proposing to undertake 'development' (eg building a house or factory or converting an office into a shop)
- when assessing or determining a development proposal (eg by council staff, a Council or Regional Development Assessment Panel or the Development Assessment Commission)
- when you believe you could be affected by a proposed development and you are given an opportunity to comment on it as part of the assessment process.

How to read the Development Plan

Development Plans are comprised of several sections as described below.

All sections and **all** relevant provisions within each section of the Development Plan must be considered in relation to a development proposal or application.

Development Plans use three text font colours:

(a) Black text is used to identify all standard policy that forms the basis of all council Development Plans.

(b) Green text is used to identify additional council-specific policy or variables that have been included in the Development Plan to reflect local circumstances.

(c) Blue text illustrates hyperlinks to maps, overlays and tables in the Development Plan. These hyperlinks are operational only when viewing electronic versions of the Development Plan.

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Development Plan Structure Overview

Advisory Section	Function
Table of Contents	Navigational aid to reference sections within the Development Plan by name and page number.
Amendment Record Table	Tabled information recording previously-authorised Development Plan amendments and their consolidation dates.
Introduction Overview of the Planning System What is Development? How does the Development Plan relate to other legislation? What doesn't a Development Plan do? When do you use the Development Plan? How to read the Development Plan?	A general overview of the context, purpose and way a Development Plan is set out (this section is advisory only and not used for development assessment purposes).
Strategic Setting State Strategic Setting *(30-Year Plan for Greater Adelaide/Regional Planning Strategy)* Council Strategic Setting *(Council Strategy)*	To be developed, but intended to reflect the relevant Planning Strategy (as it relates to the council area) and council's own local strategic investigations.
Council Preface Map	Map of the entire Development Plan boundary and its spatial relationship to other Development Plans' boundaries.

Assessment Section	Function
General Section Provisions Objectives Principles of Development Control	These policies apply across the whole council area and relate to a range of social, environmental, and economic development issues such as: ▪ site and design criteria ▪ access and vehicle parking requirements ▪ heritage and conservation measures ▪ environmental issues ▪ hazards ▪ infrastructure requirements ▪ land use specific requirements. They establish the development standards that apply to all forms of development and provide a yardstick against which the suitability of development proposals is measured. Many policies include a number of sub clauses. All sub clauses should be met, unless otherwise stated.
Overlay Section Provisions	These policies are spatially located through the application of specific overlay mapping where there is an envisaged land use outcome or application of appropriate design requirements determined by the locality of the proposed development.

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Assessment Section	Function
one Section Provisions	These policies give greater certainty and direction about where certain forms of developments should be located. Maps are referenced within zones that show where land uses are suitable to be located. Generally, envisaged forms of development within a zone are identified and encouraged through carefully worded policies.
Desired Character Statements	These express a vision about how the zone should look and feel in the future. They may describe the valued elements of the neighbourhood or area to be retained and/or what level and nature of change is desired.
Objectives	These are the specific planning policies that determine what land uses are encouraged or discouraged in the zone. They often contain detailed provisions to further guide the scale and design of development.
Principles of Development Control	These also provide lists of complying and non-complying development and any public notification provisions that vary from those in the Development Regulations.
Policy Area	Policy areas apply to a portion of a zone and contain additional objectives, desired character statements and principles of development control for that portion.
Precincts	Precincts are used to express policies for a small sub-area of a zone or a policy area. Precincts are used if additional site-specific principles of development control are needed to reflect particular circumstances associated with those sub-areas.
Procedural Matters	All zones have a procedural matters section that identifies and lists complying, non-complying and public notification categories for various forms of development. Policy areas and/or precincts, which are a sub-set of the zone, share this procedural matters section. Their respective lists can be modified to accommodate policy area and precinct variations.
Table Section Provisions	These tables provide detailed data for the assessment of certain elements of development, for example, numeric values for setbacks from road boundaries and car parking rates for certain types of development. Conditions for complying development are grouped into their respective tables.
Mapping Section	
Structure Plan Maps	Structure Plan maps will commonly show the general arrangement and broad distribution of land uses; key spatial elements; and movement patterns throughout the council area and major urban areas.
Council Index Maps	This is the first point of reference when determining the appropriate map(s) applying to a specific property. An enlargement index map may be included where needed, eg for large townships.

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Assessment Section	Function
Extent Map Series Location Maps	Individual overlay and spatial-based maps (based on the Council Index Maps) originate from a single Location Map and 'drill down' through relevant extent maps affecting that location. *Note: the entire council area will always be represented as the first map in the extent map series and will commence as Map 1.*
Overlay Maps	Used to show issue areas or features that run across a number of zones, and are spatially defined to a cadastre, for example: ▪ Transport ▪ Development Constraints ▪ Heritage ▪ Heritage and Character Preservation District ▪ Natural Resources ▪ Affordable Housing ▪ Noise and Air Emissions ▪ Strategic Transport Routes *Note: issues that are not spatially defined to a cadastre can appear in this section; however they will be presented as illustrative maps only.*
Zone Maps	Used to determine which zone applies to which land.
Policy Area Maps	Used to depict the presence and location of any applicable policy area.
Precinct Maps	Used to depict the presence and location of any applicable precincts.
Bushfire Maps (where applicable) Bushfire Protection Area BPA Maps - Bushfire Risk	Bushfire Protection Area - BPA Maps are used to determine the potential bushfire risk (high, medium or general), associated with an allotment located within an area prone to bushfires.
Concept Plan Maps	Concept Plans are used to depict graphically key features and conceptual layouts of how specific areas should be developed. Concept Plans appear at the end of the extent map series as a separate section. Concept Plans are consecutively numbered, commencing with number 1.

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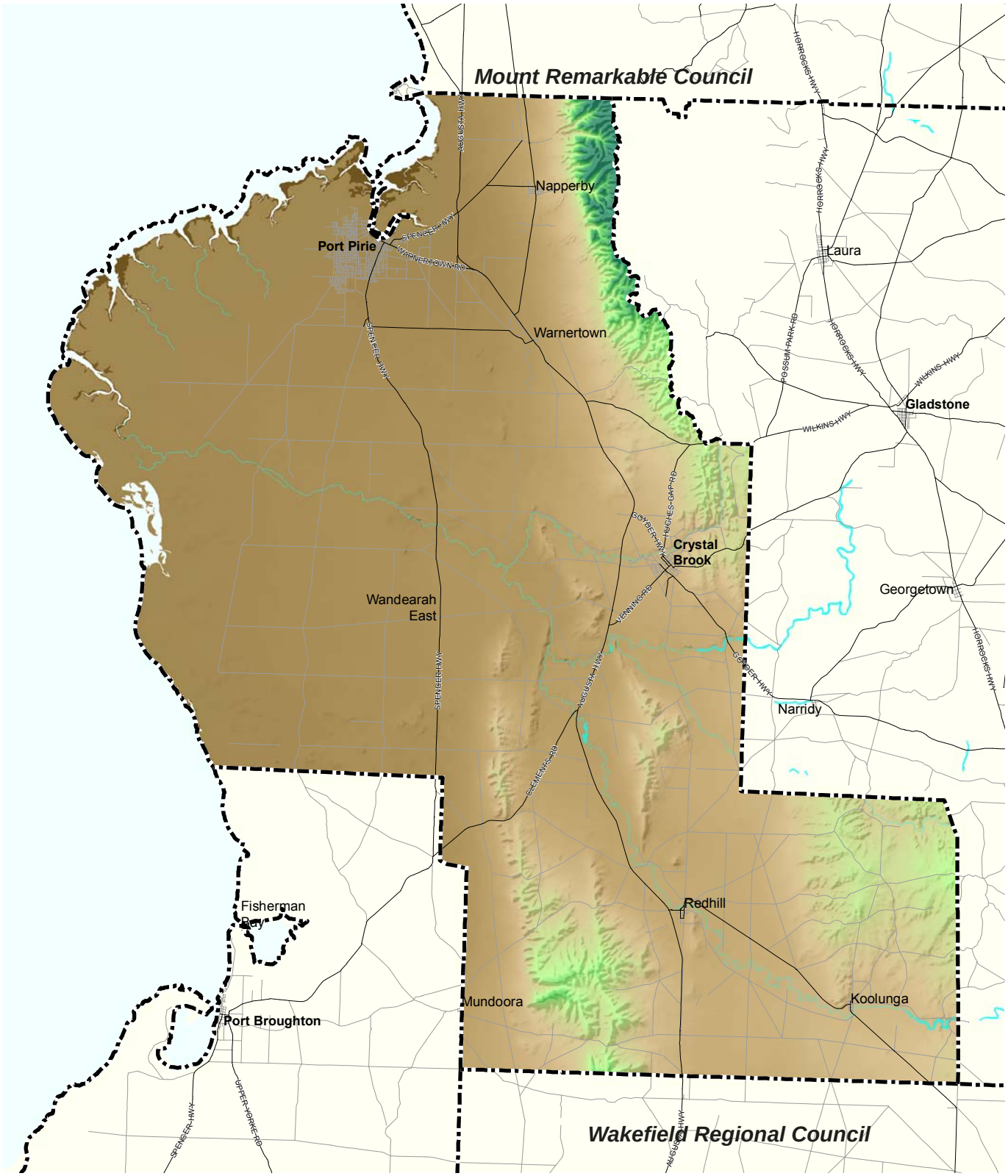
Further info

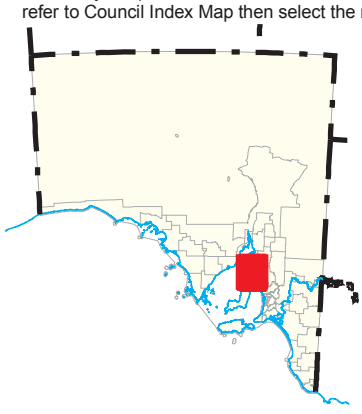
Contact the Port Pirie Regional Council.

Visit the Department of Planning, Transport and Infrastructure website: www.saplanningportal.sa.gov.au.

Discuss your matter with your planning consultant.



To identify the precise location of the Development Plan boundary refer to Council Index Map then select the relevant map number.



Altitude

High : 1159

Low : -15

N

0 10 km

Council Preface Map

General Section

Advertisements

OBJECTIVES

1 Urban and rural landscapes that are not disfigured by advertisements and/or advertising hoardings.

2 Advertisements and/or advertising hoardings that do not create a hazard.

3 Advertisements and/or advertising hoardings designed to enhance the appearance of the building and locality.

PRINCIPLES OF DEVELOPMENT CONTROL

1 The location, siting, design, materials, size, and shape of advertisements and/or advertising hoardings should be:

(a) consistent with the predominant character of the urban or rural landscape

(b) in harmony with any buildings or sites of historic significance or heritage value in the area

(c) coordinated with and complement the architectural form and design of the building they are to be located on.

2 The number of advertisements and/or advertising hoardings associated with a development should be minimised to avoid:

(a) clutter

(b) disorder

(c) untidiness of buildings and their surrounds

(d) driver distraction.

3 Buildings occupied by a number of tenants should exhibit coordinated and complementary advertisements and/or advertising hoardings to identify the tenants and their type of business.

4 The content of advertisements should be limited to information relating to the legitimate use of the associated land.

5 Advertisements and/or advertising hoardings should:

(a) be completely contained within the boundaries of the subject allotment

(b) be sited to avoid damage to, or pruning or lopping of, on-site landscaping or street trees

(c) not obscure views to vistas or objects of high amenity value.

6 Advertisements and/or advertising hoardings should not be erected on:

(a) a public footpath or veranda post

(b) a road, median strip or traffic island

(c) a vehicle adapted and exhibited primarily as an advertisement

(d) residential land.

7 Advertisements and/or advertising hoardings attached to buildings should not be sited on the roof or higher than the walls of a building unless the advertisement or advertising hoarding is appropriately designed to form an integrated and complementary extension of the existing building.

8 Advertisements and/or advertising hoardings erected on a veranda or that project from a building wall should:

(a) have a clearance over a footway to allow for safe and convenient pedestrian access

(b) where erected on the side of a veranda, not exceed the width of the veranda or project from the veranda

(c) where erected on the front of a veranda, not exceed the length of the veranda or project from the veranda

(d) where projecting from a wall, have the edge of the advertisement or advertising hoarding abutting the surface of the wall.

9 Advertisements should be designed to conceal their supporting advertising hoarding from view.

10 Advertisements should convey the owner/occupier and/or generic type of business, merchandise or services using simple, clear and concise language, symbols, print style and layout and a small number of colours.

11 Advertisements which perform a secondary role in identifying the business, goods or services should only be readable in the immediate vicinity of the site.

12 Outside of townships and country settlements advertisements other than traffic signs, tourist signs or advertisements on an existing tourist information bay display board, should not be erected in road reserves.

Safety

13 Advertisements and/or advertising hoardings should not create a hazard by:

(a) being so highly illuminated as to cause discomfort to an approaching driver, or to create difficulty in the driver's perception of the road or persons or objects on the road

(b) being liable to interpretation by drivers as an official traffic sign, or convey to drivers information that might be confused with instructions given by traffic signals or other control devices, or impair the conspicuous nature of traffic signs or signals

(c) distracting drivers from the primary driving task at a location especially where the demands on driver concentration are high

(d) obscuring a driver's view of other road or rail vehicles at/or approaching level crossings, or of pedestrians or of features of the road that are potentially hazardous (eg junctions, bends, changes in width, traffic control devices).

14 Any internally illuminated advertising signs and/or advertising hoardings which utilise LED, LCD or other similar technologies should be located a minimum of 80 metres from traffic signals, level crossings and other important traffic control devices.

Freestanding Advertisements

15 Freestanding advertisements and/or advertising hoardings should be:

(a) limited to only one primary advertisement per site or complex

(b) of a scale and size in keeping with the desired character of the locality and compatible with the development on the site.

16 Freestanding advertisements and/or advertising hoardings for multiple-business tenancy complexes should:

(a) incorporate the name or nature of each business or activity within the site or complex in a single advertisement

(b) be integrally designed and mounted below the more predominant main complex or site identity advertisement.

17 Portable, easel or A-frame advertisements should be displayed only where:

(a) no other appropriate opportunity exists for an adequate coordinated and permanently erected advertisement and/or advertising hoarding

(b) they do not obstruct or compromise the safety of pedestrians or vehicle movement

(c) there is no unnecessary duplication or proliferation of advertising information

(d) there is no damage to, or removal of, any landscaping on the site.

18 Portable, easel or A-frame advertisements associated with a development should be displayed only during the hours the development is open for trading.

Flags, Bunting and Streamers

19 Advertisements and/or advertising hoardings incorporating any flags, bunting, streamers, or suspended objects should:

(a) be placed or arranged to complement and accord with the scale of the associated development

(b) other than flags, not be positioned higher than the building they are attached or related to

(c) not be displayed in residential areas.

Advertising Along Arterial Roads

20 Advertising and/or advertising hoardings should not be placed along arterial roads that have a speed limit of 80 km/h or more.

Advertising in Mixed Use and Corridor Zones

21 Advertisements and/or advertising hoardings should be:

(a) no higher than the height of the finished floor level of the second storey of the building to which it relates

(b) where located below canopy level, flush with the wall or projecting horizontally

(c) where located at canopy level, in the form of a facia sign

(d) where located above the canopy, flush with the wall and within the height of the parapet.

22 Advertisements or advertising hoardings should not exceed 25 per cent of the ground floor wall area on the façade the sign is placed.

Animal Keeping

OBJECTIVES

1 Animals not kept at a density beyond the carrying capacity of the land or water.

2 Animal keeping development sited and designed to avoid adverse effects on surrounding development.

3 Intensive animal keeping protected from encroachment by incompatible development.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Animal keeping and associated activities should not create adverse impacts on the environment or the amenity of the locality.

2 Storage facilities for manure, used litter and other wastes should be designed and sited:

(a) to be vermin proof

(b) with an impervious base

(c) to ensure that all clean rainfall runoff is excluded from the storage area

(d) outside the 1-in-100 year average return interval flood event area.

Horse Keeping

3 Stables, horse shelters or associated yards should be sited:

(a) at least 50 metres from a watercourse

(b) on land with a slope no greater than 1-in-10.

4 A concrete drainage apron should be provided along the front of stables directing water from wash-down areas onto a suitably vegetated area that can absorb all the water, or into a constructed drainage pit.

5 Stables, horse shelters or associated yards should be sited at least 30 metres from any dwelling on the site and from the nearest allotment boundary to avoid adverse impacts from dust, erosion and odour.

6 All areas accessible to horses should be separated from septic tank drainage areas.

Dairies

7 Dairies and associated wastewater lagoons and liquid/solid waste storage and disposal areas should be located at a distance from nearby dwellings, public roads and outside the 1-in-100 year average return interval flood event area of any watercourse to avoid adverse impacts or nuisance by noise, smell or pollution on nearby sensitive receptors such as dwellings.

8 Dairies should include a lagoon for the storage or treatment of milking shed effluent which should be located:

(a) at least 20 metres from a public road

(b) at least 200 metres from any dwelling not located on the land

(c) outside any 1-in-100 year average return interval flood event area of any watercourse.

Intensive Animal Keeping

9 Intensive animal keeping operations and their associated components, including holding yards, temporary feeding areas, movement lanes and similar, should not be located on land within any of the following areas:

(a) 800 metres of a public water supply reservoir

(b) the 1-in-100 year average return interval flood event area of any watercourse

(c) 200 metres of a major watercourse (third order or higher stream)

(d) 100 metres of any other watercourse, bore or well used for domestic or stock water supplies

(e) 2000 metres of a defined and zoned township, settlement or urban area (except for land based aquaculture)

(f) 500 metres of a dwelling (except for a dwelling directly associated with the intensive animal keeping facility).

10 Intensive animal keeping operations in uncovered situations should incorporate:

(a) a controlled drainage system which:

(i) diverts runoff from external areas

(ii) directs surface runoff into an effluent management system that has sufficient capacity to hold runoff from the controlled drainage area

(b) pen floors which:

(i) ensure that effluent does not infiltrate and contaminate groundwater or soil

(ii) are graded to a consistent uniform slope of between 2 per cent and 6 per cent

(c) effluent drainage into an effluent lagoon(s) that has sufficient capacity to hold runoff from the controlled drainage area.

11 Intensive animal keeping facilities and associated wastewater lagoons and liquid/solid waste disposal areas should be sited, designed, constructed and managed to avoid adverse odour impacts on nearby sensitive land uses.

Kennels

12 The floor of kennels should be constructed of concrete or similar impervious material and be designed to allow for adequate drainage when kennels are cleaned.

13 Kennels and exercise yards should be designed and sited to minimise noise nuisance to neighbours through:

(a) orienting their openings away from sensitive land uses such as dwellings

(b) siting them as far as practicable from allotment boundaries.

14 Kennels should occur only where there is a permanently occupied dwelling on the land.

Land Based A uaculture

15 Land-based aquaculture and associated components should not be located on land within 500 metres of a defined and zoned township, settlement or urban area.

16 Land-based aquaculture ponds should be sited and designed to:

(a) prevent surface flows from entering the ponds in a 1-in-100 year average return interval flood event

(b) prevent pond leakage that would pollute groundwater

(c) prevent the farmed species escaping and entering into any waters

(d) minimise the need for intake and discharge pipes to traverse sensitive environments.

17 Buildings associated with land-based aquaculture should provide enclosed storage areas to accommodate all equipment associated with aquaculture operations in a manner which is integrated with the use of the land.

18 Development should ensure that pipe inlet and outlets associated with land-based aquaculture are located to minimise the risk of disease transmission.

19 Development not readily capable of connection to a reticulated water supply should provide rainwater storage tanks with a total capacity of not less than 45 000 litres.

20 Land-based aquaculture development should not be established in natural watercourses.

Marine Based A uaculture

21 Marine aquaculture and other offshore development should be ecologically sustainable and be located, designed, constructed and managed to:

(a) minimise adverse impacts on marine habitats and ecosystems, and public access to beaches, public watercourses or the foreshore

(b) take into account the requirements of traditional indigenous and commercial fishing grounds

(c) ensure satisfactory removal and disposal of litter, disused material, debris, detritus and dead animals from the development

(d) prevent the build up of waste.

22 In marine waters, marine aquaculture (other than inter tidal aquaculture) and other offshore development should be located a minimum of 100 metres seaward of the high water mark.

23 Marine aquaculture development should not significantly obstruct or adversely affect any of the following:

(a) areas of high public use

(b) areas established for recreational activities

(c) areas of outstanding visual, environmental, commercial or tourism value

(d) sites, including beaches, used for recreational activities such as swimming, fishing, skiing, sailing and other water sports.

24 Marine aquaculture should be sited, designed, constructed and managed to minimise interference and obstruction to the natural processes of the coastal and marine environment.

25 Marine aquaculture should be developed in areas where an adequate water current exists to disperse sediments and be sited a sufficient height above the sea floor to:

(a) prevent the fouling of waters, publicly owned wetlands or the nearby coastline

(b) minimise seabed damage.

26 Racks, floats and other farm structures associated with marine aquaculture or other offshore development should where practicable be visually unobtrusive from the shoreline.

27 Marine aquaculture development should:

(a) use feed hoppers that are painted in subdued colours and suspended as low as possible above the water

(b) position structures to protrude the minimum distance practicable above water

(c) avoid the use of shelters and structures above cages and platforms unless necessary to exclude predators and protected species from interacting with the farming structures and/or stock inside the cages, or for safety reasons.

28 Marine aquaculture should be developed to maintain existing rights of way within or adjacent to a site.

29 Marine aquaculture access, launching and maintenance facilities should:

(a) where possible, use existing and established roads, tracks, ramps and paths to or from the sea

(b) be developed co-operatively and co-located.

30 Marine aquaculture and other offshore development should be located at least:

(a) 550 metres from a proclaimed shipwreck

(b) 1000 metres seaward from the boundary of any reserve under the *National Parks and Wildlife Act 1972*, unless a lesser distance is agreed with the Minister responsible for that *Act*.

31 Marine aquaculture development should be located so as not to obstruct nor interfere with navigation channels, access channels, frequently used natural launching sites, safe anchorage areas, known diving areas, commercial shipping lanes or activities associated with existing jetties and wharves.

32 Marine aquaculture development should contribute to navigational safety by being:

(a) suitably marked for navigational purposes

(b) sited to allow an adequate distance between farms for safe navigation

(c) located at least 250 metres from a commercial shipping lane

(d) comprised of structures that are secured and/or weighted to prevent drifting from the licensed site

(e) able to be rehabilitated when no longer operational.

Building near Airfields

OBJECTIVES

1 Development that ensures the long-term operational, safety, commercial and military aviation requirements of airfields (airports, airstrips and helicopter landing sites) continue to be met.

PRINCIPLES OF DEVELOPMENT CONTROL

1 The height and location of buildings and structures should not adversely affect the long-term operational, safety, commercial and military aviation requirements of airfields.

2 Buildings and structures that exceed the airport building heights and that penetrate the obstacle limitation surfaces should not be developed unless a safety analysis determines that the building/structure does not pose a hazard to aircraft operations.

3 Development in the vicinity of airfields should not create a risk to public safety, in particular through any of the following:

(a) lighting glare

(b) smoke, dust and exhaust emissions

(c) air turbulence

(d) storage of flammable liquids

(e) attraction of birds

(f) reflective surfaces (eg roofs of buildings, large windows)

(g) materials that affect aircraft navigational aids.

4 Outdoor lighting within 6 kilometres of an airport should be designed so that it does not pose a hazard to aircraft operations.

5 Development that is likely to increase the attraction of birds should not be located within 3 kilometres of an airport used by commercial aircraft. If located closer than 3 kilometres the facility should incorporate bird control measures to minimise the risk of bird strikes to aircraft.

6 Dwellings should not be located within areas affected by airport noise.

7 Development within areas affected by aircraft noise should be consistent with *Australian Standard AS 2021: - Acoustics - Aircraft Noise Intrusion - Building Siting and Construction*.

Bulk Handling and Storage Facilities

OBJECTIVES

1 Facilities for the bulk handling and storage of agricultural and other commodities sited and designed to minimise adverse impacts on the landscape and on and from surrounding land uses.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Facilities for the handling, storage and dispatch of commodities in bulk should be:

(a) located in bulk handling, industry or primary production type zones

(b) sited, designed and operated to minimise risks of contamination to the environment and adverse impacts on nearby sensitive land uses and from surrounding land uses.

2 Development of facilities for the handling, transportation and storage of bulk commodities should have:

(a) areas set aside on the site of the development for the marshalling and manoeuvring of vehicles attending the site

(b) roadways and parking areas surfaced in a manner sufficient to control dust emissions from the site

(c) vehicle circulation between activity areas contained within the site and without the need to use public roads

(d) landscaping, using locally indigenous plant species wherever practical, established within the site for the purpose of providing shade and shelter, and to assist with screening and dust filtration

(e) a buffer area for the establishment of dense landscaping adjacent road frontages

(f) security fencing around the perimeter of the site.

3 Temporary bunkers for storage should not compromise the efficient circulation and parking of vehicles within the site.

4 Access to and from the site should be designed to allow simultaneous movement of vehicles entering and exiting in a forward direction to minimise interference to other traffic using adjacent public roads.

Centres and Retail Development

OBJECTIVES

1 Shopping, administrative, cultural, community, entertainment, educational, religious and recreational facilities located in integrated centres and mixed use zones.

2 Centres that ensure rational, economic and convenient provision of goods and services and provide:

(a) a focus for community life

(b) safe, permeable, pleasant and accessible walking and cycling environments.

3 The provision of a safe pedestrian and cycling environments within centres which gives high priority to pedestrians, public and community transport.

4 Increased vitality and activity in centres through the introduction and integration of housing.

5 Development of centres outside of Greater Adelaide in accordance with the following hierarchy:

(a) Regional Centre

(b) District Centre

(c) Town Centre (for smaller towns with a single centre zone)

(d) Local Centre (subsidiary centres for towns with a regional or district centre).

PRINCIPLES OF DEVELOPMENT CONTROL

1 Development within centres should:

(a) integrate facilities within the zone

(b) allow for the multiple use of facilities and the sharing of utility spaces

(c) allow for the staging of development within the centre

(d) be integrated with public and community transport.

2 Development within centres should be designed to be compatible with adjoining areas. This should be promoted through landscaping, screen walls, centre orientation, location of access ways, buffer strips and transitional use areas.

3 Development within centres should provide:

(a) public spaces such as malls, plazas and courtyards

(b) street furniture, including lighting, signs, litter bins, seats and bollards, that is sited and designed to complement the desired character

(c) unobtrusive facilities for the storage and removal of waste materials

(d) public facilities including toilets, infant changing facilities for parents, telephones and community information boards

(e) access for public and community transport and sheltered waiting areas for passengers

(f) lighting for pedestrian paths, buildings and associated areas

(g) a single landscaping theme

(h) safe and secure bicycle parking.

Retail Development

4 Bulky goods outlets located within centres zones should:

(a) complement the overall provision of facilities

(b) be sited towards the periphery of those centres where the bulky goods outlet has a gross leaseable area of 500 square metres or more.

5 A shop, or group of shops:

(a) with a gross leasable area of greater than 450 square metres should be located in a business, centre, or shopping zone

(b) with a gross leasable area of 450 square metres or less should not be located on a primary road unless located in a business, centre, or shopping zone.

Coastal Areas

OBJECTIVES

1 The protection and enhancement of the natural coastal environment, including environmentally important features of coastal areas such as mangroves, wetlands, sand dunes, cliff tops, native vegetation, wildlife habitat shore and estuarine areas.

2 Protection of the physical and economic resources of the coast from inappropriate development.

3 Preservation of areas of high landscape and amenity value including stands of vegetation, shores, exposed cliffs, headlands, islands and hill tops, and areas which form an attractive background to urban and tourist areas.

4 Development that maintains and/or enhances public access to coastal areas with minimal impact on the environment and amenity.

5 Development only undertaken on land which is not subject to or that can be protected from coastal hazards including inundation by storm tides or combined storm tides and stormwater, coastal erosion or sand drift, and probable sea level rise.

6 Development that can accommodate anticipated changes in sea level due to natural subsidence and probable climate change during the first 100 years of the development.

7 Development which will not require, now or in the future, public expenditure on protection of the development or the environment.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Development should be compatible with the coastal environment in terms of built-form, appearance and landscaping including the use of walls and low pitched roofs of non-reflective texture and natural earth colours.

Environmental Protection

2 The coast should be protected from development that would adversely affect the marine and onshore coastal environment, whether by pollution, erosion, damage or depletion of physical or biological resources, interference with natural coastal processes or any other means.

3 Development should not be located in delicate or environmentally-sensitive coastal features such as sand dunes, cliff tops, wetlands or substantially intact strata of native vegetation.

4 Development should not be undertaken where it will create or aggravate coastal erosion, or where it will require coast protection works which cause or aggravate coastal erosion.

5 Development should be designed so that solid/fluid wastes and stormwater runoff is disposed of in a manner that will not cause pollution or other detrimental impacts on the marine and on-shore environment of coastal areas.

6 Effluent disposal systems incorporating soakage trenches or similar should prevent effluent migration into the inter-tidal zone and be sited at least 100 metres from the mean high water mark at spring tide.

7 Development that proposes to include or create confined coastal waters, as well as water subject to the ebb and flow of the tide should be designed to ensure the quality of such waters is maintained at an acceptable level.

8 Development should be designed and sited so that it does not prevent natural landform and ecological adjustment to changing climatic conditions and sea levels and should allow for the following:

(a) the unrestricted landward migration of coastal wetlands

(b) new areas to be colonised by mangroves, samphire and wetland species

(c) sand dune drift

(d) where appropriate, the removal of embankments that interfere with the abovementioned processes.

Maintenance of Public Access

9 Development should maintain or enhance public access to and along the foreshore.

10 Other than small-scale infill development in a predominantly urban zone, development adjacent to the coast should not be undertaken unless it incorporates an existing or proposed public reserve, not including a road or erosion buffer, of at least 50 metres width between the development and the landward toe of the frontal dune or the top edge of an escarpment.

11 If an existing reserve is less than 50 metres wide, the development should incorporate an appropriate width of reserve to achieve a total 50 metres wide reserve.

12 Development that abuts or includes a coastal reserve should be sited and designed to be compatible with the purpose, management and amenity of the reserve, as well as to prevent inappropriate access to the reserve.

13 Development, including marinas and aquaculture, should be located and designed to ensure convenient public access along the waterfront to beaches and coastal reserves is maintained, and where possible enhanced through the provision of one or more of the following:

(a) pedestrian pathways and recreation trails

(b) coastal reserves and lookouts

(c) recreational use of the water and waterfront

(d) safe public boating facilities at selected locations

(e) vehicular access to points near beaches and points of interest

(f) car parking.

14 Where a development such as a marina creates new areas of waterfront, provision should be made for public access to, and recreational use of, the waterfront and the water.

15 Public access through sensitive coastal landforms, particularly sand dunes, wetlands and cliff faces, should be restricted to defined pedestrian paths constructed to minimise adverse environmental impact.

16 Access roads to the coast and lookouts should preferably be spur roads rather than through routes, other than tourist routes where they:

(a) do not detract from the amenity or the environment

(b) are designed for slow moving traffic

(c) provide adequate car parking.

Hazard Risk Minimisation

17 Development and its site should be protected against the standard sea flood risk level which is defined as the 1-in-100 year average return interval flood extreme sea level (tide, stormwater and associated wave effects combined), plus an allowance to accommodate land subsidence until the year 2100.

18 Development including associated roads and parking areas, other than minor structures unlikely to be adversely affected by flooding, should be protected from sea level rise by ensuring all of the following apply:

(a) site levels are at least 0.3 metres above the standard sea flood risk level (3.15 AHD)

(b) building floor levels are at least 0.55 metres above the standard sea flood risk level (3.40 AHD)

(c) there are practical measures available to protect the development against an additional sea level rise of 0.7 metres, plus an allowance to accommodate land subsidence until the year 2100 at the site.

19 Buildings to be sited over tidal water or which are not capable of being raised or protected by flood protection measures in future, should have a floor level of at least 1.25 metres above the standard sea flood risk level.

20 Development that requires protection measures against coastal erosion, sea or stormwater flooding, sand drift or the management of other coastal processes at the time of development, or in the future, should only be undertaken if all of the following apply:

(a) the measures themselves will not have an adverse effect on coastal ecology, processes, conservation, public access and amenity

(b) the measures do not nor will not require community resources, including land, to be committed

(c) the risk of failure of measures such as sand management, levee banks, flood gates, valves or stormwater pumping, is acceptable relative to the potential hazard resulting from their failure

(d) binding agreements are in place to cover future construction, operation, maintenance and management of the protection measures.

21 Development should not compromise the structural integrity of any sea wall or levee bank adjacent to the foreshore, or compromise its capacity to protect against coastal flooding and erosion.

Erosion Buffers

22 Development should be setback a sufficient distance from the coast to provide an erosion buffer (in addition to a public reserve) which will allow for at least 100 years of coastal retreat for single buildings or small scale developments, or 200 years of coastal retreat for large scale developments (ie new townships) unless either of the following applies:

(a) the development incorporates appropriate private coastal protection measures to protect the development and public reserve from the anticipated erosion

(b) the council is committed to protecting the public reserve and development from the anticipated coastal erosion.

23 Where a coastal reserve exists or is to be provided it should be increased in width by the amount of any required erosion buffer. The width of an erosion buffer should be based on the following:

(a) the susceptibility of the coast to erosion

(b) local coastal processes

(c) the effect of severe storm events

(d) the effect of a 0.3 metres sea level rise over the next 50 years on coastal processes and storms

(e) the availability of practical measures to protect the development from erosion caused by a further sea level rise of 0.7 metres per 50 years thereafter.

24 Development should not occur where essential services cannot be economically provided and maintained having regard to flood risk and sea level rise, or where emergency vehicle access would be prevented by a 1-in-100 year average return interval flood event, adjusted for 100 years of sea level rise.

Land Division

25 Land in coastal areas should only be divided if:

(a) it or the subsequent development and use of the land will not adversely affect the management of the land, adjoining land or the coast

(b) sand dunes, wetlands and substantially intact strata of native vegetation are maintained or consolidated within single allotments.

26 Land division in coastal areas outside of designated urban or settlement zones should not increase either of the following:

(a) the number of allotments abutting the coast or a reserve

(b) the number of allotments, including community title allotments and those that incorporate rights of way, with direct access to the coast or a reserve.

27 Land should not be divided for commercial, industrial or residential purposes unless a layout can be achieved whereby roads, parking areas and development sites on each allotment are at least 0.3 metres above the standard sea flood risk level, unless the land is, or can be provided with appropriate coastal protection measures.

Protection of Economic Resources

28 Development should be sited, designed and managed so as not to conflict with or jeopardise the continuance of an existing aquaculture development.

Development in Appropriate Locations

29 Development along the coast should be in the form of infill in existing developed areas or concentrated into appropriately chosen nodes and not be in a scattered or linear form.

30 Development of a kind or scale (eg commercial or large-scale retail) that does not require a coastal location and would not significantly contribute to the community's enjoyment of the coast should not be located in coastal areas.

Community Facilities

OBJECTIVES

1 Location of community facilities including social, health, welfare, education and recreation facilities where they are conveniently accessible to the population they serve.

2 The proper provision of public and community facilities including the reservation of suitable land in advance of need.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Community facilities should be sited and developed to be accessible by pedestrians, cyclists and public and community transport.

2 Community facilities should be integrated in their design to promote efficient land use.

3 Design of community facilities should encourage flexible and adaptable use of open space and facilities for a range of uses over time.

Crime Prevention

OBJECTIVES

1 A safe, secure, crime resistant environment where land uses are integrated and designed to facilitate community surveillance.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Development should be designed to maximise surveillance of public spaces through the incorporation of clear lines of sight, appropriate lighting and the use of visible permeable barriers wherever practicable.

2 Buildings should be designed to overlook public and communal streets and public open space to allow casual surveillance.

3 Development should provide a robust environment that is resistant to vandalism and graffiti.

4 Development should provide lighting in frequently used public spaces including those:

(a) along dedicated cyclist and pedestrian pathways, laneways and access routes

(b) around public facilities such as toilets, telephones, bus stops, seating, litter bins, automatic teller machines, taxi ranks and car parks.

5 Development, including car park facilities should incorporate signage and lighting that indicate the entrances and pathways to, from and within sites.

6 Landscaping should be used to assist in discouraging crime by:

(a) screen planting areas susceptible to vandalism

(b) planting trees or ground covers, rather than shrubs, alongside footpaths

(c) planting vegetation other than ground covers a minimum distance of 2 metres from footpaths to reduce concealment opportunities.

7 Site planning, buildings, fences, landscaping and other features should clearly differentiate public, communal and private areas.

8 Buildings should be designed to minimise and discourage access between roofs, balconies and windows of adjoining dwellings.

9 Public toilets should be located, sited and designed:

(a) to promote the visibility of people entering and exiting the facility (eg by avoiding recessed entrances and dense shrubbery that obstructs passive surveillance)

(b) near public and community transport links and pedestrian and cyclist networks to maximise visibility.

10 Development should avoid pedestrian entrapment spots and movement predictors (eg routes or paths that are predictable or unchangeable and offer no choice to pedestrians).

Design and Appearance

OBJECTIVES

1 Development of a high design standard and appearance that responds to and reinforces positive aspects of the local environment and built form.

2 Roads, open spaces, paths, buildings and land uses laid out and linked so that they are easy to understand and navigate.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Buildings should reflect the desired character of the locality while incorporating contemporary designs that have regard to the following:

(a) building height, mass and proportion

(b) external materials, patterns, colours and decorative elements

(c) roof form and pitch

(d) façade articulation and detailing

(e) verandas, eaves, parapets and window screens.

2 Where a building is sited on or close to a side or rear boundary, the boundary wall should minimise:

(a) the visual impact of the building as viewed from adjacent properties

(b) overshadowing of adjacent properties and allow adequate sunlight access to neighbouring buildings.

3 The external walls and roofs of buildings should not incorporate highly reflective materials which will result in glare to neighbouring properties, drivers or cyclists.

4 Structures located on the roofs of buildings to house plant and equipment should be screened from view and should form an integral part of the building design in relation to external finishes, shaping and colours.

5 Balconies should:

(a) be integrated with the overall form and detail of the building

(b) include balustrade detailing that enables line of sight to the street

(c) be recessed where wind would otherwise make the space unusable

(d) be self-draining and plumbed to minimise runoff.

6 Transportable buildings and buildings which are elevated on stumps, posts, piers, columns or the like, should have their suspended footings enclosed around the perimeter of the building, and the use of verandas, pergolas and other suitable architectural detailing to give the appearance of a permanent structure.

Development Adjacent Heritage Places

7 The design of multi-storey buildings should not detract from the form and materials of adjacent State and local heritage places listed in *Table PtPi/ 5 - State Heritage Places or in Table PtPi/4 - Local Heritage Places*.

8 Development on land adjacent to a State or local heritage place, as listed in *Table PtPi/ 5 - State Heritage Places or in Table PtPi/4 - Local Heritage Places*, should be sited and designed to reinforce the historic character of the place and maintain its visual prominence.

Overshadowing

9 The design and location of buildings should enable direct winter sunlight into adjacent dwellings and private open space and minimise the overshadowing of:

(a) windows of habitable rooms

(b) upper-level private balconies that provide the primary open space area for a dwelling

(c) solar collectors (such as solar hot water systems and photovoltaic cells).

Visual Privacy

10 Development should minimise direct overlooking of habitable rooms and private open spaces of dwellings through measures such as:

(a) off-setting the location of balconies and windows of habitable rooms with those of other buildings so that views are oblique rather than direct

(b) building setbacks from boundaries (including building boundary to boundary where appropriate) that interrupt views or that provide a spatial separation between balconies or windows of habitable rooms

(c) screening devices (including fencing, obscure glazing, screens, external ventilation blinds, window hoods and shutters) that are integrated into the building design and have minimal negative effect on residents' or neighbours' amenity.

11 Permanently fixed external screening devices should be designed and coloured to complement the associated building's external materials and finishes.

Relationship to the Street and Public Realm

12 Buildings (other than ancillary buildings, group dwellings or buildings on allotments with a battle axe configuration) should be designed so that the main façade faces the primary street frontage of the land on which they are situated.

13 Buildings, landscaping, paving and signage should have a coordinated appearance that maintains and enhances the visual attractiveness of the locality.

14 Buildings should be designed and sited to avoid extensive areas of uninterrupted walling facing areas exposed to public view.

15 Building design should emphasise pedestrian entry points to provide perceptible and direct access from public street frontages and vehicle parking areas.

16 The ground floor of mixed use buildings should comprise non-residential land uses.

17 In mixed use areas, development facing the street should be designed to activate the street frontage(s):

(a) including features that attract people to the locality such as frequent doors and display windows, retail shopfronts and/or outdoor eating or dining areas

(b) minimising the frontage for fire escapes, service doors, plant and equipment hatches

(c) avoiding undercroft or ground floor vehicle parking that is visible from the primary street frontage

(d) using colour, vertical and horizontal elements, roof overhangs and other design techniques to provide visual interest and reduced massing.

18 Where zero or minor setbacks are desirable, development should incorporate shelter over footpaths to enhance the quality of the pedestrian environment.

Outdoor Storage and Service Areas

19 Outdoor storage, loading and service areas should be:

(a) screened from public view by a combination of built form, solid fencing and/or landscaping

(b) conveniently located and designed to enable the manoeuvring of service and delivery vehicles

(c) sited away from sensitive land uses.

Building Setbacks from Road Boundaries

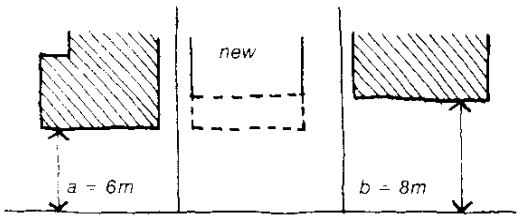
20 Except in areas where a new character is desired, the setback of buildings from public roads should:

(a) be similar to, or compatible with, setbacks of buildings on adjoining land and other buildings in the locality

(b) contribute positively to the function, appearance and/or desired character of the locality.

21 Except where specified in a particular zone, policy area or precinct, buildings and structures should be set back from road boundaries having regard to the requirements set out in *Table PtPi/1 - Building Setbacks from Road Boundaries*.

22 Except where specified in a particular zone, policy area or precinct, the main face of a building should be set back from the primary road frontage in accordance with the following table:

Setback difference between buildings on ad acent allotments	**Setback of new building**
Up to 2 metres	The same setback as one of the adjacent buildings, as illustrated below:  *When b - a≤ 2, setback of new dwelling = a or b*
Greater than 2 metres	At least the average setback of the adjacent buildings

23 Except in areas where a new character is desired or where specified in a zone, policy area or precinct, the setback of development from a secondary street frontage should reflect the setbacks of the adjoining buildings and other buildings in the locality.

Energy Efficiency

OBJECTIVES

1 Development designed and sited to conserve energy.

2 Development that provides for on-site power generation including photovoltaic cells and wind power.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Development should provide for efficient solar access to buildings and open space all year around.

2 Buildings should be sited and designed:

(a) to ensure adequate natural light and winter sunlight is available to the main activity areas of adjacent buildings

(b) so that open spaces associated with the main activity areas face north for exposure to winter sun.

On-site Energy Generation

3 Development should facilitate the efficient use of photovoltaic cells and solar hot water systems by:

(a) taking into account overshadowing from neighbouring buildings

(b) designing roof orientation and pitches to maximise exposure to direct sunlight.

4 Public infrastructure and lighting, should be designed to generate and use renewable energy.

Forestry

OBJECTIVES

1 Forestry development that is designed and sited to maximise environmental and economic benefits whilst managing potential negative impacts on the environment, transport networks and surrounding land uses and landscapes.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Forestry plantations should not be undertaken if they will cause or require the clearance of valued trees or substantially intact strata of vegetation, or detrimentally affect the physical environment or scenic quality of the rural landscape.

2 Forestry plantations should not occur:

(a) on land with a slope exceeding 20 degrees

(b) within a separation distance (which may include forestry firebreaks and vehicle access tracks) of 50 metres of either of the following:

(i) any dwelling including those on an adjoining allotment

(ii) a reserve gazetted under the *National Parks and Wildlife Act 1972* or *Wilderness Protection Act 1992*.

3 Forestry plantations should:

(a) not involve cultivation (excluding spot cultivation) in drainage lines or within 20 metres of a major watercourse (a third order or higher watercourse), lake, reservoir, wetland and sinkhole (direct connection to aquifer)

(b) incorporate artificial drainage lines (ie culverts, runoffs and constructed drains) integrated with natural drainage lines to minimise concentrated water flows onto or from plantation areas

(c) retain a minimum 10 metre width separation distance immediately to either side of a watercourse (a first or second order watercourse) and sinkhole (no-direct connection to aquifer). This separation distance should contain locally indigenous vegetation (including grasses) and unmodified topography to ensure water flow.

4 Forestry plantations should incorporate:

(a) 7 metre wide external boundary firebreaks for plantations of 40 hectares or less

(b) 10 metre wide external boundary firebreaks for plantations of between 40 and 100 hectares

(c) 20 metre wide external boundary firebreaks, or 10 metres with an additional 10 metres of fuel-reduced plantation, for plantations of 100 hectares or greater.

5 Forestry plantations should incorporate vehicle access tracks:

(a) within all firebreaks

(b) of a minimum width of 7 metres with a vertical clearance of 4 metres

(c) that are aligned to provide straight through access at junctions, or if they are a no through access track they are appropriately signposted and provide suitable turnaround areas for fire-fighting vehicles

(d) that partition the plantation into units not exceeding 40 hectares in area.

6 Forestry plantations should ensure the clearances from power lines listed in the Table following are maintained when planting trees with an expected mature height of more than 6 metres:

Voltage of transmission line	**Tower or Pole**	**Minimum hori ontal clearance distance between plantings and transmission lines (in metres)**
500 kV	Tower	38
275 kV	Tower	25
132 kV	Tower	30
132 kV	Pole	20
66 kV	Pole	20
Less than 66 kV	Pole	20

Hazards

OBJECTIVES

1 Maintenance of the natural environment and systems by limiting development in areas susceptible to natural hazard risk.

2 Development located away from areas that are vulnerable to, and cannot be adequately and effectively protected from the risk of natural hazards.

3 Critical community facilities such as hospitals, emergency control centres, major service infrastructure facilities, and emergency service facilities located where they are not exposed to natural hazard risks.

4 Development located and designed to minimise the risks to safety and property from flooding.

5 Development located to minimise the threat and impact of bushfires on life and property.

6 Expansion of existing non-rural uses directed away from areas of high bushfire risk.

7 The environmental values and ecological health of receiving waterways and marine environments protected from the release of acid water resulting from the disturbance of acid sulfate soils.

8 Protection of human health and the environment wherever site contamination has been identified or is suspected to have occurred.

9 Appropriate assessment and remediation of site contamination to ensure land is suitable for the proposed use and provides a safe and healthy living and working environment.

10 Minimisation of harm to life, property and the environment through appropriate location of development and appropriate storage, containment and handling of hazardous materials.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Development should be excluded from areas that are vulnerable to, and cannot be adequately and effectively protected from, the risk of hazards.

2 Development located on land subject to hazards as shown on the *Overlay Maps - Development Constraints* should not occur unless it is sited, designed and undertaken with appropriate precautions being taken against the relevant hazards.

3 There should not be any significant interference with natural processes in order to reduce the exposure of development to the risk of natural hazards.

4 Development should minimise airborne dust during both the construction and operational phases through appropriate construction and design management.

Flooding

5 Development should not occur on land where the risk of flooding is likely to be harmful to safety or damage property.

6 Development should not be undertaken in areas liable to inundation by tidal, drainage or flood waters unless the development can achieve all of the following:

(a) it is developed with a public stormwater system capable of catering for a 1-in-100 year average return interval flood event

(b) buildings are designed and constructed to prevent the entry of floodwaters in a 1-in-100 year average return interval flood event.

7 Development, including earthworks associated with development, should not do any of the following:

(a) impede the flow of floodwaters through the land or other surrounding land

(b) increase the potential hazard risk to public safety of persons during a flood event

(c) aggravate the potential for erosion or siltation or lead to the destruction of vegetation during a flood

(d) cause any adverse effect on the floodway function

(e) increase the risk of flooding of other land

(f) obstruct a watercourse.

Bushfire

8 The following bushfire protection principles of development control apply to development of land identified as General, Medium and High bushfire risk areas as shown on the *Bushfire Protection Area BPA Maps PtPi/1 to PtPi/13 - Bushfire Risk*.

9 Development in a Bushfire Protection Area should be in accordance with those provisions of the *Minister's Code: Undertaking development in Bushfire Protection Areas* that are designated as mandatory for Development Plan Consent purposes.

10 Buildings and structures should be located away from areas that pose an unacceptable bushfire risk as a result of one or more of the following:

(a) vegetation cover comprising trees and/or shrubs

(b) poor access

(c) rugged terrain

(d) inability to provide an adequate building protection zone

(e) inability to provide an adequate supply of water for fire fighting purposes.

11 Residential, tourist accommodation and other habitable buildings should:

(a) be sited on the flatter portion of allotments and avoid steep slopes, especially upper slopes, narrow ridge crests and the tops of narrow gullies, and slopes with a northerly or westerly aspect

(b) be sited in areas with low bushfire hazard vegetation and set back at least 20 metres from existing hazardous vegetation

(c) have a dedicated and accessible water supply available at all times for fire fighting.

12 Extensions to existing buildings, outbuildings and other ancillary structures should be sited and constructed using materials to minimise the threat of fire spread to residential, tourist accommodation and other habitable buildings in the event of bushfire.

13 Buildings and structures should be designed and configured to reduce the impact of bushfire through using simple designs that reduce the potential for trapping burning debris against the building or structure, or between the ground and building floor level in the case of transportable buildings.

14 Land division for residential or tourist accommodation purposes within areas of high bushfire risk should be limited to those areas specifically set aside for these uses.

15 Where land division does occur it should be designed to:

(a) minimise the danger to residents, other occupants of buildings and fire fighting personnel

(b) minimise the extent of damage to buildings and other property during a bushfire

(c) ensure each allotment contains a suitable building site that is located away from vegetation that would pose an unacceptable risk in the event of bushfire

(d) ensure provision of a fire hazard separation zone isolating residential allotments from areas that pose an unacceptable bushfire risk by containing the allotments within a perimeter road or through other means that achieve an adequate separation.

16 Vehicle access and driveways to properties and public roads created by land division should be designed and constructed to:

(a) facilitate safe and effective operational use for fire fighting and other emergency vehicles and residents

(b) provide for two-way vehicular access between areas of fire risk and the nearest public road.

17 Olive orchards should be located and developed in a manner that minimises their potential to fuel bushfires.

Salinity

18 Development should not increase the potential for, or result in an increase in, soil and water salinity.

19 Preservation, maintenance and restoration of locally indigenous plant species should be encouraged in areas affected by dry land salinity.

20 Irrigated horticulture and pasture should not increase groundwater induced salinity.

Acid Sulfate Soils

21 Development and activities, including excavation and filling of land, that may lead to the disturbance of potential or actual acid sulfate soils (including land identified on the *Overlay Maps –Development Constraints)* should be avoided unless such disturbances are managed in a way that effectively avoids the potential for harm or damage to any of the following:

(a) the marine and estuarine environment

(b) natural water bodies and wetlands

(c) agricultural or aquaculture activities

(d) buildings, structures and infrastructure

(e) public health.

22 Development, including primary production, aquaculture activities and infrastructure, should not proceed unless it can be demonstrated that the risk of releasing acid water resulting from the disturbance of acid sulfate soils is minimal.

Site Contamination

23 Development, including land division, should not occur where site contamination has occurred unless the site has been assessed and remediated as necessary to ensure that it is suitable and safe for the proposed use.

Containment of Chemical and Hazardous Materials

24 Hazardous materials should be stored and contained in a manner that minimises the risk to public health and safety and the potential for water, land or air contamination.

25 Development that involves the storage and handling of hazardous materials should ensure that these are contained in designated areas that are secure, readily accessible to emergency vehicles, impervious, protected from rain and stormwater intrusion and other measures necessary to prevent:

(a) discharge of polluted water from the site

(b) contamination of land

(c) airborne migration of pollutants

(d) potential interface impacts with sensitive land uses.

Landslip

26 Land identified as being at risk from landslip should not be developed.

27 Development, including associated cut and fill activities, should not lead to an increased danger from land surface instability or to the potential of landslip occurring on the site or on surrounding land.

28 Development on steep slopes should promote the retention and replanting of vegetation as a means of stabilising and reducing the possibility of surface movement or disturbance.

29 Development in areas susceptible to landslip should:

(a) incorporate split level designs to minimise cutting into the slope

(b) ensure that cut and fill and heights of faces are minimised

(c) ensure cut and fill is supported with engineered retaining walls or are battered to appropriate grades

(d) control any erosion that will increase the gradient of the slope and decrease stability

(e) ensure the siting and operation of an effluent drainage field does not contribute to landslip

(f) provide drainage measures to ensure surface stability is not compromised

(g) ensure natural drainage lines are not obstructed.

Heritage Places

OBJECTIVES

1 The conservation of State and local heritage places.

2 The continued use, or adaptive reuse, of State and local heritage places that supports the conservation of their cultural significance.

3 Conservation of the setting of State and local heritage places.

PRINCIPLES OF DEVELOPMENT CONTROL

1 A heritage place spatially located on *Overlay Maps - Heritage* and more specifically identified in *Table PtPi/ 5 - State Heritage Places or in Table PtPi/4 - Local Heritage Places* should not be demolished, destroyed or removed, in total or in part, unless either of the following apply:

(a) that portion of the place to be demolished, destroyed or removed is excluded from the extent of the places identified in the *Table(s)*

(b) the structural condition of the place represents an unacceptable risk to public or private safety.

2 Development of a State or local heritage place should retain those elements contributing to its heritage value, which may include (but not be limited to):

(a) principal elevations

(b) important vistas and views to and from the place

(c) setting and setbacks

(d) building materials

(e) outbuildings and walls

(f) trees and other landscaping elements

(g) access conditions (driveway form/width/material)

(h) architectural treatments

(i) the use of the place.

3 Development of a State or local heritage place should be compatible with the heritage value of the place.

4 Original unpainted plaster, brickwork, stonework or other masonry of existing State or local heritage places should be preserved, unpainted.

5 New buildings should not be placed or erected between the front street boundary and the façade of existing State or local heritage places.

6 Development that materially affects the context within which the heritage place is situated should be compatible with the heritage place. It is not necessary to replicate historic detailing, however design elements that should be compatible include, but are not limited to:

(a) scale and bulk

(b) width of frontage

(c) boundary setback patterns

(d) proportion and composition of design elements such as rooflines, openings, fencing and landscaping

(e) colour and texture of external materials.

7 Multi-storey additions to a State or local heritage place should be compatible with the heritage value of the place through a range of design solutions such as:

(a) extending into the existing roof space or to the rear of the building

(b) retaining the elements that contribute to the building's heritage value

(c) distinguishing between the existing and new portion of the building

(d) stepping in parts of the building that are taller than the front facade.

8 The introduction of advertisements and signage to a State or local heritage place should:

(a) be placed on discrete elements of its architecture such as parapets and wall panels, below the canopy, or within fascias, and infill end panels and windows

(b) not conceal or obstruct historical detailing of the heritage place

(c) not project beyond the silhouette or skyline of the heritage place

(d) not form a dominant element of the place.

9 The division of land adjacent to or containing a State or local heritage place should occur only where it will:

(a) create an allotment pattern that maintains or reinforces the integrity of the heritage place and the character of the surrounding area

(b) create an allotment or allotments of a size and dimension that can accommodate new development that will reinforce and complement the heritage place and the zone or policy area generally

(c) be of a size and dimension that will enable the siting and setback of new buildings from allotment boundaries so that they do not overshadow, dominate, encroach on or otherwise impact on the setting of the heritage place

(d) provide an area for landscaping of a size and dimension that complements the landscape setting of the heritage place and the landscape character of the locality

(e) enable the State or local heritage place to have a curtilage of a size sufficient to protect its setting.

Historic Conservation Area

Refer to the *Map Reference Tables* for a list of the *Overlay Maps - Heritage* that relate to the **Historic Conservation Area**.

OBJECTIVES

1 The conservation of areas of historical significance.

2 Development that promotes, conserves and enhances the cultural significance and historic character of identified places and areas.

3 Development that complements the historic significance of the area.

4 The retention and conservation of places such as land, buildings, structures and landscape elements that contribute positively to the historic character of the area.

5 Development that contributes to desired character

DESIRED CHARACTER

Area 1 Port Pirie

Area 1 Port Pirie is an area of historic importance where the heritage value needs to be conserved and reinforced. The distinctive historic character of **Area 1 Port Pirie** is is created and enhanced by the interaction between built form, spaces, plantings and general street pattern within the area. **Area 1 Port Pirie** will continue to function as an integral part of the Port Pirie Regional Centre.

Development within the area should conserve, maintain, enhance and reinforce the existing streetscape and historic character of individual buildings by exhibiting architectural and roof forms, designs, street frontage widths, materials, finishes, fences and landscape settings which compliment without attempting to reproduce historic buildings or their detailing. Within **Area 1 Port Pirie** heritage places should not be demolished, however they may be added to in an appropriate manner where such alterations or additions conserve and compliment the character, scale, architecture, building form, materials and finishes of the existing places.

As far as practical or appropriate, new buildings and structures should be sited, designed and constructed using suitable colours and materials that reinforce and enhance the heritage values of the area.

The external character of buildings of heritage value should be conserved and traditional building features, such as verandas, awnings and, where appropriate balconies , if removed since the original construction of the building, should be reinstated in a style comparable to that of the original construction. Development affecting buildings of heritage value which have been covered in more recent times with inappropriate external cladding should as far as practicable or appropriate, reinstate the original external appearance of these buildings.

Land divisions within **Area 1 Port Pirie**, which result in an increase in the number of allotments should only occur where it can be demonstrated that it will not be detrimental to the integrity of a local heritage place or area. The resulting allotment pattern will satisfactorily accommodate new development of a form which will reinforce and compliment the heritage character of the area.

Area 2 Crystal Brook

Area 2 Crystal Brook is an area of historic importance where the heritage value needs to be conserved and reinforced. The distinctive historic character of **Area 2 Crystal Brook** is created and enhanced by the interaction between built form, spaces, plantings and general street pattern within the area.

Area 2 Crystal Brook will continue to function as an integral part of the Crystal Brook Town Centre and a very small portion of the **Community one**.

Development within the area should conserve, maintain, enhance and reinforce the existing streetscape and historic character of individual buildings by exhibiting architectural and roof forms, designs, street frontage widths, materials, finishes, fences and landscape settings which compliment without attempting to reproduce historic buildings or their detailing.

Heritage places should not be demolished, however they may be added to in an appropriate manner where such alterations or additions conserve and compliment the character, scale, architecture, building form, materials and finishes of the existing places.

As far as practical or appropriate, new buildings and structures should be sited, designed and constructed using suitable colours and materials that reinforce and enhance the heritage values of the area

The external character of buildings of heritage value should be conserved and traditional building features, such as verandahs, awnings and, where appropriate balconies , if removed since the original construction of the building, should be reinstated in a style comparable to that of the original construction.

Development affecting buildings of heritage value which have been covered in more recent times with inappropriate external cladding should as far as practicable or appropriate, reinstate the original external appearance of thes buildings.

Land divisions within **Area 2 Crystal Brook**, which result in an increase in the number of allotments should only occur where it can be demonstrated that it will not be detrimental to the integrity of a local heritage place or area. The resulting allotment pattern will satisfactorily accommodate new development of a form which will reinforce and compliment the heritage character of the area.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Development should not be undertaken unless it is consistent with the desired character for the **Historic Conservation Area**.

2 Places such as land, buildings, structures and landscape elements that contribute to the historic character of the area identified on the *Overlay Maps - Heritage* and more specifically identified in the respective *Table PtPi/3 - Contributory items*, should be retained and conserved.

3 Development of a contributory item should:

(a) not compromise its value to the historic significance of the area

(b) retain its present integrity or restore its original design features

(c) maintain or enhance the prominence of the original street facade

(d) ensure additions are screened by, and/or located to the rear of the building

(e) ensure original unpainted plaster, brickwork, stonework, or other masonry is preserved, unpainted.

4 New buildings should not be placed or erected between the front street boundary and the facade of contributory items.

5 Buildings and structures should not be demolished in whole or in part, unless they are:

(a) structurally unsafe and/or unsound and cannot reasonably be rehabilitated

(b) inconsistent with the desired character for the **Historic Conservation Area**

(c) associated with a proposed development that supports the desired character for the **Historic Conservation Area**.

6 Development should take design cues from the existing historic built forms. In doing this, it is not necessary to replicate historic detailing; however design elements for consideration should be compatible with building and streetscape character and should include but not be limited to:

(a) scale and bulk

(b) width of frontage

(c) boundary setback patterns

(d) proportion and composition of design elements such as roof lines, pitches, openings, verandas, fencing and landscaping

(e) colour and texture of external materials

(f) visual interest.

7 New residential development should include landscaped front garden areas that complement the desired character.

8 The conversion of an existing dwelling into two or more dwellings may be undertaken provided that the building and front yard retain the original external appearance to the public road.

9 Second storey additions to single storey dwellings should achieve one or more of the following:

(a) a sympathetic two storey addition that uses existing roof space or incorporates minor extensions to the roof space at the rear of the dwelling

(b) a second storey within the roof space, where the overall building height, scale and form is compatible with existing single storey development in the policy area

(c) second storey windows having a total length less than 30 per cent of the total roof length along each elevation.

10 Front fences and gates should:

(a) reflect and conserve the traditional period, style and form of the associated building

(b) generally be of low timber pickets, low pier and plinth masonry, wrought iron, brush or masonry

(c) be no more than 1.2 metres in height.

11 Rear and side boundary fences located behind the front dwelling alignment should be no more than 1.8 metres in height.

12 Advertisements and/or advertising hoardings associated with places and areas of heritage significance should:

(a) be of a size, colour, shape and materials that enhances the character of the locality

(b) not dominate or detract from the prominence of any place and/or area of historic significance.

13 Development should respect the existing topography and the relationship of sites to street levels and to adjoining land and not involve substantial cut and/or fill or sites.

14 The division of land should occur only where it will maintain the traditional pattern and scale of allotments.

Industrial Development

OBJECTIVES

1 Industrial, warehouse, storage and transport distribution development on appropriately located land, integrated with transport networks and designed to minimise potential impact on these networks.

2 The development of small scale agricultural industries, wineries, mineral water extraction and processing plants, and home based industries in rural areas.

3 Industrially zoned allotments and uses protected from encroachment by adjoining uses that would reduce industrial development or expansion.

4 Industrial development occurring without adverse effects on the health and amenity of occupiers of land in adjoining zones.

5 Compatibility between industrial uses within industrial zones.

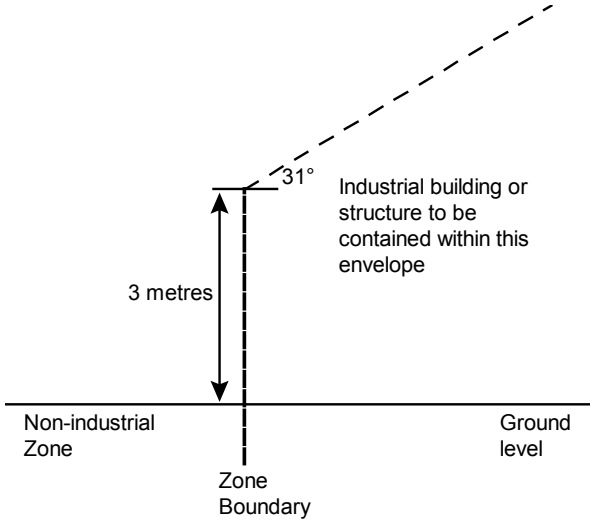
6 The improved amenity of industrial areas.

7 Co-location of industries in townships to enable promotion and implementation of innovative waste recovery practices, methods of power generation and reuse of by-products.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Offices and showrooms associated with industrial, warehouse, storage and transport development should be sited at the front of the building with direct and convenient pedestrian access from the main visitor parking area.

2 Any building or structure on, or abutting the boundary of, a non-industrial zone should be restricted to a height of 3 metres above ground level at the boundary and a plane projected at 31 degrees above the horizontal into the development site from that 3 metre height, as shown in the following diagram:



3 Industrial development should enable all vehicles to enter and exit the site in a forward direction.

4 Industrial development abutting an arterial road, a non-industrial zone boundary, or significant open space should be developed in a manner that does not create adverse visual impacts on the locality.

5 Building facades facing a non-industrial zone, public road, or public open space should:

(c) use a variety of building finishes

(d) not consist solely of metal cladding

(e) contain materials of low reflectivity

(f) incorporate design elements to add visual interest

(g) avoid large expanses of blank walls.

6 Industrial development should minimise significant adverse impact on adjoining uses due to hours of operation, traffic, noise, fumes, smell, dust, paint or other chemical over-spray, vibration, glare or light spill, electronic interference, ash or other harmful or nuisance creating impacts.

7 Landscaping should be incorporated as an integral element of industrial development along non-industrial zone boundaries.

8 Fencing (including colour-coated wire mesh fencing) adjacent to public roads should be setback in one of the following ways:

(a) in line with the building facade

(b) behind the building line

(c) behind a landscaped area that softens its visual impact.

9 Marine aquaculture onshore storage, cooling and processing facilities should not impair the coastline and its visual amenity and should:

(a) be sited, designed, landscaped and developed at a scale and using external materials that minimise any adverse visual impact on the coastal landscape

(b) be sited and designed with appropriate vehicular access arrangement

(c) include appropriate waste treatment and disposal.

Small-scale agricultural industries, home-based industries, mineral water extraction and processing plants, and wineries in rural areas

10 Agricultural industries, home-based industries, mineral water extraction and processing plants, and wineries in rural areas should:

(a) use existing buildings and, in particular, buildings of heritage value, in preference to constructing new buildings

(b) be setback at least 50 metres from:

(i) any bore, well or watercourse, where a watercourse is identified as a blue line on a current series 1:50 000 government standard topographic map

(ii) a dam or reservoir that collects water flowing in a watercourse

(iii) a lake or wetland through which water flows

(iv) a channel into which water has been diverted

(v) a known spring

(vi) sink hole

(c) be located within the boundary of a single allotment, including any ancillary uses

(d) not result in more than one industry located on an allotment

(e) include a sign that facilitates access to the site that is sited and designed to complement the features of the surrounding area and which:

(i) does not exceed 2 square metres in area

(ii) is limited to one sign per establishment (for agricultural and home-based industries)

(iii) is not internally illuminated.

11 Agricultural industries, home-based industries, mineral water extraction and processing plants, and wineries in rural areas should not:

(a) necessitate significant upgrading of public infrastructure including roads and other utilities

(b) generate traffic beyond the capacity of roads necessary to service the development

(c) result in traffic and/or traffic volumes that would be likely to adversely alter the character and amenity of the locality

(d) be located on land with a slope greater than 20 per cent (1-in-5).

12 Agricultural industries, wineries and mineral water extraction and processing plants should not be located:

(a) on land that is classified as being poorly drained or very poorly drained

(b) within 800 metres of a high water level of a public water supply reservoir

(c) closer than 300 metres (other than a home-based industry) to a dwelling or tourist accommodation that is not in the ownership of the applicant.

13 Home-based industries in rural areas:

(a) should include at least one of the following activities:

(i) arts

(ii) crafts

(iii) tourist

(iv) heritage related activities

(b) may include an ancillary area for the sale or promotion of goods manufactured in the industry (including display areas)

(c) should have a total combined area for one or any combination of these activities (including ancillary sales/promotion area) not exceeding 80 square metres per allotment with a maximum building area of 80 square metres, including a maximum area of 30 square metres for sale of goods made on the allotment by the industry

(d) should not be located further than 50 metres from a habitable dwelling occupied by the proprietor of the industry on the allotment.

14 Mineral water extraction and processing plants in rural areas:

(a) should include at least one of the following activities normally associated with the extraction and processing of mineral water:

(i) extraction

(ii) bottling

(iii) packaging

(iv) storage

(v) distribution

(b) may include ancillary activities of administration and sale and/or promotion of mineral water product

(c) should have a total combined area for one or any combination of these activities (including ancillary sale and/or promotion areas) not exceeding 350 square metres per allotment with a maximum building area of 250 square metres, including a maximum area of 50 square metres for ancillary sale and/or promotion of mineral water product.

15 Wineries in rural areas should:

(a) include at least one of the following activities normally associated with the making of wine:

(i) crushing

(ii) fermenting

(iii) bottling

(iv) maturation/cellaring of wine

(v) ancillary activities of administration, sale and/or promotion of wine product and restaurant

(b) be located within the boundary of a single allotment which adjoins or is on the same allotment as a vineyard

(c) only include a restaurant as an ancillary use to the winery

(d) be located not closer than 300 metres to a dwelling or tourist accommodation (that is not in the ownership of the winery applicant) where the crush capacity is equal to or greater than 500 tonnes per annum.

Infrastructure

OBJECTIVES

1 Infrastructure provided in an economical and environmentally sensitive manner.

2 The visual impact of infrastructure facilities minimised.

3 The efficient and cost-effective use of existing infrastructure.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Development should only occur where it has access to adequate utilities and services, including:

(a) electricity supply

(b) water supply

(c) drainage and stormwater systems

(d) effluent disposal systems

(e) formed all-weather public roads

(f) telecommunications services

(g) gas services.

2 Development should incorporate any relevant and appropriate social infrastructure, community services and facilities.

3 Development should only occur where it provides, or has access to, relevant easements for the supply of infrastructure.

4 Development should incorporate provision for the supply of infrastructure services to be located within common service trenches where practicable.

5 Development should not occur until adequate and coordinated drainage of the land is provided.

6 Development in urban areas should not occur without provision of an adequate reticulated domestic quality mains water supply and an appropriate waste treatment system.

7 In areas where no reticulated water supply is available, buildings whose usage is reliant on a water supply should be equipped with an adequate and reliable on-site water storage system with a total capacity not less than 45 000 litres.

8 Urban development should have a direct water supply.

9 Electricity infrastructure should be designed and located to minimise visual and environmental impacts.

10 Utilities and services, including access roads and tracks, should be sited on areas already cleared of native vegetation. If this is not possible, their siting should cause minimal interference or disturbance to existing native vegetation and biodiversity.

11 Utility buildings and structures should be grouped with non-residential development, where possible.

12 Development in proximity to infrastructure facilities should be sited and be of a scale to ensure adequate separation to protect people and property.

13 Incompatible uses should not encroach upon the easements of infrastructure corridors for existing and proposed transmission lines.

14 In urban areas, electricity supply (except transmission lines) serving new development should be installed underground, excluding lines having a capacity greater than or equal to 33kV.

15 Provision should be made for new transmission and distribution substations and overhead major electricity line corridors (having a capacity greater than or equal to 33kV) in areas which have the required buffer distance to protect people and allow for adequate access.

16 Land division for the purpose of residential and other sensitive land uses should not occur within electricity line corridors or existing electricity easements unless the resultant allotments are large enough to enable accommodation of safe clearances and expected structures.

17 Development should not compromise the viability of transmission line corridors and substation sites identified on *Overlay Map(s) - Development Constraints*.

Interface Between Land Uses

OBJECTIVES

1 Development located and designed to minimise adverse impact and conflict between land uses.

2 Protect community health and amenity from adverse impacts of development.

3 Protect desired land uses from the encroachment of incompatible development.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Development should not detrimentally affect the amenity of the locality or cause unreasonable interference through any of the following:

(a) the emission of effluent, odour, smoke, fumes, dust or other airborne pollutants

(b) noise

(c) vibration

(d) electrical interference

(e) light spill

(f) glare

(g) hours of operation

(h) traffic impacts.

2 Development should be sited and designed to minimise negative impacts on existing and potential future land uses desired in the locality.

3 Development adjacent to a **Residential one** or residential area within a **Township one** should be designed to minimise overlooking and overshadowing of adjacent dwellings and private open space.

4 Residential development adjacent to non-residential zones and land uses should be located, designed and/or sited to protect residents from potential adverse impacts from non-residential activities.

5 Sensitive uses likely to conflict with the continuation of lawfully existing developments and land uses desired for the zone should be designed to minimise negative impacts.

6 Non-residential development on land abutting a residential zone should be designed to minimise noise impacts to achieve adequate levels of compatibility between existing and proposed uses.

Noise Generating Activities

7 Development that emits noise (other than music noise) should include noise attenuation measures that achieve the relevant *Environment Protection (Noise) Policy* criteria when assessed at the nearest existing noise sensitive premises.

8 Development with the potential to emit significant noise (e.g. industry) should incorporate noise attenuation measures that prevent noise from causing unreasonable interference with the amenity of noise sensitive premises.

9 Outdoor areas (such as beer gardens or dining areas) associated with licensed premises should be designed or sited to minimise adverse noise impacts on adjacent existing or future noise sensitive development.

10 Development proposing music should include noise attenuation measures that achieve the following desired noise levels:

Noise level assessment location	Desired noise level
Adjacent existing *noise sensitive development* property boundary	Less than 8 dB above the level of background noise ($L_{90,15min}$) in any octave band of the sound spectrum and Less than 5 dB(A) above the level of background noise ($LA_{90,15min}$) for the overall (sum of all octave bands) A-weighted level
Adjacent land property boundary	Less than 65dB(Lin) at 63Hz and 70dB(Lin) in all other octave bands of the sound spectrum or Less than 8 dB above the level of background noise ($L_{90,15min}$) in any octave band of the sound spectrum and 5 dB(A) overall (sum of all octave bands) A-weighted level

Air Quality

11 Development with the potential to emit harmful or nuisance-generating air pollution should incorporate air pollution control measures to prevent harm to human health or unreasonable interference with the amenity of sensitive uses within the locality.

12 Chimneys or exhaust flues associated with commercial development (including cafes, restaurants and fast food outlets) should be designed to ensure they do not cause a nuisance or health concerns to nearby sensitive receivers by:

(a) incorporating appropriate treatment technology before exhaust emissions are released to the atmosphere

(b) ensuring that the location and design of chimneys or exhaust flues maximises dispersion and takes into account the location of nearby sensitive uses.

Rural Interface

13 The potential for adverse impacts resulting from rural development should be minimised by:

(a) not locating horticulture or intensive animal keeping on land adjacent to townships

(b) maintaining an adequate separation between horticulture or intensive animal keeping and townships, other sensitive uses and, where desirable, other forms of primary production.

14 Traffic movement, spray drift, dust, noise, odour and the use of frost fans and gas guns associated with primary production should not lead to unreasonable impact on adjacent land uses.

15 Existing primary production and mineral extraction should not be prejudiced by the inappropriate encroachment of sensitive uses such as urban development.

16 Development that is adjacent to land used for primary production (within either the zone or adjacent zones) should include appropriate setbacks and vegetative plantings designed to minimise the potential impacts of chemical spray drift and other impacts associated with primary production.

17 New urban development should provide a buffer of at least 40 metres wide (inclusive of any fuel break, emergency vehicle access or road) separating urban and rural activities.

18 Development located within 300 metres of facilities for the handling, transportation and storage of bulk commodities should:

(a) not prejudice the continued operation of those facilities

(b) be located, designed and developed having regard to the potential environmental impact arising from the operation of such facilities and the potential extended hours of operation.

Land Division

OBJECTIVES

1 Land division that occurs in an orderly sequence allowing efficient provision of new infrastructure and facilities and making optimum use of existing under utilised infrastructure and facilities.

2 Land division that creates allotments appropriate for the intended use.

3 Land division layout that is optimal for energy efficient building orientation.

4 Land division that is integrated with site features, including landscape and environmental features, adjacent land uses, the existing transport network and the availability of infrastructure.

5 Land division restricted in rural areas to ensure the efficient use of rural land for primary production and avoidance of uneconomic infrastructure provision.

PRINCIPLES OF DEVELOPMENT CONTROL

1 When land is divided:

(a) stormwater should be capable of being drained safely and efficiently from each proposed allotment and disposed of from the land in an environmentally sensitive manner

(b) a sufficient water supply should be made available for each allotment

(c) provision should be made for the disposal of wastewater, sewage and other effluent from each allotment without risk to health

(d) proposed roads should be graded, or be capable of being graded to connect safely and conveniently with an existing road or thoroughfare.

2 Land should not be divided if any of the following apply:

(a) the size, shape, location, slope or nature of the land makes any of the allotments unsuitable for the intended use

(b) any allotment will not have a frontage to one of the following:

(i) an existing road

(ii) a proposed public road

(iii) access to a public road via an internal roadway in a plan of community division

(c) the intended use of the land is likely to require excessive cut and/or fill

(d) it is likely to lead to undue erosion of the subject land or land within the locality

(e) the wastewater treatment plant to which subsequent development will be connected does not have sufficient capacity to handle the additional wastewater volumes and pollutant loads generated by such development

(f) the area is unsewered and cannot accommodate an appropriate on-site wastewater disposal system within the allotment that complies with (or can comply with) the relevant public and environmental health legislation applying to the intended use(s)

(g) any allotments will straddle more than one zone, policy area or precinct

(h) the allotments unreasonably restrict access to publicly owned land such as recreation areas.

Design and Layout

3 Land divisions should be designed to ensure that areas of native vegetation and wetlands:

(a) are not fragmented or reduced in size

(b) do not need to be cleared as a consequence of subsequent development.

4 The design of a land division should incorporate:

(a) roads, thoroughfares and open space that result in safe and convenient linkages with the surrounding environment, including public and community transport facilities, and which, where necessary, facilitate the satisfactory future division of land and the inter-communication with neighbouring localities

(b) new road and allotment access points providing appropriate separation distances from existing road junctions or level crossings

(c) safe and convenient access from each allotment to an existing or proposed road or thoroughfare

(d) areas to provide appropriate separation distances between potentially conflicting land uses and/or zones

(e) suitable land set aside for usable local open space

(f) public utility services within road reserves and where necessary within dedicated easements

(g) the preservation of significant natural, cultural or landscape features including State and local heritage places

(h) protection for existing vegetation and drainage lines

(i) where appropriate, the amalgamation of smaller allotments to ensure co-ordinated and efficient site development.

5 Land division should result in allotments of a size suitable for their intended use.

6 Land division should facilitate optimum solar access for energy efficiency.

7 Land division within an area identified as being an ‘Excluded Area from Bushfire Protection Planning Provisions’ as shown on *Bushfire Protection Area BPA Maps - Bushfire Risk* should be designed to make provisions for:

(a) emergency vehicle access through to the Bushfire Protection Area and other areas of open space connected to it

(b) a mainly continuous street pattern serving new allotments that eliminates the use of cul-de-sacs or dead end roads

(c) a fire hazard separation zone isolating residential allotments from areas that pose an unacceptable bushfire risk by containing the allotments within a perimeter road or through other means that achieve an adequate separation.

8 Allotments in the form of a battleaxe configuration should:

(a) contain sufficient area on the allotment for a vehicle to turn around to enable it to egress the allotment in a forward direction

(b) not be created where it would lead to multiple access points onto a road which would dominate or adversely affect the amenity of the streetscape

(c) be avoided where their creation would be incompatible with the prevailing pattern of development.

9 Within defined townships and settlements where the land to be divided borders a river, lake, wetland or creek, the land adjoining the bank should become public open space and linked with an existing or proposed pedestrian or transport network.

10 Within defined townships and settlements land division should make provision for a reserve or an area of open space that is at least 25 metres wide from the top of the bank of a watercourse and that incorporates land within the 1-in-100 year average return interval flood event area.

11 The layout of a land division should keep flood prone land free from development.

12 The arrangement of roads, allotments, reserves and open space should enable the provision of a stormwater management drainage system that:

(a) contains and retains all watercourses, drainage lines and native vegetation

(b) enhances amenity

(c) integrates with the open space system and surrounding area.

Roads and Access

13 Road reserves should be of a width and alignment that can:

(a) provide for safe and convenient movement and parking of projected volumes of vehicles and other users

(b) provide for footpaths, cycle lanes and shared-use paths for the safety and convenience of residents and visitors

(c) allow vehicles to enter or reverse from an allotment or site in a single movement allowing for a car parked on the opposite side of the street

(d) accommodate street tree planting, landscaping and street furniture

(e) accommodate the location, construction and maintenance of stormwater drainage and public utilities

(f) provide unobstructed, safe and efficient vehicular access to individual allotments and sites

(g) allow for the efficient movement of service and emergency vehicles.

14 The design of the land division should facilitate the most direct route to local facilities for pedestrians and cyclists and enable footpaths, cycle lanes and shared-use paths to be provided of a safe and suitable width and reasonable longitudinal gradient.

15 The layout of land divisions should result in roads designed and constructed to ensure:

(a) that traffic speeds and volumes are restricted where appropriate by limiting street length and/or the distance between bends and slow points

(b) there are adequate sight distances for motorists at intersections, junctions, pedestrian and cyclist crossings, and crossovers to allotments to ensure the safety of all road users and pedestrians

(c) that existing dedicated cycling and walking routes are not compromised.

16 The design of the land division should provide space sufficient for on-street visitor car parking for the number and size of allotments, taking account of:

(a) the size of proposed allotments and sites and opportunities for on-site parking

(b) the availability and frequency of public and community transport

(c) on-street parking demand likely to be generated by nearby uses.

17 The layout of land divisions should incorporate street patterns designed to enhance the efficient movement of traffic and minimise trip lengths.

Land Division in Rural Areas

18 Rural land should not be divided if the resulting allotments would be of a size and configuration likely to impede the efficient use of rural land for any of the following:

(a) primary production

(b) value adding industries related to primary production

(c) protection of natural resources.

19 Rural land should not be divided where new allotments would result in any of the following:

(a) fragmentation of productive primary production land

(b) strip development along roads or water mains

(c) prejudice against the proper and orderly development of townships

(d) removal of native vegetation for allotment boundaries, access roads, infrastructure, dwellings and other buildings or firebreaks

(e) uneconomic costs to the community for the provision of services.

Landscaping, Fences and Walls

OBJECTIVES

1 The amenity of land and development enhanced with appropriate planting and other landscaping works, using locally indigenous plant species where possible.

2 Functional fences and walls that enhance the attractiveness of development.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Development should incorporate open space and landscaping and minimise hard paved surfaces in order to:

(a) complement built form and reduce the visual impact of larger buildings (eg taller and broader plantings against taller and bulkier building components)

(b) enhance the appearance of road frontages

(c) screen service yards, loading areas and outdoor storage areas

(d) minimise maintenance and watering requirements

(e) enhance and define outdoor spaces, including car parking areas

(f) maximise shade and shelter

(g) assist in climate control within and around buildings

(h) minimise heat absorption and reflection

(i) maintain privacy

(j) maximise stormwater re-use

(k) complement existing vegetation, including native vegetation

(l) contribute to the viability of ecosystems and species

(m) promote water and biodiversity conservation.

2 Landscaping should:

(a) include the planting of locally indigenous species where appropriate

(b) be oriented towards the street frontage

(c) result in the appropriate clearance from powerlines and other infrastructure being maintained.

3 Landscaping should not:

(a) unreasonably restrict solar access to adjoining development

(b) cause damage to buildings, paths and other landscaping from root invasion, soil disturbance or plant overcrowding

(c) introduce pest plants

(d) increase the risk of bushfire

(e) remove opportunities for passive surveillance

(f) increase leaf fall in watercourses

(g) increase the risk of weed invasion

(h) obscure driver sight lines

(i) create a hazard for train or tram drivers by obscuring sight lines at crossovers.

4 Fences and walls, including retaining walls, should:

(a) not result in damage to neighbouring trees

(b) be compatible with the associated development and with existing predominant, attractive fences and walls in the locality

(c) enable some visibility of buildings from and to the street to enhance safety and allow casual surveillance

(d) incorporate articulation or other detailing where there is a large expanse of wall facing the street

(e) assist in highlighting building entrances

(f) be sited and limited in height, to ensure adequate sight lines for motorists and pedestrians especially on corner sites

(g) in the case of side and rear boundaries, be of sufficient height to maintain privacy and/or security without adversely affecting the visual amenity or access to sunlight of adjoining land

(h) be constructed of non-flammable materials.

Marinas and Maritime Structures

OBJECTIVE

1 The provision, in appropriate locations, of marinas, pontoons, jetties, piers, wharves and boat moorings that cater for vessels and:

(a) maintain public access to the waterfront

(b) do not compromise public safety

(c) preserve the structural integrity of the marine infrastructure

(d) minimise adverse impacts on the natural environment.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Marina development should include one or more of the following:

(a) wet and dry berthing of boats

(b) launching and retrieval of recreational boats and associated trailer and car parking areas

(c) access ramps, landings, storage and other structures associated with a marina

(d) clubrooms for maritime organisations.

2 The design of marinas, berths, channels, fairways, gangways and floating structures should comply with:

(a) *Australian Standard AS 3962: Guidelines for Design of Marinas*

(b) *Australian Standard AS 4997: Guidelines for the Design of Maritime Structures*.

3 Development should not obstruct or impair:

(a) navigation and access channels

(b) maintenance activities of marine infrastructure including revetment walls

(c) the operation of wharves.

4 Safe public access should be provided or maintained to:

(a) the waterfront

(b) known diving areas

(c) jetties, wharves and associated activities.

5 Marinas should be designed to:

(a) facilitate water circulation and exchange

(b) maximise the penetration of sunlight into the water.

Medium and High Rise Development (3 or More Storeys)

OBJECTIVES

1 Medium and high rise development that provides housing choice and employment opportunities.

2 Residential development that provides a high standard of amenity and adaptability for a variety of accommodation and living needs.

3 Commercial, office and retail development that is designed to create a strong visual connection to the public realm and that contributes to the vitality of the locality.

4 Buildings designed and sited to be energy and water efficient.

PRINCIPLES OF DEVELOPMENT CONTROL

Design and Appearance

1 Buildings should:

(a) achieve a human scale at ground level through the use of elements such as canopies, verandas or building projections

(b) provide shelter over the footpath where minimal setbacks are desirable

(c) ensure walls on the boundary that are visible from public land include visually interesting treatments to break up large blank facades.

2 The ground floor level of buildings (including the foyer areas of residential buildings) should be designed to enable surveillance from public land to the inside of the building at night.

3 Entrances to multi-storey buildings should:

(a) be oriented towards the street

(b) be clearly identifiable

(c) provide shelter, a sense of personal address and transitional space around the entry

(d) provide separate access for residential and non-residential land uses.

Visual Privacy

4 The visual privacy of ground floor dwellings within multi-storey buildings should be protected through the use of design features such as the elevation of ground floors above street level, setbacks from street and the location of verandas, windows porticos or the like.

Building Separation and Outlook

5 Residential buildings (or the residential floors of mixed use buildings) should:

(a) have adequate separation between habitable room windows and balconies from other buildings to provide visual and acoustic privacy for dwelling occupants and allow the infiltration of daylight into interior and outdoor spaces

(b) ensure living rooms have, at a minimum, a satisfactory short range visual outlook to public or communal space.

Dwelling Configuration

6 Buildings comprising more than 20 dwellings should provide a variety of dwelling sizes and a range in the number of bedrooms per dwelling.

7 Dwellings with 3 or more bedrooms located on the ground floor of medium and high rise buildings should, where possible, have the windows of habitable rooms overlooking internal courtyard space or other public space.

Adaptability

8 Multi-storey buildings should include a variety of internal designs that will facilitate adaptive reuse.

Environmental

9 Multi-storey buildings should:

(a) minimise detrimental micro-climatic and solar access impacts on adjacent land or buildings, including effects of patterns of wind, temperature, daylight, sunlight, glare and shadow

(b) incorporate roof designs that enable the provision of rain water tanks (where they are not provided elsewhere), photovoltaic cells and other features that enhance sustainability.

10 Green roofs (which can be a substitute for private or communal open space provided they can be accessed by occupants of the building) are encouraged on all new residential, commercial or mixed use buildings.

11 Development of 5 or more storeys, or 21 metres or more in building height (excluding the rooftop location of mechanical plant and equipment), should be designed to minimise the risk of wind tunnelling effects on adjacent streets by adopting one or more of the following:

(a) a podium at the base of a tall tower and aligned with the street to deflect wind away from the street

(b) substantial verandas around a building to deflect downward travelling wind flows over pedestrian areas

(c) the placement of buildings and use of setbacks to deflect the wind at ground level.

Site Facilities and Storage

12 Dwellings should provide a covered storage area of not less than 8 cubic metres in one or more of the following areas:

(a) in the dwelling (but not including a habitable room)

(b) in a garage, carport or outbuilding

(c) within an on-site communal facility.

13 Development should provide a dedicated area for the on-site collection and sorting of recyclable materials and refuse.

14 Development with a gross floor area of 2000 square metres or more should provide for the communal storage and management of waste.

Mineral Extraction

OBJECTIVES

1 Development of mining activities in a way that contributes to the sustainable growth of the industry.

2 Protection of mineral deposits against intrusion by inappropriate forms of development.

3 Areas with scenic or conservation significance protected from undue damage arising from mining operations.

4 Mining operations undertaken with minimal adverse impacts on the environment and on the health and amenity of adjacent land uses.

5 Minimisation of the impacts from mining activities upon the existing groundwater level and the quality of groundwater resources.

6 Mining operations that make adequate provision for site rehabilitation.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Known reserves of economically viable mineral deposits should be kept free of development that may inhibit their future exploitation.

2 Development in proximity to mining operations should not be undertaken where it may be exposed to adverse impacts resulting from mining activities.

3 Mining in scenic and native vegetation areas should only be undertaken if:

(a) the proposed location is the best site in regard to minimising loss of amenity, degradation of the landscape and loss of native vegetation

(b) there are a limited number of known reserves of the minerals in the area or elsewhere in the State

(c) the extraction and transportation of materials from alternative sites to principal centres of consumption carry significantly higher costs

(d) the site is capable of restoration with locally indigenous plant species to counter the long-term impact on the landscape and biodiversity.

4 Stormwater and/or wastewater from land used for mining should be diverted into a silt retention structure so that it can be reused on-site for purposes such as truck wash-down, dust control, washing of equipment and landscape irrigation or for disposal off-site in an environmentally responsible manner.

5 Access to land used for mining should be sited and designed to accommodate heavy vehicle traffic and ensure the safety of all road users.

6 Mining operations should:

(a) ensure that minimal damage is caused to the landscape

(b) minimise the area required for operations, and provide for the progressive reclamation of disturbed areas

(c) minimise disturbance to natural hydrological systems.

Separation Treatments, Buffers and Landscaping

7 Mining development should be sited, designed and sequenced to protect the amenity of surrounding land uses from environmental nuisance such as dust or vibration emanating from mining operations.

8 Mining operations that are likely to impact upon the amenity of the locality should incorporate a separation distance and/or mounding/vegetation between the mining operations (including stockpiles) and adjoining allotments to help minimise exposure to those potential impacts.

9 Quarry faces should be orientated away from public view.

10 Screening of mining areas should occur in advance of extraction commencing.

11 An area of densely vegetated and/or mounded land should be established around the perimeter of mining sites in order to screen excavated land and mineral processing facilities from all of the following:

(a) residential areas

(b) tourist areas

(c) tourist routes

(d) scenic routes.

12 Screen planting around mining operations should incorporate a mixture of trees and shrubs that:

(a) contribute to an attractive landscape

(b) suit local soil and climatic conditions

(c) are fast growing and/or have a long life expectancy

(d) are locally indigenous species.

13 Borrow pits for road making materials should be sited so as to cause the minimum effect on their surroundings.

Natural Resources

OBJECTIVES

1 Retention, protection and restoration of the natural resources and environment.

2 Protection of the quality and quantity of South Australia's surface waters, including inland, marine and estuarine and underground waters.

3 The ecologically sustainable use of natural resources including water resources, including marine waters, ground water, surface water and watercourses.

4 Natural hydrological systems and environmental flows reinstated, and maintained and enhanced.

5 Development consistent with the principles of water sensitive design.

6 Development sited and designed to:

(a) protect natural ecological systems

(b) achieve the sustainable use of water

(c) protect water quality, including receiving waters

(d) reduce runoff and peak flows and prevent the risk of downstream flooding

(e) minimise demand on reticulated water supplies

(f) maximise the harvest and use of stormwater

(g) protect stormwater from pollution sources.

7 Storage and use of stormwater which avoids adverse impact on public health and safety.

8 Native flora, fauna and ecosystems protected, retained, conserved and restored.

9 Restoration, expansion and linking of existing native vegetation to facilitate habitat corridors for ease of movement of fauna.

10 Minimal disturbance and modification of the natural landform.

11 Protection of the physical, chemical and biological quality of soil resources.

12 Protection of areas prone to erosion or other land degradation processes from inappropriate development.

13 Protection of the scenic qualities of natural and rural landscapes.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Development should be undertaken with minimum impact on the natural environment, including air and water quality, land, soil, biodiversity, and scenically attractive areas.

2 Development should ensure that South Australia's natural assets, such as biodiversity, water and soil, are protected and enhanced.

3 Development should not significantly obstruct or adversely affect sensitive ecological areas such as creeks, wetlands, estuaries and significant seagrass and mangrove communities.

4 Development should be appropriate to land capability and the protection and conservation of water resources and biodiversity.

Water Sensitive Design

5 Development should be designed to maximise conservation, minimise consumption and encourage re-use of water resources.

6 Development should not take place if it results in unsustainable use of surface or underground water resources.

7 Development should be sited and designed to:

(a) capture and re-use stormwater, where practical

(b) minimise surface water runoff

(c) prevent soil erosion and water pollution

(d) protect and enhance natural water flows

(e) protect water quality by providing adequate separation distances from watercourses and other water bodies

(f) not contribute to an increase in salinity levels

(g) avoid the water logging of soil or the release of toxic elements

(h) maintain natural hydrological systems and not adversely affect:

(i) the quantity and quality of groundwater

(ii) the depth and directional flow of groundwater

(iii) the quality and function of natural springs.

8 Water discharged from a development site should:

(a) be of a physical, chemical and biological condition equivalent to or better than its pre-developed state

(b) not exceed the rate of discharge from the site as it existed in pre-development conditions.

9 Development should include stormwater management systems to protect it from damage during a minimum of a 1-in-100 year average return interval flood.

10 Development should have adequate provision to control any stormwater over-flow runoff from the site and should be sited and designed to improve the quality of stormwater and minimise pollutant transfer to receiving waters.

11 Development should include stormwater management systems to mitigate peak flows and manage the rate and duration of stormwater discharges from the site to ensure the carrying capacities of downstream systems are not overloaded.

12 Development should include stormwater management systems to minimise the discharge of sediment, suspended solids, organic matter, nutrients, bacteria, litter and other contaminants to the stormwater system.

13 Stormwater management systems should preserve natural drainage systems, including the associated environmental flows.

14 Stormwater management systems should:

(a) maximise the potential for stormwater harvesting and re-use, either on-site or as close as practicable to the source

(b) utilise, but not be limited to, one or more of the following harvesting methods:

(i) the collection of roof water in tanks

(ii) the discharge to open space, landscaping or garden areas, including strips adjacent to car parks

(iii) the incorporation of detention and retention facilities

(iv) aquifer recharge.

15 Where it is not practicable to detain or dispose of stormwater on site, only clean stormwater runoff should enter the public stormwater drainage system.

16 Artificial wetland systems, including detention and retention basins, should be sited and designed to:

(a) ensure public health and safety is protected

(b) minimise potential public health risks arising from the breeding of mosquitoes.

Water Catchment Areas

17 Development should ensure watercourses and their beds, banks, wetlands and floodplains are not damaged or modified and are retained in their natural state, except where modification is required for essential access or maintenance purposes.

18 No development should occur where its proximity to a swamp or wetland will damage or interfere with the hydrology or water regime of the swamp or wetland.

19 A wetland or low-lying area providing habitat for native flora and fauna should not be drained, except temporarily for essential management purposes to enhance environmental values.

20 Along watercourses, areas of remnant native vegetation, or areas prone to erosion, that are capable of natural regeneration should be fenced off to limit stock access.

21 No development should be located within 50 metres of:

(a) a watercourse identified as a blue line on a current series 1:50 000 SA Government topographic map

(b) any river, stream, creek or channel in which water is contained or flows permanently, intermittently or occasionally.

22 Development such as cropping, intensive animal keeping, residential, tourism, industry and horticulture, that increases the amount of surface run-off should include a strip of land at least 20 metres wide measured from the top of existing banks on each side of a watercourse that is:

(a) fenced to exclude livestock

(b) kept free of development, including structures, formal roadways or access ways for machinery or any other activity causing soil compaction or significant modification of the natural surface of the land

(c) revegetated with locally indigenous vegetation comprising trees, shrubs and other groundcover plants to filter runoff so as to reduce the impacts on native aquatic ecosystems and to minimise soil loss eroding into the watercourse.

23 Development resulting in the depositing of an object or solid material in a watercourse or floodplain or the removal of bank and bed material should not:

(a) adversely affect the migration of aquatic biota

(b) adversely affect the natural flow regime

(c) cause or contribute to water pollution

(d) result in watercourse or bank erosion

(e) adversely affect native vegetation upstream or downstream that is growing in or adjacent to a watercourse.

24 The location and construction of dams, water tanks and diversion drains should:

(a) occur off watercourse

(b) not take place in ecologically sensitive areas or on erosion prone sites

(c) provide for low flow by-pass mechanisms to allow for migration of aquatic biota

(d) not negatively affect downstream users

(e) minimise in-stream or riparian vegetation loss

(f) incorporate features to improve water quality (eg wetlands and floodplain ecological communities)

(g) protect ecosystems dependent on water resources.

25 Irrigated horticulture and pasture should not increase groundwater induced salinity.

26 Development should comply with the current *Environment Protection (Water Quality) Policy*.

27 Land should not be used for horticultural purposes unless:

(a) there is minimal risk of pollution and no further increase in salinity levels to either surface or groundwater supplies

(b) the land is capable of sustaining the horticultural activity with reasonable investment and management inputs

(c) surface and/or sub-surface water resources, of sufficient quality, are available to sustain the proposed horticultural use

(d) water resources are used at sustainable levels to prevent adverse impacts on dependent ecosystems

(e) irrigation areas are not prone to waterlogging or subject to flood water inundation

(f) the horticultural use will be compatible with adjacent uses of land

(g) adverse impacts on downstream property owners in terms of water flow and discharge of pollution will be avoided

(h) spillways are designed and constructed in a manner to prevent erosion

(i) there will not be a deleterious risk of the water table either falling or rising because of excessive irrigation.

Biodiversity and Native Vegetation

28 Development should retain existing areas of native vegetation and where possible contribute to revegetation using locally indigenous plant species.

29 Development should be designed and sited to minimise the loss and disturbance of native flora and fauna, including marine animals and plants, and their breeding grounds and habitats.

30 Native vegetation should be conserved and its conservation value and function not compromised by development if the native vegetation does any of the following:

(a) provides an important habitat for wildlife or shade and shelter for livestock

(b) has a high plant species diversity or includes rare, vulnerable or endangered plant species or plant associations and communities

(c) provides an important seed bank for locally indigenous vegetation

(d) has high amenity value and/or significantly contributes to the landscape quality of an area, including the screening of buildings and unsightly views

(e) has high value as a remnant of vegetation associations characteristic of a district or region prior to extensive clearance for agriculture

(f) is growing in, or is characteristically associated with a wetland environment.

31 Native vegetation should not be cleared if such clearing is likely to lead to, cause or exacerbate any of the following:

(a) erosion or sediment within water catchments

(b) decreased soil stability

(c) soil or land slip

(d) deterioration in the quality of water in a watercourse or surface water runoff

(e) a local or regional salinity problem

(f) the occurrence or intensity of local or regional flooding.

32 Development that proposes the clearance of native vegetation should address or consider the implications that removing the native vegetation will have on the following:

(a) provision for linkages and wildlife corridors between significant areas of native vegetation

(b) erosion along watercourses and the filtering of suspended solids and nutrients from runoff

(c) the amenity of the locality

(d) bushfire safety

(e) the net loss of native vegetation and other biodiversity.

33 Where native vegetation is to be removed, it should be replaced in a suitable location on the site with locally indigenous vegetation to ensure that there is not a net loss of native vegetation and biodiversity.

34 Development should be located and occur in a manner which:

(a) does not increase the potential for, or result in, the spread of pest plants, or the spread of any non-indigenous plants into areas of native vegetation or a conservation zone

(b) avoids the degradation of remnant native vegetation by any other means including as a result of spray drift, compaction of soil, modification of surface water flows, pollution to groundwater or surface water or change to groundwater levels

(c) incorporates a separation distance and/or buffer area to protect wildlife habitats and other features of nature conservation significance.

35 Development should promote the long-term conservation of vegetation by:

(a) avoiding substantial structures, excavations, and filling of land in close proximity to the trunk of trees and beneath their canopies

(b) minimising impervious surfaces beneath the canopies of trees

(c) taking other effective and reasonable precautions to protect both vegetation and the integrity of structures and essential services.

36 Horticulture involving the growing of olives should be located at least:

(a) 500 metres from:

(i) a national park

(ii) a conservation park

(iii) a wilderness protection area

(iv) the edge of a substantially intact stratum of native vegetation greater than 5 hectares in area

(b) 50 metres from the edge of stands of native vegetation 5 hectares or less in area.

37 Horticulture involving the growing of olives should have at least one locally indigenous tree that will grow to a height of at least 7 metres sited at least every 100 metres around the perimeter of the orchard.

38 Trees and other vegetation should be conserved which is of:

(a) special visual significance or interest

(b) existing or possible future value in the screening of a building or unsightly views

(c) existing or possible future value in the provision of shade or as a windbreak

(d) existing or possible future value in the prevention of soil erosion

(e) existing or possible future value in preventing the movement of lead dust

(f) special historical or heritage significance (including Aboriginal or European)

(g) scientific interest

(h) value as a habitat for native fauna.

Soil Conservation

39 Development should not have an adverse impact on the natural, physical, chemical or biological quality and characteristics of soil resources.

40 Development should be designed and sited to prevent erosion.

41 Development should take place in a manner that will minimise alteration to the existing landform.

42 Development should minimise the loss of soil from a site through soil erosion or siltation during the construction phase of any development and following the commencement of an activity.

Open Space and Recreation

OBJECTIVES

1 The creation of a network of linked parks, reserves, recreational trails and recreation areas at regional and local levels.

2 Pleasant, functional and accessible open spaces providing a range of physical environments.

3 A wide range of settings for active and passive recreational opportunities.

4 The provision of open space in the following hierarchy:

- State
- Regional
- District
- Neighbourhood
- Local.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Urban development should include public open space and recreation areas.

2 Public open space and recreation areas should be of a size, dimension and location that:

(a) facilitate a range of formal and informal recreation activities

(b) provide for the movement of pedestrians and cyclists

(c) incorporate existing vegetation and natural features, watercourses, wildlife habitat and other sites of natural or cultural value

(d) link habitats, wildlife corridors, public open spaces and existing recreation facilities

(e) enable effective stormwater management

(f) provides for the planting and retention of large trees and vegetation.

3 Open space should be designed to incorporate:

(a) pedestrian, cycle linkages to other open spaces, centres, schools and public transport nodes

(b) park furniture, shaded areas and resting places to enhance pedestrian comfort

(c) safe crossing points where pedestrian routes intersect the road network

(d) easily identified access points

(e) frontage to abutting public roads to optimise pedestrian access and visibility

(f) re-use of stormwater for irrigation purposes

(g) recreational trails where appropriate.

4 Where practical, access points to regional parks should be located close to public transport.

5 District level parks should be at least 3 hectares in size, and provided within 2 kilometres of all households that they serve.

6 Neighbourhood parks should be at least 0.5 hectares and generally closer to 1 hectare in size, and provided within 500 metres of households that they serve.

7 Local parks should be:

(a) a minimum of 0.2 hectares in size

(b) centrally located within a residential area, close to schools, shops and generally within 300 metres of households that they serve.

8 No more than 20 per cent of land allocated as public open space should:

(a) have a slope in excess of 1-in-4

(b) comprise creeks or other drainage areas.

9 Signage should be provided at entrances to and within public open space to provide clear orientation to major points of interest such as the location of public toilets, telephones, safe routes and park activities.

10 Buildings in open space, including structures and associated car parking areas, should be designed, located and of a scale that is unobtrusive and does not detract from the desired open space character.

11 Development in open space should:

(a) be clustered where practical to ensure that the majority of the site remains open

(b) where practical, be developed for multi-purpose use

(c) be constructed to minimise the extent of hard paved areas.

12 Open spaces and recreation areas should be located and designed to maximise safety and security by:

(a) ensuring that within urban areas, their edges are overlooked by housing, commercial or other development that can provide effective informal surveillance

(b) ensuring fenced parks and playgrounds have more than one entrance or exit when fenced

(c) locating play equipment where it can be informally observed by nearby residents and users during times of use

(d) clearly defining the perimeters of play areas

(e) providing lighting around facilities such as toilets, telephones, seating, litter bins, bike storage and car parks

(f) focusing pedestrian and bicycle movement after dark along clearly defined, adequately lit routes with observable entries and exits.

13 Landscaping associated with open space and recreation areas should:

(a) not compromise the drainage function of any drainage channel

(b) provide shade and windbreaks along cyclist and pedestrian routes, around picnic and barbecue areas and seating, and in car parking areas

(c) maximise opportunities for informal surveillance throughout the park

(d) enhance the visual amenity of the area and complement existing buildings

(e) be designed and selected to minimise maintenance costs

(f) provide habitat for local fauna.

14 Development of recreational activities in areas not zoned for that purpose should be compatible with surrounding activities.

15 Recreation facilities development should be sited and designed to minimise negative impacts on the amenity of the locality.

Orderly and Sustainable Development

OBJECTIVES

1 Orderly and economical development that creates a safe, convenient and pleasant environment in which to live.

2 Development occurring in an orderly sequence and in a compact form to enable the efficient provision of public services and facilities.

3 Development that does not jeopardise the continuance of adjoining authorised land uses.

4 Development that does not prejudice the achievement of the provisions of the Development Plan.

5 Development abutting adjoining Council areas having regard to the policies of that Council's Development Plan.

6 Urban development located only in zones designated for such development.

7 Urban development contained within existing townships and settlements and located only in zones designated for such development.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Development should not prejudice the development of a zone for its intended purpose.

2 Land outside of townships and settlements should primarily be used for primary production and conservation purposes.

3 The economic base of the region should be expanded in a sustainable manner.

4 Urban development should form a compact extension to an existing built-up area.

5 Ribbon development should not occur along the coast, water frontages or arterial roads shown in *Overlay Maps - Transport*.

6 Development should be located and staged to achieve the economical provision of public services and infrastructure, and to maximise the use of existing services and infrastructure.

7 Where development is expected to impact upon the existing infrastructure network (including the transport network), development should demonstrate how the undue effect will be addressed.

8 Vacant or underutilised land should be developed in an efficient and co-ordinated manner to not prejudice the orderly development of adjacent land.

9 Development should be undertaken in accordance with the following Concept Plan Maps:

- *Concept Plan Maps PtPi/1 - Regional Centre*
- *Concept Plan Maps PtPi/2 - Regional Centre*
- *Concept Plan Maps PtPi/3 - Solomontown Centre*
- *Concept Plan Maps PtPi/4 - North East Industrial Area*
- *Concept Plan Maps PtPi/5 - Policy Area 6 Industry Policy Area*
- *Concept Plan Maps PtPi/6 - Solomontown Beach Development Area*
- *Concept Plan Maps PtPi/7 - Augusta Highway Development Area*.

Renewable Energy Facilities

OBJECTIVES

1 Development of renewable energy facilities that benefit the environment, the community and the state.

2 The development of renewable energy facilities, such as wind farms and ancillary development, in areas that provide opportunity to harvest natural resources for the efficient generation of electricity.

3 Location, siting, design and operation of renewable energy facilities to avoid or minimise adverse impacts on the natural environment and other land uses.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Renewable energy facilities, including wind farms, solar farms and ancillary development, should be:

(a) located in areas that maximize efficient generation and supply of electricity

(b) designed and sited so as not to impact on the safety of water or air transport and the operation of ports, airfields and designated landing strips.

Wind Farms and Ancillary Development

2 The visual impacts of wind farms and ancillary development (such as substations, maintenance sheds, access roads and wind monitoring masts) should be managed through:

(a) wind turbine generators being:

(i) setback at least 1000 metres from non-associated (non-stakeholder) dwellings and tourist accommodation

(ii) setback at least 2000 metres from defined and zoned township, settlement or urban areas (including deferred urban areas)

(iii) regularly spaced

(iv) uniform in colour, size and shape and blade rotation direction

(v) mounted on tubular towers (as opposed to lattice towers)

(b) provision of vegetated buffers around substations, maintenance sheds and other ancillary structures.

3 Wind farms and ancillary development should avoid or minimise the following impacts on nearby property owners / occupiers, road users and wildlife:

(a) shadowing, flickering, reflection or glint

(b) excessive noise

(c) interference with television and radio signals and geographic positioning systems

(d) interference with low altitude aircraft movements associated with agriculture

(e) modification of vegetation, soils and habitats

(f) striking of birds and bats.

4 Wind turbine generators should be setback from dwellings, tourist accommodation and frequently visited public places (such as viewing platforms) a distance that will ensure that failure does not present an unacceptable risk to safety.

Residential Development

OBJECTIVES

1 Safe, convenient, sustainable and healthy living environments that meet the full range of needs and preferences of a diverse community.

2 A diverse range of dwelling types and sizes available to cater for changing demographics, particularly smaller household sizes and supported accommodation.

3 Medium and high density residential development in areas close to activity centres, public and community transport and public open spaces.

4 The revitalisation of residential areas to support the viability of community services and infrastructure.

5 Affordable housing, student housing and housing for aged persons provided in appropriate locations.

6 Increased affordable housing opportunities through land division and the conversion of buildings to a residential use.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Residential allotments and sites should maximise solar orientation and have the area and dimensions to accommodate:

(a) the siting and construction of a dwelling and associated ancillary outbuildings

(b) the provision of landscaping and private open space

(c) convenient and safe vehicle, pedestrian and cycling access and parking

(d) water sensitive design systems that enable the storage, treatment and reuse of stormwater.

2 Residential allotments should be of varying sizes to encourage housing diversity.

Design and Appearance

3 Dwellings and accommodation at ground floor level should contribute to the character of the locality and create active, safe streets by incorporating one or more of the following:

(a) front landscaping or terraces that contribute to the spatial and visual structure of the street while maintaining adequate privacy for occupants

(b) individual entries for ground floor accommodation

(c) opportunities to overlook adjacent public space.

4 Residential development should be designed to ensure living rooms have an external outlook.

5 Entries to dwellings or foyer areas should be clearly visible from the street, or access ways that they face to enable visitors to easily identify individual dwellings.

6 Side boundary walls in residential areas should be limited in length and height to minimise their:

(a) visual impact on adjoining properties

(b) overshadowing on adjoining properties.

Garages, Carports and Outbuildings

7 Garages, carports and residential outbuildings should have a roof form and pitch, building materials and detailing that complements the associated dwelling.

8 Residential outbuildings, including garages and sheds, should not be constructed unless in association with an existing dwelling.

9 Garages, carports and residential outbuildings should not dominate the streetscape.

Site Coverage

10 Site coverage should ensure sufficient space is provided for:

(a) pedestrian and vehicle access and vehicle parking

(b) domestic storage

(c) outdoor clothes drying

(d) rainwater tanks

(e) private open space and landscaping

(f) convenient storage of household waste and recycling receptacles.

Private Open Space

11 Private open space (available for exclusive use by residents of each dwelling) should be provided for each dwelling and should be sited and designed:

(a) to be accessed directly from a habitable room of the dwelling

(b) to be generally at ground level (other than for residential flat buildings) and to the side or rear of a dwelling and screened for privacy

(c) to take advantage of, but not adversely affect, natural features of the site

(d) to minimise overlooking from adjacent buildings

(e) to achieve separation from bedroom windows on adjacent sites

(f) to have a northerly aspect to provide for comfortable year round use

(g) not to be significantly shaded during winter by the associated dwelling or adjacent development

(h) to be partly shaded in summer

(i) to minimise noise or air quality impacts that may arise from traffic, industry or other business activities within the locality

(j) to have sufficient area and shape to be functional, taking into consideration the location of the dwelling, and the dimension and gradient of the site.

12 Private open space should not include driveways, effluent drainage areas, rubbish bin storage areas, sites for rainwater tanks and other utility areas, and common areas such as parking areas and communal open space.

13 Private open space at ground level should be designed to provide a consolidated area of deep soil (an area of natural ground which excludes areas where there is a structure underneath, pools and non-permeable paved areas) to:

(a) assist with ease of drainage

(b) allow for effective deep planting

(c) reduce urban heat loading and improve micro-climatic conditions around sites and buildings.

14 Dwellings located above ground level should provide private open space in accordance with the following table:

Dwelling type	Minimum area of private open space
Studio (where there is no separate bedroom)	No minimum requirement
One bedroom dwelling	8 square metres
Two bedroom dwelling	11 square metres
Three + bedroom dwelling	15 square metres

15 Private open space located above ground level should have a minimum dimension of 2 metres and be directly accessible from a habitable room.

16 Private open space may be substituted for the equivalent area of communal open space where:

(a) at least 50 per cent of the communal open space is visually screened from public areas of the development

(b) ground floor communal space is overlooked by habitable rooms to facilitate passive surveillance

(c) it contains landscaping and facilities that are functional, attractive and encourage recreational use.

Communal Open Space

17 Communal open space should be shared by more than one dwelling, not be publicly accessible and exclude:

(a) private open space

(b) public rights of way

(c) private streets

(d) parking areas and driveways

(e) service and storage areas

(f) narrow or inaccessible strips of land.

18 Communal open space should only be located on elevated gardens or roof tops where the area and overall design is useful for the recreation and amenity needs of residents and where it is designed to:

(a) address acoustic, safety, security and wind effects

(b) minimise overlooking into habitable room windows or onto the useable private open space of other dwellings

(c) facilitate landscaping and food production

(d) be integrated into the overall facade and composition of buildings.

Visual Privacy

19 Upper level windows, balconies, terraces and decks that overlook habitable room windows or private open space of dwellings should maximise visual privacy through the use of measures such as sill heights of not less than 1.5 metres or permanent screens having a height of 1.5 metres above finished floor level.

Noise

20 Noise generated by fixed noise sources such as air conditioning units and pool pumps should be located, designed and attenuated to avoid nuisance to adjoining landowners and occupiers.

21 External noise and artificial light intrusion into bedrooms should be minimised by separating or shielding these rooms from:

(a) active communal recreation areas, parking areas and vehicle access ways

(b) service equipment areas and fixed noise sources on the same or adjacent sites.

22 Attached dwellings should be designed to minimise the transmission of noise between dwellings and should particularly protect bedrooms from possible noise intrusion.

Site Facilities and Storage

23 Site facilities for group dwellings, multiple dwellings and residential flat buildings should include:

(a) mail box facilities sited close to the major pedestrian entrance to the site

(b) bicycle parking for residents and visitors (for developments containing more than 6 dwellings)

(c) household waste and recyclable material storage areas away from dwellings.

Affordable Housing

24 Affordable housing should be well integrated and complementary in design and appearance to other dwellings within the development.

Dependent Accommodation

25 Dependent accommodation (i.e. accommodation where the living unit is connected to the same services of the main dwelling) should be developed on the same allotment as the existing dwelling only where:

(a) the site is of adequate size and configuration and the minimum total site is 450 square metres

(b) the accommodation has a small floor area relative to the associated main dwelling(s)

(c) adequate outdoor space of a minimum of 20 square metres is provided for the use of all occupants

(d) adequate on-site car parking is provided

(e) the building is designed to, and comprises colours and materials that will, complement the associated dwelling.

Swimming Pools and Outdoor Spas

26 Swimming pools, outdoor spas and associated ancillary equipment and structures should be sited to protect the privacy and amenity of adjoining residential land.

Short-Term Workers Accommodation

OBJECTIVES

1 A range of appropriately located accommodation types supplied for seasonal and short-term workers.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Accommodation intended to be occupied on a temporary basis by persons engaged in employment relating to the production or processing of primary produce including minerals should be located within existing townships or within primary production areas, where it directly supports and is ancillary to legitimate primary production activities or related industries.

2 Buildings used for short-term workers accommodation should:

(a) be designed and constructed to enhance their appearance

(b) provide for the addition of a carport, verandas or pergolas as an integral part of the building

(c) where located outside of townships, not jeopardise the continuation of primary production on adjoining land or elsewhere in the zone

(d) be supplied with service infrastructure such as power, water, and effluent disposal sufficient to satisfy the living requirements of workers.

3 Short-term workers accommodation should not be adapted or used for permanent occupancy.

4 A common amenities building should be provided for temporary forms of short-term accommodation such as caravan and camping sites.

Siting and Visibility

OBJECTIVES

1 Protection of scenically attractive areas, particularly natural, rural and coastal landscapes.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Development should be sited and designed to minimise its visual impact on:

(a) the natural, rural or heritage character of the area

(b) areas of high visual or scenic value, particularly rural and coastal areas

(c) views from the coast, near-shore waters, public reserves, tourist routes and walking trails

(d) the amenity of public beaches

(e) public trails such as the Heysen and Mawson Trails.

2 Buildings should be sited in unobtrusive locations and, in particular, should:

(a) be grouped together

(b) where possible be located in such a way as to be screened by existing vegetation when viewed from public.

3 Buildings outside of urban areas and in undulating landscapes should be sited in unobtrusive locations and in particular should be:

(a) sited below the ridgeline

(b) sited within valleys or behind spurs

(c) sited in such a way as to not be visible against the skyline when viewed from public roads

(d) set well back from public roads, particularly when the allotment is on the high side of the road.

4 Buildings and structures should be designed to minimise their visual impact in the landscape, in particular:

(a) the profile of buildings should be low and the roof lines should complement the natural form of the land

(b) the mass of buildings should be minimised by variations in wall and roof lines and by floor plans which complement the contours of the land

(c) large eaves, verandas and pergolas should be incorporated into designs so as to create shadowed areas that reduce the bulky appearance of buildings.

5 The nature of external surface materials of buildings should not detract from the visual character and amenity of the landscape.

6 The number of buildings and structures on land outside of urban areas should be limited to that necessary for the efficient management of the land.

7 Driveways and access tracks should be designed and surfaced to blend sympathetically with the landscape and to minimise interference with natural vegetation and landforms.

8 Development should be screened through the establishment of landscaping using locally indigenous plant species:

(a) around buildings and earthworks to provide a visual screen as well as shade in summer, and protection from prevailing winds

(b) along allotment boundaries to provide permanent screening of buildings and structures when viewed from adjoining properties and public roads

(c) along the verges of new roads and access tracks to provide screening and minimise erosion.

Sloping Land

OBJECTIVES

1 Development on sloping land designed to minimise environmental and visual impacts and protect soil stability and water quality.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Development and associated driveways and access tracks should be sited and designed to integrate with the natural topography of the land and minimise the need for earthworks.

2 Development and associated driveways and access tracks, including related earthworks, should be sited, designed and undertaken in a manner that:

(a) minimises their visual impact

(b) reduces the bulk of the buildings and structures

(c) minimises the extent of cut and/or fill

(d) minimises the need for, and the height of, retaining walls

(e) does not cause or contribute to instability of any embankment or cutting

(f) avoids the silting of watercourses

(g) protects development and its surrounds from erosion caused by water runoff.

3 Driveways and access tracks across sloping land should be accessible and have a safe, all-weather trafficable surface.

4 Development sites should not be at risk of landslip.

5 Development on steep land should include site drainage systems to minimise erosion and avoid adverse impacts on slope stability.

6 Steep sloping sites in un-sewered areas should not be developed unless the physical characteristics of the allotments enable the proper siting and operation of an effluent drainage field suitable for the development intended.

Supported Accommodation, Housing for Aged Persons and People with Disabilities

OBJECTIVES

1 Provision of well-designed supported accommodation for community groups with special needs in appropriate locations.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Supported accommodation (including nursing homes, hostels, retirement homes, retirement villages, residential care facilities and special accommodation houses) and housing for aged persons and people with disabilities should be:

(a) located within walking distance of essential facilities such as convenience shops, health and community services and public and community transport

(b) located where on-site movement of residents is not unduly restricted by the slope of the land

(c) sited and designed to promote interaction with other sections of the community, without compromising privacy

(d) of a scale and appearance that reflects the residential style and character of the locality

(e) provided with public and private open space and landscaping.

2 Supported accommodation and housing for aged persons and people with disabilities should be designed to provide safe, secure, attractive, convenient and comfortable living conditions for residents that include:

(a) internal communal areas and private spaces

(b) usable recreation areas for residents and visitors, including visiting children

(c) spaces to accommodate social needs and activities, including social gatherings, internet use, gardening, keeping pets, preparing meals and doing personal laundry

(d) storage areas for items such as boats, trailers, caravans and specialised equipment

(e) mail boxes and waste disposal areas within easy walking distance of all units.

3 Access roads within supported accommodation and development incorporating, housing for aged persons and people with disabilities should:

(a) not have steep gradients

(b) provide convenient access for emergency vehicles, visitors and residents

(c) provide space for manoeuvring cars and community buses

(d) include kerb ramps at pedestrian crossing points

(e) have level surface passenger loading areas.

4 Car parking associated with supported accommodation and housing for aged persons and people with disabilities should:

(a) be conveniently located on site within easy walking distance of resident units

(b) be adequate for residents, service providers and visitors

(c) include covered and secure parking for residents' vehicles

(d) have slip-resistant surfaces with gradients not steeper than 1-in–40

(e) allow ease of vehicle manoeuvrability

(f) be designed to allow the full opening of all vehicle doors

(g) minimise the impact of car parking on adjacent residences owing to visual intrusion and noise

(h) be appropriately lit to enable safe and easy movement to and from vehicles.

5 Supported accommodation should include:

(a) ground-level access or lifted access to all units

(b) an interesting and attractive outlook from units and communal areas for all residents including those in wheelchairs

(c) adequate living space allowing for the use of wheelchairs with an attendant

(d) storage for items such as small electric powered vehicles and other personal items, including facilities for recharging small electric powered vehicles.

6 Car parking associated with supported accommodation should:

(a) have adequate identifiable provisions for staff

(b) include private parking spaces for independent living units

(c) include separate and appropriately marked places for people with disabilities and spaces for small electrically powered vehicles.

Telecommunications Facilities

OBJECTIVES

1 Telecommunications facilities provided to deliver communication services to the community.

2 Telecommunications facilities sited and designed to minimise visual impact on the amenity of the local environment.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Telecommunications facilities should:

(a) be located in a coordinated manner to deliver communication services efficiently

(b) use materials and finishes that minimise visual impact

(c) have antennae located as close as practical to the support structure

(d) be located primarily in industrial, commercial, business, office, centre and rural zones

(e) where technically feasible, be co-located with other telecommunications facilities

(f) incorporate landscaping to screen the development, particularly equipment shelters and huts

(g) be designed and sited to minimise the visual impact on the character and amenity of the local environment, in particular visually prominent areas, main focal points and significant vistas.

2 Telecommunications facilities in areas of high visitation and community use should use innovative design techniques (eg sculpture and other artworks) where possible and where the resulting design would positively contribute to the character of the area.

3 Telecommunications facilities should be located in residential zones only if sited and designed to minimise visual impact by:

(a) using existing buildings and vegetation for screening

(b) incorporating the facility within an existing structure that may serve another purpose

(c) taking into account the size, scale, context and characteristics of existing structures, landforms and vegetation so as to complement the local environment.

4 Telecommunications facilities should not have a direct or significant effect on the amenity, character and settings of **Historic Conservation Areas**, local heritage places, State heritage places or State Heritage Areas.

Tourism Development

OBJECTIVES

1 Environmentally sustainable and innovative tourism development.

2 Tourism development that assists in the conservation, interpretation and public appreciation of significant natural and cultural features including State or local heritage places.

3 Tourism development that sustains or enhances the local character, visual amenity and appeal of the area.

4 Tourism development that protects areas of exceptional natural value, allows for appropriate levels of visitation, and demonstrates an environmental analysis and design response which enhances environmental values.

5 Tourism development in rural areas that does not adversely affect the use of agricultural land for primary production.

6 Tourism development that contributes to local communities by adding vitality to neighbouring townships, regions and settlements.

7 Increased opportunities for visitors to stay overnight.

8 Ensure new development, together with associated bushfire management minimise the threat and impact of bushfires on life and property while protecting the environment.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Tourism development should have a functional or locational link with its natural, cultural or historical setting.

2 Tourism development and any associated activities should not damage or degrade any significant natural and cultural features.

3 Tourism development should ensure that its scale, form and location will not overwhelm, over commercialise or detract from the intrinsic natural values of the land on which it is sited or the character of its locality.

4 Tourism development should, where appropriate, add to the range of services and accommodation types available in an area.

5 Any upgrading of infrastructure to serve tourism development should be consistent with the landscape and the intrinsic natural values of the land and the basis of its appeal.

6 Major tourism developments should generally be located within designated areas and existing townships, towns or cities.

Tourism Development in Association with Dwelling(s)

7 Tourist facilities developed on the site of a dwelling should not detrimentally affect residential amenity.

8 Car parking for tourist accommodation associated with a dwelling should be provided at the rate of one space for each guest room or suite of rooms, and ensure that:

(a) parking areas are attractively developed and landscaped, or screen fenced, and do not dominate the street frontage

(b) the bedrooms of residential neighbours are suitably shielded from noise and headlight glare associated with guest vehicle movements

(c) a domestic character is retained through the scale and appearance of landscaping and paving materials that provide a suitable all-weather surface.

Tourism Development Outside Townships

9 Tourist developments should demonstrate excellence in design to minimise potential impacts or intrusion on primary production activities and on areas of high conservation, landscape and cultural value.

10 Tourism developments in rural areas should be sited and designed to minimise impacts and have a functional or locational link with either of the following:

(a) the surrounding agricultural production or processing

(b) the natural, cultural or historical setting of the area.

11 Tourism developments in rural areas should primarily be developed in association with one or more of the following:

(a) agricultural, horticultural, viticultural or winery development

(b) heritage places and areas

(c) public open space and reserves

(d) walking and cycling trails

(e) interpretive infrastructure and signs.

12 Where appropriate, tourism developments in areas outside townships should:

(a) adapt and upgrade existing buildings of heritage value

(b) seek to improve conditions in disturbed or degraded areas on the site.

13 Advertisements associated with tourism developments should:

(a) not exceed 0.5 square metres in area for each display

(b) be limited to no more than 2 per site

(c) be located on the same site as the tourist development

(d) not be internally illuminated.

14 Tourism development in rural areas should occur only where it:

(a) incorporates a separation distance or buffers to avoid conflict with existing rural industries or agriculture or otherwise is designed to overcome the potential impacts associated with the adjoining land use (such as noise, dust, spray drift, odour and traffic)

(b) will not give rise to demands for infrastructure and services, especially on public lands, that are inappropriate to the primary purpose of the zone and/or policy area.

15 Tourism development, particularly in remote areas should be designed to minimise energy and water demands and incorporate alternative, sustainable technologies that use renewable energy sources and/or treat and re-use stormwater and wastewater to minimise reliance on mains services.

16 Natural features, signs and walkways should be used to manage and minimise potential risks of visitors damaging areas of cultural or natural significance, fragile areas, and areas of highest environmental value.

17 The visual and ambient impact of vehicles should be minimised by placing roadways and parking areas in unobtrusive locations.

Residential Parks and Caravan and Tourist Parks

18 Residential parks which are principally designed for residents should be located in areas with access to employment, shops, schools, public transport and community and recreation facilities.

19 Residential parks and Caravan and Tourist parks should be designed to:

(a) minimise potential conflicts between long-term residents and short-term tourists

(b) protect the privacy and amenity of occupants through landscaping and fencing

(c) minimise traffic speeds and provide a safe environment for pedestrians

(d) include centrally located recreation areas

(e) include extensive landscaping that enhances the appearance of the locality, with a landscape buffer around the perimeter of the site

(f) ensure that adequate amenity blocks (showers, toilets, laundry and kitchen facilities) and service facilities (eg public telephones, kiosks and restaurants) are provided to serve the population to be accommodated by the facility.

20 Visitor car parking should be provided at the rate of:

(a) one space per 10 sites to be used for accommodation for parks with less than 100 sites

(b) one space per 15 sites to be used for accommodation for parks with greater than 100 sites.

21 On-site visitor parking in Caravan and Tourist parks should:

(a) be designed and located to be accessible to visitors at all times

(b) not dominate the internal site layout

(c) be clearly defined as visitor spaces and not specifically associated with any particular accommodation site.

22 Long-term occupation of Caravan and Tourist parks should not lead to the displacement of existing tourist accommodation, particularly in important tourist destinations, such as in coastal or riverside locations.

23 A minimum of 12.5 per cent of a park should comprise communal open space, landscaped areas and recreation areas.

24 Landscaping should comprise locally indigenous species that are appropriate to the development and the subject land, and facilitate amenity and environmental sustainability.

Transportation and Access

OBJECTIVES

1 A comprehensive, integrated, affordable and efficient air, rail, sea, road, cycle and pedestrian transport system that will:

(a) provide equitable access to a range of public, community and private transport services for all people

(b) ensure a high level of safety

(c) effectively support the economic development of the State

(d) have minimal negative environmental and social impacts

(e) maintain options for the introduction of suitable new transport technologies.

2 Development that:

(a) provides safe and efficient movement for all transport modes

(b) ensures access for vehicles including emergency services, public infrastructure maintenance and commercial vehicles

(c) provides off-street parking

(d) is appropriately located so that it supports and makes best use of existing transport facilities and networks

(e) provides convenient and safe access to public transport stops.

3 A road hierarchy that promotes safe and efficient transportation in an integrated manner throughout the State.

4 Provision of safe, pleasant, accessible, integrated and permeable pedestrian and cycling networks that are connected to the public transport network.

5 Safe and convenient freight and people movement throughout the State.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 Land uses arranged to support the efficient provision of sustainable transport networks and encourage their use.

Movement Systems

2 Development should be integrated with existing transport networks, particularly major rail, road and public transport corridors as shown on *Location Maps* and *Overlay Maps - Transport*, and designed to minimise its potential impact on the functional performance of the transport network.

3 Transport corridors should be sited and designed so as to not unreasonably interfere with the health and amenity of adjacent sensitive land uses.

4 Roads should be sited and designed to blend with the landscape and be in sympathy with the terrain.

5 Land uses that generate large numbers of visitors such as shopping centres, places of employment, schools, hospitals and medium to high density residential uses should be located so that they can be serviced by the public transport network and encourage walking and cycling.

6 Development generating high levels of traffic, such as schools, shopping centres and other retail areas, and entertainment and sporting facilities should incorporate passenger pick-up and set-down areas. The design of such areas should minimise interference to existing traffic and give priority to pedestrians, cyclists and public and community transport users.

7 The location and design of public and community transport set-down and pick-up points should maximise safety and minimise the isolation and vulnerability of users.

8 Development should provide safe and convenient access for all anticipated modes of transport.

9 Development at intersections, pedestrian and cycle crossings, and crossovers to allotments should maintain or enhance sightlines for motorists, cyclists and pedestrians to ensure safety for all road users and pedestrians.

10 Driveway crossovers affecting pedestrian footpaths should maintain the level and surface colour of the footpath.

11 Driveway crossovers should be separated and the number minimised to optimise the provision of on-street visitor parking (where on-street parking is appropriate).

12 Development should be designed to discourage commercial and industrial vehicle movements through residential streets and adjacent other sensitive land uses.

13 Industrial/commercial vehicle movements should be separated from passenger vehicle car parking areas.

14 Development should provide for the on-site loading, unloading and turning of all traffic likely to be generated.

Cycling and Walking

15 Development should ensure that a permeable street and path network is established that encourages walking and cycling through the provision of safe, convenient and attractive routes with connections to adjoining streets, paths, open spaces, schools, pedestrian crossing points on arterial roads, public and community transport stops and activity centres.

16 Development should provide access, and accommodate multiple route options, for pedestrians and cyclists by enhancing and integrating with open space networks, recreational trails, parks, reserves, and sport and recreation areas.

17 New developments should give priority to and not compromise existing designated bicycle routes.

18 Where development coincides with, intersects or divides a proposed bicycle route or corridor, development should incorporate through-access for cyclists.

19 Development should encourage and facilitate cycling as a mode of transport by incorporating end-of-journey facilities including:

(a) showers, changing facilities and secure lockers

(b) signage indicating the location of bicycle facilities

(c) bicycle parking facilities.

20 On-site secure bicycle parking facilities should be:

(a) located in a prominent place

(b) located at ground floor level

(c) located undercover

(d) located where surveillance is possible

(e) well lit and well signed

(f) close to well used entrances

(g) accessible by cycling along a safe, well lit route.

21 Pedestrian and cycling facilities and networks should be designed and provided in accordance with relevant provisions of the *Australian Standards and Austroads Guides*.

Access

22 Development should have direct access from an all-weather public road.

23 Development should be provided with safe and convenient access which:

(a) avoids unreasonable interference with the flow of traffic on adjoining roads

(b) provides appropriate separation distances from existing roads or level crossings

(c) accommodates the type and volume of traffic likely to be generated by the development or land use and minimises induced traffic through over-provision

(d) is sited and designed to minimise any adverse impacts on the occupants of and visitors to neighbouring properties.

24 Development should not restrict access to publicly owned land such as recreation areas.

25 The number of vehicle access points onto arterial roads shown on *Overlay Maps - Transport* should be minimised and, where possible, access points should be:

(a) limited to local roads (including rear lane access)

(b) shared between developments.

26 Development with access from arterial roads or roads as shown on *Overlay Maps - Transport* should be sited to avoid the need for vehicles to reverse onto or from the road.

27 Structures such as canopies and balconies that encroach onto the footpath of an arterial road should not cause visual or physical obstruction to:

(a) signalised intersections

(b) heavy vehicles

(c) street lighting

(d) overhead electricity lines

(e) street trees

(f) bus stops.

28 Driveways, access tracks and parking areas should be designed and constructed to:

(a) follow the natural contours of the land

(b) minimise excavation and/or fill

(c) minimise the potential for erosion from surface runoff

(d) avoid the removal of existing vegetation

(e) be consistent with *Australian Standard AS: 2890 - Parking facilities*.

Access for People with Disabilities

29 Development should be sited and designed to provide convenient access for people with a disability.

30 Where appropriate and practical, development should provide for safe and convenient access to the coast and beaches for disabled persons.

Vehicle Parking

31 Development should provide off-street vehicle parking and specifically marked accessible car parking places to meet anticipated demand in accordance with *Table PtPi/2 - Off Street Vehicle Parking Requirements* unless all the following conditions are met:

(a) an agreement is reached between the Council and the applicant for a reduced number of parking spaces

(b) a financial contribution is paid into the Council Car Parking Fund specified by the Council, in accordance with the gazetted rate per car park.

32 Development should be consistent with *Australian Standard AS: 2890 - Parking facilities*.

33 Vehicle parking areas should be sited and designed to:

(a) facilitate safe and convenient pedestrian linkages to the development and areas of significant activity or interest in the vicinity of the development

(b) include safe pedestrian and bicycle linkages that complement the overall pedestrian and cycling network

(c) not inhibit safe and convenient traffic circulation

(d) result in minimal conflict between customer and service vehicles

(e) avoid the necessity to use public roads when moving from one part of a parking area to another

(f) minimise the number of vehicle access points onto public roads

(g) avoid the need for vehicles to reverse onto public roads

(h) where practical, provide the opportunity for shared use of car parking and integration of car parking areas with adjoining development to reduce the total extent of vehicle parking areas and the requirement for access points

(i) not dominate the character and appearance of a site when viewed from public roads and spaces

(j) provide landscaping that will shade and enhance the appearance of the vehicle parking areas

(k) include infrastructure such as underground cabling and connections to power infrastructure that will enable the recharging of electric vehicles.

34 Where vehicle parking areas are not obviously visible or navigated, signs indicating the location and availability of vehicle parking spaces associated with businesses should be displayed at locations readily visible to users.

35 Vehicle parking areas that are likely to be used during non-daylight hours should provide floodlit entry and exit points and site lighting directed and shaded in a manner that will not cause nuisance to adjacent properties or users of the parking area.

36 Vehicle parking areas should be sealed or paved to minimise dust and mud nuisance.

37 To assist with stormwater detention and reduce heat loads in summer, outdoor vehicle parking areas should include soft landscaping.

38 Vehicle parking areas should be line-marked to delineate parking bays, movement aisles and direction of traffic flow.

39 On-site visitor parking spaces should be sited and designed to:

(a) not dominate internal site layout

(b) be clearly defined as visitor spaces not specifically associated with any particular dwelling

(c) be accessible to visitors at all times.

Vehicle Parking for Residential Development

40 On-site vehicle parking should be provided having regard to:

(a) the number, nature and size of proposed dwellings

(b) proximity to centre facilities, public and community transport within walking distance of the dwellings

(c) the anticipated mobility and transport requirements of the likely occupants, particularly groups such as aged persons.

41 Vehicle parking areas servicing more than one dwelling should be of a size and location to:

(a) serve users, including pedestrians, cyclists and motorists, efficiently, conveniently and safely

(b) provide adequate space for vehicles, including emergency service vehicles, to manoeuvre between the street and the parking area

(c) reinforce or contribute to attractive streetscapes.

42 The provision of ground level vehicle parking areas, including garages and carports (other than where located along a rear lane access way), should:

(a) not face the primary street frontage

(b) be located to the rear of buildings with access from a shared internal laneway

(c) ensure vehicle park entries are recessed at least 0.5 metres behind the main face of the building.

Undercroft and Below Ground Garaging and Parking of Vehicles

43 Undercroft and below ground garaging of vehicles should only occur where envisaged in the relevant zone or policy area or precinct and ensure:

(a) the overall height and bulk of the undercroft structure does not adversely impact on streetscape character of the locality or the amenity of adjacent properties

(b) vehicles can safely enter and exit from the site without compromising pedestrian or cyclist safety or causing conflict with other vehicles

(c) driveway gradients provide for safe and functional entry and exit

(d) driveways and adjacent walls, fencing and landscaping are designed to provide adequate sightlines from vehicles to pedestrians using the adjacent footpath

(e) openings to undercroft areas are integrated with the main building so as to minimise visual impact

(f) landscaping, mounding and/or fencing is incorporated to improve its presentation to the street and to adjacent properties

(g) the overall streetscape character of the locality is not adversely impaired (e.g. visual impact, building bulk, front setbacks relative to adjacent development)

(h) the height of the car park ceiling does not exceed 1 metre above the finished ground level.

44 In the case of undercroft and below ground car parks where cars are visible from public areas, adequate screening and landscaping should be provided.

Waste

OBJECTIVES

1 Development that, in order of priority, avoids the production of waste, minimises the production of waste, re-uses waste, recycles waste for re-use, treats waste and disposes of waste in an environmentally sound manner.

2 Development that includes the treatment and management of solid and liquid waste to prevent undesired impacts on the environment including, soil, plant and animal biodiversity, human health and the amenity of the locality.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Development should be sited and designed to prevent or minimise the generation of waste (including wastewater) by applying the following waste management hierarchy in the order of priority as shown below:

(a) avoiding the production of waste

(b) minimising waste production

(c) reusing waste

(d) recycling waste

(e) recovering part of the waste for re-use

(f) treating waste to reduce the potentially degrading impacts

(g) disposing of waste in an environmentally sound manner.

2 The storage, treatment and disposal of waste materials from any development should be achieved without risk to health or impairment of the environment.

3 Development should avoid as far as practical, the discharge or deposit of waste (including wastewater) onto land or into any waters (including processes such as seepage, infiltration or carriage by wind, rain, sea spray, stormwater or by the rising of the water table).

4 Untreated waste should not be discharged to the environment, and in particular to any water body.

5 Development should include appropriately sized area to facilitate the storage of receptacles that will enable the efficient recycling of waste.

6 Development that involves the production and/or collection of waste and/or recyclable material should include designated collection and storage area(s) that are:

(a) screened and separated from adjoining areas

(b) located to avoid impacting on adjoining sensitive environments or land uses

(c) designed to ensure that wastes do not contaminate stormwater or enter the stormwater collection system

(d) located on an impervious sealed area graded to a collection point in order to minimise the movement of any solids or contamination of water

(e) protected from wind and stormwater and sealed to prevent leakage and minimise the emission of odours

(f) stored in such a manner that ensures that all waste is contained within the boundaries of the site until disposed of in an appropriate manner.

Wastewater

7 The disposal of wastewater to land should only occur where methods of wastewater reduction and reuse are unable to remove the need for its disposal, and where its application to the land is environmentally sustainable.

8 Wastewater lagoons should not be sited in any of the following areas:

(a) within land subject to a 1-in-100 year average return interval flood event

(b) within 50 metres of the top of the bank of a watercourse

(c) within 500 metres of the coastal high water mark

(d) where the base of the lagoon would be below any seasonal water table.

9 Artificial wetland systems for the storage of treated wastewater, such as wastewater lagoons, should be:

(a) sufficiently separated from adjoining sensitive uses to minimise potential adverse odour impacts

(b) sited and designed to minimise potential public health risks arising from the breeding of mosquitoes.

Waste Treatment Systems

10 Development that produces any sewage or effluent should be connected to a waste treatment system that complies with (or can comply with) the relevant public and environmental health legislation applying to that type of system.

11 The methods for, and siting of, effluent and waste storage, treatment and disposal systems should minimise the potential for environmental harm and adverse impacts on:

(a) the quality of surface and groundwater resources

(b) public health

(c) the amenity of a locality

(d) sensitive land uses.

12 Waste treatment should only occur where the capacity of the treatment facility is sufficient to accommodate likely maximum daily demands including a contingency for unexpected high flows and breakdowns.

13 Any on-site wastewater treatment system/ re-use system or effluent drainage field should be located within the allotment of the development that it will service.

14 A dedicated on-site effluent disposal area should not include any areas to be used for, or could be reasonably foreseen to be used for, private outdoor open space, driveways, car parking or outbuildings.

15 The spreading or discharging of treated liquid or solid waste onto the ground should only occur where the disposal area consists of soil and vegetation that has the capacity to store and use the waste without contaminating soil or surface or ground water resources or damaging crops.

16 Stock slaughter works, poultry processors, saleyards, piggeries, cattle feedlots, milking sheds, milk processing works, fish processing works, wineries, distilleries, tanneries and fellmongeries, composting works, waste or recycling depots and concrete batching works should have a wastewater management system that is designed so as not to discharge wastes generated by the premises:

(a) into any waters

(b) onto land in a place where it is reasonably likely to enter any waters by processes such as:

(i) seepage

(ii) infiltration

(iii) carriage by wind, rain, sea spray, or stormwater

(iv) the rising of the watertable.

17 Winery waste management systems should be designed to ensure:

(a) surface runoff does not occur from the wastewater irrigation area at any time

(b) wastewater is not irrigated onto waterlogged areas, land within 50 metres of a creek, or swamp or domestic or stock water bore, or land subject to flooding, steeply sloping land, or rocky or highly permeable soil overlaying an unconfined aquifer

(c) wastewater is not irrigated over an area which is within 50 metres of any residence on neighbouring land or 10 metres of any type of publicly owned land

(d) wastewater is released using low trajectory low pressure sprinklers, drip irrigators or agricultural pipe, and is not sprayed more than 1.5 metres into the air or in fine droplets if there is a potential for the spread of diseases from the wastewater

(e) stormwater runoff from areas which are contaminated with grape or grape products is drained to winery waste management systems during vintage periods

(f) stormwater from roofs and clean hard paved surfaces is diverted away from winery waste management systems and disposed of in an environmentally sound manner or used for productive purposes.

Waste Management Facilities

OBJECTIVES

1 The orderly and economic development of waste management facilities in appropriate locations.

2 Minimisation of human and environmental health impacts from the location and operation of waste management facilities.

3 Protection of waste management facilities from incompatible development.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Waste management facilities should be located and designed to minimise adverse impacts on both the site and surrounding areas from the generation of surface water and groundwater pollution, traffic, noise, odours, dust, vermin, weeds, litter, gas and visual impact.

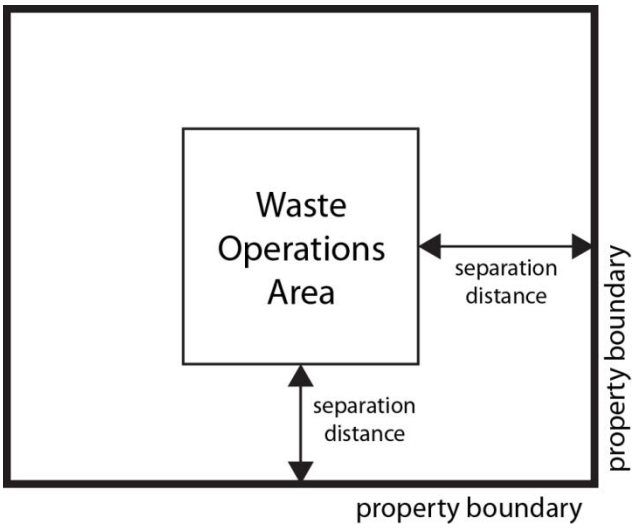
2 Waste management facilities in the form of landfill and organic processing facilities should not be located in existing or future township, living, residential, centre, office, business, institutional or environmental protection, conservation, landscape, water protection and open space areas.

3 Waste management facilities should not be located where access to the facility requires, or is likely to involve, the use of non-arterial roads in adjacent residential areas.

4 Waste management facilities should:

(a) be appropriately separated from sensitive land uses and environmentally sensitive areas

(b) incorporate the separation distance between the waste operations area (including all closed, operating and future cells) and sensitive uses within the development site as illustrated in the figure below:



(c) not incorporate other land uses and activities within the separation distance unless they are compatible with both a waste management facility and any adjacent land uses.

5 Separation and/or noise attenuation should be used to ensure noise generation associated with the waste management operation does not unreasonably interfere with the amenity of sensitive land uses.

6 Sufficient area should be provided within the waste operations area for the:

(a) maximum expected volume of material on the site at any one time

(b) containment of potential groundwater and surface water contaminants

(c) diversion of clean stormwater away from the waste and potentially contaminated areas.

7 Processing facilities and operational areas should be screened from public view.

8 Waste management sites should be accessed by appropriately constructed and maintained roads.

9 Traffic circulation movements within any waste management site should:

(a) be of a dimension and constructed to support all vehicles transporting waste

(b) enable all vehicles to enter and exit the site in a forward direction.

10 Suitable access for emergency vehicles should be provided to and within waste management sites.

11 Chain wire mesh or pre-coated painted metal fencing to a minimum height of 2 metres should be erected on the perimeter of a waste management facility site to prevent access other than at entry points.

12 Plant, equipment or activities that could cause a potential hazard to the public should be enclosed by a security fence.

13 Litter control measures that minimise the incidence of wind blown litter should be provided.

14 The waste operations area of a landfill or organic waste processing facility should be sited at least:

(a) 3 kilometres from an airfield used by commercial aircraft to minimise the risk of bird strikes to aircraft

(b) 500 metres from:

(i) the boundaries of the allotment

(ii) the nearest dwelling, shop, office, public institution or other building designed primarily for human occupation in the case of an organic waste processing facility for the composting of waste

(c) 250 metres from a public open space reserve, forest reserve, national park, conservation zone or policy area

(d) 100 metres from:

(i) the nearest surface water (whether permanent or intermittent)

(ii) a 1-in-100 year average return interval flood event area.

15 The waste operations area of a landfill should not be located on land:

(a) that is subject to land slipping

(b) with ground slopes greater than 10 per cent, except where the site incorporates a disused quarry.

16 The waste operations area of an organic waste processing facility should not be located on land:

(a) that is subject to land slipping

(b) with ground slopes greater than 6 per cent

(c) where the interface of the engineered landfill liner and natural soils would be within any of the following:

(i) 15 metres of unconfined aquifers bearing groundwater with less than 3000 milligrams per litre total dissolved salts

(ii) 5 metres of groundwater with a water quality of 3000 to 12 000 milligrams per litre total dissolved salts

(iii) 2 metres of groundwater with a water quality of greater than 12 000 milligrams per litre total dissolved salts.

17 Where required, a leachate barrier should be provided between the operational areas and underlying soil and groundwater.

18 Landfill activities that have a total storage capacity exceeding 230 000 cubic metres should make sustainable use of landfill gas emissions. For smaller landfill activities, if the sustainable use of the landfill gas emissions is not practical or feasible, flaring should be used to avoid gases being vented directly to the air.

Zone
Section

Airfield Zone

Refer to the *Map Reference Tables* for a list of the maps that relate to this zone.

OBJECTIVES

1 A zone primarily accommodating aircraft operations, passenger terminals, airport and aviation-related light industrial, service industrial, warehouse and storage purposes.

2 A zone in which development should be located and designed so as to maintain the safety of airport operations and airport users.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 The following forms of development are envisaged in the zone:

- air passenger or air freight terminal
- aircraft related facility
- airport
- fuel depot
- light industry ancillary to and in association with aviation activities
- recreation area
- service industry ancillary to and in association with aviation activities
- shop within the terminal building
- warehouse ancillary to and in association with aviation activities.

2 Development listed as non-complying is generally inappropriate.

3 Development that would be adversely affected by noise and other hazards caused by airport activities should not be undertaken in the zone.

4 Development should not impede the use of the zone for aviation purposes.

5 Development within the zone should not impede the future or current expansion of the area for aviation use.

6 Buildings and structures should be designed and sited so that the scale and appearance does not detract from the character of the Airport or the adjacent zones.

Form and Character

7 Commercial and light industrial development located on the airport site should:

(a) facilitate the more efficient operation of the airport

(b) be sited in defined clusters

(c) not adversely affect the amenity of surrounding land uses.

Land Division

8 Land should not be divided except for the realignment of allotment boundaries, where this assists in the more efficient operation and use of the airport.

9 There should be no increase in the total number of allotments in the zone.

PROCEDURAL MATTERS

Complying Development

Complying developments are prescribed in Schedule 4 of the *Development Regulations 2008*.

Non-complying Development

Development (including building work, a change in the use of land, or division of an allotment) for the following is non-complying:

Form of Development	Exceptions
Builders yard	
Community centre	
Consulting room	
Dwelling	Except for any of the following: (a) a managers/caretakers residence (b) a dwelling ancillary to and in association with aviation activities.
Educational establishment	Except where ancillary to and in association with aviation activities.
General industry	
Hospital	
Horticulture	
Hotel	
Intensive animal keeping	
Land division	Except where no additional allotments are created wholly or partly within the zone.
Motel	
Nursing home	
Place of worship	
Pre-school	
Residential flat building	
Service trade premises	
Special industry	
Shop	Except where located within the terminal building.
Tourist accommodation	
Waste reception, storage, treatment or disposal	

Public Notification

Categories of public notification are prescribed in Schedule 9 of the *Development Regulations 2008.*

Bulk Handling Zone

Refer to the *Map Reference Tables* for a list of the maps that relate to this zone.

OBJECTIVES

1 A zone in which agricultural and other commodities are received, stored and dispatched in bulk.

2 Buildings and structures screened from adjoining areas by landscaping, using locally indigenous plant species where possible.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 The following forms of development are envisaged in the zone:

- bulk handling and storage facility
- office and workers' amenities (operating as an adjunct to a bulk handling use of the site)
- road transport terminal
- value-adding industries associated with bulk commodities.

2 Development listed as non-complying is generally inappropriate.

3 Development unrelated to facilities associated with the reception, storage and dispatch of agricultural and other commodities in bulk, or value-adding industries processing such commodities, should not occur.

4 Development should not impede the on-going operation of facilities associated with the handling and storage of bulk commodities.

5 Development in the zone should be sensitive to the need for bulk handling storage and transportation facilities to be subjected to extended operation during the grain harvest.

Form and Character

6 Development associated with the handling and storage of bulk commodities, or value-adding processing, should be undertaken in a manner that minimises adverse off site impacts on sensitive land uses.

7 Development of facilities for the handling, transportation and storage of farm commodities, in bulk should have:

(a) adequate area set aside on the site of the development for the marshalling of vehicles

(b) roadways and parking areas are surfaced in a manner to have dust emission from the site reduced to a level appropriate to the locality

(c) landscaping established around the perimeter and within the site for the purpose of providing shade and shelter and to assist with screening and dust filtration

(d) vehicle circulation between elements on the site, restricted to the site of the development

(e) materials and finishes appropriate to the locality of the development.

PROCEDURAL MATTERS

Complying Development

Complying developments are prescribed in Schedule 4 of the *Development Regulations 2008*.

Non-complying Development

Development (including building work, a change in the use of land, or division of an allotment) for the following is non-complying:

Form of development	Exceptions
Amusement machine centre	
Caravan park	
Community centre	
Consulting room	
Dwelling	
Educational establishment	
Horticulture	
Hospital	
Hotel	
Intensive animal keeping	
Motel	
Motor repair station	
Nursing home	
Petrol filling station	
Place of worship	
Pre-school	
Residential flat building	
Shop	
Special industry	
Tourist accommodation	
Waste reception, storage, treatment or disposal	
Wrecking yard	

Public Notification

Categories of public notification are prescribed in Schedule 9 of the *Development Regulations 2008*.

Further, the following forms of development (except where the development is non-complying) are designated:

Category 1	Category 2
Bulk handling and storage facilities	

Coastal Conservation Zone

Refer to the *Map Reference Tables* for a list of the maps that relate to this zone.

OBJECTIVES

1 To enhance and conserve the natural features of the coast including visual amenity, landforms, fauna and flora.

2 Low-intensity recreational uses located where environmental impacts on the coast will be minimal.

3 The preservation and management of sites of heritage, cultural, scientific, environmental or educational importance.

4 Development only undertaken on land which is not subject to, or can be appropriately protected from, coastal hazards and does not adversely effect the natural coastal processes.

5 Avoid development which is likely to adversely effect the coast by pollution, erosion, damage or depletion of physical or biological resources.

6 Development should maintain or enhance public use and access to the coastline.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 The following forms of development are envisaged in the zone:

- conservation work
- interpretive signage and facility
- nature based/eco tourist accommodation.

2 Development listed as non-complying is generally inappropriate.

3 Buildings and structures should mainly be for essential purposes, such as shelters and toilet facilities associated with public recreation, navigation purposes or necessary minor public works.

4 Development involving the removal of shell grit or sand, other than for coastal protection works purposes, or the disposal of domestic and industrial waste should not be undertaken.

5 Aquaculture inlet and outlet pipes should not be developed unless 1 or more of the following applies:

(a) the adjoining land is located in an aquaculture zone

(b) the environmental impacts will be minimal.

Form and Character

6 Development should be designed and sited to be compatible with conservation and enhancement of the coastal environment and scenic beauty of the zone.

7 Development should:

(a) not adversely impact on the ability to maintain the coastal frontage in a stable and natural condition

(b) minimise vehicle access points to the area that is the subject of the development

(c) be landscaped with locally indigenous plant species to enhance the amenity of the area and to screen buildings from public view

(d) utilise external low reflective materials and finishes that will minimise glare and blend in with the features of the landscape.

8 Where public access is necessary in sensitive locations, walkways and fencing should be provided to effectively control access.

9 Tourist accommodation should be limited to sustainably designed nature-based development that complements the natural landscape and has minimal impact on the natural environment.

10 Tourist accommodation should be designed to minimise the potential conversion of buildings into dwellings such as through shared facilities, grouped accommodation and/or shared parking.

11 Car parking and access points to development should, wherever practicable, be:

(a) constructed of a permeable surface

(b) located on cleared land or along property boundaries to avoid the unnecessary removal of native vegetation.

12 Parking for tourist accommodation should be:

(a) a maximum of 1 space per tourist accommodation unit, plus parking for employees

(b) grouped in one location, unless it can be demonstrated that an alternative arrangement will reduce the impact on the natural environment

(c) located in an area where minimal vegetation clearance is required.

13 Development adjacent to the Port Pirie to Port Germein Road should include substantial landscaping designed to enhance its appearance from that road.

14 No advertisement should be prominently visible from Port Pirie to Port Germein Road.

15 There should be limited access to and egress from land along the Port Pirie to Port Germein Road.

16 Development undertaken north east of the Pirie River should be primarily for low impact recreational activities such as walking trails and picnic facilities.

17 All development should be set-back at least 30 metres from mean high water mark.

18 Building development should be clustered in close proximity to any existing farm houses or residential building.

19 Buildings or structures should be unobtrusively located, limited to a height of 1 storey, and be of such size and design, including materials and colours, to harmonise and blend naturally with the landscape of the zone.

20 Buildings and structures should not be prominently located on cliffs, headlands, or similar visually exposed locations and be set-back 100 metres from the coastal reserve where feasible.

21 Development should not be undertaken unless the appearance and character of land in the zone within view from the foreshore is retained.

Land Division

22 Land division should only occur where:

(a) no additional allotments are created wholly or partly within the zone

(b) there is no increase in the number of allotments with direct access to the coast or a reserve including by creation of land under rights of way or community titles

(c) it is for the purpose of creating a public road or public reserve

(d) it is for the purpose of aquaculture infrastructure land based marine facilities for which development authorisation exists.

PROCEDURAL MATTERS

Complying Development

Complying developments are prescribed in Schedule 4 of the *Development Regulations 2008*.

No other forms of development are complying in the zone.

Non-complying Development

Development (including building work, a change in the use of land, or division of an allotment) for the following is non-complying:

Form of Development	Exceptions
Advertisement and/or advertising hoarding	Except in association with conservation works for tourist information purposes.
Amusement machine centre	
Bus depot	
Caravan park	
Cemetery	
Commercial forestry	
Community centre	
Consulting room	
Crematorium	
Dairy	
Dam	
Dwelling	Except where used for the purposes of administering either or both of the: (a) *National Parks and Wildlife Act 1972* (b) *Wilderness Protection Act 1992.*
Educational establishment	
Fuel depot	
Horticulture	

Form of Development	Exceptions
Hospital	
Hotel	
Indoor recreation centre	
Industry	
Intensive animal keeping	Except inlet and outlet pipes in association with aquaculture.
Land division	Except where no additional allotments are created wholly or partly within the zone.
Marina	
Motel	
Motor repair station	
Nursing home	
Office	Except where used for the purposes of administering the *National Parks and Wildlife Act 1972.*
Petrol filling station	
Place of worship	
Pre-school	
Prescribed mining operations	
Public service depot	
Residential flat building	
Road transport terminal	
Service trade premises	
Shop	
Stadium	
Stock sales yard	
Stock slaughter works	
Store	
Warehouse	
Waste reception, storage, treatment or disposal	
Wrecking yard	

Public Notification

Categories of public notification are prescribed in Schedule 9 of the *Development Regulations 2008*.

Commercial Zone

Refer to the *Map Reference Tables* for a list of the maps that relate to this zone.

OBJECTIVES

1 A zone accommodating a range of commercial and business land uses.

2 Development that minimises any adverse impacts upon the amenity of the locality within the zone.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 The following forms of development are envisaged in the zone:

- bulky goods outlet
- light industry
- motor vehicle related business other than wrecking yard
- petrol filling station
- service trade premises
- store
- warehouse.

2 Development listed as non-complying is generally inappropriate.

3 Retail development in the zone should not hinder the development or function of any centre zone.

4 Shops, other than a bulky goods outlet, should have a gross leasable area less than 250 square metres.

5 A dwelling, other than caretaker/manager's residence, should not be erected.

Commercial Policy Area 1

Refer to the *Map Reference Tables* for a list of the maps that relate to this policy area.

OBJECTIVES

1 A policy area accommodating a range of retail and other commercial activities, servicing and industrial activities on a small scale, and storage activities, associated with or compatible with use of the waterfront and the railway.

2 That portion of the policy area shown on *Concept Plan Map PtPi/3 - Solomontown Centre* as the Service Trades Area developed for service trades premises and retail showrooms with frontage to Main North Road and Three Chain Road.

3 Extension into the policy area of activities complementary in function and character to activities of the kinds that are appropriate in the adjacent **Regional Centre one** and **Neighbourhood Centre one** (except within the portion of the policy area north of Alexander Street) and which do not interfere with the handling of goods transported by sea or by road or rail.

4 The enhancement of the appearance of land adjacent to the roads by substantial landscaping.

5 The establishment and maintenance of a visual and acoustic buffer between development and land in the adjoining **Residential one**.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 The following forms of development are envisaged in the policy area:

- bulky goods outlet
- consulting room
- light industry
- motor vehicle related business other than wrecking yard
- office
- petrol filling station
- service trade premises
- shop with a gross leasable area less than 250 square metres
- store
- warehouse.

2 Shops, other than a bulky goods outlet, should have a gross leasable area less than 250 square metres.

Form and Character

3 Buildings on land with frontage to Main Road should be of masonry construction and be no more than two-storeys.

4 On sites with frontage to Main Road or Three Chain Road, advertisements should be incorporated as an integral part of the design of a building or alternatively should be on a wall or fascia of a parapet or canopy or suspended below a canopy.

5 Development should be carried out in accordance with *Concept Plan Map PtPi/3 - Solomontown Centre*.

Commercial Policy Area 2

Refer to the *Map Reference Tables* for a list of the maps that relate to this policy area.

OBJECTIVES

1 A policy area providing services to meet the needs of travellers and transport operators on National Highway 1.

2 Development of a policy area of high visual amenity which enhances the locality and contributes to the creation of visually-attractive entrance to the City of Port Pirie.

3 Safe and convenient access from the National Highway 1, the Port Germein Road and adjoining service roads.

4 Adequate drainage and coordinated drainage and servicing of land before development takes place.

5 Development that contributes to the desired character of the policy area.

DESIRED CHARACTER

The policy area is located between the National Highway and the Port Pirie - Napperby Road and should be developed as the gateway to the Port Pirie city and as a service centre for the travelling public and the transport industry.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 The following forms of development are envisaged in the policy area:

- light industry
- motor vehicle related business other than wrecking yard
- petrol filling station
- service trade premises
- shop with a gross leasable area less than 250 square metres.

Form and Character

2 Development should not be undertaken unless it is consistent with the desired character for the policy area.

3 Sufficient landscaping should be established along the boundary of all land adjoining the National Highway 1 to enhance the appearance of buildings and create a landscaped, vegetated appearance from the road.

4 Development should incorporate on-site stormwater detention systems.

5 Buildings should be set-back at least 20 metres from the National Highway 1.

6 No direct vehicular access from individual properties should be provided to the National Highway 1 other than a service road.

7 Development should not cause adverse environmental effects on adjacent samphire and coastal areas.

8 Outdoor lighting should be positioned so as not to cause a distraction to traffic.

9 Signage should not detract from the visual amenity of the locality.

Commercial Policy Area 3

Refer to the *Map Reference Tables* for a list of the maps that relate to this policy area.

OBJECTIVES

1 A policy area providing services to meet the needs of travellers and transport operators on National Highway 1.

2 Development which is of a high visual amenity that enhances the locality and contributes to the creation of a visually-attractive entrance to the City of Port Pirie.

3 Safe and convenient access from the National Highway 1 and Flinders View Drive.

4 The provison of adequate drainage, lighting and coordinated services and facilities.

5 Development that contributes to the desired character of the policy area.

DESIRED CHARACTER

The policy area is located on the corner of National Highway 1 and Flinders View Drive. Commercial activities within the policy area will provide services and facilities to the travelling public and transport industry including on-site parking and rest areas that allow for the safe and efficient movement of vehicles to and from National Highway 1 and Flinders View Drive.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 The following forms of development are envisaged in the policy area:

- caravan park and caravan parking area
- motor vehicle related business other than wrecking yard
- motel
- petrol filling station
- service trade premises
- shop or group of shops
- truck parking area.

Form and Character

2 Development should not be undertaken unless it is consistent with the desired character for the policy area.

3 Development should occur in accordance with *Concept Plan Map PtPi/7 – Augusta Highway Development Area*.

4 Sufficient landscaping should be established along the boundary of all land adjoining the National Highway 1 to enhance the appearance of buildings and create a landscaped, vegetated appearance from the road.

5 Development should incorporate on-site stormwater detention systems.

6 Buildings should be set-back at least 20 metres from the National Highway 1 road boundary.

7 No direct vehicular access from individual properties should be provided to the National Highway 1 other than a service road.

8 Development should not cause adverse environmental effects on adjacent samphire and coastal areas.

9 Outdoor lighting should be positioned so as not to cause a distraction to traffic.

10 Signage should not detract from the visual amenity of the locality.

PROCEDURAL MATTERS

Complying Development

Complying developments are prescribed in Schedule 4 of the *Development Regulations 2008*.

In addition, the following forms of development are designated as complying *subject to the compliance with* *Table PtPi/1 – Building Setbacks from Road Boundaries* and *Table PtPi/2 – Off Street Vehicle Parking*:

- light industry
- motor repair station
- service trade premises
- road transport terminal
- service industry
- warehouse.

Non-complying Development

Development (including building work, a change in the use of land, or division of an allotment) for the following is non-complying:

Form of development	Exceptions
Caravan park	Except where it is located within Commercial Policy Area 3.
Dairy	
Dwelling	Except for a caretaker's/managers residence within **Commercial Policy Area 3**.
Educational establishment	
Farm building	
Farming	
General industry	Except north of David Street and West of Ellen Street.
Horticulture	
Hospital	
Intensive animal keeping	
Motel	Except where located within **Commercial Policy Area 3**.
Nursing home	
Place of worship	
Pre-school	
Prescribed mining operations	
Residential flat building	
Shop or group of shops	Shop or group of shops with a gross leasable area of greater than 250 square metres except where one of the following applies: (a) the site is within **Commercial Policy Area 1** and has frontage to the southern side of Main Road (b) the site is within **Commercial Policy Area 3**.
Special industry	

Form of development	Exceptions
Stadium	
Stock sales yard	
Stock slaughter works	
Waste reception, storage, treatment, or disposal	
Winery	
Wrecking yard	

Public Notification

Categories of public notification are prescribed in Schedule 9 of the *Development Regulations 2008.*

Further, the following forms of development (except where the development is non-complying) are designated:

Category 1	Category 2
Within the **Commercial Policy Area 1** shop or group of shops with a gross leasable area greater than 250 square metre where the site has frontage to the southern side of Main Road. Within the **Commercial Policy Area 3:** (a) caravan park and caravan parking area (b) shop or group of shops with a gross leasable area greater than 250 square metres (c) motel (d) petrol filling station (e) service trade premises (f) shop or group of shops with an individual gross leasable area less than 250 square metres (g) truck parking area.	

Community Zone

Refer to the *Map Reference Tables* for a list of the maps that relate to this zone.

OBJECTIVES

1 A zone accommodating community, educational, recreational and health care facilities for the general public's benefit.

2 Development that is integrated in function and provides a coordinated base to promote efficient service delivery.

3 Retention and establishment of substantial landscaping and an open character of land within the zone.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 The following forms of development are envisaged in the zone:

- cemetery
- community centre
- emergency services facility
- hall
- recreation centre.

2 Development listed as non-complying is generally inappropriate.

3 Development should not be undertaken if it would inhibit or prejudice the integrated development of land within the zone for further community and institutional uses.

Form and Character

4 Development should be undertaken in a manner which retains and reinforces existing native vegetation.

5 Development should not compromise the open landscape nature of the park land belts around the town centres of Crystal Brook, Redhill and Koolunga.

6 Built form should complement the environmental setting and display a high standard of civic design; in particular buildings should:

(a) be set well back from public roads

(b) be clustered, where practicable, to ensure that the majority of the site remains open in appearance

(c) be designed and constructed of materials and colours which will complement a natural park setting

(d) be screened or softened in appearance by landscaping including the planting of perimeter landscape buffer areas around buildings and car parks.

PROCEDURAL MATTERS

Complying Development

Complying developments are prescribed in Schedule 4 of the *Development Regulations 2008*.

In addition, the following forms of development are designated as complying, except within **Area 2 Crystal Brook** of the **Historic Conservation Area**, subject to compliance with *Table PtPi/1 - Building setbacks from Road Boundaries* and *Table PtPi/2 - Off Street Vehicle Requirements*:

- recreation area.

Non-complying Development

Development (including building work, a change in the use of land, or division of an allotment) for the following is non-complying:

Form of development	Exceptions
Bank	
Crematorium	
Dwelling	
Fuel depot	
Horticulture	
Hotel	
Industry	
Intensive animal keeping	
Land division	
Motel	
Major public service depot	
Motor repair station	
Nursing home	
Office	Except where associated with community or recreation facilities.
Petrol filling station	
Prescribed mining operations	
Residential flat building	
Road transport terminal	
Service trade premises	

Form of development	Exceptions
Shop or group of shops	Except where one of the following applies: (a) the gross leasable area is 250 square metres or less and outside the **Area 2 Crystal Brook** within the **Historic Conservation Area** (b) the gross leasable area is 80 square metres or less and where located within the **Area 2 Crystal Brook** within the **Historic Conservation Area**.
Stock sales yard	
Stock slaughter works	
Store	
Warehouse	
Waste reception, storage, treatment or disposal	
Wrecking yard	

Public Notification

Categories of public notification are prescribed in Schedule 9 of the *Development Regulations 2008.*

Deferred Urban Zone

Refer to the *Map Reference Tables* for a list of the maps that relate to this zone.

OBJECTIVES

1 A zone accommodating a restricted range of rural uses that are not prejudicial to development of the land for urban purposes and maintain the rural appearance of the zone.

2 A zone comprising land to be used primarily for broad-acre cropping and grazing purposes until required for future urban expansion.

3 Prevention of development likely to be incompatible with long-term urban development, or likely to be detrimental to the orderly and efficient servicing and conversion of the land for urban use.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 The following forms of development are envisaged in the zone:

- broad-acre cropping
- grazing.

2 Development listed as non-complying is generally inappropriate.

3 Development should not be undertaken if it will be prejudicial to the orderly and economic development of future urban land uses within the zone.

Land Division

4 Land division should not occur unless it is in the form of an alteration to the boundaries of an allotment and no additional allotments are created in the zone.

5 The alteration of allotment boundaries should only occur in order to achieve one or more of the following:

(a) correct an anomaly in the placement of allotment boundaries with respect to the location of existing buildings or structures

(b) improve the management of the land for the purpose of primary production

(c) enable the provision of public infrastructure.

PROCEDURAL MATTERS

Complying Development

Complying developments are prescribed in Schedule 4 of the *Development Regulations 2008*.

In addition, the following forms of development are designated as complying:

- farming.

Non-complying Development

Development (including building work, a change in the use of land, or division of an allotment) for the following is non-complying:

Form of development	Exceptions
Abattoir	
Advertisement and/or advertising hoarding	
Amusement machine centre	
Commercial forestry	
Community centre	
Consulting room	
Crematorium	
Dairy	
Dwelling	Except a detached dwelling that does not result in more than one dwelling on an allotment.
Educational establishment	
Fuel depot	
Horticulture	
Hospital	
Hotel	
Indoor recreation centre	
Industry	
Intensive animal keeping	
Land division	Except where no additional allotments are created partly or wholly within the zone.
Motel	
Motor repair station	
Nursing home	
Office	
Petrol filling station	
Place of worship	
Pre-school	
Prescribed mining operations	
Residential flat building	
Road transport terminal	

Form of development	Exceptions
Service trade premises	
Shop	
Stock sales yard	
Stock slaughter works	
Store	
Tourist accommodation	
Warehouse	
Waste reception, storage, treatment or disposal	
Wrecking yard	

Public Notification

Categories of public notification are prescribed in Schedule 9 of the *Development Regulations 2008.*

Industry Zone

Refer to the *Map Reference Tables* for a list of the maps that relate to this zone.

OBJECTIVES

1 A zone primarily accommodating a wide range of industrial, warehouse, storage and transport land uses.

2 A high standard of development which promotes good design, with high visual amenity to improve the character and appearance of the area, particularly along zone interfaces and public roads.

3 No general industry, special industry, fuel depot or intensive commercial activities adjacent to the **Residential one** or **Mixed Use Policy Area** .

4 Co-ordinated use of parking areas west of Copinger Road and north of the Port Pirie to Warnertown Road.

5 Prime consideration being given in the provision for access to or egress from land to requirements for primary and secondary arterial traffic movement along the Port Pirie to Warnertown Road and Germein Road respectively.

6 A visually attractive appearance of land visible from the Port Pirie to Warnertown Road and Germein Road.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 The following forms of development are envisaged in the zone:

- industry
- office in association with and ancillary to industry
- transport distribution
- warehouse.

2 Development listed as non-complying is generally inappropriate.

3 Dwellings other than caretaker's residences should not be erected.

4 Development north of Railway Terrace and South of Warnertown Road should be carried out in accordance with *Concept Plan Map PtPi/4 – North East Industrial Area*.

5 Retail and office development should be of a minor nature and should only occur to support the primary use of the zone.

Form and Character

6 In areas where a uniform street setback pattern has not been established, buildings should be set back in accordance with the following criteria (subject to adequate provision of car parking spaces and landscaping between buildings and the road):

(a) buildings up to a height of 6 metres should be sited at least 8 metres from the primary street alignment

(b) buildings exceeding a height of 6 metres should be sited at least 10 metres from the primary street alignment

(c) where an allotment has two street frontages, no building should be erected within 3 metres of the secondary street alignment.

7 Building facades facing land zoned for residential purposes should not contain openings or entrance ways that would result in the transmission of noise that would adversely affect the residential amenity.

8 Any plant or equipment with potential to cause an environmental nuisance (including a chimney stack or air-conditioning plant) should be sited as far as possible from adjoining non-industrially zoned allotments, and should be designed to minimise its effect on the amenity of the locality.

9 No advertisement should be prominently visible from the Port Pirie to Warnertown Road or, east of Copinger Road, from Germein Road.

10 There should be limited access to and egress from land along the Port Pirie to Warnertown Road and, east of Copinger Road, along Germein Road.

11 Development adjacent to the Port Pirie to Warnertown Road and to the Germein Road should include substantial landscaping designed to screen views of buildings and enhance the appearance of land from those roads.

Land Division

12 Land division should create allotments that are of a size and shape suitable for the intended use.

Industry Policy Area 4

Refer to the *Map Reference Tables* for a list of the maps that relate to this policy area.

OBJECTIVES

1 A policy area accommodating major special industrial, commercial and storage activities and associated minor industrial activities and the handling of goods by transport by sea, road or rail.

2 No development prejudicial to the processing and storage of minerals.

3 The establishment and maintenance of a substantial visual and acoustic buffer between development and land in the adjacent **Residential one**, **Coastal Conservation one**, **Community one**, **Commercial one** and the Port Pirie River.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 The following forms of development are envisaged in the policy area:

- industry
- store
- warehouse
- office in association with and ancillary to industry
- rail infrastructure
- road transport terminal.

2 Development listed as non-complying is generally inappropriate.

3 Development undertaken in the policy area should be primarily major special industry, commercial and storage activities and associated minor industrial industries.

4 Development in proximity to the **Residential one** should not impair the amenity of land in that zone.

5 There should be no treatment or depositing of hazardous waste materials in proximity to the **Residential one** or the **Community one**.

Industry Policy Area 5

Refer to the *Map Reference Tables* for a list of the maps that relate to this policy area.

OBJECTIVES

1 A policy area primarily accommodating industries which manufacture on a small-scale and which do not create any appreciable nuisance or generate heavy traffic.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 The following forms of development are envisaged in the policy area:

- light industry
- office in association with and ancillary to industry.

2 Development listed as non-complying is generally inappropriate.

3 Development should be primarily for light industrial development which does not create any appreciable noise, smoke, smell, dust or other nuisance or generate heavy traffic.

Industry Policy Area 6

Refer to the *Map Reference Tables* for a list of the maps that relate to this policy area.

OBJECTIVES

1 An industrial policy area comprising land for the long-term growth of the port and accommodating industrial activities dependant on a port-side location and/or access to freight handling and movement infrastructure.

2 The selective use of land in a manner commensurate with the strategic and economic significance of the policy area for the state with regard to the handling of export and import commodities.

3 Development that contributes to the desired character of the policy area.

DESIRED CHARACTER

This policy area accommodates immediate and long-term port activities, and will support the ongoing strategic and economic function and role of the port as one of the State's major import, export and transhipment facilities.

The visual elements which define the port character in this area are primarily associated with land uses that contribute to the general function and amenity of port activities. These include activities associated with ship movements, infrastructure associated with movement and handling of freight, movements of freight by train and vehicles, large scale shedding associated with industrial storage and assembly, and small scale buildings associated with commercial uses.

Only those activities which require direct frontage to the water and/or access to freight moving and handling infrastructure should be located on the water fronting portions of the policy area. These activities generally involve waterborne vessels and/or the movement of products or items from the water to the land and vice versa and may include: gantry and loading structures; wharf facilities and berthing operations; harbor installations and navigational aids; and materials/parts associated with mining and primary production activities. The design and location of development will take into account the existing electricity infrastructure located within the policy area and the designated buffers adjacent the infrastructure.

The policy area contains some low-lying areas abutting and near to the coast that during extreme storm events are susceptible to inundation by stormwater or sea water and, in some instances, a combination of both. Existing seawater flood protection measures within the zone and within adjacent zones provide a degree of inundation protection to low-lying areas within the zone. It is expected that these measures will be upgraded as part of any development to provide an appropriate degree of inundation protection taking into account predicted sea level rise and land subsidence.

By virtue of the fact that the Port Area contains low-lying areas adjacent the coast, the potential for coastal acid sulfate soils to be encountered exists. It is important that the disturbance of coastal acid sulfate soils is minimized and appropriately managed during development. Similarly, development needs to take into account the sensitive coastal environment with which it adjoins through appropriate design and management practices which minimise the potential for polluting the Port River as a result of spills, leakages, dust or stormwater runoff.

The interface between this policy area and the abutting **Regional Centre one** and Berth 3 which is a popular recreational destination will be sensitively managed and where appropriate will incorporate design and built form techniques to minimize the impact on regional centre and open space/recreational activities. Unsightly development will be screened to enhance the appearance of the development and the waterfront, and provide improved amenity for employees on the site. Notwithstanding potential interface issues, it is recognized that land uses in this policy area will generally be of a form and character that are consistent with port related activities which may include traffic, visual impacts and noise associated with freight movements and industrial activities.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 The following forms of development are envisaged in the policy area:

- bunker facility
- cargo handling facility
- container terminal
- intermodal rail freight facility
- office in association with and ancillary to port activity
- store
- trans shipment facility.

2 Development listed as non-complying is generally inappropriate and not acceptable.

3 Development undertaken in the policy area should be, primarily, activities dependant on a port-side location.

4 Only those activities which require direct frontage to the water and/or access to freight moving and handling infrastructure should be located on the water fronting portions of the policy area.

Form and Character

5 Development should not be undertaken unless it is consistent with the desired character for the policy area.

6 Development adjoining the waterfront should, where possible, be screened through landscaping and/or other design techniques.

7 Outdoor storage and/or work areas that do not contribute positively to the amenity and function of the port should, where possible, be screened from public view.

8 Development should not unreasonably impact on the **Regional Centre one** or on the adjacent recreational/open space area located on Berth 3 through noise, traffic, fumes, dust, vibration, or any other harmful or nuisance-creating land use.

9 Development including associated roads and parking areas should be protected from coastal flooding and sea level rise by ensuring all of the following apply:

(a) site levels are at least 3.35 metres Australian Height Datum

(b) building floor levels are at least 3.6 metres Australian Height Datum

(c) there are practical measures available to protect the development against an additional sea level rise of 0.7 metres, plus an allowance to accommodate land subsidence until the year 2100 at the site.

10 Development should be sited and designed to make provisions for augmentation and maintenance of existing electrical infrastructure servicing the region, and should be located outside of the 20 metre buffer area either side of the 132kV transmission line identified in *Concept Plan Map PtPi/5 – Industry Policy Area 6*.

PROCEDURAL MATTERS

Complying Development

Complying developments are prescribed in Schedule 4 of the *Development Regulations 2008*.

In addition, the following forms of development are designated as complying, subject to compliance with *Table PtPi/1 - Building setbacks from Road Boundaries* and *Table PtPi/2 - Off Street Vehicle Requirements:*.

- berth where located within the **Industry Policy Area**
- electricity sub-station, except where located within the **Industry Policy Area**
- gantry and loading structure where located within the **Industry Policy Area**
- light industry
- navigational aid structure where located within the **Industry Policy Area**
- public service depot, except where located within the **Industry Policy Area**
- telecommunications facility
- store
- warehouse
- wharf side facility where located within the **Industry Policy Area** .

Non-complying Development

Development (including building work, a change in the use of land, or division of an allotment) for the following is non-complying:

(a) the use of land for industrial purposes within the 50 metre buffer area around the gas metre station shown on *Concept Plan Map PtPi/4 – North East Industrial Area* other than for landscaping or access ancillary to that use or in association with the control and distribution of natural gas

(b) development within the 20 metre buffer area either side of the 132kV transmission line shown on *Concept Plan Map PtPi/5 –Policy Area 6 Industry Policy Area* other than for access ancillary to that use or in association with the control and distribution of electricity.

Form of development	Exceptions
Amusement machine centre	
Community centre	
Consulting room	
Dairy	
Dwelling	Except for a caretaker's residence.
Educational establishment	Except where: (a) ancillary to and in association with industrial development (b) located on the same allotment.
Horticulture	
Hospital	
Hotel	
Motel	
Nursing home	

Form of development	Exceptions
Office	Except where: (a) ancillary to and in association with industrial development or port related development, including customs operations (b) located on the same allotment.
Pre-school	
Place of worship	
Residential flat building	
Shop or group of shops	Except where: (a) the gross leasable area is greater than 80 square metres within the **Industry Policy Area** (b) the gross leasable area is greater than 450 square metres elsewhere in the zone.
Stock sales yard	
Stock slaughter works	
Tourist accommodation	
Wrecking yard	
Waste reception, treatment, storage or disposal	

Public Notification

Categories of public notification are prescribed in Schedule 9 of the *Development Regulations 2008*.

Further, the following forms of development (except where the development is non-complying) are designated:

Category 1	Category 2
Within the **Industry Policy Area** : (a) customs operation (b) navigational aid structure (c) office (d) store (e) telecommunications facility.	

Local Centre Zone

Refer to the *Map Reference Tables* for a list of the maps that relate to this zone.

OBJECTIVES

1 A centre accommodating small-scale convenience shopping, office, medical and community facilities to serve the local community.

2 A centre characterised by traditional corner stores or small groups of shops located within easy walking distance of the population they serve.

3 A centre accommodating residential development in conjunction with non-residential development.

4 The co-ordination of development on adjoining sites.

5 Buildings should be no more than one storey, except where residential accommodation is being provided and then the buildings should not exceed two storeys.

6 The establishment and maintenance of a visual and acoustic buffer between development and land in the **Residential one**.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 The following forms of development are envisaged in the zone:

- community facility
- consulting room
- office
- shop.

2 Development listed as non-complying is generally inappropriate.

3 Development comprising a variety of residential and non-residential uses should only be undertaken if such development does not prejudice the operation of existing or future non-residential activity within the zone.

Form and Character

4 Dwellings should be located only behind or above non-residential uses on the same allotment.

5 Development generally should not exceed one storey.

6 Where residential accommodation is being provided, development may be two storeys provided the residential component occupies the second floor only.

Land Division

7 Land division in the zone is appropriate provided new allotments are of a size and configuration to ensure the objectives of the zone can be achieved.

PROCEDURAL MATTERS

Complying Development

Complying developments are prescribed in Schedule 4 of the *Development Regulations 2008*.

In addition, the following forms of development are designated as complying, subject to compliance with *Table PtPi/1 – Building Setbacks from Road Boundaries* and *Table PtPi/2 – Off Street Vehicle Parking*:

- consulting rooms
- office
- shop.

Non-complying Development

Development (including building work, a change in the use of land, or division of an allotment) for the following is non-complying:

Form of development	Exceptions
Bus depot	
Fuel depot	
Hospital	
Hotel	
Industry	
Intensive animal keeping	
Motel	
Nursing home	
Petrol filling station	
Place of worship	
Motor repair station	
Public service depot	
Residential flat building	Except where in conjunction with a non-residential development.
Road transport terminal	
Service trade premises	
Store	
Supported accommodation	
Warehouse	
Waste reception, storage, treatment or disposal	
Wrecking yard	

Public Notification

Categories of public notification are prescribed in Schedule 9 of the *Development Regulations 2008.*

Mixed Use Zone

Refer to the *Map Reference Tables* for a list of the maps that relate to this policy area.

OBJECTIVES

1 A functional and diverse zone accommodating a mix of commercial, community, light industrial, medium density residential, office, and small-scale shop land uses.

2 Development that minimises any adverse impacts upon the amenity of the locality within the zone.

3 Development that contributes to the desired character of the zone.

DESIRED CHARACTER

This zone primarily accommodates a range of tourist accommodation uses, including hotels, camping sites, caravan park and cabins and also provides the opportunity for additional facilities such as motel accommodation in selected areas in order to cater for the tourist and travelling public. The zone should promote good design, with high visual amenity to improve the character and appearance of the areas located along zone interfaces and public roads particularly Warnertown and Port Germein Roads.

The character of the zone also reflects its close proximity to the waterfront by including a number of water-related activities along with appropriate commercial outlets that support those waterfront activities. In addition, small scale retailing, restaurants, services, retail showrooms and storage uses are supported provided the buildings are sited a minimum of 10 metres from the road boundary in order to provide and adequate interface between the adjoining zones and a suitable buffer to the public road.

The zone also accommodates pockets of residential properties. Dwellings and long-term accommodation should not lead to the displacement of existing tourist accommodation in high demand locations. Medium density residential development is appropriate on the north-western corner of Main Road and Three Chain Road. Circulation and movement within the existing caravan park should promote pedestrian friendly movements and promote low speed vehicle movement.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 The following forms of development are envisaged in the zone:

- community facility
- motel
- office
- shop or group of shops where the gross leasable area is 250 square metres or less in the **Mixed Use Policy Area** and a gross leasable area is 150 square metres or less in **Mixed Use Policy Area 8**.

2 Development listed as non-complying is generally inappropriate and not acceptable unless it can be demonstrated that it does not undermine the objectives and principles of the Development Plan.

3 Development should be carried out in accordance with *Concept Plan Map PtPi/3 – Solomontown Centre* and *Concept Plan Map PtPi/6 – Solomontown Beach Development Area*.

4 Development comprising of a motel or medium density residential development is envisaged on the north-western corner of Main Road and Three Chain Road.

5 Shopping facilities should only be provided to cater specifically to the needs of tourists and the traveling public, and may include a restaurant, courtyard cafe and souvenir shop.

Form and Character

6 Development should not be undertaken unless it is consistent with the desired character for the zone.

7 The bulk and scale of development should be compatible with adjoining land uses.

8 Car parking areas should be provided at the rear or side of premises.

9 Advertisements and advertising hoardings should not include any of the following:

(a) flashing or animated signs

(b) bunting, streamers, flags, or wind vanes

(c) roof-mounted advertisements projected above the roofline

(d) parapet-mounted advertisements projecting above the top of the parapet.

10 To enhance the appearance of the gateway to the township, development adjacent to Warnertown Road should include:

(a) larger than normal set-backs from road frontages

(b) the use of external walls, fences, landscaping, mounding in appropriate areas, and similar techniques to assist in noise attenuation; however all such external boundary walls are to be appropriately modulated in design and detailing and varied in set-back to provide visual interest and relief

(c) provide a visual buffer in the form of landscape plantings, attractive fencing, siting of buildings or other similar means between any car parking, service area, outdoor storage area or any other unattractive area and the adjacent tourist accommodation areas

(d) provide an attractive building façade which incorporates suitable sound attenuation measures and be constructed of masonry or other suitable materials in accordance with the zone provisions

(e) provide service or delivery vehicle access points to and from development to minimise the impact of vehicles on the tourist accommodation areas

(f) where appropriate, provide a service road to reduce the number of access points.

11 Development should reinforce the relationship between the adjoining recreation facilities with interconnecting walkways and direct visual connection, and encourage their use by the development and re-development of tourist facilities and activities.

12 Development of a motel and associated facilities adjacent to the northern side of Main Road should, present an attractive facade and focus to Main Road, as well as utilising the seaward and ranges vistas.

13 Having regard to the location and prominence of land with frontage to Main Road, buildings adjacent to that road should have a character and significance which complements and reinforces the status of the road as a primary means of entry to the centre of the city.

14 Buildings with frontage to Main Road should be sympathetic with existing buildings and infrastructure and not dominate the existing Main Street landscape.

15 Building development away from the frontage of Main Road should be single-storeyed, simple in design, features and finishes, with landscaping to blend with the adjoining open space.

Land Division

16 Land division should create allotments that vary in size and are suitable for a variety of commercial activities.

Mixed Use Policy Area 7

Refer to the *Map Reference Tables* for a list of the maps that relate to this policy area.

OBJECTIVES

1 Accommodation of tourists in, for example, a caravan park, cabins, cottages and a motel and of other facilities catering for tourists and travellers, including entertainment and recreational facilities.

2 A high standard of development which promotes good design, with high visual amenity to improve the character and appearance of the areas located along zone interfaces and public roads particularly Warnertown and Port Germein Roads.

3 Development that contributes to the desired character of the policy area.

DESIRED CHARACTER

Presently, a diverse mix of activities occur within the policy area. Whilst many of these activities are in keeping with the tourist accommodation and facilities that exist within the area (caravan park, two hotels and a cabin park), there are also a number of activities within the policy area, which are inconsistent with the intent for the policy area. These activities include pockets of residential uses, small scale industrial activities as well as the former Golden North site. Whilst such activities have operated for some time and have not resulted in significant land use conflicts, expansion of these activities should not be actively encouraged. The primary purpose for the policy area is to support a wide variety of tourist accommodation facilities.

The character of the policy area reflects its location close to the waterfront. Consequently, activities also include a number of water-related activities.

The policy area is also located in close proximity to public road fronts that are significant gateways to Port Pirie (ie Warnertown Road and Port Germein Road). These gateway locations present opportunities for a combination of tourist accommodation and appropriately designed commercial activities.

Appropriate commercial activities that may occur within these gateway locations include small scale retailing, restaurants, services, retail showrooms and storage uses exhibiting good design and high visual amenity that incorporate a suitable setback to the public road and landscaping.

Such activities could include service activities, showrooms, storage facilities and the like provided that buildings are sited a minimum of 10 metres from the road boundary in order to provide an adequate interface between the adjoining zones and a suitable buffer to the public road.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 The following forms of development are envisaged in the policy area, including but not limited to:

- caravan park
- entertainment and recreation facilities
- hotel
- motel.

2 Development listed as non-complying is generally inappropriate.

Form and Character

3 Development should not be undertaken unless it is consistent with the desired character for the policy area.

4 To enhance the appearance of the gateway to the township, development adjacent to Warnertown Road should include:

(a) larger than normal set-backs from road frontages

(b) the use of external walls, fences, landscaping, mounding in appropriate areas, and similar techniques to assist in noise attenuation; however all such external boundary walls are to be appropriately modulated in design and detailing and varied in set-back to provide visual interest and relief

(c) provide a visual buffer in the form of landscape plantings, attractive fencing, siting of buildings or other similar means between any car parking, service area, outdoor storage area or any other unattractive area and the adjacent tourist accommodation areas

(d) provide an attractive building façade which incorporates suitable sound attenuation measures and be constructed of masonry or other suitable materials in accordance with the zone provisions

(e) provide service or deliver vehicle access points to and from development to minimise the impact of vehicles on the tourist accommodation areas

(f) where appropriate, provide a service road to reduce the number of access points.

5 Medium density residential development may be appropriate in that part of the zone adjoining the **Mixed Use Policy Area 8**, on the north-western corner of Main Road and Three Chain Road.

6 Development should reinforce the relationship between the adjoining recreation facilities with interconnecting walkways and direct visual connection, and encourage their use by the development and re-development of tourist facilities and activities.

7 Development of motel and associated facilities adjacent to the northern side of Main Road should, whilst presenting an attractive facade and focus to Main Road, orient its main views and outlook towards Solomontown Beach.

8 Caravan and camping facilities should be located in the position shown on *Concept Plan Map PtPi/6 – Solomontown Beach Development Area* for those purposes.

9 Cottage and cabin-type tourist accommodation should only be established adjacent to or in association with the caravan and camping facilities.

10 Development should be undertaken in accordance with *Concept Plan Map PtPi/6 – Solomontown Beach Development Area* to ensure that existing residential uses of land may continue

11 Shopping facilities should only be provided to cater specifically to the needs of tourists, and may include a restaurant, courtyard cafe and souvenir shop, the shopping needs of the general community being serviced from nearby retail facilities in other zones.

12 Pedestrian and vehicular access ways should be provided in accordance with *Concept Plan Map PtPi/6 – Solomontown Beach Development Area* to ensure adequate segregation of pedestrian and vehicular movement.

13 Having regard to the location and prominence of land with frontage to Main Road, buildings adjacent to that road should have a character and significance which complements and reinforces the status of the road as a primary means of entry to the centre of the city.

14 Buildings with frontage to Main Road should have a maximum of two-storeys, consistent with the maximum height of the larger existing buildings along Main Road.

15 Building development with frontage to Main Road should reinforce the desirable townscape elements of the central area of the city relating to the composition of building facades, window design, built form, materials and colours.

16 Building development away from the frontage of Main Road should be single-storeyed, simple in design, features and finishes, with landscaping to blend with the adjoining open space in the **Mixed Use Policy Area 8**.

17 Open space should be grassed and driveways and car parking areas should be sealed.

Site Drainage

18 Site drainage should:

(a) include where practicable, scope for on-site stormwater detention, retention and use (including the collection and storing of water from roofs and communal car parks) in appropriate devices

(b) provide on-site infiltration where practicable, having regard to:

(i) the availability of unsealed areas or areas which are not built up

(ii) the capacity of soils to absorb water

(iii) the capacity of building footings on and adjacent to the site to withstand the likely effects of retained water

(iv) potential adverse impacts on groundwater

(c) allow convenient access to all components of the drainage system for maintenance purposes

(d) not cause damage or nuisance flows on the site or onto adjoining properties.

19 The storm drainage system should maximise the interception, retention and removal of water-borne physical, chemical and biological pollutants prior to their discharge to surface or underground receiving waters and dispose of them via on-site treatment or authorised disposal to a sewer or licensed waste depot by a licensed waste carrier.

Mixed Use Policy Area 8

Refer to the *Map Reference Tables* for a list of the maps that relate to this policy area.

OBJECTIVES

1 Accommodation of community and tourist beach and beachside recreation facilities with associated shelters, change rooms and kiosk, open spaces for passive and active recreation with landscaped parklands and a visual focus on the base of the Pier.

2 That portion of the policy area shown on *Concept Plan Map PtPi/3 – Solomontown Centre* as the Waterfront Area re- developed to provide public car parking areas, a boat ramp, boat storage, clubrooms and related recreational facilities and waterfront commercial services and a kiosk.

3 Co-ordinated use of access and egress points by neighbouring occupiers of land to minimise the number of such points on the frontages to roads.

4 Co-ordinated use of off-street parking areas by neighbouring occupiers of land to ensure the efficient use of such areas.

5 Development that contributes to the desired character of the policy area.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 The following forms of development are envisaged in the policy area:

- community and tourist beach and beachside facilities with associated shelters
- change rooms and kiosk
- open spaces for passive and active recreation.

2 Development listed as non-complying is generally inappropriate.

Form and Character

3 Development should not be undertaken unless it is consistent with the desired character for the policy area.

4 Development should primarily be non-residential clubs, cafes, restaurants, parking areas and recreation areas.

5 Development should provide extensive areas for passive and active recreation open space, including extensive grassed and landscaped spaces with associated change rooms, shelters, kiosk, emergency services room and play structures.

6 Development should reinforce recreational boating, aquatic activities and functions associated with the Port Pirie River.

7 Buildings adjacent to the waterfront should be appropriate in their design to their location and display the following characteristics:

(a) an outlook over the water and a public promenade

(b) use of external building materials in light tones that reflect ‘seaside’ colours and hues with features in vivid colour contrast

(c) buildings adjacent to Main Road of one-storey

(d) no part of a building which might restrict public thoroughfare nearer than 5 metres to the water's edge

(e) building close to the boundary of Main Road, where adjacent buildings are close to that boundary, subject to the provision of landscaping where practicable along the frontage.

8 Buildings should be designed with simple roof forms and finishes to complement the character of existing buildings.

9 Advertisements should be incorporated as an integral part of the design of a building or alternatively should be on a wall or fascia of a parapet or canopy or suspended below a canopy.

PROCEDURAL MATTERS

Complying Development

Complying developments are prescribed in Schedule 4 of the *Development Regulations 2008*.

Non-complying Development

Development (including building work, a change in the use of land, or division of an allotment) for the following is non-complying:

Form of development	Exceptions
Bank	
Consulting room	
Fuel depot within **Mixed Use Policy Area**	
General industry	
Horse keeping	
Horticulture	
Industry	
Intensive animal keeping	
Office within **Mixed Use Policy Area 8**	
Prescribed mining operations	
Road transport terminal	
Service trade premises within **Mixed Use Policy Area 8**	
Shop or group of shops	Except where (a) or (b) apply: (a) it is located within **Mixed Use Policy Area** and the gross leasable area is 250 square metres or less (excluding a restaurant) (b) it is located within **Mixed Use Policy Area 8** and the gross leasable area is 150 square metres or less.
Special industry	
Stock sales yard	
Stock slaughter works	
Store	
Warehouse	
Waste reception, storage, treatment or disposal	Except where in the form of a recycling collection depot.
Wrecking yard	

Public Notification

Categories of public notification are prescribed in Schedule 9 of the *Development Regulations 2008*.

Neighbourhood Centre Zone

Refer to the *Map Reference Tables* for a list of the maps that relate to this zone.

OBJECTIVES

1 A centre providing a range of shopping, community, business, and recreational facilities for the surrounding neighbourhood.

2 A centre that provides the main focus of business and community life outside a district centre, and provides for the more frequent and regularly recurring needs of a community.

3 A centre accommodating residential development in conjunction with non-residential development.

4 The establishment and maintenance of a visual and acoustic buffer between development and land in the **Residential one**.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 The following forms of development are envisaged in the zone:

- bank
- consulting room
- library
- office
- place of worship
- playing field
- recreation area
- restaurant
- shop.

2 Development listed as non-complying is generally inappropriate.

3 Development comprising a variety of residential and non-residential uses should only be undertaken if such development does not prejudice the operation of existing or future non-residential activity within the zone.

4 Development should be carried out in accordance with *Concept Plan Map PtPi/3 – Solomontown Centre*.

Form and Character

5 Dwellings should be located only behind or above non-residential uses on the same allotment.

Land Division

6 Land division in the zone is appropriate provided new allotments are of a size and configuration to ensure the objectives of the zone can be achieved.

PROCEDURAL MATTERS

Complying Development

Complying developments are prescribed in Schedule 4 of the *Development Regulations 2008*.

In addition, the following forms of development are designated as complying subject to the compliance with *Table PtPi/1 – Building Setbacks from Road Boundaries* and *Table PtPi/2 – Off Street Vehicle Parking*:

- consulting rooms
- office
- shop.

Non-complying Development

Development (including building work, a change in the use of land, or division of an allotment) for the following is non-complying:

Form of development	Exceptions
Fuel depot	
Hospital	
Industry	
Intensive animal keeping	
Major public service depot	
Motor repair station	
Nursing home	
Plant nursery	
Educational establishment	
Residential flat building	Except where in conjunction with a non-residential development.
Road transport terminal	
Store	
Warehouse	
Waste reception, storage, treatment or disposal	
Wrecking yard	

Public Notification

Categories of public notification are prescribed in Schedule 9 of the *Development Regulations 2008*.

Primary Production Zone

Refer to the *Map Reference Tables* for a list of the maps that relate to this zone.

OBJECTIVES

1 The long term continuation of primary production, including value adding activities associated with primary production.

2 Economically productive, efficient and environmentally sustainable primary production.

3 Allotments of a size and configuration that promote the efficient use of land for primary production.

4 Protection of primary production from encroachment by incompatible land uses and protection of scenic qualities of rural landscapes.

5 Wind farms and ancillary development located in the zone, accepting that this may need to be sited in visually prominent locations to take advantage of natural resources such as wind.

6 Development that contributes to the desired character of the zone.

DESIRED CHARACTER

The zone covers the greater majority of the Council area between the edge of the ranges to the north east and the coastal regions to the west, apart from the specialist zones associated with the existing townships. The natural character of the area is therefore predominantly gently undulating, open cleared rural land that includes the Broughton river system, the Clements Gap Conservation Park and isolated pockets of remnant vegetation.

The area is strategically located in relation to the major infrastructure networks providing transport linkages through the area, including National Highway 1 and the National Rail link. It also contains the alignment of the Morgan-Whyalla pipeline, major power transmission lines and a linkage to the natural gas pipeline network.

Agriculture production within the rural area contributes the most significant component to the local economy, principally in the form of broad acre cropping and livestock production together with diversification and value-adding. The central location and the nature of the land, the accessibility to primary produce sourced from the national transport routes as well as local and the region and the proximity to the range of transport networks, infrastructure and local employment services promotes the area to a wide range of value-adding activities associated with primary produce.

It is envisaged that the area will continue to accommodate agricultural activities as the dominant land uses and that selected value-adding activities will be developed to compliment and expand on the existing rural activities in the region. It is important that all future activity within the area will have regard to the maintenance of agricultural productivity, minimizing fragmentation of rural land, protection of natural resources, minimizing fire risk, protecting natural views and providing appropriate buffers to adjoining sensitive uses.

Wind farms and ancillary development are an envisage form of development within the zone. Such facilities may be of a large scale, comprise a number of components and require an extended and/or dispersed development pattern. These facilities will need to be located in areas where they can take advantage of the natural resource upon which they rely and, as a consequence may be need to be:

- located in visually prominent locations such as ridgelines
- visible from scenic routes and valuable scenic and environmental areas
- located closer to roads than envisaged by generic setback policy.

This, coupled with the large scale of these facilities (in terms of both height and spread of components), renders it difficult to mitigate the visual impacts of wind farms to the degree expected of other types of development. Subject to implementation of management techniques set out by general / council wide policy regarding renewable energy facilities, these visual impacts are to be accepted in pursuit of benefits derived from increased generation of renewable energy.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 The following forms of development are envisaged in the zone:

- bulk handling and storage facility
- commercial forestry
- dairy farming
- farming
- horticulture
- intensive animal keeping
- tourist accommodation (including through the diversification of existing farming activities and conversion of farm buildings)
- solar and ancillary development
- value-adding activities associated with primary production
- wind farm and ancillary development
- wind monitoring mast and ancillary development.

2 Development listed as non-complying is generally inappropriate.

3 Wind farms and ancillary development should be located in areas which provide opportunity for harvesting of wind and efficient generation of electricity and may therefore be sited:

(a) in visually prominent locations in the landscape

(b) closer to roads and not to be subject to the setback requirements of other forms of development.

4 Value adding agricultural industry and warehousing should only be developed if it supports primary production, processing, storage and distribution of local primary produce or products produced on the same site, and should be developed where:

(a) it has a direct relationship with primary production

(b) it is unlikely to limit or inhibit the use of adjoining land for primary production

(c) the particular use requires a site in proximity to a particular natural resource or other product or materials sourced from the locality

(d) it will not result in the alienation of land or water resources identified as significant for primary production or ecological reasons

(e) the use would be inappropriate within a township

(f) the capacity of the infrastructure, including roads, is capable of supporting the use without detriment to existing users

(g) it is located more than 500 metres from a dwelling not on the subject property

(h) it is screened from public roads and adjacent land by existing vegetation or proposed landscaped buffers.

5 A shop should be:

(a) ancillary to primary production or processing uses or tourist accommodation or other tourist development

(b) located on the same site as the primary use.

6 Buildings, other than where required to facilitate wind farms and ancillary development, should primarily to be limited to farm buildings, a detached dwelling associated with primary production or a tourist related use on the allotment and residential outbuildings that are:

(a) grouped together on the allotment and set back from allotment boundaries to minimise the visual impact of buildings on the landscape as viewed from public roads

(b) screened from public roads and adjacent land by existing vegetation or landscaped buffers.

7 Tourist accommodation should not be converted to dwellings and should be designed to preclude the conversion of buildings into dwellings such as through shared facilities, common utility services, grouped accommodation and/or shared parking.

8 A dwelling should only be developed if:

(a) there is a demonstrated connection with farming or other primary production

(b) the location of the dwelling will not inhibit the continuation of farming, other primary production or other development that is in keeping with the provisions of the zone

(c) it is located more than 500 metres from an existing intensive animal keeping operation unless used in association with that activity

(d) it does not result in more than one dwelling per allotment.

9 Development on Sections 324, 331, 337 and 341, Hundred of Pirie (Hundred Plan 241000) in proximity to the **Airfield one** which could be unduly affected by noise, cause large assemblies of people, or create unsafe conditions by reason of the height of any building or structure should not be undertaken.

Form and Character

10 Development should not be undertaken unless it is consistent with the desired character for the zone.

11 Development should not occur within 500 metres of a National Park, Conservation Park, Wilderness Protection Area or significant stands of native vegetation if it will increase the potential for, or result in, the spread of pest plants.

12 Development should provide an access way of at least 3 metres wide that provides access for emergency vehicles to the rear of the allotment.

13 Development on land situated between National Highway 1 and **Landscape Protection Policy Area 10** should be designed and sited to ensure the natural view of the ranges is not impaired.

Land Division

14 For land not within a policy area, land division, including boundary realignments, should only occur where it:

(a) will promote economically productive, efficient and sustainable primary production and not create any allotment less than 40 hectares in area.

15 Land division involving boundary realignments should only occur where the number of resulting allotments of less than 40 hectares is not greater than the number that existed prior to the realignment.

PROCEDURAL MATTERS

Complying Development

Complying developments are prescribed in Schedule 4 of the *Development Regulations 2008*.

In addition, the following forms of development are designated as complying subject to the complying criteria/conditions as outlined in the table below:

Form of development	Complying criteria / conditions
Farm building	the set-back distances prescribed in *Table PtPi/1 – Building Setbacks from Road Boundaries*
Farming	

Non-complying Development

Development (including building work, a change in the use of land, or division of an allotment) for the following is non-complying:

Form of Development	Exceptions
Advertisement and/or advertising hoarding	Advertisement and/or advertising hoarding where the development achieves at least one of (a) or (b): (a) is adjacent to a road with a speed limit of less than 80 km/h (b) has an advertisement area of 2 square metres or less and achieves all of the following: (i) the message contained thereon relates entirely to a lawful use of land (ii) the advertisement is erected on the same allotment as the use it seeks to advertise (iii) the advertisement will not result in more than two advertisements on the allotment.
Caravan park	
Community centre	
Consulting room	
Dwelling	Except where (a) or (b) applies: (a) where a detached dwelling on an allotment which was created after 29 August 2002 (b) where the dwelling is to be erected on an allotment which is 40 hectares or more in area.
Educational establishment	
Hospital	
Hotel	
Indoor recreation centre	
Industry	
Motor repair station	
More than one dwelling on an allotment	
Nursing home	

Form of Development	Exceptions
Office	Except where and is ancillary to and in association with one of the following land uses: (a) primary production (b) tourism development.
Petrol filling station	
Place of worship	
Pre-school	
Primary school	
Residential flat building	
Road transport terminal	
Service trade premises	
Shop or group of shops	Except for a shop that is: (a) ancillary to primary production or processing uses or tourist accommodation or other tourist development (b) located on the same site as the primary use.
Stadium	
Store	
Wrecking yard	

Public Notification

Categories of public notification are prescribed in Schedule 9 of the Development Regulations 2008.

Further, the following forms of development (except where the development is non-complying) are designated:

Category 1	Category 2
	Wind farms and ancillary development such as substations, maintenance sheds, access roads and connecting power-lines (including to the National Electricity Grid) where the base of all wind turbines is located at least 2000 metres from: (a) an existing dwelling or tourist accommodation that is not associated with the wind farm (b) a proposed dwelling or tourist accommodation for which an operable development plan consent exists (c) the boundaries of any **Airfield, Airport, Centre, Community, Fringe, Historic Conservation, Home Industry, Living, Mixed Use, Residential, Settlement, Tourist, Township or Urban one, Policy Area** or **Precinct** or any **Heritage Area** (including within the area of an adjoining Development Plan). Wind monitoring mast and ancillary development.

Regional Centre Zone

Refer to the *Map Reference Tables* for a list of the maps that relate to this zone.

OBJECTIVES

1 A centre representing the primary focus for business and commercial services for the region providing a full range of shopping, administrative, cultural, community, entertainment, education, religious and recreational facilities, and public and private office development.

2 A centre providing a focus for public transport interchanges and networks.

3 Development of a visually and functionally cohesive and integrated regional centre.

4 A centre accommodating medium to high density residential development in conjunction with non-residential development.

5 That portion of the zone east of Ellen Street shown as the 'Community Area' on *Concept Plan Map PtPi/1 – Regional Centre*, developed for cultural, community, tourist and public administration purposes.

6 That portion of the zone west of Ellen Street and Main Road shown as the 'Retail Core Area' on *Concept Plan Map PtPi/1 – Regional Centre*, developed as the comprehensive major focus of retail and business services in the council area.

7 That portion of the zone west of Florence Street shown as the 'Fringe Area' on *Concept Plan Map PtPi/1 – Regional Centre*, developed for offices, public administration, retail showrooms, service trade premises, clubs and religious facilities.

8 That portion of the zone shown as the 'Retail/Commercial Area'on *Concept Plan Map PtPi/2 – Regional Centre*, developed for a mix of retail, commercial and business uses that are complementary to the role of the Retail Core and each other in scale and form.

9 Retention and enhancement of the two-storeyed curvilinear western façade extending along Ellen Street and also along Jubilee Place.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 The following forms of development are envisaged in the zone:

- bank
- bulky goods outlets
- civic centre
- consulting room
- department store
- emergency services facility
- entertainment facility
- health facility
- hospital
- hotel
- indoor games centre
- library
- motel
- office

- place of worship
- playing field
- primary school
- public transport terminal
- residential flat building in conjunction with non-residential development
- restaurant
- shop
- supermarket
- swimming pool.

2 Development listed as non-complying is generally inappropriate.

3 Development comprising a variety of medium to high density residential (including affordable housing) and non-residential uses should only be developed if it does not prejudice the operation of existing or future non-residential activity within the zone.

Form and Character

4 Development should be designed and sited to promote linkages between the various developments within the centre and adjoining main roads.

5 Facilities within the centre should be sited and designed with a view to promoting after-hours use to reinforce the centre as the focus of social activity in the region.

6 Dwellings should be located only behind or above non-residential uses on the same allotment.

7 Dwellings should only be located at upper levels of buildings and in conjunction with an envisaged non-residential use located at ground level.

8 No building development should exceed two storeys in height above natural surface level.

9 Buildings located on the south side of Mary Elie Street should incorporate a 10 metre setback from the property boundary.

10 Buildings on Ellen Street and Alexander Street should be built to the allotment boundary.

11 Buildings located on the edges of the zone to address the street frontages (Ellen Street, George Street, Gertrude Street and Mary Elie Street).

12 Landscaping within the zone should be designed, planted and maintained in a manner that does not impact on the safe operation of train movements, notably by minimising impact on critical sightlines. The landscape design should be determined in consultation with the Rail Operator.

13 Advertising on buildings should not cover more than 15 per cent of a single wall face (this includes multi-tenanted buildings).

14 Use of feature lighting consistent with a heritage theme should be used to highlight key buildings of historical significance.

15 Development should conserve and maintain building elements such as facades and verandas that contribute to and enhance existing attractive townscapes and the integrity of building form.

16 Verandas and balconies should be retained or introduced to building facades, particularly in Ellen Street and Alexander Street.

17 Development should conserve and maintain building elements such as facades and verandas that contribute to and enhance existing attractive townscapes and the integrity of building form.

18 Development within 300 metres of the grain storage silos on Ellen Street that specialises in the preparation and/or consumption of food products should incorporate adequate protection from dust emissions.

19 Buildings associated with bulky goods outlets should:

(a) present an attractive façade as appropriate.

(b) reduce their mass through the use of façade articulation and detailing detailing measured from the floor level of the building, verandas and eaves.

(c) avoid unarticulated walls of greater than 30 metres in length.

(d) be designed:

(i) to enhance and emphasise entry points

(ii) and setback from site boundaries in a manner that avoids adverse overshadowing and visual intrusion on adjoining residential properties

(iii) to incorporate structural elements to provide shelter for pedestrians and to provide visual relief for continuous wall lengths

(iv) to be set back from public roads at a distance equal to or greater than the height of the building (measured from the finished floor level of that building)

(e) incorporate structural elements to provide shelter for pedestrians and to provide visual relief for continuous wall lengths

(f) ensue building heights do not exceed 9 metres when measured from finished floor level, except for entry statements and architectural/sculptural elements.

20 Bulky goods outlets should have a gross leasable area greater than 500 square metres for each individual tenancy and should primarily accommodate a bulky goods outlet or a service trade premises that only comprise indoor displays.

21 Landscaping associated with bulky goods outlets should:

(a) be provided to screen, shade and enhance the appearance of the car parking areas by avoiding long rows of parking through the use of planting strips and/or islands.

(b) use locally indigenous plant species or other plant species with low supplementary water requirements

(c) not create a hazard by restricting sightlines for vehicles, pedestrians or cyclist.

22 Individual premises within the area should generally be accessed via internal service roads.

23 Storage and delivery areas associated with bulky goods outlets should:

(a) be located amongst groups of buildings

(b) be located away from public areas

(c) be well screened and their use shared by the occupants of the various buildings in the group

(d) parking associated with development should make provision for onsite manoeuvring and parking for vehicles with trailers.

24 Within the 'Community Area' shown on *Concept Plan Map PtPi/1 – Regional Centre*:

(a) buildings should abut the boundary of Ellen Street and, except where vehicular and pedestrian access to parking areas behind a building exists or is to be provided, should abut the side boundaries of the sites concerned in order to enclose the façade along Ellen Street

(b) car parking areas, where provided, should be integrated with the layout and use of land adjacent to the wharf

(c) provision should be made for shared use of pedestrian and vehicular access points and access ways linked to car parking areas in accordance with *Concept Plan Map PtPi/1 – Regional Centre*

(d) the materials and finishes of a building should complement the character of buildings of heritage value in the area.

25 Within the 'Retail Core Area' as shown on *Concept Plan Map PtPi/1 – Regional Centre*:

(a) buildings should abut the boundaries of roads (other than to the south of Mary Elie Street), except where there is, or should be, provision for vehicular and pedestrian access to a parking area behind a building, where they should abut the side boundaries of the sites concerned in order to enclose the facades to roads

(b) where practicable, premises for retail use should be designed in relation to off-street car parking areas to promote use of such areas

(c) where practicable, development should involve integration of use of the unbuilt-upon land at the rear of buildings with the use of adjacent land for the purposes of parking and service access

(d) provision should be made for shared use of pedestrian and vehicular access points and access ways, including arcades, linked to car parking areas in accordance with the general location of primary vehicular access points and off-street car parking areas shown on *Concept Plan Map PtPi/1 – Regional Centre* with access only for pedestrians being provided to Ellen Street and Jubilee Place

(e) the materials and finishes of a building, and the provision of a veranda on the road frontage of all buildings, should complement the character of buildings of heritage value in the area

(f) landscaping should be established to enhance the frontage of land to a road

(g) retail development on land south of Mary Elie Street, should comprise shops, including specialty shops

(h) on land south of Mary Elie Street, development should be complementary to, compatible and integrated with uses of land elsewhere in the 'Retail Core Area'

(i) on land south of Mary Elie Street, provision should be made for safe, convenient and efficient movement by pedestrians and cyclists to and from that part of the area to the north at points across the railway line.

26 Within the 'Fringe Area' as shown on *Concept Plan Map PtPi/1 – Regional Centre*:

(a) a building should be set-back from a road and the side boundaries of the site of that building to an extent consistent with the distances that buildings in the vicinity are setback respectively from road and side boundaries

(b) building development should not result in a massing of buildings or the construction of unduly bulky buildings

(c) development should result in the improvement of conditions on land, the efficient utilisation of land or the adaptation or conversion of existing buildings or redevelopment of existing sites and should not involve the aggregation of numerous allotments

(d) development should involve the conservation and adaptation for uses, appropriate in the area, of a building, including a dwelling, constructed in the 19th or early 20th Centuries that contribute notably to the historic character of the zone

(e) premises used for retail purposes, servicing, warehousing and storage should be upgraded or re-developed for offices, public administration, retail showrooms, service trade premises, clubs and religious facilities

(f) provision should be made for shared use of pedestrian walkways and vehicular access points linked to car parking areas in accordance with the general location of primary vehicular access points and off-street car parking areas shown on *Concept Plan Map PtPi/1 – Regional Centre*

(g) the materials and finishes of a building should complement the character of buildings in the area constructed in the 19th or early 20th Centuries

(h) the scale and form of building development should complement the character of adjacent buildings constructed in the 19th or early 20th Centuries.

27 Within the 'Retail/Commercial Area' as shown on *Concept Plan Map PtPi/1 – Regional Centre*:

(a) development should incorporate a range of uses including community, consulting room, local office, and shops, integrated where appropriate with adjoining sites in terms of appearance, access and shared parking

(b) the intensity, floor size, scale and height of development should be relatively low and provide for an appropriate transition to uses in the adjacent **Neighbourhood Centre one**

(c) development should be complimentary to and not detract from the role and function of the Retail Core area

(d) development should promote pedestrian linkages with neighbouring land uses to the north and south, and with the waterfront redevelopment area to the east

(e) where practicable, premises for retail use should be designed in relation to off-street car parking areas to promote use of such areas

(f) provision should be made for shared use of pedestrian and vehicular access points and access ways

(g) the materials and finishes of a building should complement the character of buildings of heritage value in the area

(h) landscaping should be established to enhance the frontage of land to main roads.

Land Division

28 Land division in the zone is appropriate provided new allotments are of a size and configuration to ensure the objectives of the zone can be achieved.

Regional Centre Policy Area 9

Refer to the *Map Reference Tables* for a list of the maps that relate to this policy area.

1 A policy area primarily accommodating major and minor public and private facilities of an institutional, educational or recreational kind and for public health.

2 Establishment and retention of substantial landscaping and a predominant character of parklands, gardens and open space.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 The following forms of development are envisaged in the policy area:

- institutional, educational or recreational facilities.

2 Where appropriate, development should provide public facilities, including toilets, infant changing facilities for parents, seating, telephones and sheltered waiting areas for passengers of public transport.

3 There should be no display of an advertisement unless it is essential for the purposes of identification of a site, land use or premises, or for directional information or temporary notice of a public event.

PROCEDURAL MATTERS

Complying Development

Complying developments are prescribed in Schedule 4 of the *Development Regulations 2008*.

In addition, within **Area 1 Port Pirie** of the **Historic Conservation Area,** the following forms of development are designated as complying subject to the conditions contained in *Table PtPi/2 – Off Street Vehicle Parking:*

- a change of use to a consulting room
- a change of use to an office
- a change of use to a shop.

Non-complying Development

Development (including building work, a change in the use of land, or division of an allotment) for the following is non-complying:

Form of development	Exceptions
Caravan park	
Dwelling	Except where either applies: (a) located above a non-residential development (b) alteration or extensions to an existing dwelling.
Fuel depot	
Horticulture	
Industry	
Intensive animal keeping	
Public service depot	
Residential flat building	Except where in conjunction with a non-residential development.
Road transport terminal	
Service trade premises	Except where it only comprises of indoor displays or are primarily for the sale, rental or display of building materials, landscaping materials, sheds, domestic garages or outbuildings.
Stock sales yard	
Stock slaughter works	
Wrecking yard	

Public Notification

Categories of public notification are prescribed in Schedule 9 of the *Development Regulations 2008*.

Residential Zone

Refer to the *Map Reference Tables* for a list of the maps that relate to this zone.

OBJECTIVES

1 A residential zone comprising a range of dwelling types, including a minimum of 15 per cent affordable housing.

2 Increased dwelling densities in close proximity to centres, public transport routes and public open spaces, however limit the extent of development in response to the physical environment and/or infrastructure requirements.

3 Conserve and improve the residential character through well designed development and landscaping.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 The following forms of development are envisaged in the zone:

- affordable housing
- domestic outbuilding in association with a dwelling
- domestic structure
- dwelling
- dwelling addition
- small scale non-residential use that serves the local community, for example:
  - health and welfare service
  - open space
  - primary and secondary school
  - recreation area
  - shop, office or consulting room
- supported accommodation.

2 Development listed as non-complying is generally inappropriate.

3 Vacant or underutilised land should be developed in an efficient and co-ordinated manner to increase housing choice by providing dwellings at densities and located in areas close to services, transport and community facilities and shopping, whilst being compatible with adjoining residential development.

4 Non-residential development such as shops, schools and consulting rooms should be of a nature and scale that:

(a) serves the local community

(b) is consistent with the character of the locality

(c) does not detrimentally impact on the amenity of nearby residents.

5 The use and placement of outbuildings should be ancillary to and in association with a dwelling or dwellings.

Form and Character

6 Garages and carports facing the street (other than an access lane way) should be designed with a maximum width of 6 metres or 50 per cent of the allotment or building site frontage width, whichever is the lesser distance.

7 Dwellings should be designed within the following parameters:

Parameter	Value
Minimum setback from primary road frontage	6 metres
Minimum setback from secondary road frontage	3 metres
Minimum setback from side boundaries	1 metres
Minimum setback from rear boundary	1 metres
Minimum setback from a rear boundary that is a secondary boundary to a public road	4 metres
Maximum site coverage	50 per cent
Maximum building height (from natural ground level)	8 metres
Minimum area of private open space	60 square metres with a minimum depth of 4 metres
Minimum number of on-site car parking spaces (one of which should be covered)	2

8 Up to 6 metres of side walls of a single storey dwelling may be located on one side boundary of a site, provided that the set-back on the other side is at least 1 metre and the gradient of the site is less than 10 per cent.

9 Residential development on allotments that interface with an adjoining **Primary Production one** should be located at least 40 meters from the zone boundary specifically designed to minimise potential chemical spray drift.

10 Sheds, garages, carports and similar outbuildings, whether freestanding or not should be designed within the following parameters:

Parameter	Value
Maximum floor area	72 square metres or 10 per cent of the site area, whichever is the greater.
Maximum wall height (from natural ground level)	3 metres or no higher than the wall height of the associated dwelling if this dwelling wall height is greater than 3 metres
Minimum setback from side and rear boundaries in accordance with the following:	600 mm for 2.4 metres outbuilding wall height 1000 mm for 2.7 metres outbuilding wall height 1200 mm for 3 metres or greater outbuilding wall height
Minimum setback from a primary road or public open space area	No closer than the dwelling with which it is associated
Minimum setback from a secondary road boundary (setback distance excludes eaves)	3 metres

11 A dwelling should have a minimum site area and a frontage to a public road not less than that shown in the following table:

Dwelling type	Site area other than for affordable housing (s uare metres)	Minimum frontage (metres)
Detached	450 minimum	15 metres and minimum depth of 25 metres
Semi-detached	400 minimum	10 metres and minimum depth of 25 metres
Row dwelling	300 minimum	10 metres and minimum depth of 25 metres

Affordable Housing

12 Development should include a minimum 15 per cent of residential dwellings for affordable housing.

13 Affordable housing should be distributed throughout the zone to avoid over-concentration of similar types of housing in a particular area, excluding **Residential Policy Area 10**.

Land Division

14 Unless for the purpose of dividing an existing or approved dwelling development, land division should not create a vacant allotment with an area less than 450 square metres, or less than 1200 square metres where not connected to a community wastewater management system.

15 Battle-axe allotments should not be created unless:

(a) the land cannot otherwise be satisfactorily and efficiently developed for the purpose for which it is zoned, and no alternative access to a road or services can be made available

(b) the access strip of land is not less than five metres wide or longer than 50 metres

(c) provide 1 metre wide of landscaping on one side of the driveway/access way

(d) be single storey and designed to maintain the privacy of adjoining properties.

Site Contamination

16 Development on the folling allotments should not occur until the land has been assessed and remediated as necessary to ensure that it is suitable and safe for the proposed use:

(a) Allotment 92 File Plan 178335 (CT 5913/317)

(b) Allotment 898 File Plan 189030 (CT 5913/316)

(c) Allotment 896 File Plan 189028 (CT 5586/896)

(d) Allotment 852 File Plan 188984 (CT 5586/580)

(e) Allotment 897 File Plan 189029 (CT 5690/606).

Residential Policy Area 10

Refer to the *Map Reference Tables* for a list of the maps that relate to this policy area.

1 A vegetated buffer zone between existing residential development and the adjacent **Industry one**.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 The following forms of development exists in the policy area:

- domestic outbuilding in association with a dwelling
- domestic structure
- dwelling.

Form and Character

2 To reduce the risk to health from high levels of lead contamination:

(a) there should be no increase in the number of dwellings

(b) existing dwellings and land should be rehabilitated.

PROCEDURAL MATTERS

Complying Development

Complying developments are prescribed in Schedule 4 of the *Development Regulations 2008*.

In addition, the following forms of development are designated as complying subject to the complying criteria / conditions as outlined in the table below.

Form of Development	Complying criteria / Conditions
Domestic outbuilding	Excluding **Area 2 Crystal Brook** of the **Historic Conservation Area**.
Detached dwelling	Where located within the 'Excluded Area from Bushfire Protection Planning Provisions' shown on *Bushfire Protection Area BPA Maps PtPi/1 to PtPi/13* and excluding **Area 2 Crystal Brook** of the **Historic Conservation Area**.
Recreation area	Excluding **Area 2 Crystal Brook** of the **Historic Conservation Area**.
Semi-detached dwelling	Where located within the 'Excluded Area from Bushfire Protection Planning Provisions' shown on *Bushfire Protection Area BPA Maps PtPi/1 to PtPi/13* and excluding **Area 2 Crystal Brook** of the **Historic Conservation Area**.

Non-complying Development

Development (including building work, a change in the use of land, or division of an allotment) for the following is non-complying:

Form of Development	Exceptions
Advertisement and /or advertising hoarding	Except on a site of a previously approved non-residential use.
Amusement machine centre	
Bank	
Camping area	
Crematorium	
Dairy	
Dwelling within **Residential Policy Area 10**	Except for the alteration of an existing building for its existing use as a dwelling.
Farming	
Fuel depot	
Horse keeping	Except on land bounded by Esmond Road, Kitchener Terrace, Anzac Road and Lamm Street.
Horticulture	
Hospital	
Hotel	
Industry	
Indoor recreation centre	

Form of Development	Exceptions
Intensive animal keeping	
Land division where the minimum allotment size is less than 1200 square metres where the site is unable to be connected to a community waste water disposal system	
Motor repair station	
Office	
Petrol filling station	
Public service depot	
Restaurant	
Road transport terminal	
Service trade premises	
Shop or group of shops	Except where the gross leasable area is 250 square metres or less.
Stadium	
Stock sales yard	
Stock slaughter works	
Store	
Warehouse	
Waste reception, storage, treatment or disposal	
Wrecking yard	

Public Notification

Categories of public notification are prescribed in Schedule 9 of the *Development Regulations 2008*.

Rural Landscape Protection Zone

Refer to the *Map Reference Tables* for a list of the maps that relate to this zone.

OBJECTIVES

1 Preservation of the natural and rural character and scenic, scientific, and heritage features of the zone whilst accommodating established pastoral, agricultural and forestry activities.

2 Low-intensity rural activities (cropping and grazing) on large land holdings together with public/private open space and where structures are located and designed in such a way as to:

(a) preserve and enhance the natural character or assist in the re-establishment of a natural character in the zone

(b) limit the visual intrusion of development in the zone, particularly when viewed from public spaces, and in particular National Highway 1 and/or Scenic Drive

(c) not create, either in themselves, or in association with other developments, a potential demand for the provision of services at a cost to the community

(d) prevent the loss of life and property resulting from bushfires.

3 Tourist facilities, attractions, and accommodation that are secondary to farming and blend with the natural environment.

4 Provision of opportunities for the public to experience and appreciate the significance of the native vegetation and original remnant natural habitat of the area through low impact recreational activity.

5 Development that contributes to the desired character of the zone.

DESIRED CHARACTER

The western slopes of the southern Flinders Ranges are an important natural asset to both the agricultural and tourism industries. Development which is undertaken in this zone should be small scale and be sited unobtrusively so as to blend with and preserve the character and amenity of the locality and be landscaped with the use of local endemic species to screen development from public view.

Furthermore, development should not only preserve but should also enhance the natural character of the zone or assist in the re-establishment of a natural character. The term "natural character" refers to the natural topography, native vegetation and colours, such as greens and browns of non-reflective earthen tones, normally associated with a natural landscape.

The natural character of the established agricultural areas refers to the open character of the land in those areas of the zone where cropping and grazing currently predominates.

The Heysen Trail passes through the zone and the southern section of the Mount Remarkable National Park is situated within the northern portion of the zone and consist a large area of intact native vegetation.

The extent of native vegetation and open grassland, the steep slopes and the difficulty of access combine to make this zone a high fire risk area. It is important that development incorporates fire protection measures to minimise the fire risk. While vegetation management is an important part of minimising the fire risk, the destruction of existing native vegetation and failure to provide landscaping as to screen buildings and improve the amenity of the zone are not considered acceptable fire protection measures.

The Ranges Zone is not a residential zone and so services provided in an urban area will not be provided in this zone. Accordingly, development should not be undertaken if it is likely, in itself or in association with other development, to create a potential demand for such services. Because of their soils and rainfall, the South Flinders Ranges feature an intensive pattern of traditional land uses.

Activities and projects by State and local agencies which are considered necessary in this zone should be located, sited, constructed and maintained to promote the objectives for the zone and complement the principles of development control relating to this zone.

Tourist facilities are appropriate provided they are of a small-scale and/or located within existing dwellings.

The conservation of the scenic, scientific and heritage, features of the environment is intended as the paramount objective when assessing future development proposals in the Ranges Zone. There has been a long-standing, harmonious, marriage between conservation and other rural uses in this part of the Ranges which is intended to continue and not be put at risk by new forms of development.

Ongoing primary production, particularly cropping and grazing are an integral component of this environment and worthy of protection from competing or adverse land uses.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 The following forms of development are envisaged in the zone:

- low intensity farming and grazing
- recreation and tourist infrastructure for the interpretation and appreciation of the natural features of the zone
- supplementation of existing farming activities through small scale tourist accommodation:
  - within an existing building, or
  - in the form of farm stay, guesthouse, rural or nature retreat or bed and breakfast accommodation as an integral part of a group of farm buildings.

2 Development listed as non-complying is generally inappropriate.

3 A shop should:

(a) be ancillary to primary production or processing uses, or tourist accommodation or other tourist development

(b) be located on the same site as the primary use

(c) have a gross leasable area that does not exceed 20 square metres.

Form and Character

4 Development should not be undertaken unless it is consistent with the desired character for the zone.

5 The excavation and/or filling of land should:

(a) be no greater than 1.5 metres from natural ground level

(b) only be undertaken in order to reduce the visual impact of buildings or structures or to construct water storage facilities for use on the allotment

(c) result in stable scree slopes that are covered with topsoil and landscaped so as to preserve and enhance or assist in the re-establishment of, the natural character of the locality.

6 Re-vegetation and screen planting proposed as part of development should use locally indigenous native species.

7 Development should not be undertaken unless:

(a) it is associated with a low intensity agricultural activity, a public open space area or a private use of an open character

(b) together with associated native landscaping, it preserves and enhances the natural character of the zone or assists in the re-establishment of a natural character.

8 Exotic forest plantations should not be developed where they would alter the character, or significance, of natural landscapes.

9 Pipelines and transmission lines should not be routed through the **Rural Landscape Protection one** unless no practical alternative exists.

10 Borrow pits should be unobtrusively sited to retain the scenic amenity and natural qualities of the zone.

11 Mining operations should not be undertaken unless the deposits are of such State or National significance that their utilisation may over-ride all other considerations.

12 If developed, mining operations should be subject to stringent safeguards to protect the landscape and other natural features of the environment.

13 Tourist accommodation should be confined to existing dwellings in the nature of a farm stay or bed and breakfast accommodation, be located within the Mount Remarkable National Park or, if outside the National Park be sited within 100 metres of the Heysen Trail.

14 Tourist accommodation located on private land within 100 metres of the Heysen Trail should be in the form of hiker's huts only with limited services accommodating no more than 4 persons and subject to the following design criteria:

(a) be simple in form and scale

(b) generally be rectangular in shape with hipped or gable roof treatments, with verandas to front and rear elevations

(c) be constructed of materials comprising local stone, timber, galvanized iron, cfc sheeting or rendered cfc sheeting

(d) not have floor area exceeding 40 square metres and a maximum height of 4.5 metres from natural ground level

(e) be developed utilising solar or alternative means of power, rainwater tanks and avoiding where possible the use of septic tanks for effluent disposal

(f) be sited unobtrusively so as to blend with and enhance the character and amenity of the locality and be landscaped with the use of local endemic species to screen development from public view

(g) be finished in colours, such as greens and browns of non-reflective earthen tones, normally associated with the local natural landscape

(h) there should be no more than one new tourist accommodation facility per allotment.

15 Access tracks and vegetation clearance around buildings should be kept to the minimum necessary for efficient bushfire management.

16 Advertisements should be excluded from the zone other than not more than one sign of less than 1 square metre in area that:

(a) identifies a property or an activity on the property on which the sign is located

(b) provides directions for public, community or tourist facilities.

Land Division

17 Land division should not be undertaken except where:

(a) it will facilitate the retention of native vegetation on a single allotment and provided no additional allotments are created

(b) where the division is to rationalise existing boundaries so as to improve the agricultural efficiency and productivity of the property, provided that there is no increase in the number of allotments and the proposed use of the new allotments is consistent with the purpose of the zone.

Landscape Protection Policy Area 11

Refer to the *Map Reference Tables* for a list of the maps that relate to this policy area.

OBJECTIVES

1 The conservation and enhancement of the natural environment and natural ecological processes for their historic, scientific, landscape, faunal habitat, biodiversity and cultural values, with grazing continuing as the preferred rural use, where appropriate.

2 Provision of opportunities for the public to experience and appreciate the significance of the native vegetation and original remnant natural habitat of the area through low impact recreational activities and interpretive facilities.

3 Development that contributes to the desired character of the policy area.

DESIRED CHARACTER

The policy area is of high environmental value and includes outstanding scenery, which includes the southern portion of the Mount Remarkable National Park known as the Napperby Block. The area also includes large tracts of well-vegetated grazing lands on the steep western hills overlooking, and clearly visible from, National Highway 1. There should be no further vegetation clearance and development should be limited, particularly in those areas visible from a publicly accessible place.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 The following forms of development are envisaged in the policy area:

- directional, identification and/or interpretative advertisements and/or advertising hoardings for conservation management and tourist information purpose
- small-scale facility associated with the interpretation and appreciation of natural and cultural heritage such as public amenities, remote shelters or huts.
- structures for conservation management purpose.

2 Development listed as non-complying is generally inappropriate.

Form and Character

3 Development should not be undertaken unless it is consistent with the desired character for the zone.

4 Development should use the following measures to avoid impacting detrimentally on the natural environment, processes and/or conservation qualities of land in the policy area:

(c) minimising the extent of earthworks

(d) minimising the extent of vehicle access servicing that development

(e) minimising the extent of locally indigenous vegetation removal

(f) being sited in an unobtrusive manner preferably below hilltops or prominent ridgelines

(g) screening the visual impact by planting locally indigenous species having due regard to bushfire risk

(h) utilising external low reflective materials and finishes that will minimise glare and blend in with the features of the landscape.

5 Where public access is necessary in the zone, the construction of recreational trails and appropriate fencing such as post and wire should be provided to control the movement of the public whilst minimising the impact on biodiversity.

6 Signage should only be installed where it is relevant to the conservation values and promotion of the objectives of the zone, and should be:

(a) restricted to those needed for direction, identification and interpretation

(b) discrete in design, colour and of a size of no more than 1 square metres.

7 The natural character and conservation of the scenic, scientific and heritage, features of the policy area should be retained and the area kept free of development that is not a necessary part of conservation or pastoral activities.

8 Borrow pits should not occur within the policy area.

Land Division

9 Boundary realignments should not occur unless to assist in the management of native vegetation.

Landscape Protection Policy Area 12

Refer to the *Map Reference Tables* for a list of the maps that relate to this policy area.

OBJECTIVES

1 Preservation of the natural and rural character and scenic and heritage features of the ranges whilst accommodating established pastoral, agricultural and forestry activities within the policy area.

2 Low intensity rural activities on large land holdings.

3 Tourist facilities, attractions, and accommodation that are secondary to farming and blend with the natural environment.

4 Development that contributes to the desired character of the policy area.

DESIRED CHARACTER

This area has generally been cleared for farming, mainly for cropping and grazing purposes in the past, however the significant areas of native vegetation that remain in place throughout the policy area should be preserved for their amenity, conservation and scenic value.

Low intensity farming activities such as cropping and grazing activities are appropriate in previously cleared areas where buildings and structures associated with the farming activities on the land can be effectively screened from adjoining roads or public vantage points, either through the use of terrain to hide the development or with intensive landscaping using endemic species.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 The following forms of development are envisaged in the zone:

- low intensity farming and grazing
- recreation and tourist infrastructure for the interpretation and appreciation of the natural features of the zone
- supplementation of existing farming activities through small scale tourist accommodation:
  - within an existing building, or
  - in the form of farm stay, guesthouse, rural or nature retreat or bed and breakfast accommodation as an integral part of a group of farm buildings.

Form and Character

2 Development should not be undertaken unless it is consistent with the desired character for the policy area.

3 A shop in the policy area should have a gross leasable area that does not exceed 20 square metres.

4 The excavation and/or filling of land should:

(a) be no greater than 1.5 metres from natural ground level

(b) only be undertaken in order to reduce the visual impact of buildings or structures or to construct water storage facilities for use on the allotment

(c) result in stable scree slopes that are covered with topsoil and landscaped so as to preserve and enhance or assist in the re-establishment of, the natural character of the locality.

Land Division

5 Land division should not be undertaken except where:

(a) it will facilitate the retention of native vegetation on a single allotment provided no additional allotments are created

(b) the division is to realign existing boundaries (ie does not increase the number of allotments) so as to improve the agricultural efficiency and productivity of the property, and the proposed use of the new allotments is consistent with the purpose of the policy area.

PROCEDURAL MATTERS

Complying Development

Complying developments are prescribed in Schedule 4 of the *Development Regulations 2008*.

Non-complying Development

Development (including building work, a change in the use of land, or division of an allotment) for the following is non-complying:

Form of Development	Exceptions
Advertisement and/or advertising hoarding	Except for one sign of less than a square metre in area that: (a) identifies a property or an activity on the property on which the sign is located (b) provides directions for public, community or tourist facilities.
Airfield	
Bank	
Caravan park	
Community centre	
Consulting room	
Dwelling	Except where in association with farming activities.
Educational establishment	
Fuel depot	
General industry	
Horticulture involving the growing of olives	Except where the location for the growing of olives achieves (a) and (b): (a) at least 500 metres from all of the following: (i) a national park (ii) a conservation park (iii) a wilderness protection area (iv) the edge of a substantially intact stratum of native vegetation greater than 5 hectares in area (b) 50 metres from the edge of a substantially intact stratum of native vegetation 5 hectares or less in area.
Hospital	
Hotel	
Indoor recreation centre	
Land division	Except where it involves boundary rationalisation, where the number of resulting allotments is not more than the number that existed prior to rationalisation or community title division intended solely for the purposes of development for agricultural purposes.
Light industry	
Motel	
Motor repair station	

Form of Development	Exceptions
Nursing home	
Office	Except where associated with primary production or tourism development.
Petrol filling station	
Place of worship	
Primary school	
Pre-school	
Road transport terminal	
Service trade premises	
Shop or group of shops	Except where the gross leasable area is less than 20 square metres.
Stock slaughter works	
Store	
Tourist accommodation	Except where it is consistent with the principles of development control within the zone associated with tourist accommondation.
Warehouse	
Waste reception, treatment, storage or disposal	
Wrecking yard	

Public Notification

Categories of public notification are prescribed in Schedule 9 of the *Development Regulations 2008*.

Rural Living Zone

Refer to the *Map Reference Tables* for a list of the maps that relate to this zone.

OBJECTIVES

1 A zone consisting of large allotments, detached dwellings and rural activities that do not adversely impact the amenity of the locality.

2 A pleasant rural - residential character as derived from allotments of sufficient size to support mixed small-scale rural activities, landscaping and dwellings.

3 Land developed and managed to avoid degradation of land through over intensive use.

DESIRED CHARACTER

The semi-rural character of the zone should be reinforced and strengthened through the design and sitting of buildings and homesteads, open style fencing and appropriate landscaping to compliment the changing landscape.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 The following forms of development are envisaged in the zone:

- detached dwelling
- domestic outbuilding in association with a detached dwelling
- domestic structure
- dwelling addition
- farming
- farm building
- stable.

2 Development listed as non-complying is generally inappropriate.

3 There should be no more than one dwelling per allotment.

4 The keeping of animals should be ancillary to and in association with the residential use of the land.

5 The keeping of horses should only be undertaken if the horses are accommodated within a stable or shelter with supplementary feeding to maintain pasture cover.

6 Home based industry or other businesses may occur in this zone where such industry is complementary to the rural use of land and does not interfere with the residential function or rural and semi-rural character of the zone.

7 Home based industry may be those activities which are complementary to the rural use of land include mettwurst smoking, storage, craft production, leadlight framing, woodcarving, furniture restoration, french polishing, pottery making, needlework and jam production.

8 Industry development should not be undertaken unless:

(a) the development is carried out in a building on the same site as a dwelling occupied by a person who carries on the industry

(b) the allotment has an area greater than 4 hectares

(c) the building or that portion of the building used for the industry not occupy a floor area in excess of 100 square metres

(d) the building (other than road access) is set-back from public roads a minimum of 100 metres

(e) the building (other than road access) is set-back from property boundaries a minimum of 50 metres

(f) the total number of persons involved in the industry be limited to two with at least one of these persons residing continuously in the building or on the premises used for carrying on the industry

(g) the industry not involve the operation of more than one commercial vehicle from the premises

(h) the area for external roofed or unroofed storage of materials be limited to 20 square metres

(i) the primary components and ingredients used to create industry products are derived from the land, that is derived from the surrounding rural locality

(j) it does not involve the servicing, repair or restoration of vehicles or vehicle parts; the carrying out of manufacturing activities at the scale of general, light and service industry; or the retail sale of goods from the land

(k) goods or materials used or produced by the industry are not exposed to view from any adjacent premises or from any public place

(l) the industry does not require the provision of any service main of a greater capacity than that available in the locality

(m) the industry does not require the use of three phase power or an electric motor which exceeds 0.4 kilowatts

(n) the industry only operates between the hours of 8.00 am and 6.00 pm, Monday to Friday

(o) provision is made for the off-street parking of any vehicle involved in the industry and any employee's vehicle

(p) no outdoor advertising is associated with the industry

(q) buildings and structures, including refuse and storage areas, is screened from view from public roads by dense planting of trees and shrubs, mounding and/or screen fencing.

Form and Character

9 Dwellings should be designed within the following parameters:

Parameter	Value
Minimum setback from primary road frontage	20 metres
Minimum setback from secondary road frontage	20 metres
Minimum setback from side boundaries	10 metres
Minimum setback from rear boundary	10 metres

Parameter	Value
Maximum site coverage	10 per cent
Maximum building height (from natural ground level)	8 metres
Minimum number of on-site car parking spaces (One of which should be covered)	2

10 Sheds, garages and similar outbuildings should be designed within the following parameters:

Parameter	Value
Maximum floor area	135 square metres
Maximum wall height (from natural ground level)	3.6 metres
Minimum setback from side and rear boundaries	10 metres
Minimum setback from a primary road or public open space area	20 metres

11 Development should be screened with suitable vegetation to ensure that the open and rural character and amenity of the zone is maintained and enhanced.

12 Rural living activities should be of a scale and intensity compatible with the rural living/residential development in and adjacent to the **Rural Living one** and **Residential one** in particular.

13 Residential developments on allotments that interface with an adjoining **Primary Production one** should be located at least 40 metres from the zone boundary specifically designed to minimise potential chemical spray drift.

Land Division

14 Land should only be divided where allotments created are not less than the minimum areas specified in each policy area.

Rural Living Policy Area 13

Refer to the *Map Reference Tables* for a list of the maps that relate to this policy area.

OBJECTIVES

1 A policy area accommodating rural living on existing allotments with provision for low intensity animal keeping.

2 No additional allotments.

DESIRED CHARACTER

The policy area includes the existing rural living settlement of Bungama, located east of Port Pirie and the Napperby Creek Estate. This policy area contains allotments of varying sizes, which should primarily accommodate rural living and associated low intensity animal keeping on existing allotments.

The policy area is also located on the western side of the National highway and the township of Warnertown and provides for rural living and associated low intensity animal keeping on existing allotments.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 The following forms of development are envisaged in the policy area:

- detached dwelling
- domestic outbuilding in association with a detached dwelling
- domestic structure
- dwelling addition
- stable.

Form and Character

2 Development should not be undertaken unless it is consistent with the desired character for the policy area.

3 Development should primarily be detached dwellings with ancillary rural living activities.

Land Division

4 No additional allotments should be created wholly or partly within the policy area.

Rural Living Policy Area 14

Refer to the *Map Reference Tables* for a list of the maps that relate to this policy area.

OBJECTIVES

1 A policy area primarily accommodating detached dwellings in association with a range of low intensity, semi-rural and rural activities.

DESIRED CHARACTER

The policy area is located east of Port Pirie and on the fringes of the township of Crystal Brook. This policy area provides for detached dwellings and a range of rural activities and ancillary rural activities.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 The following forms of development are envisaged in the policy area:

- detached dwelling
- domestic outbuilding in association with a detached dwelling
- domestic structure
- dwelling addition
- stable.

Form and Character

2 Development should not be undertaken unless it is consistent with the desired character for the policy area.

3 Development should primarily be detached dwellings with ancillary rural living activities, which do not interfere with the residential function or the rural and semi-rural character.

Land Division

4 Land division should create allotments that have an area of not less than 2 hectares.

Rural Living Policy Area 15

Refer to the *Map Reference Tables* for a list of the maps that relate to this policy area.

OBJECTIVES

1 A policy area adjacent to and north of the country township of Napperby for rural living on a range of allotment sizes with provision for low intensity animal keeping.

DESIRED CHARACTER

The policy area is located adjacent to and north and south of the country township of Napperby and includes part of the Nelshaby area. This policy area is to provide for rural living and associated low intensity animal keeping on existing allotments.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 The following forms of development are envisaged in the policy area:

- detached dwelling
- domestic outbuilding in association with a detached dwelling
- domestic structure
- dwelling addition
- stable.

Form and Character

2 Development should not be undertaken unless it is consistent with the desired character for the policy area.

Land Division

3 Land division should create allotments that have an area of not less than 1 hectare.

4 Battle-axe shaped allotments should not be created in policy area.

Rural Living Policy Area 16

Refer to the *Map Reference Tables* for a list of the maps that relate to this policy area.

OBJECTIVES

1 A policy area accommodating rural living on smaller allotments.

DESIRED CHARACTER

The policy area is located within two areas to the south of the city of Port Pirie, one adjacent to the airport and one adjacent to Three Chain Road.

This policy area provides for country living on smaller allotments and provides an attractive transition between the urban area of Port Pirie and the rural region.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 The following forms of development are envisaged in the policy area:

- detached dwelling
- domestic outbuilding in association with a detached dwelling
- domestic structure
- dwelling addition.

2 Animal keeping should not occur within this policy area.

Form and Character

3 Development should not be undertaken unless it is consistent with the desired character for the policy area.

4 Buildings should be setback a minimum of 25 metres from the primary road frontage.

5 The setback area between a dwelling and the primary street property boundary should be appropriately landscaped with local indigenous vegetation.

Land Division

6 Land division should create allotments that have an area of not less than 5000 square metres (0.5 hectares).

Rural Living Policy Area 17

Refer to the *Map Reference Tables* for a list of the maps that relate to this policy area.

OBJECTIVES

1 Development comprising detached dwellings and ancillary horse keeping activities.

2 Residential development where adequate levels of servicing is provided.

DESIRED CHARACTER

The policy area is located on the south western edge of the City of Port Pirie.

The intent of the policy area is to provide for rural living and associated low intensity animal keeping on existing allotments, with limitations on new development and land division. Council does not wish to encourage any further division of land in this part of the city in order to manage the orderly and efficient provision of services within the city.

Development of new buildings will be subject to achieving key performance criteria specifically relating to Australian Height Datum (AHD) requirements. The provision of adequate services and infrastructure to the allotments within the policy area will also determine whether the allotment is suitable to accommodate any new development.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 The following forms of development are envisaged in the policy area:

- detached dwelling
- domestic outbuilding in association with a detached dwelling
- domestic structure
- dwelling addition
- stable.

2 Development should primarily be detached dwellings with ancillary rural living activities.

3 Intensive animal keeping should not occur within the policy area.

Form and Character

4 Development should not be undertaken unless it is consistent with the desired character for the policy area.

Land Division

5 No additional allotments should be created wholly or partly within the policy area.

Rural Living Policy Area 18

Refer to the *Map Reference Tables* for a list of the maps that relate to this policy area.

OBJECTIVES

1 A policy area for rural living on larger allotments with the provision for low intensity animal keeping.

DESIRED CHARACTER

The policy area is located to the south east of the City of Port Pirie in an area north of the township of Koolunga and the western end of the Nelshaby area.

This policy area provides for rural living and associated low intensity animal keeping on larger allotments.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 The following forms of development are envisaged in the policy area:

- detached dwelling
- domestic outbuilding in association with a detached dwelling
- domestic structure
- dwelling addition
- stable.

Form and Character

2 Development should not be undertaken unless it is consistent with the desired character for the policy area.

Land Division

3 Land division should create allotments that have an area of not less than 4 hectares.

PROCEDURAL MATTERS

Complying Development

Complying developments are prescribed in Schedule 4 of the *Development Regulations 2008*.

Non-complying Development

Development (including building work, a change in the use of land, or division of an allotment) for the following is non-complying:

Form of development	Exceptions
Advertisement and / or advertising hoarding	Advertisement and/or advertising hoarding where the development achieves at least one of (a) or (b): (a) is adjacent to a road with a speed limit of less than 80 km/h (b) has an advertisement area of 2 square metres or less and achieves all of the following: (i) the message contained thereon relates entirely to a lawful use of land (ii) the advertisement is erected on the same allotment as the use it seeks to advertise (iii) the advertisement will not result in more than two advertisements on the allotment.
Amusement machine centre	
Crematorium	
Caravan park	
Community centre	
Consulting room	
Dairy	
Dwelling	Except where either of the following applies: (a) a habitable dwelling already exists on the allotment (b) where the allotment is provided with water and electricity by the applicant or developer.
Fuel depot	
Home based industry	Except home based industry involving activities which are complementary to the rural use of land include mettwurst smoking, storage, craft production, leadlight framing, woodcarving, furniture restoration, french polishing, pottery making, needlework and jam production.
Hotel	
Intensive animal keeping	
Land division within **Rural Living Policy Area 13** or within **Rural Living Policy Area 1**	
Light industry	
Landfill	
Major public service depot	

Form of development	Exceptions
Motor repair station	
Office	
Petrol filling station	
Place of worship	
Prescribed mining operation	
Residential flat building	
Restaurant	
Road transport terminal	
Service trade premises	
Shop or group of shops	
Special industry	
Stock sales yard	
Stock slaughter works	
Store	
Warehouse	
Waste reception, storage, treatment or disposal	
Wrecking yard	

Public Notification

Categories of public notification are prescribed in Schedule 9 of the *Development Regulations 2008*.

Town Centre Zone

Refer to the *Map Reference Tables* for a list of the maps that relate to this zone.

OBJECTIVES

1 A centre accommodating a wide range of retail, office, business, administrative, community, tourist, cultural and entertainment facilities to serve residents of the town and the surrounding rural community.

2 Conservation and upgrading of buildings of historic character.

3 Rationalisation of vehicular access, car parking and major pedestrian movement paths to provide a safer, more efficient and more attractive environment.

4 Development which reinforces and enhances the character of the zone and contributes to its tourism appeal.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 The following forms of development are envisaged in the zone:

- bulky goods outlet
- café
- consulting room
- cultural centre
- entertainment facility
- fitness studio
- hotel
- meeting room
- office
- restaurant
- shop
- tourist facility.

2 Development listed as non-complying is generally inappropriate.

3 A dwelling should be established only where it is associated with and ancillary to an existing, or part of a proposed use envisaged for the zone.

Form and Character

4 Development should complement and reinforce the existing pattern of built form within the zone.

5 Dwellings should be predominantly single storey with two storey structures in suitable locations.

PROCEDURAL MATTERS

Complying Development

Complying developments are prescribed in Schedule 4 of the *Development Regulations 2008*.

In addition, within **Area 2 Crystal Brook** of the **Historic Conservation Area,** the following forms of development are designated as complying subject to the conditions contained in *Table PtPi/2 – Off Street Vehicle Parking*:

- a change of use to a consulting room
- a change of use to an office
- a change of use to a shop.

Non-complying Development

Development (including building work, a change in the use of land, or division of an allotment) for the following is non-complying:

Form of Development	Exceptions
Caravan park	
Dairy	
Dwelling	Except a dwelling that complies with all of the following: (a) ancillary to and in association with a non-residential development (b) located on the same allotment as the non-residential development (c) located outside **Area 2 Crystal Brook** of the **Historic Conservation Area**.
Fuel depot	
General industry	
Horse keeping	
Horticulture	
Intensive animal keeping	
Light industry	
Public service depot	
Residential flat building	
Road transport terminal	
Special industry	
Stadium	
Stock sales yard	
Stock slaughter works	
Waste reception, storage, treatment or disposal	Except where it is in the form of a recycling collection depot.
Wrecking yard	

Public Notification

Categories of public notification are prescribed in Schedule 9 of the *Development Regulations 2008.*

Township Zone

Refer to the *Map Reference Tables* for a list of the maps that relate to this zone.

OBJECTIVES

1 Services and facilities grouped together to serve the local community and the visiting public.

2 Increased mix in the range of dwellings available to cater for changing demographics, particularly smaller household sizes and supported accommodation.

3 Conservation and enhancement of the main road streetscape and scenic rural setting of the township.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 The following forms of development are envisaged in the zone:

- community facility
- domestic outbuilding in association with a dwelling
- domestic structure
- dwelling
- dwelling addition
- educational establishment
- open space
- recreation area
- shop or group of shops where the gross leasable area is 250 square metres or less
- small-scale commercial development
- small scale light and service industry development
- small-scale tourist development
- supported accommodation.

2 Development listed as non-complying is generally inappropriate.

3 Residential development should be mainly in the form of low-density detached dwellings, with a limited range of increased density development.

4 Business and commercial development should be of a scale and function consistent with the role of the township as a local service centre supplying a range of goods and services to the local community, the surrounding district and visitors to the area.

5 Industry uses should be restricted to light and service industry activities that provide small-scale facilities to the community or are agriculturally based industries that process local produce.

Form and Character

6 No development should exceed two storeys in height and should be harmoniously integrated with adjacent development in terms of scale, siting, design and appearance.

7 Dwellings should be designed within the following parameters:

Parameter	Value
Minimum setback from primary road frontage	6 metres
Minimum setback from secondary road frontage	3 metres
Minimum setback from side boundaries	1 metres
Minimum setback from rear boundary	1 metres
Maximum site coverage	40 per cent
Maximum building height (from natural ground level)	8 metres
Minimum area of private open space	60 square metres
Minimum number of on-site car parking spaces (One of which should be covered)	2

8 Sheds, garages and similar outbuildings should be designed within the following parameters:

Parameter	Value
Maximum floor area	72 square metres
Maximum wall height (from natural ground level)	3 metres
Minimum setback from side and rear boundaries	600 millimetres for 2.4 metres outbuilding wall height 1000 millimetres for 2.7 metres outbuilding wall height 1200 millimetres for 3 metres or greater outbuilding wall height
Minimum setback from a public road	No closer than the dwelling it is associated with
Minimum setback from secondary road frontage	3 metres

9 A dwelling should have a minimum site area (and in the case of residential flat buildings, an average site area per dwelling) and a frontage to a public road not less than that shown in the following table:

Dwelling type	Site area (s uare metres)	Minimum frontage (metres)
Detached	800 minimum	15
Semi-detached	500 minimum	15
Group dwelling	450 minimum	15
Residential flat building	450 average	15
Row dwelling	450 minimum	15

10 Tourism in the form of boutique (small scale and specialised) hotels, small to medium scale owner-operated guest housing, small to medium scale serviced apartments and bed and breakfasts should be low-scale and compatible with the character and amenity of the area.

PROCEDURAL MATTERS

Complying Development

Complying developments are prescribed in Schedule 4 of the *Development Regulations 2008*.

In addition, the following forms of development are designated as complying subject to the complying criteria / conditions as outlined in the table below:

Form of development	Complying criteria / Conditions
Detached dwelling Domestic outbuilding	(a) dwelling site areas complying with the principles of development control within the zone (b) no building of more than one storey in height being erected (c) building set-back complying with the principles of development control within the zone (d) the external walls of any building, or of any addition or alteration to a building, being principally composed of masonry, brick, stone, timber or rendered masonry (e) no building being of a transportable or relocatable nature, or elevated on posts, or lacking a solid brick, stone or concrete block base upon the perimeter footings enclosing the space between the floor of the building and the ground surface.

Non-complying Development

Development (including building work, a change in the use of land, or division of an allotment) for the following is non-complying:

Form of development	Exceptions
Commercial forestry	
Crematorium	
Dairy	
Farming	
Farm building	
Fuel depot	
General industry	
More than one dwelling	
Horse keeping	
Horticulture	
Intensive animal keeping	
Prescribed mining operations	
Road transport terminal	
Shop or group of shops	Except where the gross leasable area is 250 square metres or less.
Special industry	

Form of development	Exceptions
Stock sales yard	
Stock slaughter works	
Waste reception, storage, treatment or disposal	Except where it is in the form of a recycling collection depot.
Wrecking yard	

Public Notification

Categories of public notification are prescribed in Schedule 9 of the *Development Regulations 2008.*

Table Section

Table PtPi/1 - Building Setbacks from Road Boundaries

Road boundary	Setback distance from road boundary (metres)
Primary and secondary arterial roads within the **Landscape Protection Policy Area 11** of the **Rural Lansdcape Protection one, Primary Production one** and **Rural Living one.**	20 metres
All other roads in the **Commercial one**, **Community one**, **Deferred Urban one**, **Industry one**, **Primary Production one**, **Residential one**, **Rural Living one**, **Town Centre one**, and **Township one**.	6 metres

Table PtPi/2 - Off Street Vehicle Parking

Form of development	Minimum Number of Car Parking Spaces Re uired
Aged persons' home	1 car parking space per 10 residents plus 1 car parking space per 2 staff plus 1 car parking space per 5 residents (for visitors).
Bank	1 car parking space per 15 square metres of total floor area.
Billiard saloon	1 car parking space per 15 square metres of total floor area.
Boarding - guest house, hostel	1 car parking space per 3 beds.
Bowling club	20 car parking spaces per bowling green.
Community centre, clubroom, gymnasium, hall, bowling alley, amusement centre	1 car parking space per 15 square metres of total floor area.
Consulting rooms	2 for each surgery.
Detached dwelling	10 car parking spaces per dwelling, at least one of which to be roofed.
Dwelling (as cabins available for rent)	1 car parking space per dwelling.
Funeral parlour	1 car parking space per 7 chapel seats plus provision for vehicles operated by parlour.
General, light, service, special industry, motor repair station	1 car parking space per 75 square metres of total floor area or 1 car parking space per 2 employees (whichever provides the larger parking area).
Guest house	1 car parking space per 3 beds.
Hospital, nursing home	1 car parking space per 2 beds plus 1 car parking space per 2 staff.
Hotel	1 car parking space per 2 square metres of bar floor area plus 1 car parking space per 10 square metres of lounge bar or beer garden floor area; or 1 car parking space per 3 guest rooms (whichever provides the larger parking area).
Meeting hall	1 car parking space per 7 seats.
Motel	1 car parking space per room or residential unit plus 1 car parking space per 10 square metres of total floor area of restaurant (if provided).
Multiple dwelling, residential flat building	1 roofed car parking space per dwelling unit plus 1 car parking space per 2 dwelling units for visitor parking.
Nursing home	1 car parking space per 3 beds.
Office	1 car parking space per 25 square metres of total floor area with a minimum of 2 car parking spaces.
Place of worship	1 car parking space per 5 seats.
Restaurant	1 car parking space per 6 seats.
Semi-detached dwelling and row dwelling	2 car parking spaces per dwelling, at least one of which to be roofed.

Form of development	Minimum Number of Car Parking Spaces Re uired
Service station	10 car parking spaces per station for customer and employee use.
Shop (excluding restaurant)	1 car parking space per 15 square metres of floor area.
Showroom	1 car parking space per 150 square metres of total floor area.
Store, warehouse	1 car parking space per 75 square metres of total floor area or 1 car parking space per 3 employees (whichever provides the larger parking area).
Squash/tennis courts	3 car parking space per court.
Theatre	1 car parking space per 5 seats.

Table PtPi/3 - Contributory Items

Property Address	Description of Contributory item	Certificate of Title	Heritage NR
Adelaide Square CRYSTAL BROOK	Memorial Rotunda		13598
Bowman Street (Cnr Adelaide Square) CRYSTAL BROOK	Former Bank		13600
Bowman Street Median strip, Adelaide Square CRYSTAL BROOK	War Memorial		13599
26, 28, 30 Bowman Street CRYSTAL BROOK	Shops - Wardle Co, Pharmacy, Hairdresser		13601
41-43 Bowman Street CRYSTAL BROOK	Former Crystal Press Printers		13602
42 Bowman Street CRYSTAL BROOK	Email Service Centre Appliance Store		13603
44 Bowman Street CRYSTAL BROOK	Kandy's Antiques Shop		13604
47 Bowman Street CRYSTAL BROOK	'Peppertree Hairdressing'		13605
48 Bowman Street CRYSTAL BROOK	CWA Rooms		17610
50 Bowman Street CRYSTAL BROOK	Westfarmers Dalgety Shop		13606
Railway Terrace CRYSTAL BROOK	Post Office		13607
54-58 Ellen Street PORT PIRIE	Pelham's Buildings		13608
62 Ellen Street PORT PIRIE	Shops		13609
72 Ellen Street PORT PIRIE	Flinders Arcade		13610
88 Ellen Street PORT PIRIE	Former Carmody's Sewing Centre		13611
96 Ellen Street PORT PIRIE	Portside Tavern		13612
126 Ellen Street PORT PIRIE	House and Leisure Shop		17611

Table PtPi/4 - Local Heritage Places

Property Address	Description and/or Extent of Listed Place	Lot No. or Part Sec	Plan No.	Certificate of Title	Section 23(4) Criteria	Heritage NR
Bowman Street CRYSTAL BROOK	Institute			CT 333/194	c d	13542
Bowman Street CRYSTAL BROOK	Kupsch Bakery			CT 1480/87	d	13543
Bowman Street CRYSTAL BROOK	Shops			CT 5609/919 CT 5566/752	d	13541
Bowman Park 3km NE of Crystal Brook CRYSTAL BROOK	Stables				a d	13540
Cnr. Bowman Street and Brandis Street CRYSTAL BROOK	Royal Hotel			CT 5191/48	c d f	13545
Cnr. Bowman Street and Brandis Street CRYSTAL BROOK	Former Savings Bank of South Australia			CT 814/20	d	13544
Brandis Street CRYSTAL BROOK	National Trust Museum			CT 4308/54	d	13547
Cnr. Brandis Street and Bowman Street CRYSTAL BROOK	The Bowman Street facade of the shops			CT 3859/102	d	13546
31 Brandis Street CRYSTAL BROOK	RSSAILA Hall			CT 1525/122	c	13548
58 Brandis Street CRYSTAL BROOK	Church of St Silas			CT 514/138	c d	13549
Cnr. Edmund Terrace and Eyre Road CRYSTAL BROOK	The original front entrance of the Hospital building, incl the Dutch Gable and roofline of the gable and portico, to the depth of the front veranda			CT 1559/163	c d	13550
41-49 Eyre Road CRYSTAL BROOK	SA Water Storage Sheds and Workshop	A204	T240601	CT CT 204/53 CT 222/43 CT 5061/9	d	13551
51 Eyre Road and Adelaide Square CRYSTAL BROOK	Uniting Church and hall (excluding entrance porch)			CT 5187/274 CT 5207/535	c d	13539

Property Address	Description and/or Extent of Listed Place	Lot No. or Part Sec	Plan No.	Certificate of Title	Section 23(4) Criteria	Heritage NR
Cnr. Higgins Road and Eyre Extension Road CRYSTAL BROOK	Holy Trinity Catholic Church			CT 5663/717	c d	13552
Cnr. Mitchell Street and Huddlestone Road CRYSTAL BROOK	Primary School			CT 1764/30	c d	13553
Cnr. Mitchell Street and Bowman Street CRYSTAL BROOK	Freemasons' Hall			CT 5660/839	c d	13554
47 Railway Terrace CRYSTAL BROOK	Hotel			CT 5125/182	c f	13555
Cnr. Younghusband Terrace and Eyre Road CRYSTAL BROOK	Centenary Memorial			CT 5125/182	e	13556
Merriton to Clements Gap Road MERRITON	Old Merriton Road Bridge					17606
Nelshaby to Napperby Road NELSHABY	Nelshaby Reservoir				a c	13557
Cnr. David Street and Florence Street PORT PIRIE	St Paul's Anglican Church			CT 608/38	d	13558
Ellen Street PORT PIRIE	Menswear Shops					17607
40 Ellen Street PORT PIRIE	International Hotel and Assembly Room			CT 5139/361	a d	13559
70 Ellen Street PORT PIRIE	Former Bank Building			CT 5136/284	a d	13560
97 Ellen Street PORT PIRIE	Library				d	13561
106 Ellen Street PORT PIRIE	Shop; (excluding the shopfronts at ground level, below front veranda)			CT 5658/615	d	13562
85-89 Florence Street PORT PIRIE	The Florence Street facade of the Esklund Building; (excluding the verandah and shopfronts below the veranda)			CT 5283/240	d	13563
114-116 Florence Street PORT PIRIE	Former Uniting Church			CT 5538/62	c d f	13564
10 Gertrude Street PORT PIRIE	Masonic Hall			CT 640/141	c d	13565

Property Address	Description and/or Extent of Listed Place	Lot No. or Part Sec	Plan No.	Certificate of Title	Section 23(4) Criteria	Heritage NR
107 Gertrude Street PORT PIRIE	St Mark's Catholic Cathedral			CT 5658/646	c d	13566
111 Gertrude Street PORT PIRIE	The external form of Jervois House only; (excluding the rear of the building)			CT 640/139	d	13567
Cnr. Memorial Drive and Gertrude Street PORT PIRIE	Memorial Gates				d e	13613
Memorial Park , off Norman Street PORT PIRIE	John Pirie Anchor			CR 5628/894	e	13569
Between Norman Street and Mary Elle Street PORT PIRIE	Grandstand				d e	13571
19 Norman Street PORT PIRIE	Geddes Memorial Hall			CT 5538/61	d	13570
Off Magor Road PORT PIRIE SOUTH	11 Inland Aircraft Fuel Depot			CT 5397/667	a	13568
Cnr. of Goode Road and The Terrace PORT PIRIE WEST	Kindergarten (Former School)			CT 236/176	c d	13573
73 Goode Road PORT PIRIE WEST	House			CT 4133/827	d	13572
Cnr. Moppett Road and Fourth Street PORT PIRIE WEST	Risdon Hotel			CT 5703/175	d f	13574
158-190 The Terrace PORT PIRIE WEST	Federal Hotel			CT 5632/190	d f	13575
Barr Street REDHILL	Former Anglican Church			CT 349/24	c d e	13576
Barr Street REDHILL	Soldiers Memorial Institute				c	13577
Bowman Street REDHILL	Monument, Mortimer Park			CT 1220/123	e	13581
Bowman Street REDHILL	Eureka Hotel and Stables			CT 5276/510	c d f	13580
Bowman Street REDHILL	Currency Cottage			CT 5372/91 CT 5372/90	d	13579
Bowman Street REDHILL	Antique Shop and Residence			CT 396/136	d	13578

Property Address	Description and/or Extent of Listed Place	Lot No. or Part Sec	Plan No.	Certificate of Title	Section 23(4) Criteria	Heritage NR
Bowman Street REDHILL	Museum (Former Council Chambers), Mortimer Park			CT 1220/125	c d f	13582
Bowman Street REDHILL	Former Wadell's Store			CT 5352/995 CT 5352/604 CT 5352/996	a	13585
Bowman Street REDHILL	Redhill Hotel			CT 1662/59	d f	13584
Bowman Street REDHILL	Post Office and General Store			CT 5371/898	d	13583
Broughton Park River Terrace REDHILL	Broughton River Bridge				d f	13586
Ellis Street REDHILL	Uniting Church, 'Little Glory' Church and Memorial Hall			CT 1082/136	c d	13587
Ellis Street REDHILL	Former Police Cells			CT 5270/600	a	13588
Government Road REDHILL	Silos					17609
South Terrace REDHILL	Former Primary School (Redhill Manor)			CT 5565/340	c	13589
380 The Terrace RISDON PARK	House			CT 5064/643	d	13590
390 The Terrace RISDON PARK	Risdon Park Uniting Church building only; (excluding rear hall)			CT 5691/695	a c d	13591
Church Circle SOLOMONTOWN	Seventh Day Adventist Church			CT 5695/975	d f	13592
26-28 Geddes Road SOLOMONTOWN	St Anthony's Catholic Church			CT 5660/782	c d	13593
20 Main Road SOLOMONTOWN	Newcastle Hotel			CT 5131/680 CT 5130/880	d	13594
56-58 Main Road SOLOMONTOWN	Former Rohrsheim's Building			CT 5176/504	d	13595
East Terrace WARNERTOWN	Institute			CT 5668/285	c	13596
Gervase Road WARNERTOWN	Former Church			CT 308/250	d	13597

Table PtPi/5 - State Heritage Places

Property Address	Description and/or Extent of Listed Place	Lot No. or Part Sec	Plan No.	Certificate of Title	Section 1 Criteria	SA Heritage Register ID
1 Alexander Street PORT PIRIE	Barrier Chambers Offices	A142	T241001	CR 5758/178		10978
32 Ellen Street PORT PIRIE	Former Adelaide Steamship Company Building	A589	F184671	CT 5436/481	a b g	11538
64 - 68 Ellen Street PORT PIRIE	Dwelling (former Sampson's Butcher Shop)	A553	F184635	CT 5852/27		10990
69-71 Ellen Street PORT PIRIE	National Trust Museum (former Port Pirie Customs House)	A26	T241001	CR 5758/176		10147
73-77 Ellen Street PORT PIRIE	National Trust Museum (former Port Pirie Railway Station)	A401	D75081	CT 6019/859		10229
79-81 Ellen Street PORT PIRIE	Port Pirie Post Office	A186	F189128	CT 5768/74	a	11566
85 Ellen Street PORT PIRIE	Development Board Building (former Port Pirie Courthouse, later Customs House)	A134	T241001	CT 5633/971		10148
94 Ellen Street PORT PIRIE	Sample Rooms, rear of Jubilee (former Royal Exchange) Hotel	A1	F133436	CT 5261/929		14525
134 Ellen Street PORT PIRIE	Family Hotel	A514	F184596	CT 5843/598		10149
32 Florence Street PORT PIRIE	Dwelling ('Carn Brae')	A567	F184649	CT 5397/880		10150
50-52 Florence Street PORT PIRIE	Waterside Workers' Federation (former Amalgamated Workers' Association) Building	A522	F184604	CT 5442/945		11540
105 Gertrude Street PORT PIRIE	Good Samaritan Catholic Convent School	A113	T241001	CT 5659/889		10991
Memorial Drive PORT PIRIE	Second World War Memorial Gates	S1076	H241000	CR 5758/760	e	19047
5 Norman Street PORT PIRIE	Former AMP [Australian Mutual Provident Society] Port Pirie Office Building	A508	F184590	CT 5409/742	a g	10988
Redhill to Yacka Road REDHILL	Redhill Geological Site	S828	H210800	CR 5758/714	b c	19048

Note: This table is an extract from the South Australian Heritage Register established under Section 13 (1) of the *Heritage Places Act 1993*. In the event of a discrepancy between this extract and the South Australian Heritage Register, the South Australian Heritage Register shall prevail.

Mapping Section

Map Reference Tables
Spatial Extent Maps
Bushfire Risk Maps
Concept Plan Maps

Map Reference Tables

Index Maps

Map Reference
Council Index Map
Enlagement Index Map

Zone Maps

one Name	Map Numbers
Airfield Zone	PtPi/10, PtPi/11, PtPi/12
Bulk Handling Zone	PtPi/5, PtPi/9, PtPi/26, PtPi/30
Coastal Conservation Zone	PtPi/1, PtPi/2, PtPi/3, PtPi/4, PtPi/5, PtPi/6, PtPi/7, PtPi/13, PtPi/14, PrPi/21, PtPi/22, PtPi/23, PtPi/24, PtPi/25
Commercial Zone	PtPi/3, PtPi/5, PtPi/6, PtPi/8, PtPi/9, PtPi/13, PtPi/14, PtPi/30
Community Zone	PtPi/3, PtPi/4, PtPi/5, PtPi/7, PtPi/8, PtPi/11, PtPi/26, PtPi/27, PtPi/28, PtPi/29, PtPi/30, PtPi/31
Deferred Urban Zone	PtPi/10, PtPi/11, PtPi/26, PtPi/28, PtPi/29
Industry Zone	PtPi/2, PtPi/3, PtPi/5, PtPi/6, PtPi/8, PtPi/9, PtPi/14, PtPi/27, PtPi/28, PtPi/29
Local Centre Zone	PtPi/4, PtPi/7
Mixed Use Zone	PtPi/5, PtPi/6
Neighbourhood Centre Zone	PtPi/5
Primary Production Zone	PtPi/1, PtPi/6, PtPi/7, PtPi/8, PtPi/9, PtPi/10, PtPi/11, PtPi/12, PtPi/13, PtPi/14, PtPi/15, PtPi/16, PtPi/17, PtPi/18, PtPi/19, PtPi/20, PtPi/21, PtPi/22, PtPi/23, PtPi/24, PtPi/25, PtPi/26, PtPi/27, PtPi/28, PtPi/29, PtPi/30, PtPi/31
Regional Centre Zone	PtPi/3, PtPi/5
Residential Zone	PtPi/2, PtPi/3, PtPi/4, PtPi/5, PtPi/6, PtPi/7, PtPi/8, PtPi/9, PtPi/10, PtPi/11, PtPi/21, PtPi/26, PtPi/27, PtPi/28, PtPi/29
Rural Landscape Protection Zone	PtPi/15, PtPi/16, PtPi/18, PtPi/19, PtPi/20
Rural Living Zone	PtPi/4, PtPi/6, PtPi/7, PtPi/8, PtPi/9, PtPi/10, PtPi/11, PtPi/14, PtPi/15, PtPi/16, PtPi/17, PtPi/21, PtPi/26, PtPi/27, PtPi/29, PtPi/31
Town Centre Zone	PtPi/26, PtPi/27
Township Zone	PtPi/16, PtPi/17, PtPi/30, PtPi/31

Policy Area Maps

Policy Area Name	Map Numbers
Commercial Policy Area 1	PtPi/5, PtPi/6, PtPi/8, PtPi/9
Commercial Policy Area 2	PtPi/3, PtPi/5, PtPi/14
Commercial Policy Area 3	PtPi/13
Industry Policy Area 4	PtPi/2, PtPi/3
Industry Policy Area 5	PtPi/5, PtPi/8
Industry Policy Area 6	PtPi/3, PtPi/5
Mixed Use Policy Area 7	PtPi/5, PtPi/6
Mixed Use Policy Area 8	PtPi/5, PtPi/6
Regional Centre Policy Area 9	PtPi/3, PtPi/5
Residential Policy Area 10	PtPi/2, PtPi/3
Landscape Protection Policy Area 11	PtPi/15, PtPi/16, PtPi/18, PtPi/19
Landscape Protection Policy Area 12	PtPi/19, PtPi/20
Rural Living Policy Area 13	PtPi/14, PtPi/16, PtPi/17
Rural Living Policy Area 14	PtPi/14, PtPi/26, PtPi/27, PtPi/29
Rural Living Policy Area 15	PtPi/15, PtPi/16
Rural Living Policy Area 16	PtPi/10, PtPi/11
Rural Living Policy Area 17	PtPi/4, PtPi/7, PtPi/21
Rural Living Policy Area 18	PtPi/6, PtPi/8, PtPi/9, PtPi/15, PtPi/31

Historic Conservation Area Maps

Area Name	shown within Overlay Maps - Heritage
Historic Conservation Area	PtPi/5, PtPi/26, PPtPi/27
Area 1 Port Pirie	PtPi/5
Area 2 Crystal Brook	PtPi/26, PtPi/27

Overlay Maps

Issue	Map Numbers
Location	PtPi/1, PtPi/2, PtPi/3, PtPi/4, PtPi/5, PtPi/6, PtPi/7, PtPi/8, PtPi/9, PtPi/10, PtPi/11, PtPi/12, PtPi/13, PtPi/14, PtPi/15, PtPi/16, PtPi/17, PtPi/18 PtPi/19, PtPi/20, PtPi/21, PtPi/22, PtPi/23, PtPi/24, PtPi/25, PtPi/26, PtPi/27, PtPi/28, PtPi/29, PtPi/30, PtPi/31
Transport	PtPi/1 PtPi/5, PtPi/6, PtPi/8, PtPi/11, PtPi/13, PtPi/14, PtPi/17, PtPi/20, PtPi/26, PtPi/27, PtPi/28, PtPi/29, PtPi/30

Issue	Map Numbers
Development Constraints	PtPi/1, PtPi/2, PtPi/3, PtPi/4, PtPi/5, PtPi/6, PtPi/7, PtPi/8, PtPi/9, PtPi/13, PtPi/14, PtPi/15, PtPi/16, PtPi/17, PtPi/18, PtPi/19, PtPi/20, PtPi/21, PtPi/23, PtPi/24, PtPi/25, PtPi/28, PtPi/31
Heritage	PtPi/1, PtPi/4, PtPi/5, PtPi/6, PtPi/8, PtPi/15, PtPi/17, PtPi/26, PtPi/27, PtPi/30
Natural Resources	PtPi/1, PtPi/2, PtPi/3, PtPi/4, PtPi/5, PtPi/6, PtPi/7, PtPi/9, PtPi/13, PtPi/14, PtPi/21, PtPi/22, PtPi/23, PtPi/24, PtPi/25

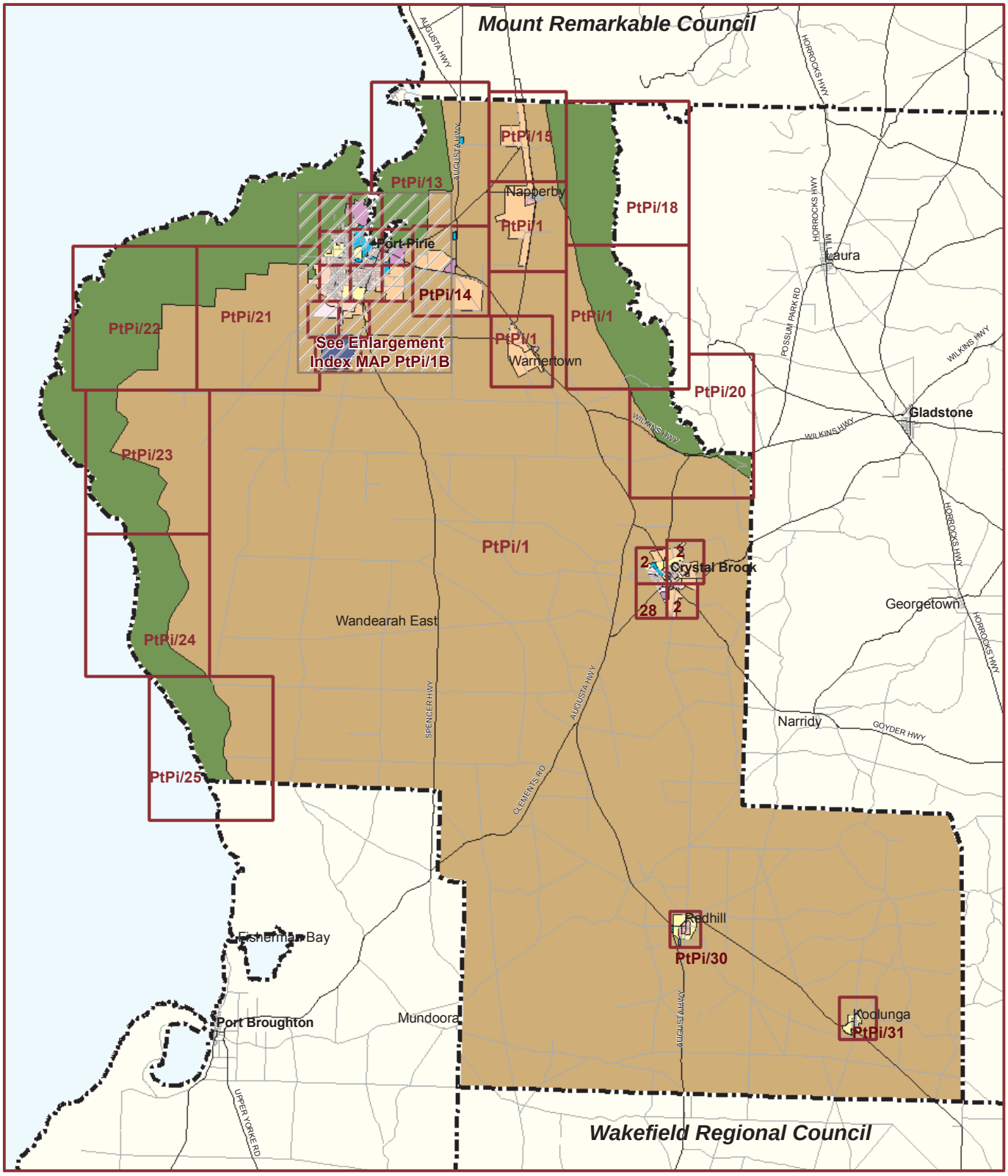
Bushfire Protection Overlay Maps

Bushfire Map Type	BPA Map Numbers
Bushfire Protection - Bushfire Risk	PtPi/1, PtPi/2, PtPi/3, PtPi/4, PtPi/5, PtPi/6, PtPi/7, PtPi/8, PtPi/9, PtPi/10, PtPi/11, PtPi/12, PtPi/13

Concept Plan Maps

Concept Plan Title	Map Numbers
Regional Centre	Concept Plan Map PtPi/1
Regional Centre	Concept Plan Map PtPi/2
Solomontown Centre	Concept Plan Map PtPi/3
North East Industrial Area	Concept Plan Map PtPi/4
Policy Area 6 Industry Policy Area	Concept Plan Map PtPi/5
Solomontown Beach Development Area	Concept Plan Map PtPi/5
Augusta Highway Development Area	Concept Plan Map PtPi/7

Spatial Extent Maps



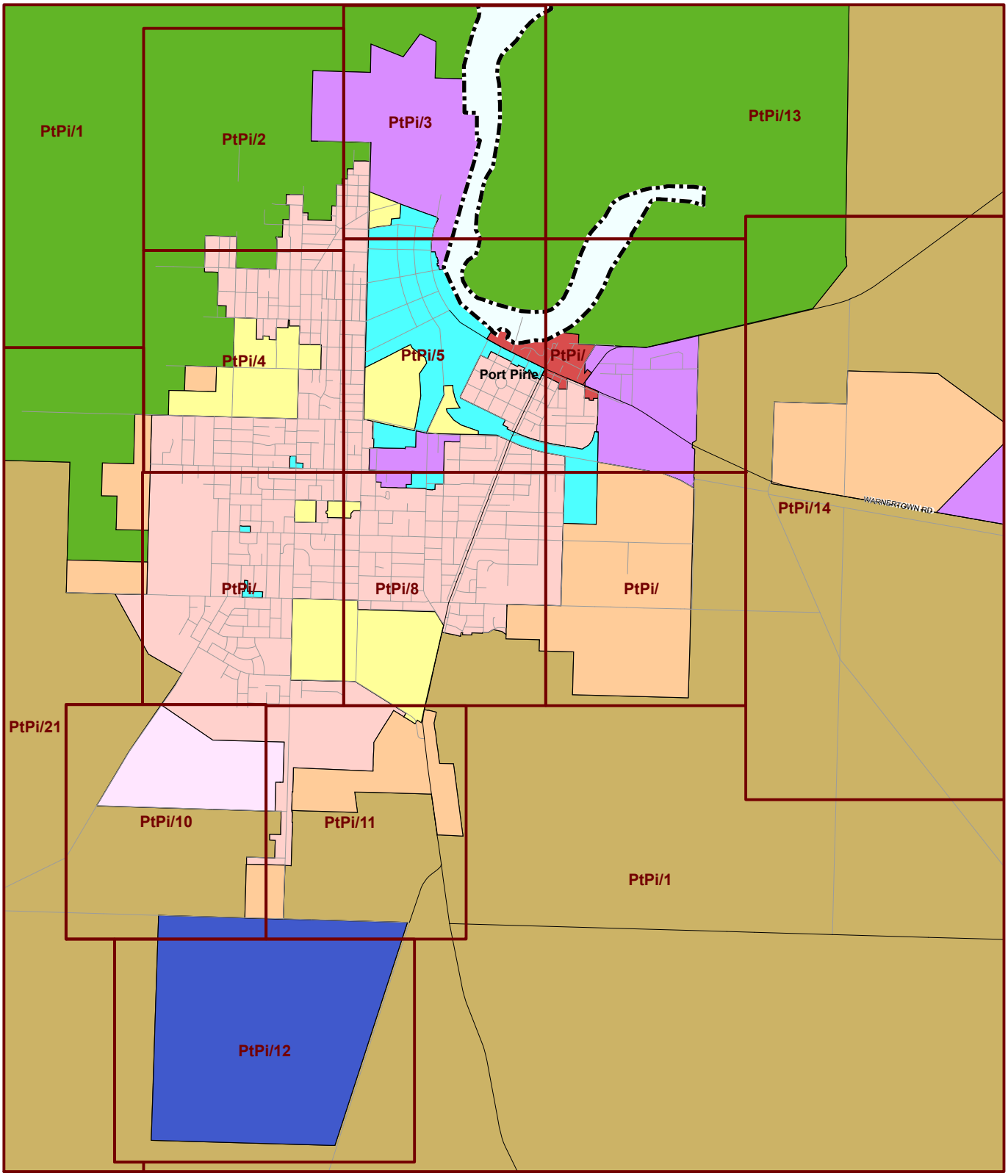
For the purposes of the Development Plan unless otherwise clearly indicated, the zone/policy area/precinct boundaries depicted on or intended to be fixed by Maps PtPi/1 to Map PtPi/31 inclusive shall be read as conforming in all respects (as the case may require) to the land division boundaries, to the centre line of roads or drain reserves or to the title boundaries, or to imaginary straight lines joining the positions defined by survey or by the measurements shown on the said maps against which the said zone/policy area/precinct boundaries are shown or otherwise indicated.

N

0 10 km

Council Index Map

Enlargement Index



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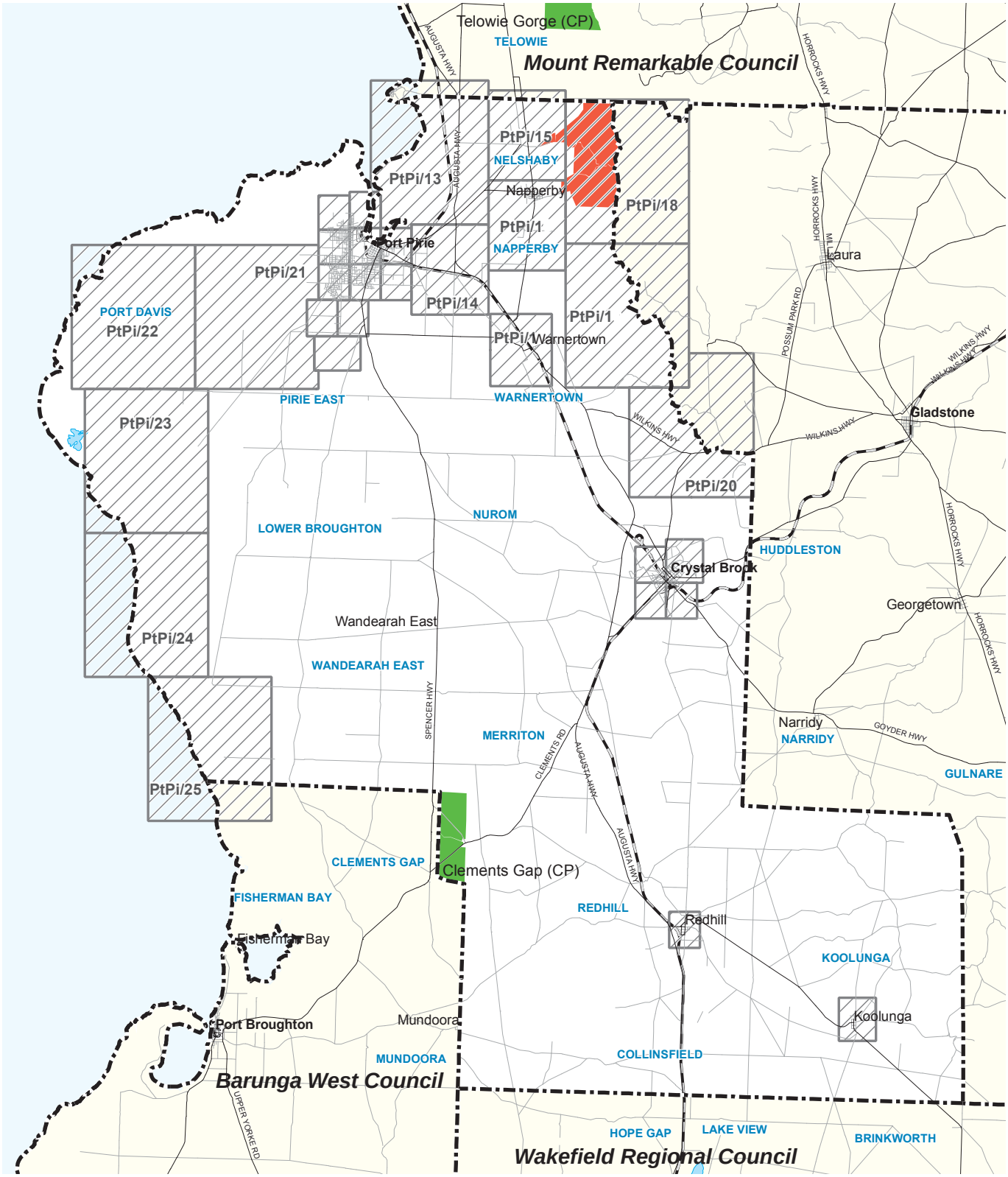
N

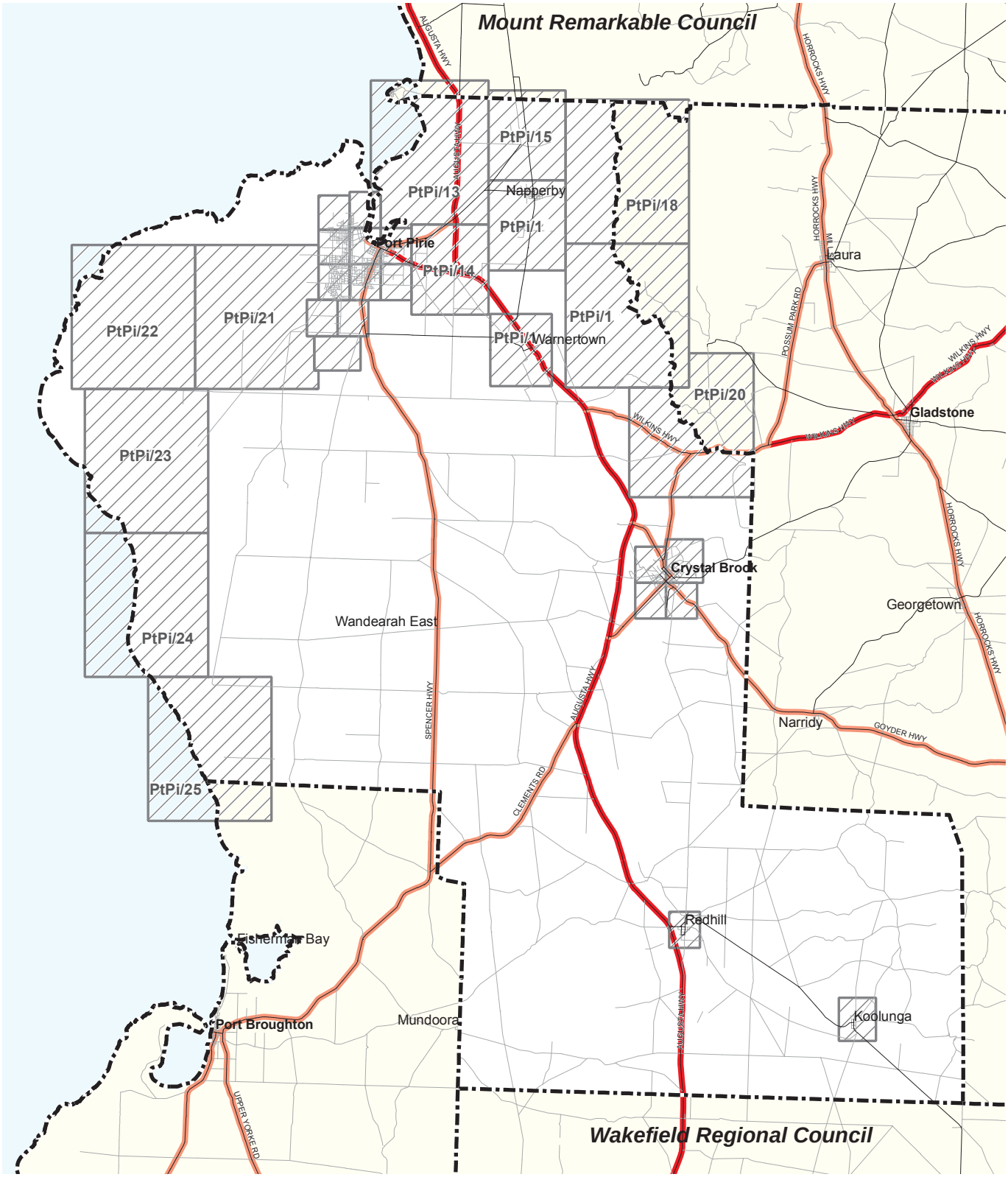
0 2,000 m

PORT PIRIE

Enlargement Index Map



Location Map PtPi/1



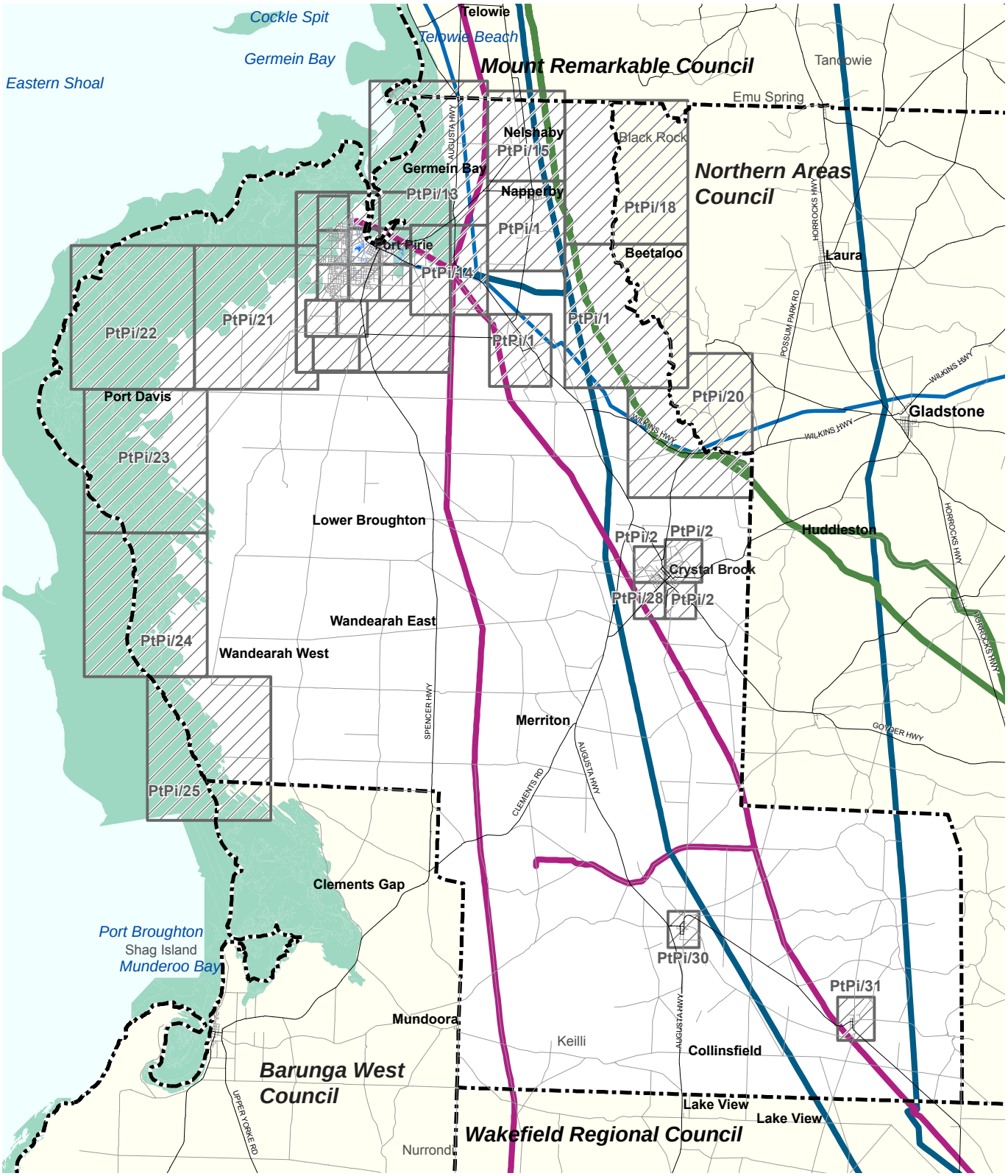
Overlay Map PtPi/1

TRANSPORT

Primary Arterial Roads

Secondary Arterial Roads

Development Plan Boundary



Floodplain Area - Flood Risk Categories

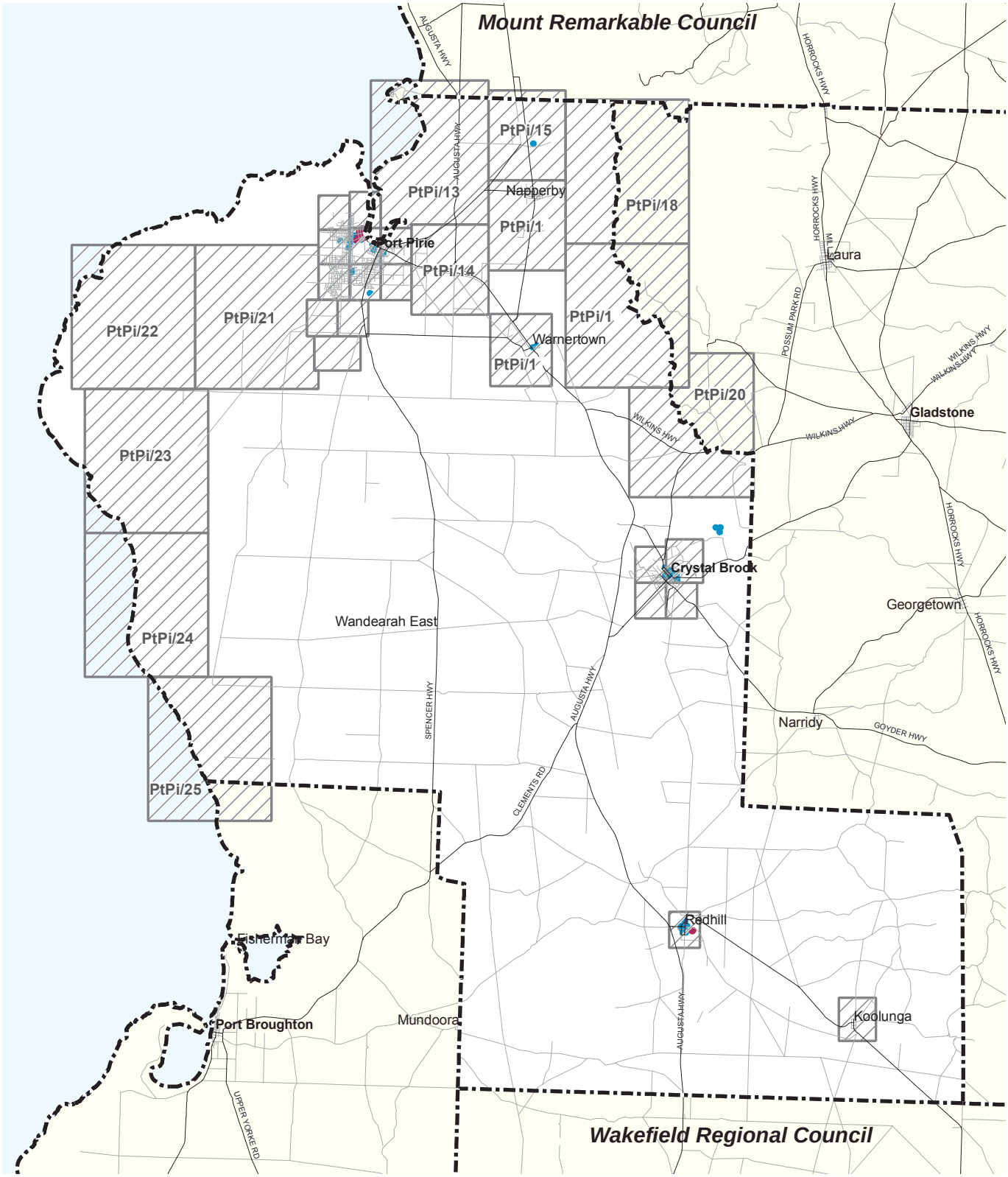
- High Flood Risk (>0.6m depth)
- Medium Flood Risk (>0.3m to 0.6m depth)
- Low Flood Risk (Zero to 0.3m depth)
- Coastal Acid Sulfate Soils
- Morgan - Whyalla Pipeline
- Epic Energy SA Pty Ltd
- 132kV
- 275kV
- Development Plan Boundary

Overlay Map PtPi/1

DEVELOPMENT CONSTRAINTS

PORT PIRIE REGIONAL COUNCIL

Consolidated - 31 October 2017



Heritage points are indicative only.
For further information on State and Local Heritage Places and Contributory items please refer to the relevant tables within this document.

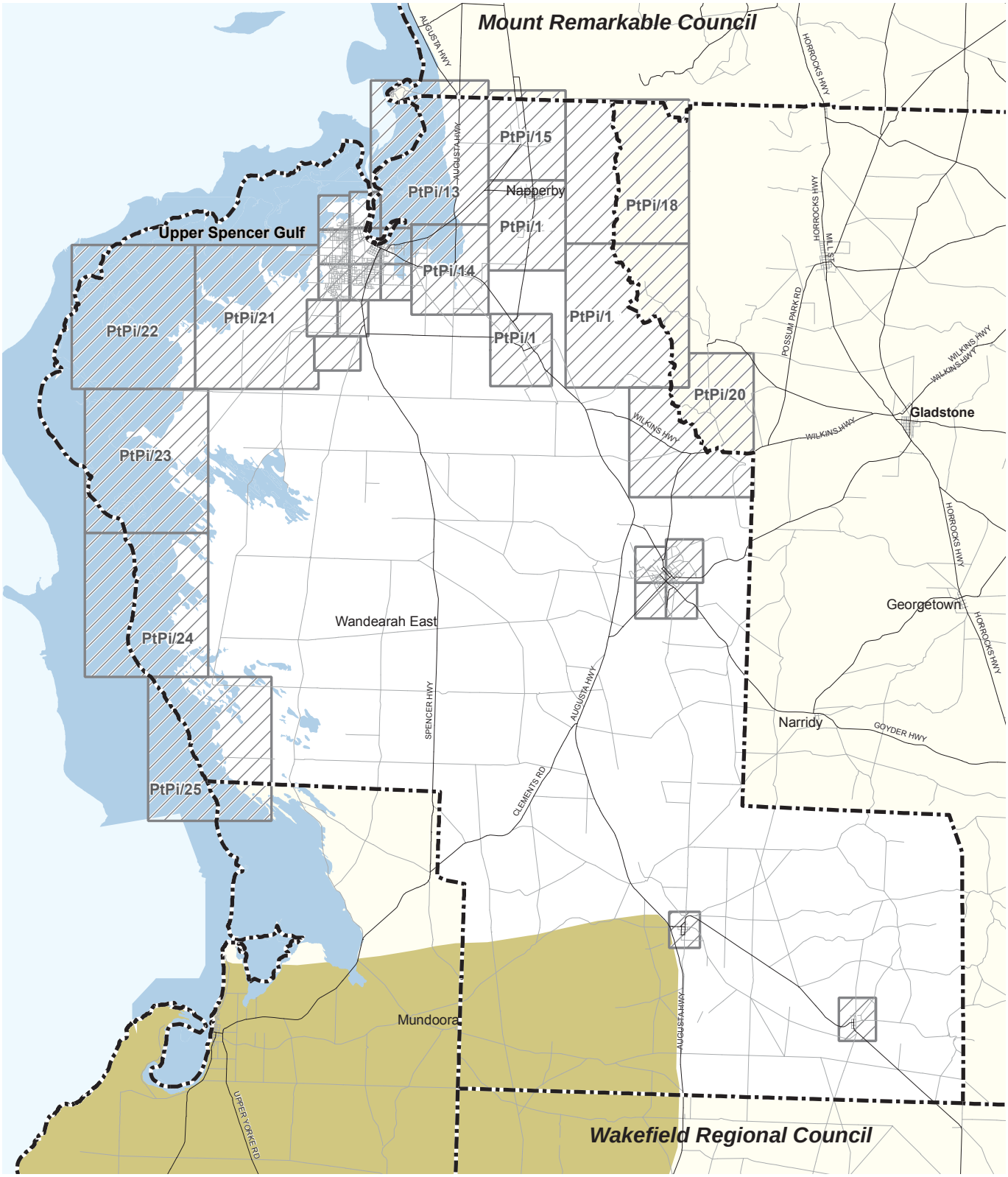
N

0 10 km

Overlay Map PtPi/1

HERITAGE

- State heritage place
- Local heritage place
- Development Plan Boundary



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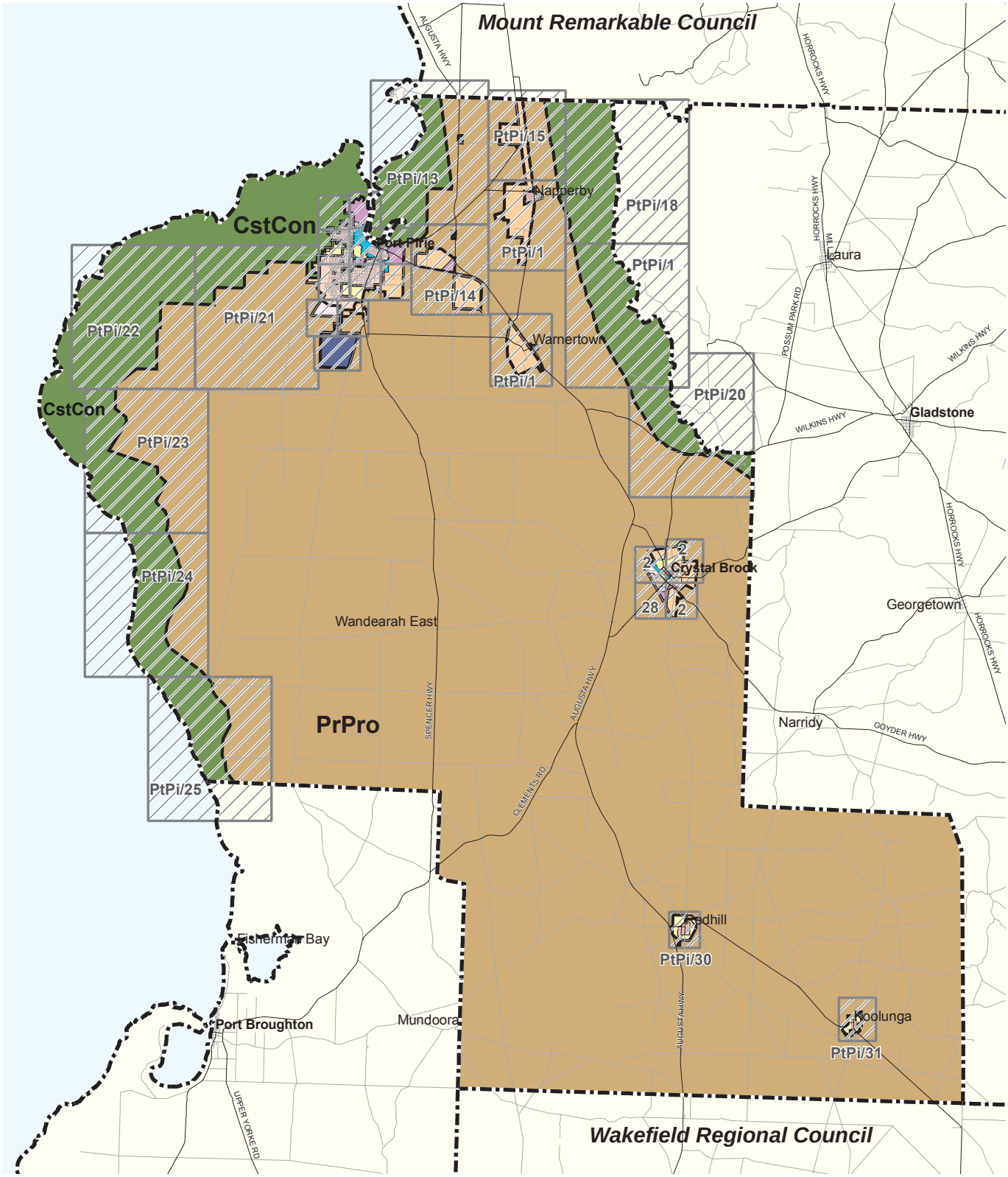
Overlay Map PtPi/1

NATURAL RESOURCES

Wetlands of National Importance

Indigenous Land Use Agreements

Development Plan Boundary



See enlargement map for accurate representation.

N

0 10 km

ones

CstCon Coastal Conservation

PrPro Primary Production

Zone Boundary

Development Plan Boundary

one Map PtPi/1

MAP PtPi/1 Ad oins

N

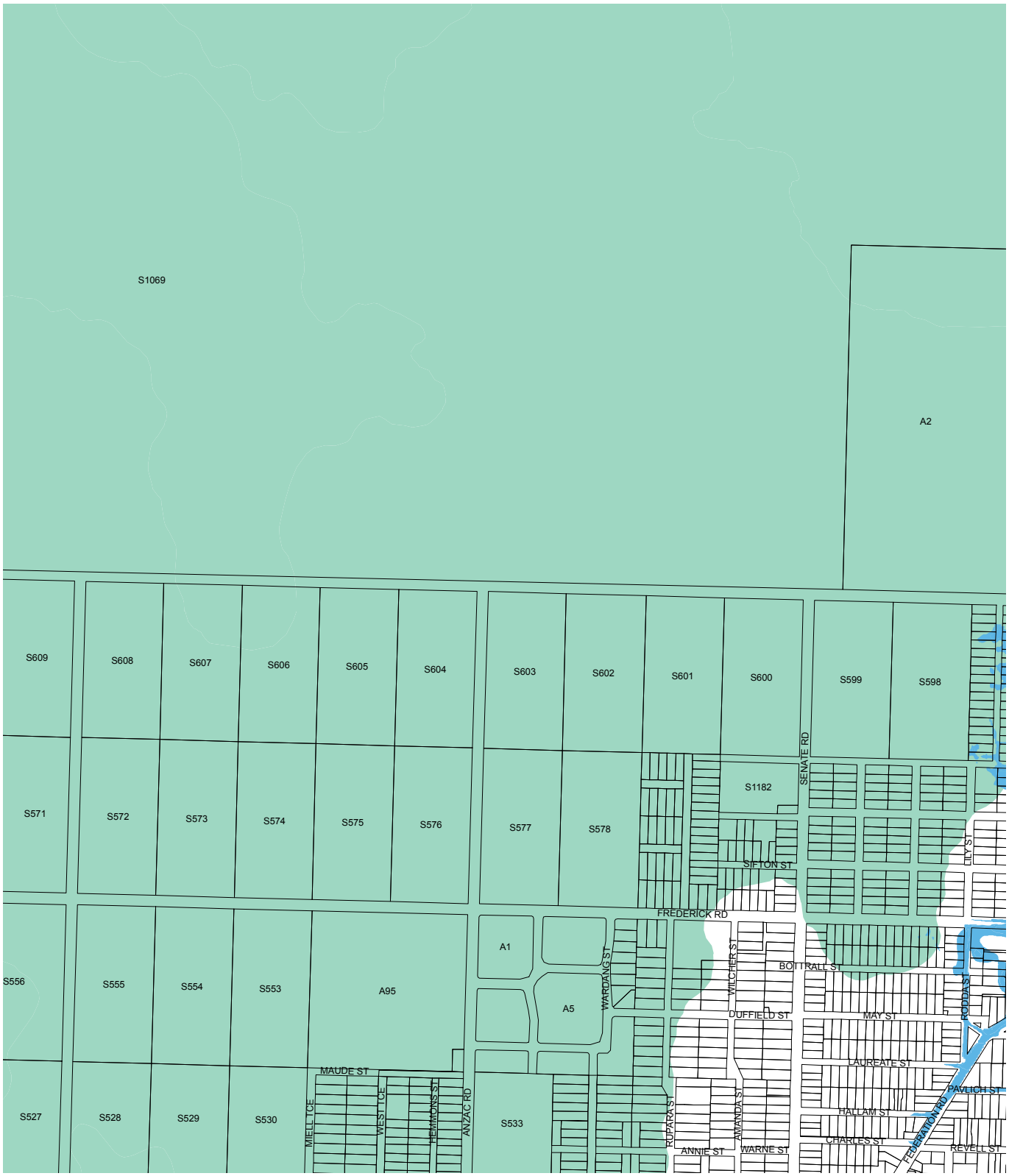
0 500 m

PORT PIRIE

Location Map PtPi/2

Local Reserves

MAP PtPi/1 Ad oins



MAP PtPi/1 Ad oins

MAP PtPi/3 Ad oins

MAP PtPi/4 Ad oins

Disclaimer

These maps have been prepared on the basis of survey, hydraulic and hydrologic modelling undertaken in 2013 to protect against the risk of flooding during a 1:100 year ARI flood event to the relatively flat areas which drain via an underground drainage network either directly to the Port Pirie River (Spencer Gulf) or to four detention basins that are either pumped or drain to the Port Pirie River.

A Levee bank has been constructed to protect the township from seawater intrusion during extreme tidal events (a 100 year ARI sea flood event together with an allowance of 0.3 of a metre for sea level rise to the year 2050). The levee will need to be maintained to provide ongoing protection and increased in height to address further sea level rise. The risk of the failure of the levee should be taken into account.

These maps are only intended to be used as a policy tool for planning purposes and in broad scale flood risk management, and the should not be relied on for any other purpose. They do not purport to illustrate actual inundation patterns, which will depend on the size and nature of a particular flood event and other circumstances pertaining to the relevant place and at the relevant time.

Floodplain Area - Flood Risk Categories

- High Flood Risk (>0.6m depth)
- Medium Flood Risk (>0.3m to 0.6m depth)
- Low Flood Risk (Zero to 0.3m depth)
- Coastal Acid Sulfate Soils

N

0 500 m

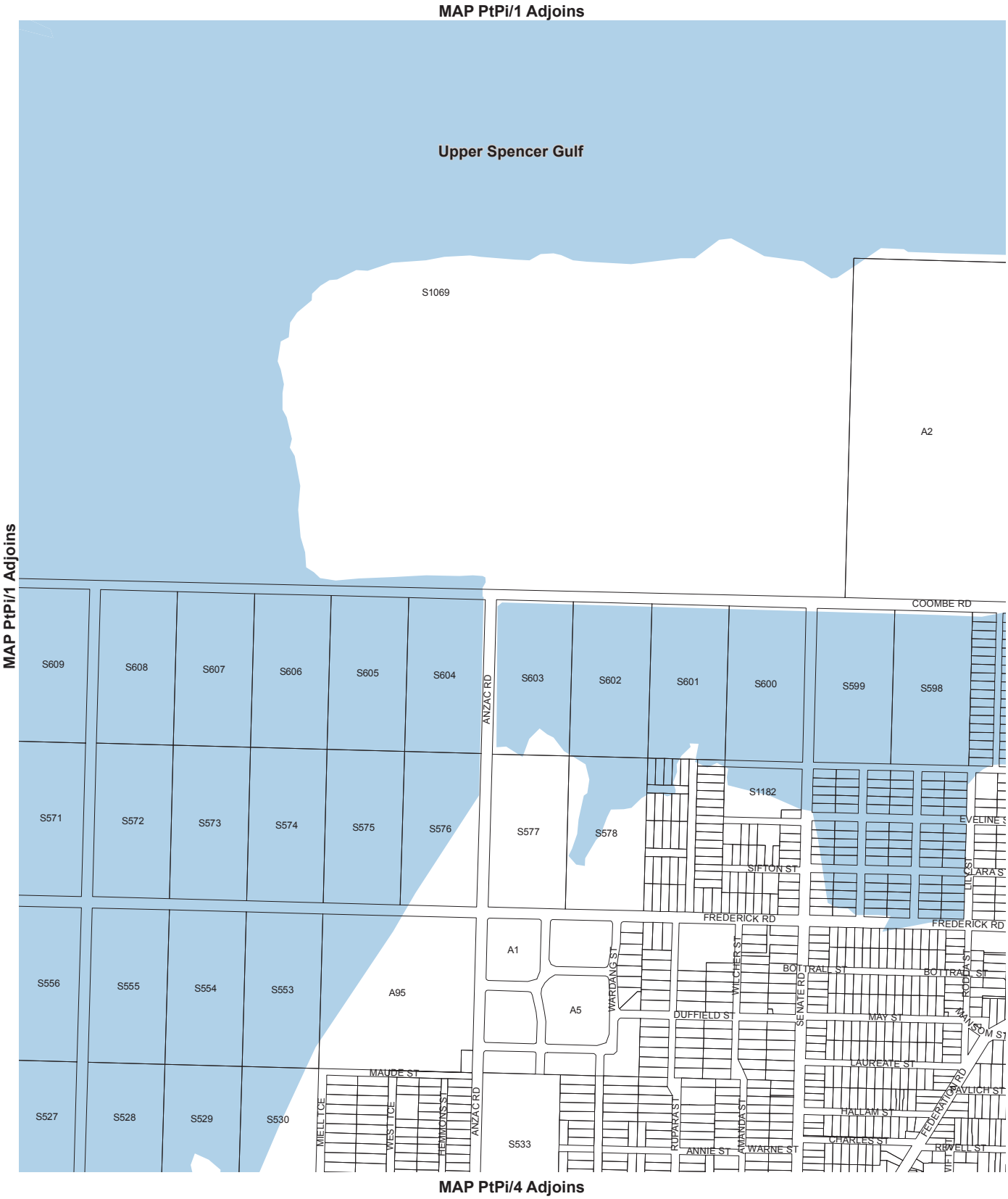
PORT PIRIE

Overlay Map PtPi/2

DEVELOPMENT CONSTRAINTS

PORT PIRIE REGIONAL COUNCIL

Consolidated - 31 October 2017



N

0 500 m

PORT PIRIE

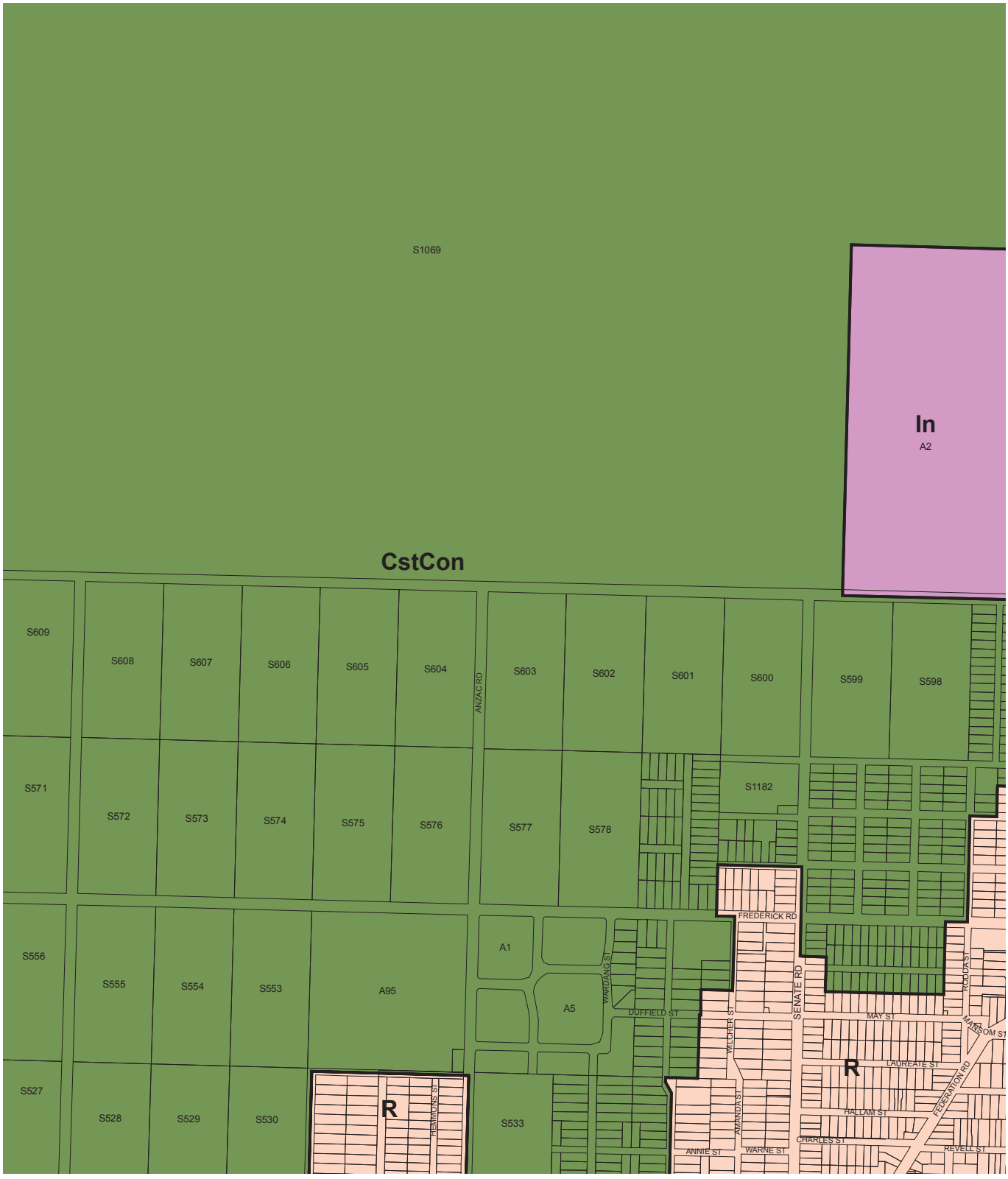
Overlay Map PtPi/2

NATURAL RESOURCES

Wetlands of National Importance

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

MAP PtPi/1 Ad oins



MAP PtPi/1 Ad oins

MAP PtPi/3 Ad oins

MAP PtPi/4 Ad oins

Lamberts Conformal Conic Projection, GDA94

N

0 500 m

ones

CstCon	Coastal Conservation
In	Industry
R	Residential
	Zone Boundary

PORT PIRIE

one Map PtPi/2

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

MAP PtPi/1 Ad oins

Lamberts Conformal Conic Projection, GDA94

Policy Area

10 Residential Policy Area 10

4 Industry Policy Area 4

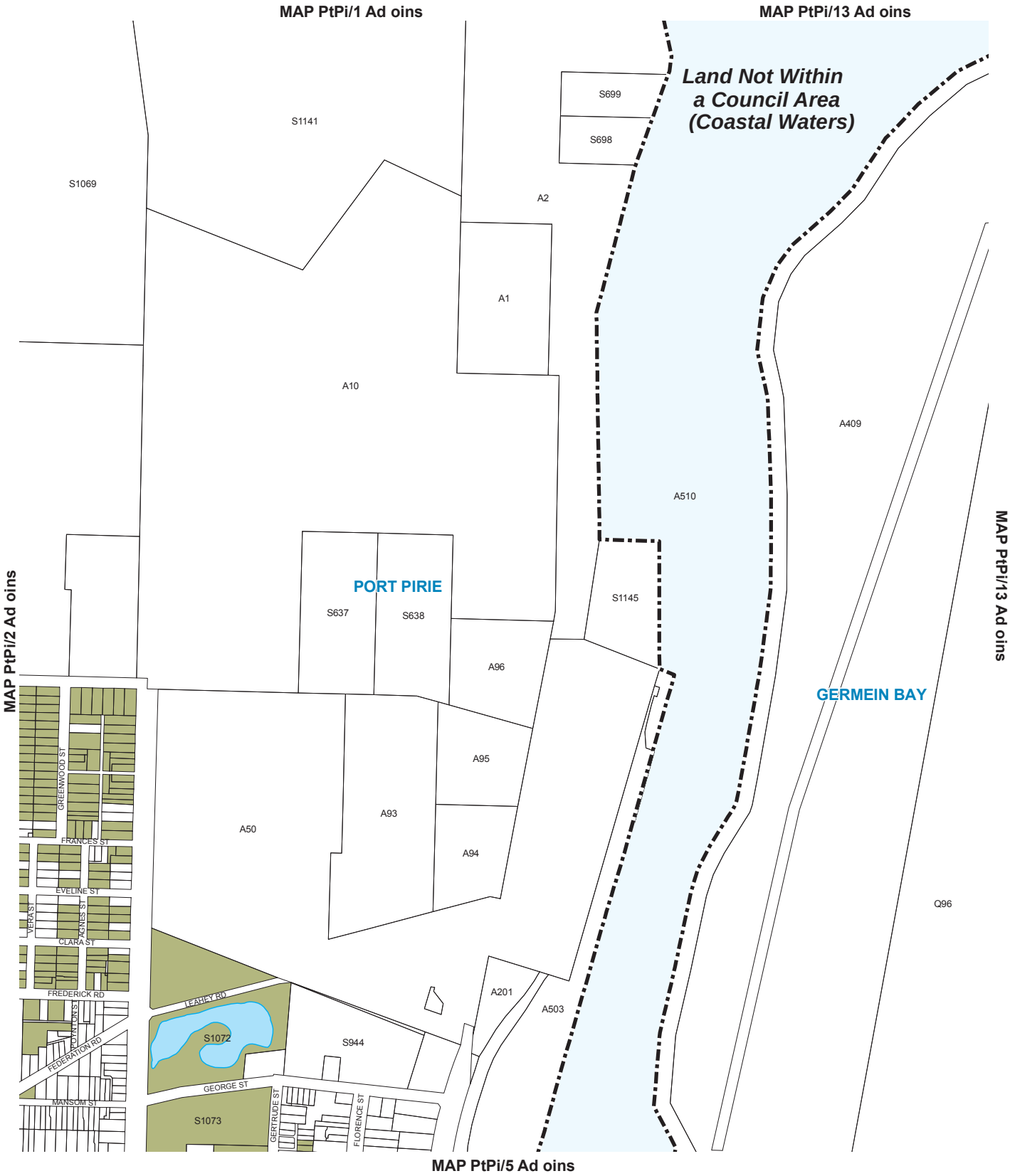
N

0 500 m

PORT PIRIE

Policy Area Map PtPi/2

Policy Area Boundary



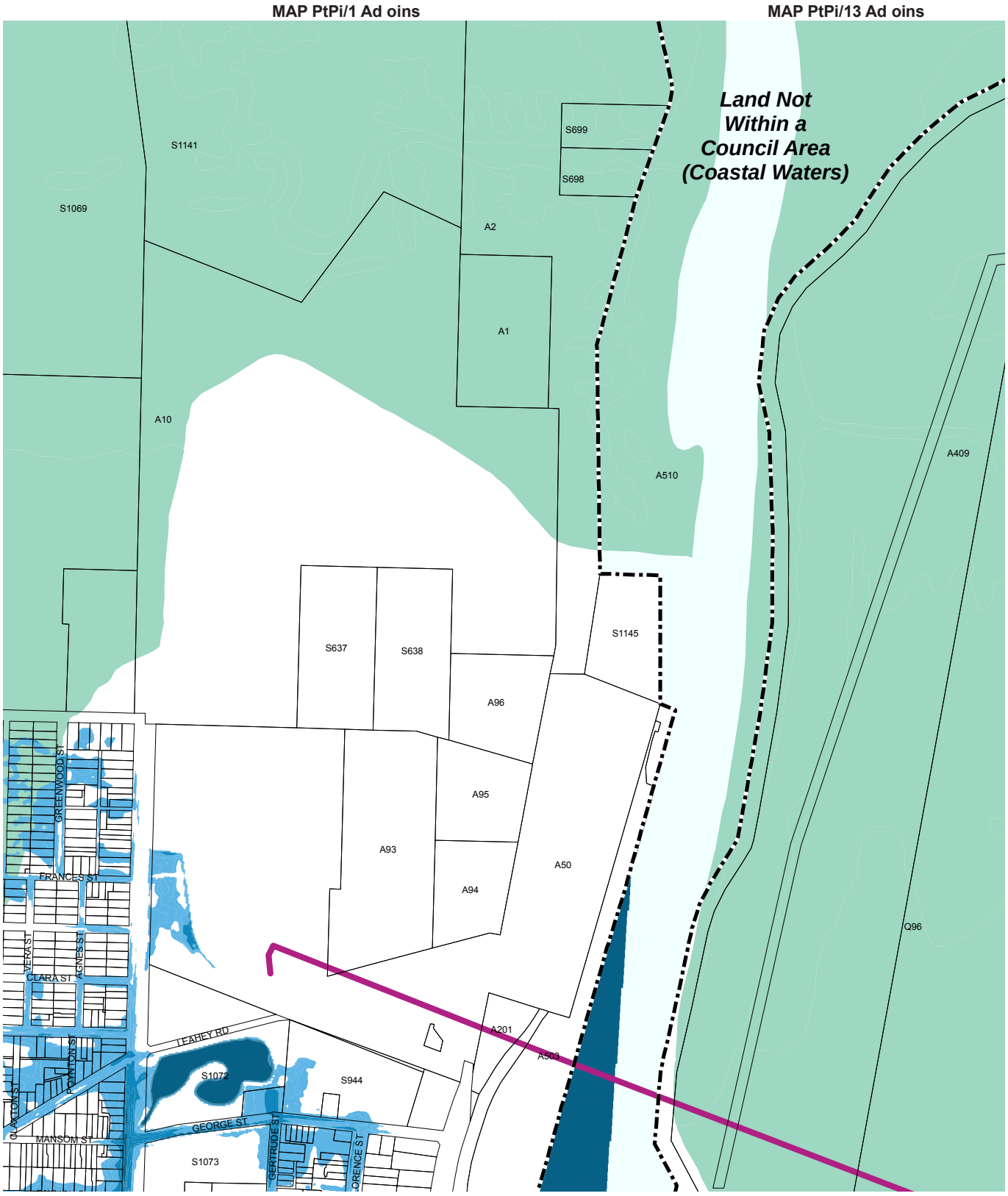
PORT PIRIE

Location Map PtPi/3

Local Reserves

Waterbodies

Development Plan Boundary



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Floodplain Area - Flood Risk Categories

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- Medium Flood Risk (>0.3m to 0.6m depth)
- Low Flood Risk (Zero to 0.3m depth)
- 132kV
- Coastal Acid Sulfate Soils
- Development Plan Boundary

N

0 500 m

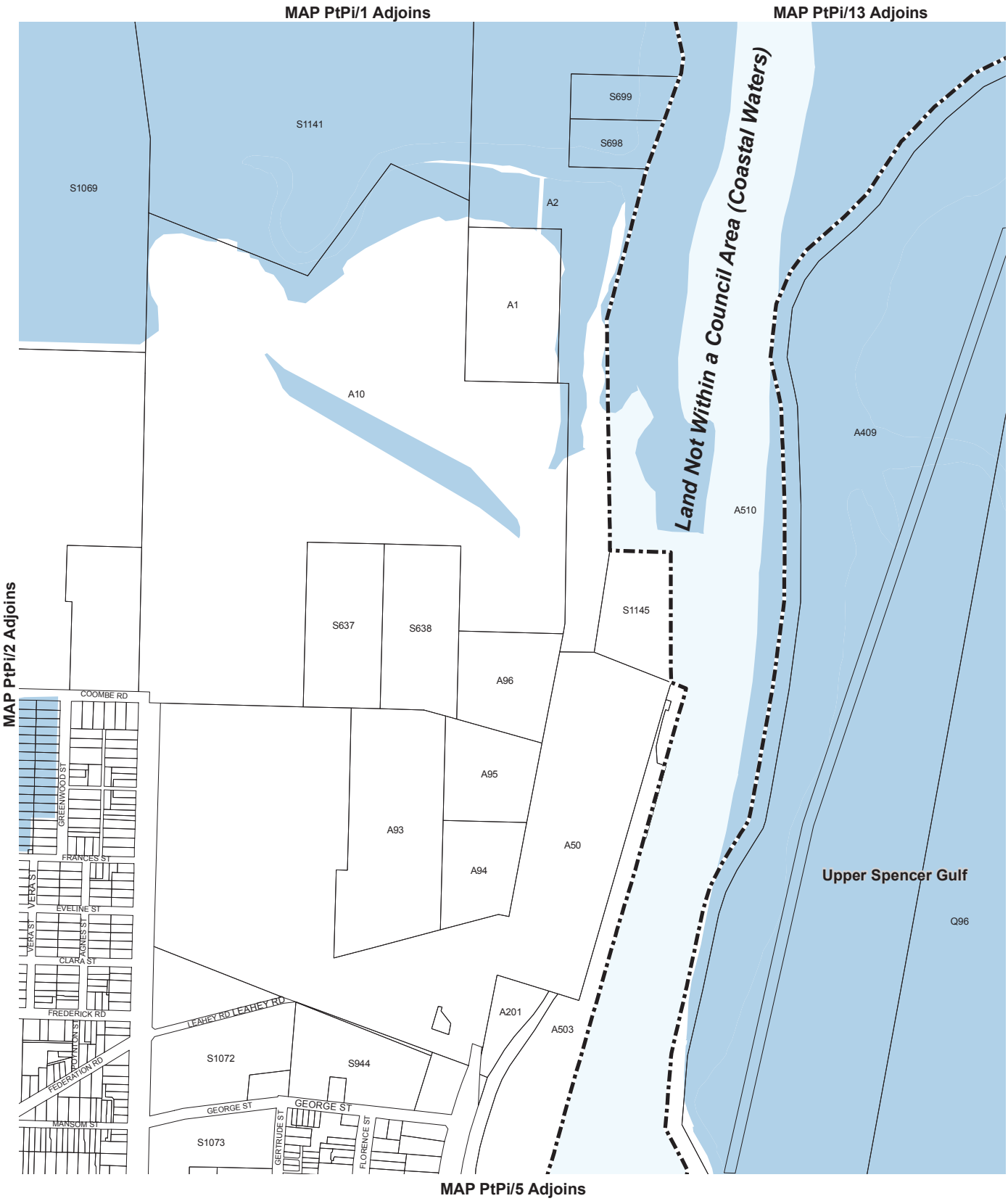
PORT PIRIE

Overlay Map PtPi/3

DEVELOPMENT CONSTRAINTS

PORT PIRIE REGIONAL COUNCIL

Consolidated - 31 October 2017



PORT PIRIE

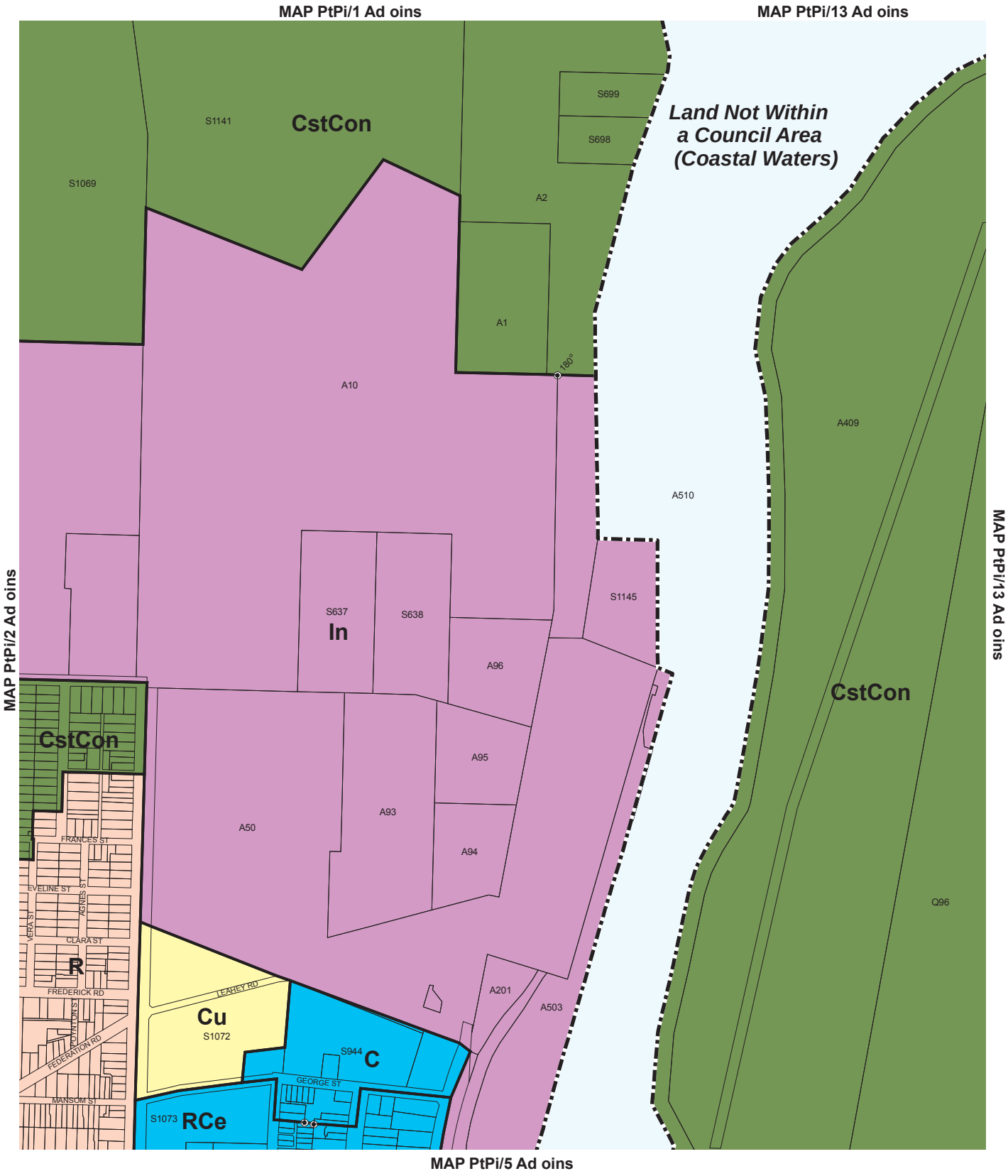
Overlay Map PtPi/3

NATURAL RESOURCES

Wetlands of National Importance

Development Plan Boundary

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



Lamberts Conformal Conic Projection, GDA94

N

0 500 m

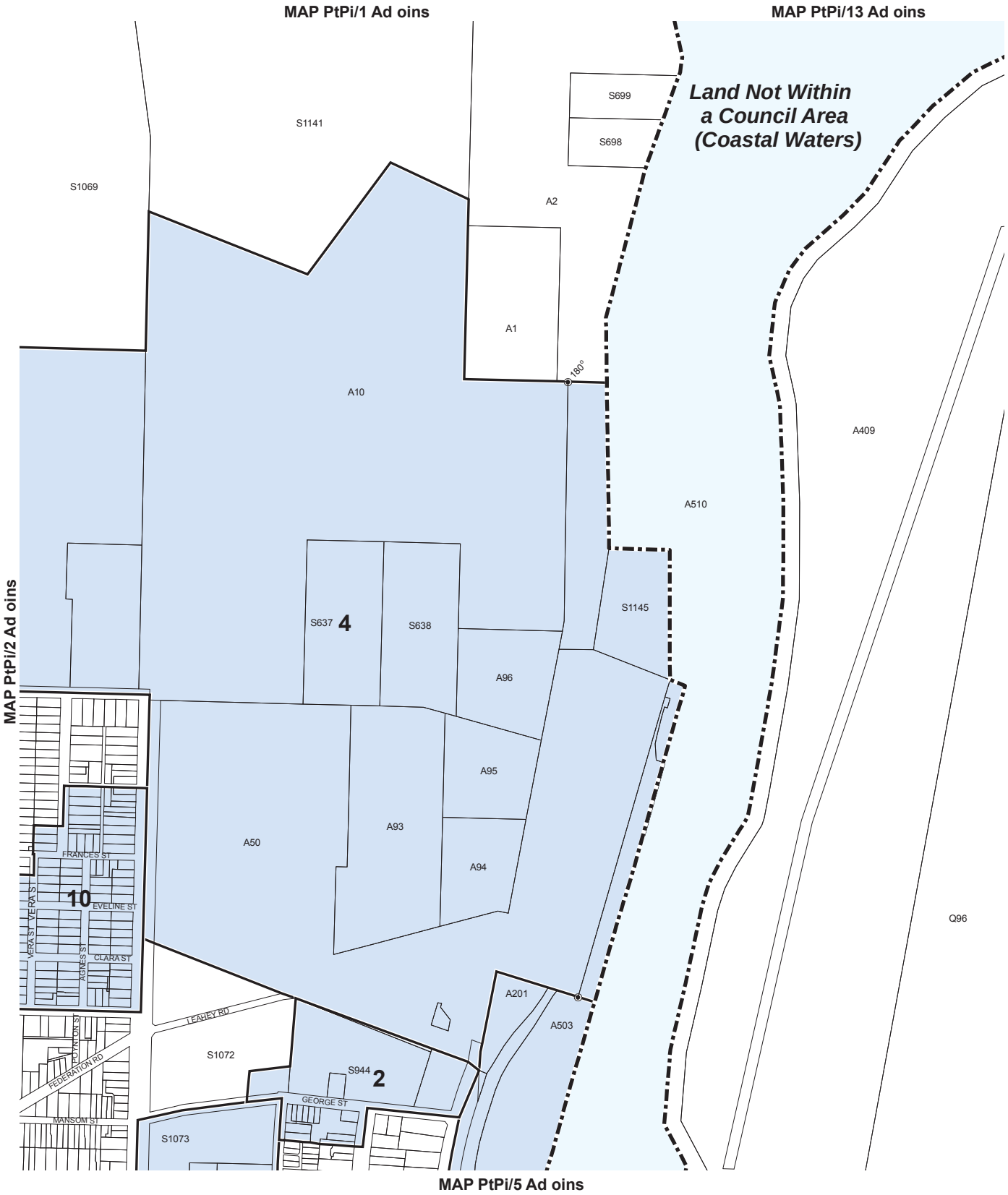
ones

CstCon	Coastal Conservation
C	Commercial
Cu	Community
In	Industry
RCe	Regional Centre
R	Residential
	Zone Boundary
	Development Plan Boundary

PORT PIRIE

one Map PtPi/3

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



Lamberts Conformal Conic Projection, GDA94

Policy Area

10 Residential Policy Area 10
2 Commercial Policy Area 2
4 Industry Policy Area 4
Industry Policy Area 6
Regional Centre Policy Area 9

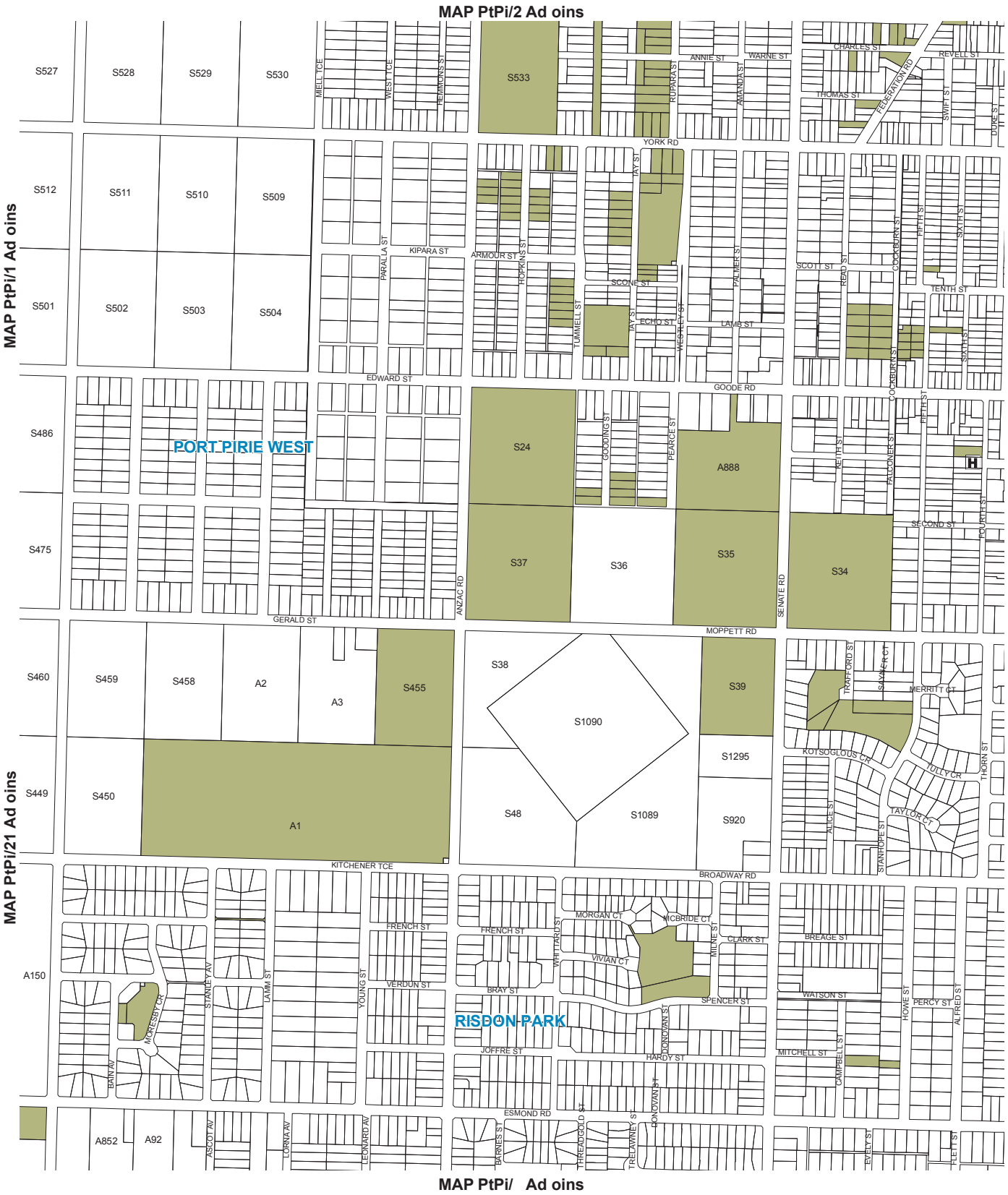
N

0 500 m

PORT PIRIE

Policy Area Map PtPi/3

Policy Area Boundary
Development Plan Boundary



PORT PIRIE

Location Map PtPi/4

H Other Health Services

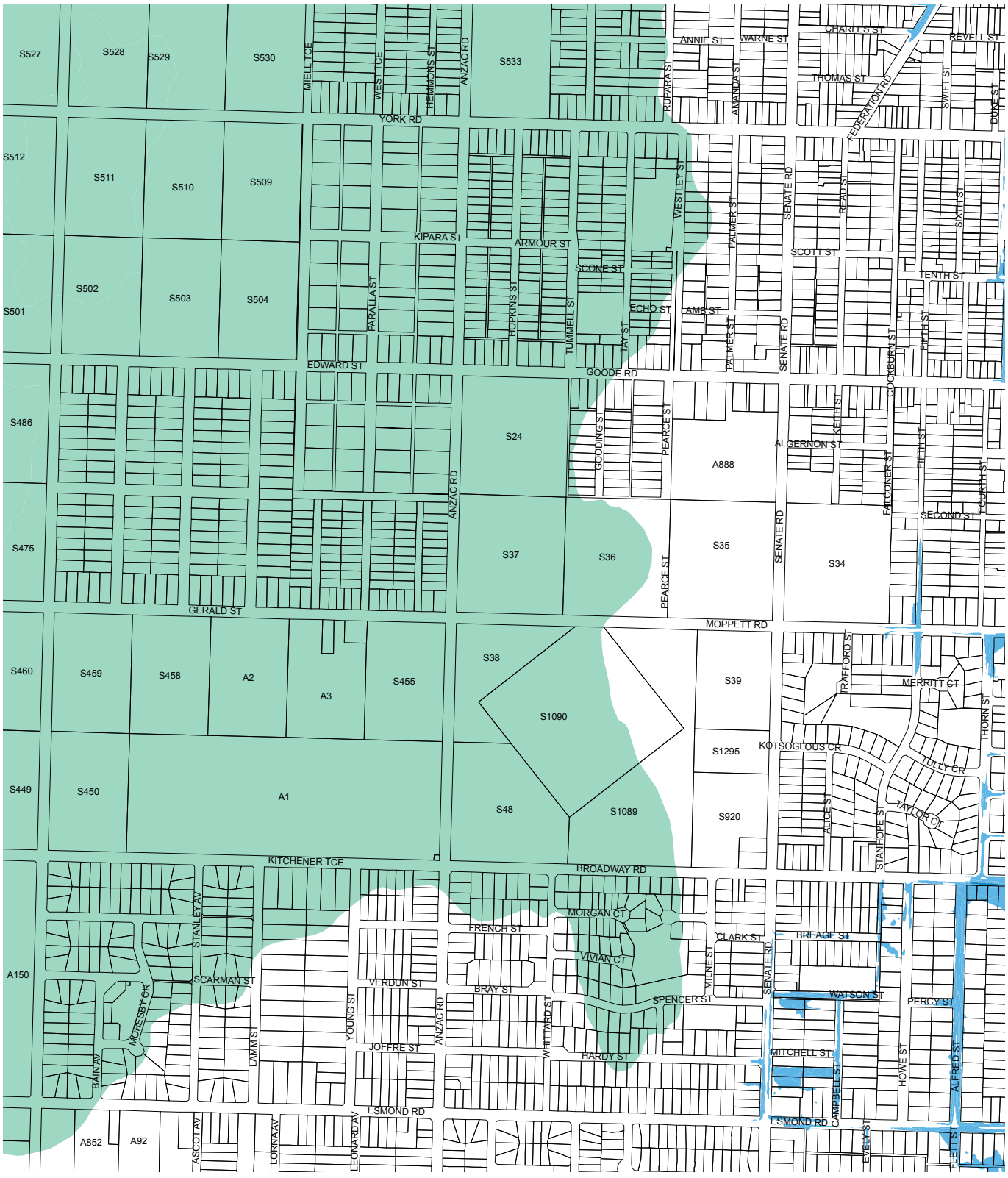
Local Reserves

MAP PtPi/2 Ad oins

MAP PtPi/1 Ad oins

MAP PtPi/5 Ad oins

MAP PtPi/21 Ad oins



MAP PtPi/ Ad oins

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Floodplain Area - Flood Risk Categories

- High Flood Risk (>0.6m depth)
- Medium Flood Risk (>0.3m to 0.6m depth)
- Low Flood Risk (Zero to 0.3m depth)
- Coastal Acid Sulfate Soils

N

0 500 m

PORT PIRIE

Overlay Map PtPi/4

DEVELOPMENT CONSTRAINTS

PORT PIRIE REGIONAL COUNCIL

Consolidated - 31 October 2017

Heritage points are indicative only.
For further information on State and Local Heritage Places and Contributory Items please refer to the relevant tables within this document.

N

0 500 m

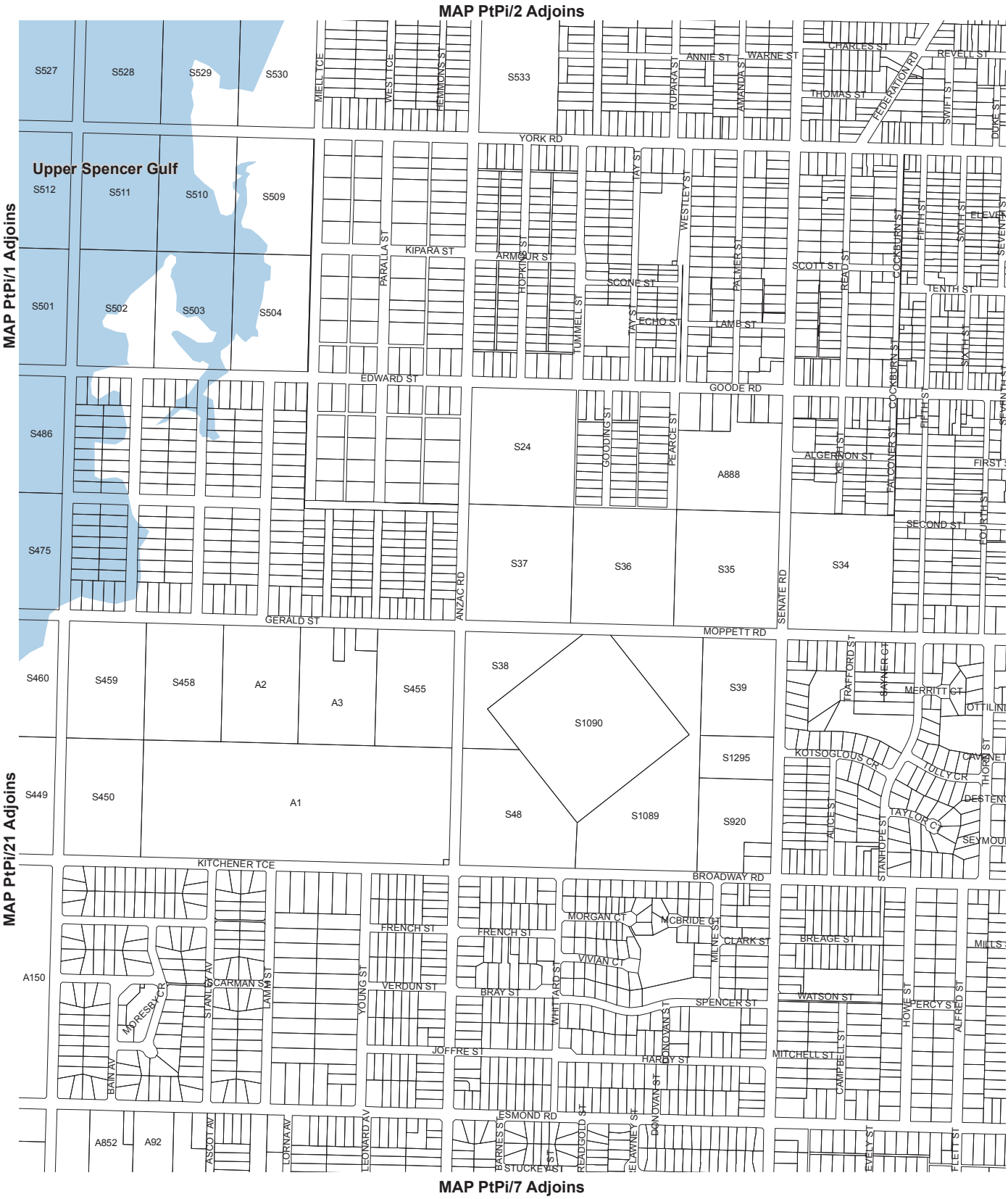
PORT PIRIE

Overlay Map PtPi/4

HERITAGE

● Local heritage place

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



PORT PIRIE

Overlay Map PtPi/4

NATURAL RESOURCES

Wetlands of National Importance

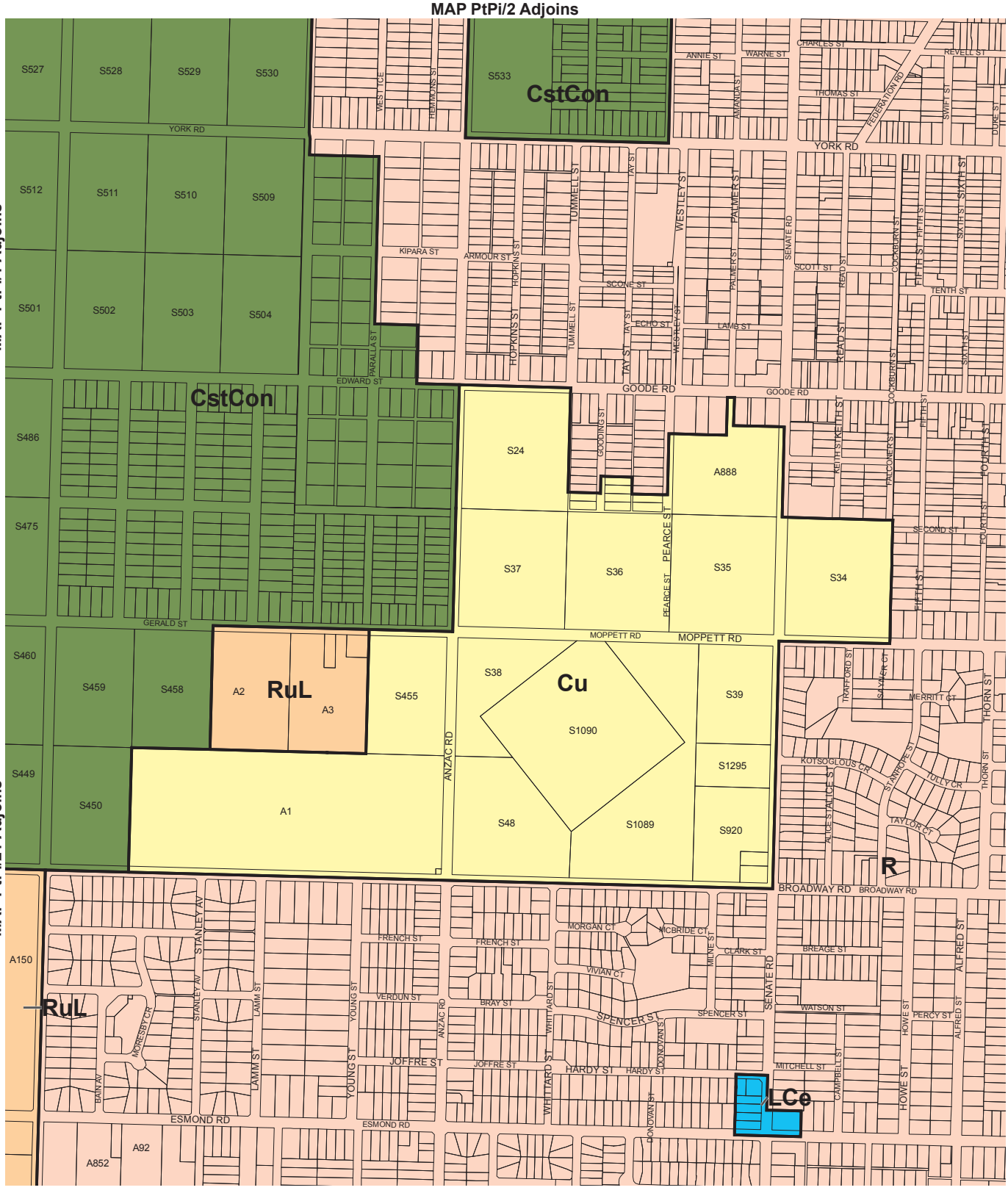
PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

MAP PtPi/2 Adjoins

MAP PtPi/1 Adjoins

MAP PtPi/5 Adjoins

MAP PtPi/21 Adjoins



MAP PtPi/7 Adjoins

Lamberts Conformal Conic Projection, GDA94

N

0 500 m

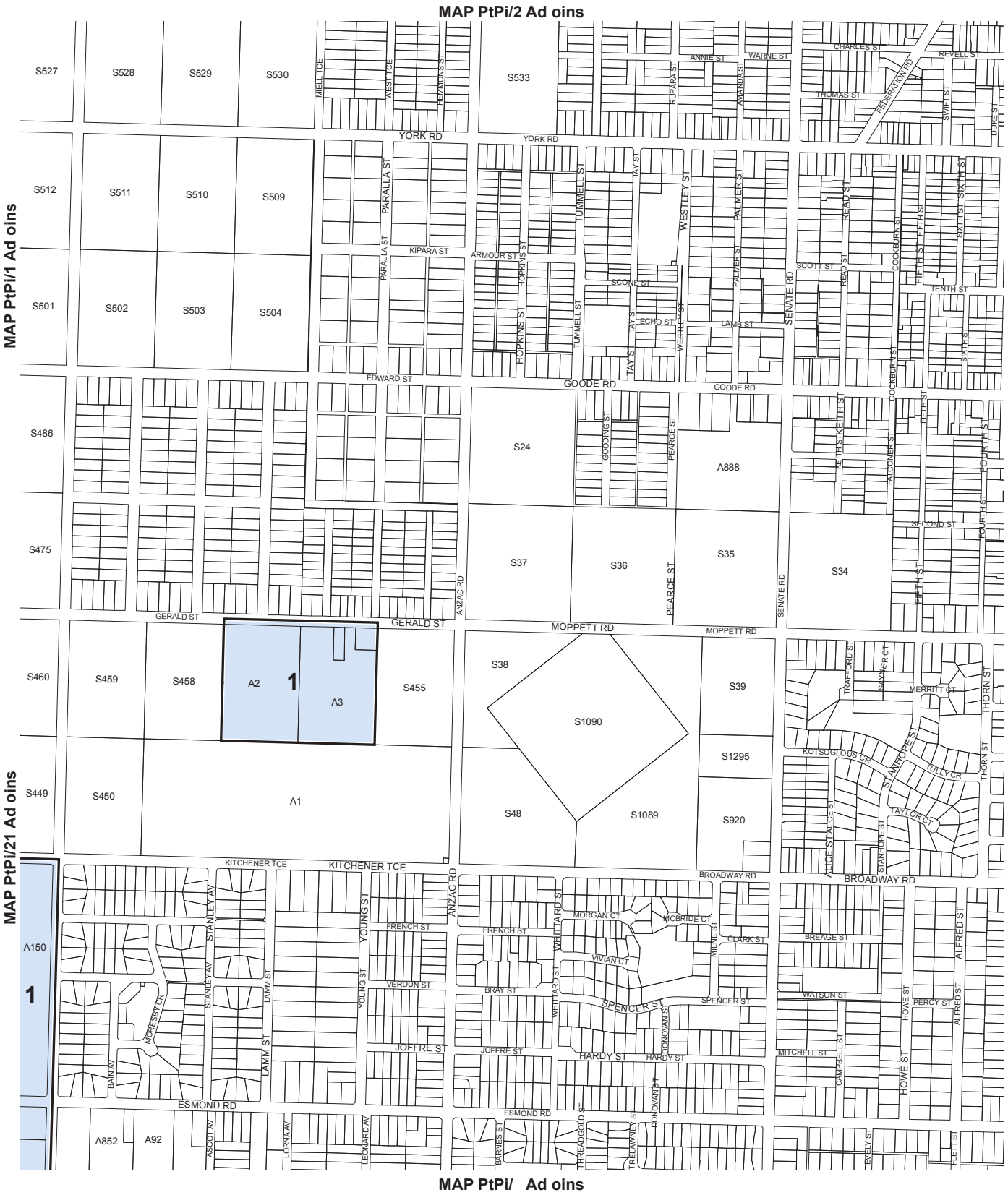
Zones

- CstCon — Coastal Conservation
- Cu — Community
- LCe — Local Centre
- R — Residential
- RuL — Rural Living
- Zone Boundary

PORT PIRIE

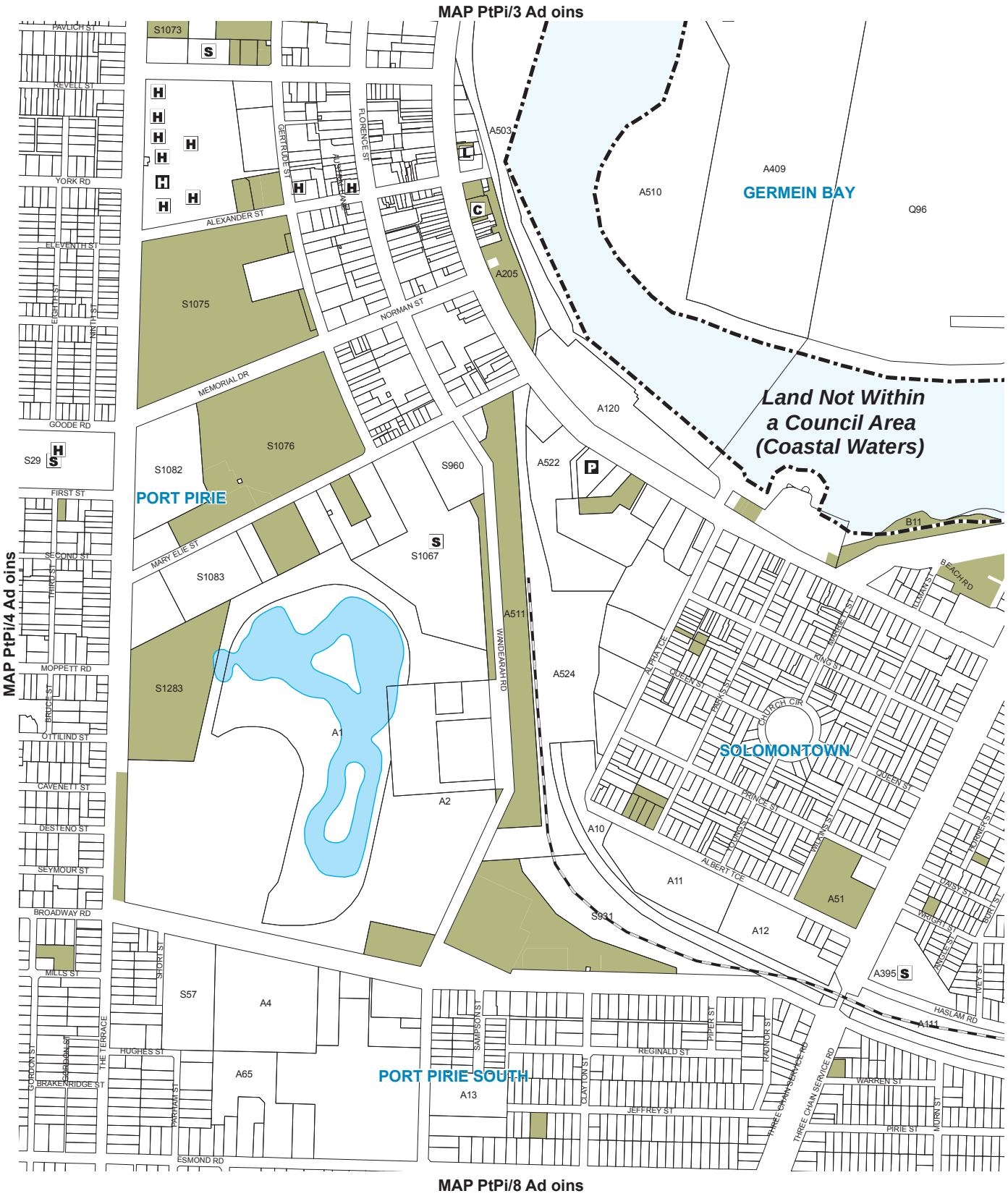
Zone Map PtPi/4

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



PORT PIRIE

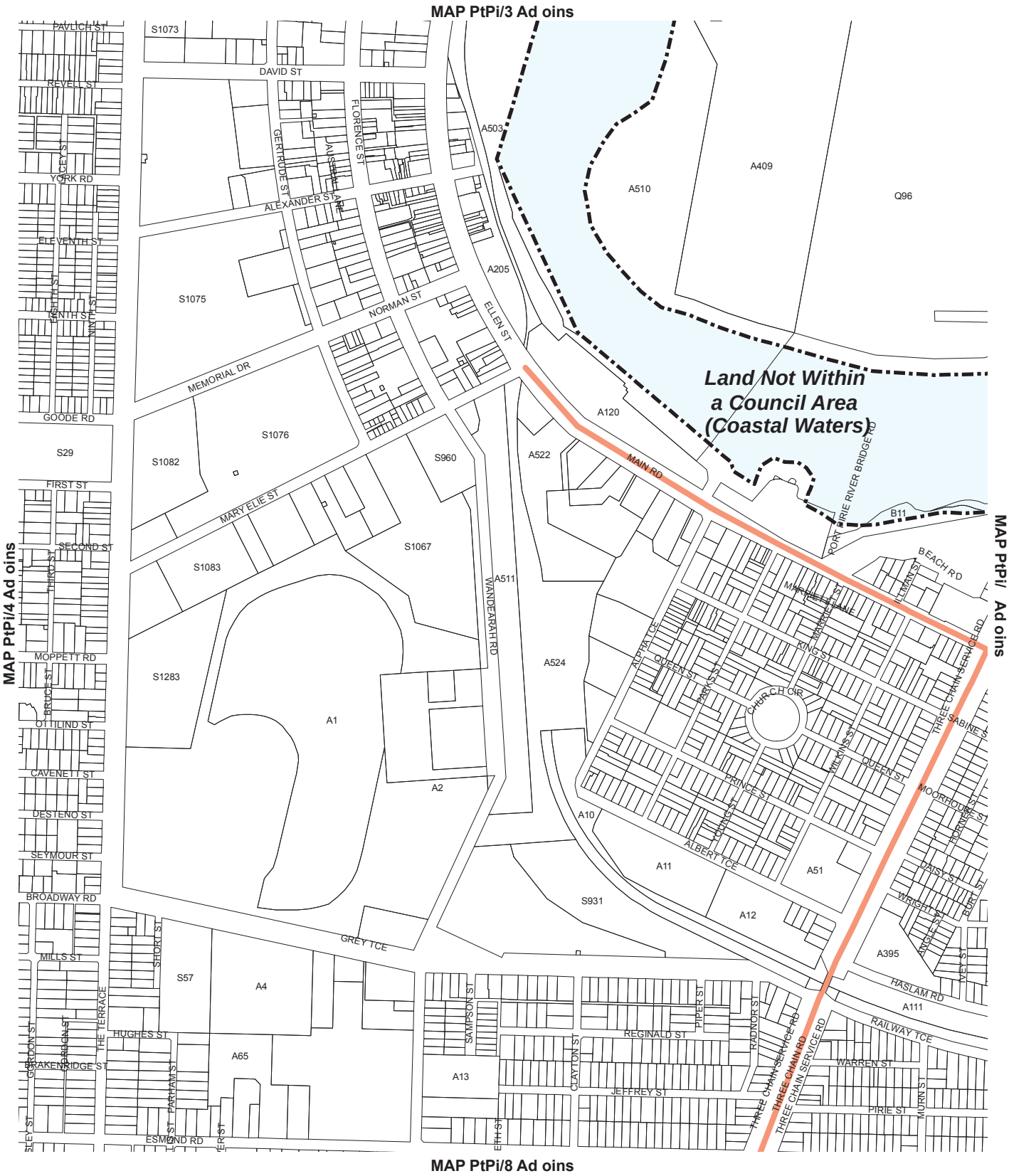
Policy Area Map PtPi/4



PORT PIRIE

Location Map PtPi/5

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



PORT PIRIE

Overlay Map PtPi/5

TRANSPORT

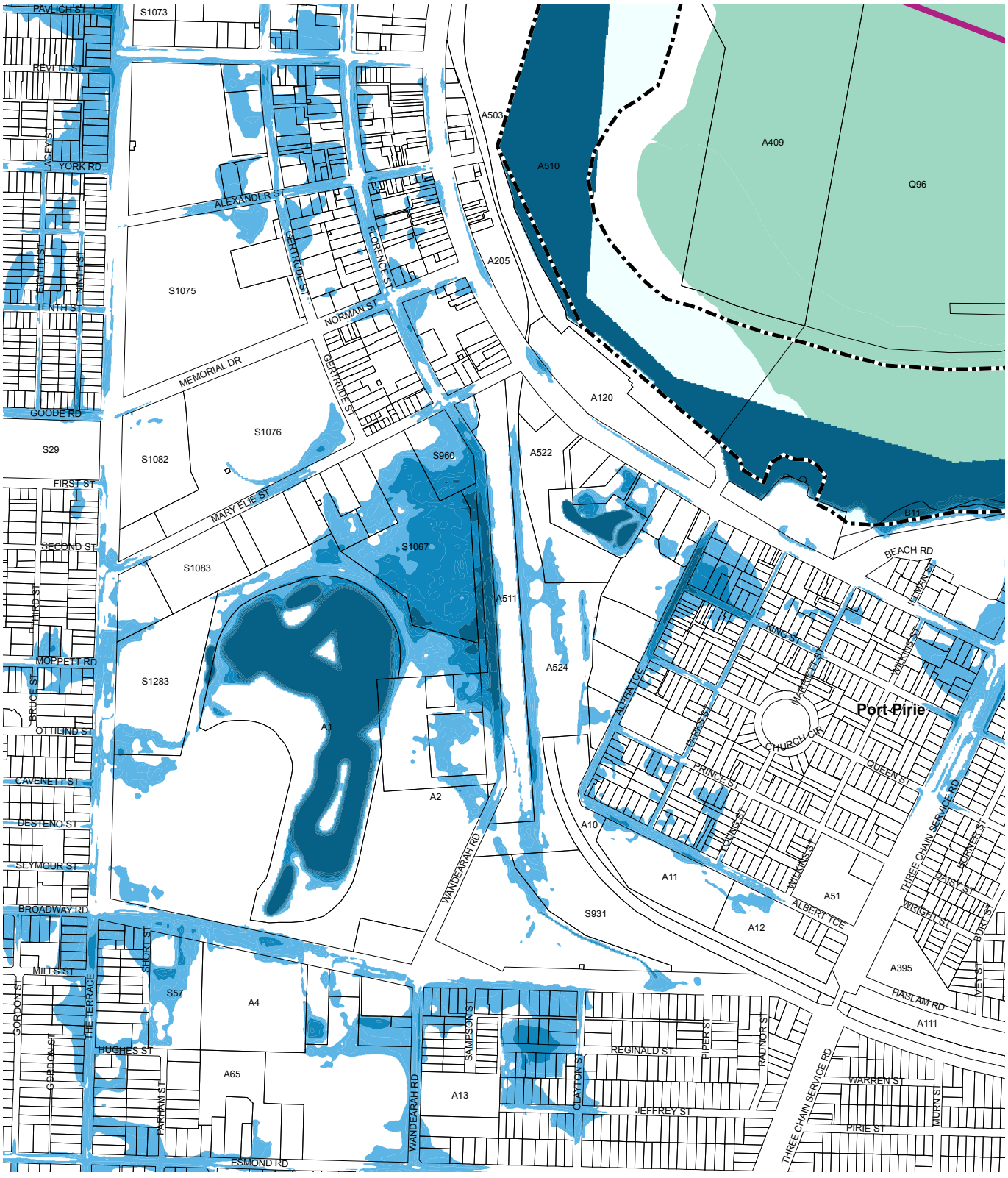
Secondary Arterial Roads

Development Plan Boundary

PORT PIRIE REGIONAL COUNCIL

Consolidated - 31 October 2017

MAP PtPi/3 Ad oins



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Floodplain Area - Flood Risk Categories

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- Medium Flood Risk (>0.3m to 0.6m depth)
- Low Flood Risk (Zero to 0.3m depth)
- 132kV
- Coastal Acid Sulfate Soils
- Development Plan Boundary

N

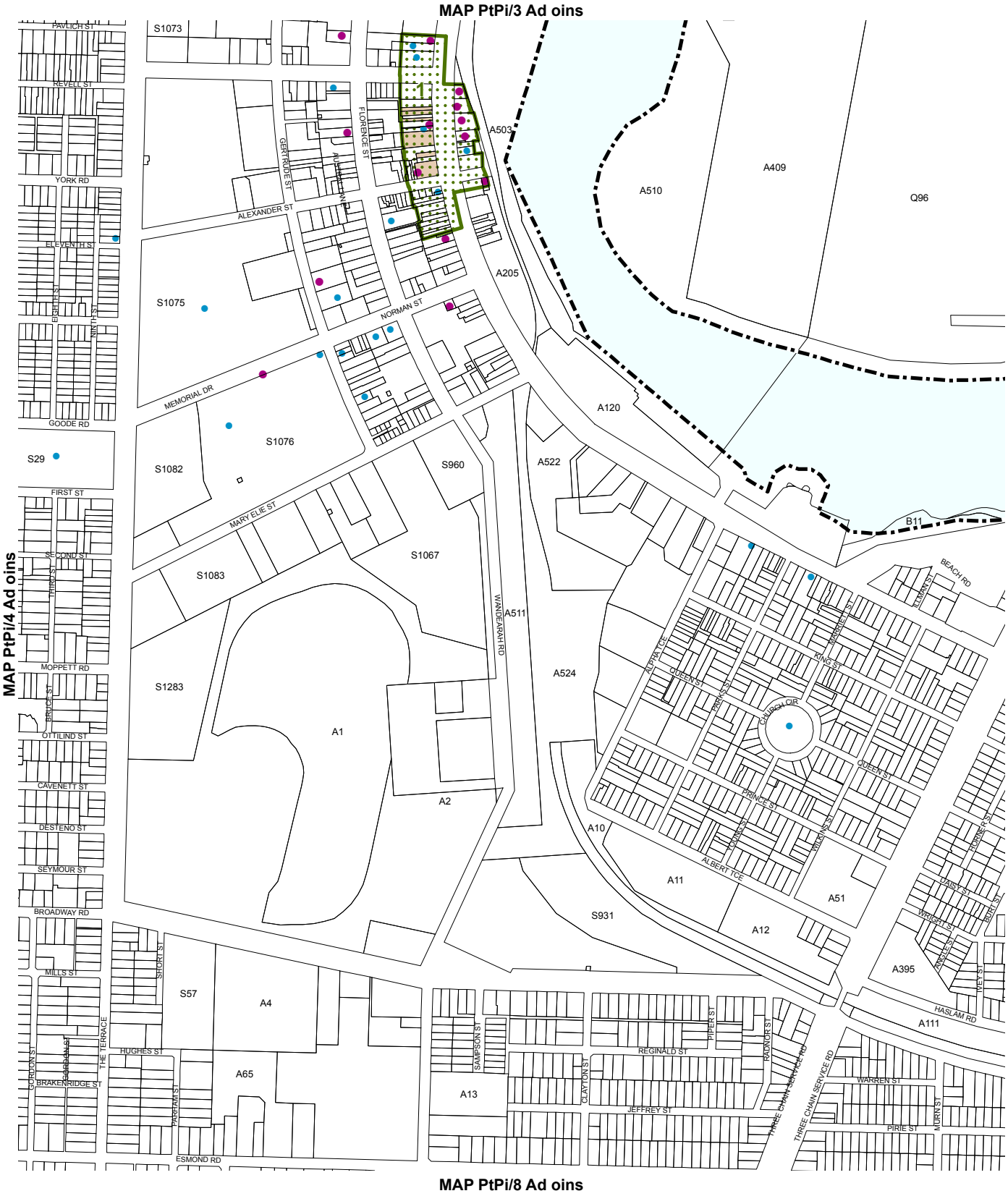
0 500m

PORT PIRIE

Overlay Map PtPi/5

DEVELOPMENT CONSTRAINTS

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



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Historic Conservation Area
1 Port Pirie Historic Conservation Area

N

0 500 m

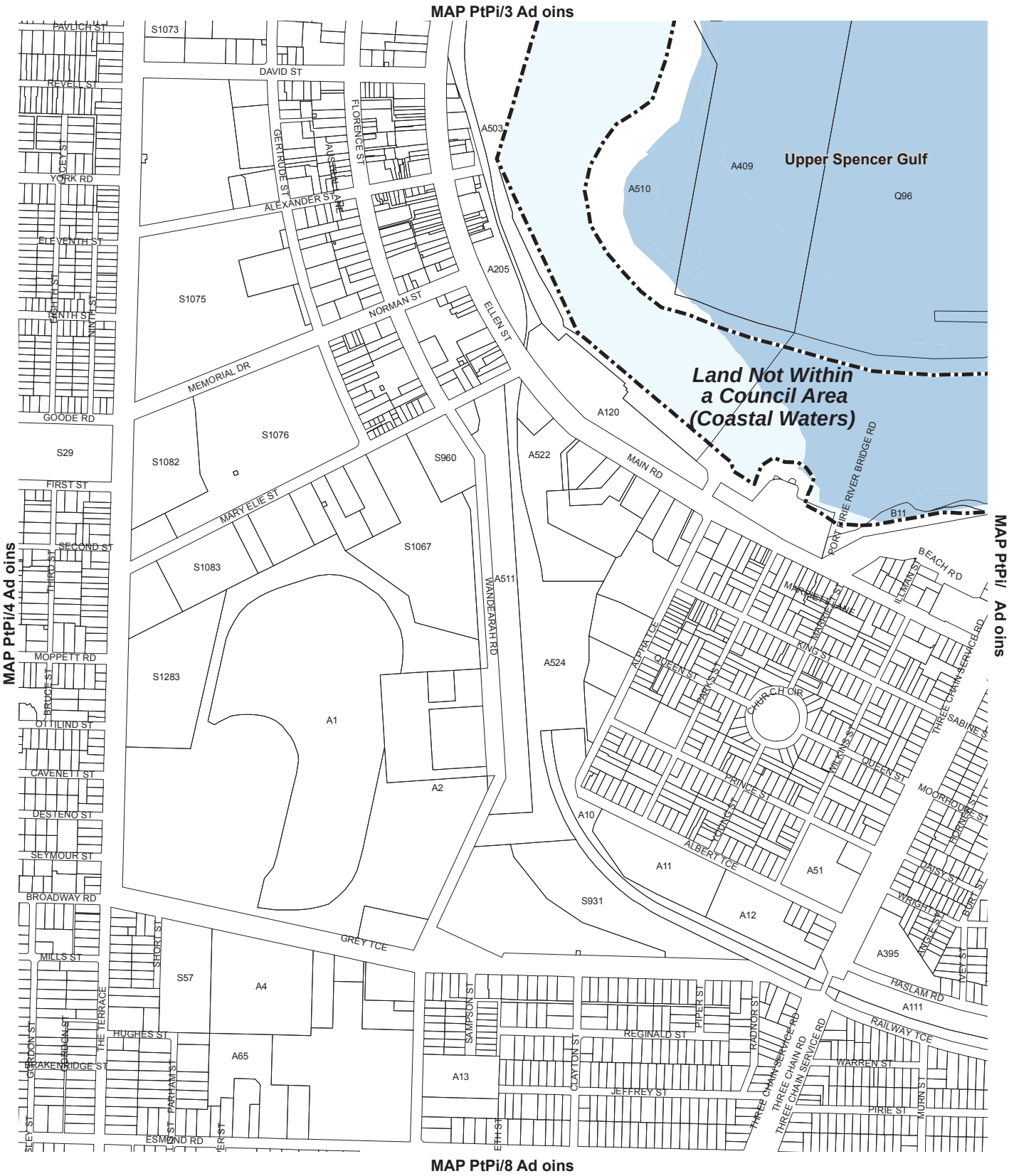
State heritage place
Local heritage place
Historic Conservation Area
Contributory item
Development Plan Boundary

PORT PIRIE

Overlay Map PtPi/5

HERITAGE

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



N

0 500 m

PORT PIRIE

Overlay Map PtPi/5

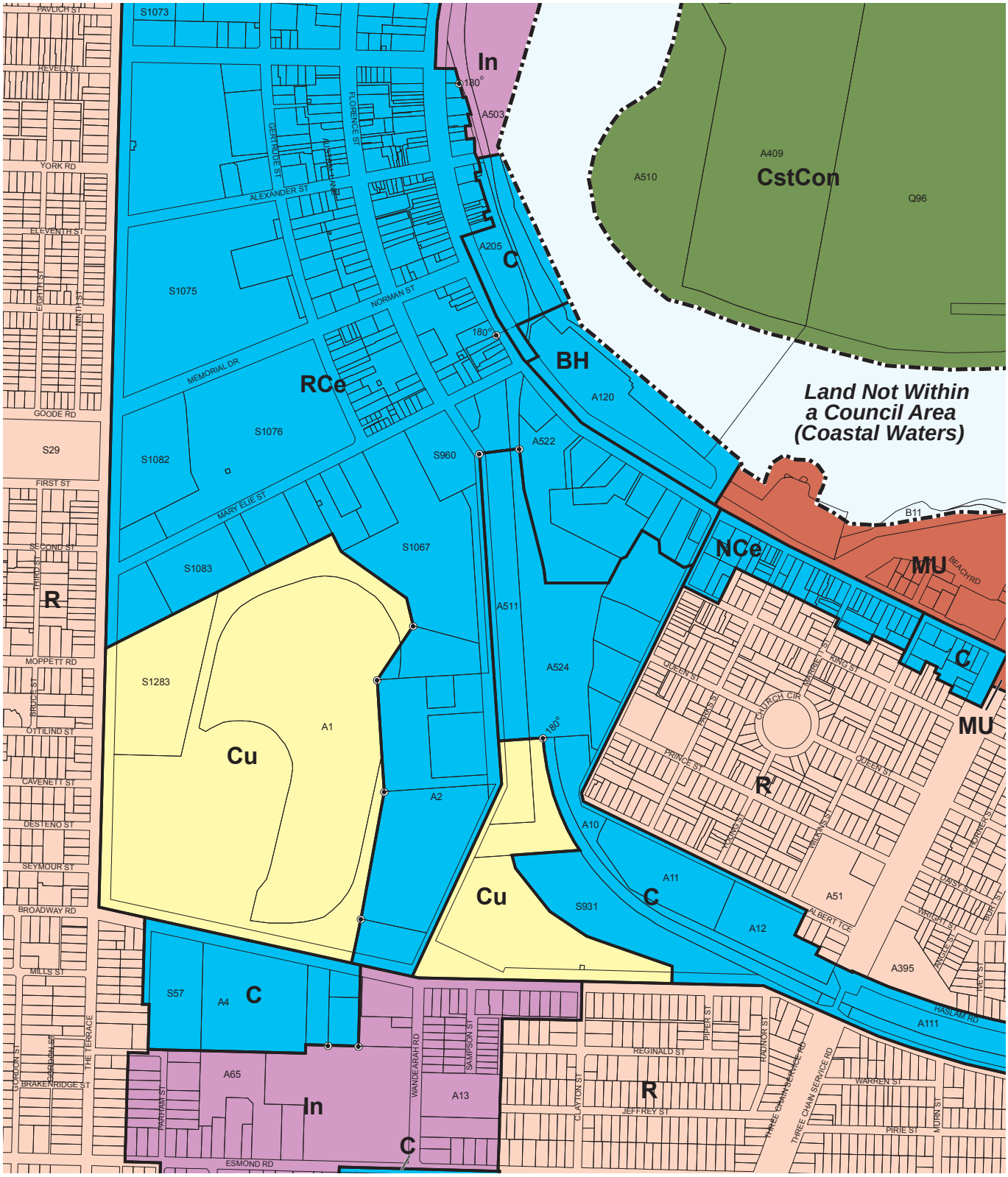
NATURAL RESOURCES

Wetlands of National Importance

Development Plan Boundary

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

MAP PtPi/3 Ad oins



MAP PtPi/4 Ad oins

MAP PtPi/ Ad oins

MAP PtPi/8 Ad oins

Lamberts Conformal Conic Projection, GDA94

ones

BH	Bulk Handling
CstCon	Coastal Conservation
C	Commercial
Cu	Community
In	Industry
MU	Mixed Use
NCe	Neighbourhood Centre
RCe	Regional Centre
R	Residential
	Zone Boundary
	Development Plan Boundary

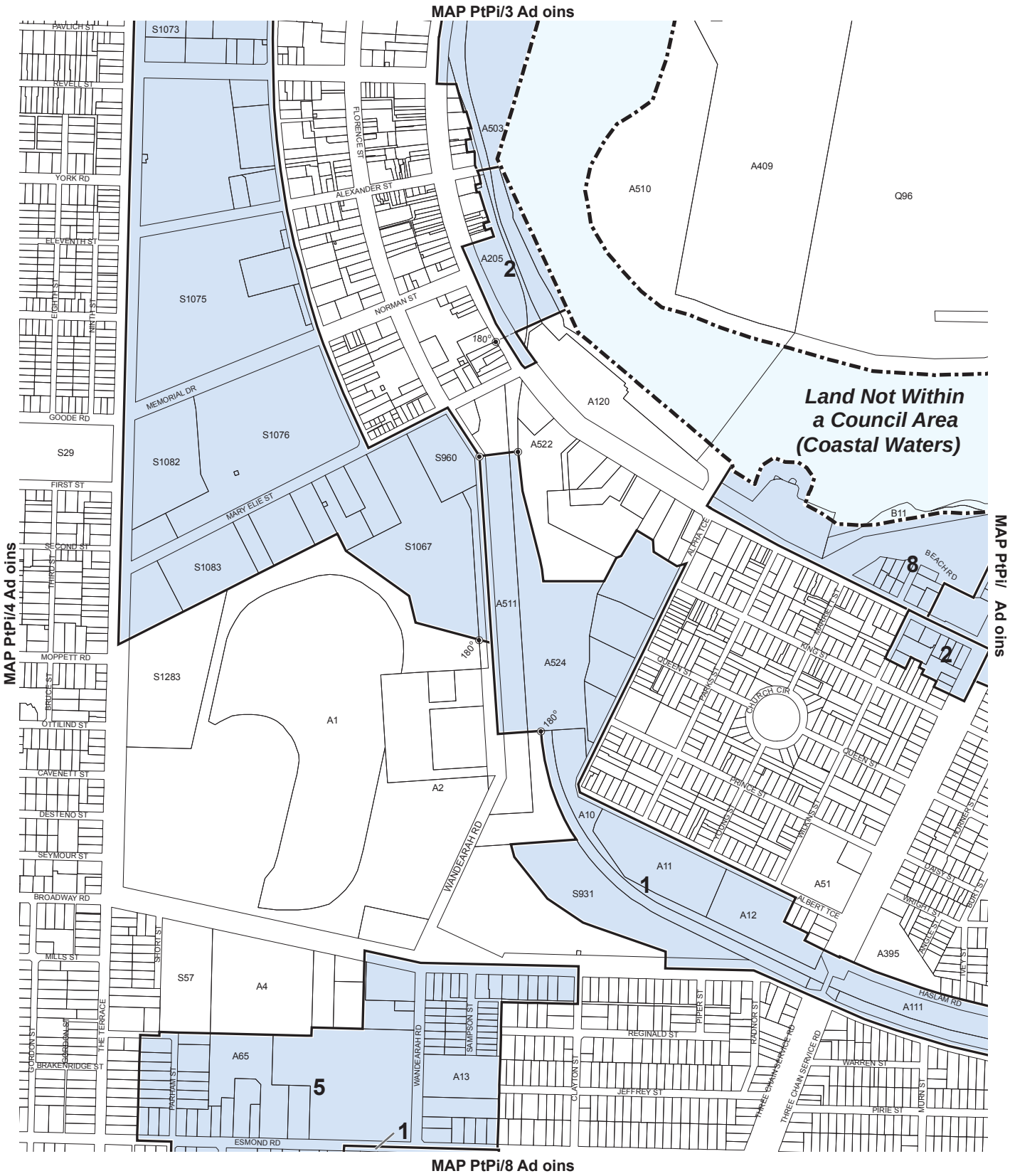
N

0 500 m

PORT PIRIE

one Map PtPi/5

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



Lamberts Conformal Conic Projection, GDA94

Policy Area

- **1** Commercial Policy Area 1
- **2** Commercial Policy Area 2
- **5** Industry Policy Area 5
  Industry Policy Area 6
  Mixed Use Policy Area 7
- **8** Mixed Use Policy Area 8
  Regional Centre Policy Area 9

N

0 500 m

PORT PIRIE

Policy Area Map PtPi/5

Policy Area Boundary

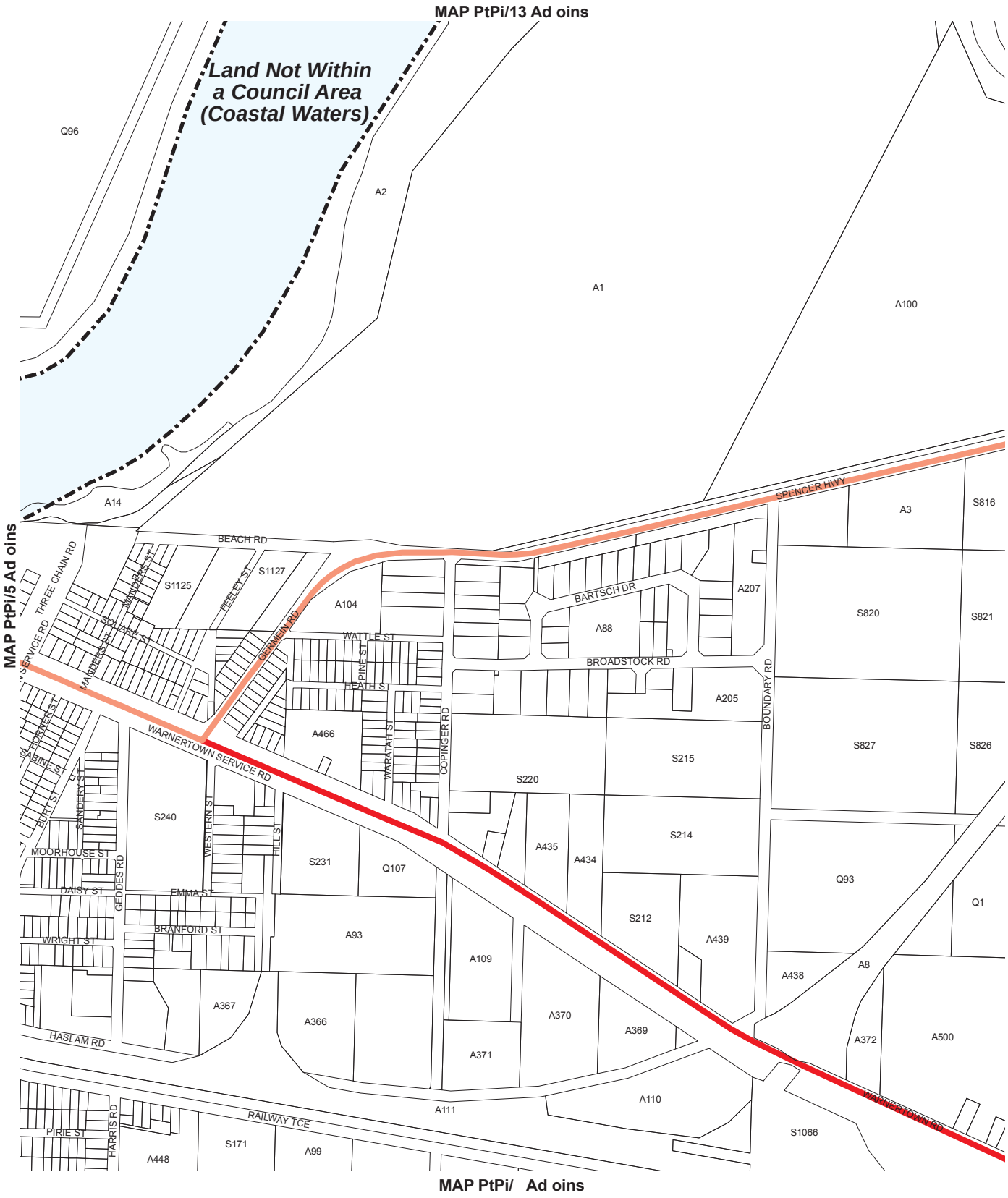
Development Plan Boundary

PORT PIRIE

Location Map PtPi/

Railways
Local Reserves
Development Plan Boundary

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



Overlay Map PtPi/

TRANSPORT

Primary Arterial Roads

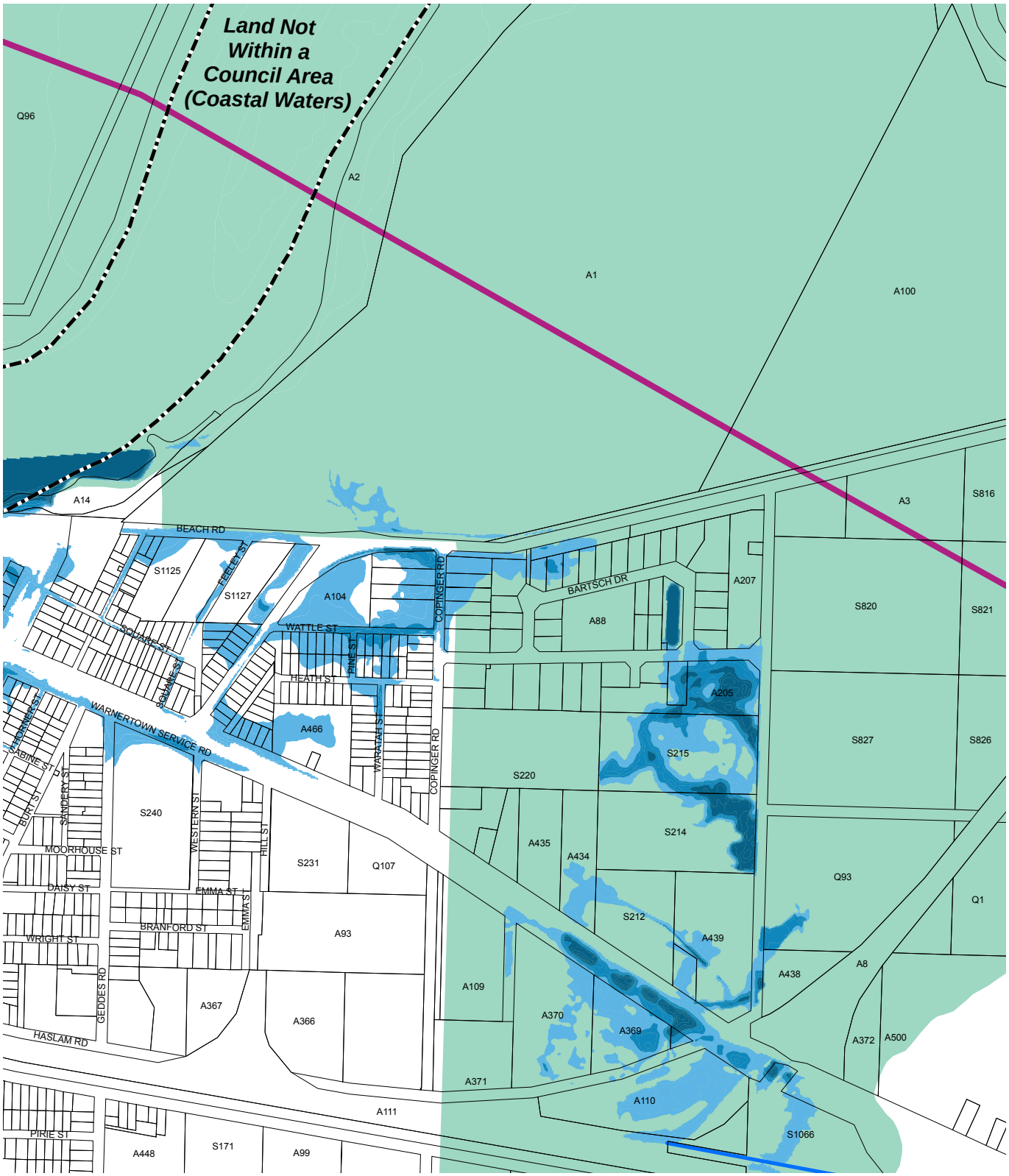
Secondary Arterial Roads

Development Plan Boundary

PORT PIRIE REGIONAL COUNCIL

Consolidated - 31 October 2017

MAP PtPi/13 Ad oins



MAP PtPi/5 Ad oins

MAP PtPi/14 Ad oins

MAP PtPi/ Ad oins

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Floodplain Area - Flood Risk Categories

- High Flood Risk (>0.6m depth)
- Medium Flood Risk (>0.3m to 0.6m depth)
- Low Flood Risk (Zero to 0.3m depth)
- 132kV
- Epic Energy SA Pty Ltd
- Coastal Acid Sulfate Soils
- Development Plan Boundary

N

0 500 m

PORT PIRIE

Overlay Map PtPi/

DEVELOPMENT CONSTRAINTS

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

Heritage points are indicative only.
For further information on State and Local Heritage Places and Contributory Items please refer to the relevant tables within this document.

N

0 500 m

PORT PIRIE

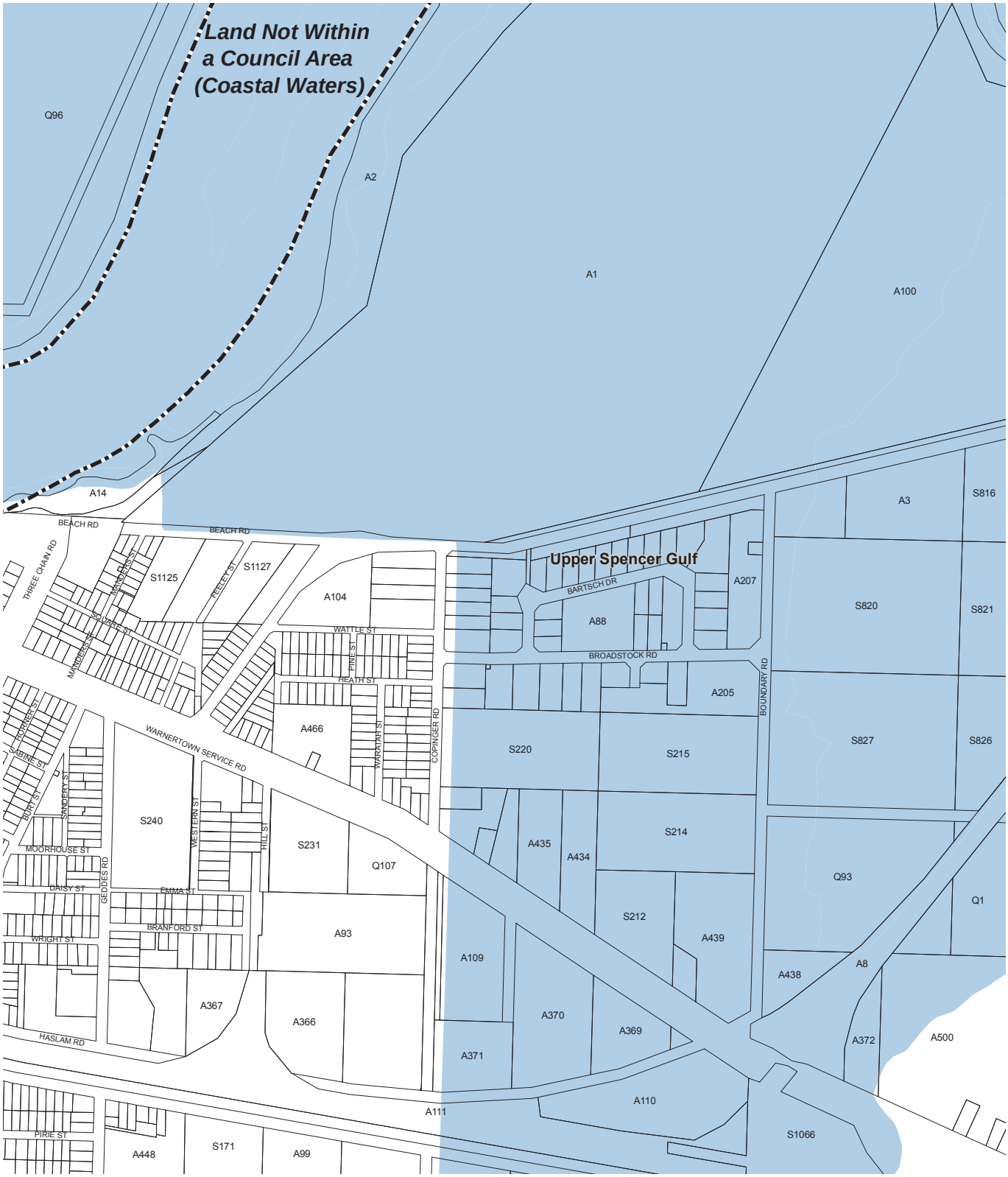
Overlay Map PtPi/
HERITAGE

Local heritage place

Development Plan Boundary

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

MAP PtPi/13 Ad oins



MAP PtPi/5 Ad oins

MAP PtPi/14 Ad oins

MAP PtPi/ Ad oins

N

0 500 m

PORT PIRIE

Overlay Map PtPi/

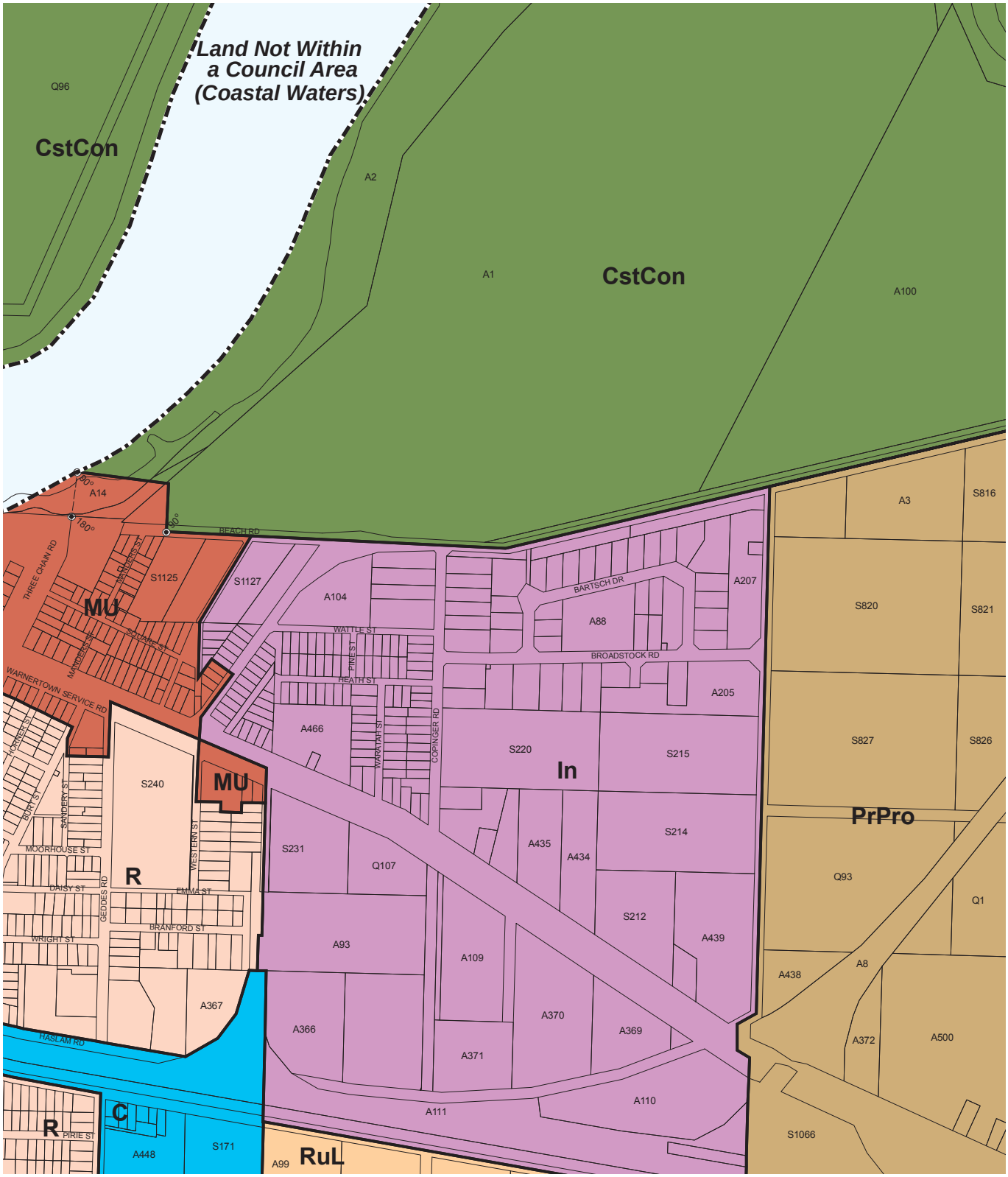
NATURAL RESOURCES

Wetlands of National Importance

Development Plan Boundary

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

MAP PtPi/13 Ad oins



MAP PtPi/5 Ad oins

MAP PtPi/14 Ad oins

MAP PtPi/ Ad oins

Lamberts Conformal Conic Projection, GDA94

N

0 500 m

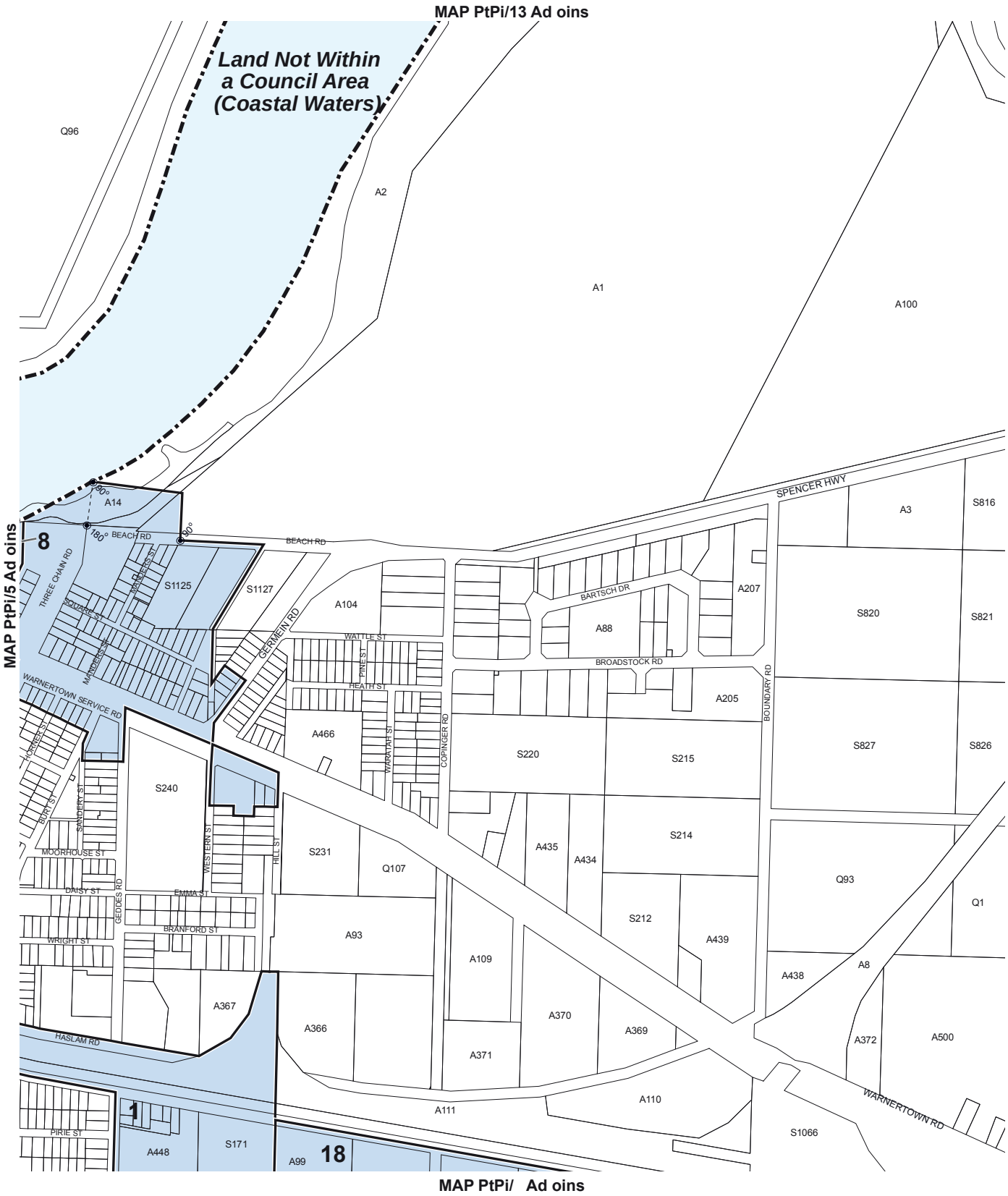
ones

CstCon	Coastal Conservation
C	Commercial
In	Industry
MU	Mixed Use
PrPro	Primary Production
R	Residential
RuL	Rural Living
	Zone Boundary
	Development Plan Boundary

PORT PIRIE

one Map PtPi/

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



Lamberts Conformal Conic Projection, GDA94

Policy Area

1 Commercial Policy Area 1

18 Rural Living Policy Area 18

Mixed Use Policy Area 7

8 Mixed Use Policy Area 8

N

0 500 m

PORT PIRIE

Policy Area Map PtPi/

Policy Area Boundary

Development Plan Boundary

PORT PIRIE

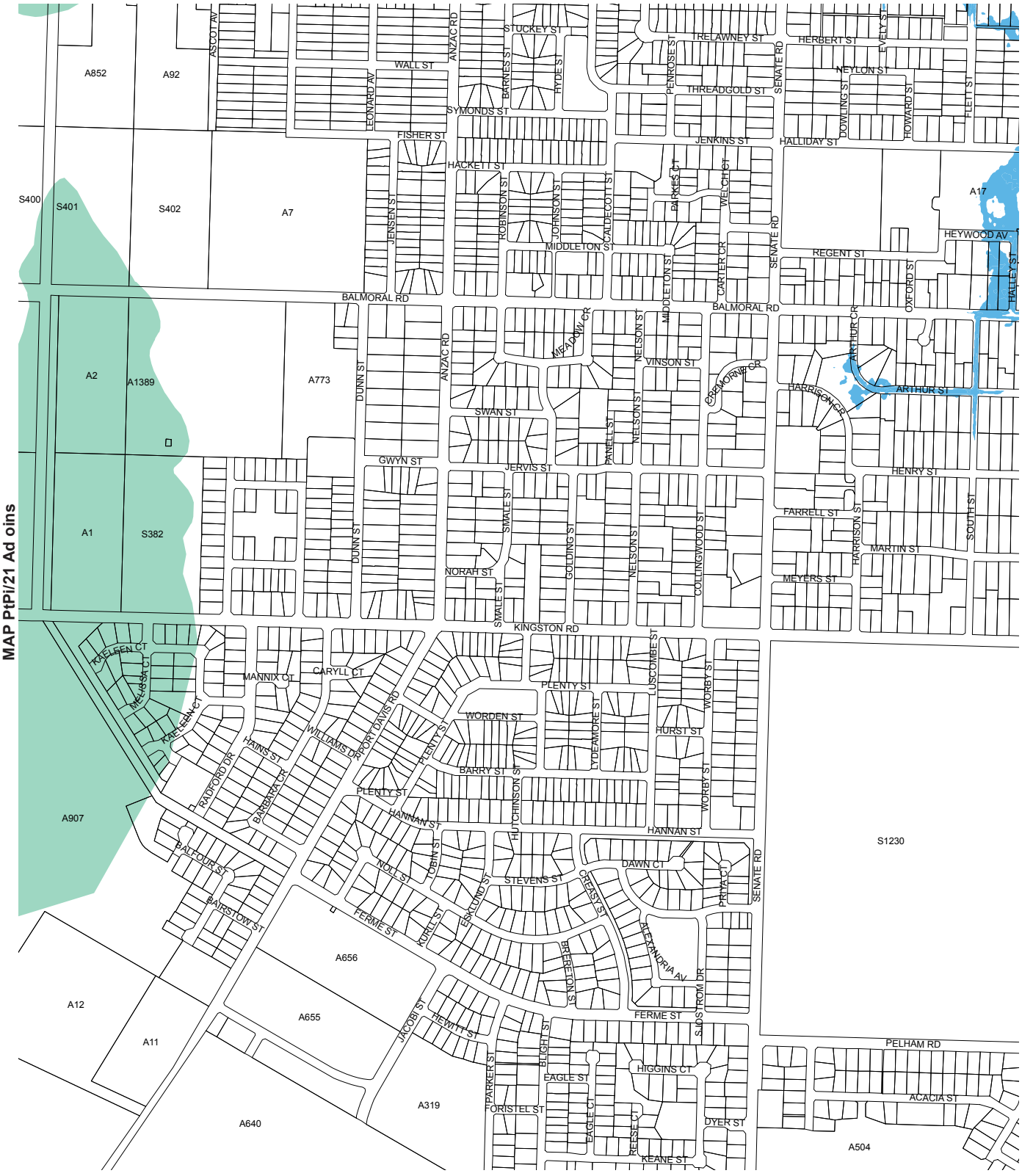
Location Map PtPi/

S School

H Other Health Services

Local Reserves

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



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- Coastal Acid Sulfate Soils

N

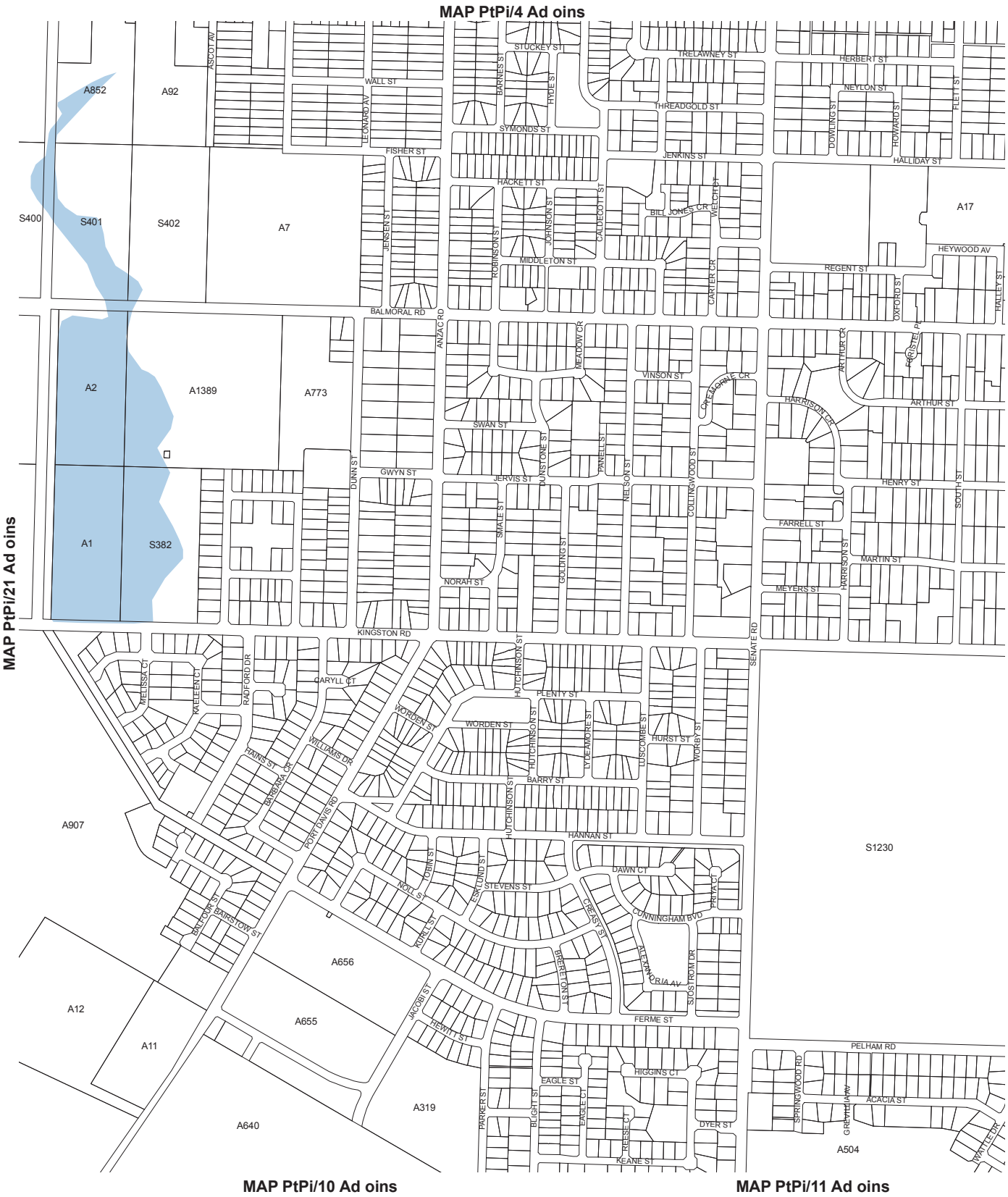
0 500 m

PORT PIRIE

Overlay Map PtPi/

DEVELOPMENT CONSTRAINTS

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



PORT PIRIE

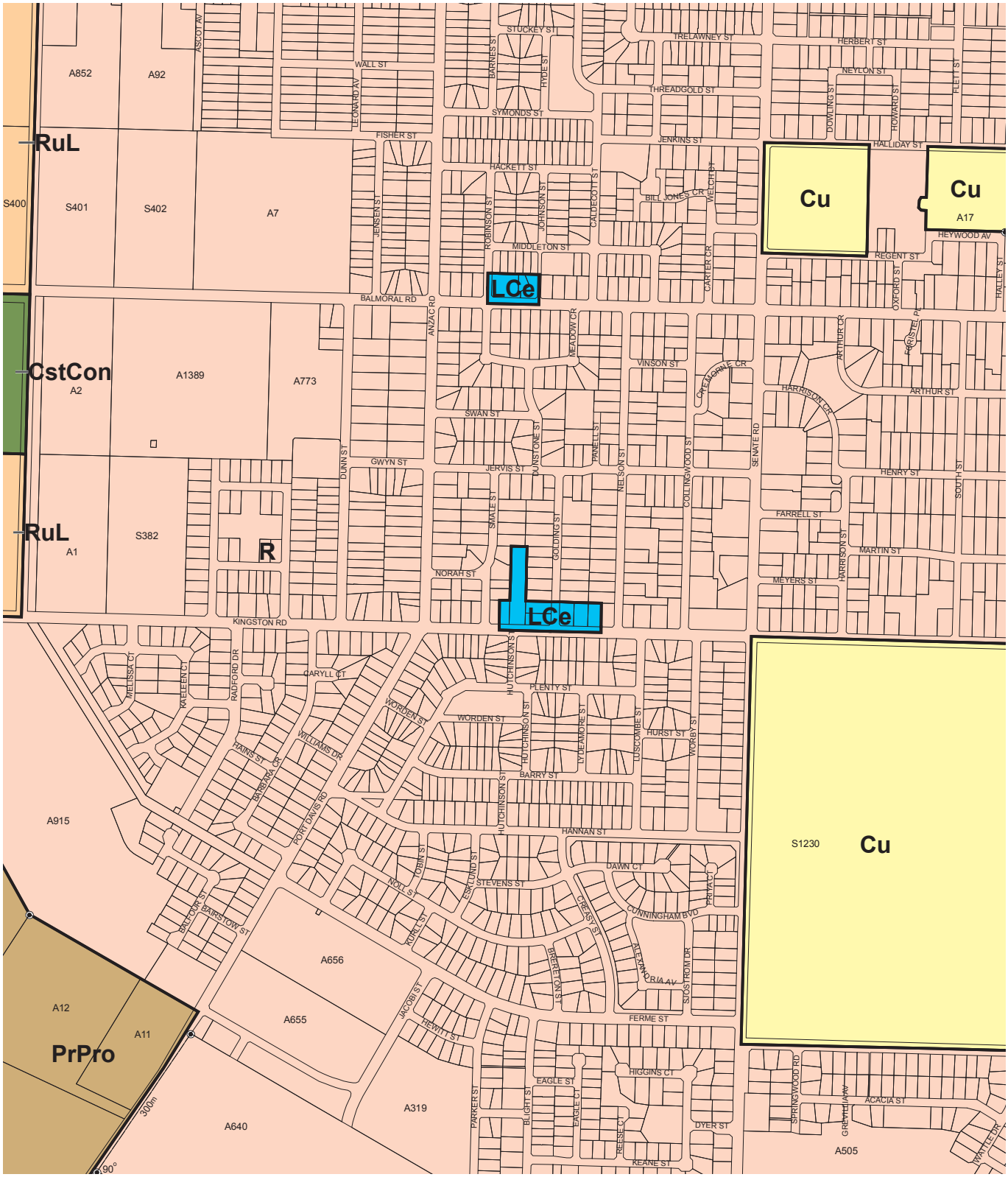
Overlay Map PtPi/

NATURAL RESOURCES

Wetlands of National Importance

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

MAP PtPi/4 Ad oins



MAP PtPi/21 Ad oins

MAP PtPi/8 Ad oins

MAP PtPi/10 Ad oins

MAP PtPi/11 Ad oins

Lamberts Conformal Conic Projection, GDA94

N

0 500 m

ones

CstCon	Coastal Conservation
Cu	Community
LCe	Local Centre
PrPro	Primary Production
R	Residential
RuL	Rural Living
	Zone Boundary

PORT PIRIE

one Map PtPi/

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

Lamberts Conformal Conic Projection, GDA94

Policy Area

1 Rural Living Policy Area 17

N

0 500 m

PORT PIRIE

Policy Area Map PtPi/

Policy Area Boundary

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

0 500 m

N

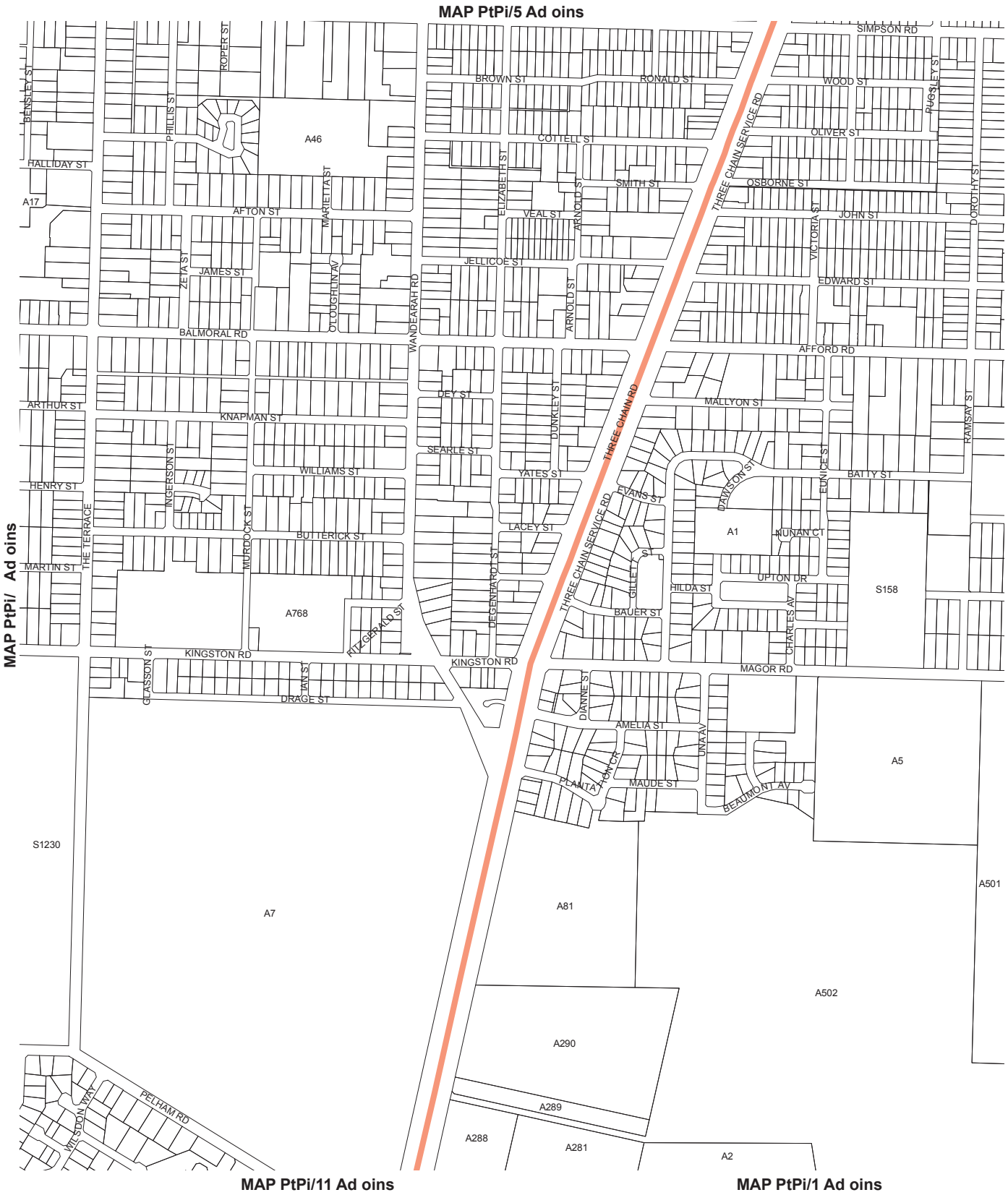
PORT PIRIE

Location Map PtPi/8

S School

Local Reserves

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



N

0 500 m

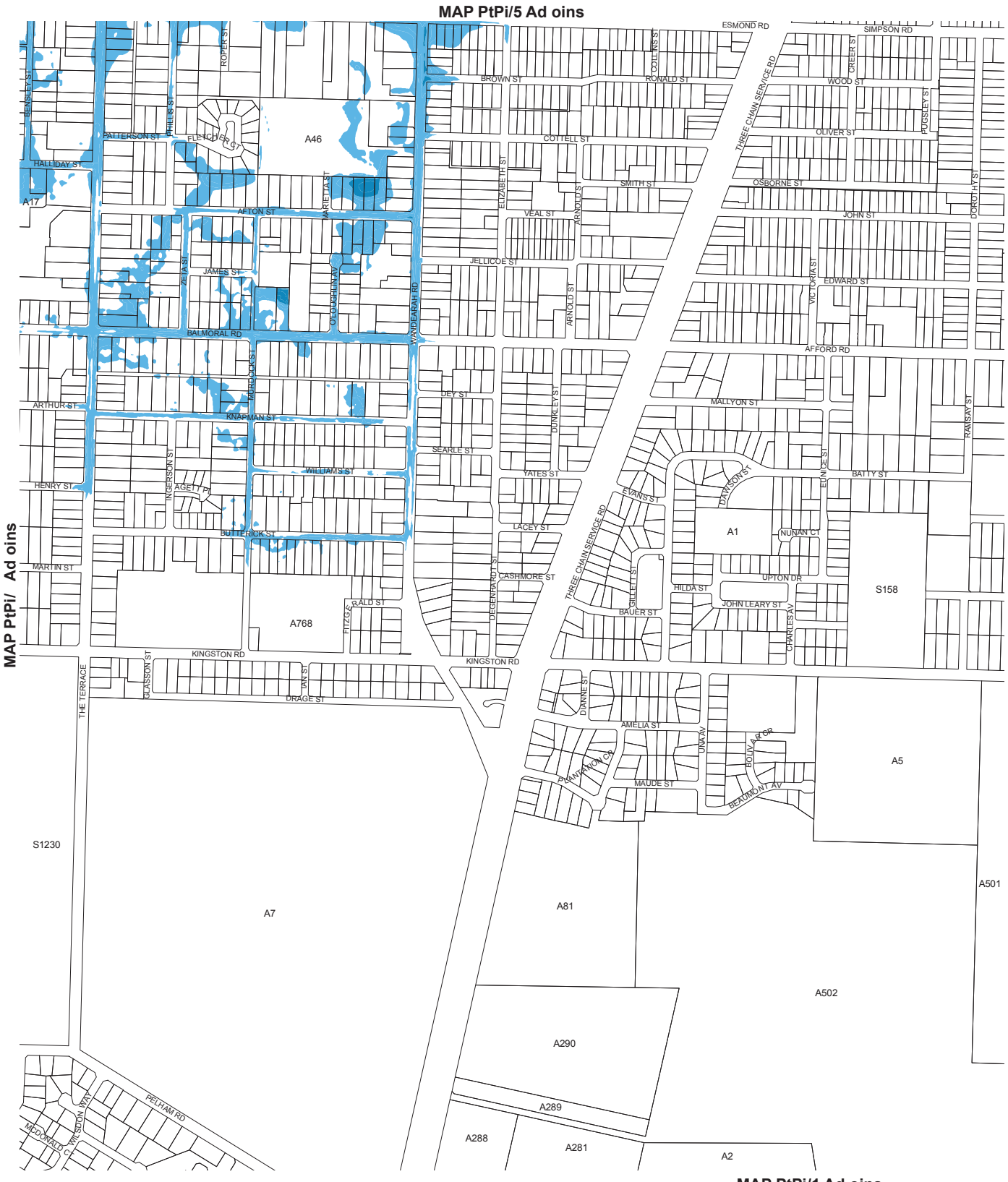
PORT PIRIE

Overlay Map PtPi/8

TRANSPORT

Secondary Arterial Roads

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



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N

0 500 m

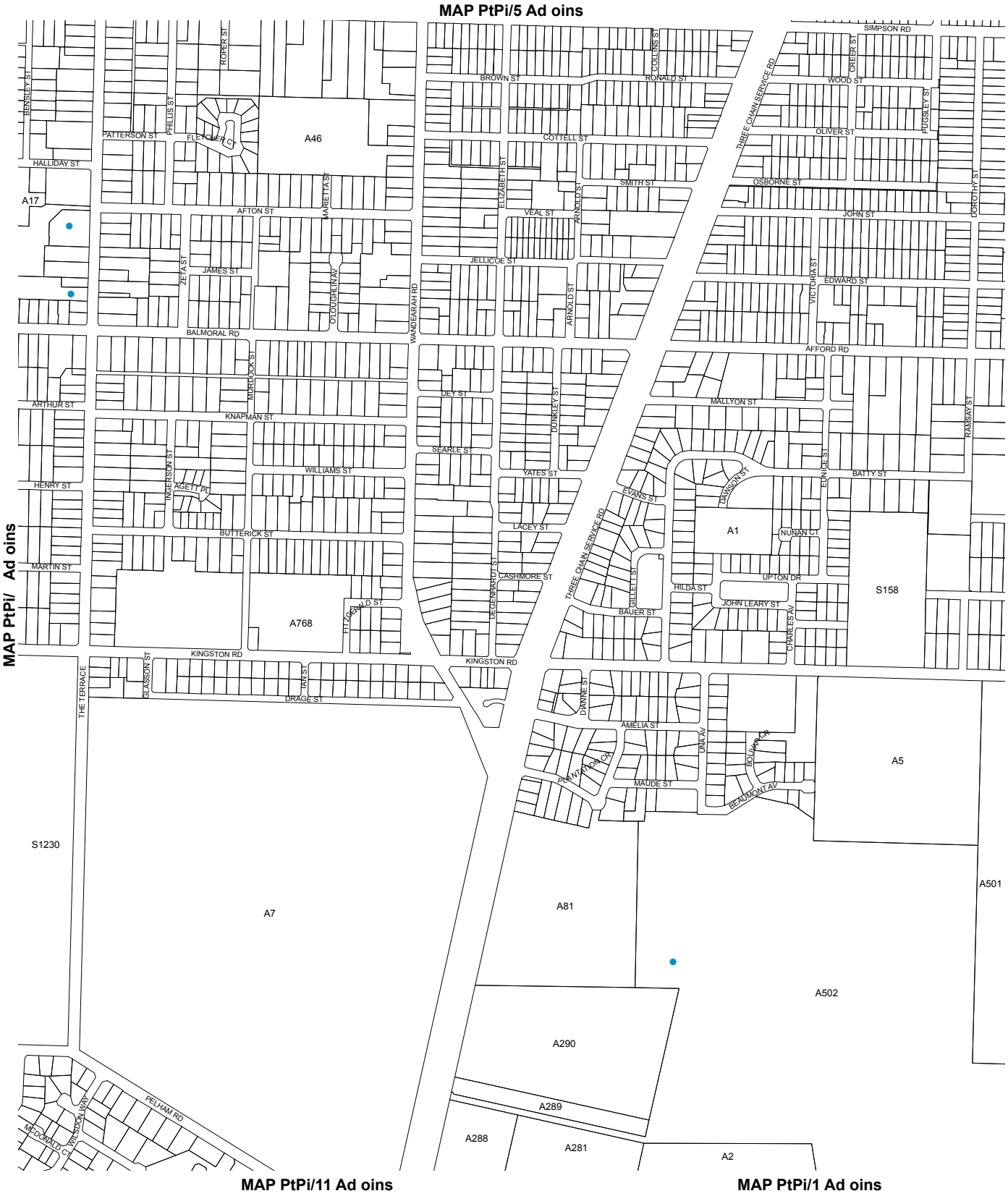
PORT PIRIE

Overlay Map PtPi/8

DEVELOPMENT CONSTRAINTS

PORT PIRIE REGIONAL COUNCIL

Consolidated - 31 October 2017



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N

0 500 m

PORT PIRIE

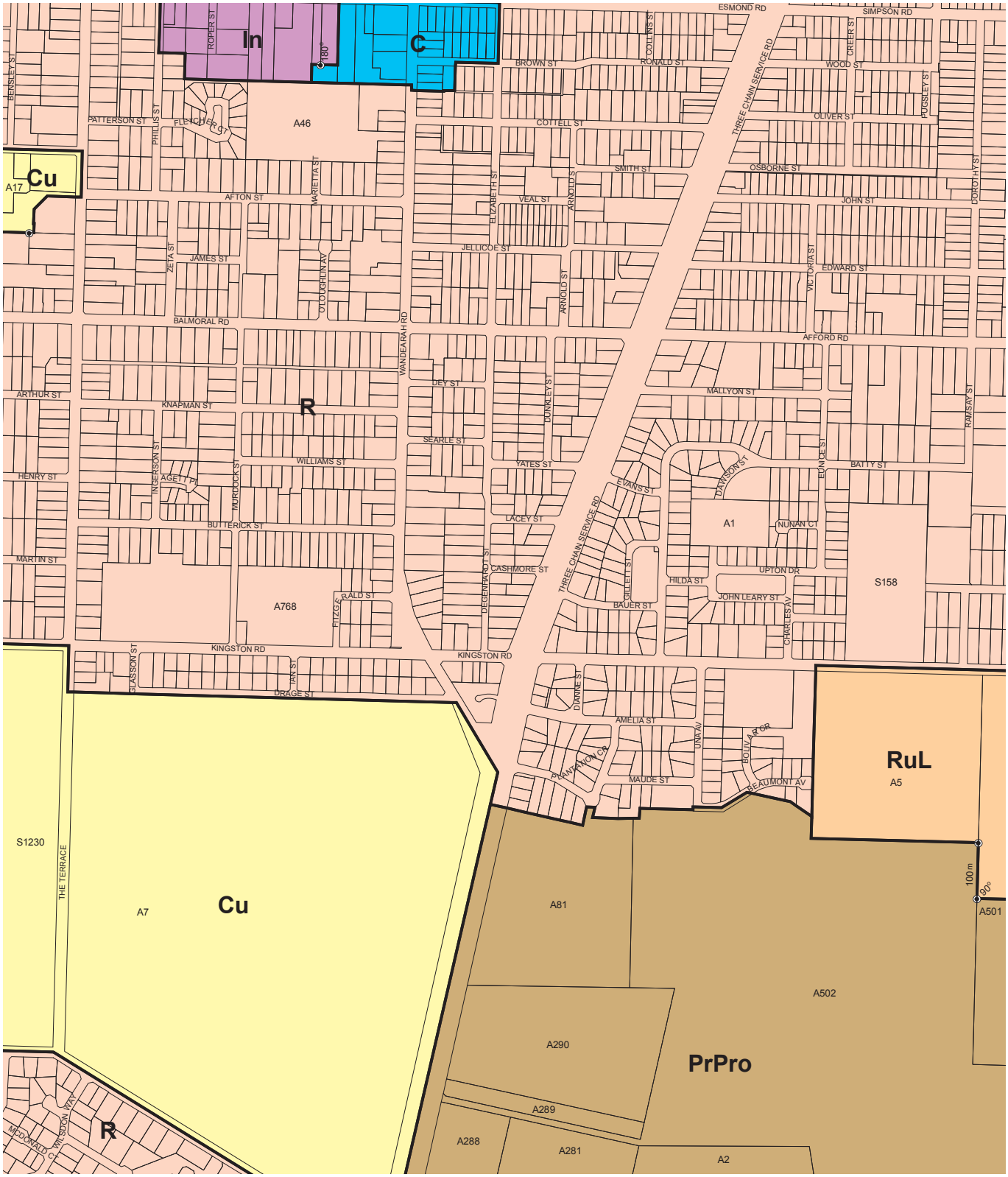
Overlay Map PtPi/8

HERITAGE

● Local heritage place

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

MAP PtPi/5 Ad oins



Lamberts Conformal Conic Projection, GDA94

N

0 500 m

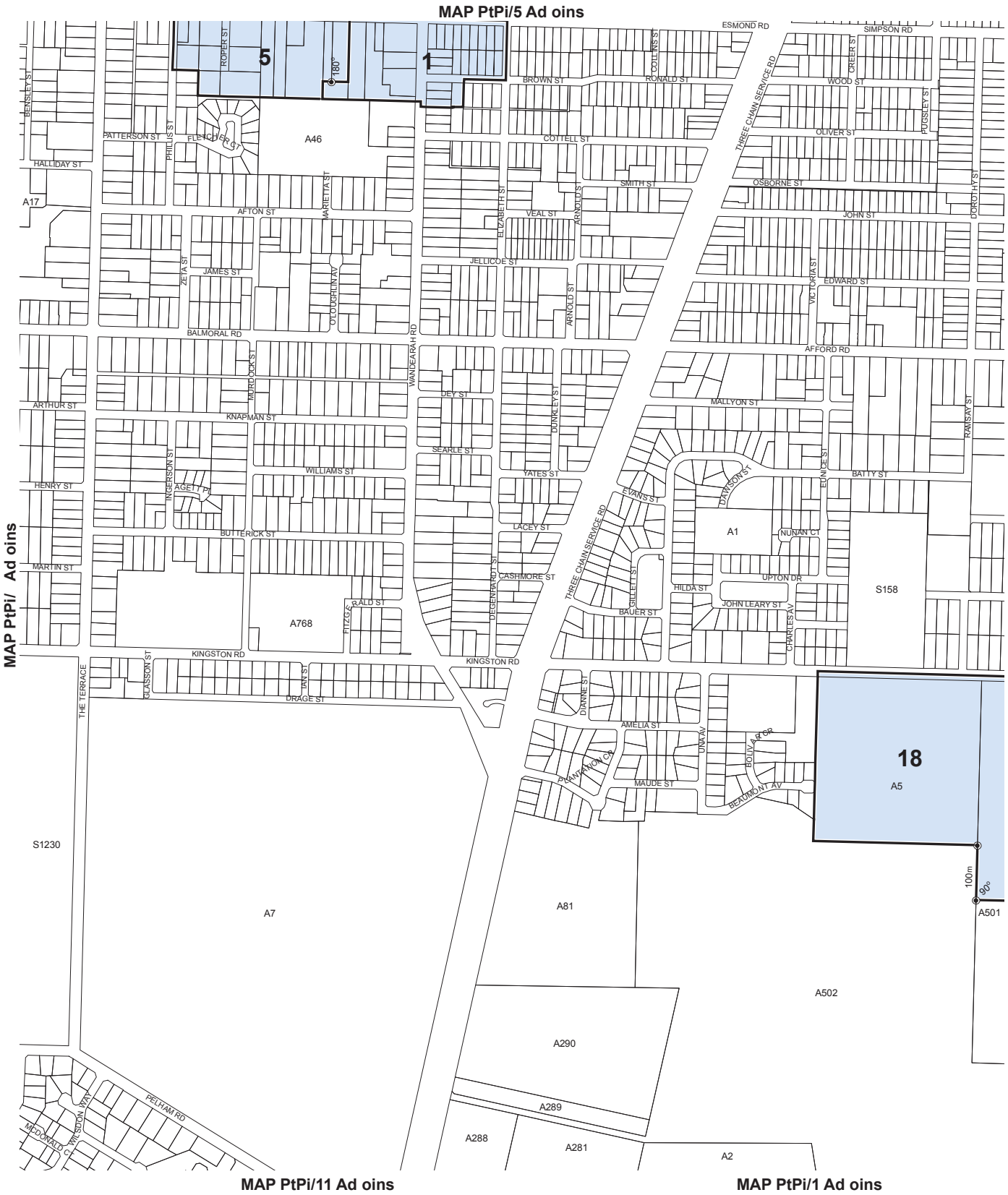
ones

C	Commercial
Cu	Community
In	Industry
PrPro	Primary Production
R	Residential
RuL	Rural Living
	Zone Boundary

PORT PIRIE

one Map PtPi/8

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



Lamberts Conformal Conic Projection, GDA94

Policy Area

1 Commercial Policy Area 1
18 Rural Living Policy Area 18
5 Industry Policy Area 5

N

0 500 m

PORT PIRIE

Policy Area Map PtPi/8

Policy Area Boundary

N

0 500 m

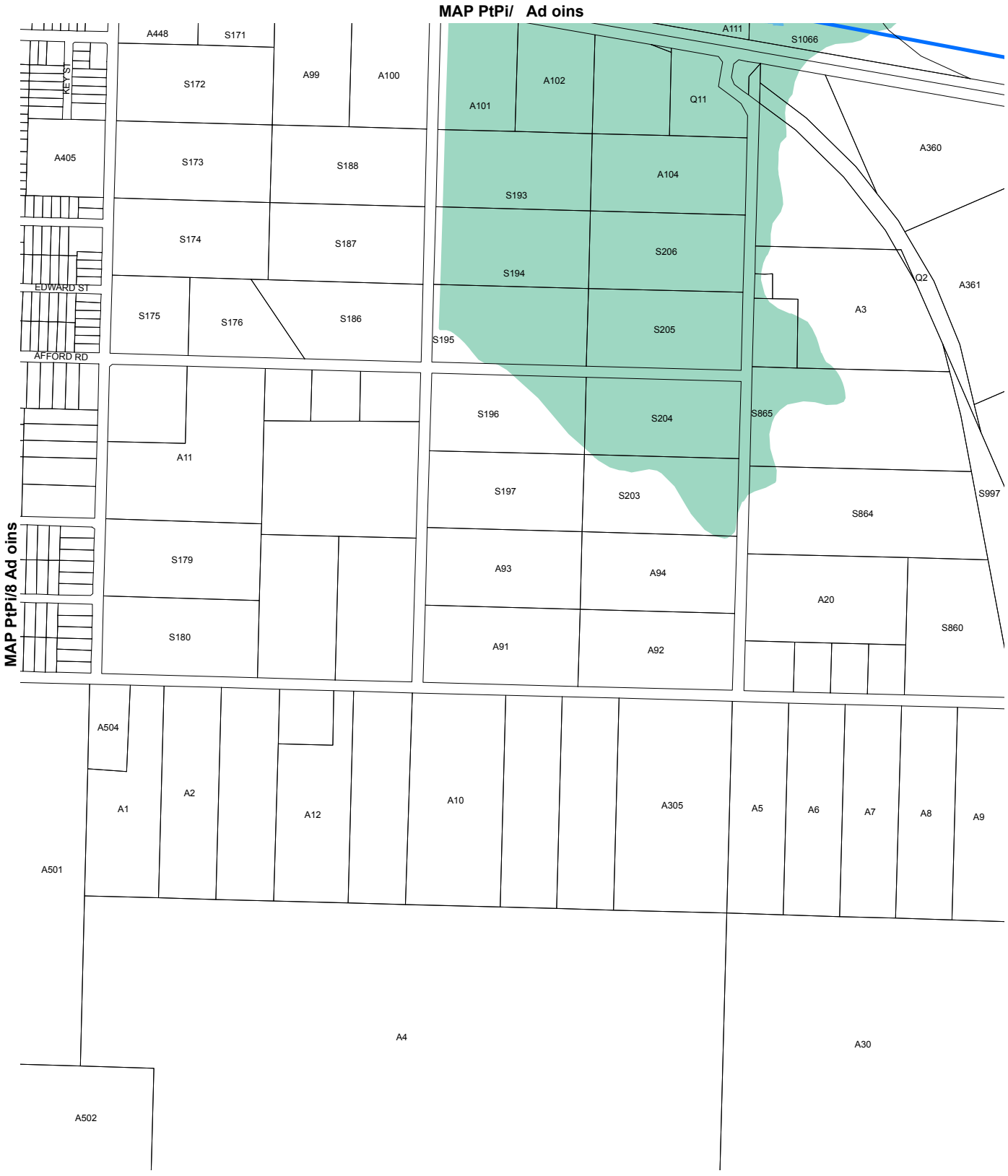
PORT PIRIE

Location Map PtPi/

Railways

Local Reserves

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



Disclaimer

These maps have been prepared on the basis of survey, hydraulic and hydrologic modelling undertaken in 2013 to protect against the risk of flooding during a 1:100 year ARI flood event to the relatively flat areas which drain via an underground drainage network either directly to the Port Pirie River (Spencer Gulf) or to four detention basins that are either pumped or drain to the Port Pirie River.

A Levee bank has been constructed to protect the township from seawater intrusion during extreme tidal events (a 100 year ARI sea flood event together with an allowance of 0.3 of a metre for sea level rise to the year 2050). The levee will need to be maintained to provide ongoing protection and increased in height to address further sea level rise. The risk of the failure of the levee should be taken into account.

These maps are only intended to be used as a policy tool for planning purposes and in broad scale flood risk management, and the should not be relied on for any other purpose. They do not purport to illustrate actual inundation patterns, which will depend on the size and nature of a particular flood event and other circumstances pertaining to the relevant place and at the relevant time.

Floodplain Area - Flood Risk Categories

- High Flood Risk (>0.6m depth)
- Medium Flood Risk (>0.3m to 0.6m depth)
- Low Flood Risk (Zero to 0.3m depth)
- Epic Energy SA Pty Ltd
- Coastal Acid Sulfate Soils

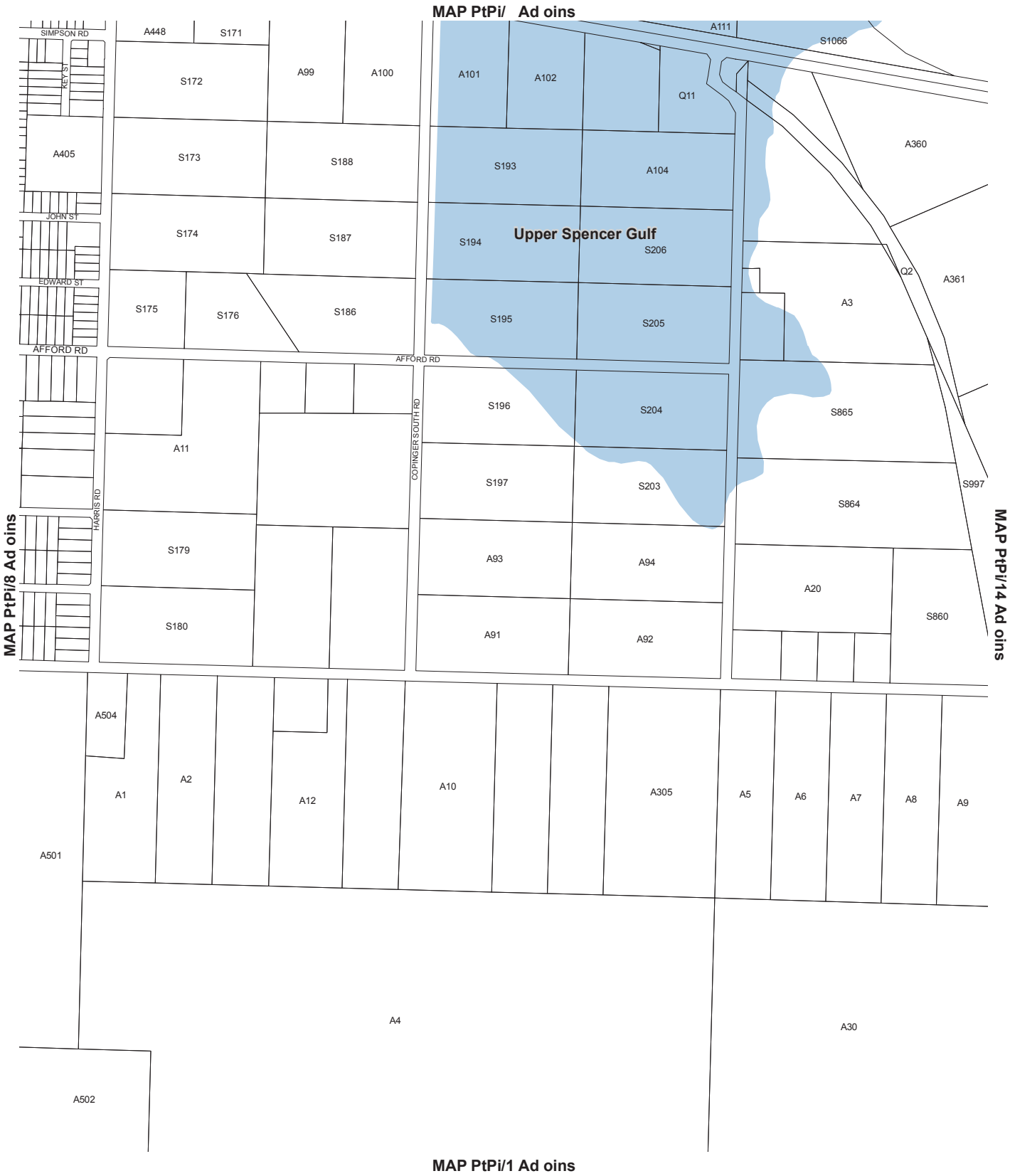
N

0 500 m

PORT PIRIE

Overlay Map PtPi/
DEVELOPMENT CONSTRAINTS

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



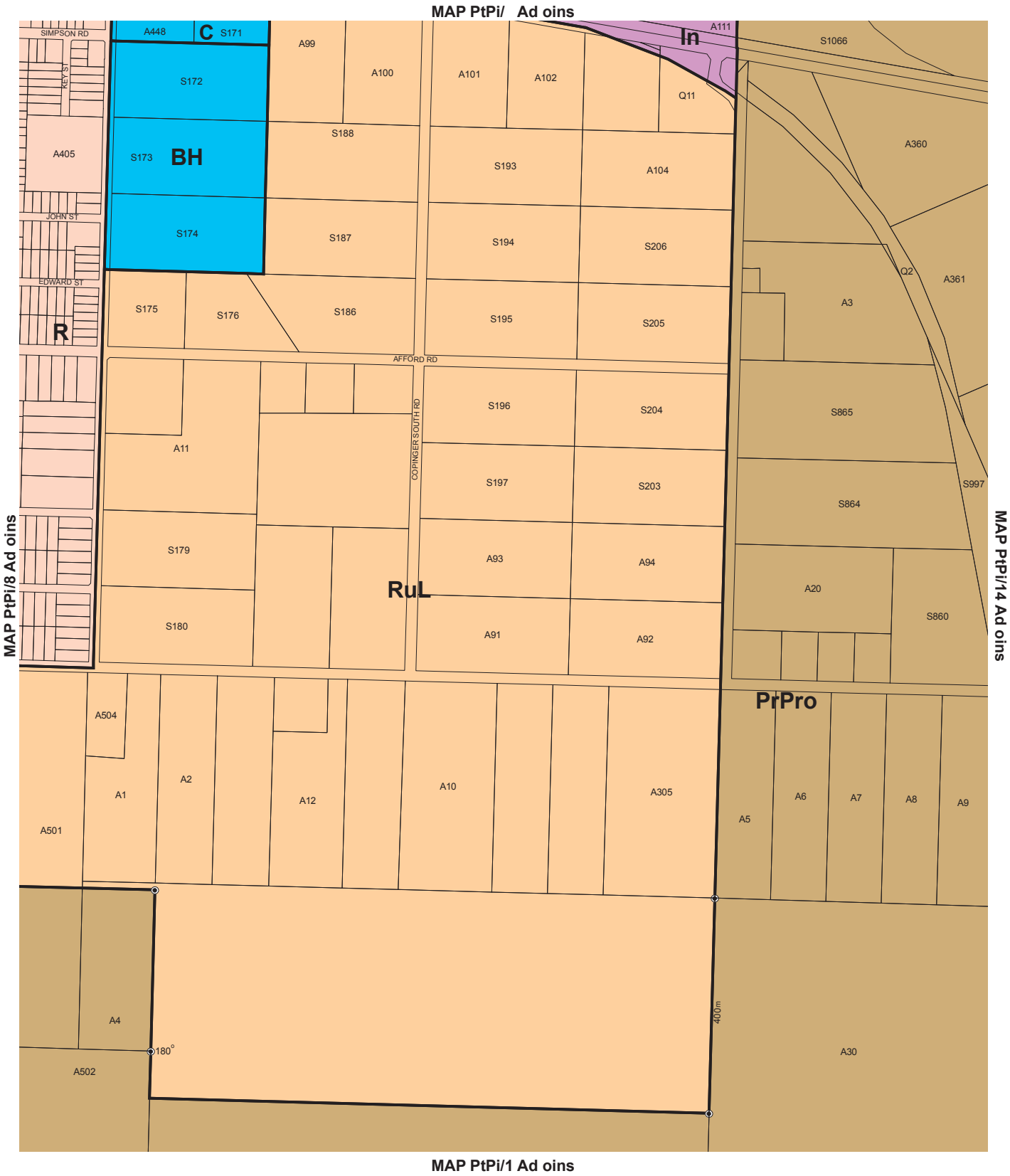
PORT PIRIE

Overlay Map PtPi/

NATURAL RESOURCES

Wetlands of National Importance

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



Lamberts Conformal Conic Projection, GDA94

N

0 500 m

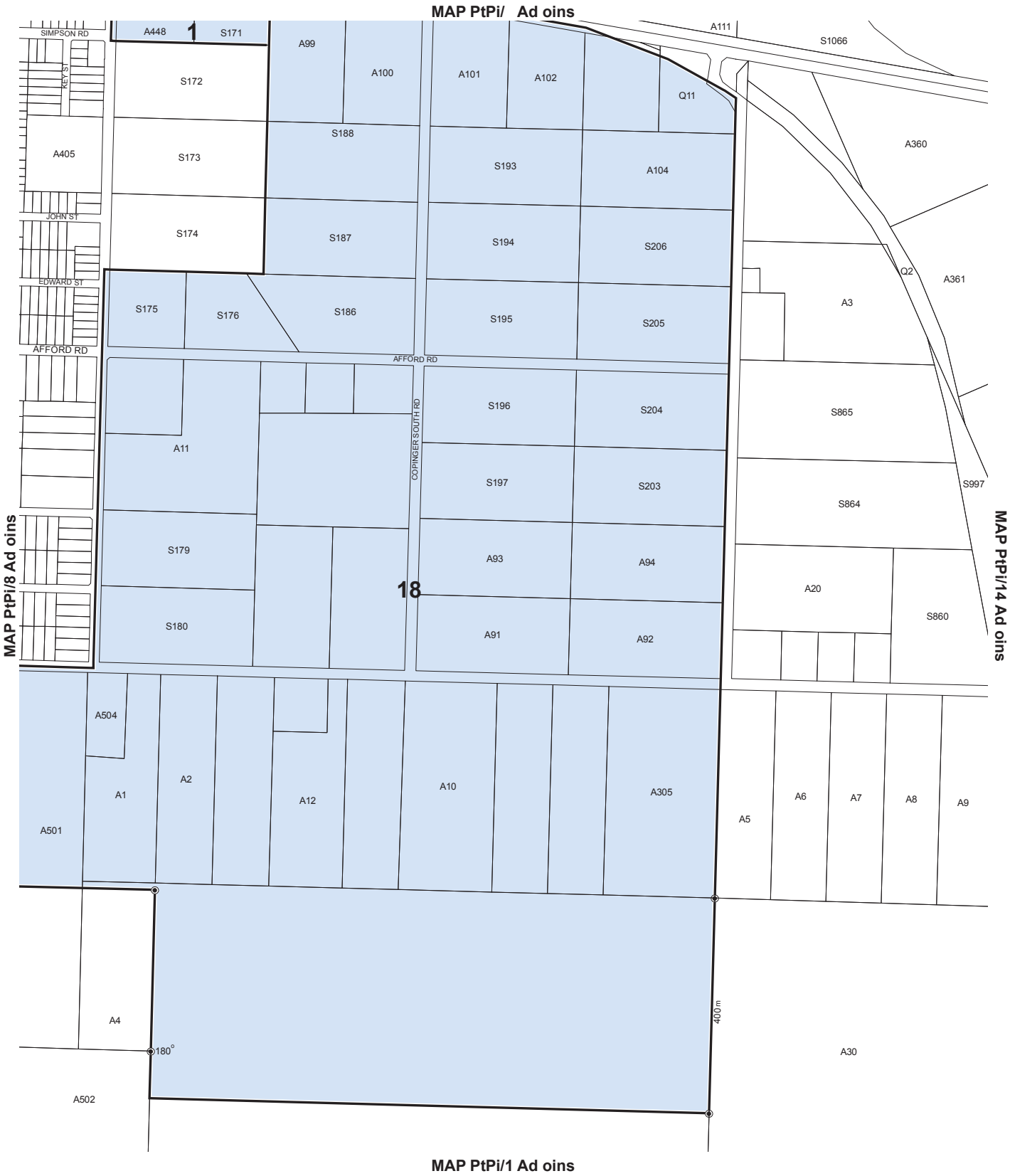
ones

BH	Bulk Handling
C	Commercial
In	Industry
PrPro	Primary Production
R	Residential
RuL	Rural Living
	Zone Boundary

PORT PIRIE

one Map PtPi/

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



Lamberts Conformal Conic Projection, GDA94

Policy Area

1 Commercial Policy Area 1

18 Rural Living Policy Area 18

N

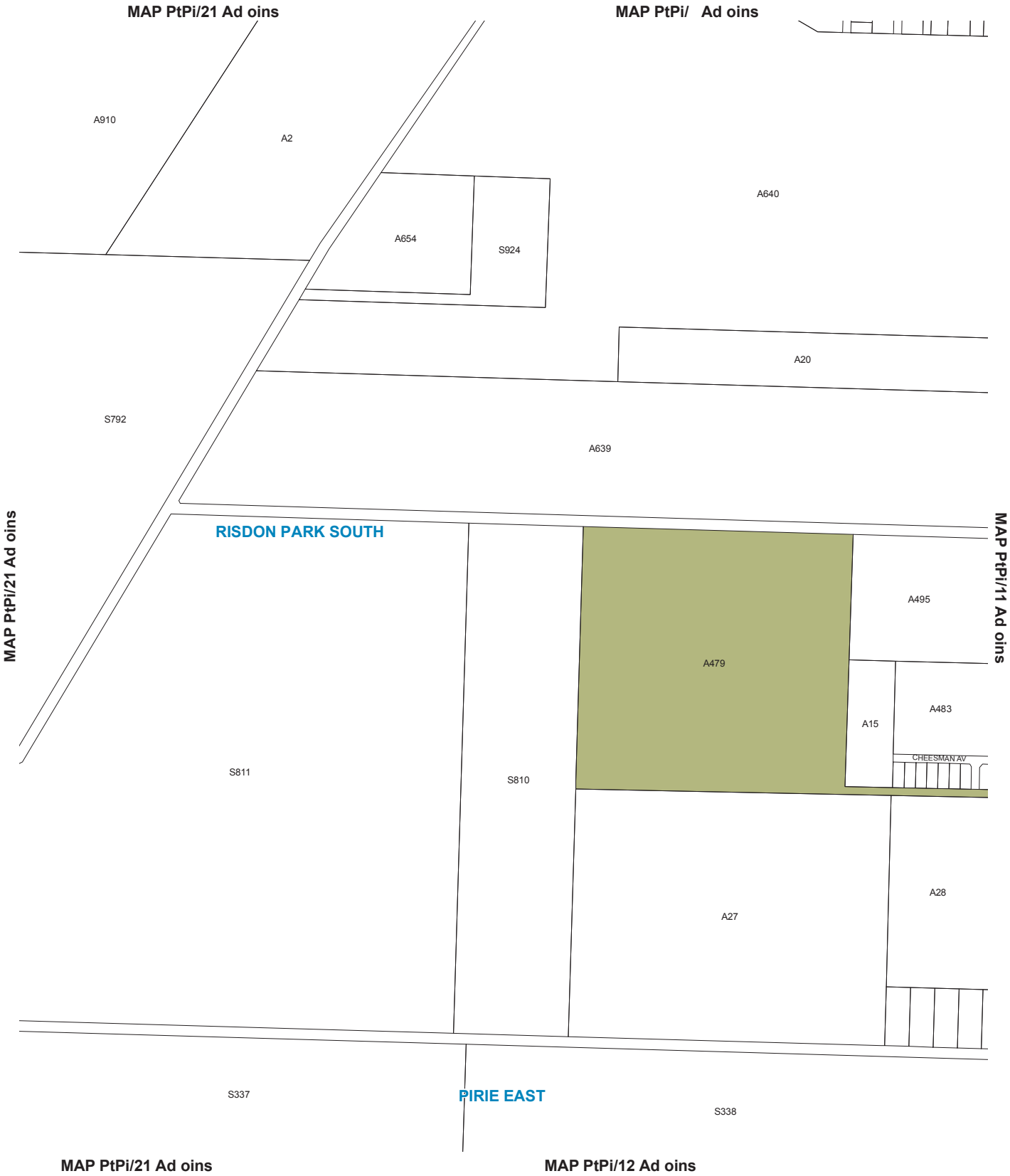
0 500 m

PORT PIRIE

Policy Area Map PtPi/

Policy Area Boundary

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



N

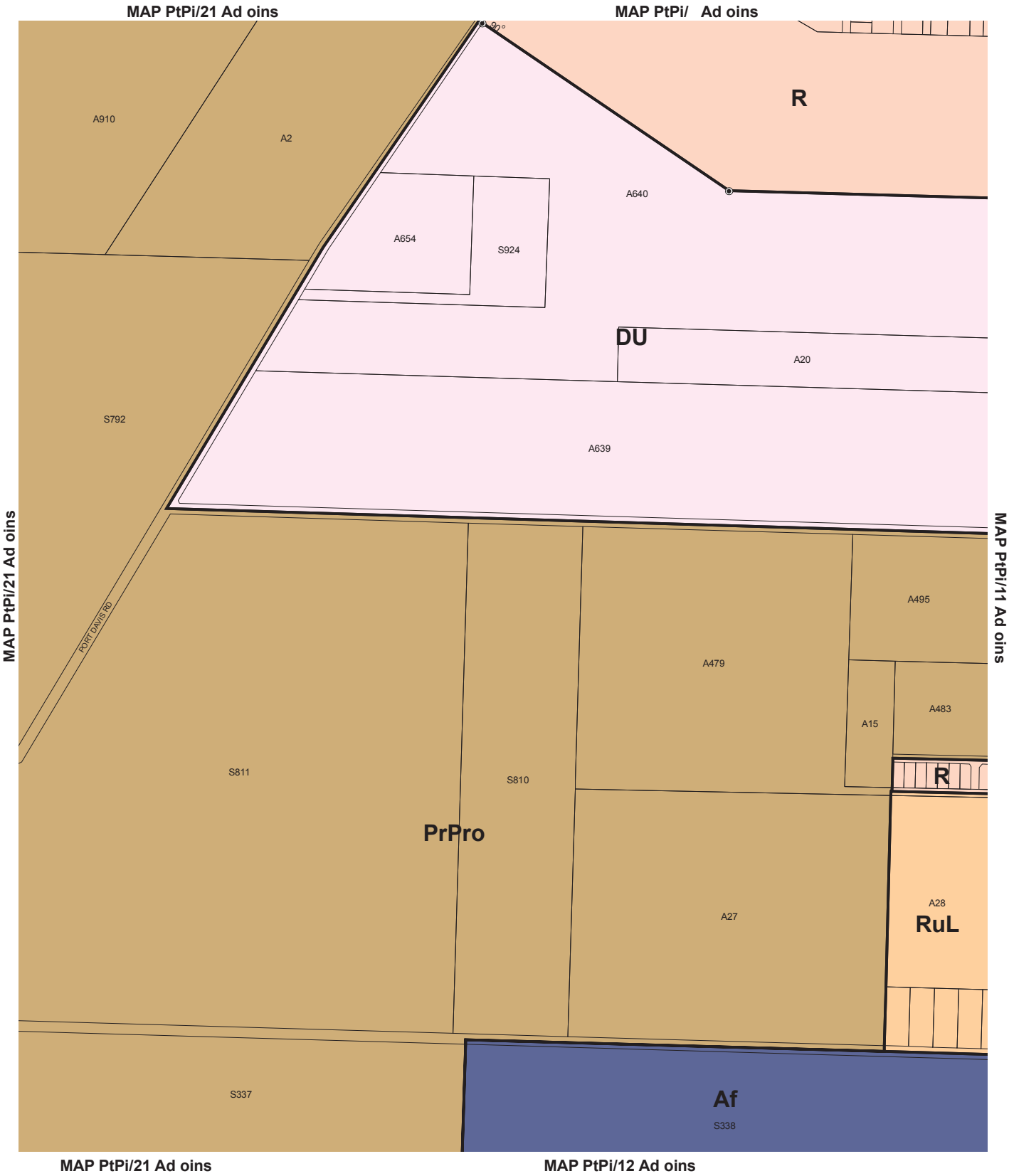
0 500 m

PORT PIRIE

Location Map PtPi/10

Local Reserves

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



Lamberts Conformal Conic Projection, GDA94

N

0 500 m

ones

Af	Airfield
DU	Deferred Urban
PrPro	Primary Production
R	Residential
RuL	Rural Living
	Zone Boundary

PORT PIRIE

one Map PtPi/10

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

Lamberts Conformal Conic Projection, GDA94

Policy Area
1 Rural Living Policy Area 16

N

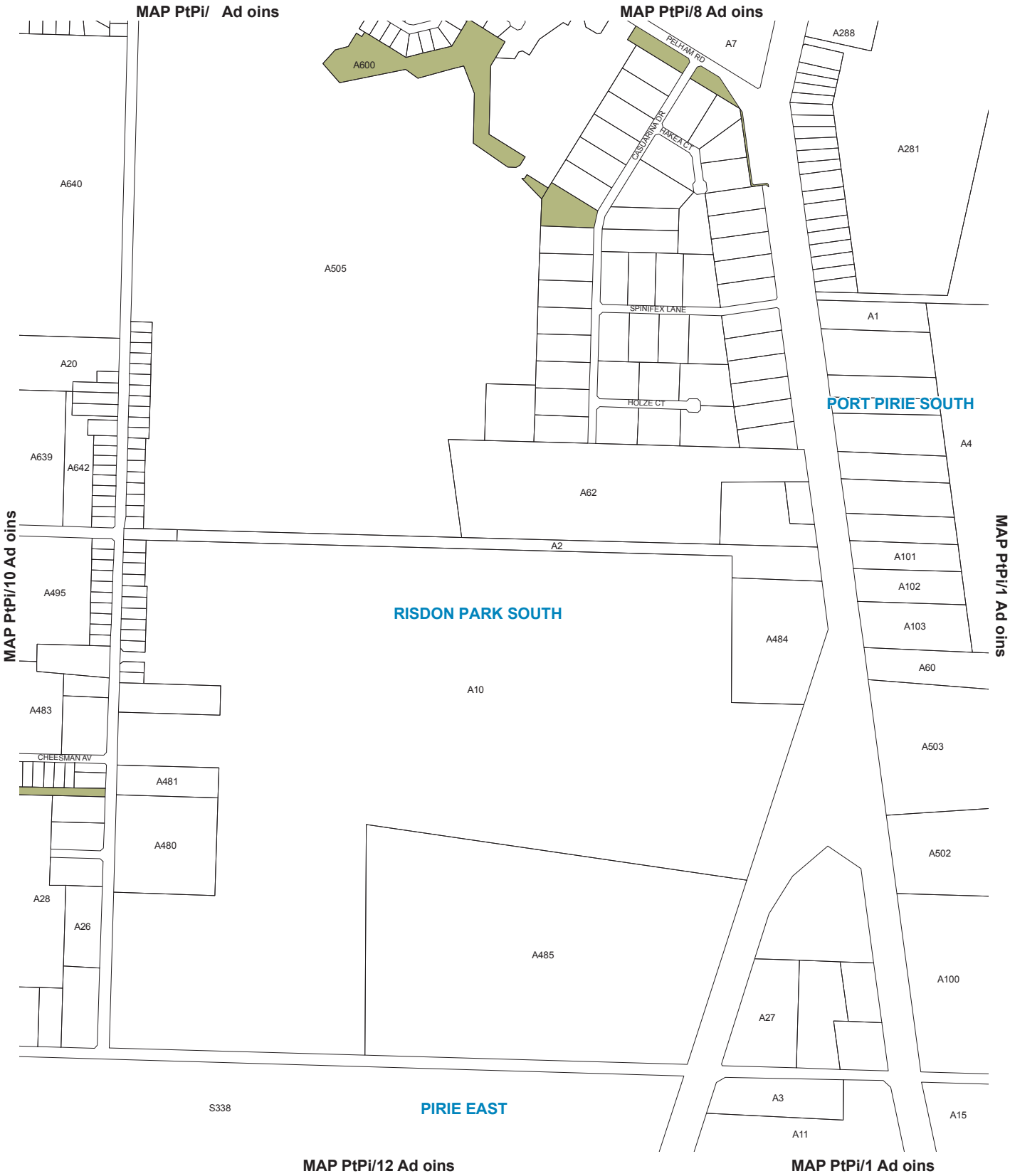
0 500 m

PORT PIRIE

Policy Area Map PtPi/10

Policy Area Boundary

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



PORT PIRIE

Location Map PtPi/11

Local Reserves

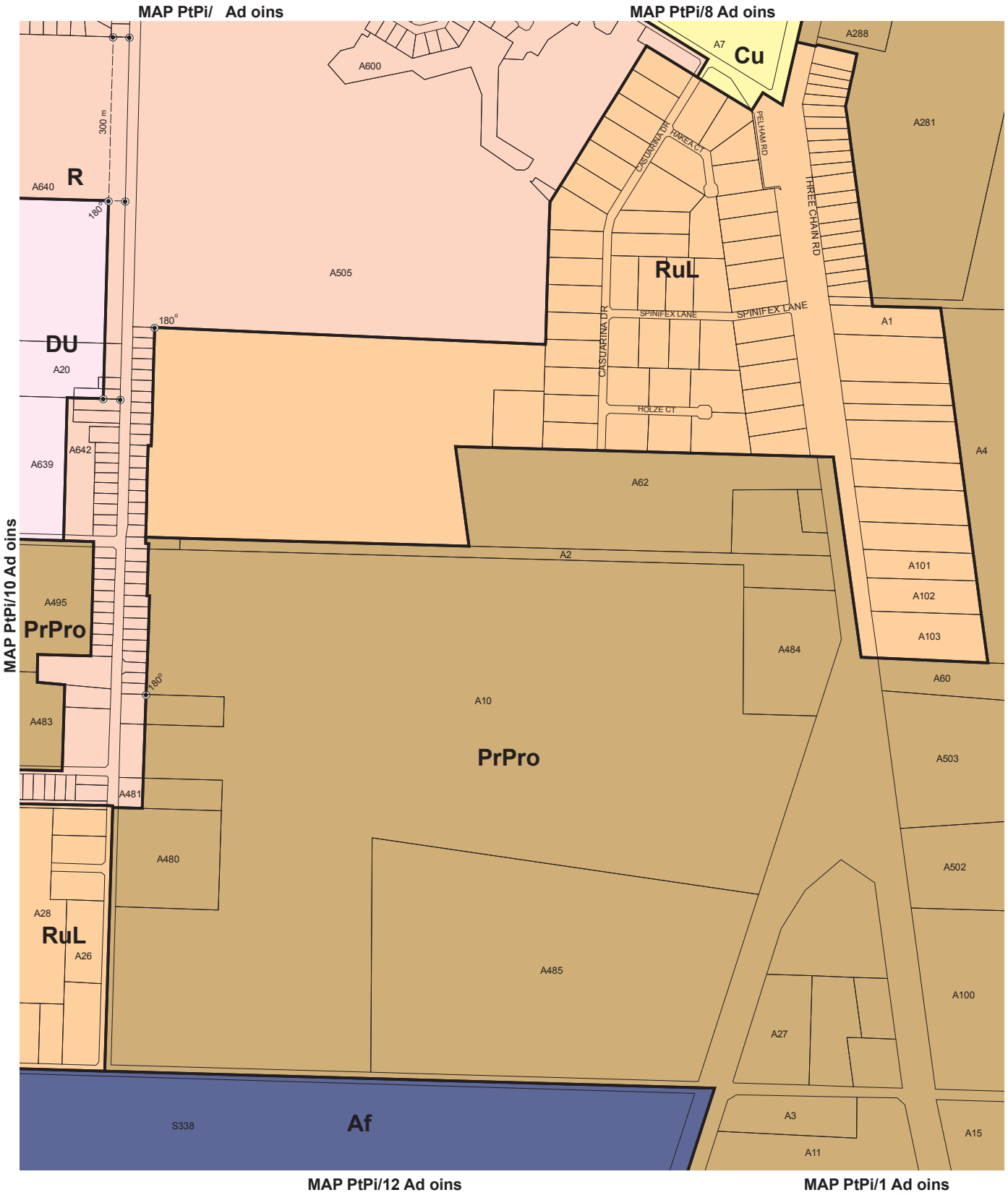
PORT PIRIE

Overlay Map PtPi/11

TRANSPORT

Secondary Arterial Roads

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



Lamberts Conformal Conic Projection, GDA94

N

0 500 m

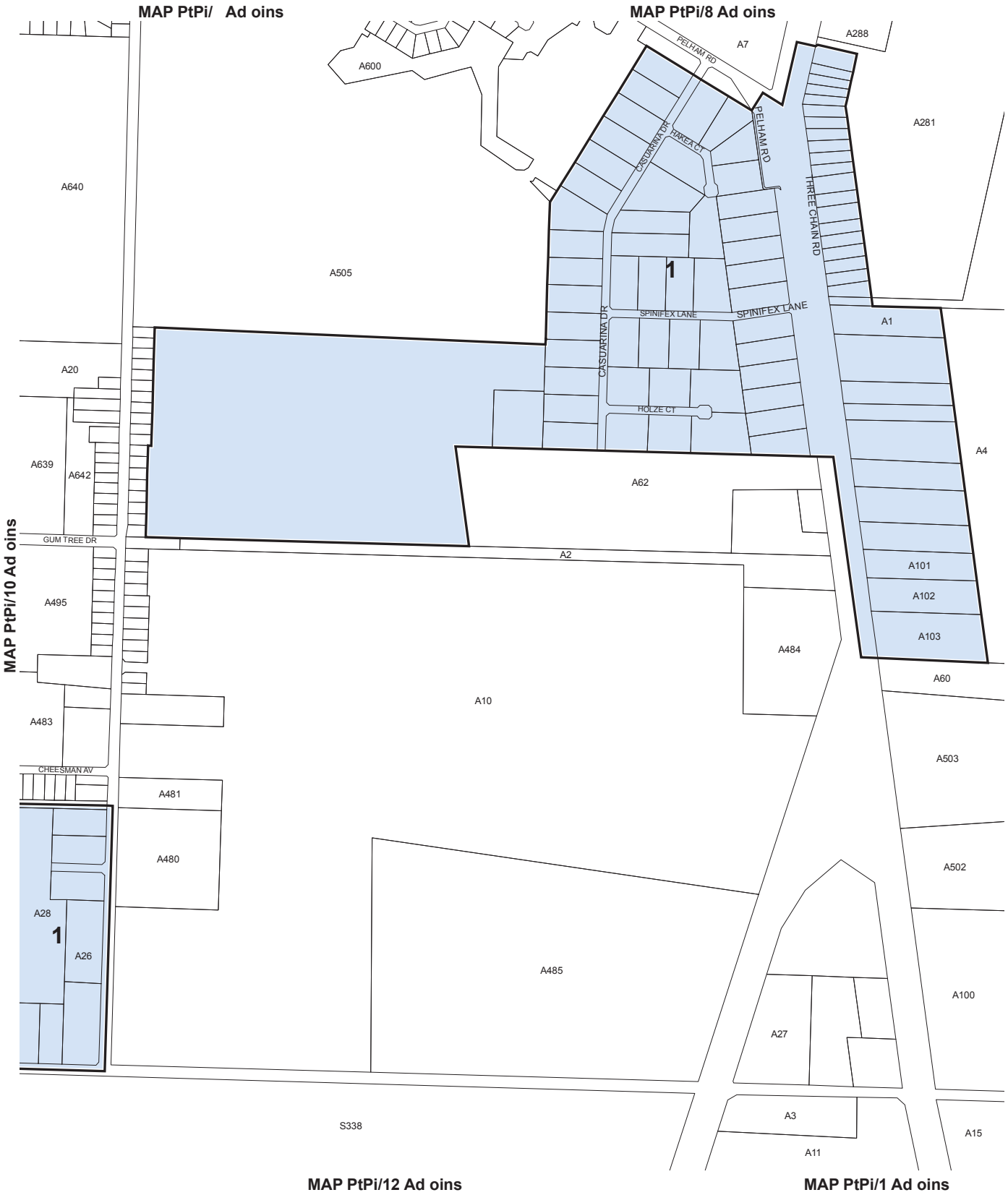
ones

Af	Airfield
Cu	Community
DU	Deferred Urban
PrPro	Primary Production
R	Residential
RuL	Rural Living
	Zone Boundary

PORT PIRIE

one Map PtPi/11

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



Lamberts Conformal Conic Projection, GDA94

Policy Area

1 Rural Living Policy Area 16

N

0 500 m

PORT PIRIE

Policy Area Map PtPi/11

Policy Area Boundary

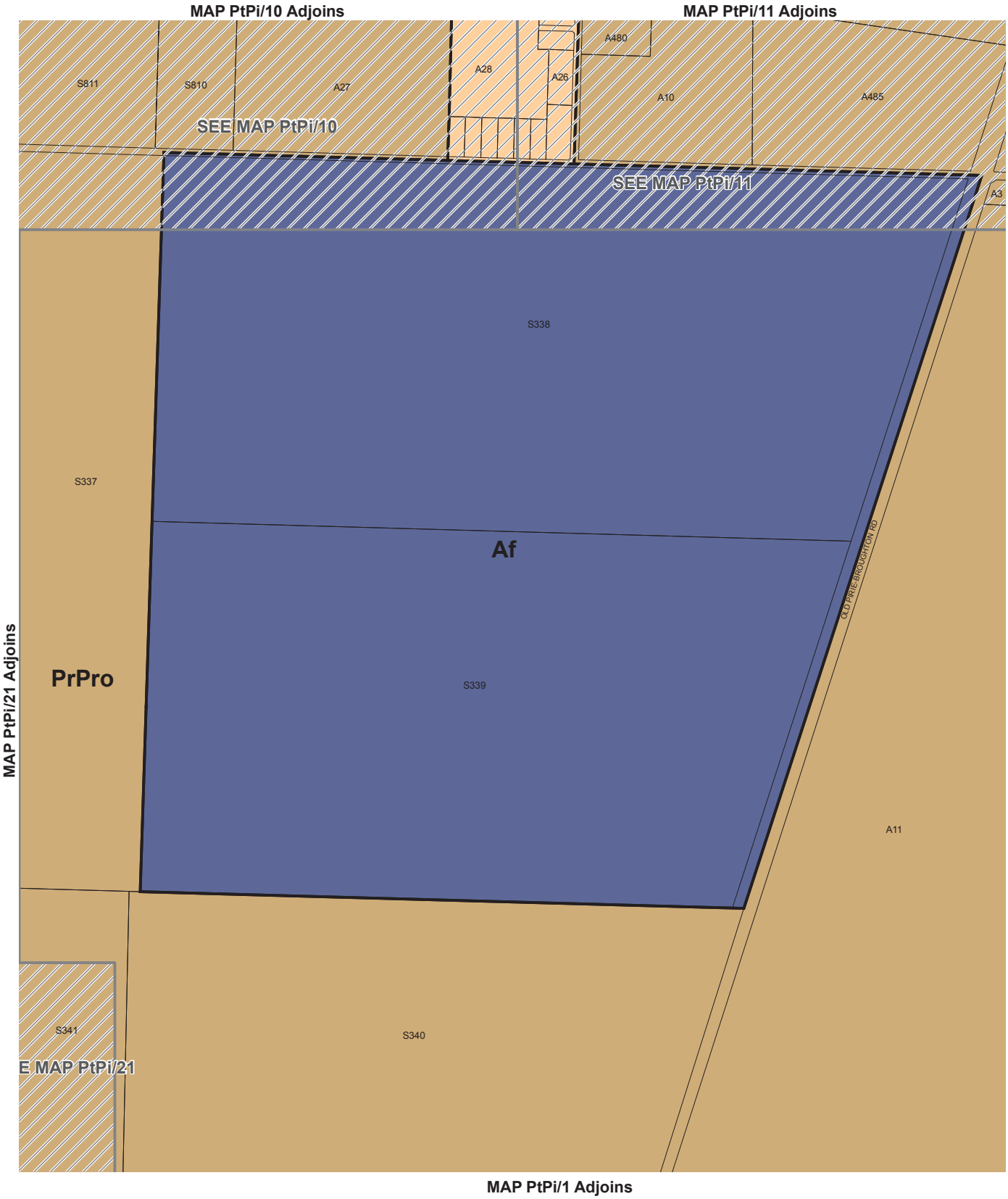
PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

N

0 500 m

PORT PIRIE

Location Map PtPi/12



See enlargement map for accurate representation.

Lamberts Conformal Conic Projection, GDA94

N

0 500 m

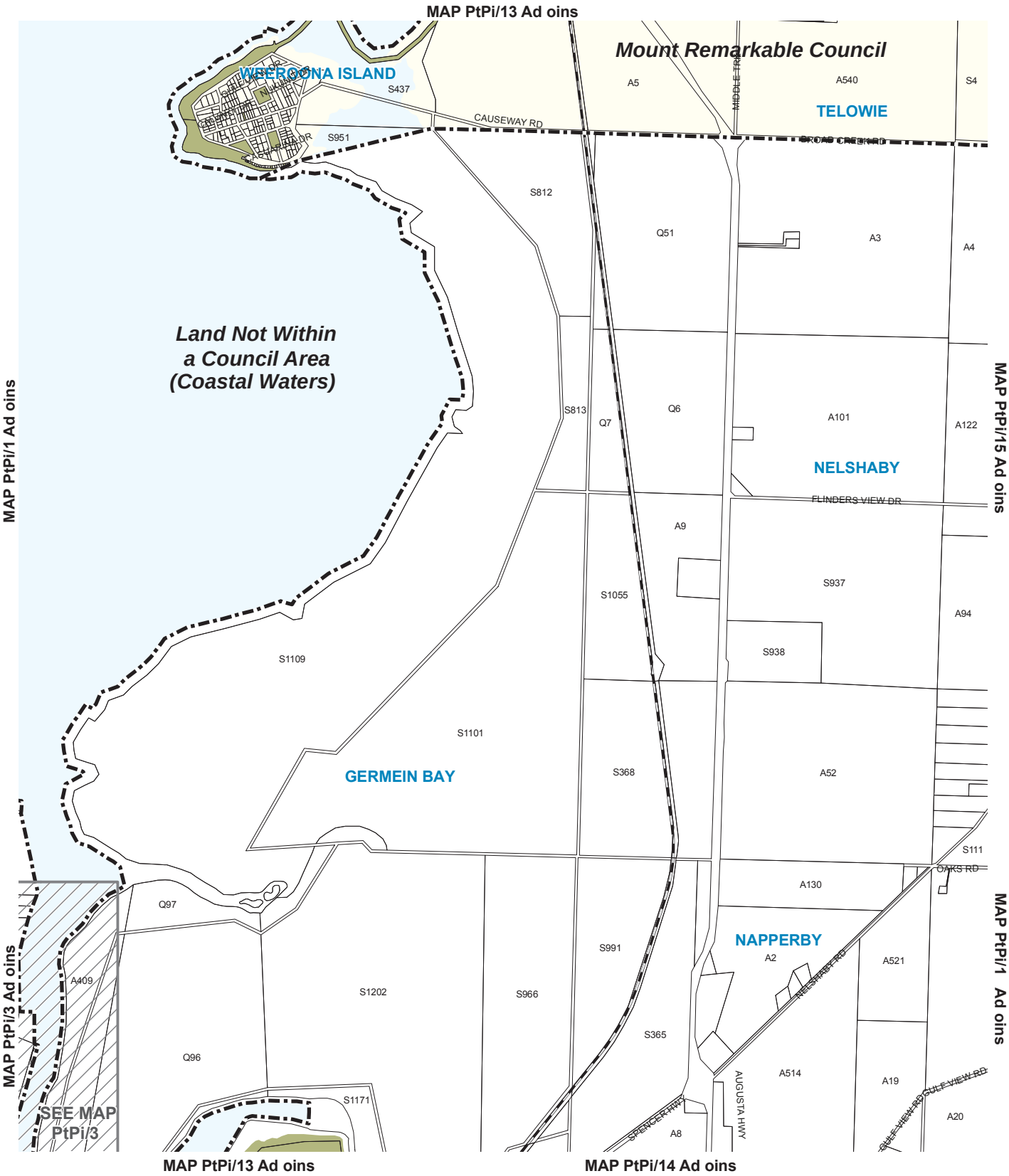
PORT PIRIE

Zone Map PtPi/12

Zones

- Af — Airfield
- PrPro — Primary Production
- Zone Boundary

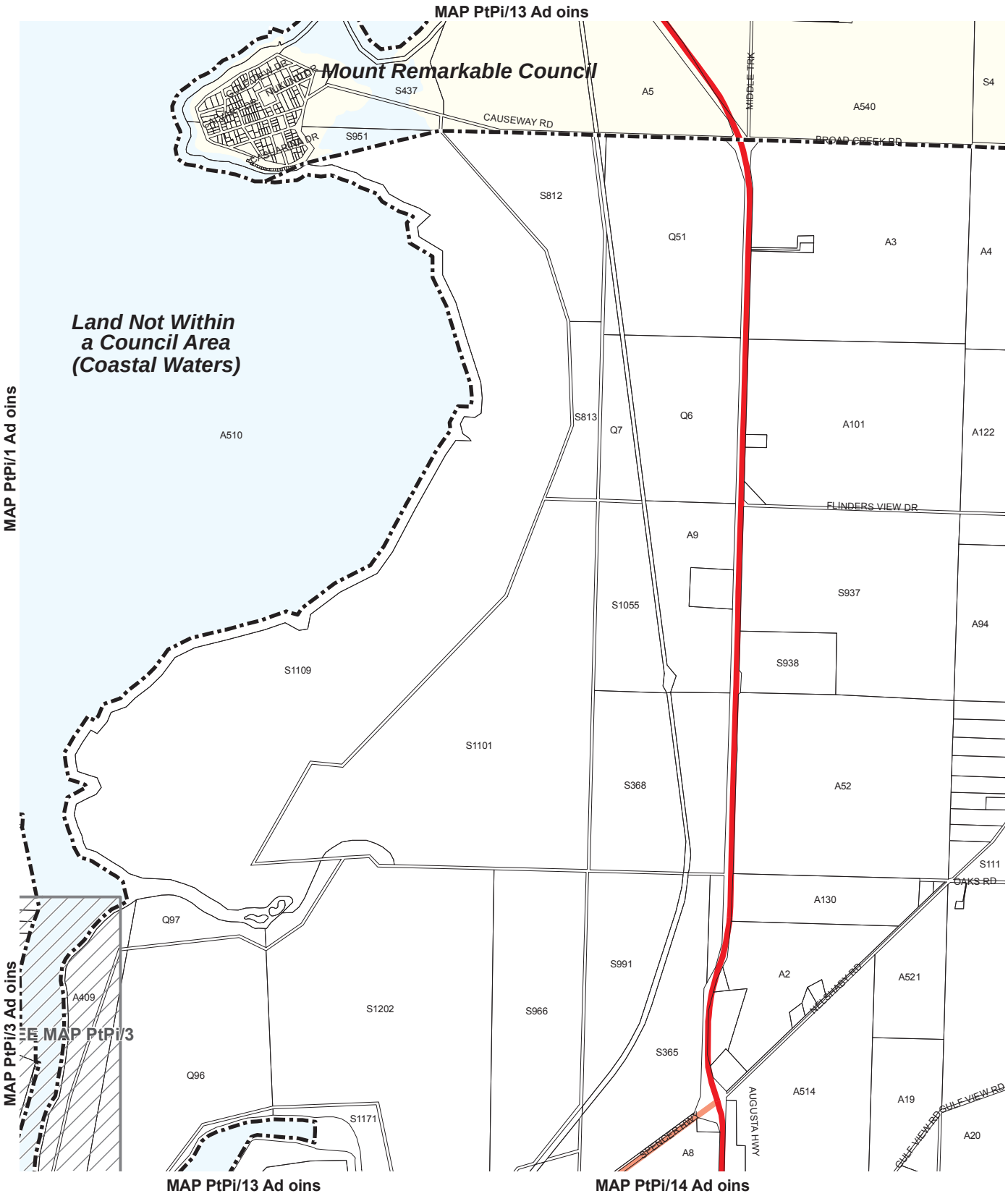
PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



Location Map PtPi/13

Railways
Local Reserves
Development Plan Boundary

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



Overlay Map PtPi/13

TRANSPORT

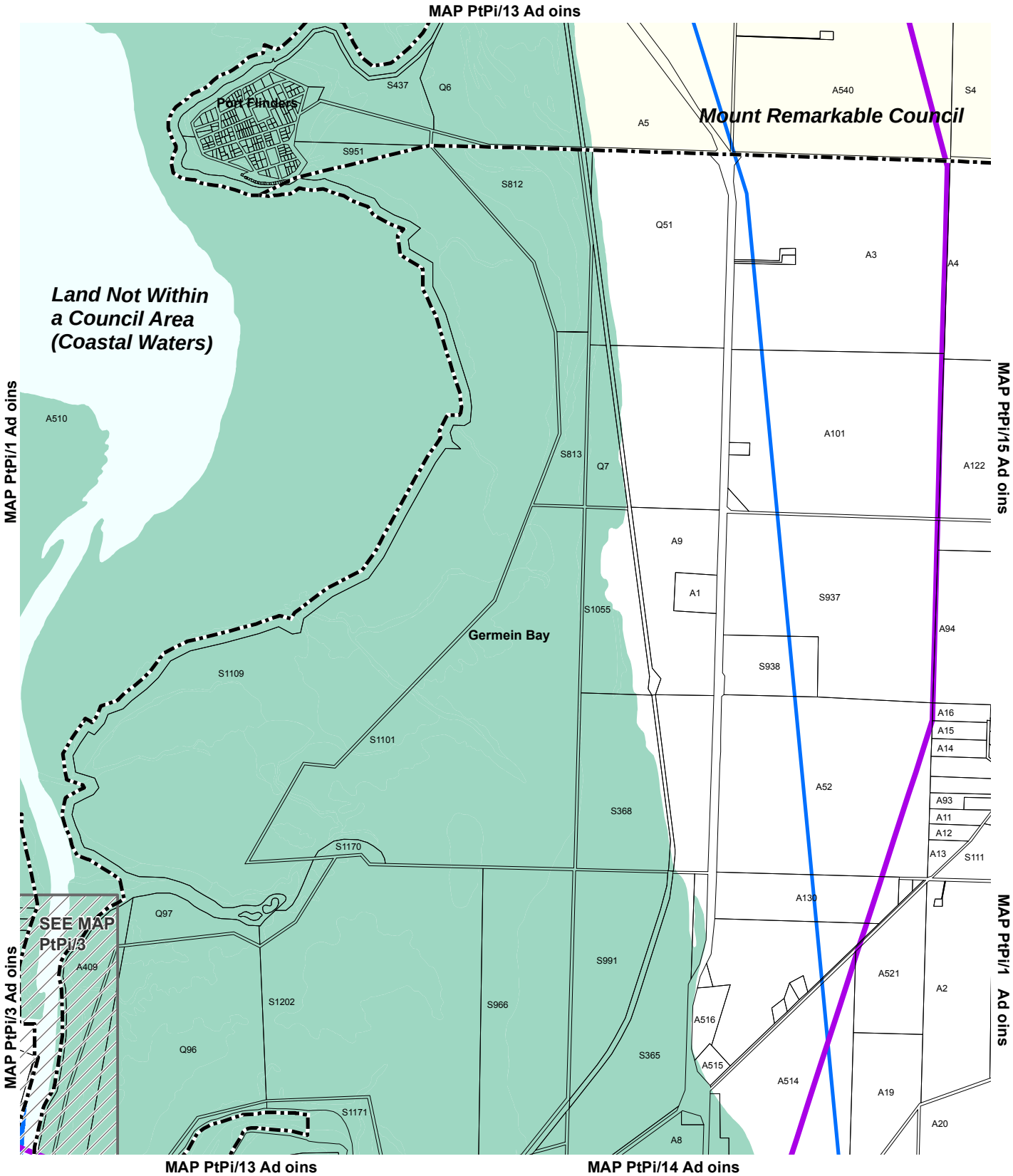
Primary Arterial Roads

Secondary Arterial Roads

Development Plan Boundary

PORT PIRIE REGIONAL COUNCIL

Consolidated - 31 October 2017



Coastal Acid Sulfate Soils

Epic Energy SA Pty Ltd

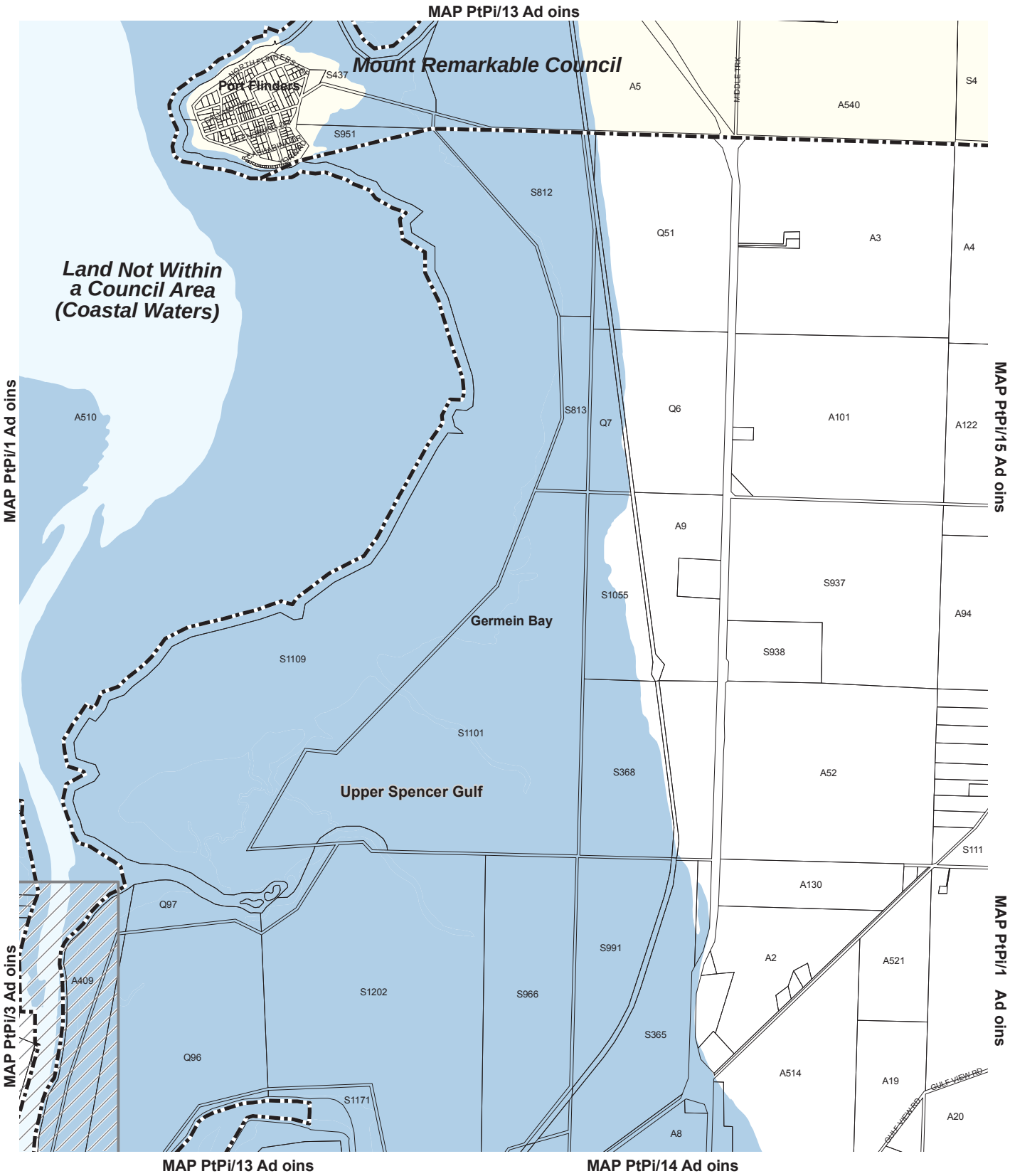
132kV

Development Plan Boundary

Overlay Map PtPi/13

DEVELOPMENT CONSTRAINTS

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



Overlay Map PtPi/13

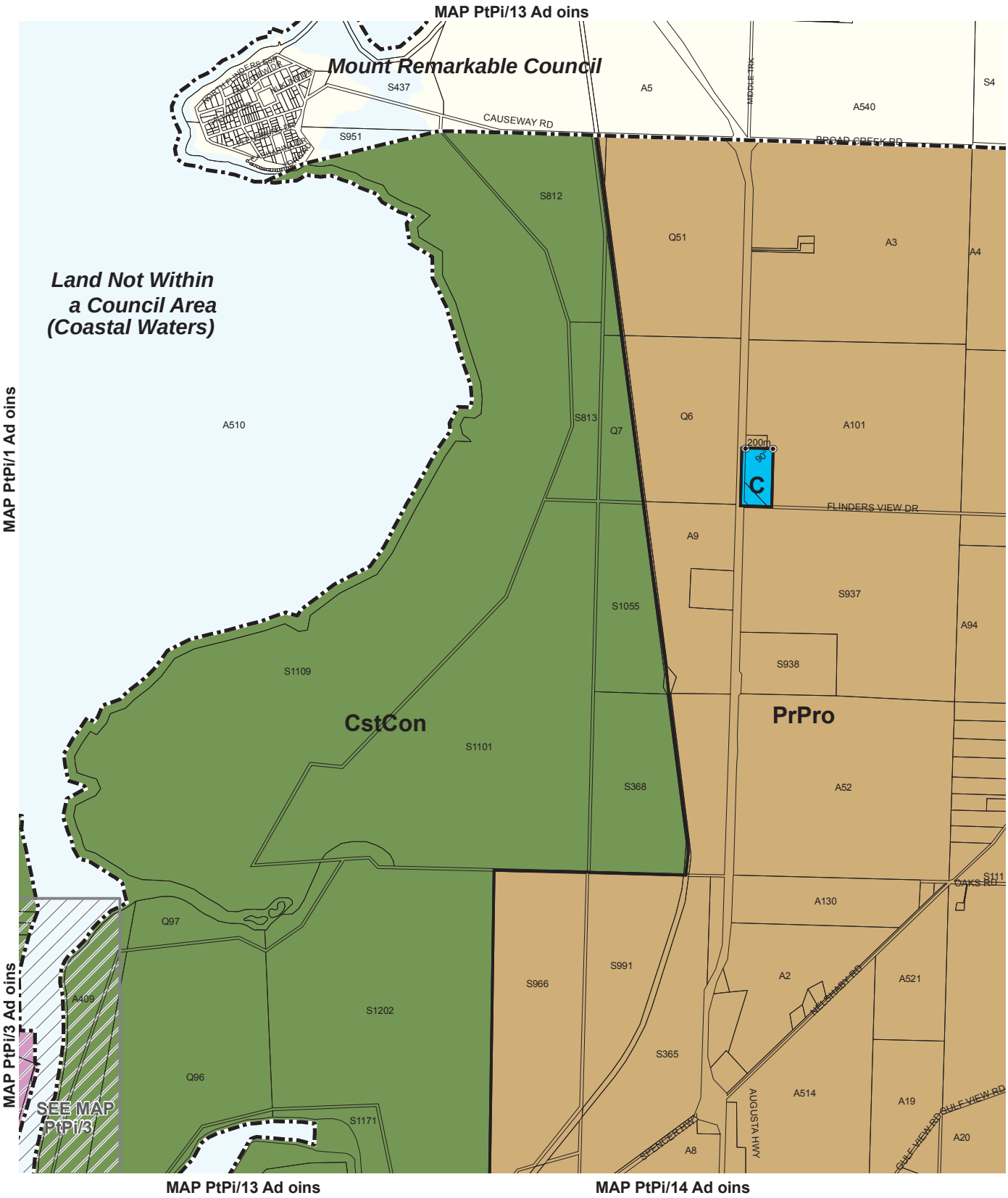
NATURAL RESOURCES

Wetlands of National Importance

Development Plan Boundary

PORT PIRIE REGIONAL COUNCIL

Consolidated - 31 October 2017



See enlargement map for accurate representation.

Lamberts Conformal Conic Projection, GDA94

N

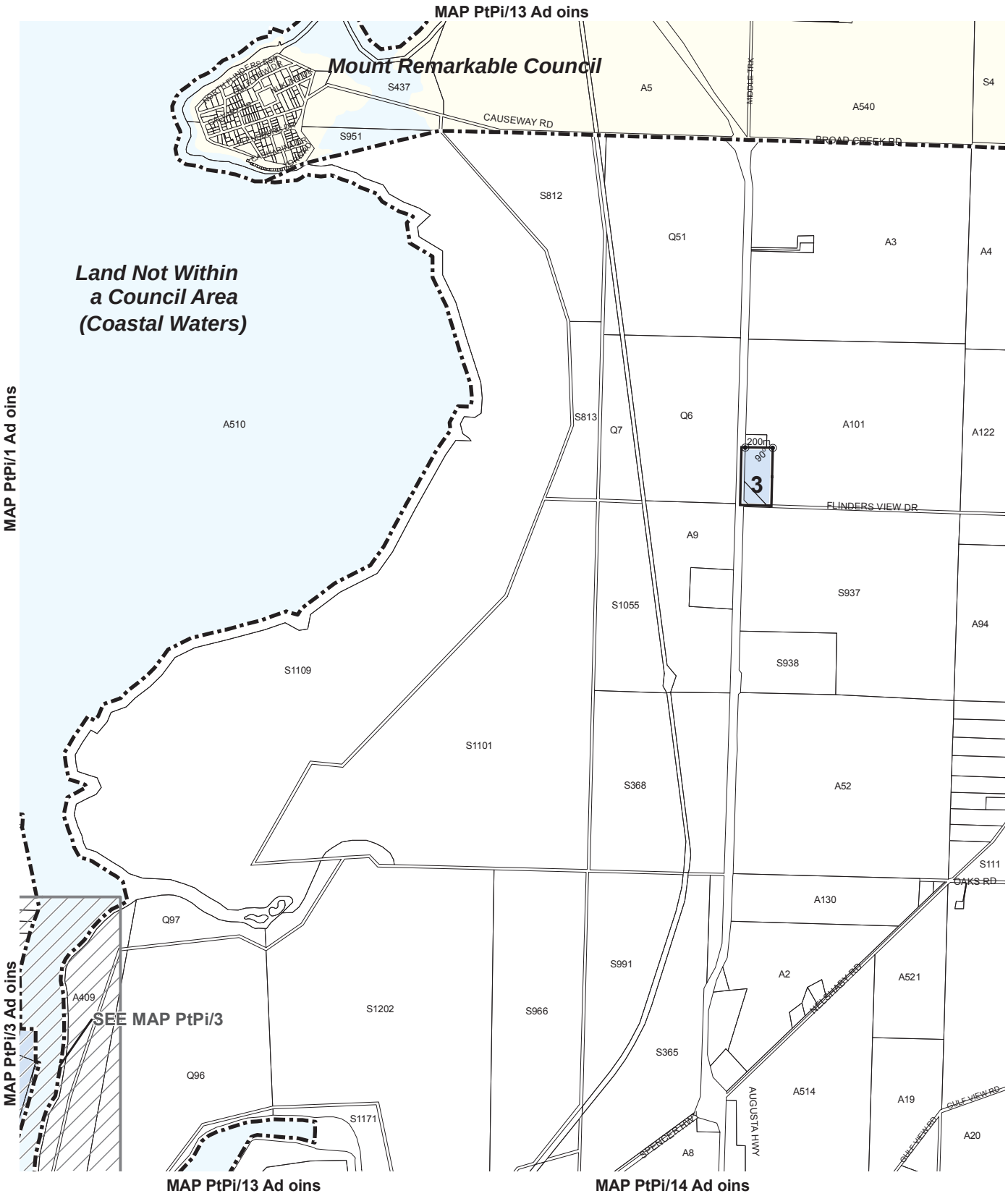
0 2,000 m

ones

CstCon	Coastal Conservation
C	Commercial
PrPro	Primary Production
	Zone Boundary
	Development Plan Boundary

one Map PtPi/13

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



See enlargement map for accurate representation.

Lamberts Conformal Conic Projection, GDA94

Policy Area

3 Commercial Policy Area 3

N

0 2,000 m

Policy Area Map PtPi/13

Policy Area Boundary

Development Plan Boundary

Location Map PtPi/14

Railways

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

Overlay Map PtPi/14

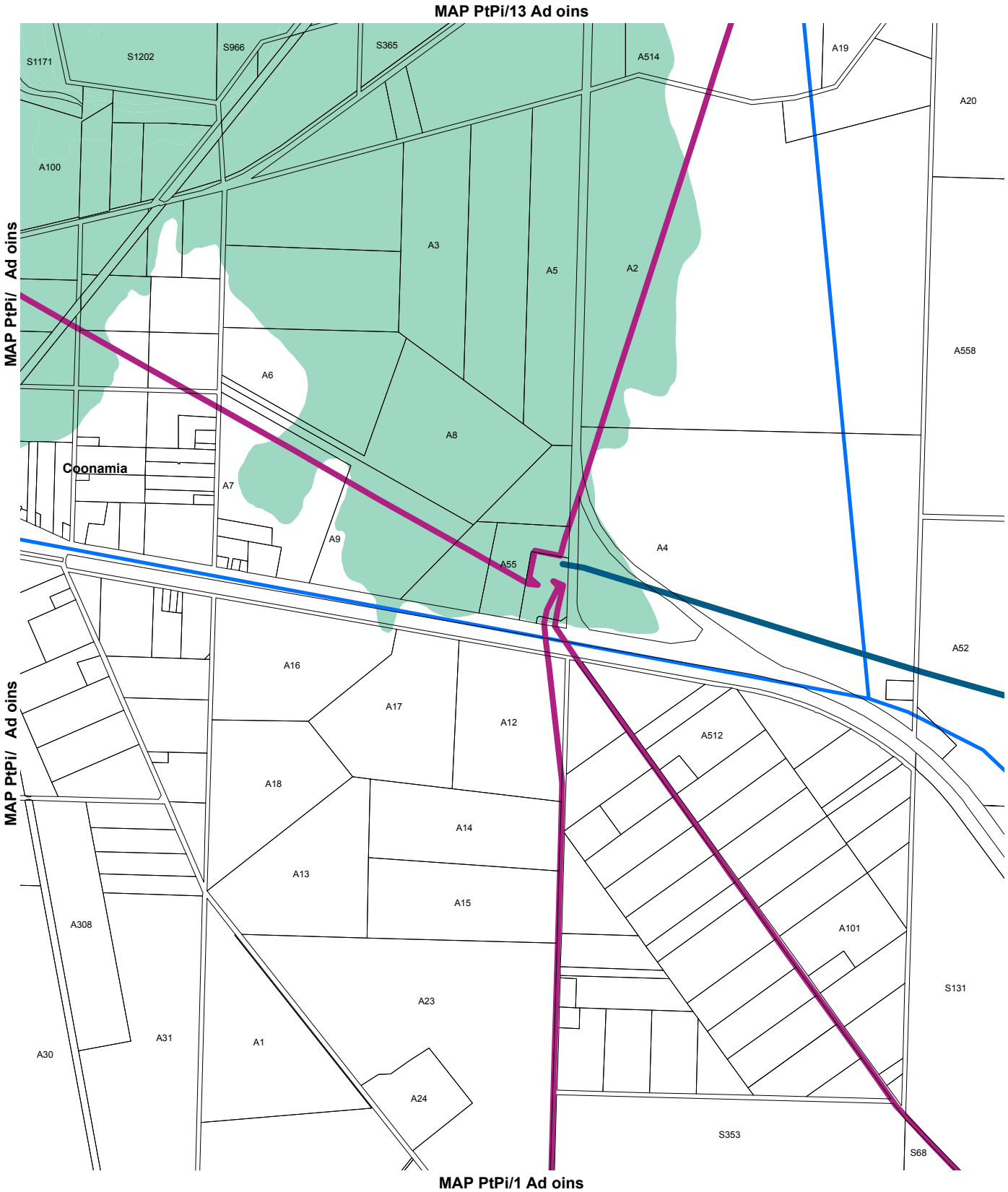
TRANSPORT

Primary Arterial Roads

Secondary Arterial Roads

PORT PIRIE REGIONAL COUNCIL

Consolidated - 31 October 2017

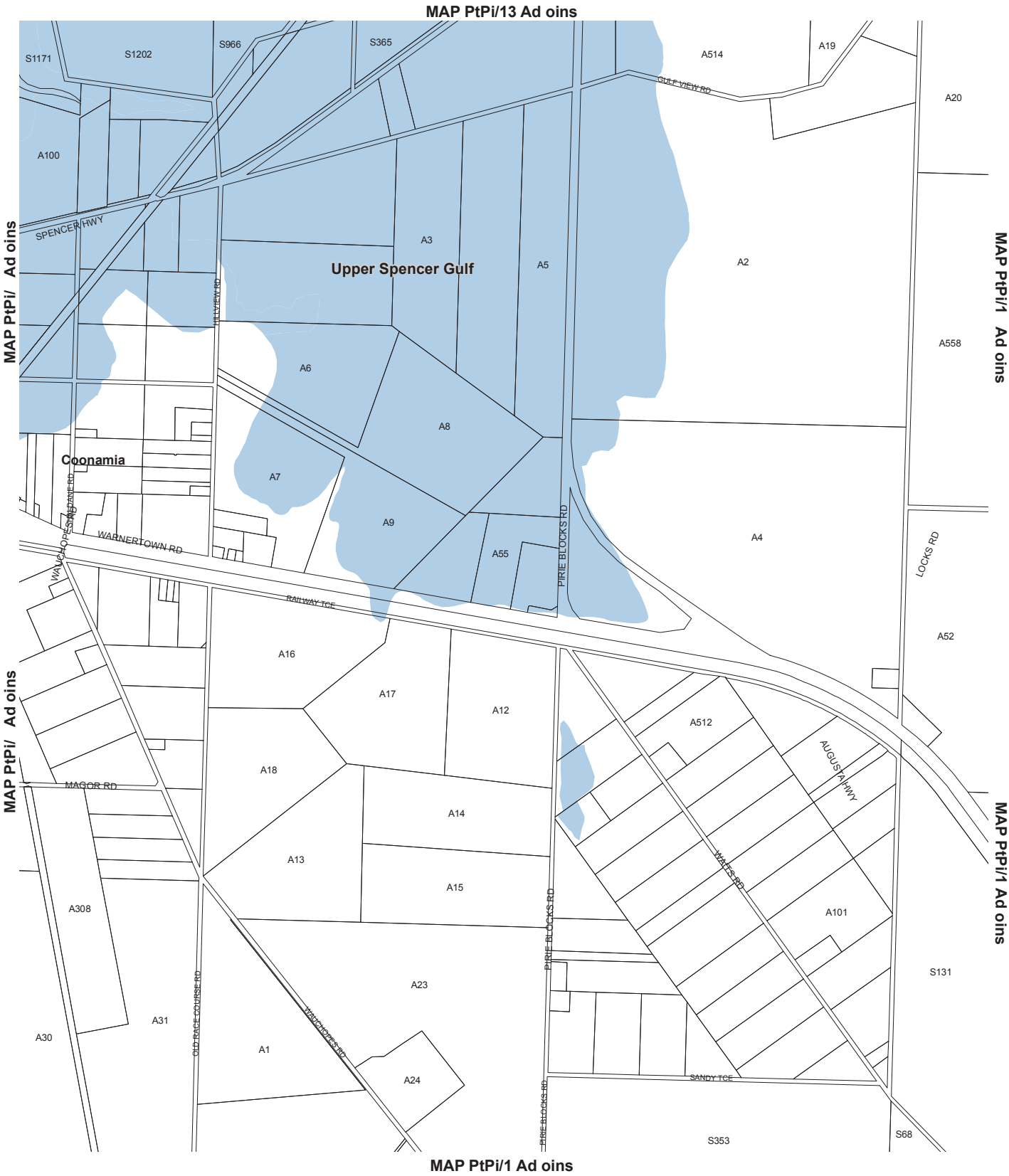


Overlay Map PtPi/14

DEVELOPMENT CONSTRAINTS

Epic Energy SA Pty Ltd
132kV
275kV
Coastal Acid Sulfate Soils

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

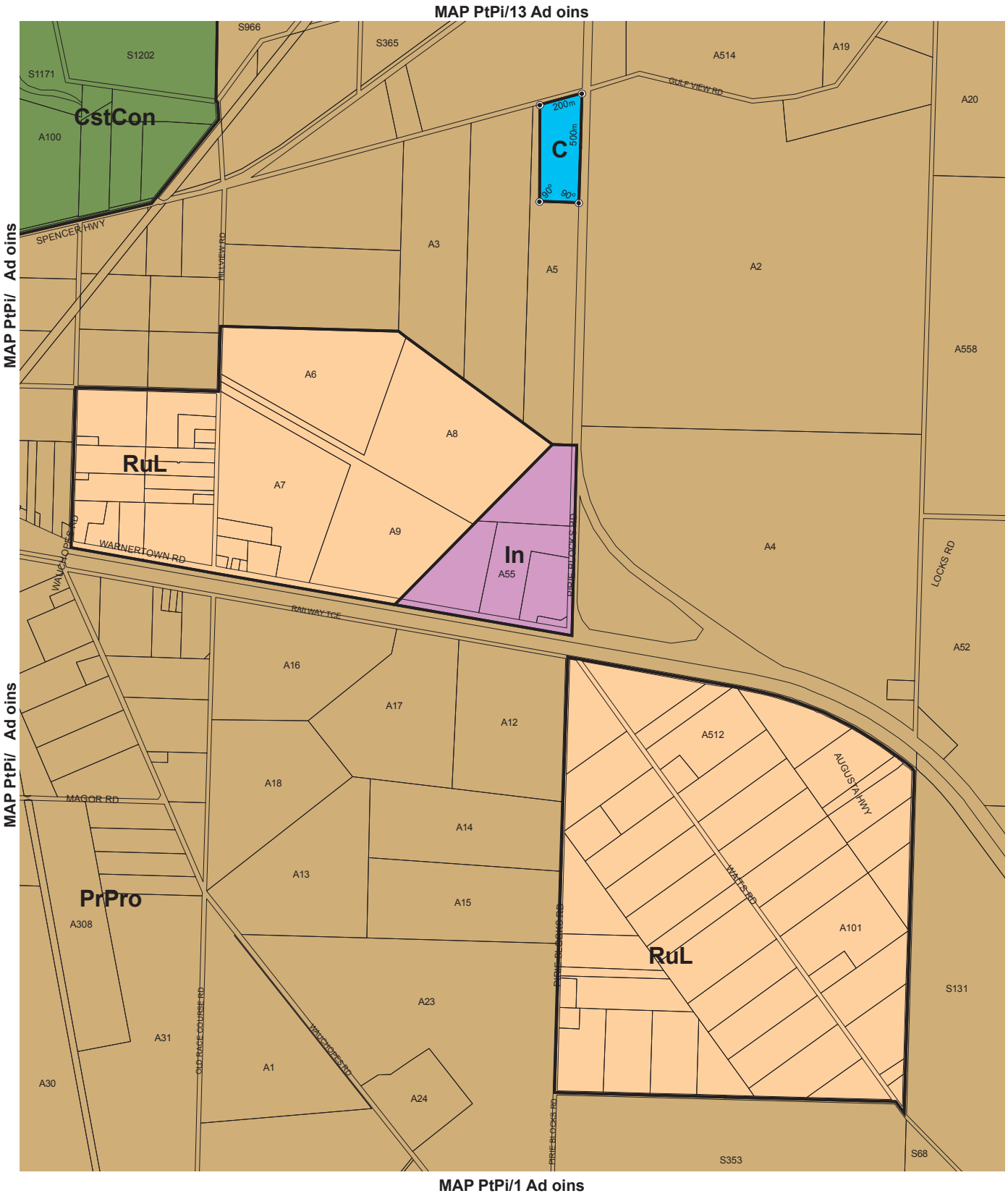


Overlay Map PtPi/14

NATURAL RESOURCES

Wetlands of National Importance

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



Lamberts Conformal Conic Projection, GDA94

N

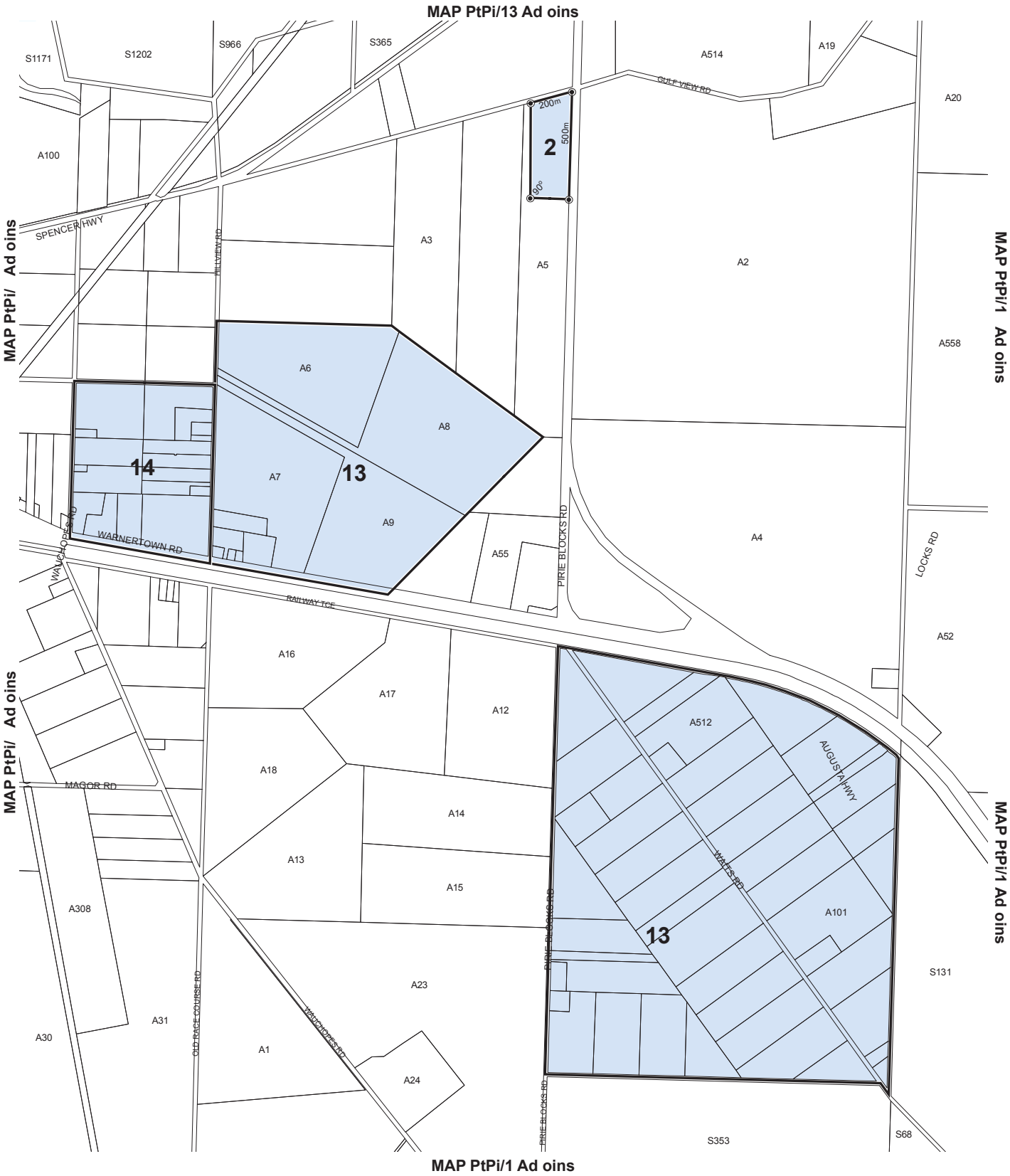
0 1,000 m

ones

CstCon	Coastal Conservation
C	Commercial
In	Industry
PrPro	Primary Production
RuL	Rural Living
	Zone Boundary

one Map PtPi/14

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



Lamberts Conformal Conic Projection, GDA94

Policy Area

13 Rural Living Policy Area 13
14 Rural Living Policy Area 14
2 Commercial Policy Area 2

N

0 1,000 m

Policy Area Map PtPi/14

Policy Area Boundary

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

N

0 1,000 m

Location Map PtPi/15

Local Reserves

National Park

Development Plan Boundary

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

N

0 1,000 m

Overlay Map PtPi/15

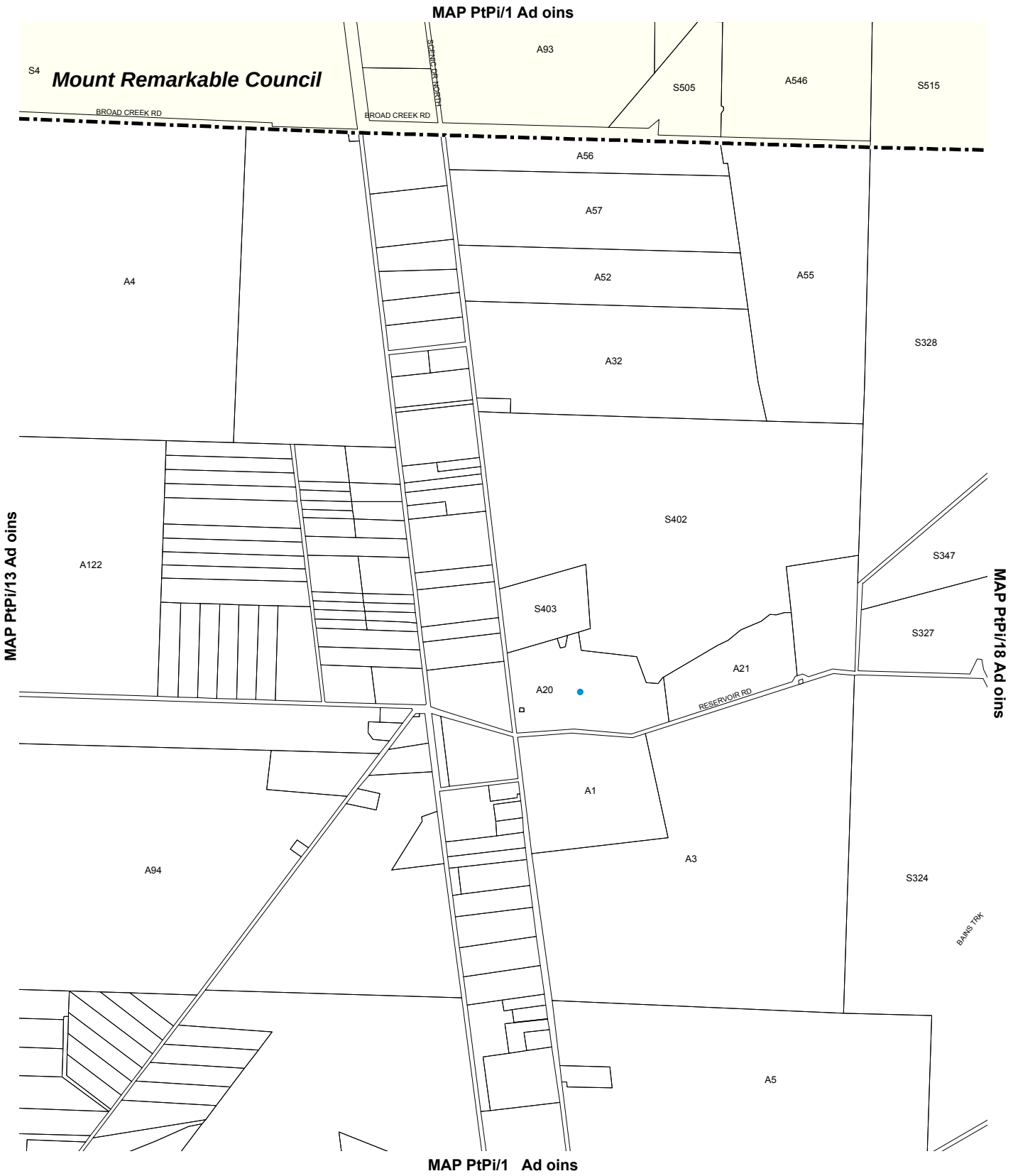
DEVELOPMENT CONSTRAINTS

Morgan - Whyalla Pipeline

275kV

Development Plan Boundary

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



Heritage points are indicative only.
For further information on State and Local Heritage Places and Contributory Items please refer to the relevant tables within this document.

N

0 1,000 m

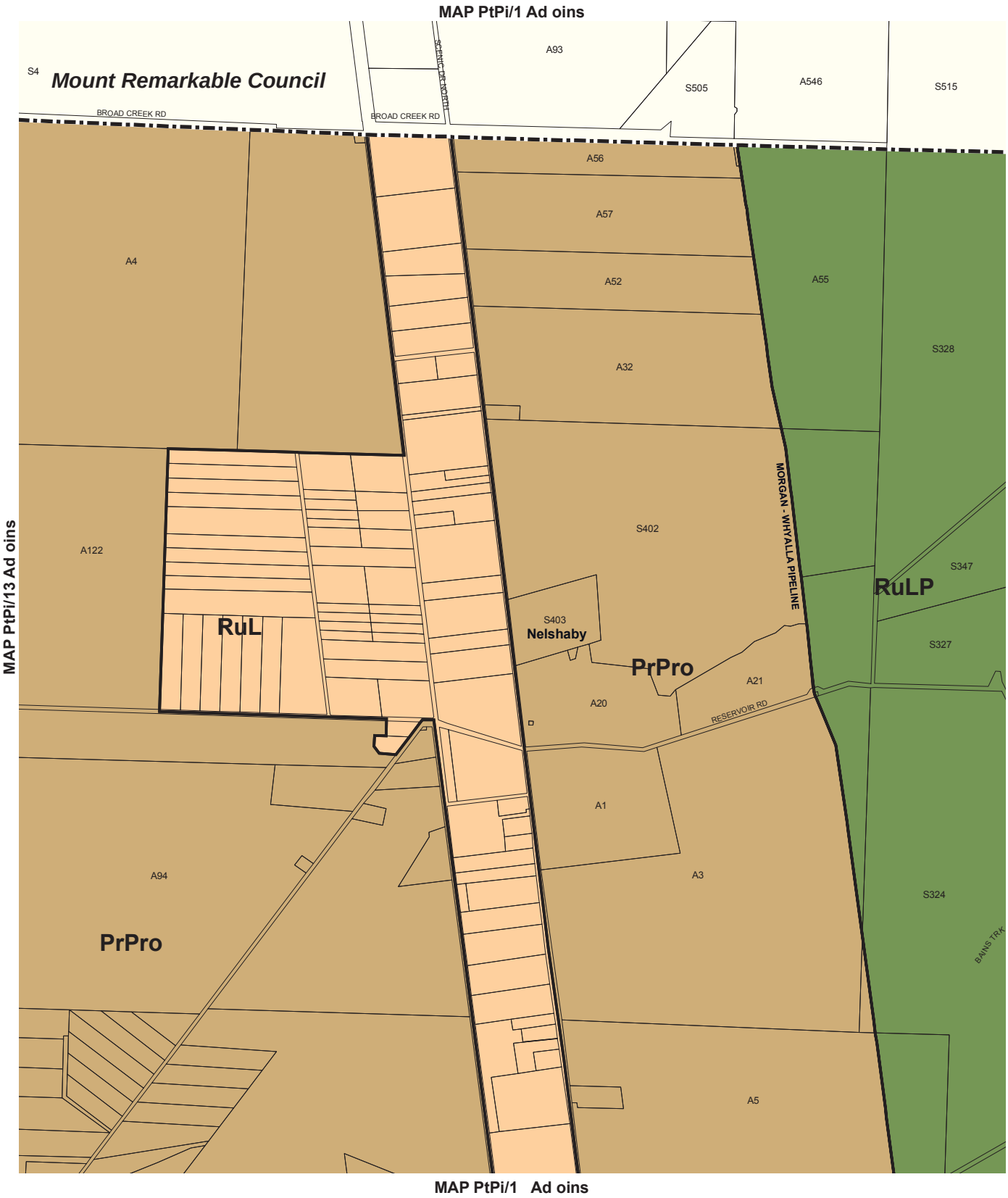
Overlay Map PtPi/15

HERITAGE

Local heritage place

Development Plan Boundary

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



Lamberts Conformal Conic Projection, GDA94

N

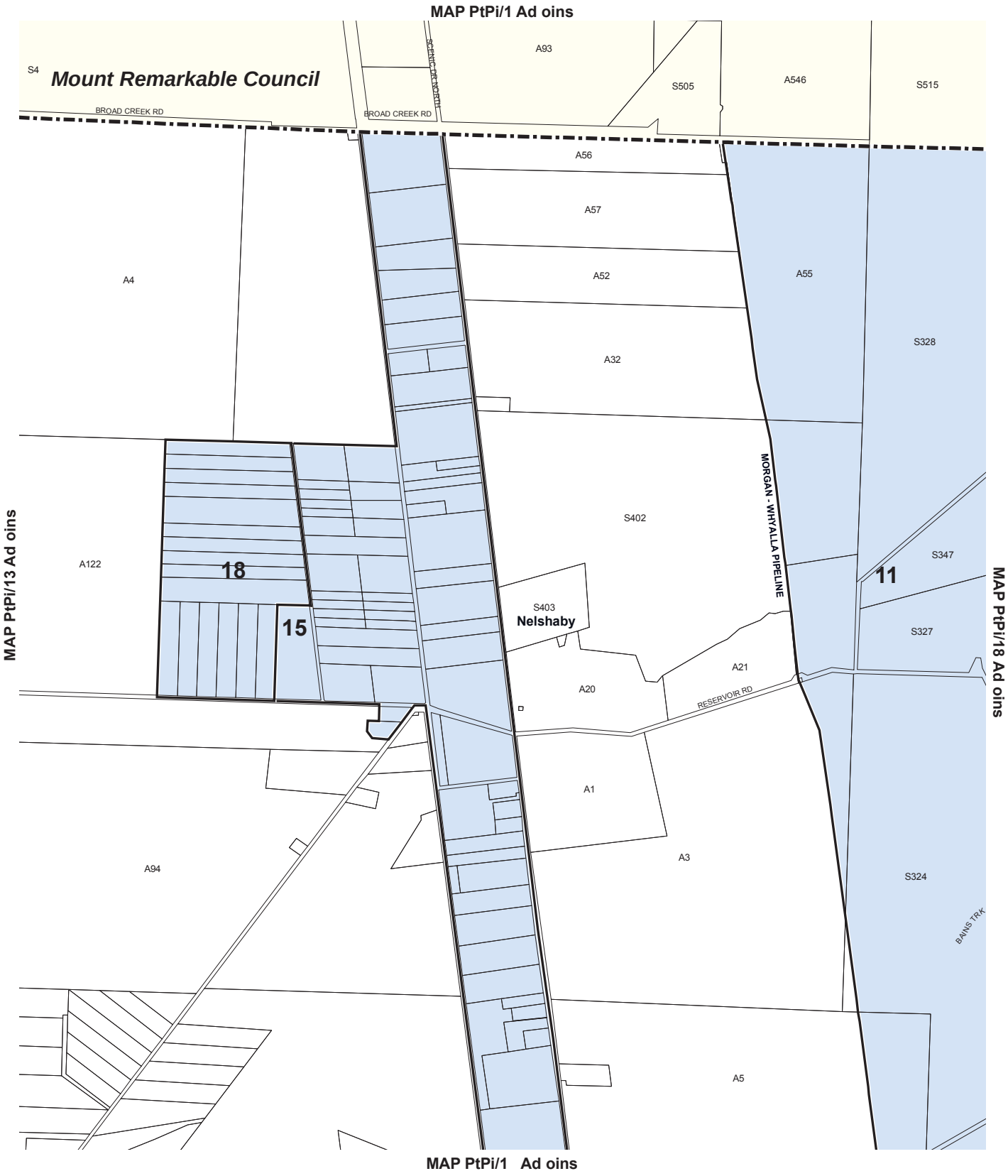
0 1,000 m

ones

PrPro	Primary Production
RuLP	Rural Landscape Protection
RuL	Rural Living
	Zone Boundary
	Development Plan Boundary

one Map PtPi/15

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



Lamberts Conformal Conic Projection, GDA94

Policy Area

11 Landscape Protection Policy Area 11
15 Rural Living Policy Area 15
18 Rural Living Policy Area 18

N

0 1,000 m

Policy Area Map PtPi/15

Policy Area Boundary
Development Plan Boundary

NAPPERBY

Location Map PtPi/1

S School
Local Reserves
National Park

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

NAPPERBY

Overlay Map PtPi/1

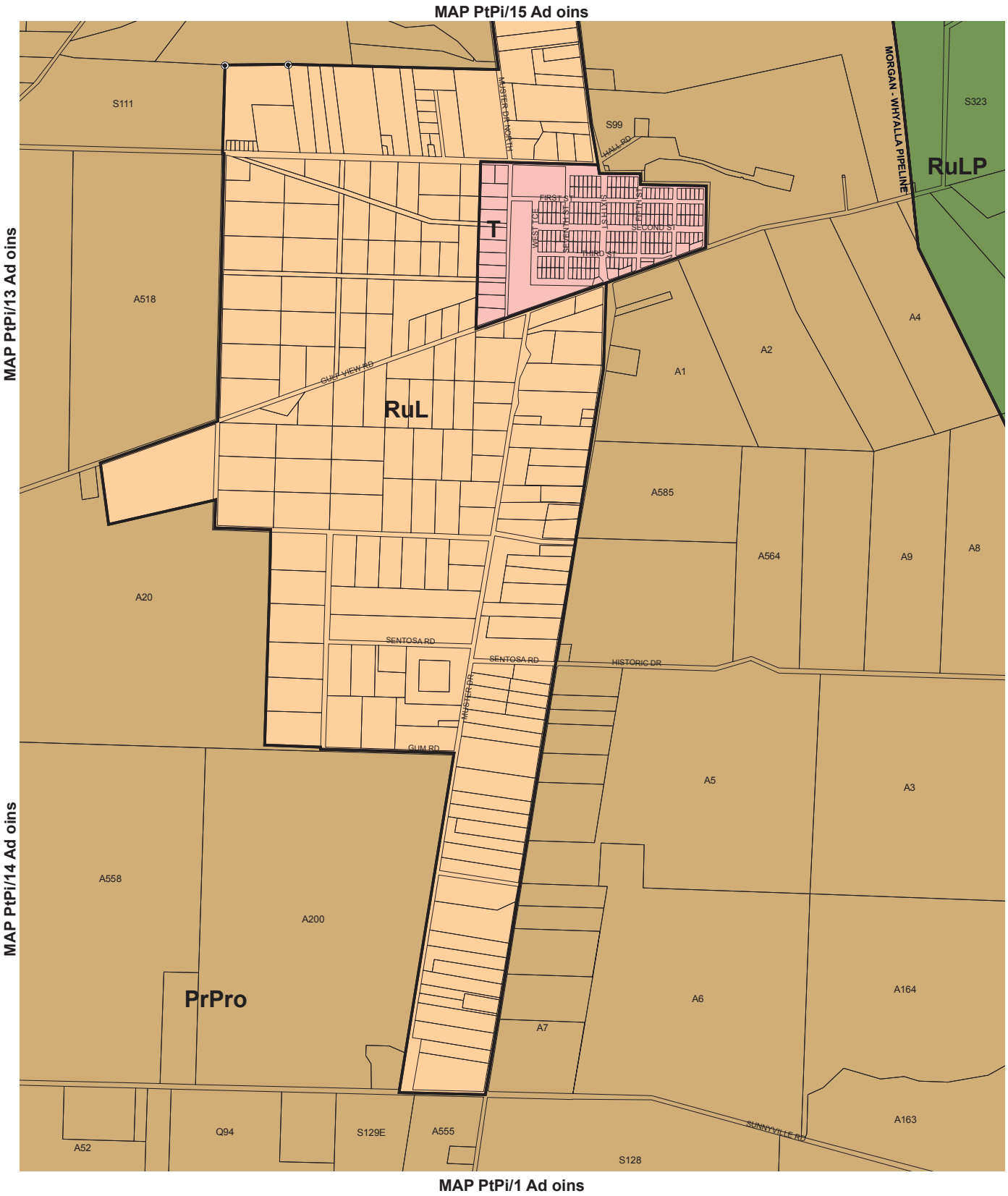
DEVELOPMENT CONSTRAINTS

Morgan - Whyalla Pipeline

275kV

PORT PIRIE REGIONAL COUNCIL

Consolidated - 31 October 2017



Lamberts Conformal Conic Projection, GDA94

N

0 1,000 m

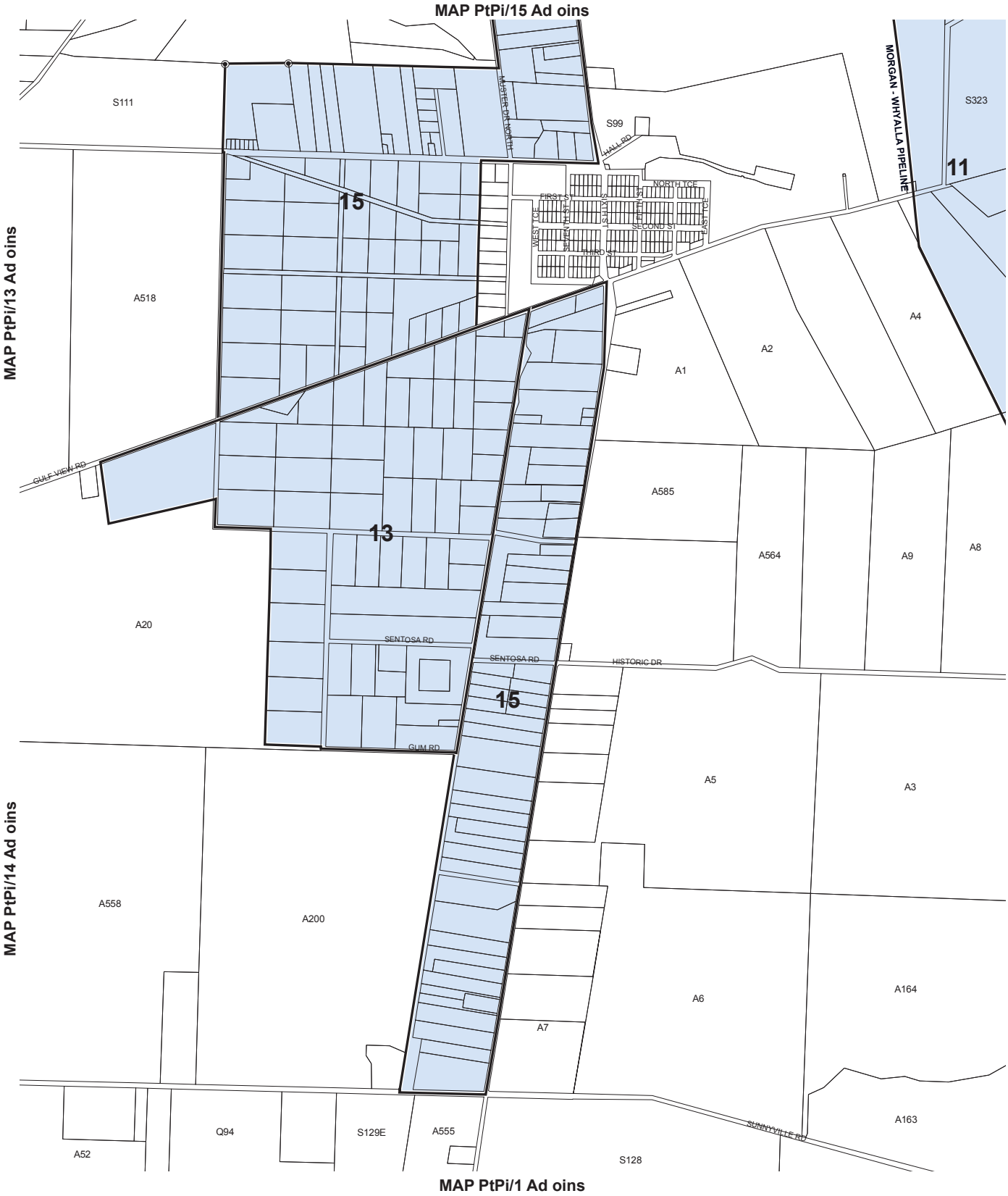
NAPPERBY

ones

PrPro	Primary Production
RuLP	Rural Landscape Protection
RuL	Rural Living
T	Township
	Zone Boundary

one Map PtPi/1

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



Lamberts Conformal Conic Projection, GDA94

Policy Area

11 Landscape Protection Policy Area 11
13 Rural Living Policy Area 13
15 Rural Living Policy Area 15

N

0 1,000 m

NAPPERBY

Policy Area Map PtPi/1

Policy Area Boundary

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

Location Map PtPi/1

Railways
Local Reserves

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

Overlay Map PtPi/1

TRANSPORT

Primary Arterial Roads

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

Overlay Map PtPi/1

DEVELOPMENT CONSTRAINTS

Epic Energy SA Pty Ltd

132kV

PORT PIRIE REGIONAL COUNCIL

Consolidated - 31 October 2017

Heritage points are indicative only.
For further information on State and Local Heritage Places and Contributory Items please refer to the relevant tables within this document.

N

0 1,000 m

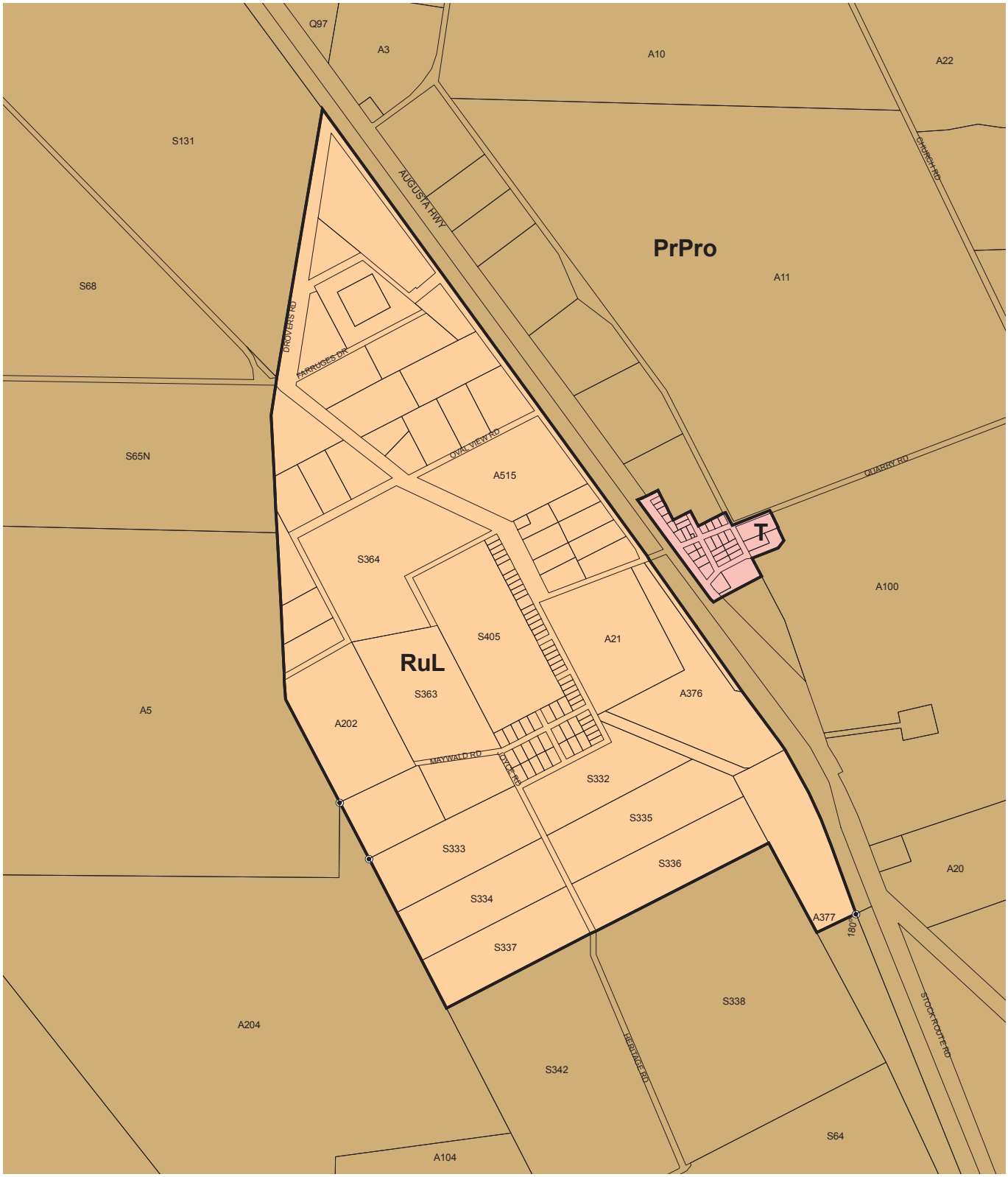
Overlay Map PtPi/1

HERITAGE

- Local heritage place

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

MAP PtPi/1 Ad oins



MAP PtPi/1 Ad oins

MAP PtPi/1 Ad oins

MAP PtPi/1 Ad oins

Lamberts Conformal Conic Projection, GDA94

N

0 1,000 m

ones

- PrPro — Primary Production
- RuL — Rural Living
- T — Township
- Zone Boundary

one Map PtPi/1

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

Lamberts Conformal Conic Projection, GDA94

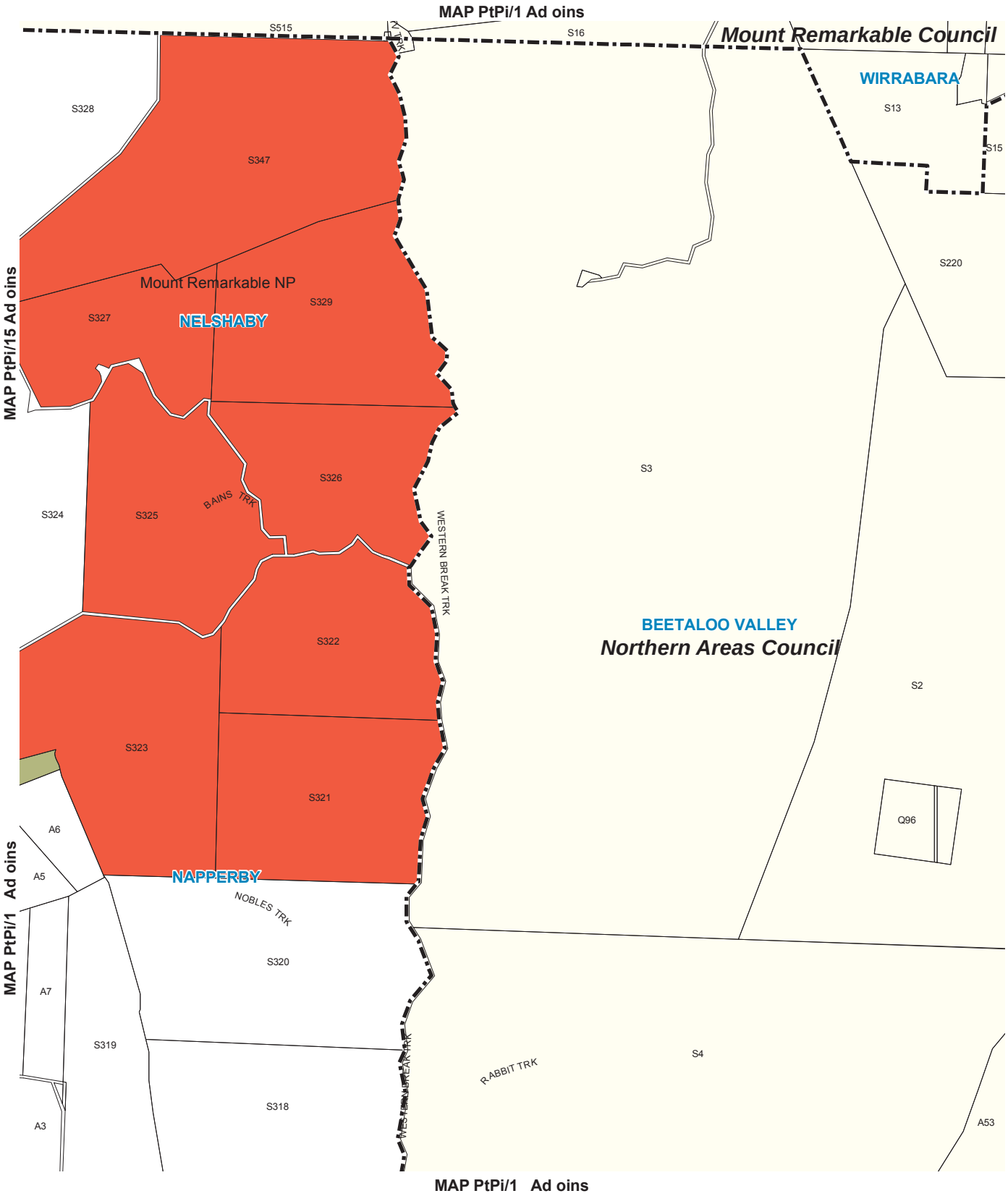
Policy Area
13 Rural Living Policy Area 13

N

0 1,000 m

Policy Area Map PtPi/1

Policy Area Boundary



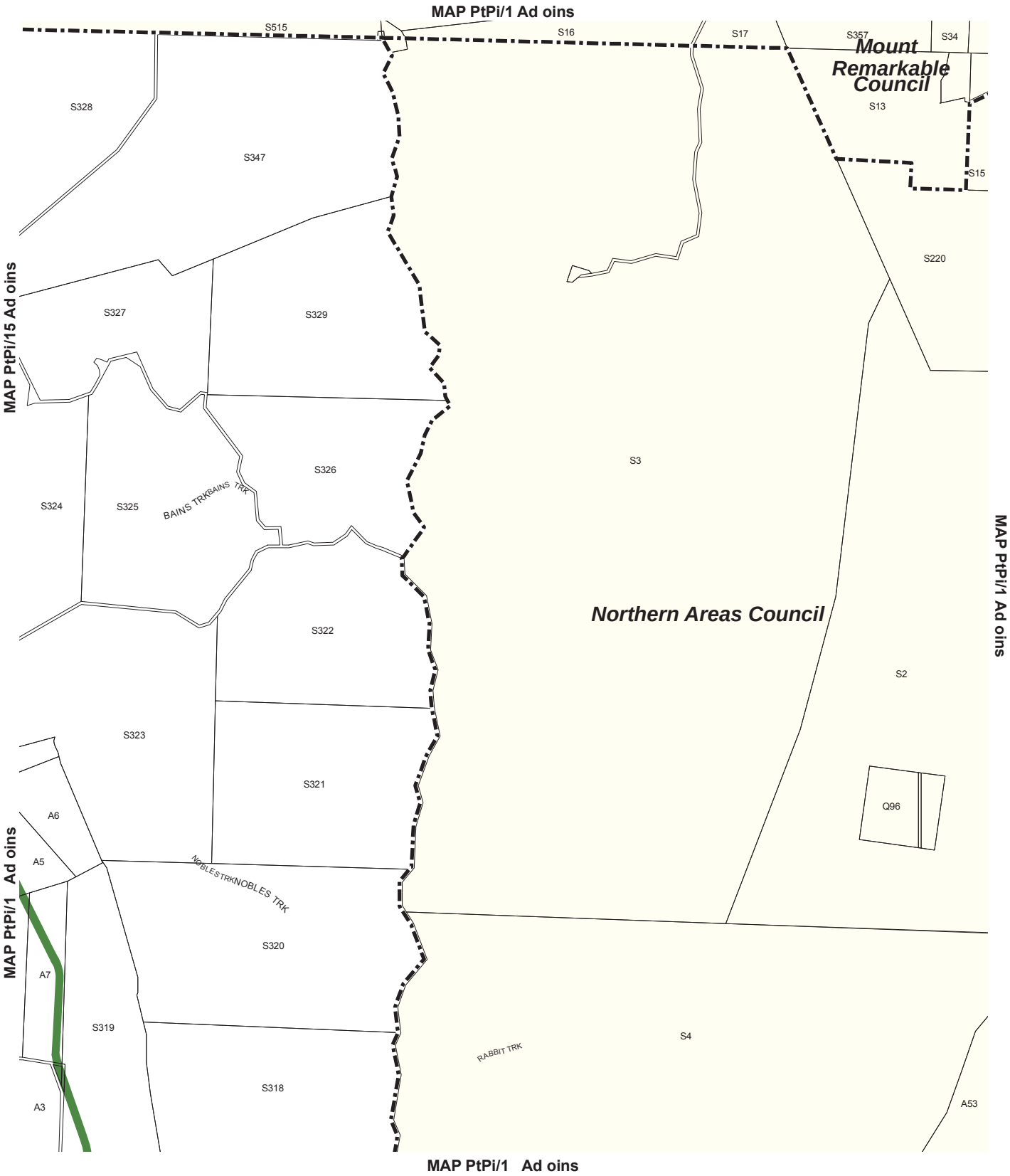
N

0 2,000 m

Location Map PtPi/18

Local Reserves
National Park
Development Plan Boundary

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



Overlay Map PtPi/18

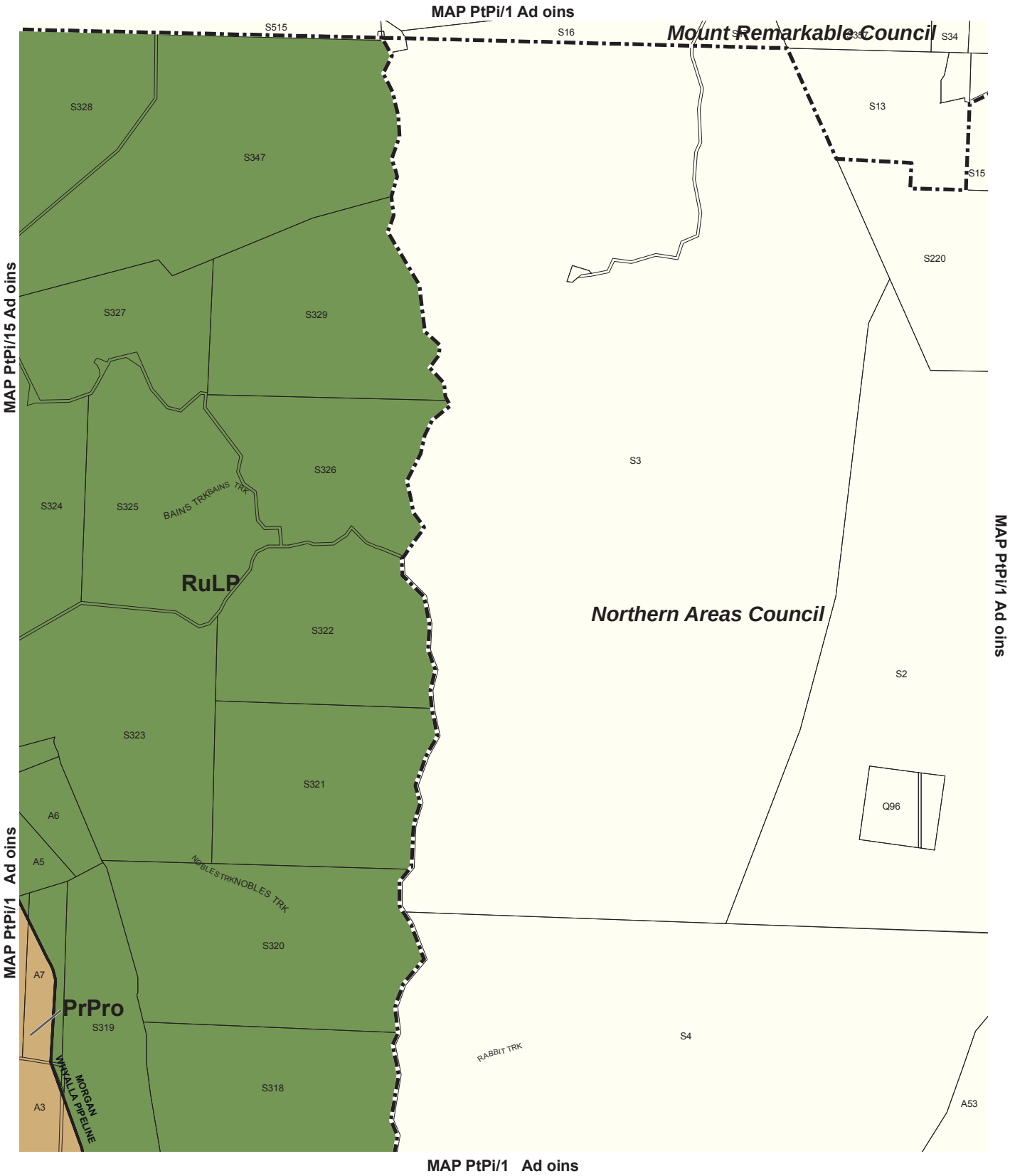
DEVELOPMENT CONSTRAINTS

Morgan - Whyalla Pipeline

Development Plan Boundary

PORT PIRIE REGIONAL COUNCIL

Consolidated - 31 October 2017



Lamberts Conformal Conic Projection, GDA94

N

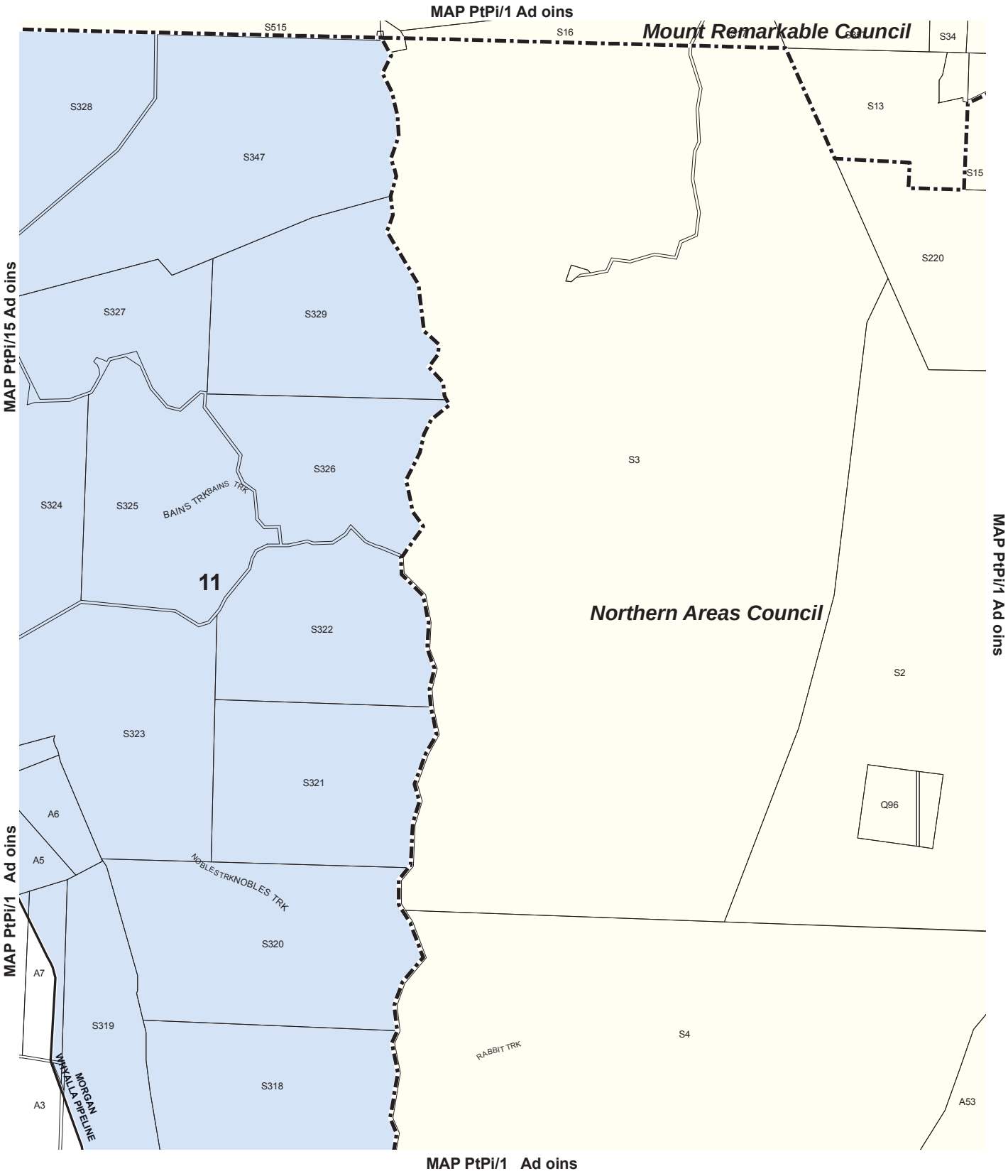
0 2,000 m

ones

- PrPro — Primary Production
- RuLP — Rural Landscape Protection
- Zone Boundary
- Development Plan Boundary

one Map PtPi/18

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



Lamberts Conformal Conic Projection, GDA94

Policy Area
11 Landscape Protection Policy Area 11

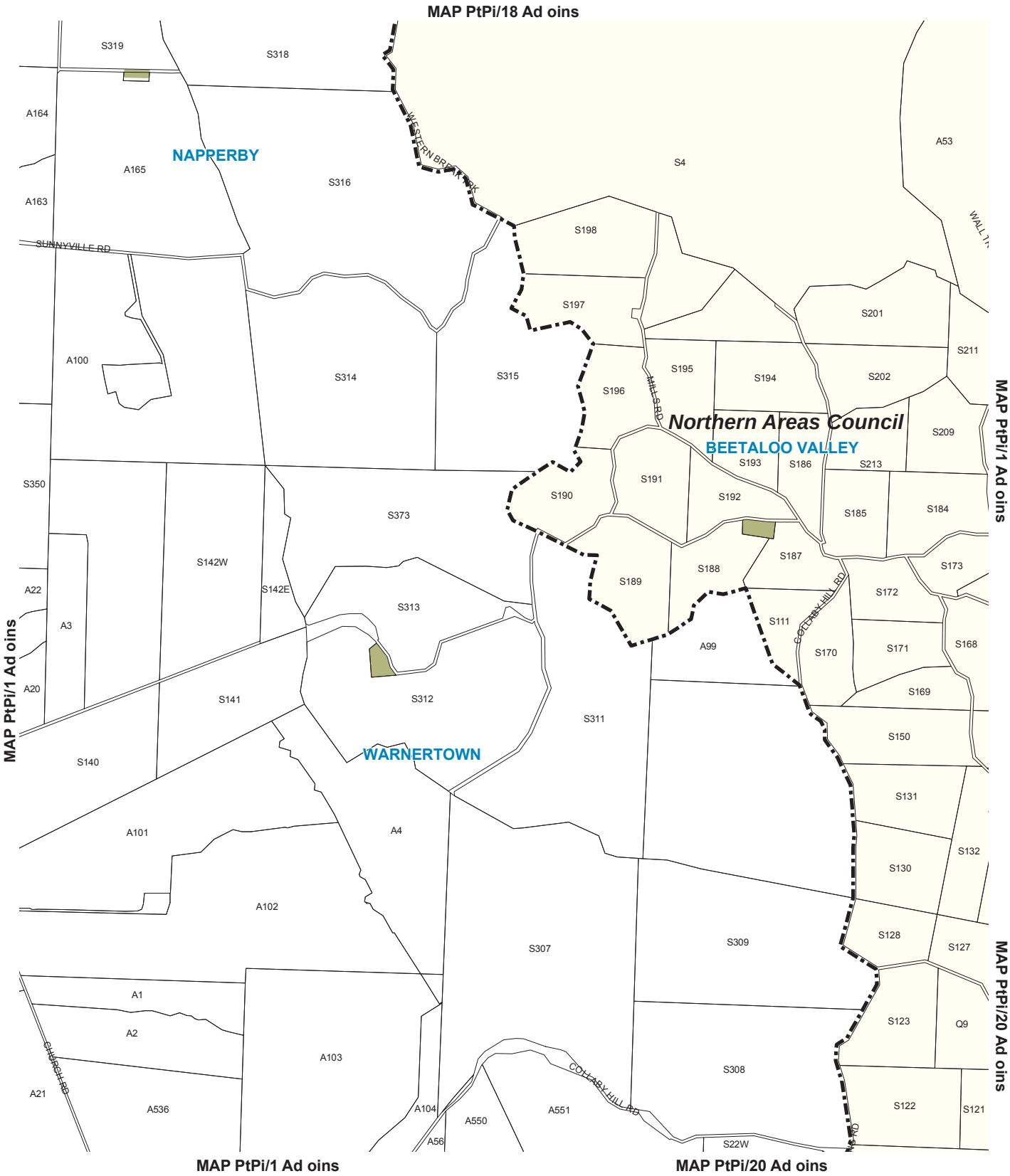
N

0 2,000 m

Policy Area Map PtPi/18

Policy Area Boundary

Development Plan Boundary

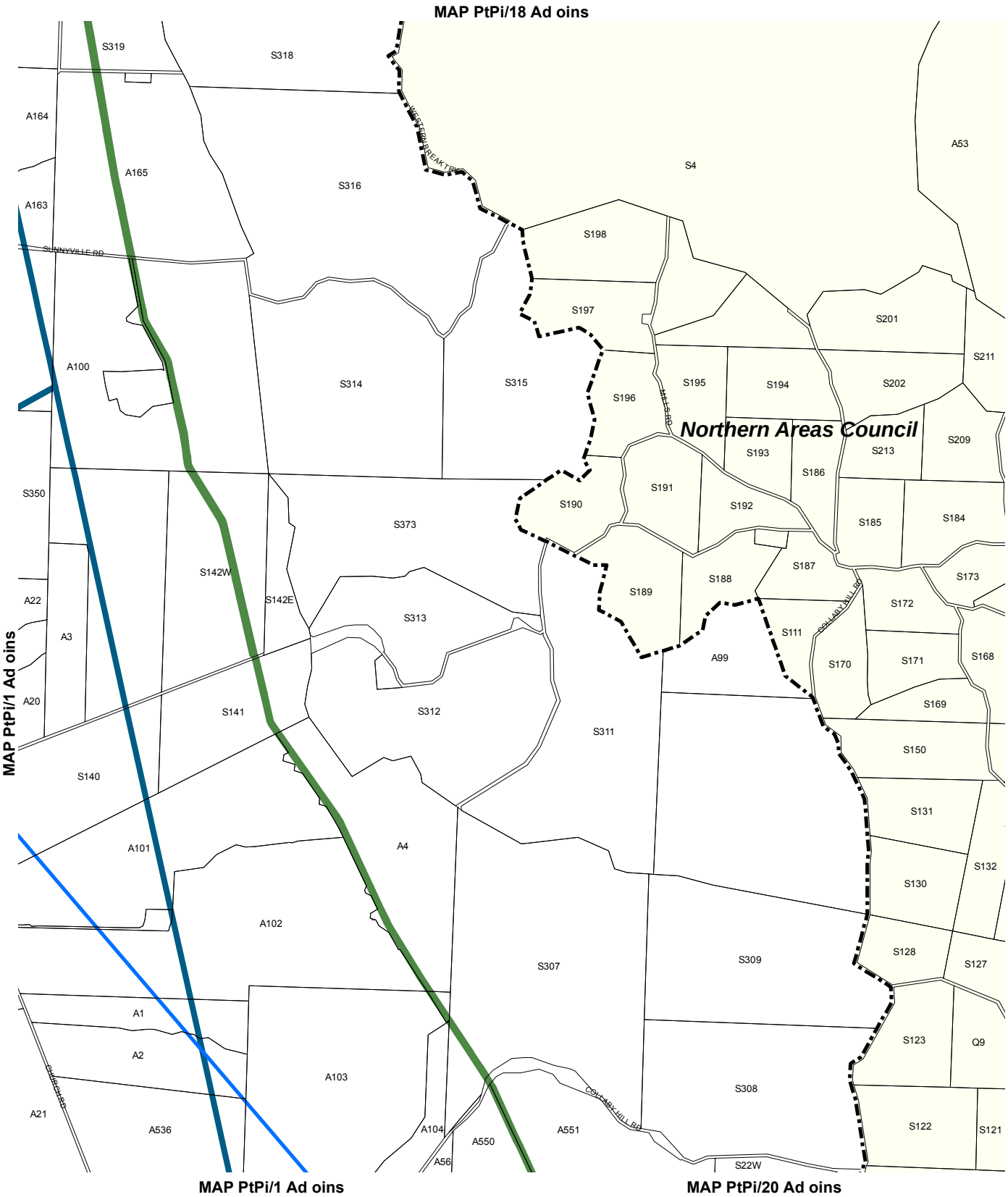


Location Map PtPi/1

Local Reserves

Development Plan Boundary

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



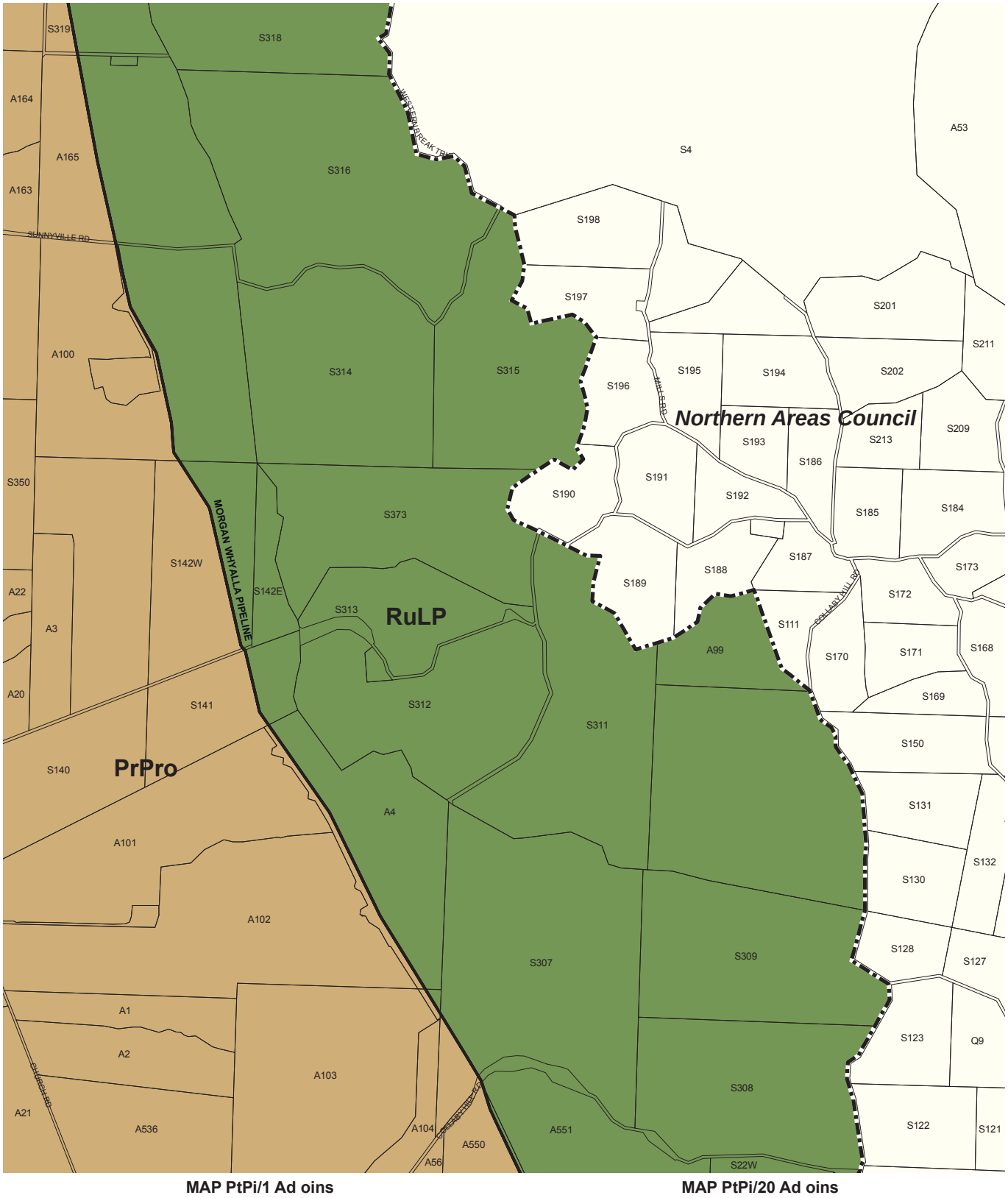
Epic Energy SA Pty Ltd
Morgan - Whyalla Pipeline
275kV
Development Plan Boundary

Overlay Map PtPi/1

DEVELOPMENT CONSTRAINTS

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

MAP PtPi/18 Ad oins



Lamberts Conformal Conic Projection, GDA94

N

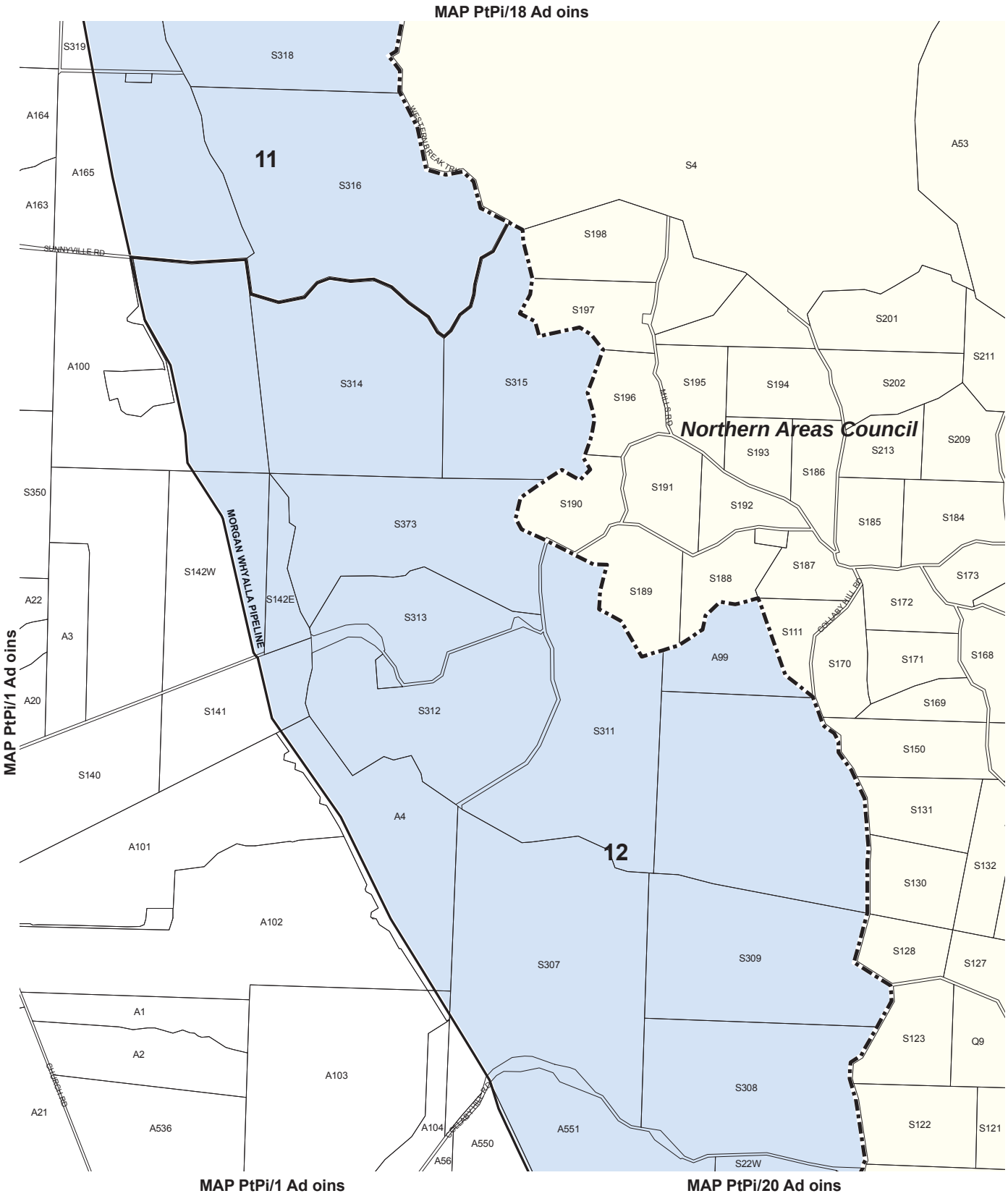
0 2,000 m

ones

- PrPro — Primary Production
- RuLP — Rural Landscape Protection
- Zone Boundary
- Development Plan Boundary

one Map PtPi/1

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



Lamberts Conformal Conic Projection, GDA94

Policy Area

11 Landscape Protection Policy Area 11

12 Landscape Protection Policy Area 12

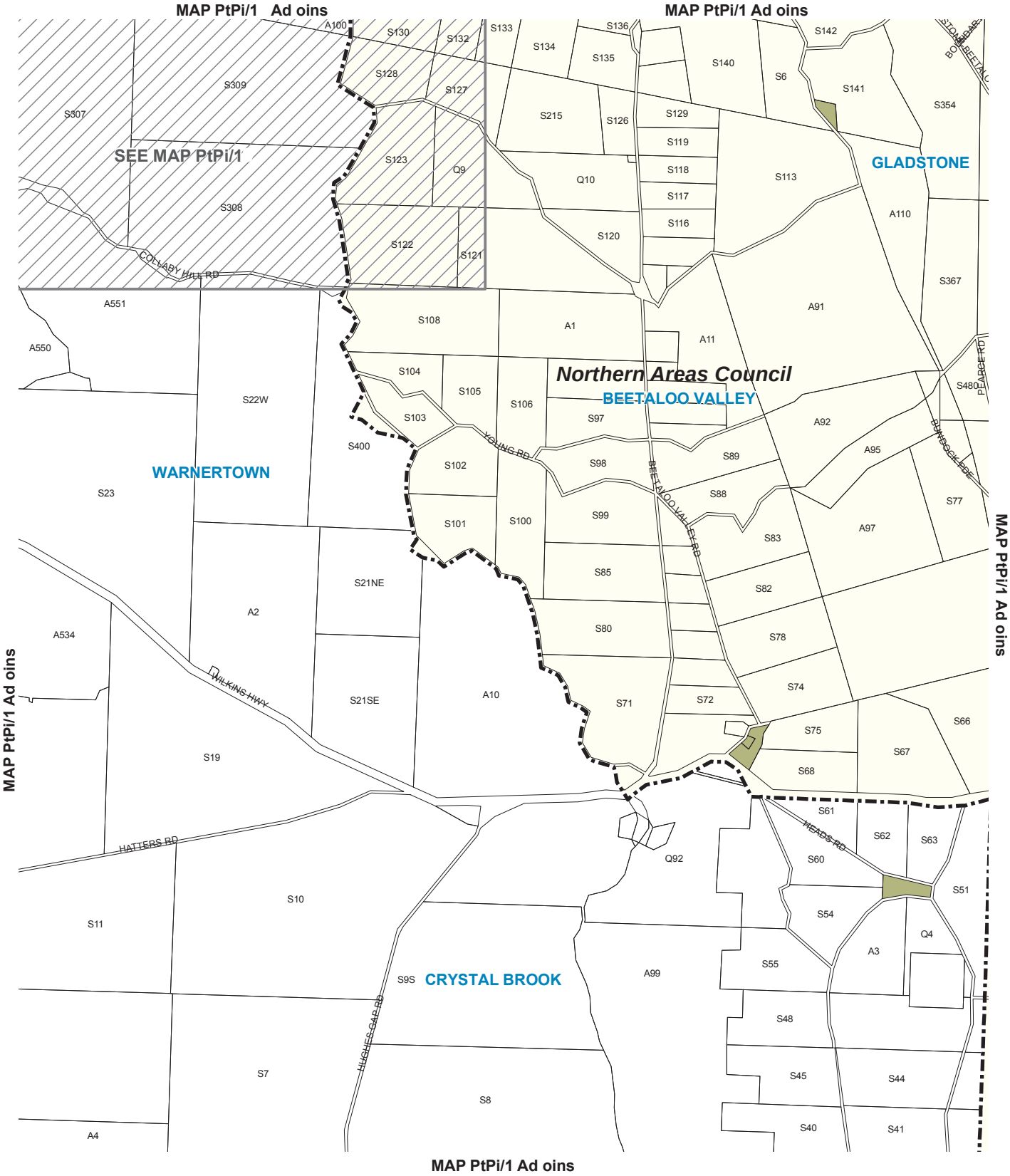
N

0 2,000 m

Policy Area Map PtPi/1

Policy Area Boundary

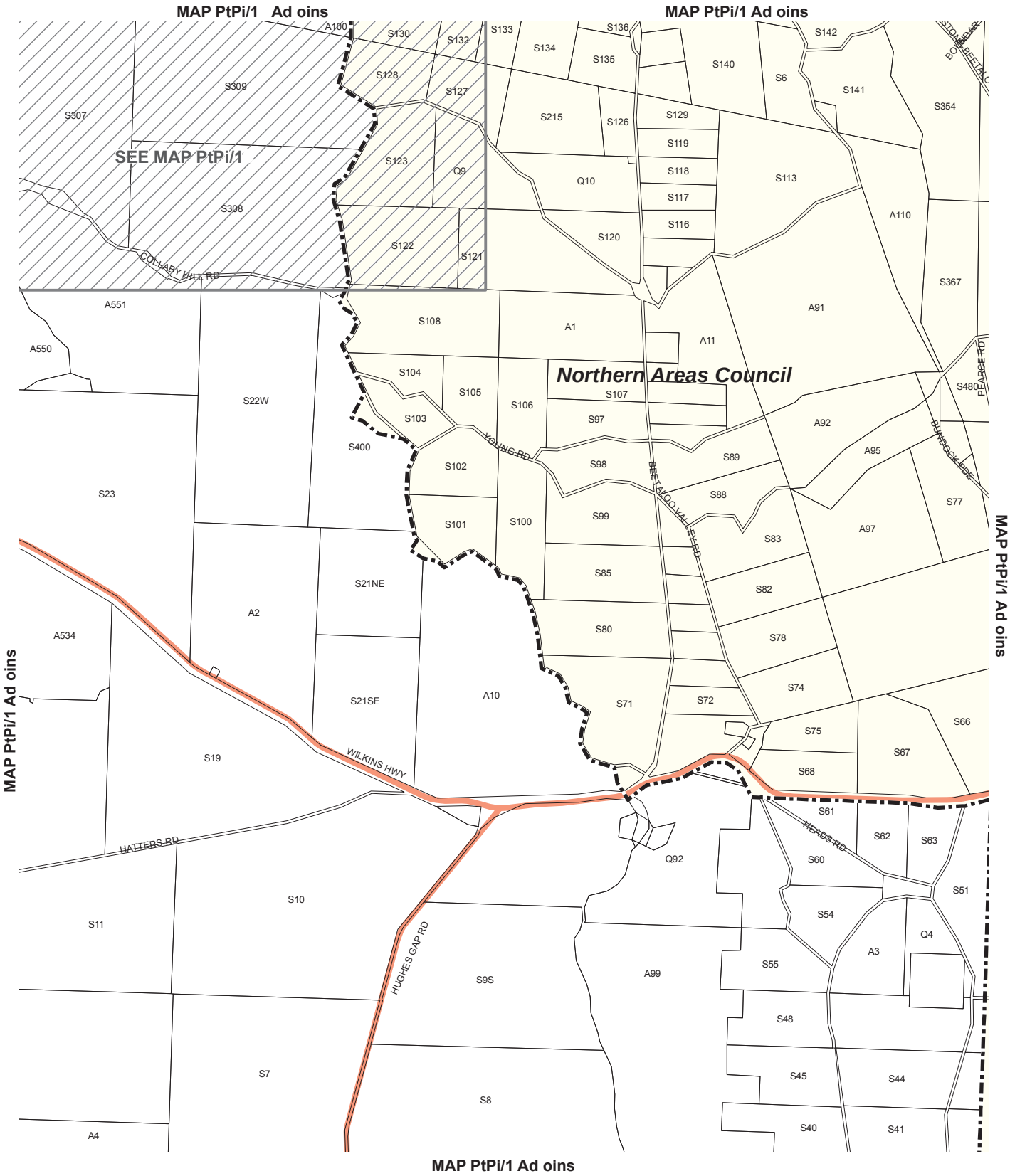
Development Plan Boundary



Location Map PtPi/20

Local Reserves

Development Plan Boundary



Overlay Map PtPi/20

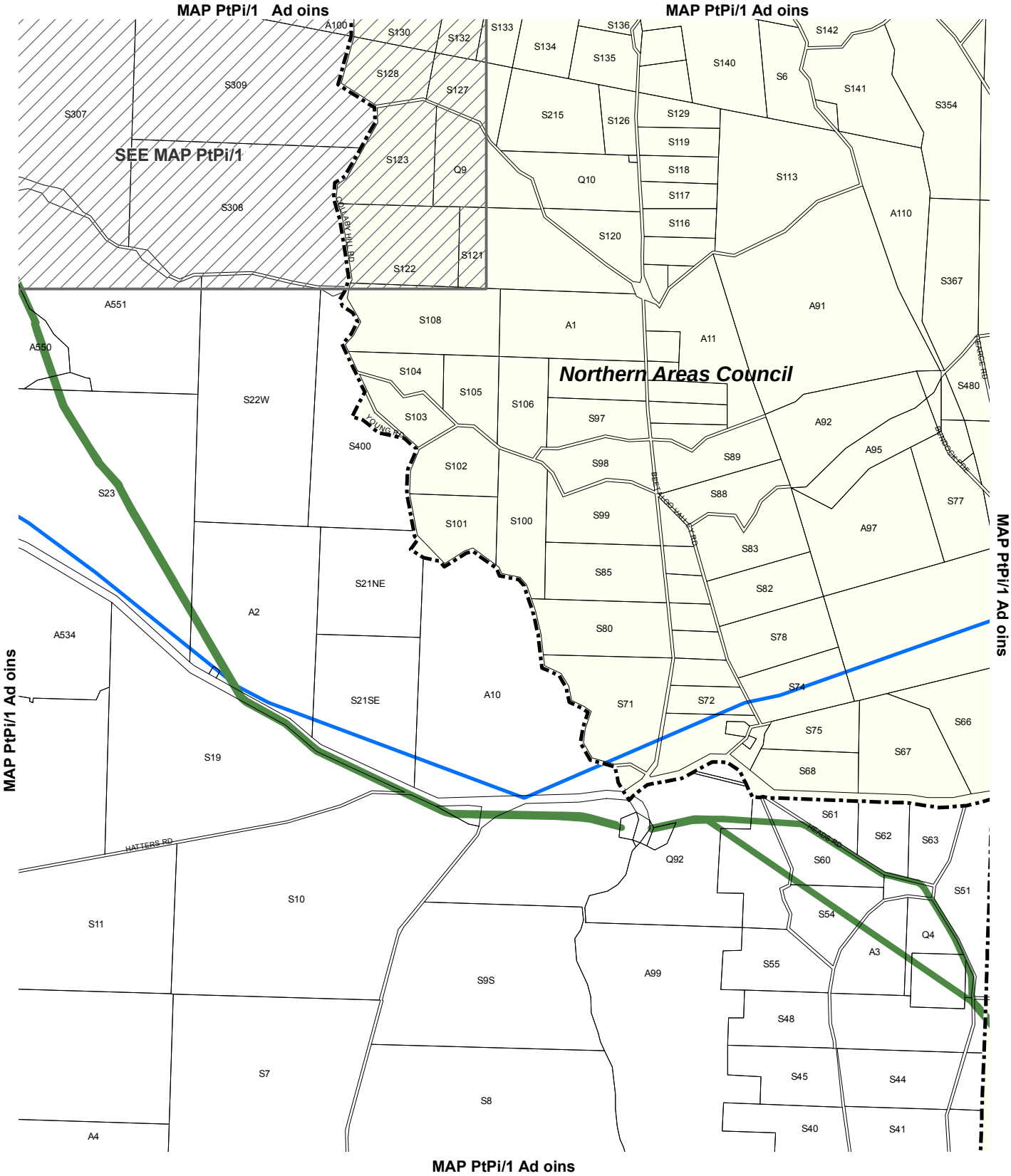
TRANSPORT

Secondary Arterial Roads

Development Plan Boundary

PORT PIRIE REGIONAL COUNCIL

Consolidated - 31 October 2017



Overlay Map PtPi/20

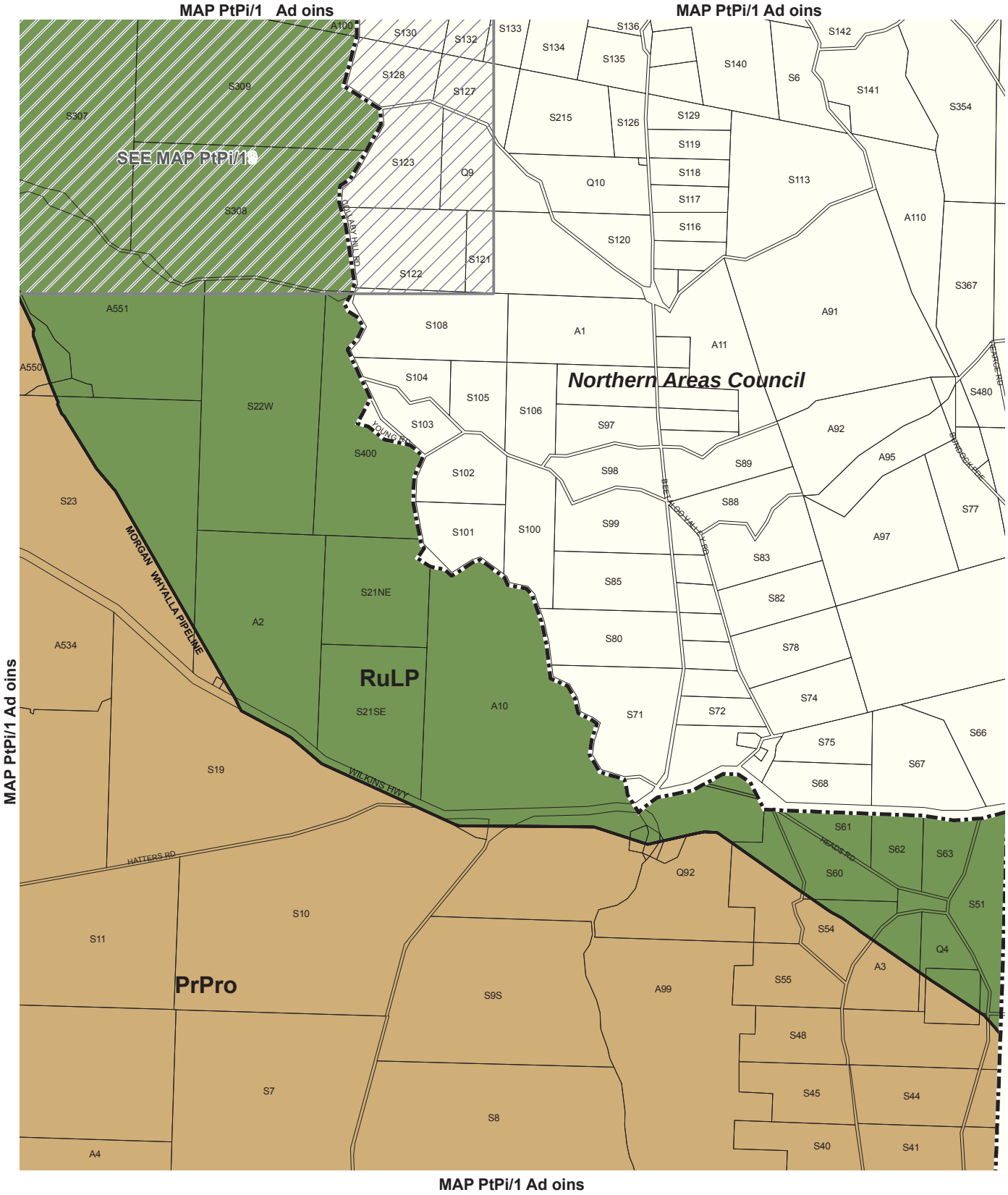
DEVELOPMENT CONSTRAINTS

Epic Energy SA Pty Ltd

Morgan - Whyalla Pipeline

Development Plan Boundary

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



See enlargement map for accurate representation.

Lamberts Conformal Conic Projection, GDA94

N

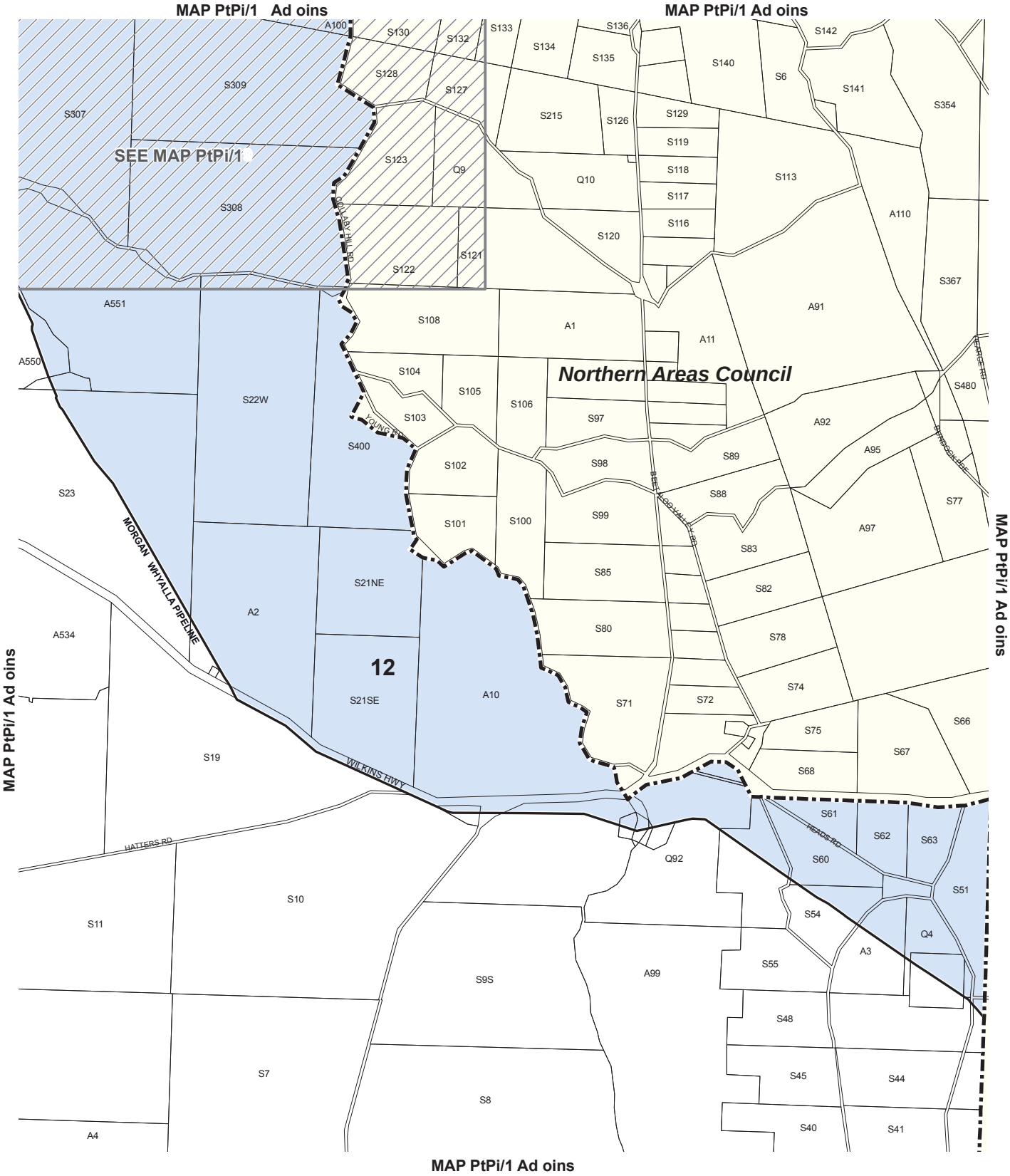
0 2,000 m

one Map PtPi/20

ones

- PrPro — Primary Production
- RuLP — Rural Landscape Protection
- Zone Boundary
- Development Plan Boundary

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



See enlargement map for accurate representation.

Lamberts Conformal Conic Projection, GDA94

Policy Area

12 Landscape Protection Policy Area 12

N

0 2,000 m

Policy Area Map PtPi/20

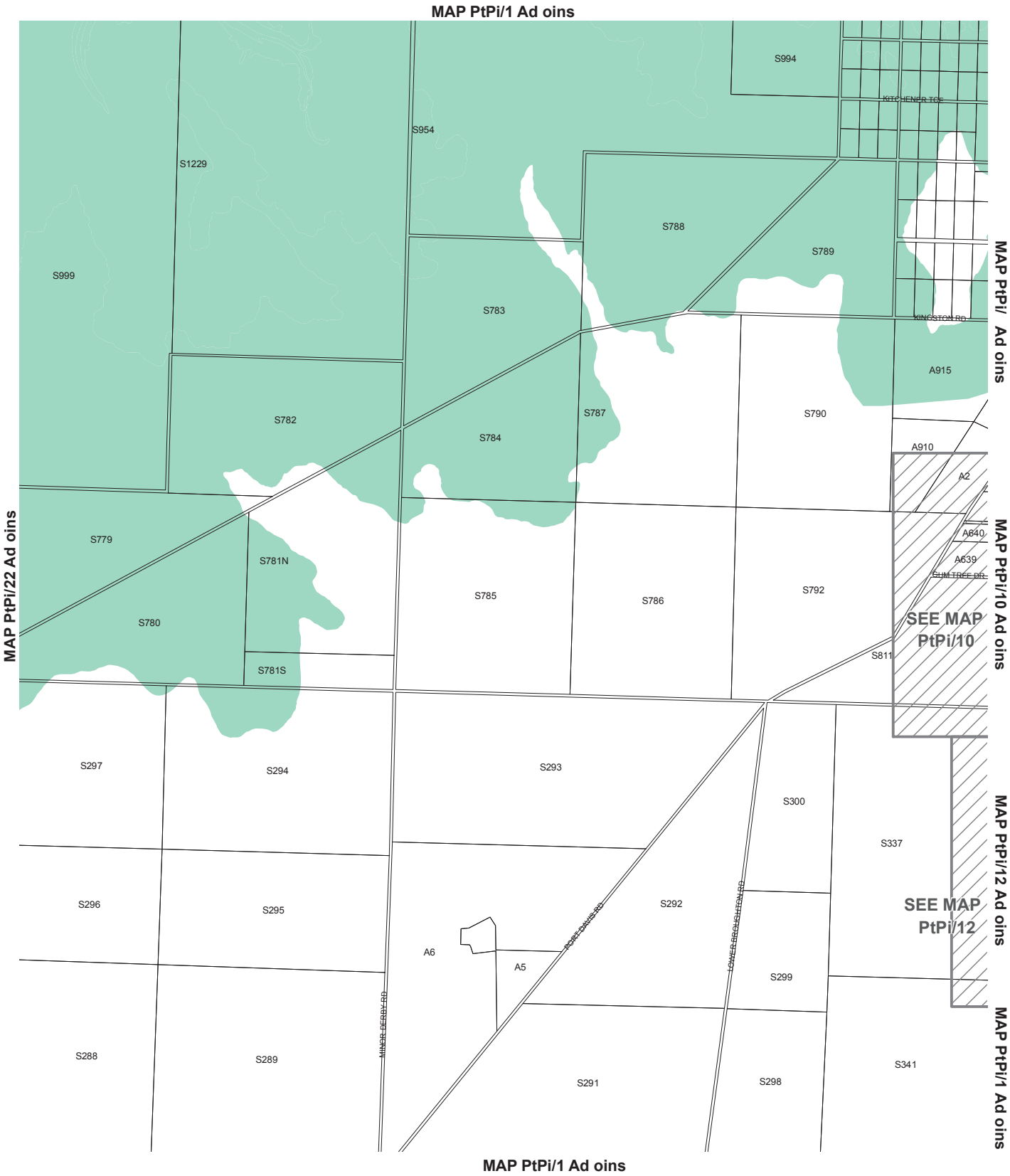
Policy Area Boundary

Development Plan Boundary

Location Map PtPi/21

Local Reserves

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



N

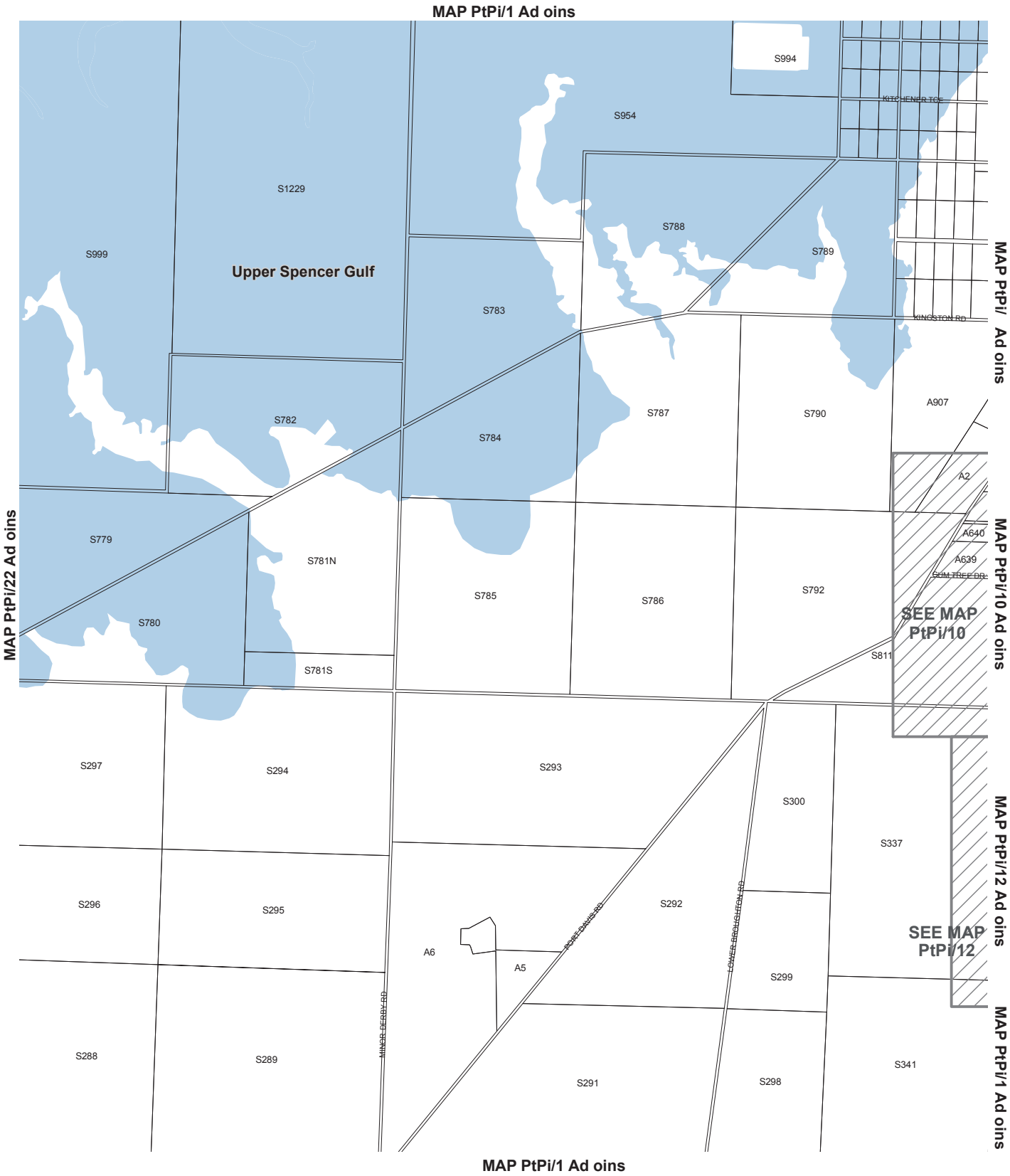
0 2,000 m

Overlay Map PtPi/21

DEVELOPMENT CONSTRAINTS

Coastal Acid Sulfate Soils

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

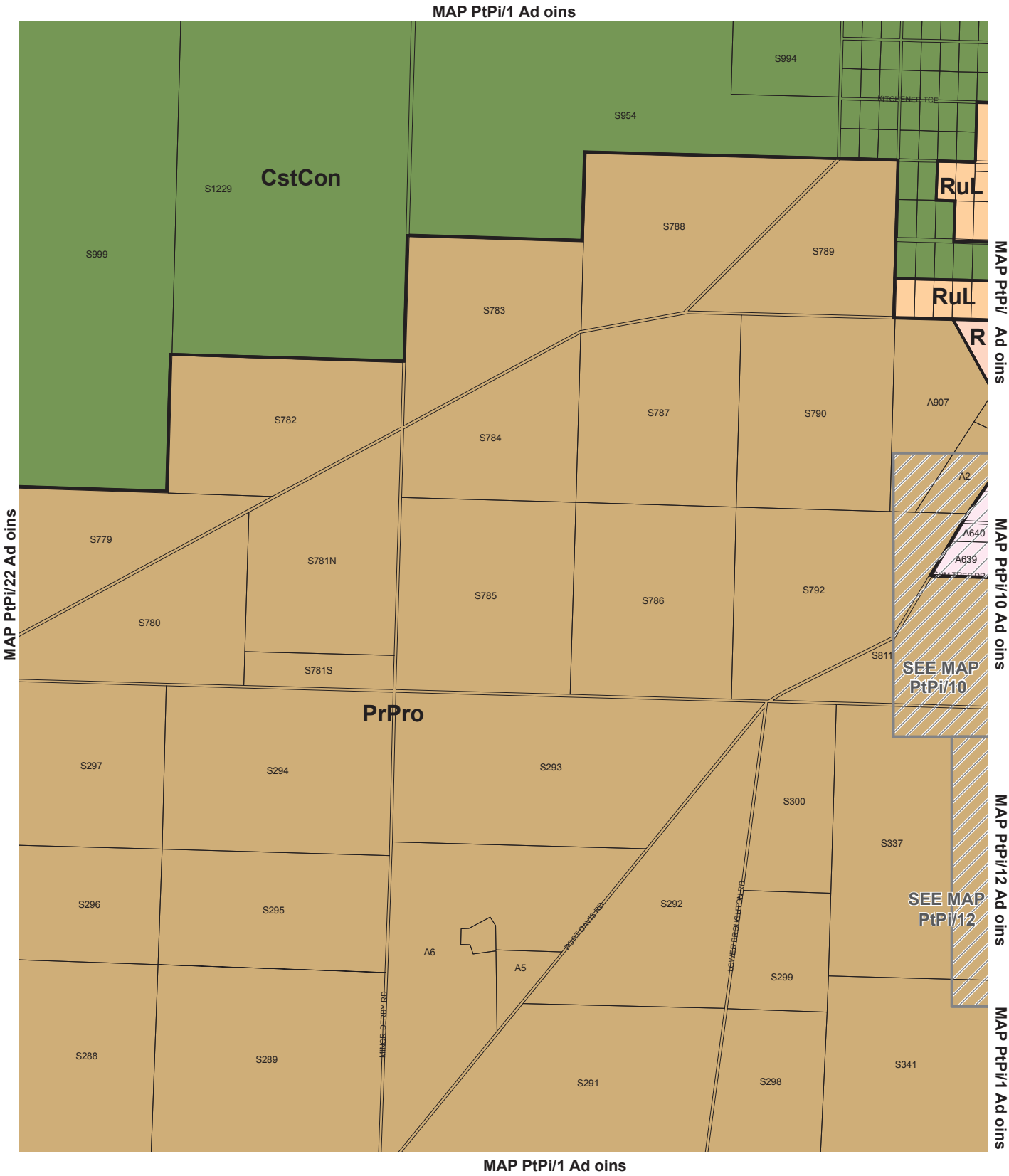


Overlay Map PtPi/21

NATURAL RESOURCES

Wetlands of National Importance

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



See enlargement map for accurate representation.

Lamberts Conformal Conic Projection, GDA94

N

0 2,000 m

ones

CstCon	Coastal Conservation
PrPro	Primary Production
R	Residential
RuL	Rural Living
	Zone Boundary

one Map PtPi/21

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

See enlargement map for accurate representation.

Lamberts Conformal Conic Projection, GDA94

Policy Area

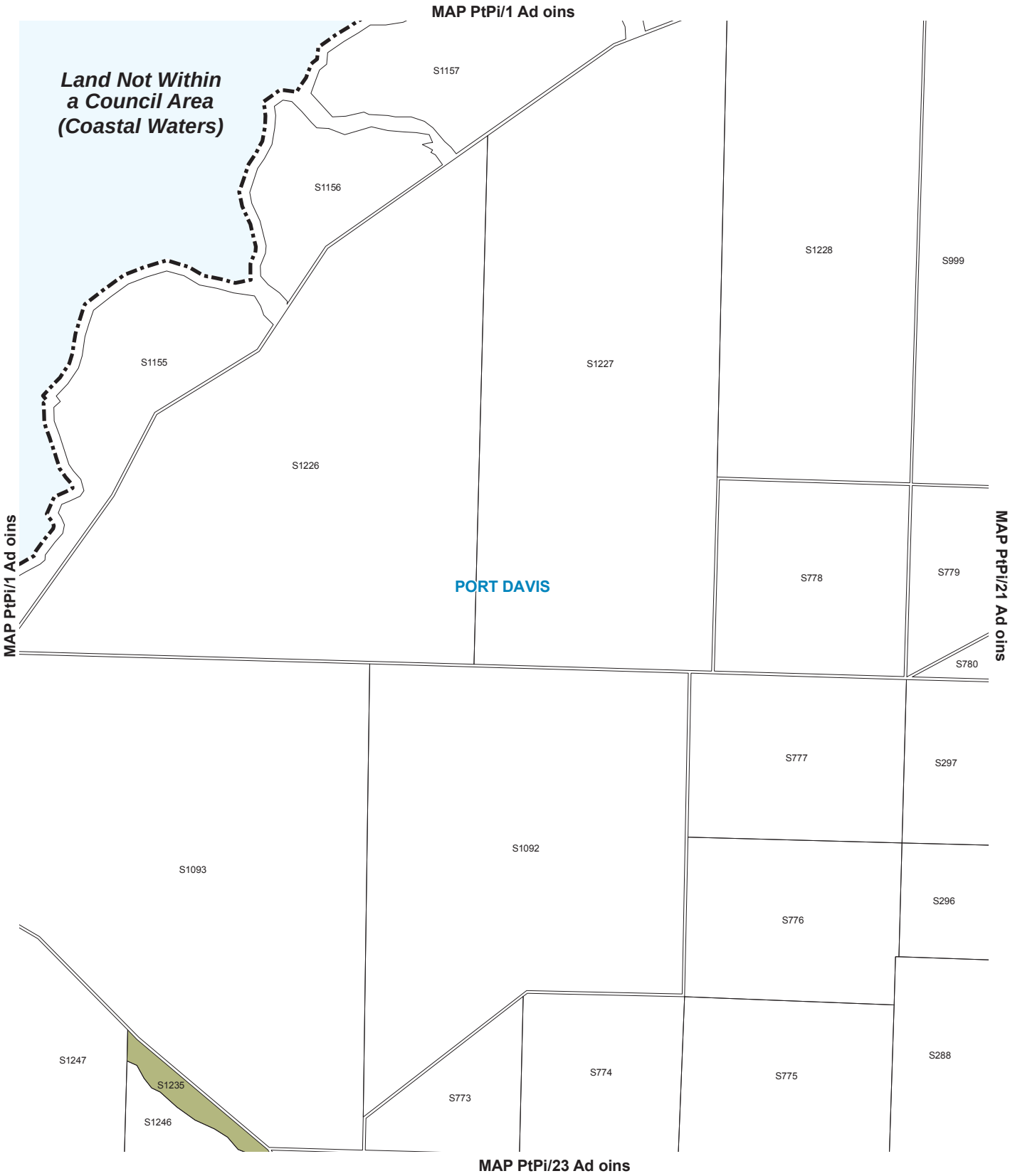
1 Rural Living Policy Area 17

N

0 2,000 m

Policy Area Map PtPi/21

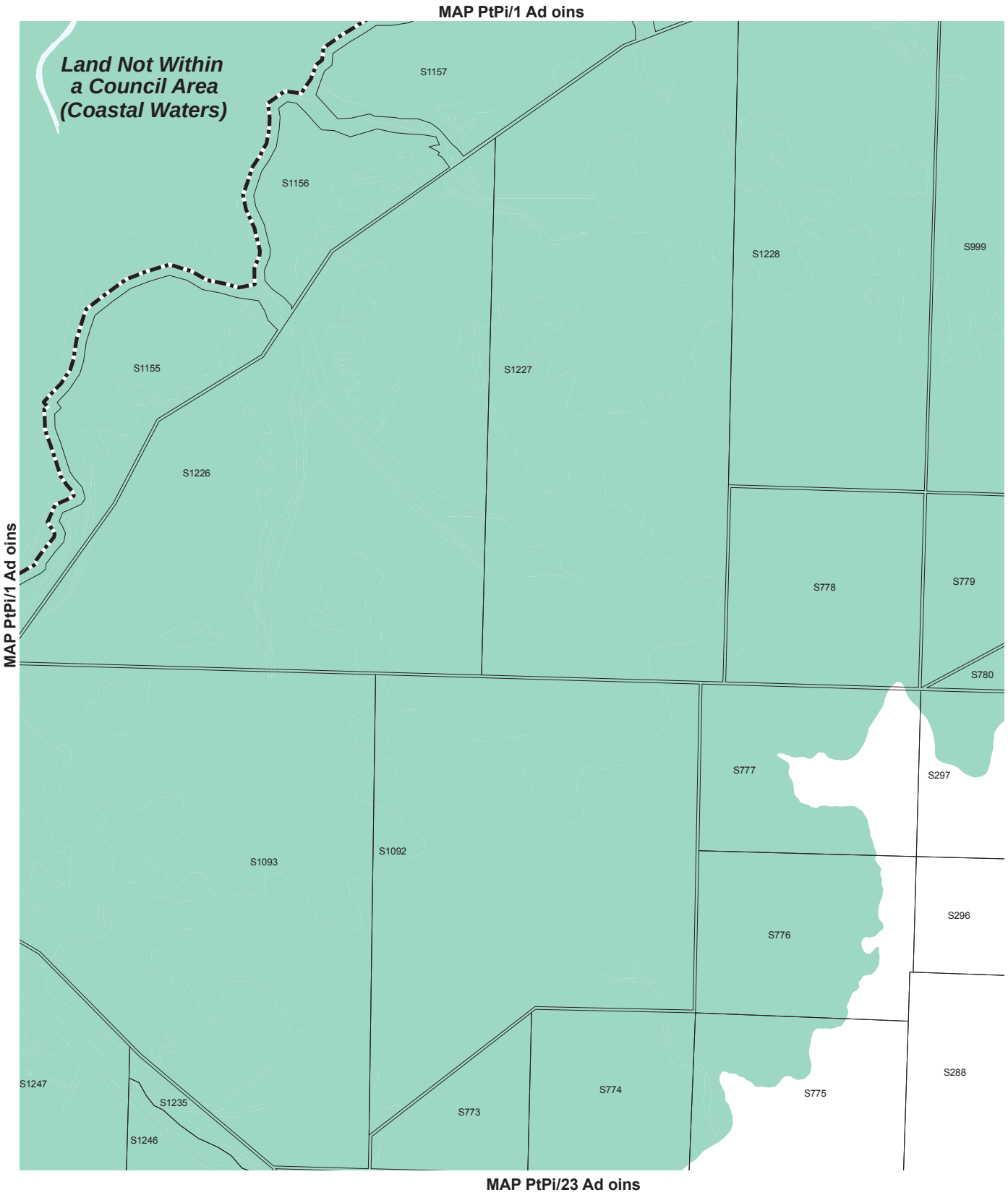
Policy Area Boundary



Location Map PtPi/22

Local Reserves

Development Plan Boundary



N

0 2,000 m

Overlay Map PtPi/22

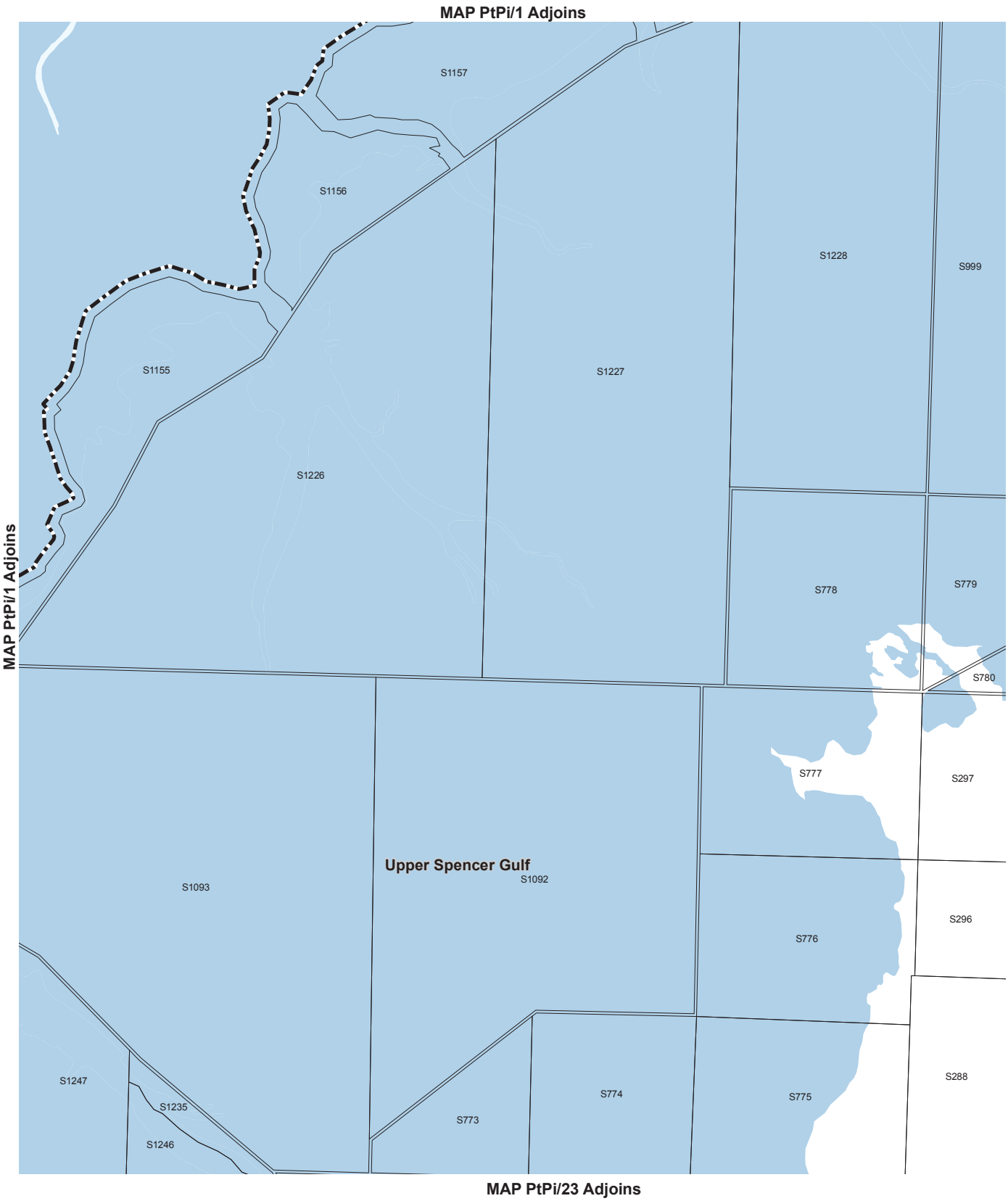
DEVELOPMENT CONSTRAINTS

Coastal Acid Sulfate Soils

Development Plan Boundary

PORT PIRIE REGIONAL COUNCIL

Consolidated - 31 October 2017



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0 2,000 m

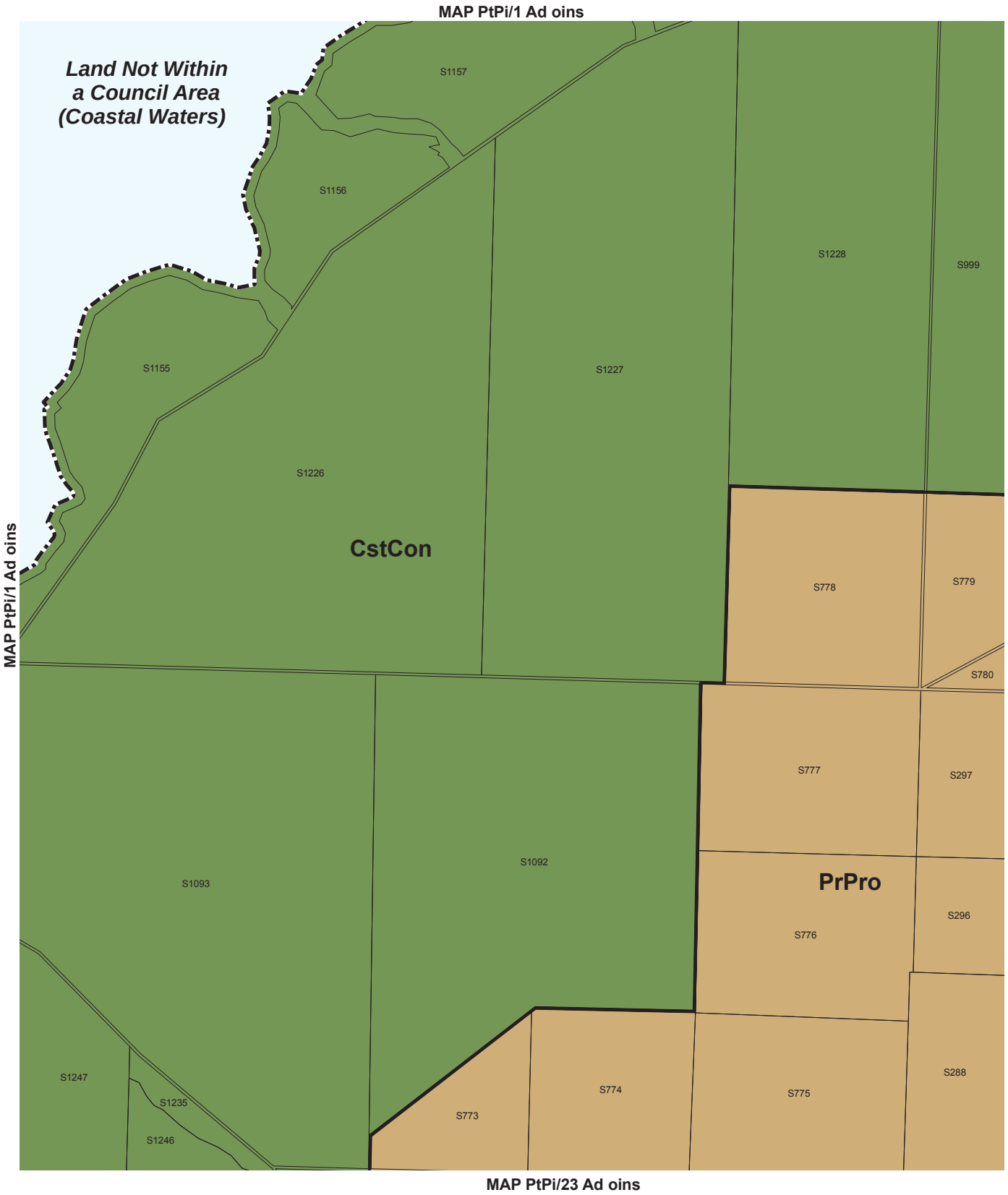
Overlay Map PtPi/22

NATURAL RESOURCES

Wetlands of National Importance

Development Plan Boundary

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



Lamberts Conformal Conic Projection, GDA94

N

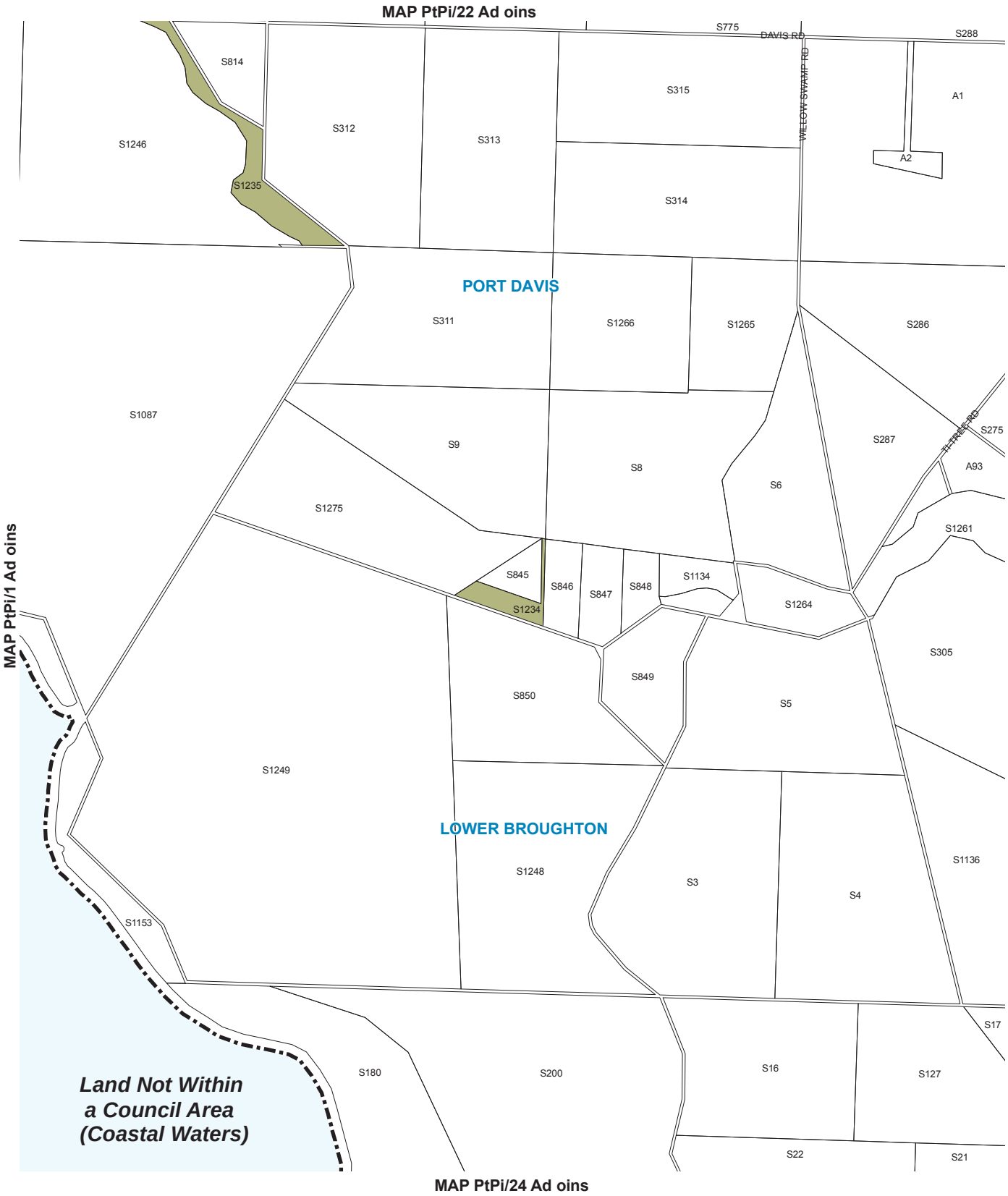
0 2,000 m

ones

- CstCon — Coastal Conservation
- PrPro — Primary Production
- Zone Boundary
- Development Plan Boundary

one Map PtPi/22

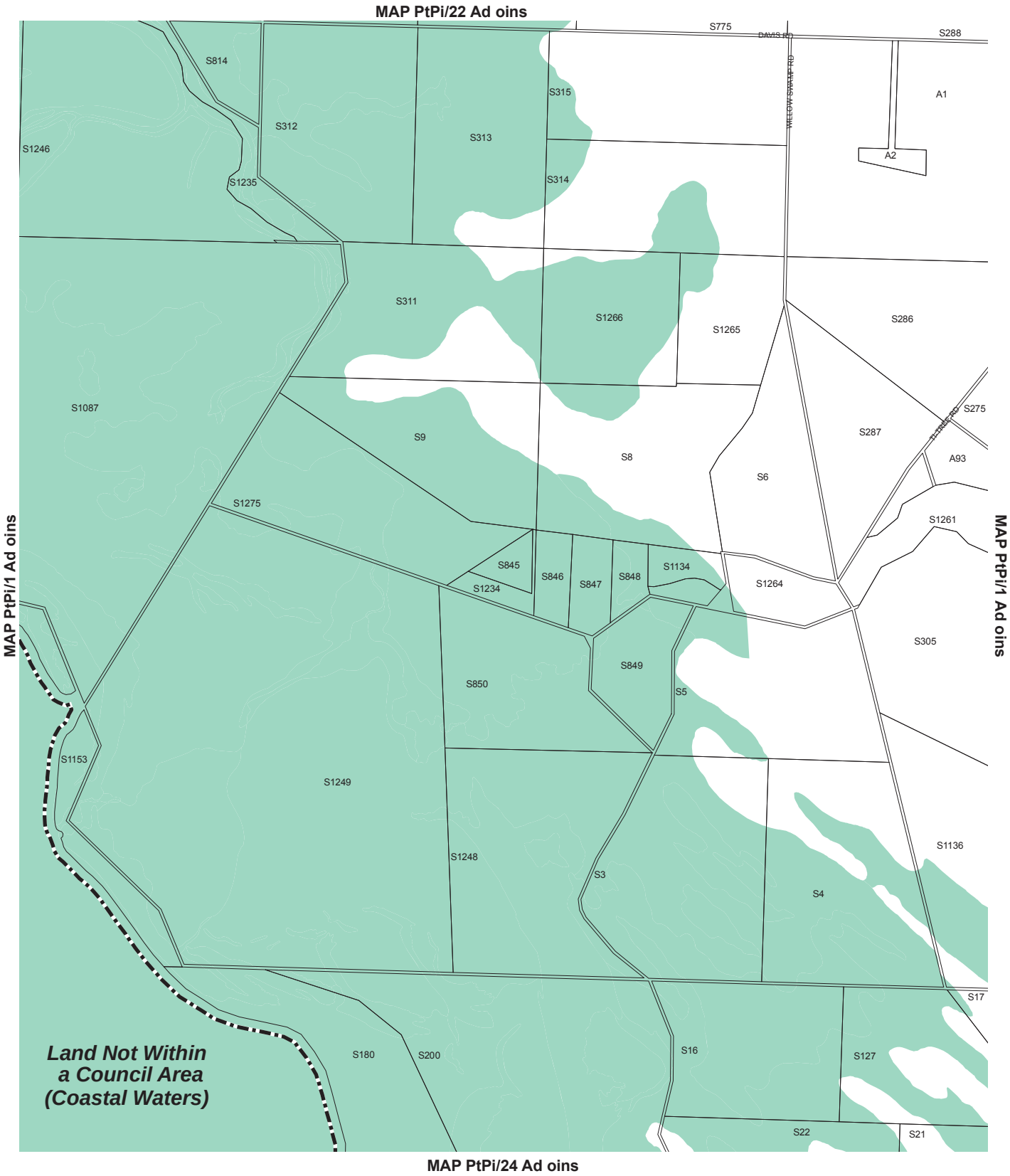
PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



Location Map PtPi/23

Local Reserves

Development Plan Boundary



Overlay Map PtPi/23

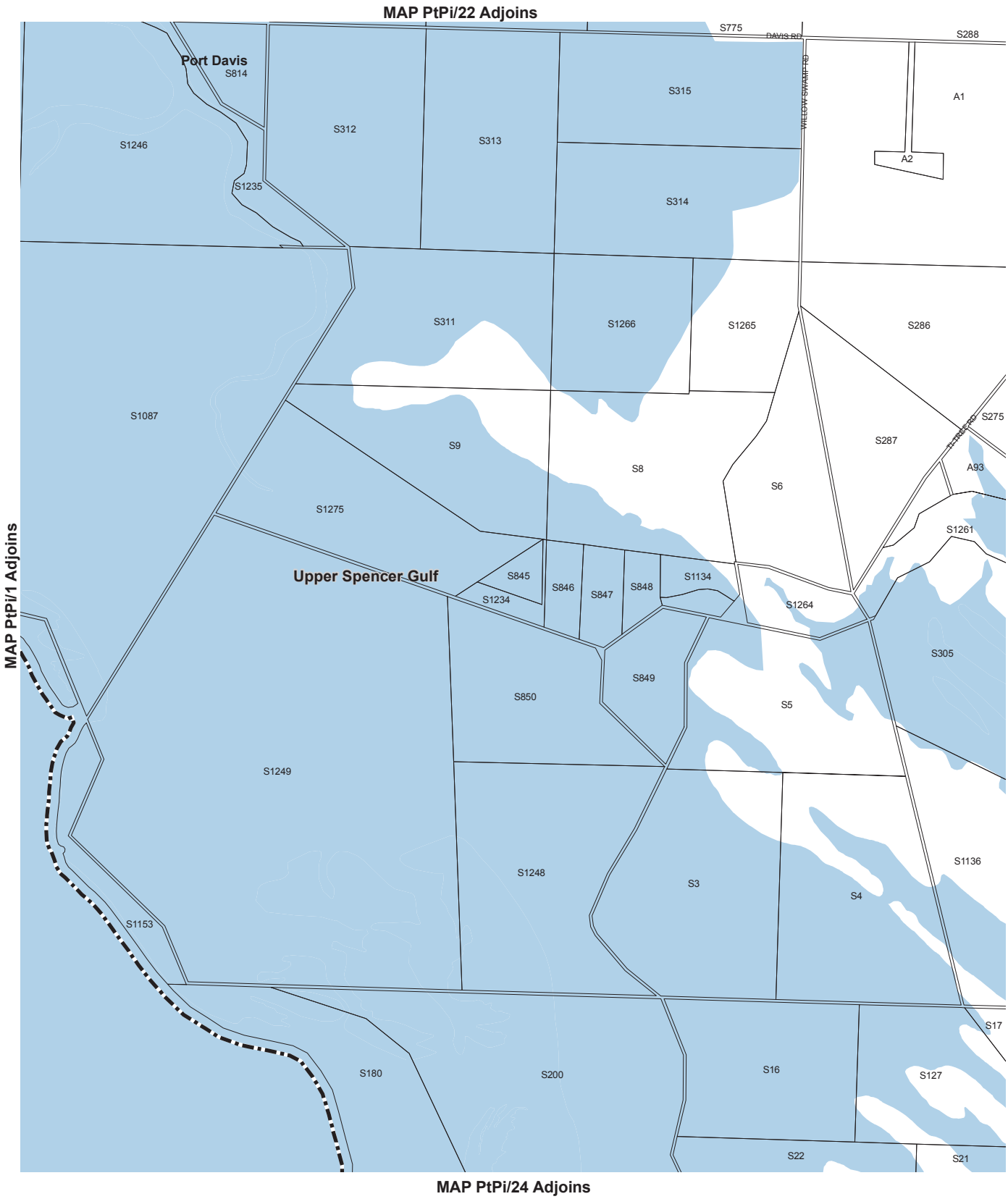
DEVELOPMENT CONSTRAINTS

Coastal Acid Sulfate Soils

Development Plan Boundary

PORT PIRIE REGIONAL COUNCIL

Consolidated - 31 October 2017



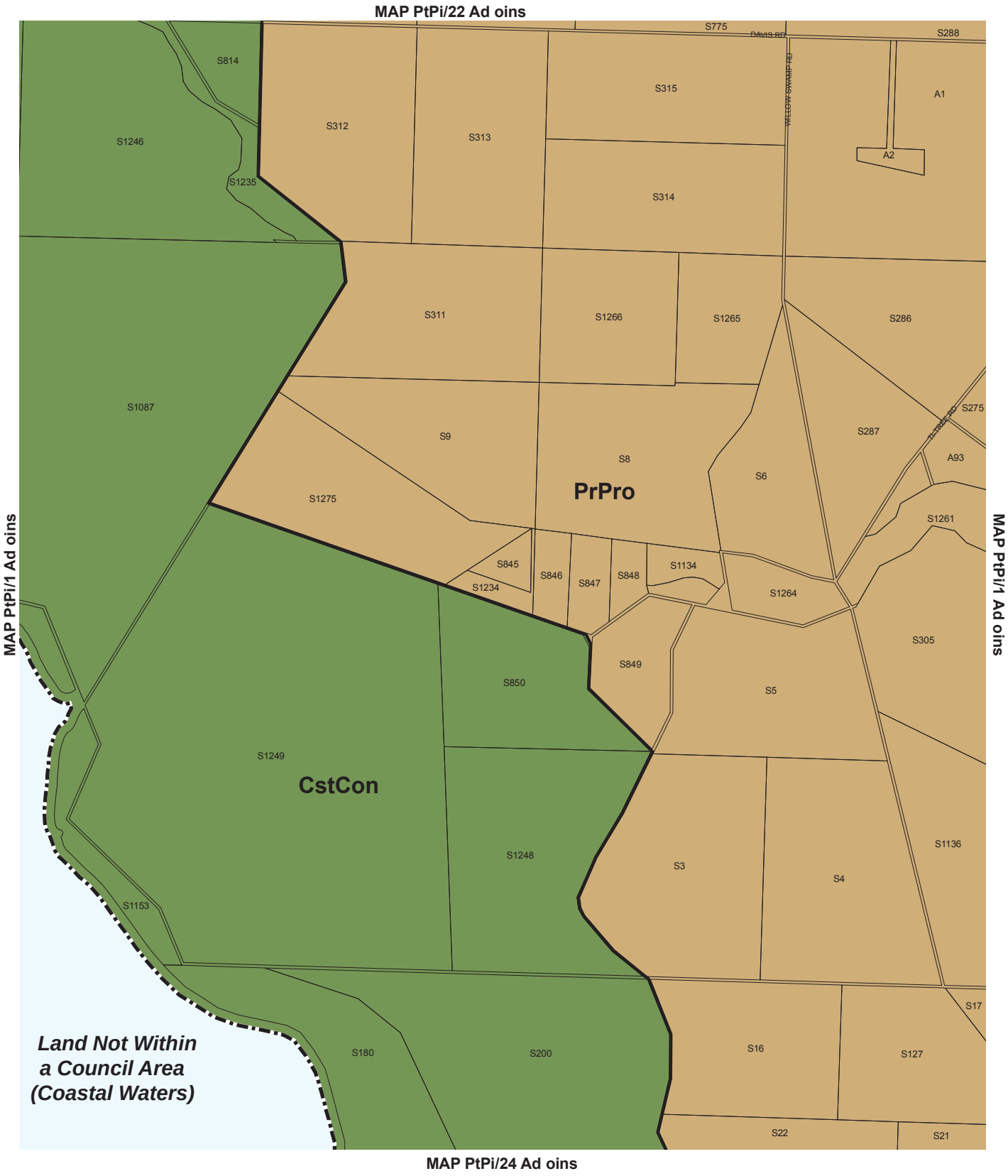
Overlay Map PtPi/23

NATURAL RESOURCES

Wetlands of National Importance

Development Plan Boundary

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



Lamberts Conformal Conic Projection, GDA94

N

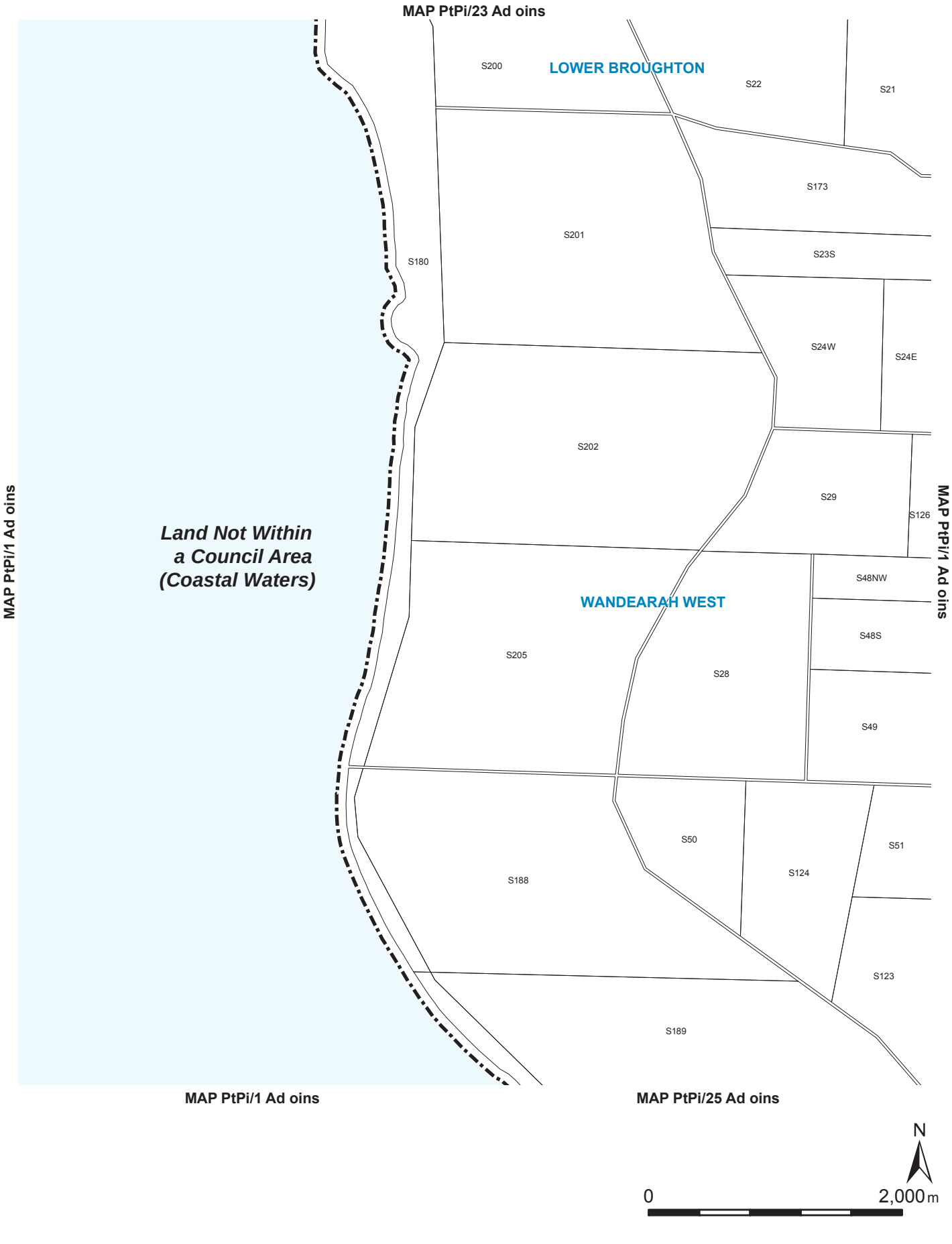
0 2,000 m

ones

- CstCon — Coastal Conservation
- PrPro — Primary Production
- Zone Boundary
- Development Plan Boundary

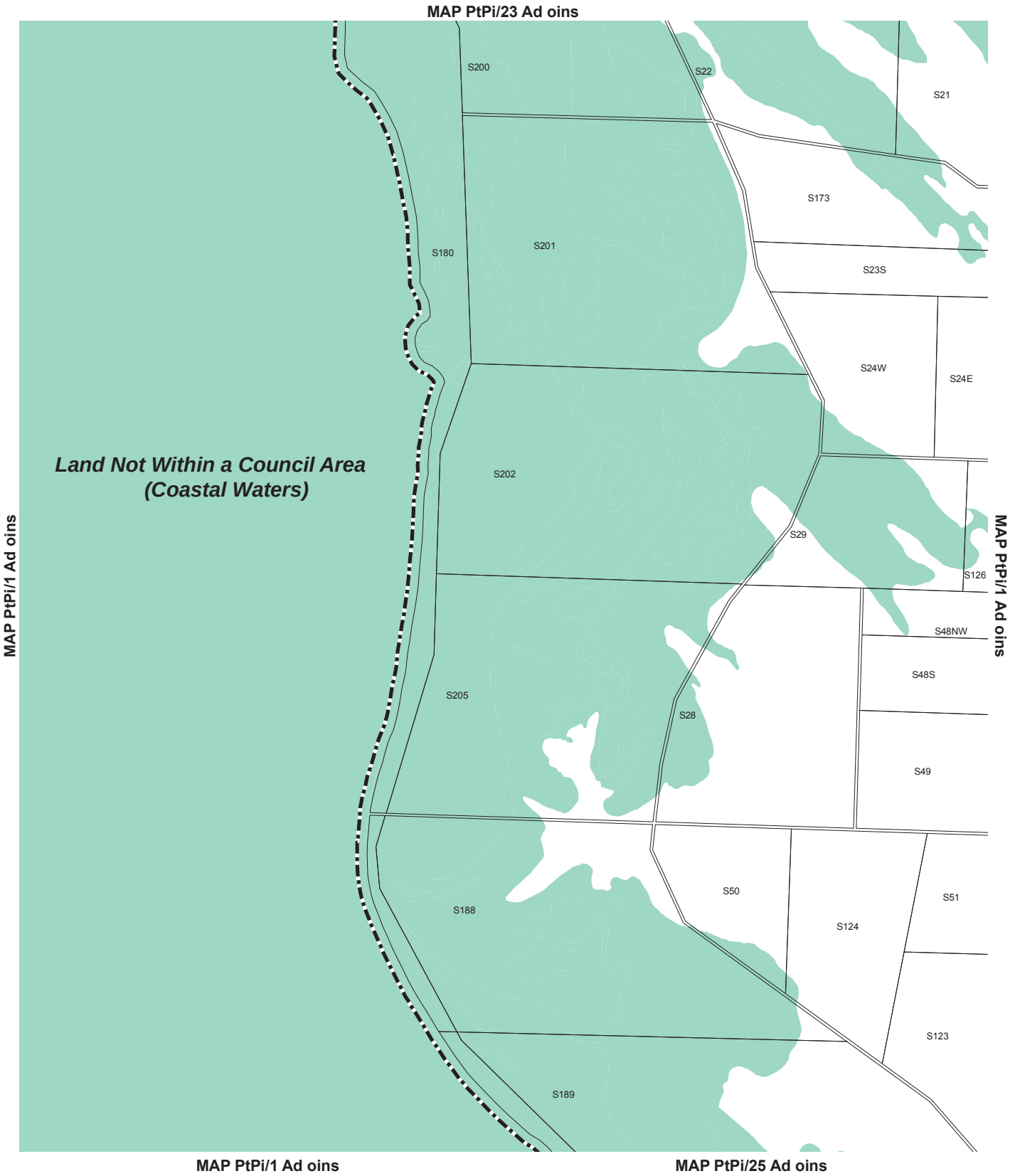
one Map PtPi/23

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



Location Map PtPi/24

Development Plan Boundary



Overlay Map PtPi/24

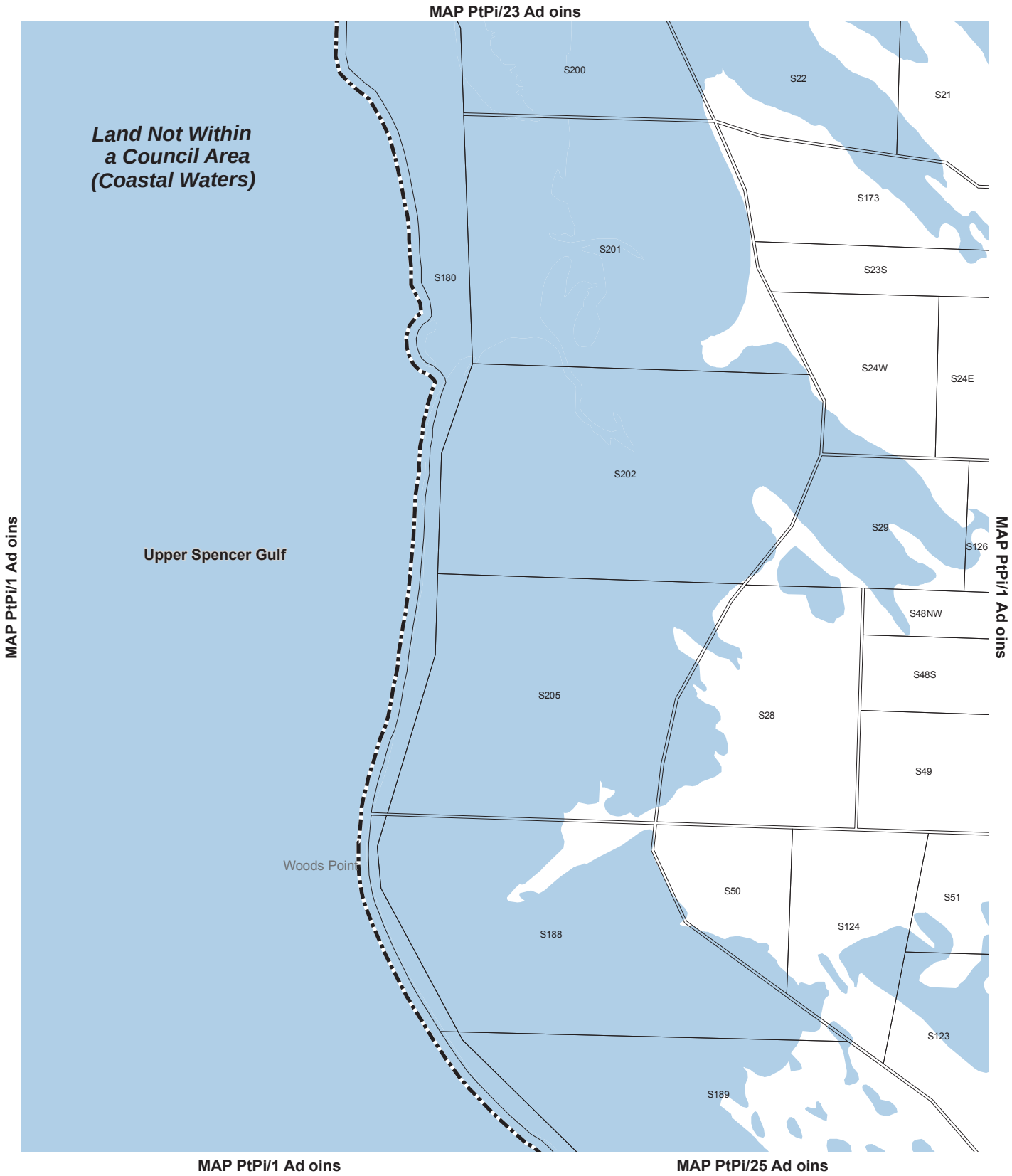
DEVELOPMENT CONSTRAINTS

Coastal Acid Sulfate Soils

Development Plan Boundary

PORT PIRIE REGIONAL COUNCIL

Consolidated - 31 October 2017



Overlay Map PtPi/24

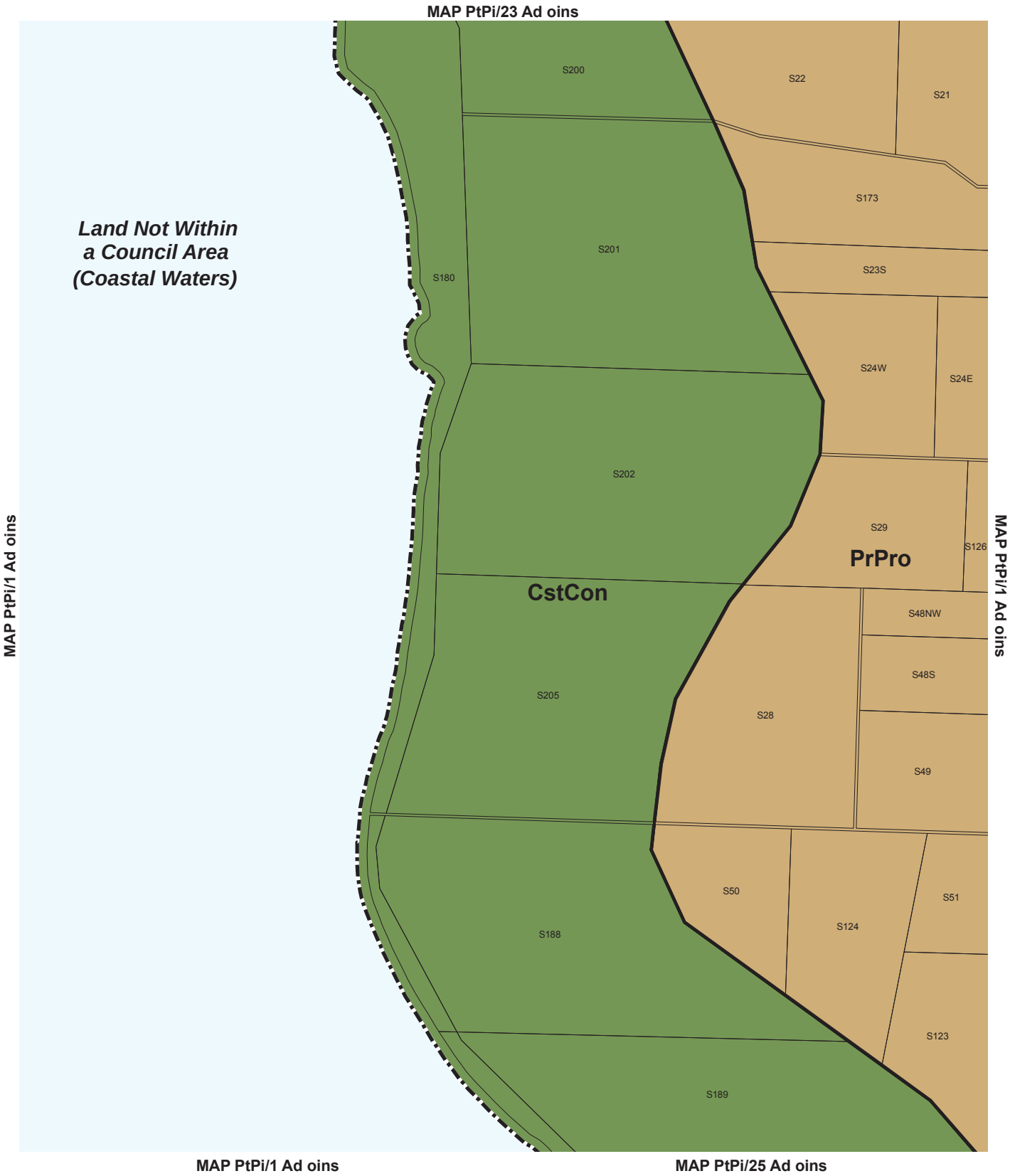
NATURAL RESOURCES

Wetlands of National Importance

Development Plan Boundary

PORT PIRIE REGIONAL COUNCIL

Consolidated - 31 October 2017



Lamberts Conformal Conic Projection, GDA94

N

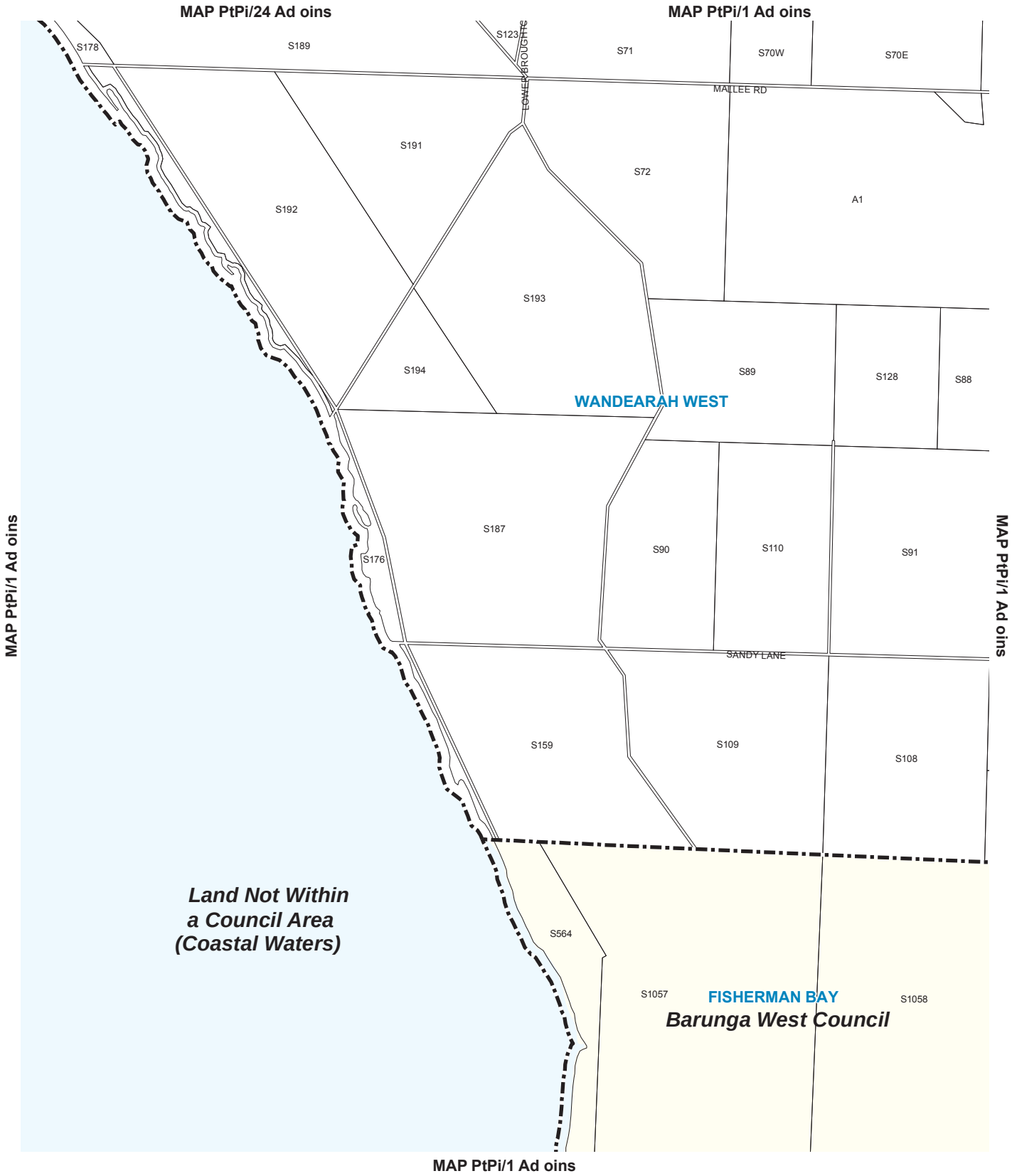
0 2,000 m

one Map PtPi/24

ones

- CstCon — Coastal Conservation
- PrPro — Primary Production
- Zone Boundary
- Development Plan Boundary

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



Location Map PtPi/25

Development Plan Boundary

N

0 2,000 m

Overlay Map PtPi/25

DEVELOPMENT CONSTRAINTS

Coastal Acid Sulfate Soils

Development Plan Boundary

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

N

0 2,000 m

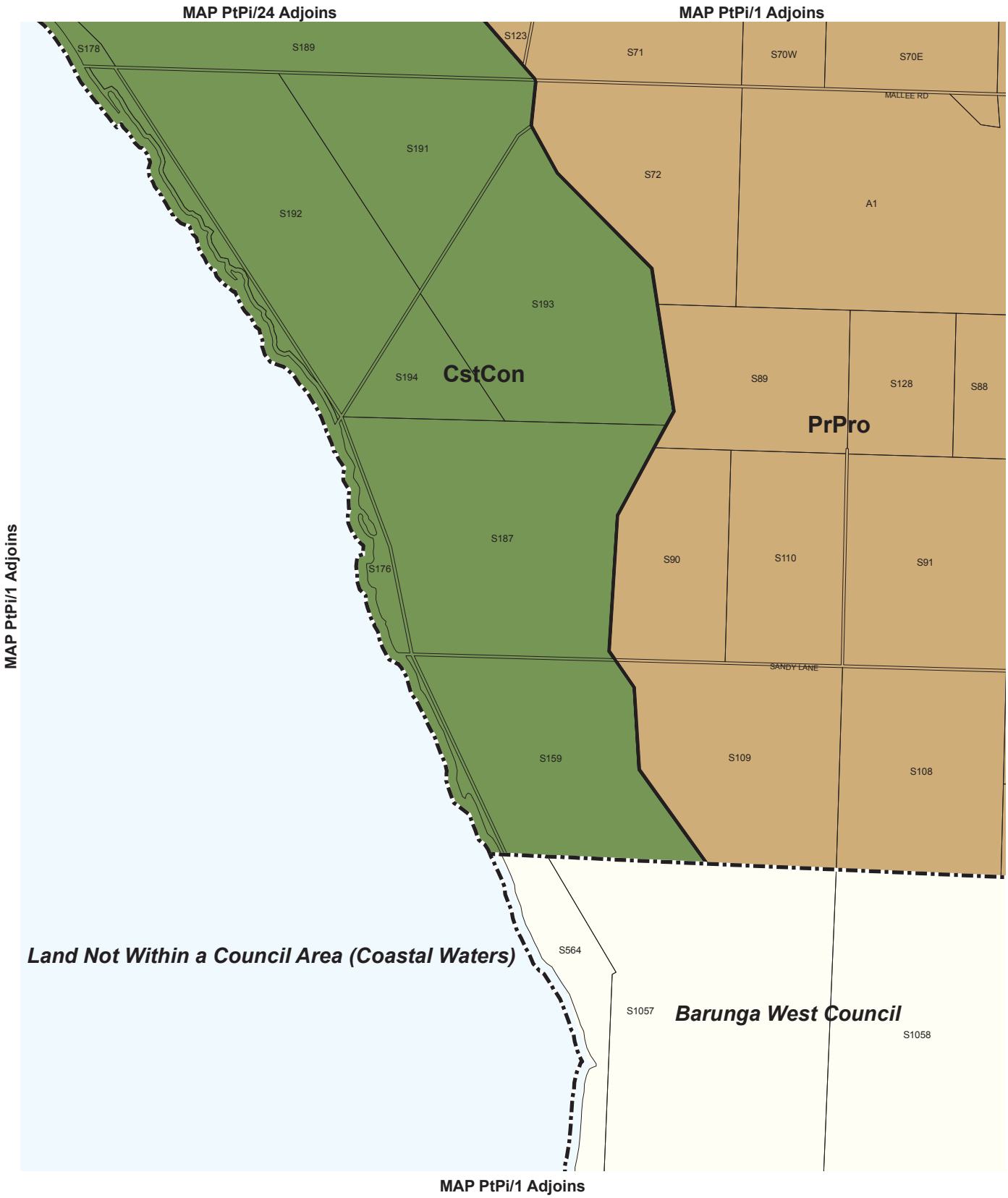
Overlay Map PtPi/25

NATURAL RESOURCES

Wetlands of National Importance

Development Plan Boundary

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



Lamberts Conformal Conic Projection, GDA94

N

0 2,000 m

Zone Map PtPi/25

Zones

- CstCon — Coastal Conservation
- PrPro — Primary Production
- Zone Boundary
- Development Plan Boundary

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

CRYSTAL BROOK

Location Map PtPi/2

Railways

Local Reserves

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

CRYSTAL BROOK

Overlay Map PtPi/2

TRANSPORT

Secondary Arterial Roads

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

Heritage points are indicative only.
For further information on State and Local Heritage Places and Contributory Items please refer to the relevant tables within this document.

Historic Conservation Area
2 Crystal Brook Historic Conservation Area

N

0 500 m

CRYSTAL BROOK

Overlay Map PtPi/2

HERITAGE

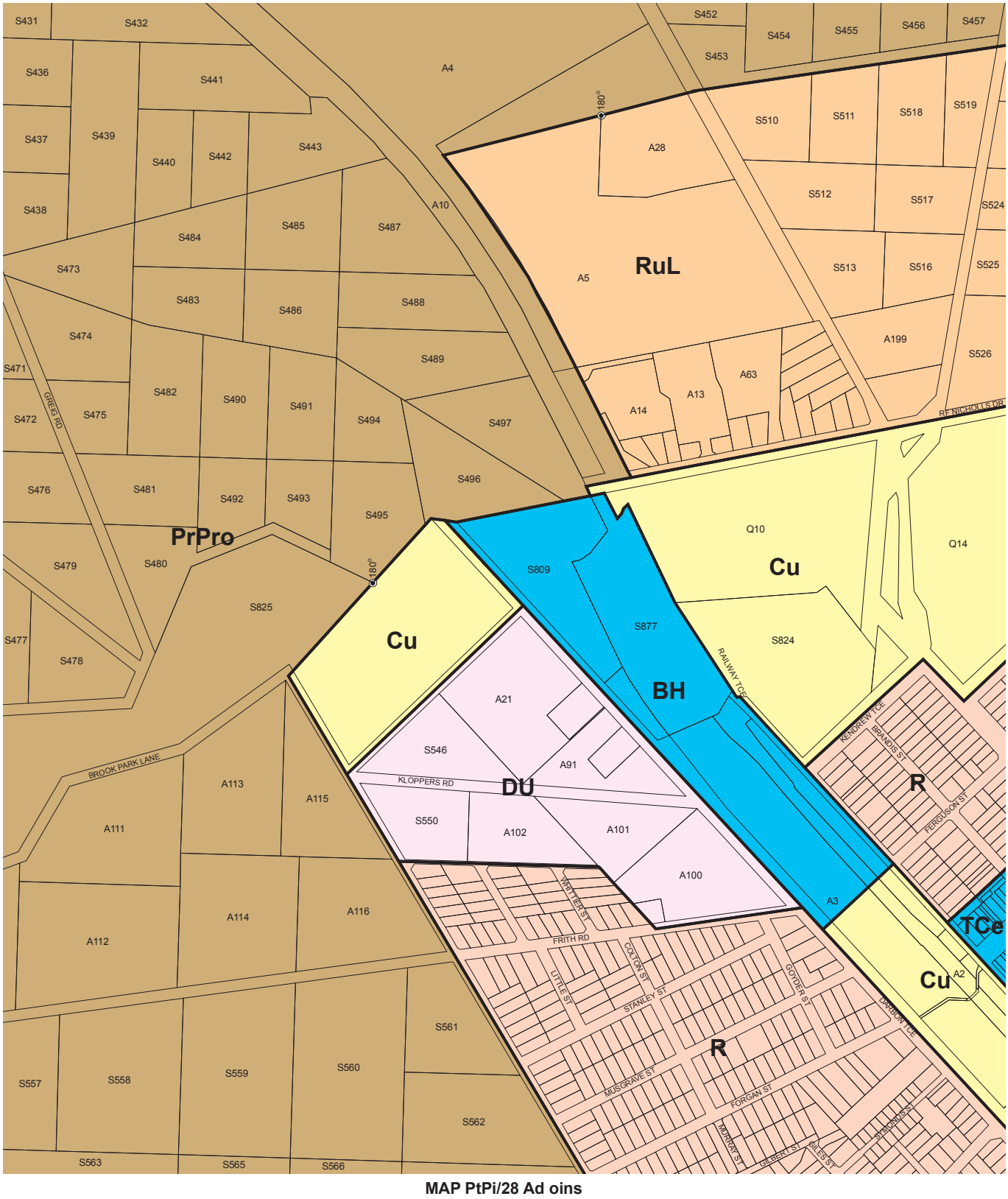
Local heritage place

Historic Conservation Area

Contributory item

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

MAP PtPi/1 Ad oins



MAP PtPi/1 Ad oins

MAP PtPi/2 Ad oins

MAP PtPi/28 Ad oins

Lamberts Conformal Conic Projection, GDA94

N

0 500 m

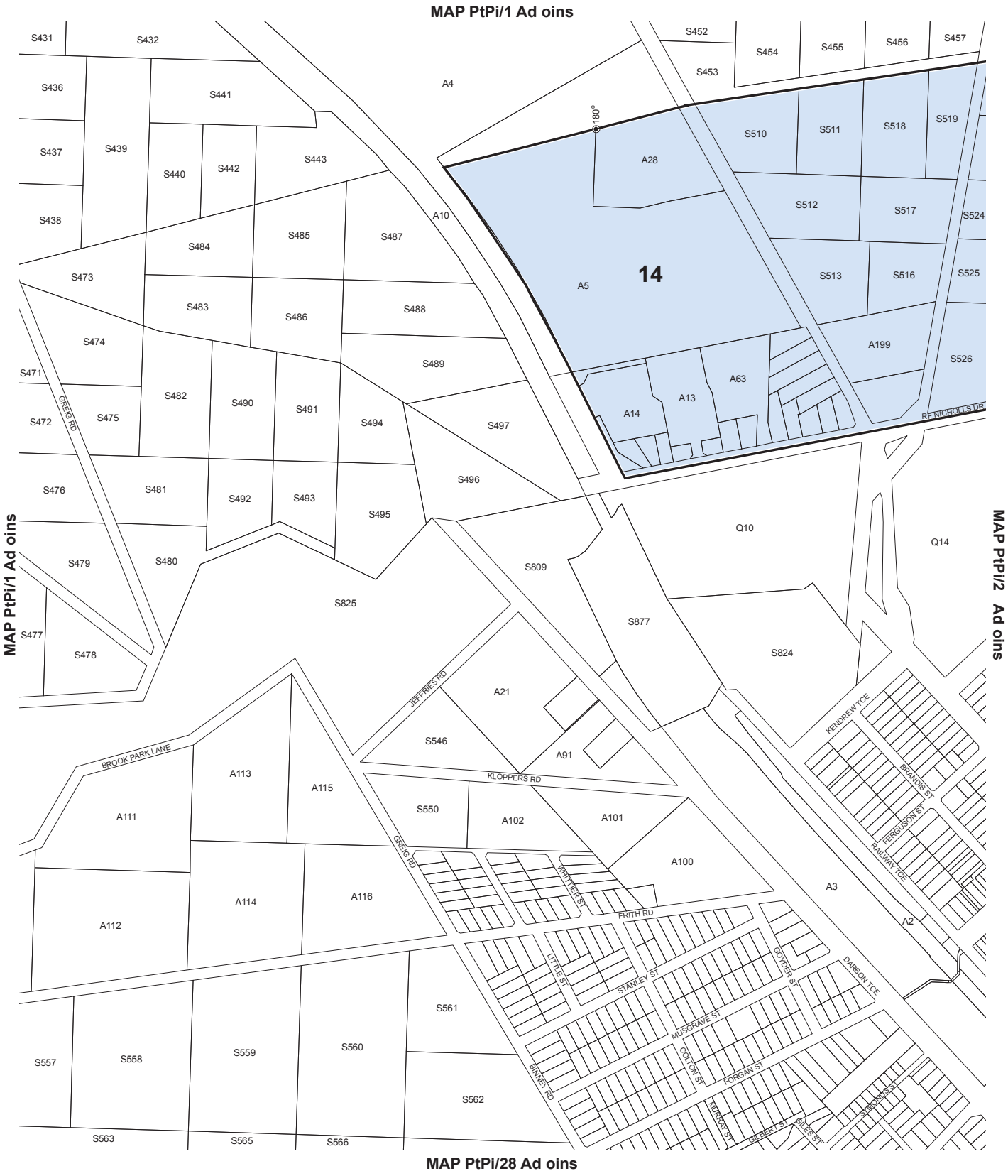
ones

BH	Bulk Handling
Cu	Community
DU	Deferred Urban
PrPro	Primary Production
R	Residential
RuL	Rural Living
TCe	Town Centre
	Zone Boundary

CRYSTAL BROOK

one Map PtPi/2

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



Lamberts Conformal Conic Projection, GDA94

Policy Area
14 Rural Living Policy Area 14

N

0 500 m

CRYSTAL BROOK

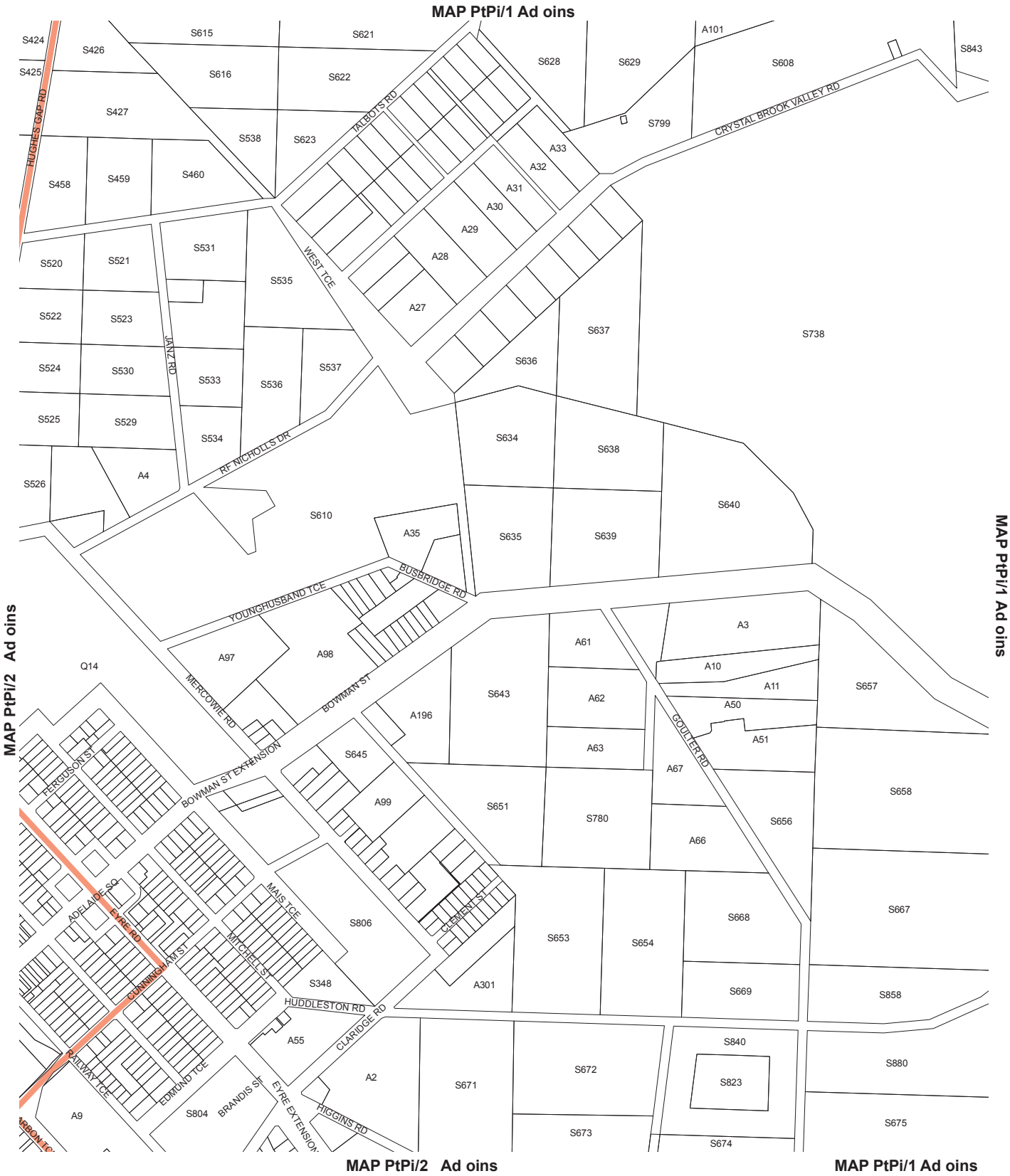
Policy Area Map PtPi/2

Policy Area Boundary

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

Location Map PtPi/2

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



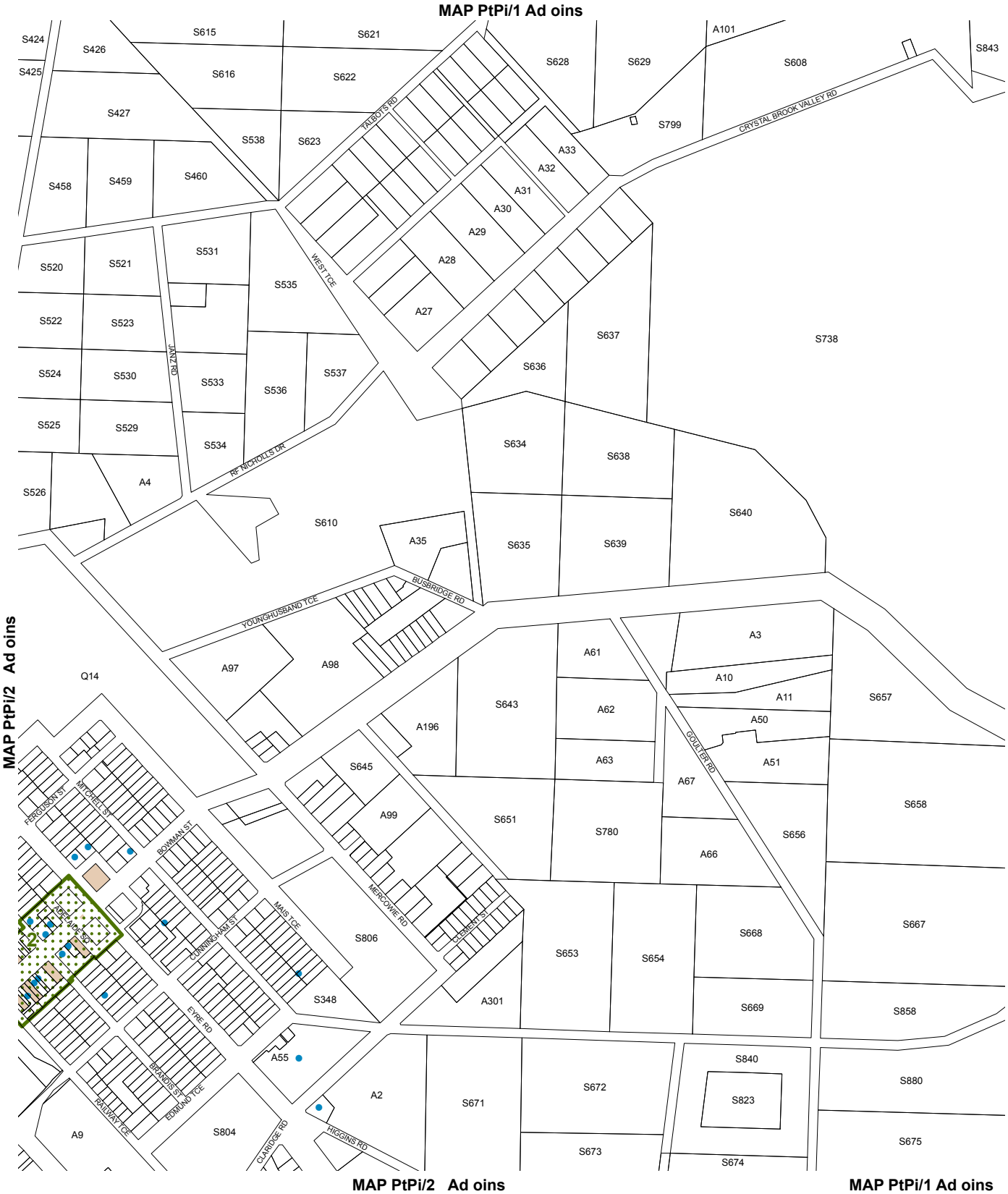
CRYSTAL BROOK

Overlay Map PtPi/2

TRANSPORT

Secondary Arterial Roads

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



Heritage points are indicative only.
For further information on State and Local Heritage Places and Contributory Items please refer to the relevant tables within this document.

Historic Conservation Area
2 Crystal Brook Historic Conservation Area

Local heritage place
Historic Conservation Area
Contributory item

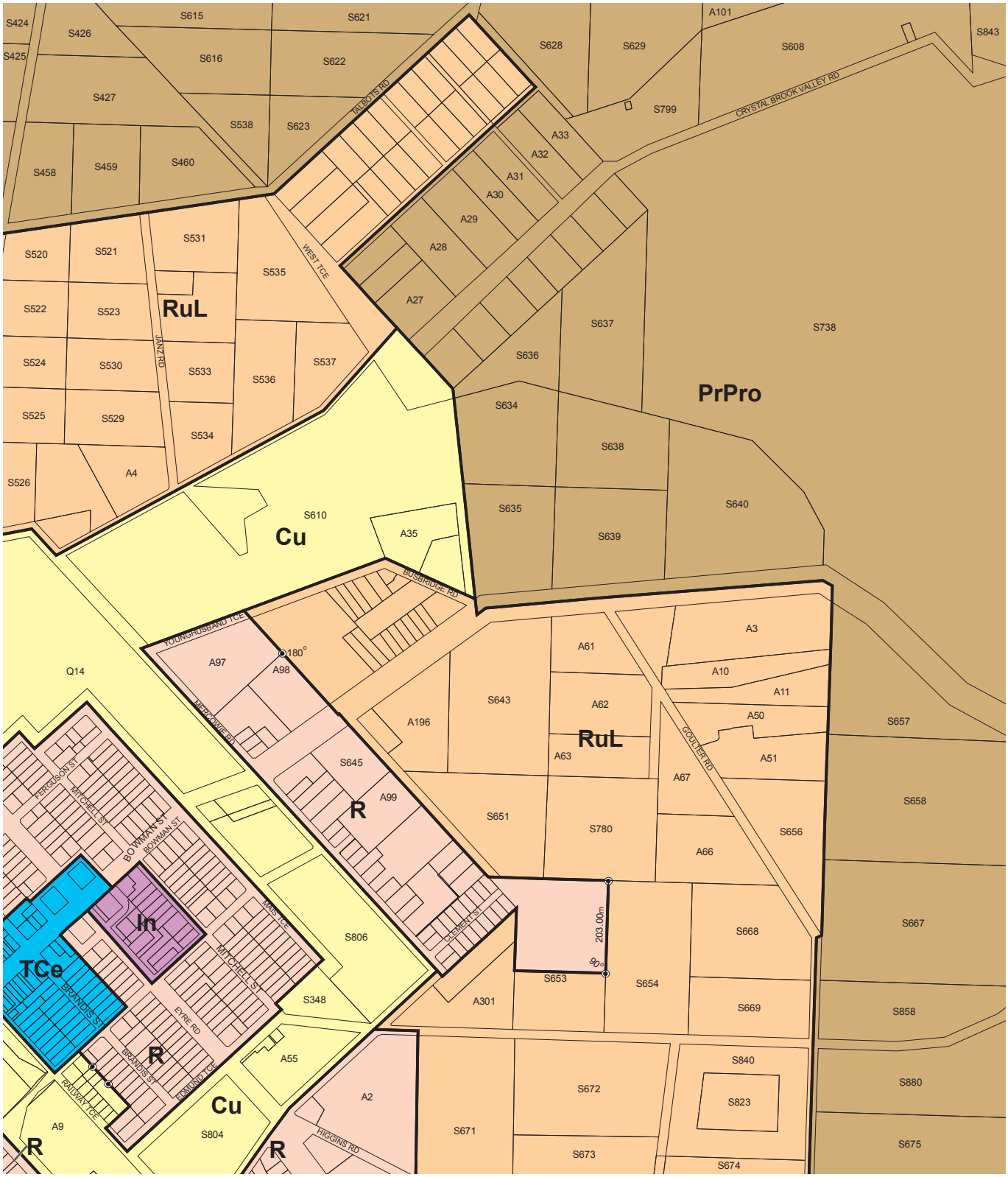
CRYSTAL BROOK

Overlay Map PtPi/2

HERITAGE

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

MAP PtPi/1 Ad oins



MAP PtPi/2 Ad oins

MAP PtPi/1 Ad oins

MAP PtPi/2 Ad oins

MAP PtPi/1 Ad oins

Lamberts Conformal Conic Projection, GDA94

N

0 500 m

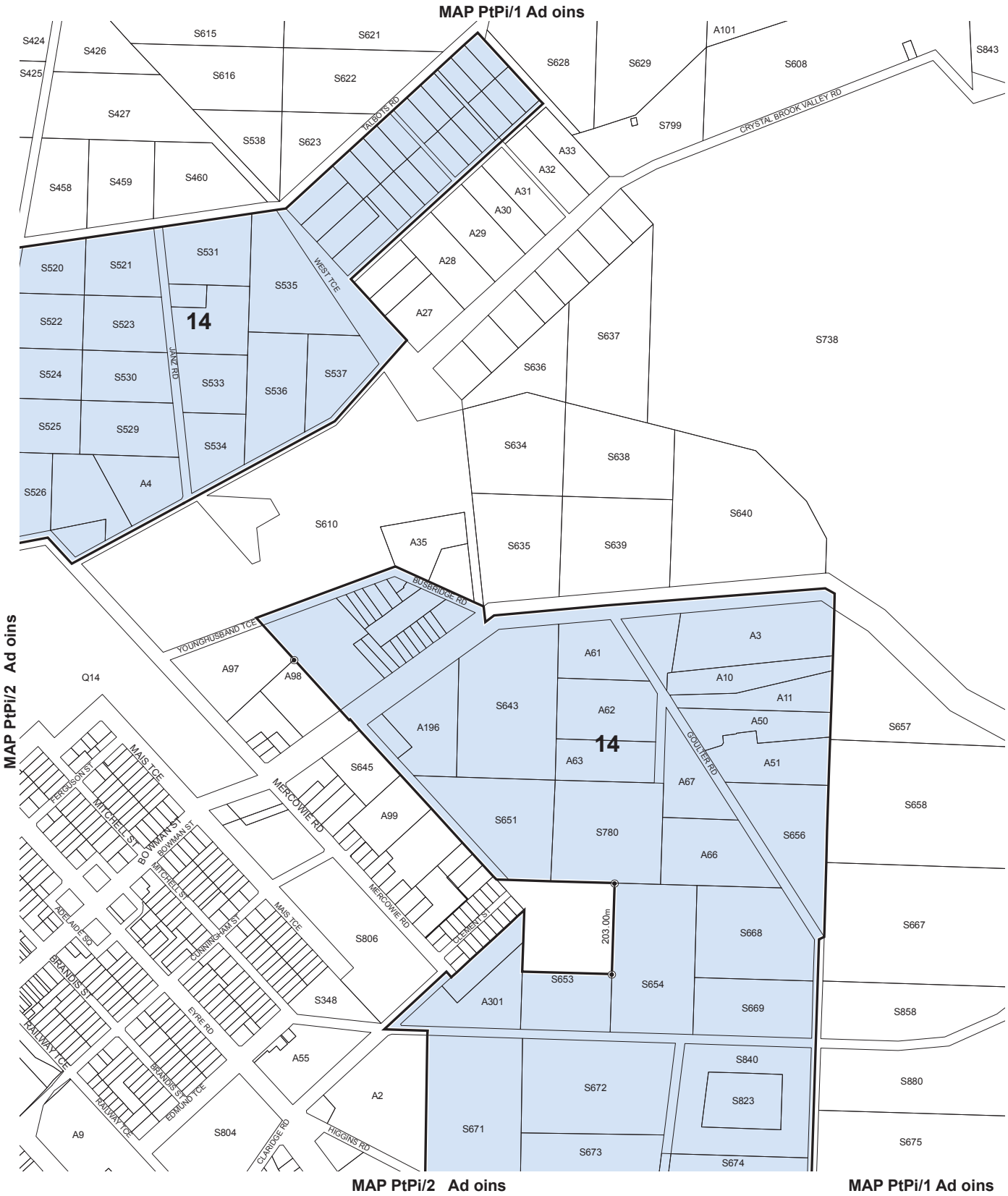
ones

Cu	Community
In	Industry
PrPro	Primary Production
R	Residential
RuL	Rural Living
TCe	Town Centre
	Zone Boundary

CRYSTAL BROOK

one Map PtPi/2

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



Lamberts Conformal Conic Projection, GDA94

Policy Area

14 Rural Living Policy Area 14

N

0 500 m

CRYSTAL BROOK

Policy Area Map PtPi/2

Policy Area Boundary

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

CRYSTAL BROOK

Location Map PtPi/28

Railways

Local Reserves

N

0 500 m

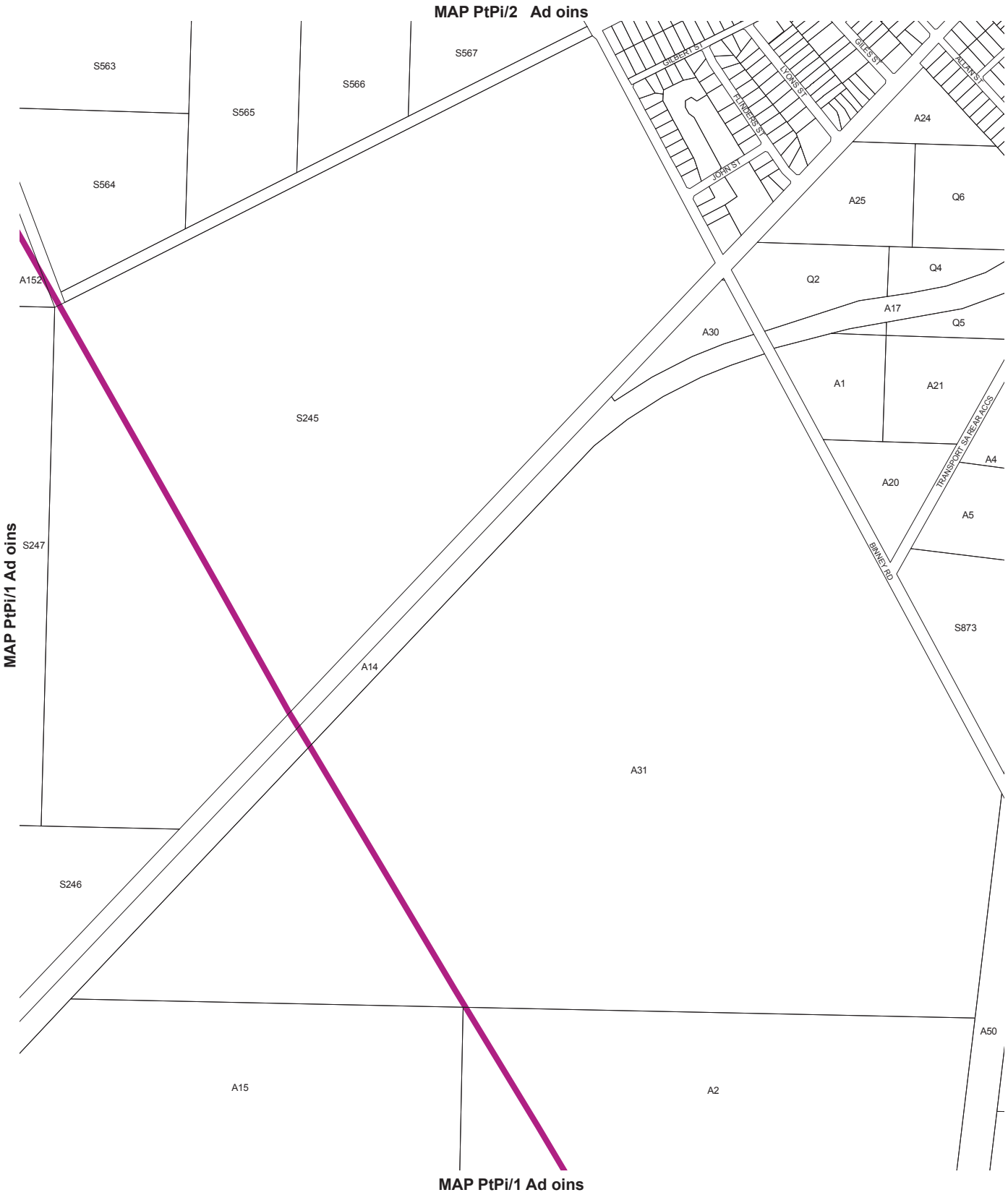
CRYSTAL BROOK

Overlay Map PtPi/28

TRANSPORT

Secondary Arterial Roads

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



N

0 500 m

CRYSTAL BROOK

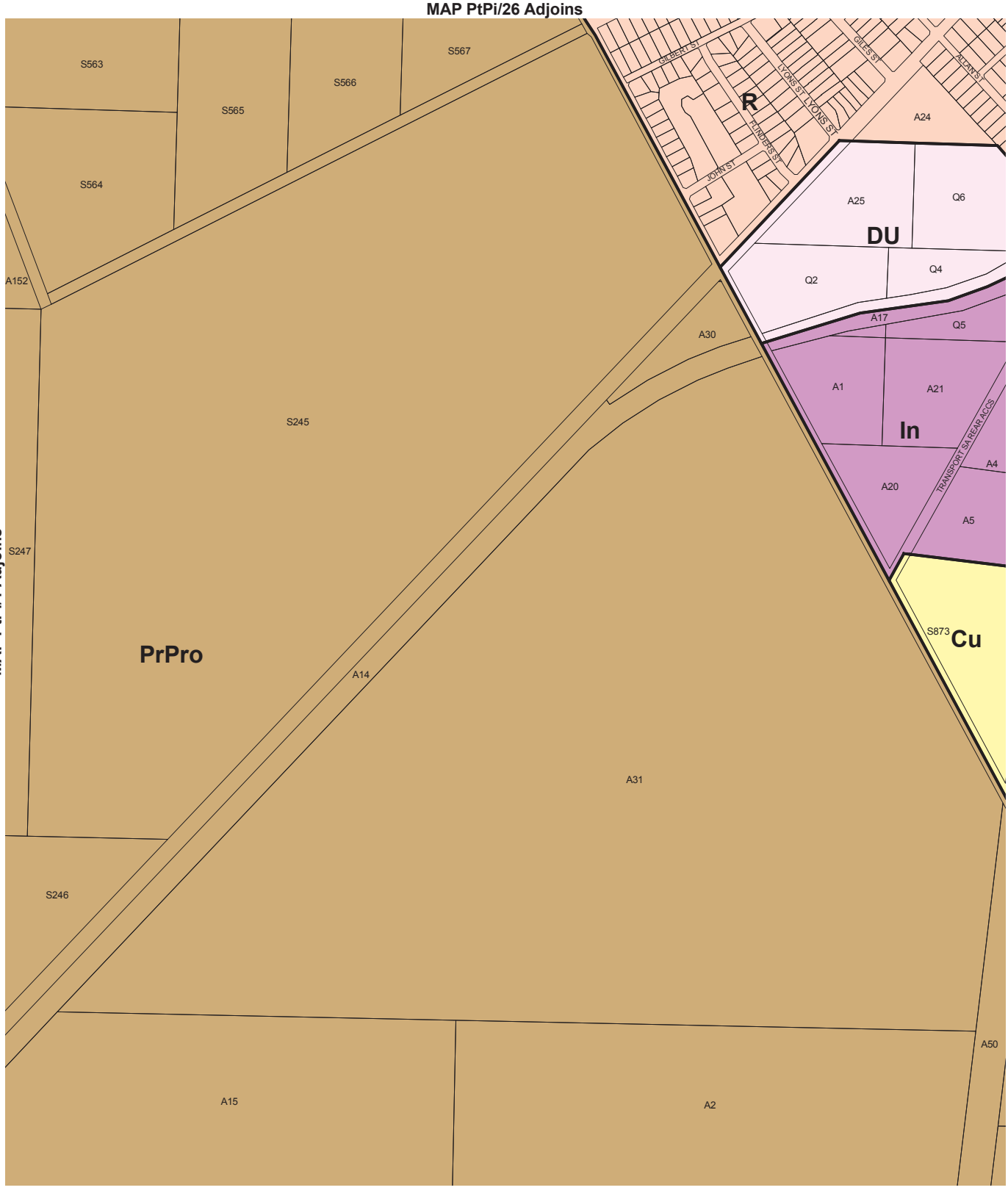
Overlay Map PtPi/28

DEVELOPMENT CONSTRAINTS

132kV

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

MAP PtPi/26 Adjoins



MAP PtPi/1 Adjoins

MAP PtPi/1 Adjoins

MAP PtPi/29 Adjoins

Lamberts Conformal Conic Projection, GDA94

N

0 500 m

Zones

Cu	Community
DU	Deferred Urban
In	Industry
PrPro	Primary Production
R	Residential
	Zone Boundary

CRYSTAL BROOK

Zone Map PtPi/28

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

CRYSTAL BROOK

Location Map PtPi/2

Railways

Local Reserves

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

CRYSTAL BROOK

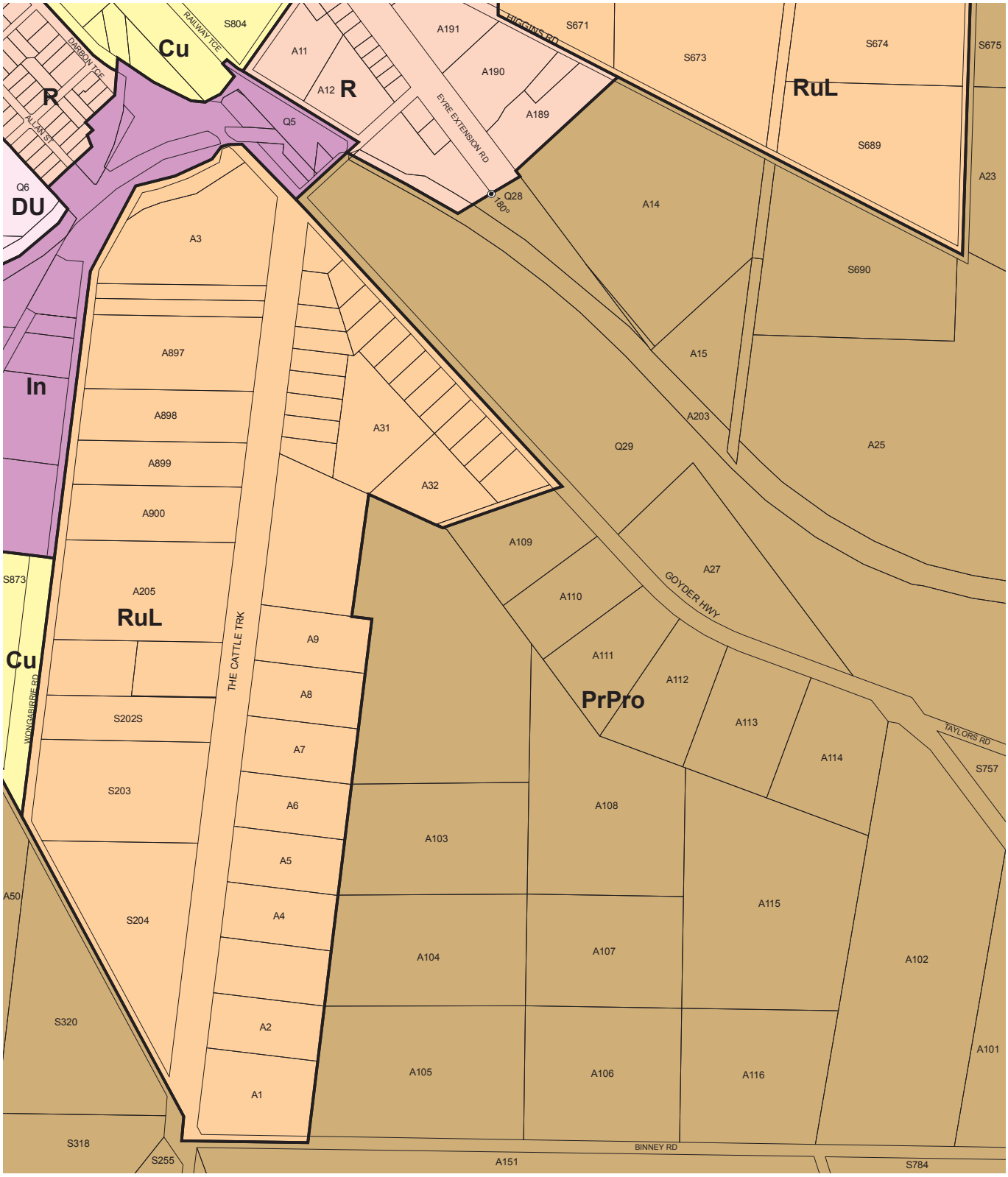
Overlay Map PtPi/2

TRANSPORT

Secondary Arterial Roads

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

MAP PtPi/2 Ad oins



MAP PtPi/28 Ad oins

MAP PtPi/1 Ad oins

MAP PtPi/1 Ad oins

Lamberts Conformal Conic Projection, GDA94

N

0 500 m

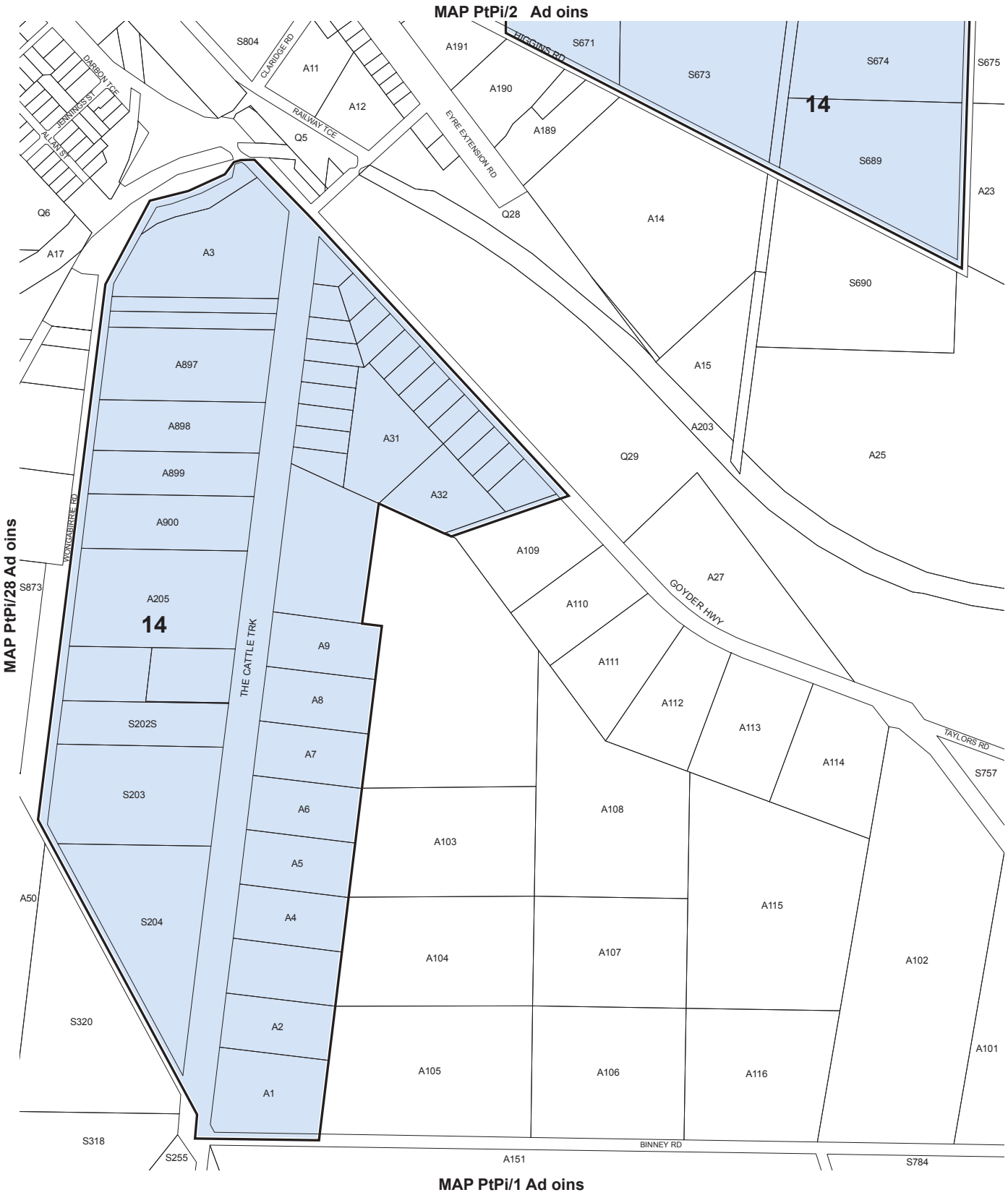
ones

Cu	Community
DU	Deferred Urban
In	Industry
PrPro	Primary Production
R	Residential
RuL	Rural Living
	Zone Boundary

CRYSTAL BROOK

one Map PtPi/2

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



Lamberts Conformal Conic Projection, GDA94

Policy Area
14 Rural Living Policy Area 14

N

0 500 m

CRYSTAL BROOK

Policy Area Map PtPi/2

Policy Area Boundary

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

N

0 500 m

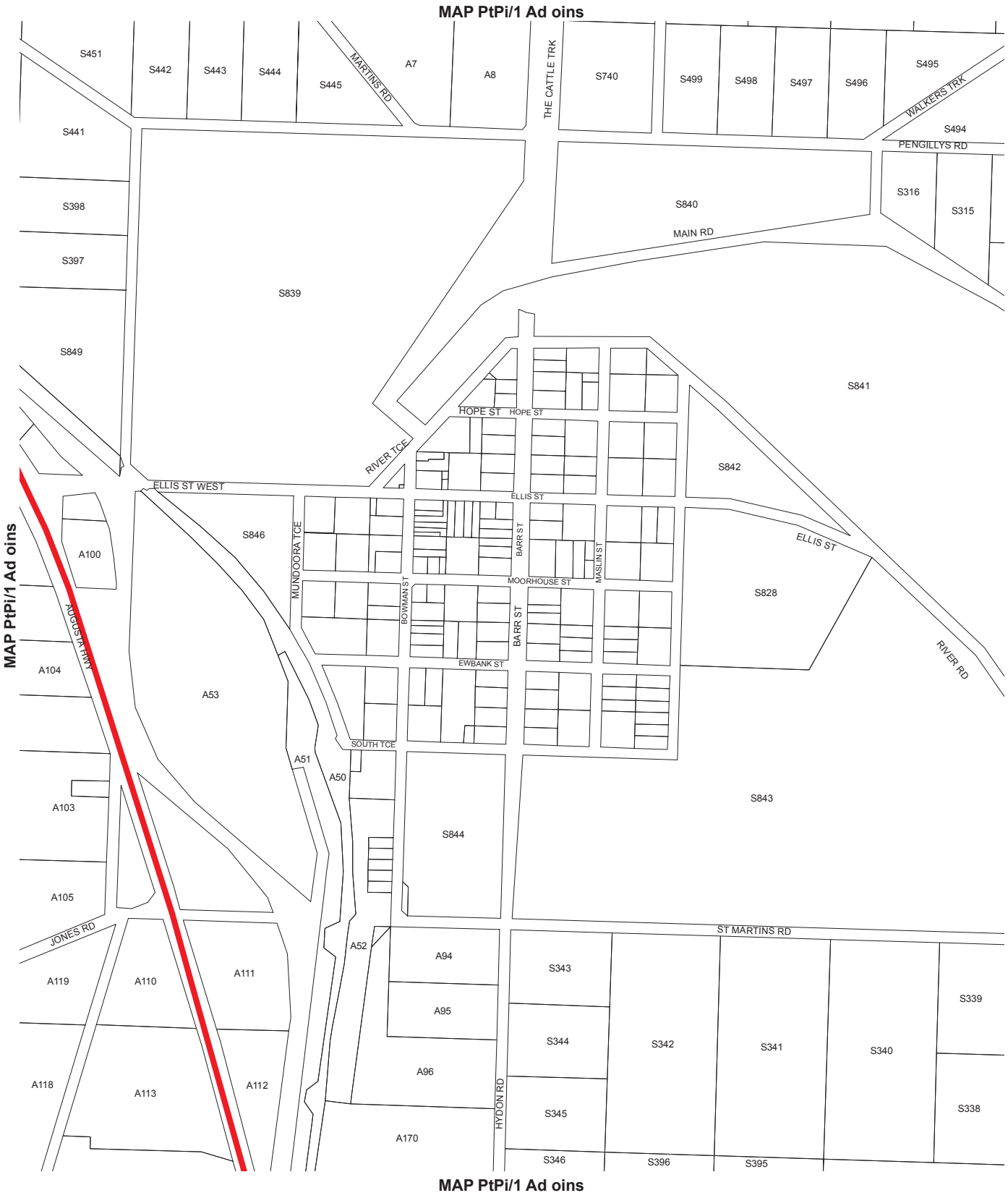
REDHILL

Location Map PtPi/30

Railways

Local Reserves

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



REDHILL

Overlay Map PtPi/30

TRANSPORT

Primary Arterial Roads

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

Heritage points are indicative only.
For further information on State and Local Heritage Places and Contributory Items please refer to the relevant tables within this document.

N

0 500 m

REDHILL

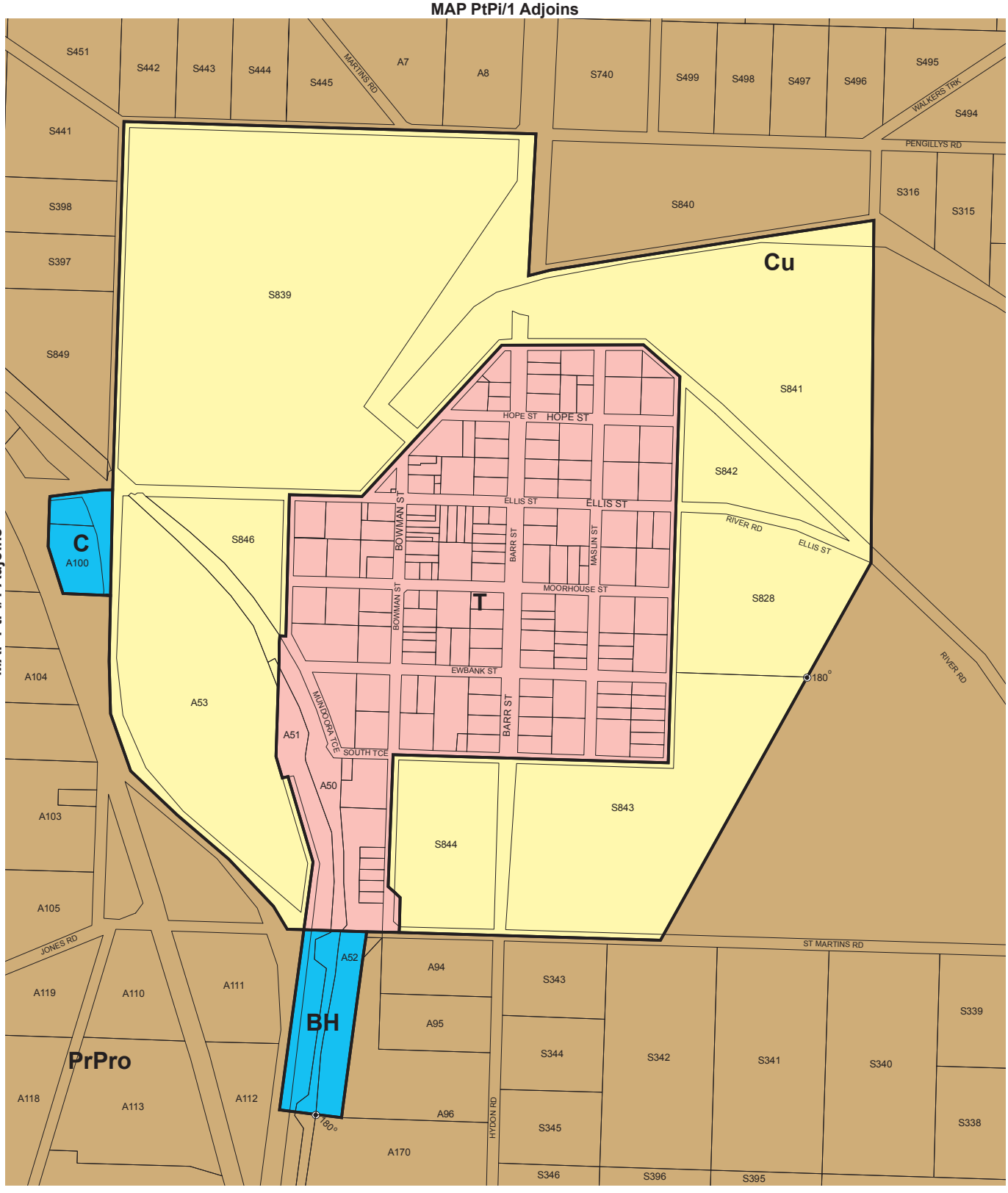
Overlap Map PtPi/30

HERITAGE

- State heritage place
- Local heritage place

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

MAP PtPi/1 Adjoins



MAP PtPi/1 Adjoins

MAP PtPi/1 Adjoins

MAP PtPi/1 Adjoins

Lamberts Conformal Conic Projection, GDA94

N

0 500 m

Zones

- BH — Bulk Handling
- C — Commercial
- Cu — Community
- PrPro — Primary Production
- T — Township
- Zone Boundary

REDHILL

Zone Map PtPi/30

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

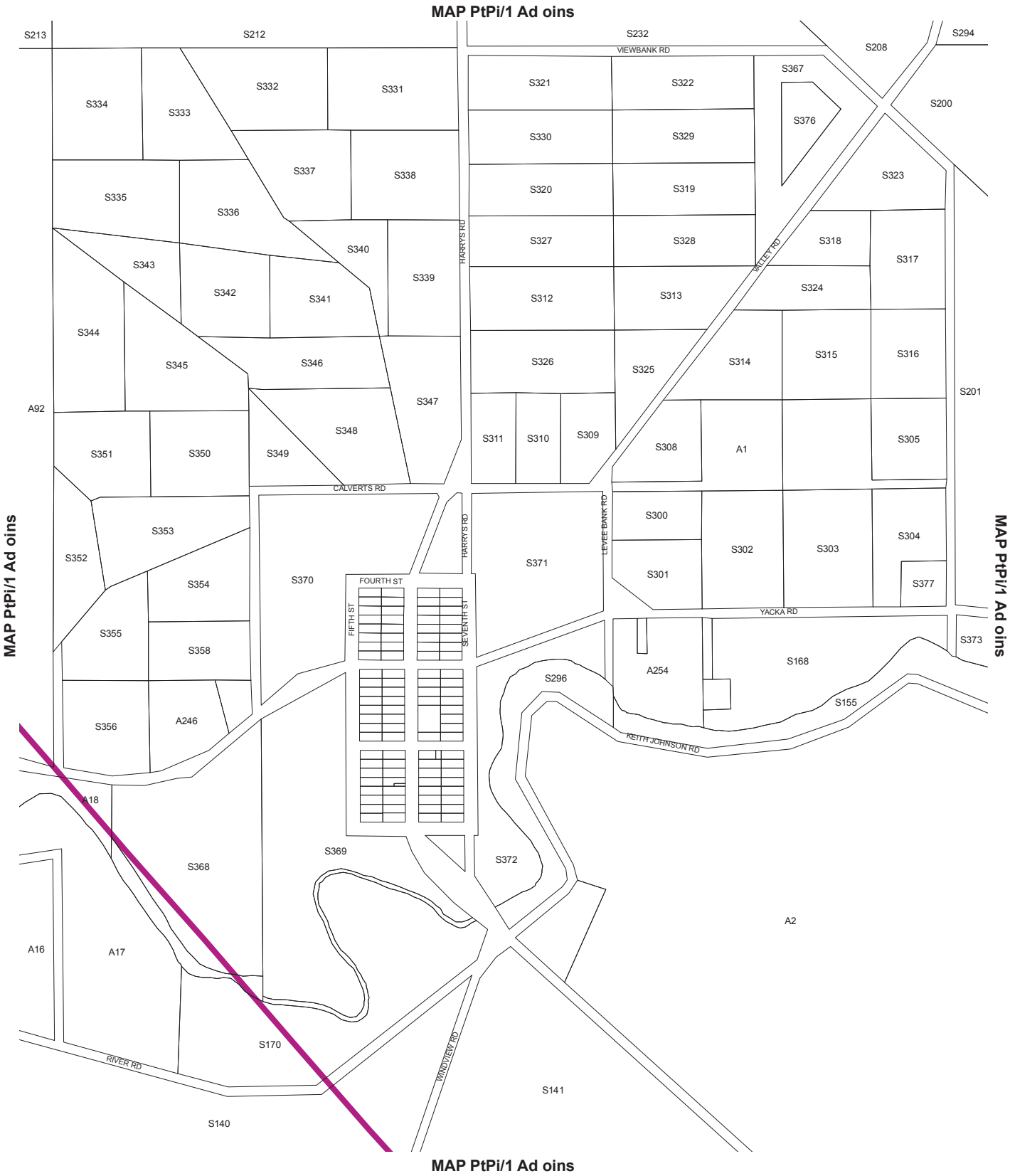
KOOLUNGA

Location Map PtPi/31

S School

Local Reserves

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



N

0 500 m

KOOLUNGA

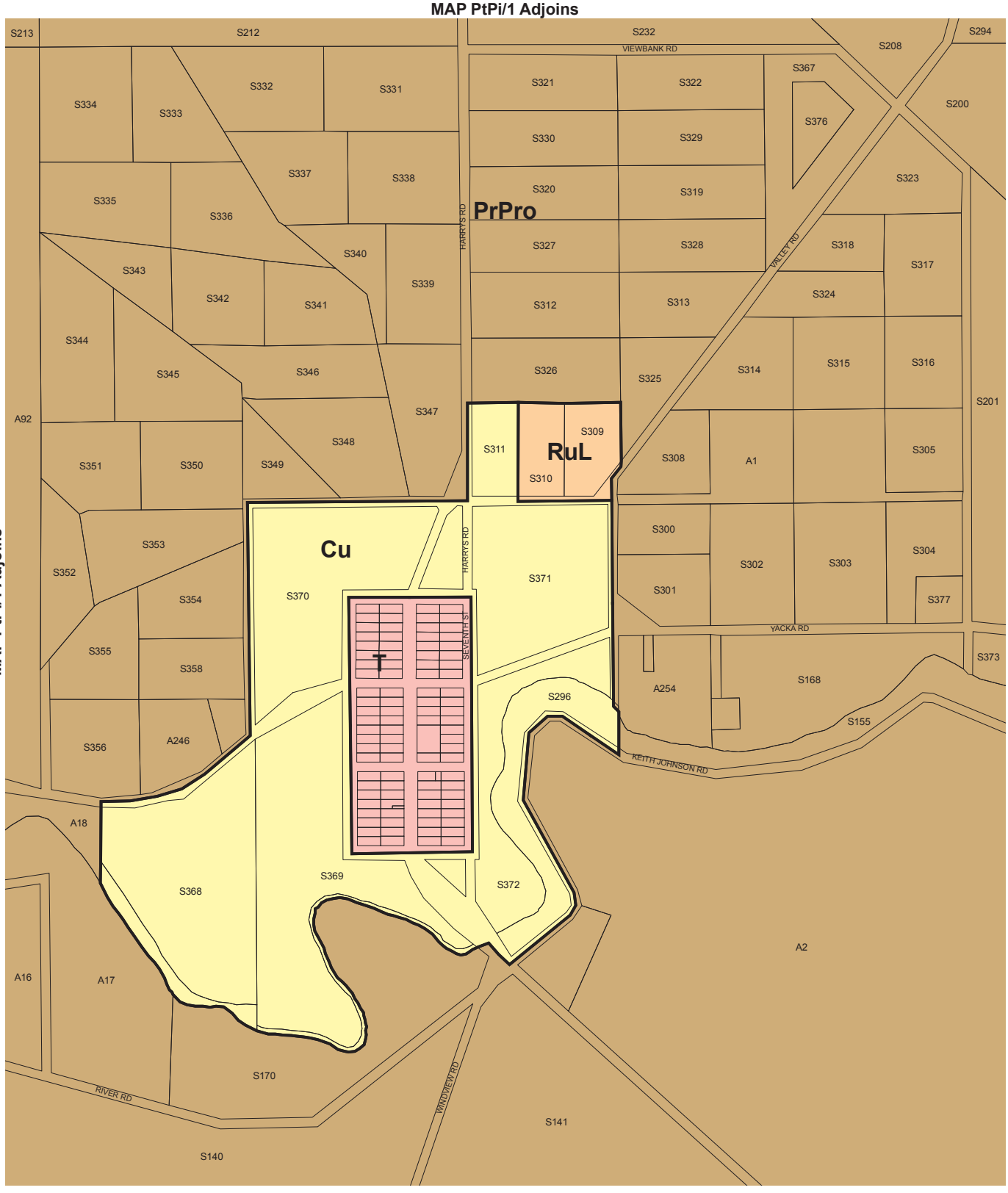
Overlay Map PtPi/31

DEVELOPMENT CONSTRAINTS

132kV

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

MAP PtPi/1 Adjoins



MAP PtPi/1 Adjoins

MAP PtPi/1 Adjoins

MAP PtPi/1 Adjoins

Lamberts Conformal Conic Projection, GDA94

N

0 500 m

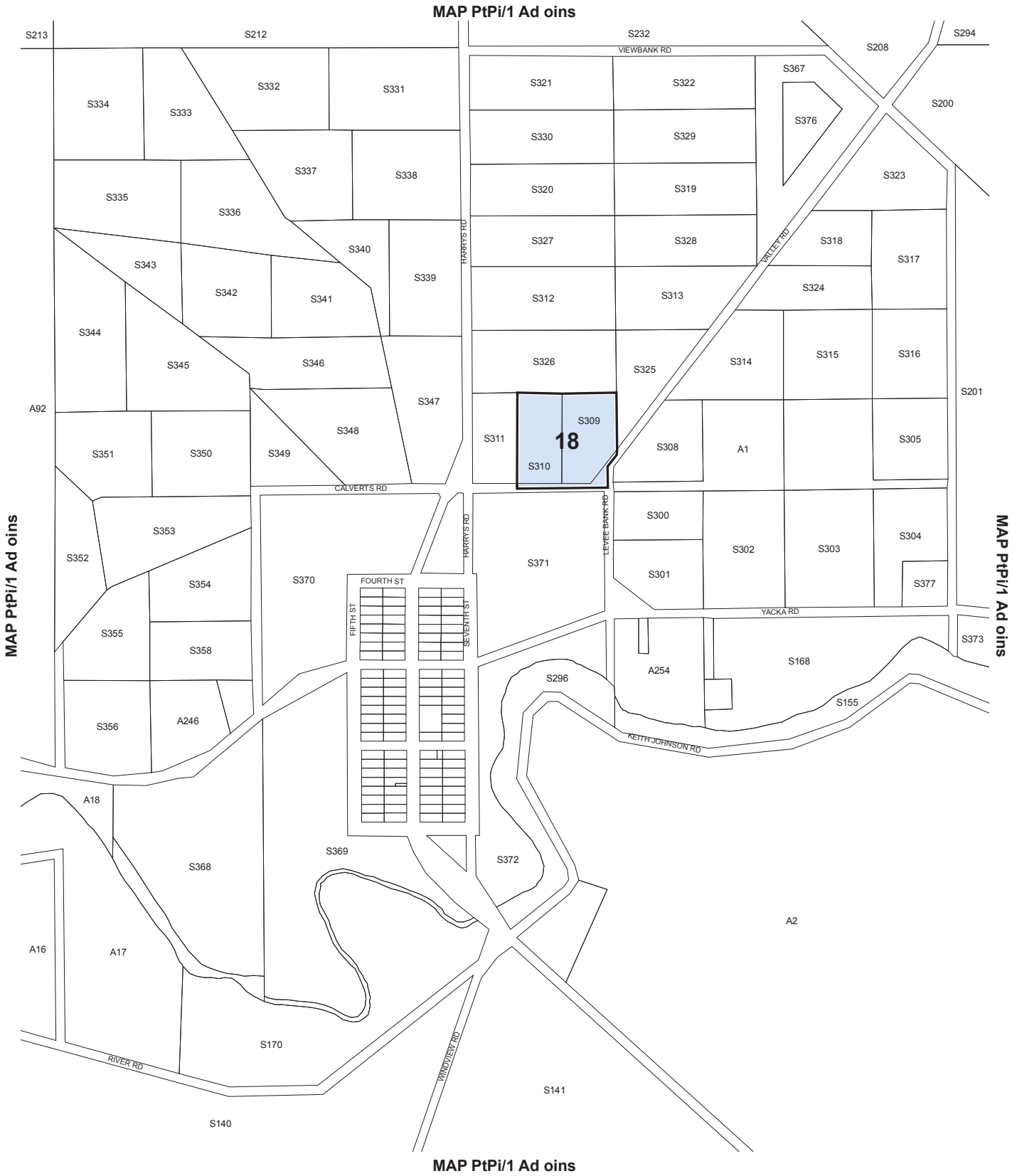
KOOLUNGA

Zone Map PtPi/31

Zones

Cu	Community
PrPro	Primary Production
RuL	Rural Living
T	Township
	Zone Boundary

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



Lamberts Conformal Conic Projection, GDA94

Policy Area
18 Rural Living Policy Area 18

N

0 500 m

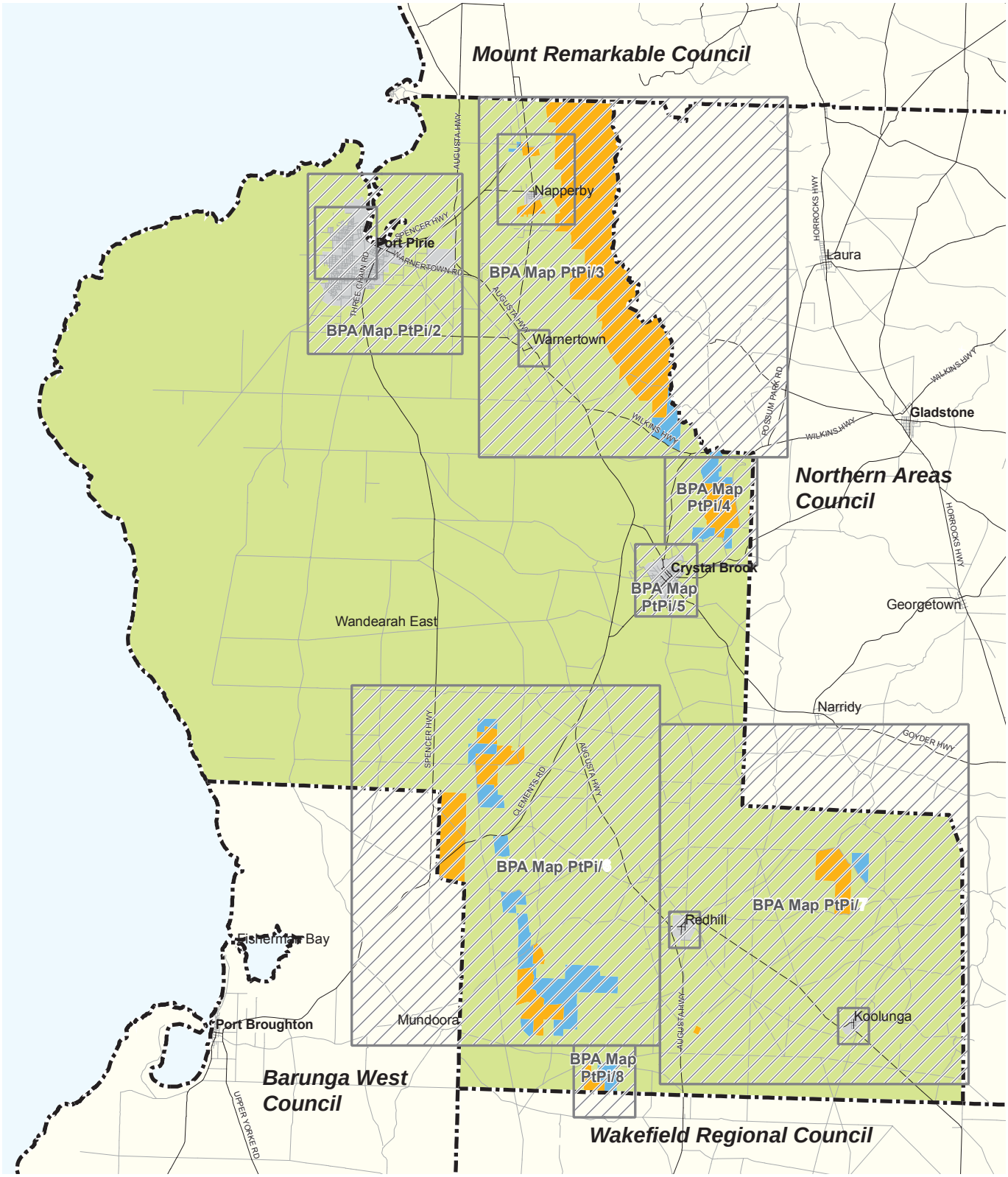
KOOLUNGA

Policy Area Map PtPi/31

Policy Area Boundary

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

Bushfire Risk BPA Maps



See enlargement map for accurate representation.

N

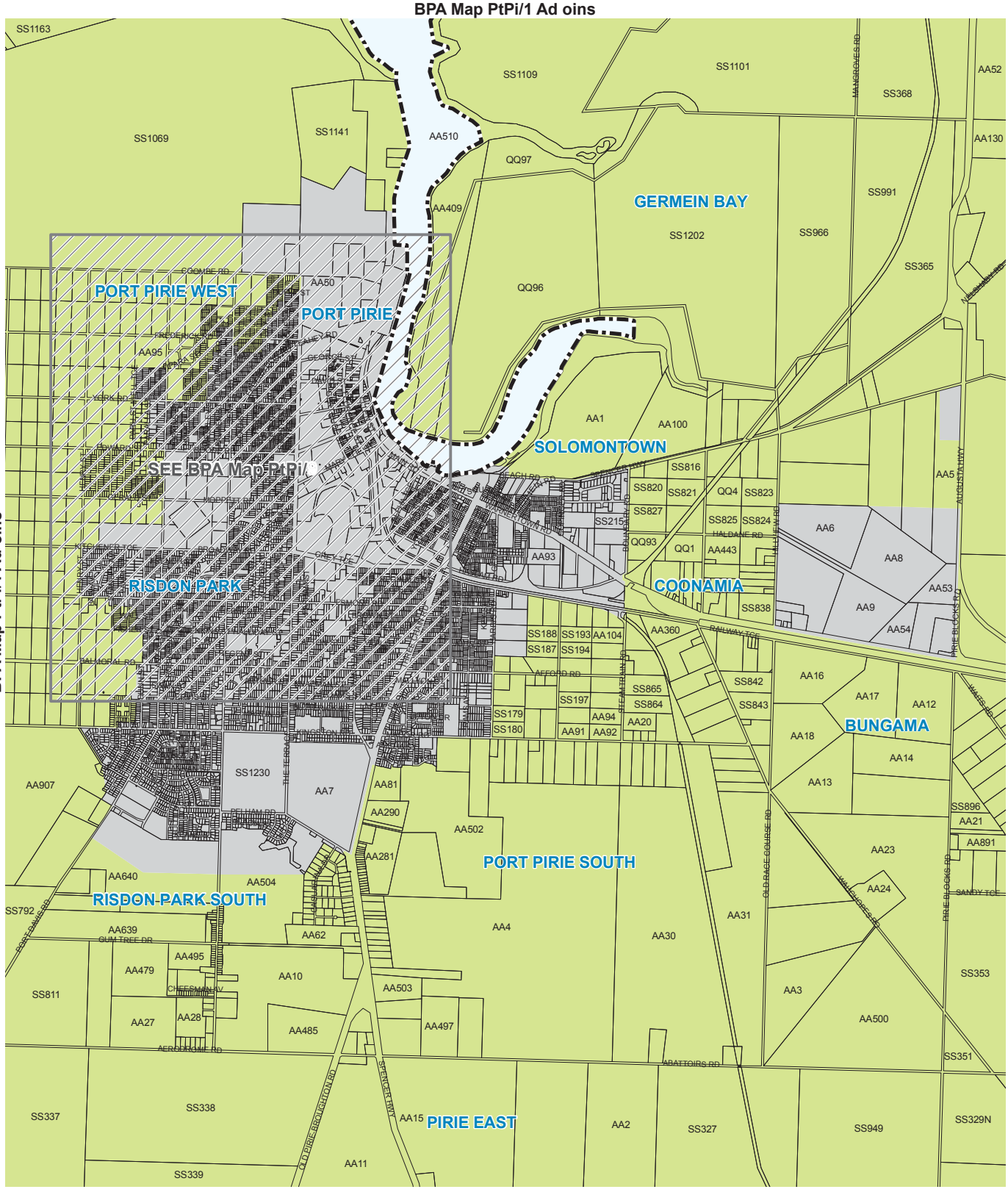
0 10 km

Bushfire Protection Area
BPA Map PtPi/1
BUSHFIRE RISK

High Bushfire Risk
Medium Bushfire Risk
General Bushfire Risk
Excluded area from bushfire protection planning provisions
Development Plan Boundary

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

BPA Map PtPi/1 Ad oins



See enlargement map for accurate representation.

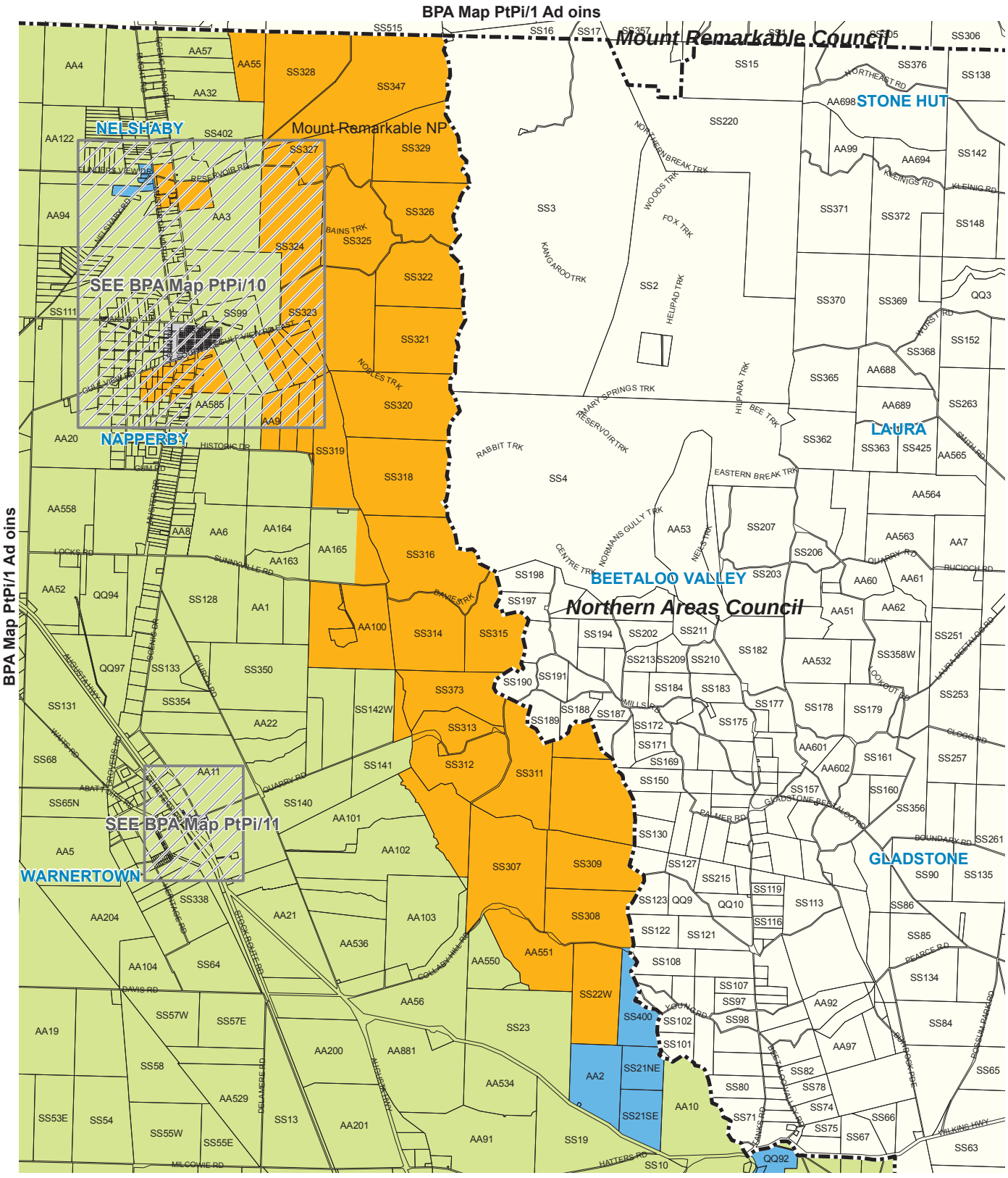
N

0 5 km

Bushfire Protection Area
BPA Map PtPi/2
BUSHFIRE RISK

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

- High Bushfire Risk
- Medium Bushfire Risk
- General Bushfire Risk
- Excluded area from bushfire protection planning provisions
- Development Plan Boundary



See enlargement map for accurate representation.

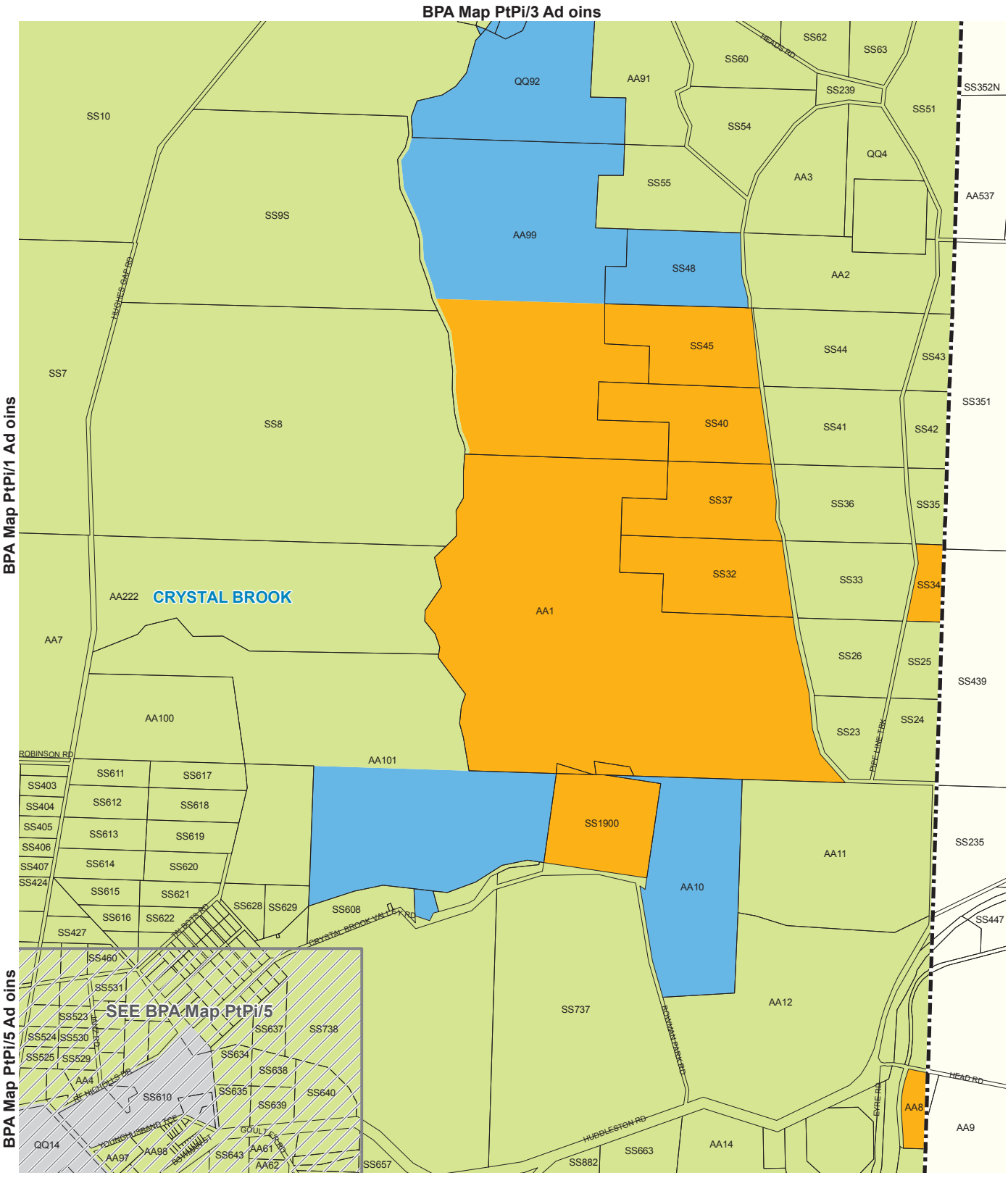
N

0 5km

Bushfire Protection Area
BPA Map PtPi/3
BUSHFIRE RISK

- High Bushfire Risk
- Medium Bushfire Risk
- General Bushfire Risk
- Excluded area from bushfire protection planning provisions
- Development Plan Boundary

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



See enlargement map for accurate representation.

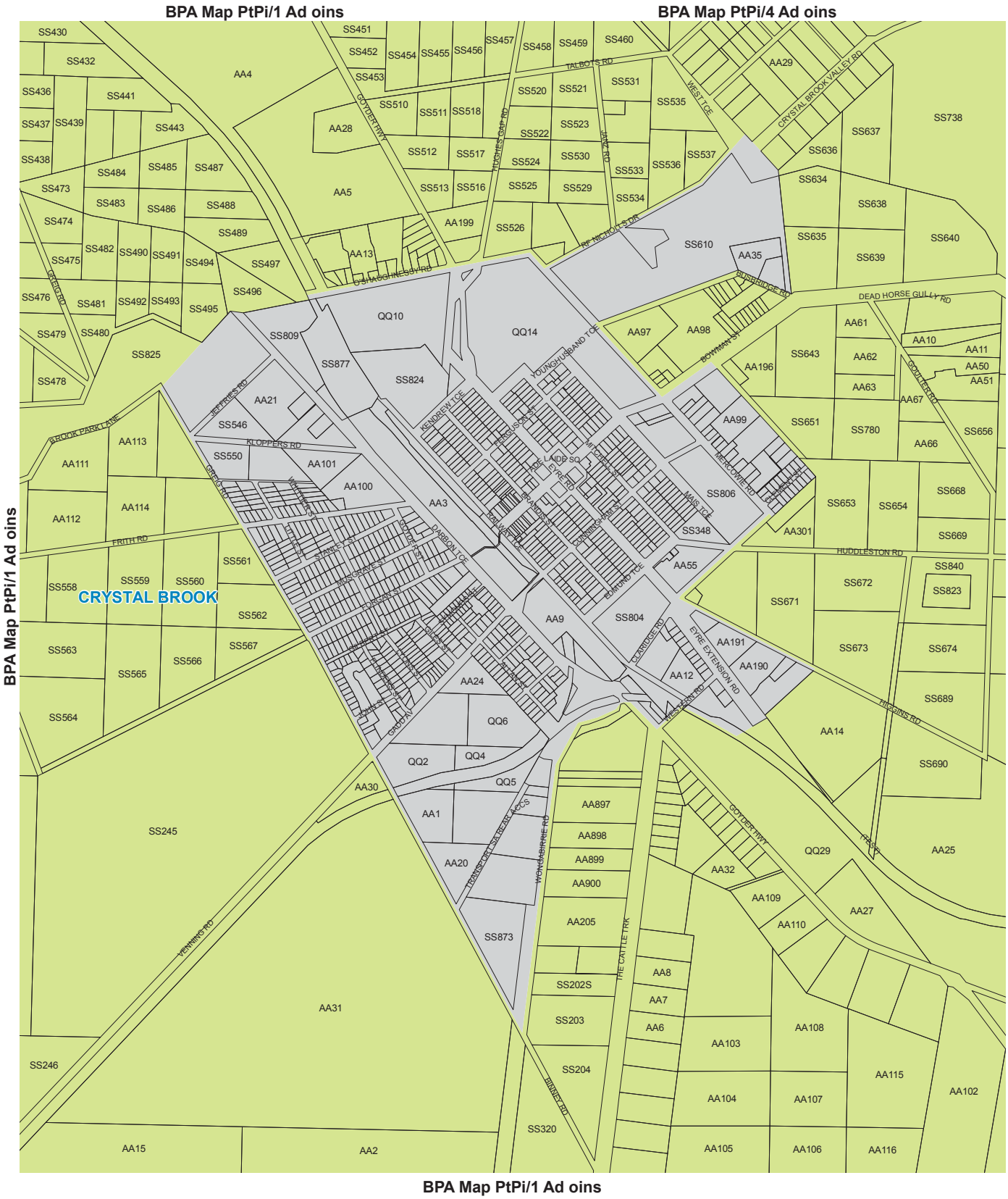
N

0 2,000m

Bushfire Protection Area
BPA Map PtPi/4
BUSHFIRE RISK

High Bushfire Risk
Medium Bushfire Risk
General Bushfire Risk
Excluded area from bushfire protection planning provisions
Development Plan Boundary

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017


BPA Map PtPi/1 Ad oins
BPA Map PtPi/4 Ad oins
BPA Map PtPi/4 Ad oins
BPA Map PtPi/1 Ad oins
BPA Map PtPi/1 Ad oins
CRYSTAL BROOK
TALBOTS RD
GOYDER HWY
HUGHES GAP RD
JANE RD
WEST TCE
CRYSTAL BROOK VALLEY RD
DYSHAUGHNESSY RD
McNICHOLAS DR
SUDBRIDGE RD
DEAD HORSE GULLY RD
BOWMAN ST
GOUDIE RD
YOUNGHUSBAND TCE
KENDREW TCE
JEFFRIES RD
KLOPPERS RD
BROOK PARK LANE
FRITH RD
ORTON RD
STEMLEY CT
MISSOSSEE ST
DARBON TCE
CRIDDLE ST
GRIDAN
CLARIDGE RD
EYRE EXTENSION RD
WESTERN RD
HUDDLESTON RD
HIGGINS RD
TRENT
MEROOMIE RD
MAIN TCE
EDMUND AVE
CUNNINGHAME ST
MITCHELL ST
LAIDE ST
BRADFORD ST
ROAD WINDER
TRANSCONTINENTAL ACCESS
WORDARRIRRIE RD
THE CATTLE TRK
BUNDEY RD
YENNINS RD
SS430
SS432
SS436
SS441
SS437
SS439
SS443
SS438
SS484
SS485
SS487
SS473
SS483
SS486
SS488
SS474
SS489
SS482
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SS873
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SS203
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AA101
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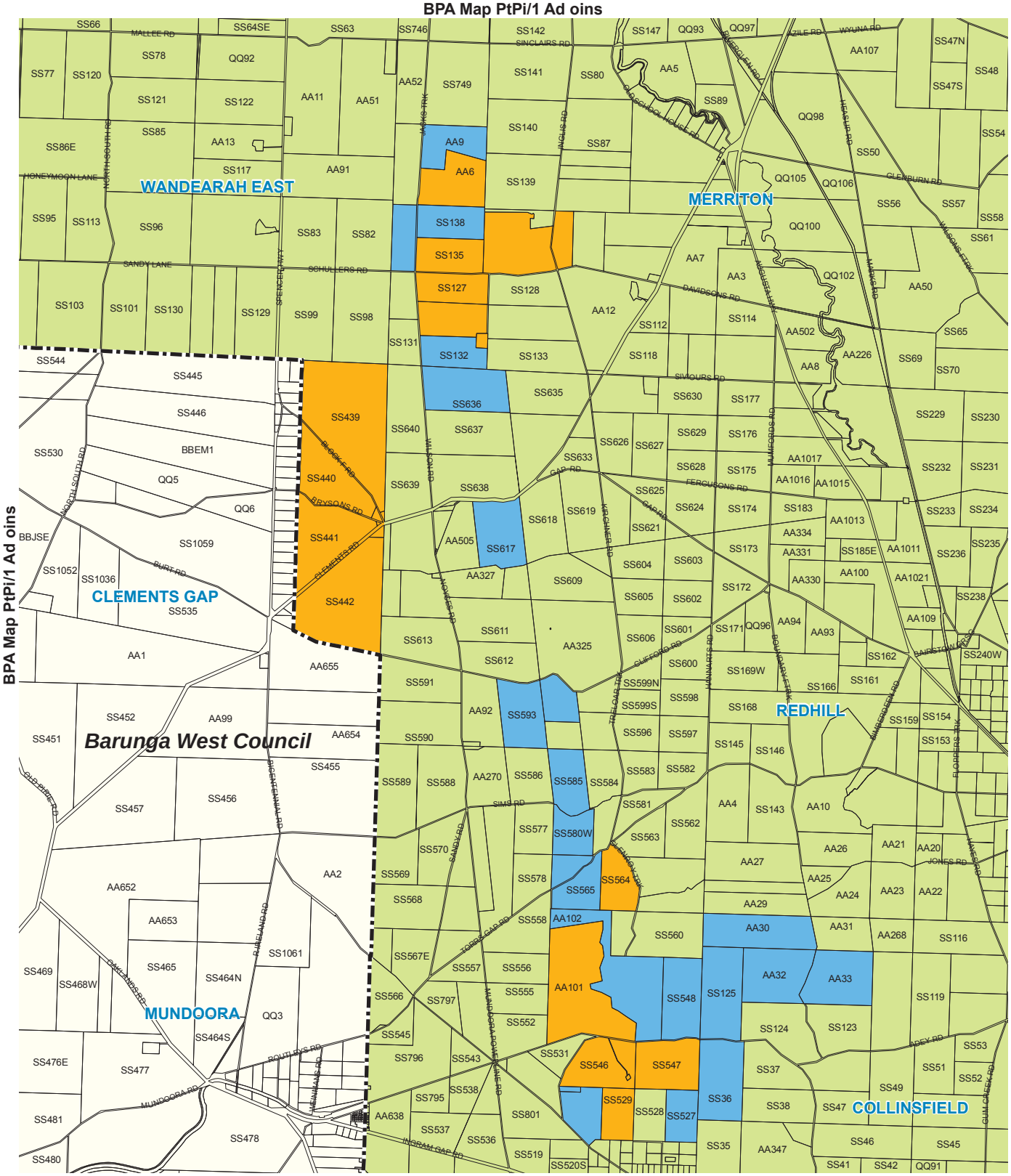
AA3
AA112
AA114
AA9
AA55
AA301
AA191
AA190
AA12
AA14
AA24
AA30
AA1
AA20
AA31
AA15
AA2
AA897
AA898
AA899
AA900
AA205
AA8
AA7
AA6
AA103
AA108
AA104
AA107
AA115
AA102
AA105
AA106
AA116
AA32
AA109
AA110
AA27
AA25
AA29
QQ10
QQ14
QQ6
QQ4
QQ2
QQ5
QQ29
N
0
1,000 m
Bushfire Protection Area
BPA Map PtPi/5
BUSHFIRE RISK
High Bushfire Risk
Medium Bushfire Risk
General Bushfire Risk
Excluded area from bushfire protection planning provisions
PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

BPA Map PtPi/1 Ad oins



BPA Map PtPi/1 Ad oins

BPA Map PtPi/8 Ad oins

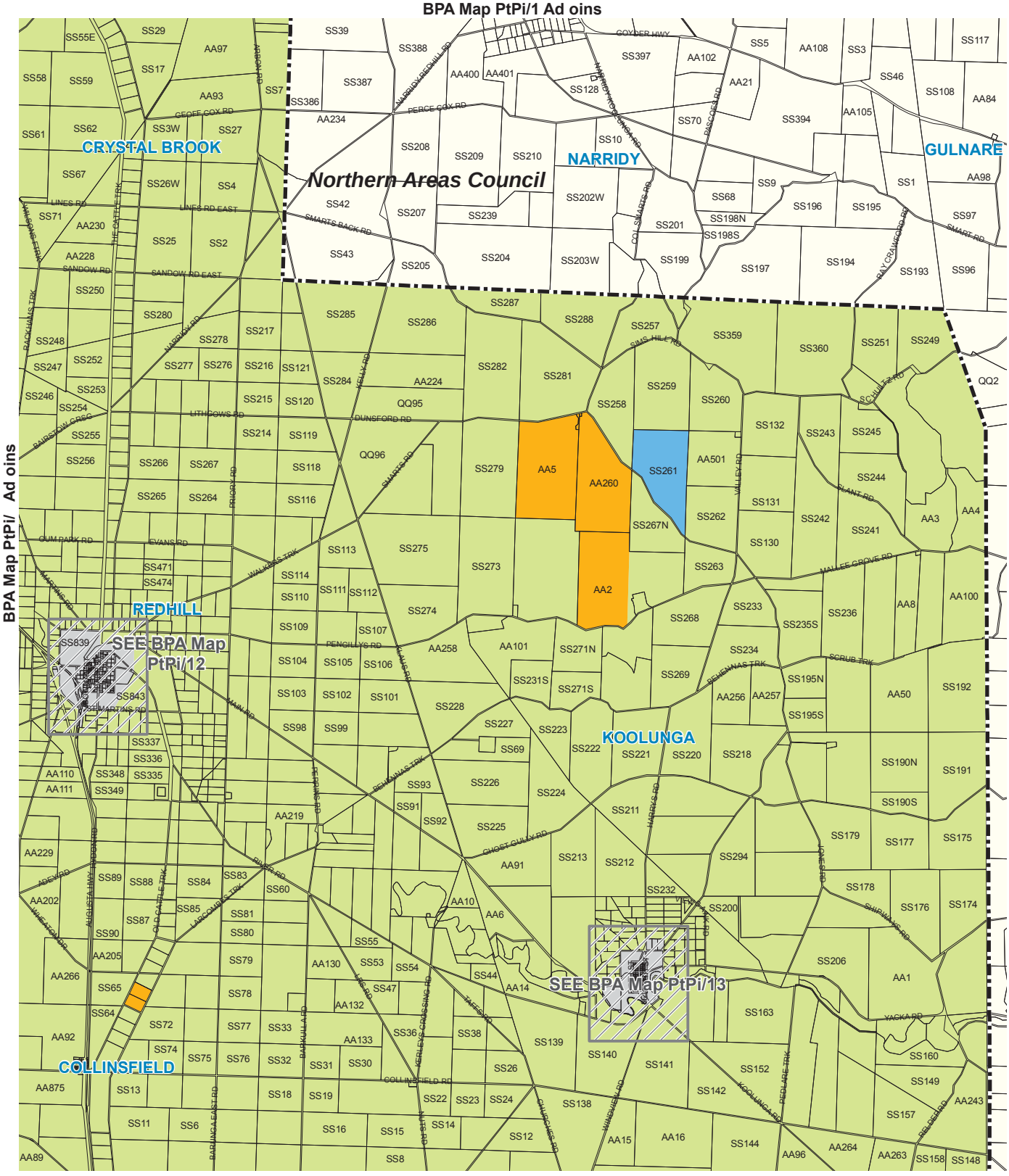
N

0 5km

Bushfire Protection Area
BPA Map PtPi/
BUSHFIRE RISK

High Bushfire Risk
Medium Bushfire Risk
General Bushfire Risk
Excluded area from bushfire protection planning provisions
Development Plan Boundary

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



BPA Map PtPi/1 Ad oins

See enlargement map for accurate representation.

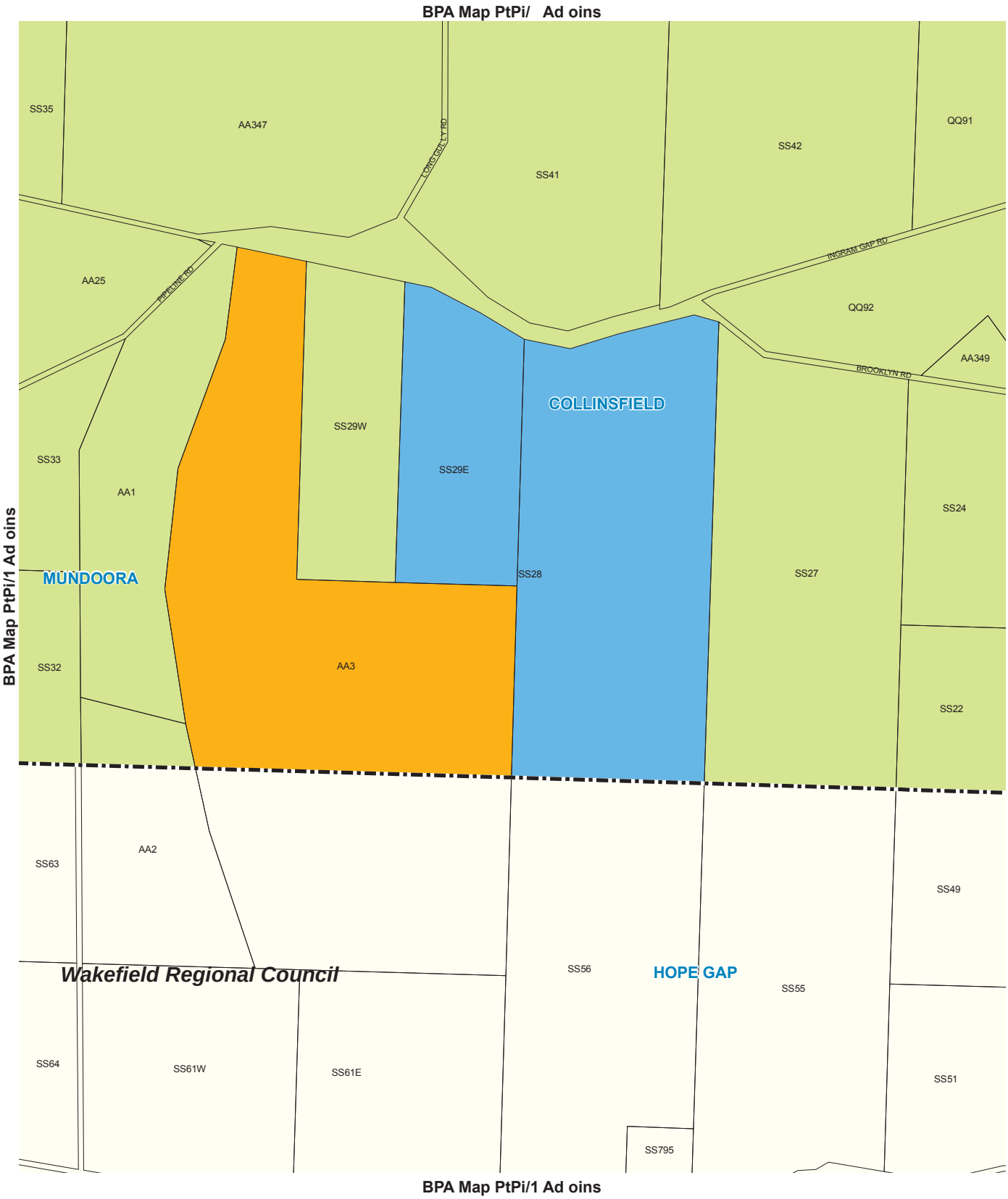
N

0 5km

Bushfire Protection Area
BPA Map PtPi/
BUSHFIRE RISK

- High Bushfire Risk
- Medium Bushfire Risk
- General Bushfire Risk
- Excluded area from bushfire protection planning provisions
- Development Plan Boundary

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



N

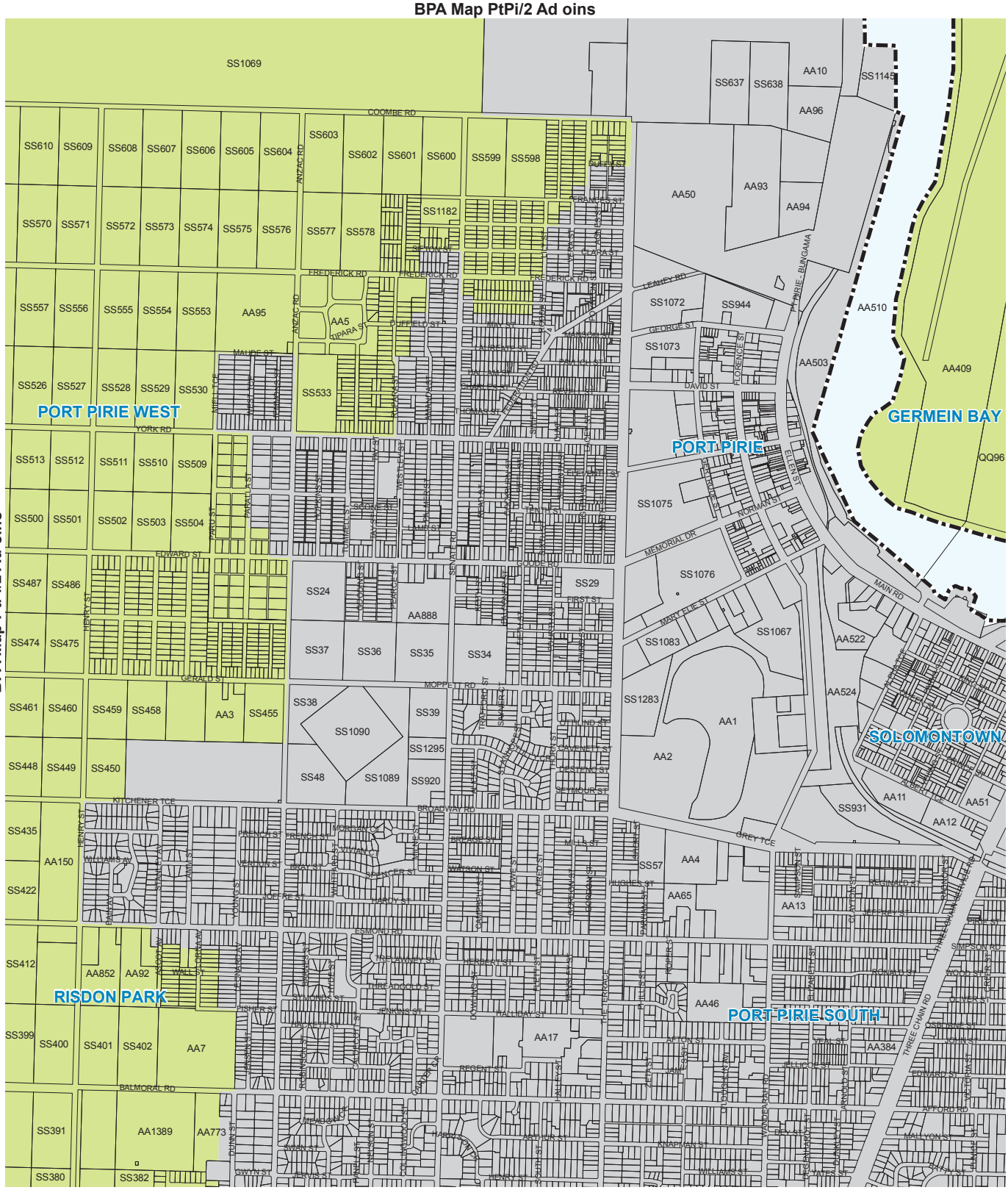
0 1,000 m

Bushfire Protection Area
BPA Map PtPi/8
BUSHFIRE RISK

High Bushfire Risk
Medium Bushfire Risk
General Bushfire Risk
Excluded area from bushfire protection planning provisions
Development Plan Boundary

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

BPA Map PtPi/2 Ad oins



BPA Map PtPi/2 Ad oins

BPA Map PtPi/2 Ad oins

BPA Map PtPi/2 Ad oins

N

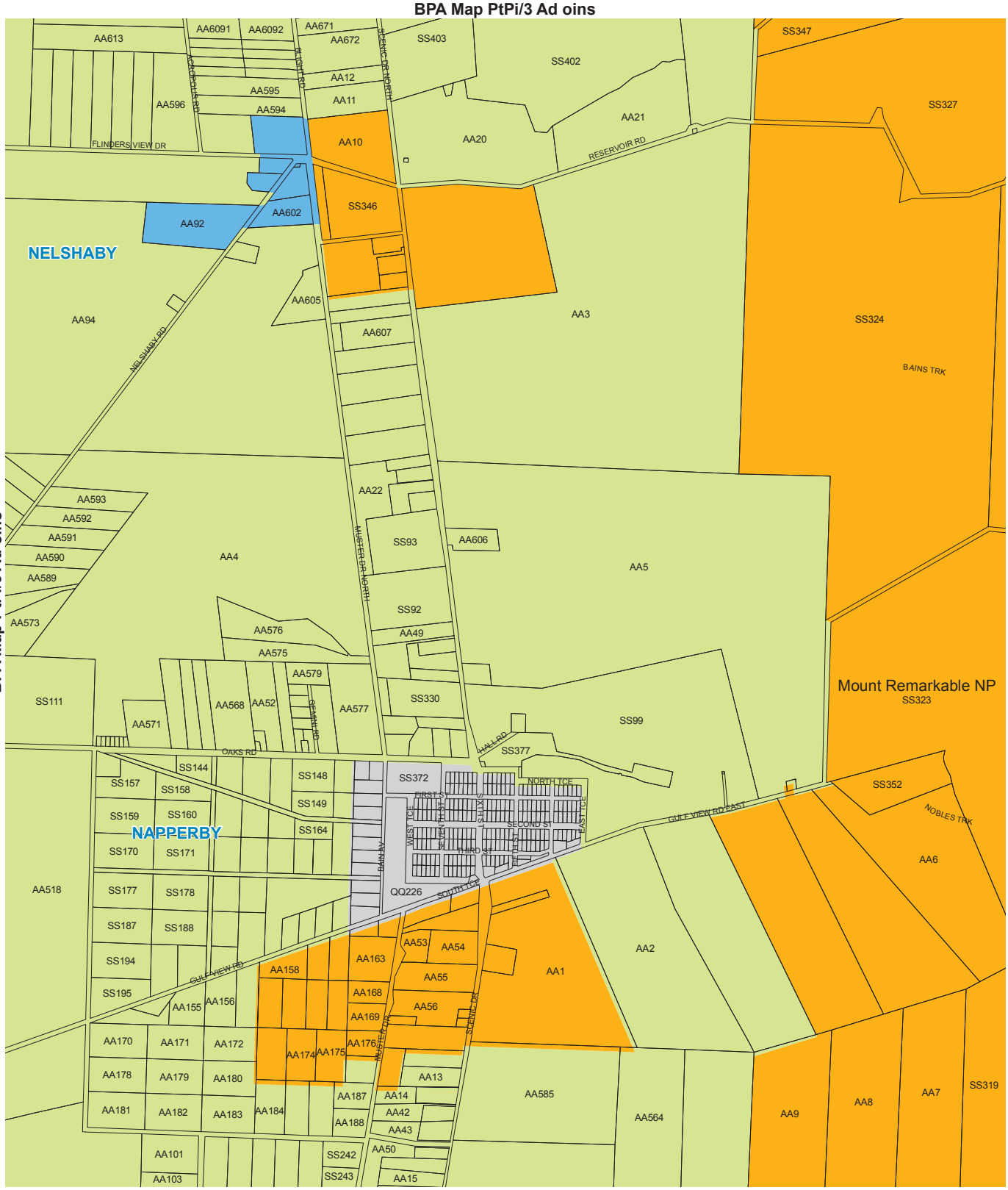
0 1,000 m

Bushfire Protection Area
BPA Map PtPi/
BUSHFIRE RISK

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

- High Bushfire Risk
- Medium Bushfire Risk
- General Bushfire Risk
- Excluded area from bushfire protection planning provisions
- Development Plan Boundary

BPA Map PtPi/3 Ad oins



BPA Map PtPi/3 Ad oins

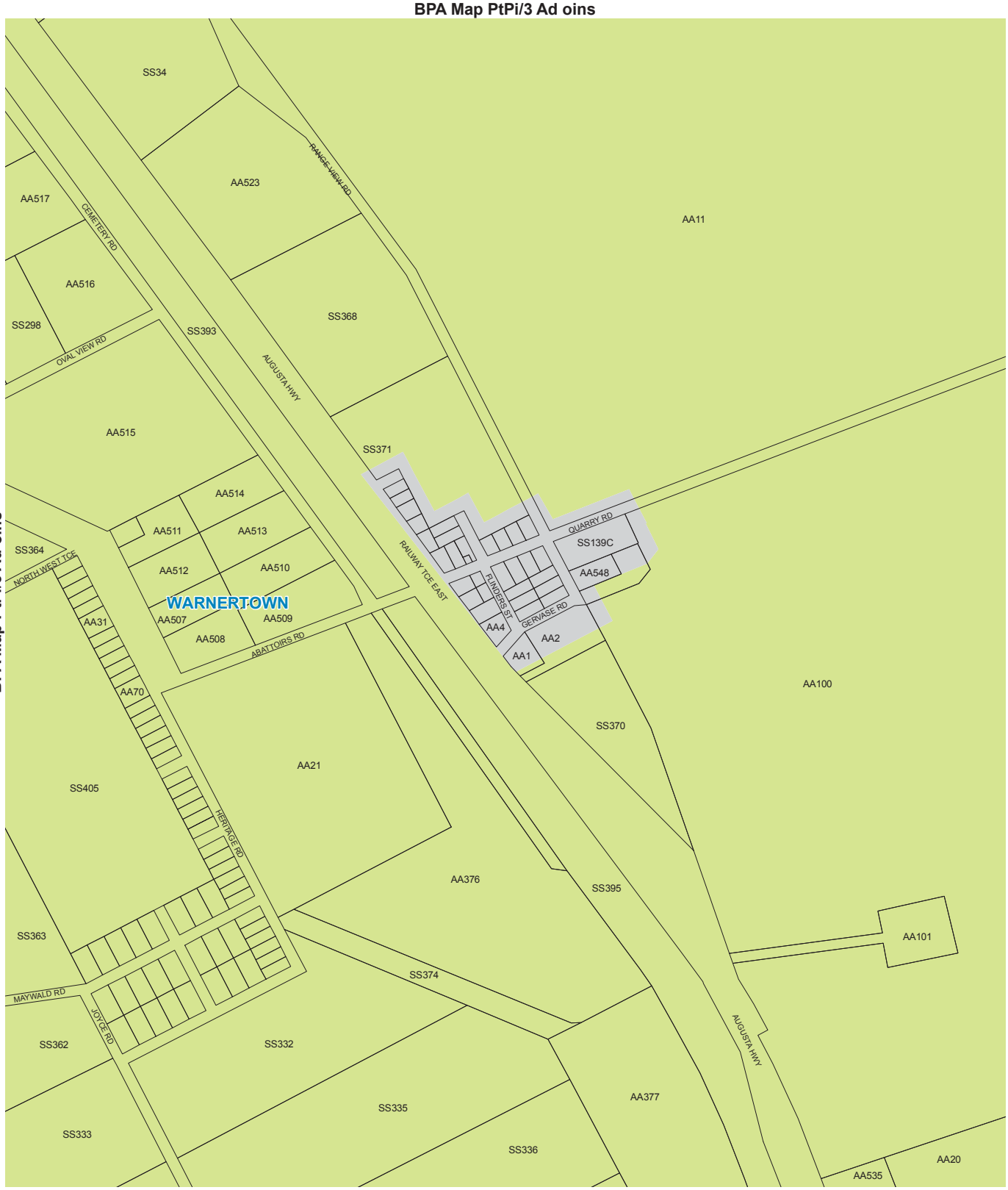
N

0 1,000 m

Bushfire Protection Area
BPA Map PtPi/10
BUSHFIRE RISK

High Bushfire Risk
Medium Bushfire Risk
General Bushfire Risk
Excluded area from bushfire protection planning provisions

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



BPA Map PtPi/3 Ad oins

BPA Map PtPi/3 Ad oins

BPA Map PtPi/3 Ad oins

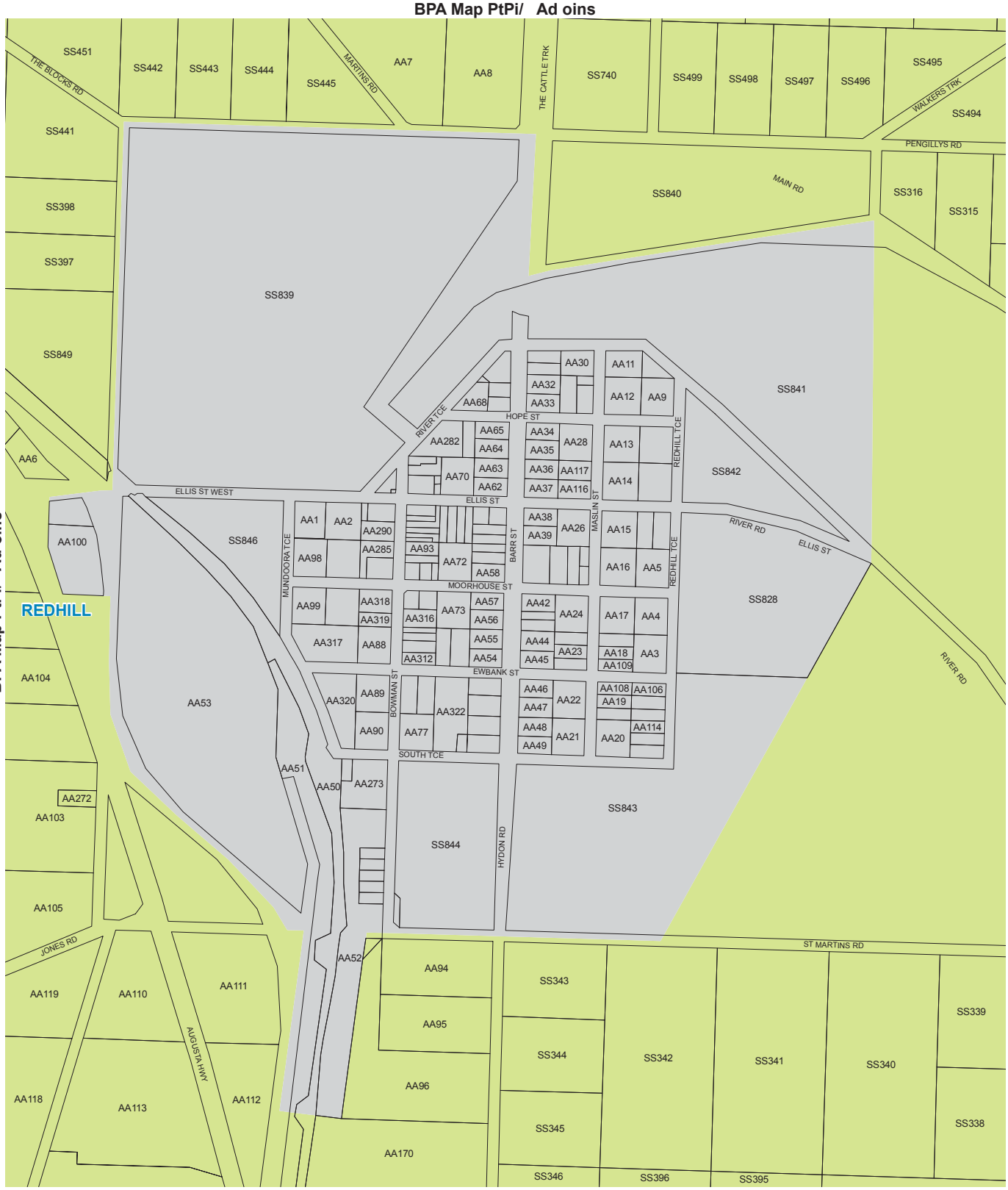
N

0 500 m

Bushfire Protection Area
BPA Map PtPi/11
BUSHFIRE RISK

- High Bushfire Risk
- Medium Bushfire Risk
- General Bushfire Risk
- Excluded area from bushfire protection planning provisions

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



BPA Map PtPi/ Ad oins

BPA Map PtPi/ Ad oins

BPA Map PtPi/ Ad oins

N

0 500 m

Bushfire Protection Area
BPA Map PtPi/12
BUSHFIRE RISK

High Bushfire Risk
Medium Bushfire Risk
General Bushfire Risk
Excluded area from bushfire protection planning provisions

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

N

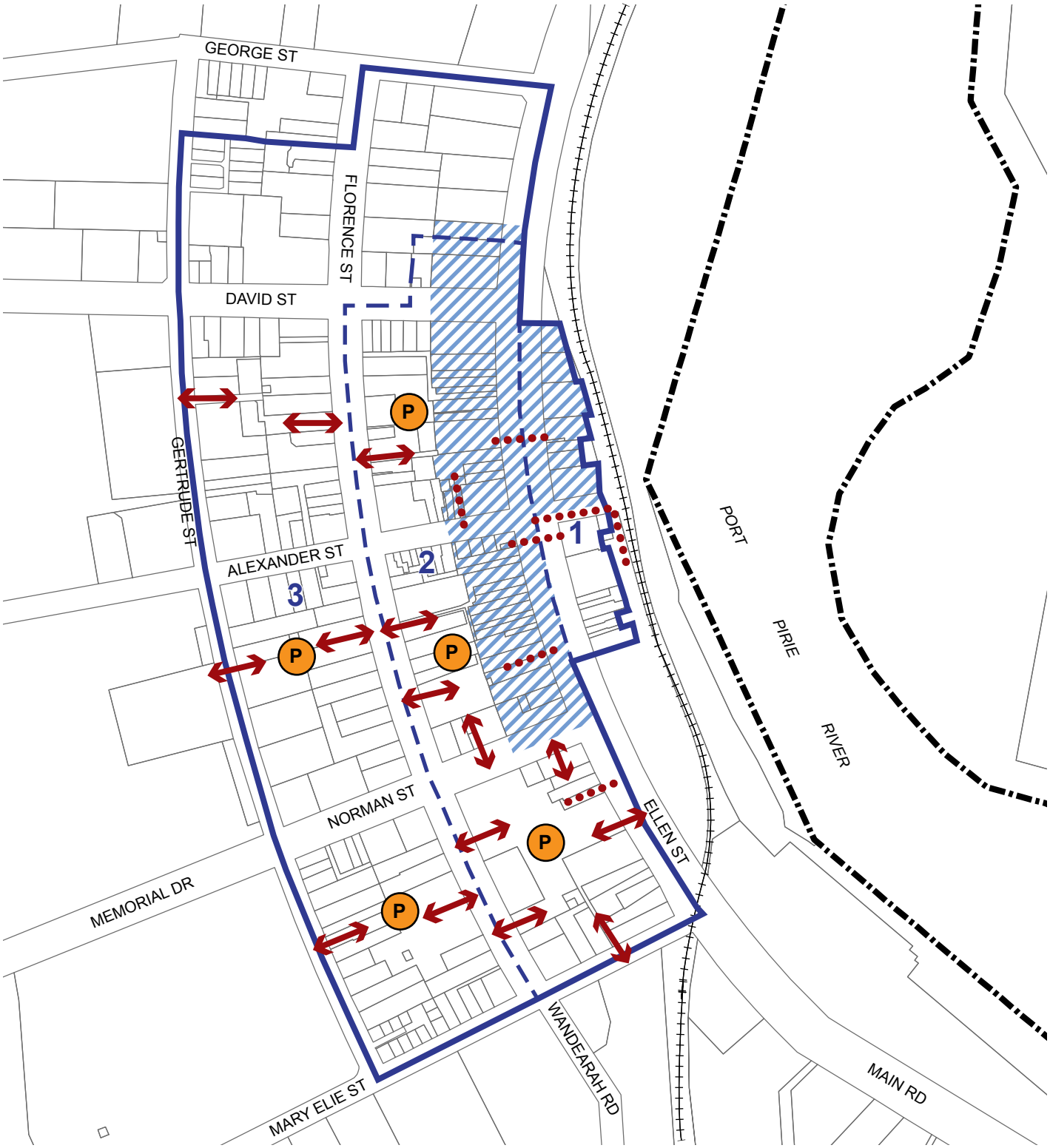
0 500 m

Bushfire Protection Area
BPA Map PtPi/13
BUSHFIRE RISK

High Bushfire Risk
Medium Bushfire Risk
General Bushfire Risk
Excluded area from bushfire protection planning provisions

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

Concept Plan Maps



Concept Boundary
1 Community Area
2 Retail Core Area
3 Fringe Area
Historic Area
P Off Street Parking
Pedestrian Access
Primary Vehicular Access
Railways
Development Plan Boundary

N

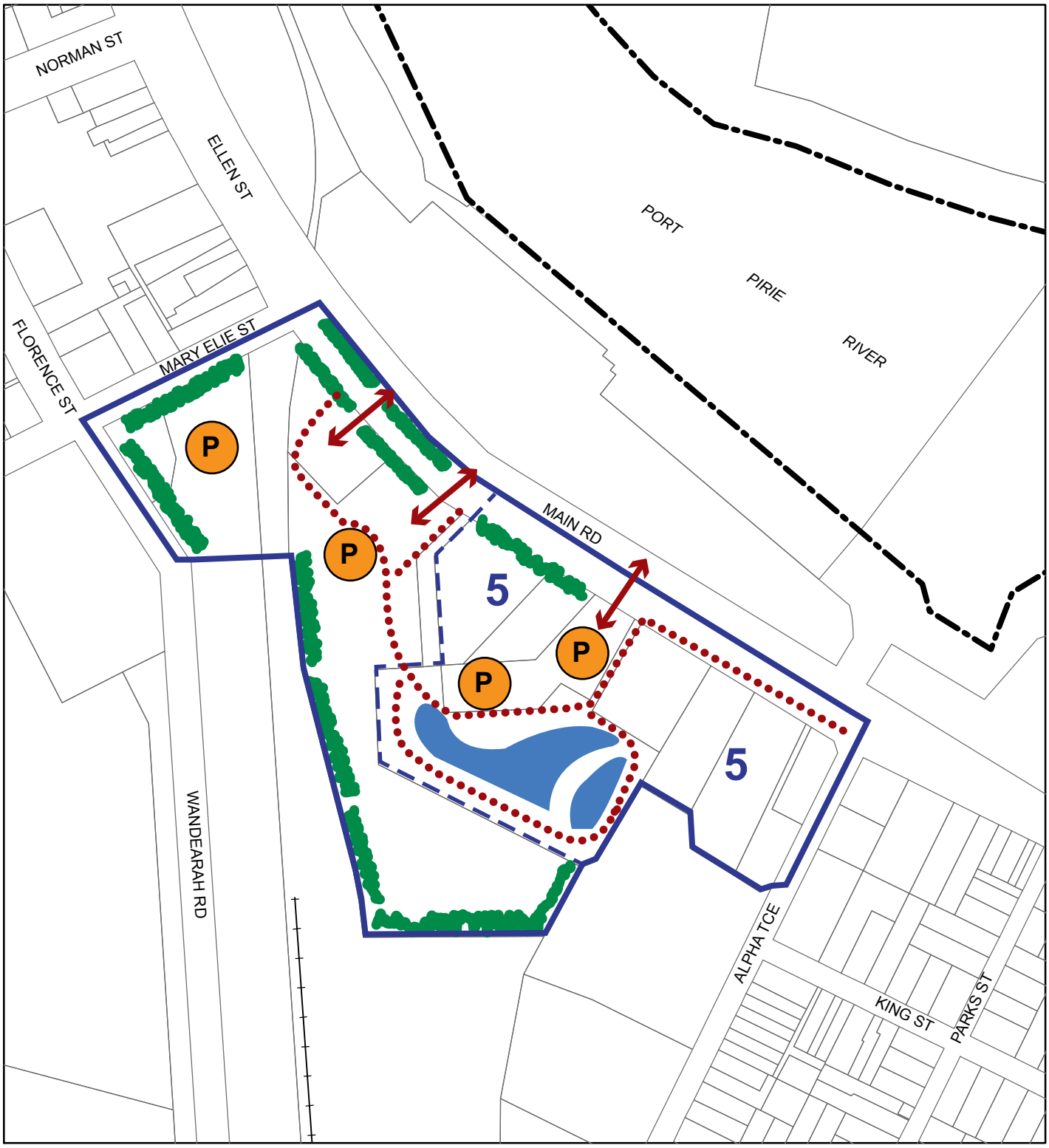
1:5,000

0 50 100 150 200 250 metres

Concept Plan Map PtPi/1

REGIONAL CENTRE

Consolidated - 6 October 2017



Concept Boundary

5 Retail/Commercial Area

P Off Street Parking

Pedestrian Access

Primary Vehicular Access

Retention Ponds

Landscaping

Railways

Development Plan Boundary

N

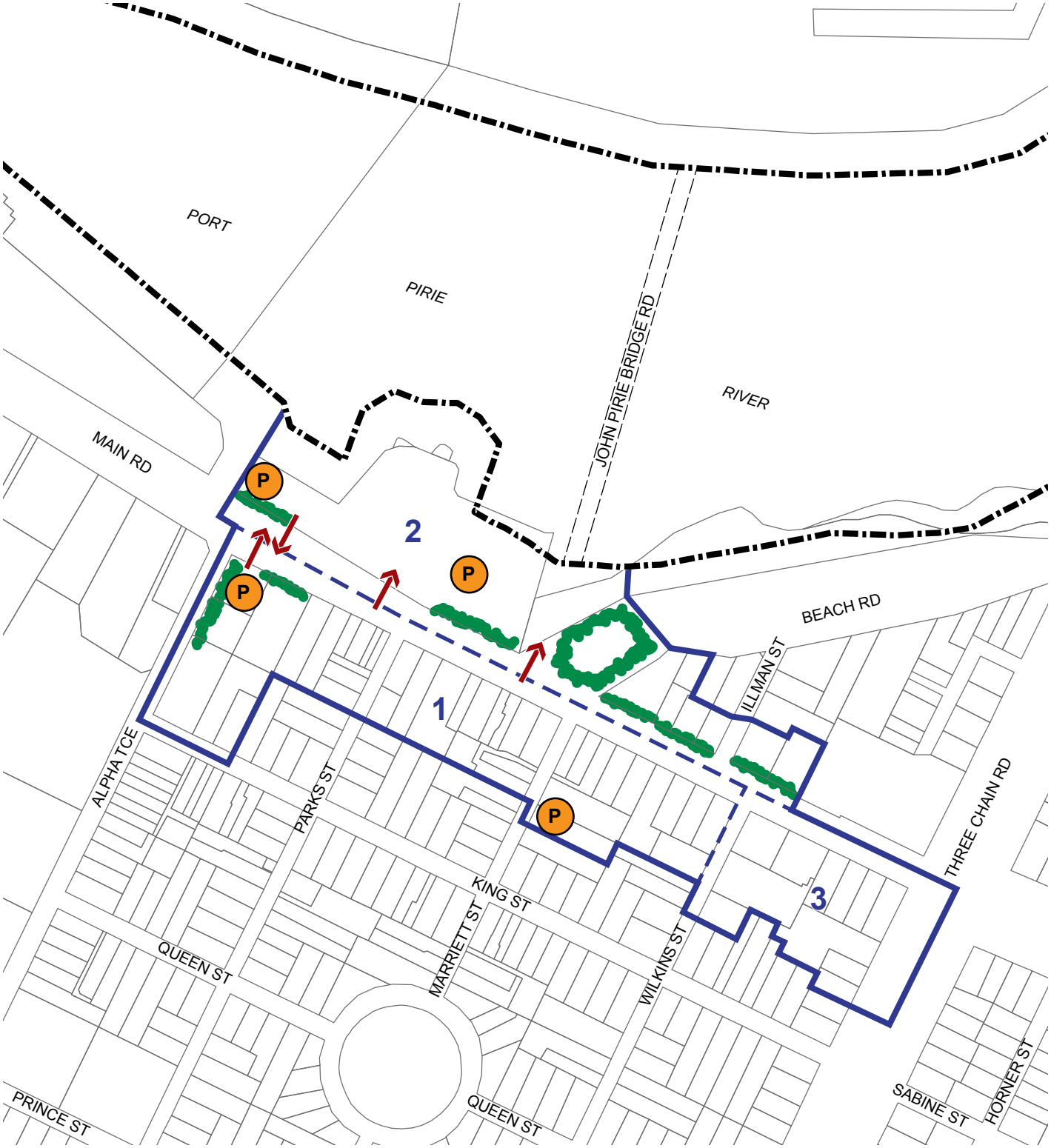
1:3,500

0 metres 50 100 150 200 250

Concept Plan Map PtPi/2

REGIONAL CENTRE

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



Concept Boundary

1 Retail Core Area

2 Waterfront Area (Mixed Use Policy Area 9)

3 Service Trades Area

P Off Street Parking

Primary Vehicular Access

Landscaping

Development Plan Boundary

N

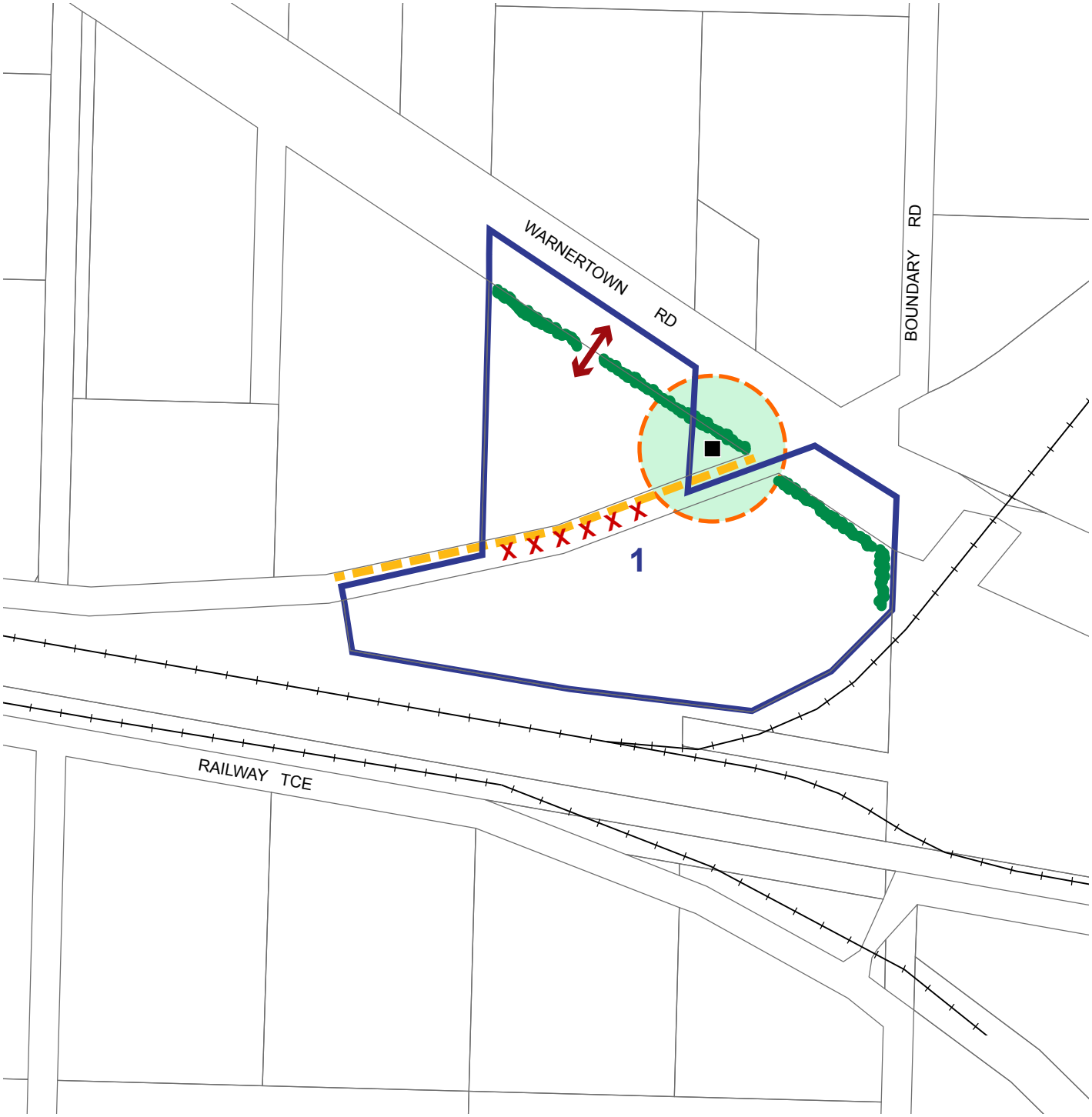
1:4,000

0 50 100 150 200 250 metres

Concept Plan Map PtPi/3

SOLOMONTOWN CENTRE

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017



Concept Boundary

1 North East Industrial Coordinated Development Area

Site Access

XXX Proposed Closed Road

Gas Meter Station

50m Buffer area around gas meter station

Railways

Landscaping

N

1:4,000

0 50 100 150 200 250 metres

Concept Plan Map PtPi/4

NORTH EAST INDUSTRIAL AREA

PORT PIRIE REGIONAL COUNCIL
Consolidated - 31 October 2017

20 Metre Buffer Zone either side of Transmission Line

Port Pirie Substation

132kV Transmission Line

Industry Policy Area 6 Boundary

Development Plan Boundary

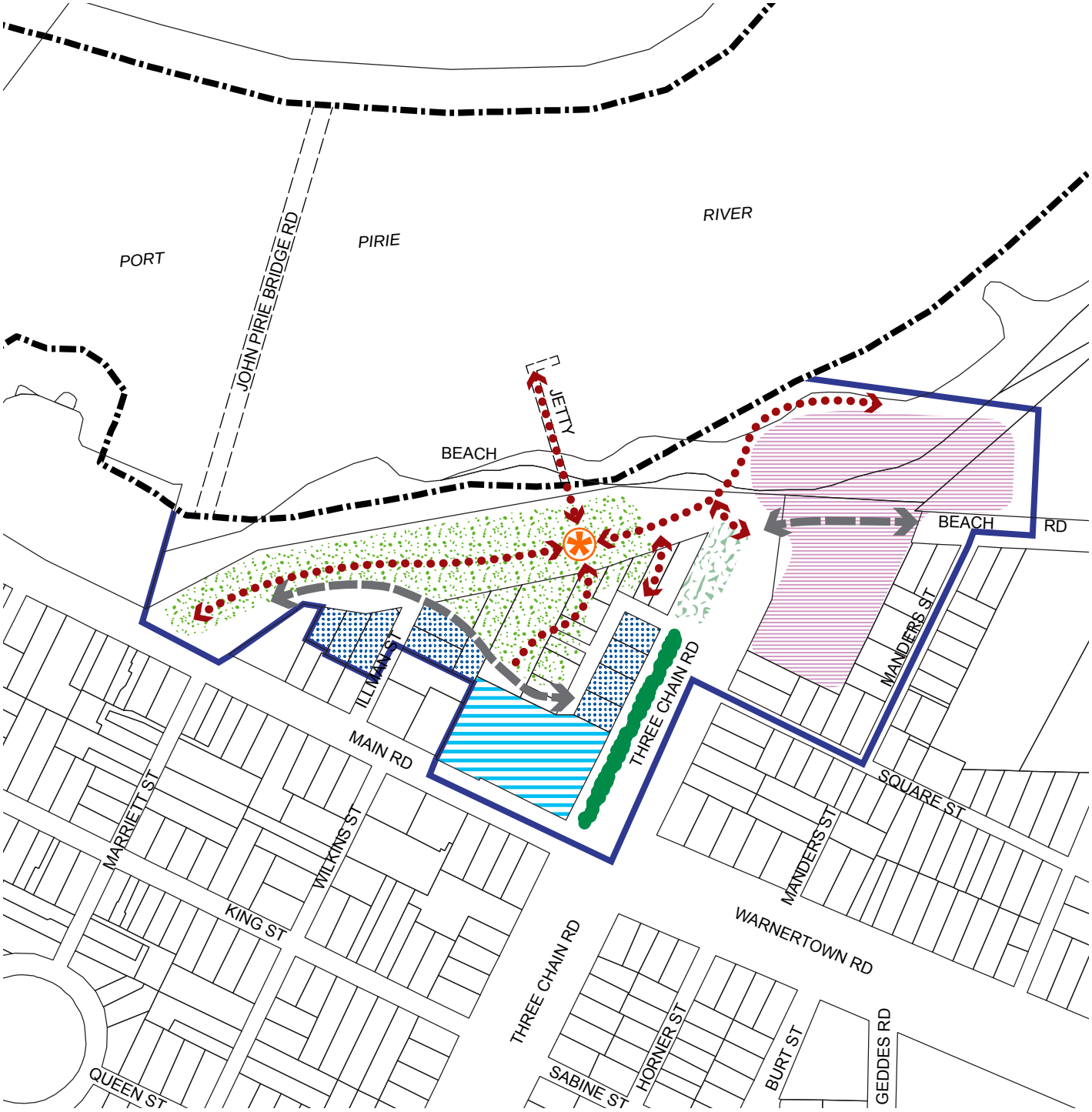
N

1:4,000

0 50 100 150 200 250 metres

Concept Plan Map PtPi/5

POLICY AREA INDUSTRY POLICY AREA



Caravan and Camping Site

Cabin/Cottage Site

Motel Site

Active Recreation

Passive Recreation

Focus

Landscape Buffer

New Access Road

Pedestrian Link

Concept Plan Boundary

Development Plan Boundary

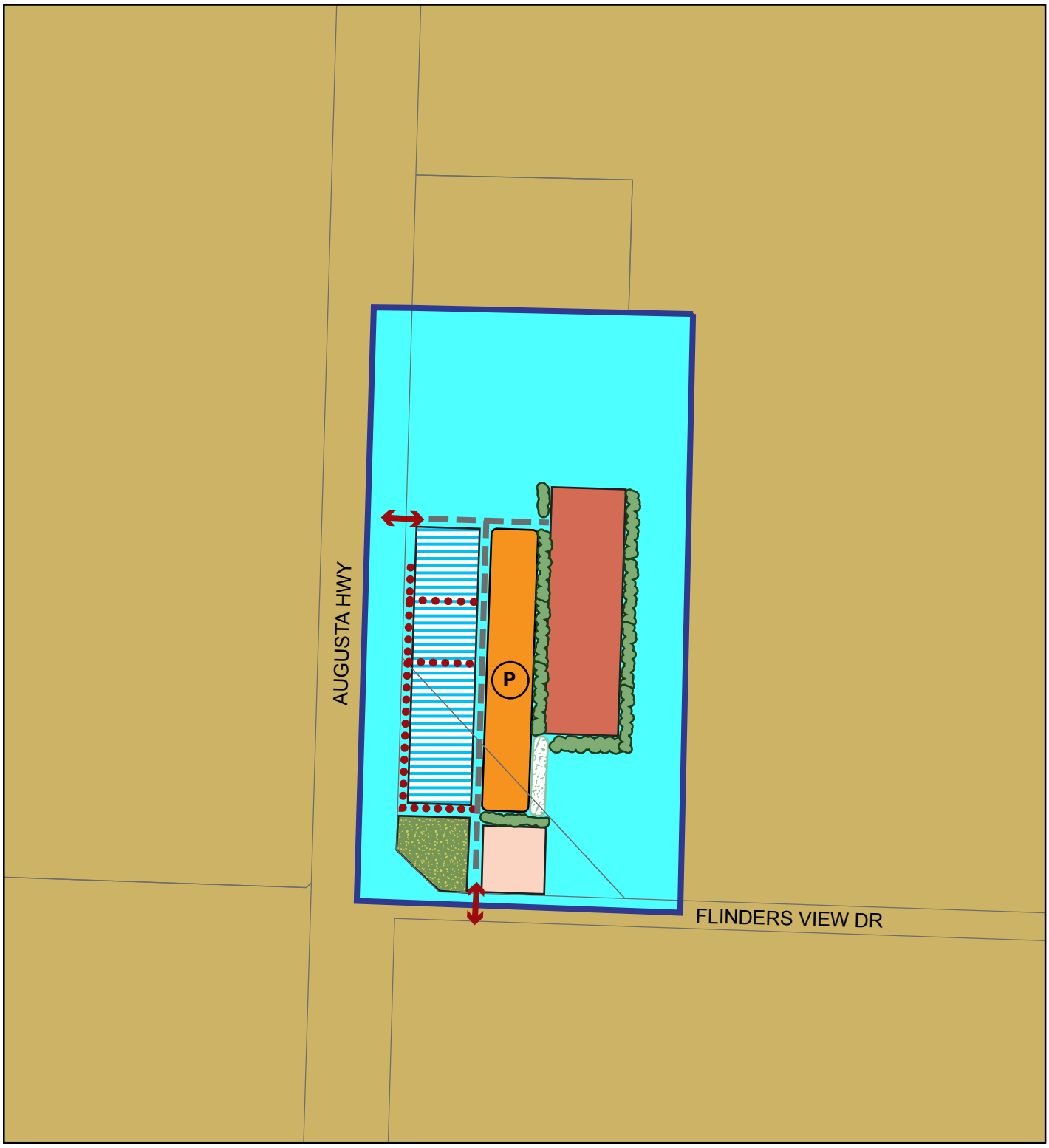
N

1:4,000

0 50 100 150 200 250 metres

Concept Plan Map PtPi/

SOLOMONTOWN BEACH DEVELOPMENT AREA



- Concept Boundary
- Commercial Zone
- Primary Production Zone
- Commercial Retail Area
- Accommodation Area
- Existing Residential Site
- Grassed Area
- Passive Recreation
- Landscaping
- P — Off Street Parking
- Primary Vehicular Access
- New Internal Access Road
- Pedestrian Access

N

1:4,000

0 metres 50 100 150 200 250

Concept Plan Map PtPi/

AUGUSTA HIGHWAY DEVELOPMENT AREA

PORT PIRIE REGIONAL COUNCIL

Consolidated - 31 October 2017

DEVELOPMENT ACT 1993, SECTION 26 (9): STATEWIDE WIND FARMS DEVELOPMENT PLAN AMENDMENT

Preamble

1. The Development Plan Amendment entitled 'Statewide Wind Farms Development Plan Amendment' (the Plan Amendment) has been finalised in accordance with the provisions of the Development Act 1993.

2. The Minister for Planning has decided to approve the Plan Amendment.

NOTICE

PURSUANT to Section 26 of the Development Act 1993, I—

(a) approve the Plan Amendment; and

(b) fix the day on which this notice is published in the *Gazette* as the day on which the Plan Amendment will come into operation.

Dated 12 October 2012.

JOHN RAU, Deputy Premier, Minister for Planning

DEVELOPMENT ACT 1993, SECTION 28 (4) *(a)*: TERMINATION OF THE OPERATION OF THE STATEWIDE WIND FARMS DEVELOPMENT PLAN AMENDMENT BY THE MINISTER

Preamble

1. On 19 October 2011, the Minister for Urban Development, Planning and the City of Adelaide, under Section 28 (1) of the Development Act 1993, declared the Statewide Wind Farms Development Plan Amendment (the Amendment) as an amendment to come into interim operation without delay.

The Amendment (on interim operation) applied to the following Development Plans:

Adelaide Hills Council
Alexandrina Council
Barossa Council
Barunga West Council
Berri Barmera Council
Ceduna Council
Clare and Gilbert Valleys Council
Cleve Council
Coober Pedy Council
The Coorong District Council
Copper Coast Council
Elliston Council
Flinders Ranges Council
Franklin Harbour Council
Gawler Council
Goyder Council
Grant Council
Kangaroo Island District Council
Karoonda East Murray Council
Kimba Council
Kingston Council
Land Not Within A Council Area (Coastal Waters)
Land Not Within A Council Area (Eyre, Far North, Riverland and Whyalla)
Land Not Within A Council Area (Flinders)
Land Not Within A Council Area (Metropolitan)
Light Council
Lower Eyre Peninsula Council
Loxton Waikerie Council
Mallala Council
Mid Murray Council
Mount Barker Council
Mount Remarkable Council
Murray Bridge Council
Naracoorte Lucindale Council
Northern Areas Council
Onkaparinga Council
Orroroo Carrieton Council
Peterborough Council
Playford Council
Port Augusta Council
Port Lincoln Council
Port Pirie Council
Renmark Paringa Council
Robe Council
Roxby Downs Council
Southern Mallee Council
Streaky Bay Council
Tatiara Council
Tumby Bay Council
Victor Harbor Council
Wakefield Regional Council
Wattle Range Council
Whyalla Council
Wudinna Council
Yankalilla Council
Yorke Peninsula Council Development Plans

The Honourable John Rau, Minister for Planning, has decided to terminate the operation of the Amendment.

NOTICE BY THE MINISTER

PURSUANT to Section 28 (4) *(a)* of the Development Act 1993, I—

(a) terminate the operation of the Statewide Wind Farms Development Plan Amendment (the Amendment); and

(b) fix the day on which this notice is published in the *Gazette* as the day on which the Amendment is terminated.

Dated 12 October 2012.

JOHN RAU, Deputy Premier, Minister for Planning

Government of South Australia

Department of Planning, Transport and Infrastructure

Adelaide Hills Council, Alexandrina Council, Barossa Council, Barunga West Council, Berri Barmera Council, Ceduna Council, Clare and Gilbert Valleys Council, Cleve Council, Coober Pedy Council, The Coorong District Council, Copper Coast Council, Elliston Council, Flinders Ranges Council, Franklin Harbour Council, Gawler Council, Goyder Council, Grant Council, Kangaroo Island District Council, Karoonda East Murray Council, Kimba Council, Kingston Council, Land Not Within A Council Area (Coastal Waters), Land Not Within A Council Area (Eyre, Far North, Riverland and Whyalla), Land Not Within A Council Area (Flinders), Land Not Within A Council Area (Metropolitan), Light Council, Lower Eyre Peninsula Council, Loxton Waikerie Council, Mallala Council, Mid Murray Council, Mount Barker Council, Mount Remarkable Council, Murray Bridge Council, Naracoorte Lucindale Council, Northern Areas Council, Onkaparinga Council, Orroroo Carrieton Council, Peterborough Council, Playford Council, Port Augusta Council, Port Lincoln Council, Port Pirie Council, Renmark Paringa Council, Robe Council, Roxby Downs Council, Southern Mallee Council, Streaky Bay Council, Tatiara Council, Tumby Bay Council, Victor Harbor Council, Wakefield Regional Council, Wattle Range Council, Whyalla Council, Wudinna Council, Yankalilla Council and Yorke Peninsula Council Development Plans

STATEWIDE WIND FARMS

Approval Development Plan Amendment

THE AMENDMENT

By the Minister

Declared by the Minister for Planning to be an approved amendment under Section 26(8) of the *Development Act 1993*

.....

Signature

18 OCT 2012

.....

Date of Gazette

Approval DPA

Background

The Statewide Wind Farms Development Plan Amendment (DPA) by the Minister amends the following Development Plans:

- Adelaide Hills Council, Alexandrina Council, Barossa Council, Barunga West Council, Berri Barmera Council, Ceduna Council, Clare and Gilbert Valleys Council, Cleve Council, Coober Pedy Council, The Coorong District Council, Copper Coast Council, Elliston Council, Flinders Ranges Council, Franklin Harbour Council, Gawler Council, Goyder Council, Grant Council, Kangaroo Island District Council, Karoonda East Murray Council, Kimba Council, Kingston Council, Land Not Within A Council Area (Coastal Waters), Land Not Within A Council Area (Eyre, Far North, Riverland and Whyalla), Land Not Within A Council Area (Flinders), Land Not Within A Council Area (Metropolitan), Light Council, Lower Eyre Peninsula Council, Loxton Waikerie Council, Mallala Council, Mid Murray Council, Mount Barker Council, Mount Remarkable Council, Murray Bridge Council, Naracoorte Lucindale Council, Northern Areas Council, Onkaparinga Council, Orroroo Carrieton Council, Peterborough Council, Playford Council, Port Augusta Council, Port Lincoln Council, Port Pirie Council, Renmark Paringa Council, Robe Council, Roxby Downs Council, Southern Mallee Council, Streaky Bay Council, Tatiara Council, Tumby Bay Council, Victor Harbor Council, Wakefield Regional Council, Wattle Range Council, Whyalla Council, Wudinna Council, Yankalilla Council and Yorke Peninsula Council Development Plans

This DPA was undertaken as a DPA process B, which included:

- an Initiation Document agreed on 9 September 2011;
- a DPA released for concurrent agency, council and public consultation from 19 October 2011 to 13 December 2011; and
- Public Meetings conducted by the Development Policy Advisory Committee (DPAC) Public Meeting Subcommittee on 17, 24 and 31 January 2012 and 2 February 2012 in Adelaide, Naracoorte, Port Wakefield and Peterborough respectively.

The DPA was brought in on Interim Operation at the same time it was released for public and council consultation (19 October 2011).

Consultation

A total of two hundred and forty five (245) public submissions, twenty eight (28) council submissions and twelve (12) agency submissions were received in relation to the DPA during the consultation period. Fifty nine (59) verbal submissions were made at the Public Meetings.

Approval Stage

Based on a review of all submissions and the recommendations of DPAC, the following changes have been made to the Amendment:

- replacement of "vegetated buffers to mitigate short to medium range visual impacts" as a wind farm development visual impact management technique with "provision of vegetated buffers around substations, maintenance sheds and other ancillary structures"
- augmentation of the wind farm visual impact management techniques to seek that wind turbines:
  - be setback at least 2 kilometres from defined and zoned township, settlement or urban areas (including deferred urban areas)
  - be mounted on tubular, rather than lattice, towers
- addition of policy that seeks that wind farms avoid or minimise interference with low altitude aircraft movements associated with agriculture
- addition of policy that seeks that wind turbines be setback from dwellings, tourist accommodation and frequently visited public places (such as viewing platforms) a distance that will ensure turbine failure does not present an unacceptable risk to public safety
- removal of policy duplication and cross referencing
- reduction in the number of zones in which wind farms are explicitly envisaged - the approved amendment does not introduce policy that explicitly envisages wind farms to:
  - the Clare Valley;
  - zones applying to the coast and State coastal waters;
  - Conservation Zones (which encompass the Coorong and other conservation reserves),
  - the Barossa Valley Protection District (the approval DPA designates wind farms a non-complying kind of development within this)
  - the Fleurieu Peninsula;
  - the landscape protection zones applying to the Flinders Ranges
  - the McLaren Vale Protection District (the approval DPA designates wind farms a non-complying kind of development within this)
  - the River Murray corridor
- adjustment of the proposed Category 2 trigger for wind farms such that this only apply where all wind turbines forming part of a wind farm are more than 2 kilometres from:
  - an existing or approved non-associated (non-stakeholder) dwelling or tourist accommodation
  - the boundaries of any Airfield, Airport, Centre, Community, Fringe, Historic Conservation, Home Industry, Living, Mixed Use, Residential, Settlement, Tourist, Township or Urban Zone, Policy Area or Precinct or any Heritage Area (including within the area of an adjoining Development Plan)

Amendment Instructions Table

Name of Local Government Area: Adelaide Hills Council

Name of Development Plan: Adelaide Hills Council

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Adelaide Hills Council Development Plan** consolidated on **12 April 2012 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Objectives 116 and 117 and PDCs 345, 346 and 347	Attachment 1	Yes	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
Watershed (Primary Production) one					
2	Delete	Objective 4		Yes	No
3	Delete	Explanatory text following objectives		No	No
4	Delete	Text following part (g) of PDC 1		No	No
5	Delete	PDC 2		Yes	No
6	Delete	Text following part (c) of PDC 3		No	No
7	Replace	PDC 12	Buildings should not impair the character of rural areas by reason of their scale or siting. If necessary, buildings should be screened by trees or shrubs.	No	No
8	Replace	PDC 15	Development should not detract from the natural and rural landscape character of the region.	No	No
9	Replace	Part (c) of PDC 29	scenic value or natural beauty	No	No

10	Replace	PDC 40	Buildings should not impair the character of rural areas by reason of their scale or siting. If necessary, buildings should be screened by trees or shrubs.	No	No
11	Insert	Alphabetically in PDC 71 (Non-complying development)	AdHi1	No	No
12	Delete	The entry for 'Wind farms or wind monitoring masts, and ancillary development…' in PDC 73		No	No
TABLES					
Amendments required (Yes/No): No					
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: Alexandrina Council

Name of Development Plan: Alexandrina Council

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Alexandrina Council Development Plan** consolidated on **3 May 2012 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Objectives 77 and 78	Attachment 2	Yes	No
2	Replace	PDCs 311, 312 and 313	Attachment 3	Yes	No
PART B – STRATHALBYN DISTRICT (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
3	Insert	New part (g) into PDC 70	facilitating the development of wind farms and ancillary development;	No	No
PART C – PORT ELLIOTT AND GOOLWA (including figures and illustrations contained in the text)					
Amendments required (Yes/No): No					
PART D – WILLUNGA (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
4	Insert	After 'Water Storage Tank' in PDC 18	Wind farm and ancillary development such as substations, maintenance sheds, access roads and connecting power-lines (including to the National Electricity grid)' Wind monitoring mast and ancillary development	No	No

ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
Flood one					
5	Insert	After Objective 4	Attachment 4	No	No
6	Insert	After PDC 1	Attachment 7	Yes	No
7	Insert	After 'Store' in PDC 16	Wind farm and ancillary development such as substations, maintenance sheds, access roads and connecting power-lines (including to the National Electricity grid)' Wind monitoring mast and ancillary development	No	No
8	Insert	After PDC 16	Attachment Alex1	No	No
General Farming (Strathalbyn District) one					
9	Insert	After Objective 2	Attachment 4	No	No
10	Insert	After PDC 1	Attachment 7	Yes	No
11	Insert	After 'Water Storage Tank' in PDC 8	Wind farm and ancillary development such as substations, maintenance sheds, access roads and connecting power-lines (including to the National Electricity grid)' Wind monitoring mast and ancillary development	No	No
12	Insert	After 'Mineral Water Extraction and/or Processing Plant' in PDC 9	Attachment 8	No	No
TABLES					
Amendments required (Yes/No): Yes					
Table Alex/2 – Minimum Building Set-backs					
13	Insert	After 'Development Plan' in the bracketed text immediately under the heading 'Minimum Building Set-backs'	or a lesser distance is required to facilitate the development of a wind farm	No	No
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: The Barossa Council

Name of Development Plan: The Barossa Council

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to **The Barossa Council Development Plan** consolidated on **10 November 2011 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Renewable Energy Facilities Objectives and PDCs	Attachment 1	No	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
Primary Production one					
2	Insert	In the table relating to Non-complying development	In the column headed 'Form of Development': 'Wind farm' and in the same row under the column headed 'Exceptions' 'Except where the turbine generates power to be used wholly for activities to be located on the property upon which the turbine is situated and the turbine does not exceed 10 metres in height'	No	No

Primary Production (Barossa Valley Region) one					
3	Insert	In the table relating to Non-complying development	In the column headed 'Form of Development': 'Wind farm' and in the same row under the column headed 'Exceptions' 'Except where the turbine generates power to be used wholly for activities to be located on the property upon which the turbine is situated and the turbine does not exceed 10 metres in height'	No	No
Rural Landscape Protection one					
4	Insert	In the table relating to Non-complying development	In the column headed 'Form of Development': 'Wind farm' and in the same row under the column headed 'Exceptions' 'Except where the turbine generates power to be used wholly for activities to be located on the property upon which the turbine is situated and the turbine does not exceed 10 metres in height'	No	No
Watershed Protection (Mount Lofty Ranges) one					
5	Insert	In the table relating to Non-complying development	In the column headed 'Form of Development': 'Wind farm' and in the same row under the column headed 'Exceptions' 'Except where the turbine generates power to be used wholly for activities to be located on the property upon which the turbine is situated and the turbine does not exceed 10 metres in height'	No	No
TABLES					
Amendments required (Yes/No): No					
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: District Council of Barunga West

Name of Development Plan: Barunga West (DC)

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Barunga West (DC) Development Plan** consolidated on **22 March 2012 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Objectives 94 and 95	Attachment 2	Yes	No
2	Replace	Part (a) of PDC 151	at least 30 metres from the road boundaries outside the towns of Port Broughton and Bute, the townships of Alford, Tickera, Fisherman Bay, Kulpara, Mundoora or as specified in Table BaW/3, accepting that wind farms and ancillary development may need to be located closer to road boundaries;	No	No
3	Replace	PDCs 208, 209 and 210	Attachment 3	Yes	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
General Farming one					
4	Insert	After the explanatory text following Objective 2	Attachment 4	Yes	No
5	Insert	After PDC 1	Attachment 7	Yes	No

TABLES					
Amendments required (Yes/No): Yes					
Table BaW/4					
6	Insert	After Item 6 in relation to Category 2 development	New Items 7 and 8 contained in Attachment BaW1	No	No
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: Berri Barmera Council

Name of Development Plan: Berri Barmera Council

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Berri Barmera Council Development Plan** consolidated on **1 December 2011**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Delete	Design and Appearance Objective 3		No	No
2	Delete	Design and Appearance PDC 3		Yes	No
3	Replace	Design and Appearance PDC 22(c)	not result in or contribute to a detrimental impact upon the function, appearance or character of the locality	No	No
4	Replace	Infrastructure Objective 4	The visual impact of infrastructure facilities minimised.	No	No
5	Delete	Infrastructure PDC 8		Yes	No
6	Delete	Interface between Land Uses Objective 3		No	No
7	Delete	Interface between Land Uses PDC 3		Yes	No
8	Delete	Natural Resources PDC 2		Yes	No
9	Replace	Orderly and Sustainable Development PDC 2	Land outside of townships and settlements should primarily be used for primary production and conservation purposes.	No	No
10	Replace	Renewable Energy Facilities Objectives and PDCs	Attachment 1	Yes	No

11	Insert	At end of new Renewable Energy Facilities PDCs	Development should generate and make use of renewable energy sources, such as one or more of the following: (a) solar power (b) wind energy (c) hot rocks (d) other emerging technologies.	No	No
12	Delete	Siting and Visibility Objective 3		No	No
13	Replace	Siting and Visibility PDC 6	The number of buildings and structures on land outside of urban areas should be limited to that necessary for the efficient management of the land.	No	No
14	Delete	Sloping Land Objective 2		No	No
15	Delete	Sloping Land PDC 3		Yes	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
Primary Production one					
16	Replace	Objective 4	Attachment 5	No	No
17	Delete	Explanatory text associated with Objective 4		No	No
18	Insert	After the third paragraph of the statement of Desired Character	Attachment 6	No	No
19	Insert	At the end of PDC 1	• wind monitoring mast and ancillary development	No	No
20	Replace	PDC 3	Attachment 7	No	No
21	Replace	The entry for 'Wind farms or wind monitoring masts, and ancillary development…' in the column titled 'Category 2'	Attachment 8	No	No
Primary Production one Horticulture Policy Area 1					
22	Delete	Objective 3 and associated explanatory text		Yes	No
23	Insert	At the end of PDC 1	• wind monitoring mast and ancillary development	No	No
24	Delete	PDC 2		Yes	No
River Murray Flood one					
25	Delete	Objective 7 and associated explanatory text		No	No
26	Delete	'wind farms and ancillary development' from PDC 1		No	No
27	Delete	PDC 3		Yes	No
28	Delete	The entry for 'Wind farms or wind monitoring masts, and ancillary development…' in the column titled 'Category 2'		No	No
River Murray Fringe one					
29	Delete	Objective 5 and associated explanatory text		Yes	No
30	Delete	'wind farms and ancillary development' from PDC 1		No	No

31	Delete	PDC 3		Yes	No
32	Replace	PDC 12	Development should not detract from the scenic character of the zone when viewed from the River Murray, Lake Bonney, Riverland or the Overland Corner to Monash Road.	No	No
33	Delete	The entry for 'Wind farms or wind monitoring masts, and ancillary development…' in the column titled 'Category 2'		No	No
TABLES					
Amendments required (Yes/No): No					
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: District Council of Ceduna

Name of Development Plan: Ceduna Council

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Ceduna Council Development Plan** consolidated on **12 January 2012 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Renewable Energy Facilities Objectives and PDCs	Attachment 1	No	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
Primary Production one					
2	Insert	After Objective 3	Attachment 5	Yes	No
3	Insert	After the eighth paragraph of the statement of Desired Character	Attachment 6	No	No
4	Insert	At end of PDC 1	• wind farm and ancillary development • wind monitoring mast and ancillary development	No	No
5	Insert	After PDC 2	Attachment 7	Yes	No
6	Insert	After '2008' beneath the heading 'Public Notification'	Attachment 9	No	No
TABLES					
Amendments required (Yes/No): No					
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: Clare and Gilbert Valleys Council

Name of Development Plan: Clare and Gilbert Valleys Council

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Clare and Gilbert Valleys Council Development Plan** consolidated on **9 February 2012 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Design and Appearance PDC 18	Development should not exceed 2 storeys in height, other than where required to facilitate wind farms and ancillary development.	No	No
2	Replace	Renewable Energy Facilities Objectives and PDCs	Attachment 1	No	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
Primary Production one					
3	Insert	After Objective 5	Attachment CGV1	Yes	No
4	Insert	After the fourth paragraph of the statement of Desired Character	Attachment CGV1	No	No
5	Insert	At end of PDC 1	• wind farm and ancillary development • wind monitoring mast and ancillary development	No	No
6	Insert	After PDC 2	Attachment 7	Yes	No
7	Insert	After '2008' beneath the heading 'Public Notification'	Attachment CGV2	No	No
TABLES					
Amendments required (Yes/No): No					
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: District Council of Cleve

Name of Development Plan: Cleve (DC)

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Cleve (DC) Development Plan** consolidated on **5 April 2012 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
EYRE PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): No					
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Objectives 39 and 40	Attachment 2	Yes	No
2	Replace	PDC 96	No buildings should be erected on any land within the Rural Zone, Coastal Zone, Rural Fringe Zone so that any portion of such building is erected nearer than 50 metres to the boundary of a primary or secondary road and accepting that wind farms and ancillary development may need to be located closer to road boundaries.	No	No
3	Insert	New part (e) into PDC 98	required to facilitate the development of wind farms and ancillary development.	No	No
4	Replace	PDCs 154, 155 and 156	Attachment 3	No	No

ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
Rural one					
5	Insert	After Objective 3	Attachment 5	Yes	No
6	Insert	After the fifth paragraph of the explanatory text associated with the Objectives	Attachment 6	No	No
7	Replace	PDC 1	Development other than that associated with farming or mining activities or wind farms and ancillary development, should not be undertaken.	No	No
8	Insert	After PDC 2	Attachment 7	Yes	No
9	Insert	After 'Intensive animal keeping…' in PDC 11	Attachment 8	No	No
TABLES					
Amendments required (Yes/No): No					
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: District Council of Coober Pedy

Name of Development Plan: Coober Pedy (DC)

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Coober Pedy (DC) Development Plan** consolidated on **15 March 2012 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Objectives 43 and 44 and PDCs 121, 122 and 123	Attachment 1	No	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): No					
TABLES					
Amendments required (Yes/No): No					
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: Coorong District Council

Name of Development Plan: The Coorong District Council

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **The Coorong District Council (DC) Development Plan** consolidated on **22 December 2011 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Renewable Energy Facilities Objectives and PDCs	Attachment 1	No	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
Primary Production one					
2	Insert	After Objective 3	Attachment 5	Yes	No
3	Insert	After the fourth paragraph of the statement of Desired Character	Attachment 6	No	No
4	Insert	After 'built form' in the fifth paragraph of the statement of Desired Character	, unless required to facilitate the development of wind farms,	No	No
5	Insert	At end of PDC 1	• wind farm and ancillary development • wind monitoring mast and ancillary development	No	No
6	Insert	After PDC 2	Attachment 7	Yes	No

7	Replace	PDC 11	Buildings should be setback: (a) no less than 50 metres to any public road (b) no less than 100 metres where the site of the development is adjacent to an arterial road unless required to facilitate the development of wind farms and ancillary development.	No	No
8	Insert	After 'Tourist accommodation' in the column titled 'Category 2'	Attachment 8	No	No
TABLES					
Amendments required (Yes/No): No					
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: District Council of the Copper Coast

Name of Development Plan: Copper Coast (DC)

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Copper Coast (DC) Development Plan** consolidated on **10 November 2011 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Renewable Energy Objectives and PDCs	Attachment 1	No	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
General Farming one					
2	Insert	After Objective 3	Attachment 5	Yes	No
3	Insert	After the fifth paragraph of the explanatory text associated with the zone objectives	Attachment 6	No	No
4	Insert	After PDC 1	Attachment 7	Yes	No
5	Insert	After 'Land division' in PDC 15	Attachment 8	No	No
TABLES					
Amendments required (Yes/No): No					
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: District Council of Elliston

Name of Development Plan: Elliston (DC)

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Elliston (DC) Development Plan** consolidated on **1 December 2011 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Insert	After part (d) of PDC 15	New part (e): 'the subject development is in the form of wind farms and ancillary development'	No	No
2	Replace	Explanatory text following the heading 'Renewable Energy', Objectives 78, 79 and 80 and PDCs 267, 268 and 269	Attachment 1	No	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
Primary Industry one					
3	Insert	After Objective 1	Attachment 4	Yes	No
4	Insert	After PDC 1	Attachment 7	Yes	No
5	Insert	After 'Tourist accommodation associated with existing farming properties' in PDC 57	Attachment 8	No	No
Water Protection one					
6	Insert	After Objective 3	Attachment 5	No	No
7	Insert	After second paragraph of explanatory text following objectives	Attachment 6	No	No
8	Insert	After PDC 3	Attachment 7	Yes	No
9	Insert	After PDC 12	Attachment 11	No	No

TABLES					
Amendments required (Yes/No): Yes					
Table EII/5 – Building Set-backs					
10	Insert	After '50 metres' in relation to 'All roads within the Primary Industry, and Coastal Zones'	except wind farms and ancillary development	No	No
11	Insert	After '50 metres' in relation to 'Boundary of Flinders Highway and Todd Highway'	except wind farms and ancillary development	No	No
12	Insert	After '100 metres' in relation to 'High Water Mark or top of a sea cliff within the Primary Industry, Coastal and Conservation Zones'	except wind farms and ancillary development	No	No
13	Insert	After '100 metres' in relation to 'High Water Mark or top of a sea cliff outside of the Primary Industry and Coastal Zones'	except wind farms and ancillary development	No	No
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: The Flinders Ranges Council

Name of Development Plan: The Flinders Ranges Council

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **The Flinders Ranges Council Development Plan** consolidated on **8 March 2012 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Renewable Energy Facilities Objectives and PDCs	Attachment 1	No	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
Primary Production one					
2	Insert	After Objective 3	Attachment 5	Yes	No
3	Insert	After the second paragraph of the statement of Desired Character	Attachment 6	No	No
4	Insert	At end of PDC 1	• wind farm and ancillary development • wind monitoring mast and ancillary development	No	No
5	Insert	After PDC 2	Attachment 7	Yes	No
6	Insert	After '2008' beneath the heading 'Public Notification'	Attachment 9	No	No

TABLES					
Amendments required (Yes/No): Yes					
Table FIR/1 – Building Setbacks from Road Boundaries					
7	Insert	After '30 metres' in relation to 'Any road boundary lying within the Primary Production, Rural Landscape Protection and Rural Living Zones'	except for wind farms and ancillary development	No	No
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: District Council of Franklin Harbour

Name of Development Plan: Franklin Harbour (DC)

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Franklin Harbour (DC) Development Plan** consolidated on **12 January 2012 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Insert	After the explanatory text associated with Objective 70	Attachment 2	No	No
2	Insert	New part (e) in PDC 109	the subject development is in the form of wind farms and ancillary development	No	No
3	Insert	After PDC 170	Attachment 3	Yes	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
Rural one					
4	Insert	After Objective 2	Attachment 5	Yes	No
5	Insert	After the second paragraph of the statement of Desired Character	Attachment 6	No	No
6	Insert	After PDC 1	Attachment 7	Yes	No
7	Replace	PDC 14	Buildings (except wind turbines and ancillary structures) should be set-back at least: (a) 200 metres from Lincoln Highway, Kimba Road and Cleve Road; and (b) 50 metres from all other roads.	No	No
8	Insert	After 'Grain storage and handling facilities' in PDC 18	Attachment 8	No	No

TABLES
Amendments required (Yes/No): No
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)
Amendments required (Yes/No): No

Amendment Instructions Table

Name of Local Government Area: Town of Gawler

Name of Development Plan: Gawler (CT)

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Gawler (CT) Development Plan** consolidated on **17 May 2012 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Objectives 65, 66 and 67 and PDCs 186, 187, 188 and 189	Attachment 1	No	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): No					
TABLES					
Amendments required (Yes/No): No					
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: Regional Council of Goyder

Name of Development Plan: Goyder Council

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Goyder Council Development Plan** consolidated on **23 February 2012 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Renewable Energy Facilities Objectives and PDCs	Attachment 1	No	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
Primary Production one					
2	Insert	After Objective 3	Attachment 5	Yes	No
3	Insert	After the first paragraph of the statement of Desired Character	Attachment 6	No	No
4	Insert	At end of PDC 1	• wind farm and ancillary development • wind monitoring mast and ancillary development	No	No
5	Insert	After PDC 3	Attachment 7	Yes	No
6	Insert	After the entry for tourist accommodation in the column titled 'Category 2'	Attachment 8	No	No
Primary Production one Enterprise Policy Area 2					
7	Insert	At end of PDC 1	• wind farm and ancillary development • wind monitoring mast and ancillary development	No	No

TABLES
Amendments required (Yes/No): No
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)
Amendments required (Yes/No): No

Amendment Instructions Table

Name of Local Government Area: District Council of Grant

Name of Development Plan: Grant (DC)

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Grant (DC) Development Plan** consolidated on **10 November 2011 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Objectives 44 and 45	Attachment 2	No	No
2	Replace	PDCs 197, 198 and 199	Attachment 3	No	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
Primary Industry one					
3	Insert	After explanatory text associated with Objective 1	Attachment 4	No	No
4	Insert	After PDC 1	Attachment 7	Yes	Yes – update cross ref in PDCs 6 & 7
5	Insert	After 'Horticulture (in the form of olive growing) in PDC 31	Attachment 8	No	No
Horticulture one					
6	Insert	After explanatory text associated with Objective 1	Attachment 4	No	No
7	Insert	After PDC 2	Attachment 7	Yes	No
8	Insert	After 'Horticulture (in the form of olive growing)' in PDC 12	Attachment 8	No	No

TABLES					
Amendments required (Yes/No): Yes					
Table Gra/2 – Building Set-backs					
9	Insert	After '50 metres' in relation to 'All roads, within the Primary Industry Zone, shown on Maps Gra/3 to 38'	except for wind farms and ancillary development	No	No
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: Kangaroo Island Council

Name of Development Plan: Kangaroo Island Council

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Kangaroo Island Council Development Plan** consolidated on **22 December 2011 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Renewable Energy Facilities Objectives and PDCs	Attachment 1	No	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
Primary Production one					
2	Insert	After Objective 3	Attachment 5	Yes	No
3	Insert	After the third paragraph of the statement of Desired Character	Attachment 6	No	No
4	Insert	At end of PDC 1	• wind farm and ancillary development • wind monitoring mast and ancillary development	No	No
5	Insert	After PDC 2	Attachment 7	Yes	No
6	Insert	After the entry for tourist accommodation in the column titled 'Category 2'	Attachment 8	No	No
Water Protection one					
7	Insert	After Objective 3	Attachment 5	Yes	No
8	Insert	After the third paragraph of the statement of Desired Character	Attachment 6	No	No

9	Insert	At end of PDC 1	• wind farm and ancillary development • wind monitoring mast and ancillary development	No	No
10	Insert	After PDC 2	Attachment 7	Yes	No
11	Insert	After '2008' beneath the heading 'Public Notification'	Attachment 9	No	No
TABLES					
Amendments required (Yes/No): Yes					
Table KI/3 – Building Setbacks from Road Boundaries					
12	Insert	After '100' in relation to the entry for 'Country road boundary…'	except for wind farms and ancillary development	No	No
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: District Council of Karoonda East Murray

Name of Development Plan: Karoonda East Murray (DC)

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Karoonda East Murray (DC) Development Plan** consolidated on **17 May 2012 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Objectives 39 and 40	Attachment 2	No	No
2	Replace	PDCs 104, 105 and 106	Attachment 3	Yes	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
General Farming one					
3	Insert	After the explanatory text associated with Objective 2	Attachment 4	Yes	No
4	Insert	After PDC 3	Attachment 7	Yes	No
5	Replace	PDC 18	New building development should be located and landscaped to harmonise with the rural landscape. All such development should be set-back at least 50 metres from secondary arterial roads, accepting that wind farms and ancillary development may need to be located closer to road boundaries.	No	No

TABLES					
Amendments required (Yes/No): Yes					
Table KEM/3 – Building Setbacks					
6	Insert	After "50 metres' in relation to the 'General Farming and Rural Living Zones…'	except for wind farms and ancillary development	No	No
Table KEM/4 – Public Notice Categories					
7	Replace	Item 3 in relation to Category 2 Development	Within the General Farming Zone, wind farms and ancillary development such as substations, maintenance sheds, access roads and connecting power-lines (including to the National Electricity Grid) where the base of all wind turbines is located at least 2000 metres from: (a) an existing dwelling or tourist accommodation that is not associated with the wind farm (b) a proposed dwelling or tourist accommodation for which an operable development plan consent exists (c) the boundaries of any Airfield, Airport, Centre, Community, Fringe, Historic Conservation, Home Industry, Living, Mixed Use, Residential, Settlement, Tourist, Township or Urban Zone, Policy Area or Precinct or any Heritage Area (including within the area of an adjoining Development Plan)		
8	Insert	New Item 4 in relation to Category 2 Development	Within the General Farming Zone, wind monitoring mast and ancillary development	No	No
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: District Council of Kimba

Name of Development Plan: Kimba Council

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Kimba Council Development Plan** consolidated on **1 March 2012 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Renewable Energy Facilities Objectives and PDCs	Attachment 1	No	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
Primary Production one					
2	Insert	After Objective 3	Attachment 5	Yes	No
3	Insert	After the first paragraph of the statement of Desired Character	Attachment 6	No	No
4	Insert	At end of PDC 1	• wind farm and ancillary development • wind monitoring mast and ancillary development	No	No
5	Insert	After PDC 2	Attachment 7	Yes	No
6	Insert	After 'Tourist accommodation' in the column titled 'Category 2'	Attachment 8	No	No
TABLES					
Amendments required (Yes/No): No					
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: Kingston District Council

Name of Development Plan: Kingston District Council

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Kingston District Council Development Plan** consolidated on **1 March 2012 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Renewable Energy Facilities Objectives and PDCs	Attachment 1	No	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
Primary Production one					
2	Insert	After Objective 3	Attachment 5	Yes	No
3	Insert	After the fifth paragraph of the statement of Desired Character	Attachment 6	No	No
4	Insert	At end of PDC 1	• wind farm and ancillary development • wind monitoring mast and ancillary development	No	No
5	Insert	After PDC 2	Attachment 7	Yes	No
6	Insert	After 'tourist accommodation associated with existing farming properties' in the column titled 'Category 2'	Attachment 8	No	No
TABLES					
Amendments required (Yes/No): No					
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: N/A

Name of Development Plan: Land Not Within a Council Area (Coastal Waters)

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Land Not Within a Council Area (Coastal Waters) Development Plan** consolidated on **8 March 2012 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COASTAL WATERS PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Objectives 38 and 39	Attachment 2	No	No
2	Replace	PDCs 53, 54 and 55	Attachment 3	No	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): No					
TABLES					
Amendments required (Yes/No): No					
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: N/A

Name of Development Plan: Land Not Within a Council Area (Eyre, Far North, Riverland and Whyalla)

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Land Not Within a Council Area (Eyre, Far North, Riverland and Whyalla) Development Plan** consolidated on **15 March 2012 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment and approval of the Roxby Downs and Environs DPA**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Renewable Energy Facilities Objectives and PDCs	Attachment 1	No	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
Remote Areas one					
2	Insert	After Objective 6	Attachment 5	Yes	No
3	Insert	After ninth paragraph of statement of Desired Character	Attachment 6	No	No
4	Insert	At end of PDC 1	• wind farm and ancillary development • wind monitoring mast and ancillary development	No	No
5	Insert	After PDC 2	Attachment 7	Yes	No
6	Replace	The entry for 'Wind farms or wind monitoring masts…' In the column titled 'Category 2'	Attachment 8	No	No
TABLES					
Amendments required (Yes/No): No					
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: N/A

Name of Development Plan: Land Not Within a Council Area (Flinders)

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Land Not Within a Council Area (Flinders) Development Plan** consolidated on **15 March 2012 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
FLINDERS PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): No					
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Insert	After the explanatory text associated with Objective 30	Attachment 2	No	No
2	Replace	PDCs 89, 90 and 91	Attachment 3	No	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
Pastoral one					
3	Insert	After Objective 2	Attachment 4	No	No
4	Insert	After PDC 1	Attachment 7	Yes	No
5	Insert	After PDC 3	Attachment LNWCAF1	No	No
TABLES					
Amendments required (Yes/No): No					
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: N/A

Name of Development Plan: Land Not Within a Council Area (Metropolitan)

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Land Not Within a Council Area (Metropolitan) Development Plan** consolidated on **8 March 2012 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
METROPOLITAN ADELAIDE PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): No					
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Objectives 24 and 25	Attachment 2	No	No
2	Replace	PDCs 111, 112 and 113	Attachment 3	No	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
Public Purpose (Power Station) one					
3	Insert	After Objective 2	Attachment 4	Yes	No
4	Insert	After PDC 2	Attachment 7	Yes	No
5	Insert	After PDC 6	Attachment LNWCAM1	No	No
TABLES					
Amendments required (Yes/No): No					
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: Light Regional Council

Name of Development Plan: Light Regional Council

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Light Regional Council Development Plan** consolidated on **12 April 2012 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Objectives 12 and 13	Attachment 2	No	No
2	Insert	After 'areas' in PDC 259	'unless required to facilitate the development of wind farms and ancillary development:'	No	No
3	Replace	PDCs 307, 308 and 309	Attachment 3	Yes	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
Primary Industry one					
4	Replace	Objective 2	Attachment 12	No	No
5	Replace	Explanatory text following Objective 2	Attachment 13	No	No
6	Replace	PDC 2	Attachment 14	No	No
7	Delete	Text following part (e) of PDC 25		No	No
8	Insert	Alphabetically in PDC 33 part (i) (Non-complying development)	Attachment 15	No	No
9	Insert	Alphabetically in PDC 34	Attachment 16	No	No

Primary Industry (Barossa Valley Region) one					
10	Insert	Alphabetically in PDC 14	Wind turbine where the turbine generates power to be used wholly for activities to be located on the property upon which the turbine is situated and the turbine does not exceed 10 metres in height	No	No
Fringe (Marananga) one					
11	Insert	Alphabetically in PDC 7 (Non-complying development)	Wind farm other than where the turbine generates power to be used wholly for activities located on the property upon which the turbine is situated and the turbine does not exceed 10 metres in height	No	No
Fringe (Seppeltsfield) one					
12	Insert	Alphabetically in PDC 12 (Non-complying development)	Wind farm other than where the turbine generates power to be used wholly for activities located on the property upon which the turbine is situated and the turbine does not exceed 10 metres in height	No	No
TABLES					
Amendments required (Yes/No): No					
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: District Council of Lower Eyre Peninsula

Name of Development Plan: Lower Eyre Peninsula (DC)

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Lower Eyre Peninsula (DC) Development Plan** consolidated on **24 November 2011 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	After explanatory text following Objective 66	Attachment 2	No	No
2	Replace	PDCs 167, 168 and 169	Attachment 3	No	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
General Farming one					
3	Insert	After Objective 2	Attachment 4	No	No
4	Insert	After PDC 1	Attachment 7	Yes	No
5	Replace	PDC 10	Buildings and structures should be setback a minimum of 50 metres from all roads, other than buildings and structures associated with intensive animal keeping which should be sited in accordance with the requirements of Zone Principle 9, accepting that wind farms and ancillary development may need to be located closer to road boundaries.	No	No
6	Insert	After 'Horticulture' in PDC 29	Attachment 8	No	No

Water Protection one					
7	Insert	After Objective 8	Attachment 4	No	No
8	Insert	After PDC 3	Attachment 7	Yes	No
9	Insert	After 'Horticulture' in PDC 23	Attachment 8	No	No
TABLES					
Amendments required (Yes/No): No					
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: District Council of Loxton Waikerie

Name of Development Plan: Loxton Waikerie Council

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Loxton Waikerie Council Development Plan** consolidated on **1 December 2011**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Delete	Design and Appearance Objective 3		No	No
2	Delete	Design and Appearance PDC 3		Yes	No
3	Replace	Design and Appearance PDC 22(c)	not result in or contribute to a detrimental impact upon the function, appearance or character of the locality.	No	No
4	Replace	Infrastructure Objective 4	The visual impact of infrastructure facilities minimised.	No	No
5	Delete	Infrastructure PDC 8		Yes	No
6	Delete	Interface between Land Uses Objective 3		No	No
7	Delete	Interface between Land Uses PDC 3		Yes	No
8	Delete	Natural Resources PDC 2		Yes	No
9	Replace	Orderly and Sustainable Development PDC 2	Land outside of townships and settlements should primarily be used for primary production and conservation purposes.	No	No
10	Replace	Renewable Energy Facilities Objectives and PDCs	Attachment 1	Yes	No

11	Insert	At end of new Renewable Energy Facilities PDCs	Development should generate and make use of renewable energy sources, such as one or more of the following: (a) solar power (b) wind energy (c) hot rocks (d) other emerging technologies.	No	No
12	Delete	Siting and Visibility Objective 3		No	No
13	Replace	Siting and Visibility PDC 6	The number of buildings and structures on land outside of urban areas should be limited to that necessary for the efficient management of the land.	No	No
14	Delete	Sloping Land Objective 2		No	No
15	Delete	Sloping Land PDC 3		Yes	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
Primary Production one					
16	Replace	Objective 4	Attachment 5	No	No
17	Delete	Explanatory text associated with Objective 4		No	No
18	Insert	After final paragraph of statement of Desired Character	Attachment 6	No	No
19	Insert	After 'wind farms and ancillary development' in PDC 1	• wind monitoring mast and ancillary development	No	No
20	Replace	PDC 3	Attachment 7	No	No
21	Replace	The entry for 'wind farms or wind monitoring masts, and ancillary development…' in the column titled 'Category 2'	Attachment 8	No	No
Primary Production one Horticulture Policy Area 1					
22	Delete	Objective 4 and associated explanatory text		Yes	No
23	Insert	After 'wind farms and ancillary development' in PDC 1	• wind monitoring mast and ancillary development	No	No
24	Delete	PDC 2		Yes	No
River Murray Flood					
25	Delete	Objective 7 and associated explanatory text		No	No
26	Delete	'wind farms and ancillary development' from PDC 1		No	No
27	Delete	PDC 3		Yes	No
28	Delete	The entry for 'Wind farms or wind monitoring masts, and ancillary development…' from the column titled 'Category 2'		No	No
River Murray Fringe					
29	Delete	Objective 5 and associated explanatory text		Yes	No

30	Delete	'wind farms and ancillary development' from PDC 1		No	No
31	Delete	PDC 3		Yes	No
32	Delete	The entry for 'Wind farms or wind monitoring masts, and ancillary development…' from the column titled 'Category 2'		No	No
TABLES					
Amendments required (Yes/No): Yes					
Table LoWa/1 – Building Setbacks from Road Boundaries					
33	Insert	After '12' in relation to 'All buildings sited adjacent to other arterial roads' and 'All buildings sited adjacent to other rural roads'	except for wind farms and ancillary development	No	No
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: District Council of Mallala

Name of Development Plan: Mallala (DC)

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Mallala (DC) Development Plan** consolidated on **22 March 2012 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
OUTER METROPOLITAN (including figures and illustrations contained in the text)					
Amendments Required (Yes/No): No					
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Objectives 84 and 85	Attachment 2	Yes	No
2	Replace	PDC 207(a)	at least 50 metres from the road boundary of the Port Wakefield Road outside defined township and settlement zones, unless required to facilitate the development of wind farms and ancillary development	No	No
3	Replace	PDCs 316, 317 and 318	Attachment 3	Yes	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
General Farming one					
4	Insert	After Objective 1	Attachment 5	Yes	No
5	Insert	After second paragraph of statement of Desired Character	Attachment 6	No	No
6	Insert	After PDC 1	Attachment 7	Yes	No
7	Insert	After the entry for Horticulture in PDC 21	Attachment 8	No	No

Horticulture one					
8	Insert	After Objective 2	Attachment 4	Yes	No
9	Insert	After PDC 1	Attachment 7	Yes	No
10	Insert	After the entry for Light Industry in PDC 21	Attachment 8	No	No
TABLES					
Amendments required (Yes/No): No					
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: Mid Murray Council

Name of Development Plan: Mid Murray Council

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Mid Murray Council Development Plan** consolidated on **19 April 2012 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment and approval of the River Murray Zone Minor Amendments DPA**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Objectives 97 and 98	Attachment 2	Yes	No
2	Replace	PDC 81(a)	be similar to, or compatible with, setbacks of buildings on adjoining land and other buildings in the locality, accepting that wind farms and ancillary development may need to be located closer to road boundaries;	No	No
3	Replace	PDCs 400, 401 and 402	Attachment 3	Yes	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
Flood Plain Policy Area of the River Murray one					
3	Delete	'wind farms and ancillary development' from the list of acceptable forms of development in the statement of Desired Character		No	No
Rural one					
4	Insert	After the first paragraph of the statement of Desired Character	Attachment 13	No	No

5	Insert	Alphabetically in the list of acceptable forms of development in the statement of Desired Character	• wind farm and ancillary development outside of the Barossa Valley Character Preservation District • wind monitoring mast and ancillary development outside of the Barossa Valley Character Preservation District	No	No
6	Insert	After Objective 1	Attachment 12	Yes	No
7	Insert	After PDC 23	Attachment 14	Yes	No
8	Insert	Alphabetically in PDC 44 (Non-complying development)	Attachment 15		
9	Insert	Alphabetically in PDC 46	Attachment 16	No	No
(Mid Murray) Enterprise one					
10	Insert	After the sixth paragraph of the statement of Desired Character	Attachment 6		
11	Insert	Alphabetically in the list of acceptable forms of development in the statement of Desired Character	• wind farm and ancillary development • wind monitoring mast	No	No
12	Insert	After Objective 4	Attachment 5	Yes	No
13	Insert	After PDC 24	Attachment 7	Yes	No
14	Insert	New PDC after PDC 38	Attachment MiMu1	No	No
TABLES					
Amendments required (Yes/No): No					
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: District Council of Mount Barker

Name of Development Plan: Mount Barker (DC)

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Mount Barker (DC) Development Plan** consolidated on **7 June 2012 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Objectives 90 and 91	Attachment 2	Yes	No
2	Replace	PDCs 359, 360 and 361	Attachment 3	Yes	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): No					
TABLES					
Amendments required (Yes/No): No					
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: District Council of Mount Remarkable

Name of Development Plan: Mount Remarkable (DC)

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Mount Remarkable (DC) Development Plan** consolidated on **22 March 2012 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	PDC 35	No buildings should be erected within a Rural, Coastal or Ranges Zone nearer than 30 metres to the boundary of a primary, secondary or scenic road unless: (a) the set-back is consistent with existing buildings; (b) site conditions provide effective screening; and (c) no suitable alternative site exists; or (d) to facilitate the development of wind farms and ancillary development.	No	No
2	Replace	Objectives 85 and 86	Attachment 2	Yes	No
3	Replace	PDCs 273, 274 and 275	Attachment 3	Yes	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
Rural one					
4	Insert	After the explanatory text associated with Objective 3	Attachment 4	Yes	No
5	Insert	After PDC 1	Attachment 7	Yes	No
6	Insert	After the entry related to 'Tourist accommodation other than Bed and Breakfast…' in PDC 20	Attachment 8	No	No

TABLES
Amendments required (Yes/No): No
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)
Amendments required (Yes/No): No

Amendment Instructions Table

Name of Local Government Area: City of Murray Bridge

Name of Development Plan: Murray Bridge Council

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Murray Bridge Council Development Plan** consolidated on **27 October 2011 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Renewable Energy Facilities Objectives and PDCs	Attachment 1	No	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
Primary Production one					
2	Insert	After Objective 3	Attachment 5	Yes	No
3	Insert	After the first paragraph of the statement of Desired Character	Attachment 6	No	No
4	Insert	At the end of PDC 1	• wind farm and ancillary development • wind monitoring mast and ancillary development	No	No
5	Insert	After PDC 2	Attachment 7	Yes	No
6	Insert	After 'Processing, packing and storage facilities associated with primary production' in the column titled 'Category 2'	Attachment 8	No	No
TABLES					
Amendments required (Yes/No): No					
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: Naracoorte Lucindale Council

Name of Development Plan: Naracoorte Lucindale Council

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Naracoorte Lucindale Council Development Plan** consolidated on **16 February 2012 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Renewable Energy Facilities Objectives and PDCs	Attachment 1	No	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
Primary Production one					
2	Insert	After Objective 3	Attachment 5	Yes	No
3	Insert	After the final paragraph of the statement of Desired Character	Attachment 6	No	No
4	Insert	At the end of PDC 1	• wind farm and ancillary development • wind monitoring mast and ancillary development	No	No
5	Insert	After PDC 2	Attachment 7	Yes	No
6	Insert	After 'Tourist accommodation' in the column titled 'Category 2'	Attachment 8	No	No
TABLES					
Amendments required (Yes/No): No					
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: Northern Areas Council

Name of Development Plan: Northern Areas Council

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Northern Areas Council Development Plan** consolidated on **9 February 2012 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Renewable Energy Facilities Objectives and PDCs	Attachment 1	No	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
Primary Production one					
2	Insert	After Objective 6	Attachment 5	Yes	No
3	Insert	After the final paragraph of the statement of Desired Character	Attachment 6	No	No
4	Insert	At the end of PDC 1	• wind farm and ancillary development • wind monitoring mast and ancillary development	No	No
5	Insert	After PDC 2	Attachment 7	Yes	No
6	Insert	After 'Tourist accommodation' in the column titled 'Category 2'	Attachment 8	No	No
TABLES					
Amendments required (Yes/No): Yes					
Table NtA/1 – Building Setbacks from Road Boundaries					
7	Insert	After '50 metres' in relation to 'Where it is located within the following zones:	except for wind farms and ancillary development	No	No

		(a) Primary Production Zone (excluding Township Fringe Policy Area 2) (b) Rural Landscape Protection Zone			
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: City of Onkaparinga

Name of Development Plan: Onkaparinga (City)

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Onkaparinga (City) Development Plan** consolidated on **20 September 2012 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Renewable Energy Facilities Objectives and PDCs	Attachment 1	No	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
Hills Face one					
2	Insert	Alphabetically in PDC 28 (Non-complying Development)	Wind farm except where the turbine generates power to be used wholly for activities to be located on the property upon which the turbine is situated and the turbine does not exceed 10 metres in height Wind monitoring mast	No	No
Historic (Conservation (Clarendon) one					
3	Insert	Alphabetically in PDC 10 (Non-complying Development)	Wind farm except where the turbine generates power to be used wholly for activities to be located on the property upon which the turbine is situated and the turbine does not exceed 10 metres in height Wind monitoring mast	No	No

MOSS (Environment) one					
4	Insert	Alphabetically in PDC 19 (Non-complying Development)	Wind farm except where the turbine generates power to be used wholly for activities to be located on the property upon which the turbine is situated and the turbine does not exceed 10 metres in height Wind monitoring mast	No	No
MOSS (Rural) one					
5	Insert	Alphabetically in PDC 17 (Non-complying Development)	Wind farm except where the turbine generates power to be used wholly for activities to be located on the property upon which the turbine is situated and the turbine does not exceed 10 metres in height Wind monitoring mast	No	No
MOSS (Seascape) one					
6	Insert	Alphabetically in PDC 22 (Non-complying Development)	Wind farm except where the turbine generates power to be used wholly for activities to be located on the property upon which the turbine is situated and the turbine does not exceed 10 metres in height Wind monitoring mast	No	No
Rural one					
7	Replace	Objective 2	The enhancement of the rural character, key scenic routes, scenic surrounds to townships, amenity and prominent landscapes for the enjoyment of residents and visitors.	No	No
8	Delete	Objective 3		Yes	No
9	Replace	PDC 1	Development within the zone should be compatible with its use as a water catchment and storage area, and with its values as an area of agricultural production and scenic quality.	No	No
10	Replace	PDC 8	Buildings should not impair the character of rural areas by reason of their scale or siting.	No	No
11	Delete	PDC 12		Yes	No
12	Delete	Text following part (d) of PDC 17		No	No
13	Delete	Text following part (c) of PDC 18		No	No
14	Replace	PDC 42	Visually prominent structures associated with agricultural activities and intensive animal keeping should not be developed on exposed land and on scenic routes.	No	No
15	Replace	PDC 46	The appearance of land, buildings and objects should not impair the amenity of the locality in which they are situated.	No	No

16	Replace	PDC 49	Buildings or structures should be sited unobtrusively and be of a character and design which will harmonise with the landscape.		
17	Insert	Alphabetically in the list of non-complying kinds of development in that part of the Rural Zone outside the Watershed Policy Area, the Primary Production Policy Area and the Yaroona Policy Area in PDC 93	Wind farm except where the turbine generates power to be used wholly for activities to be located on the property upon which the turbine is situated and the turbine does not exceed 10 metres in height Wind monitoring mast	No	No
18	Insert	Alphabetically in the list of developments excepted from non-complying designation in the Watershed Policy Area of the Rural Zone in PDC 93	Wind turbine where the turbine generates power to be used wholly for activities to be located on the property upon which the turbine is situated and the turbine does not exceed 10 metres in height	No	No
19	Insert	Alphabetically in the list of developments excepted from non-complying designation in the Primary Production Policy Area and the Yaroona Policy Area of the Rural Zone in PDC 93	Wind turbine where the turbine generates power to be used wholly for activities to be located on the property upon which the turbine is situated and the turbine does not exceed 10 metres in height	No	No
Rural (Environment) one					
21	Insert	Alphabetically in PDC 6 (Non-complying Development)	Wind farm except where the turbine generates power to be used wholly for activities to be located on the property upon which the turbine is situated and the turbine does not exceed 10 metres in height Wind monitoring mast	No	No
TABLES					
Amendments required (Yes/No): No					
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: District Council of Orroroo Carrieton

Name of Development Plan: Orroroo Carrieton Council

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Orroroo Carrieton Council Development Plan** consolidated on **10 May 2012 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Renewable Energy Facilities Objectives and PDCs	Attachment 1	No	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
Primary Production one					
2	Insert	After Objective 3	Attachment 5	Yes	No
3	Insert	After the final paragraph of the statement of Desired Character	Attachment 6	No	No
4	Insert	At the end of PDC 1	• wind farm and ancillary development • wind monitoring mast and ancillary development	No	No
5	Insert	After PDC 2	Attachment 7	Yes	No
6	Insert	In the column titled 'Category 2'	Attachment 8	No	No
TABLES					
Amendments required (Yes/No): Yes					
Table OrCar/1 – Building Setbacks from Road Boundaries					
7	Insert	After '30 metres' in relation to 'Any road boundary lying within the Primary Production Zone'	except for wind farms and ancillary development	No	No
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: District Council of Peterborough

Name of Development Plan: Peterborough Council

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Peterborough Council Development Plan** consolidated on **30 August as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Renewable Energy Facilities Objectives and PDCs	Attachment 1	No	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
Primary Production one					
2	Insert	After Objective 3	Attachment 5	Yes	No
3	Insert	After the final paragraph of the statement of Desired Character	Attachment 6	No	No
4	Insert	At the end of PDC 1	• wind farm and ancillary development • wind monitoring mast and ancillary development	No	No
5	Insert	After PDC 2	Attachment 7	Yes	No
6	Insert	After '2008' beneath the heading 'Public Notification'	Attachment 9	No	No

TABLES					
Amendments required (Yes/No): Yes					
Table Pet/1 – Building Setbacks from Road Boundaries					
7	Insert	After '30 metres' in relation to 'Any road boundary lying within the Conservation, Primary Production and Rural Living Zones'	except for wind farms and ancillary development	No	No
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: City of Playford

Name of Development Plan: Playford Council

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Playford Council Development Plan** consolidated on **5 April 2012 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Renewable Energy Facilities Objectives and PDCs	Attachment 1	No	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): No					
TABLES					
Amendments required (Yes/No): No					
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: Port Augusta City Council

Name of Development Plan: Port Augusta (City)

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Port Augusta (City) Development Plan** consolidated on **1 March 2012 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Objectives 95 and 96	Attachment 2	Yes	No
2	Replace	PDCs 324, 325 and 326	Attachment 3	Yes	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
Primary Industry one					
3	Insert	After Objective 3	Attachment 5	Yes	No
4	Insert	After third paragraph of statement of Desired Character	Attachment 6	No	No
5	Insert	At the end of PDC 1	• wind farm and ancillary development • wind monitoring mast and ancillary development	No	No
6	Insert	After PDC 1	Attachment 7	Yes	No
7	Insert	After '2008' in PDC 20	Attachment 10	No	No
Defence one					
8	Insert	After Objective 2	Attachment 4	No	No
9	Insert	After PDC 1	Attachment 7	Yes	No
10	Insert	After '2008" in PDC 10	Attachment 10	No	No
TABLES					
Amendments required (Yes/No): No					
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: City of Port Lincoln

Name of Development Plan: Port Lincoln Council

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Port Lincoln Council Development Plan** consolidated on **24 May 2012 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Renewable Energy Facilities Objectives and PDCs	Attachment 1	No	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): No					
TABLES					
Amendments required (Yes/No): No					
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: Port Pirie Regional Council

Name of Development Plan: Port Pirie (RC)

Name of DPA: Statewide Wind Farms

The following amendment instructions (at the time of drafting) relate to the Port Pirie (RC) ***Development Plan*** *consolidated on* ***12 January 2012 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment****. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Objectives 105 and 106	Attachment 2	Yes	No
2	Replace	PDCs 392, 393 and 394	Attachment 3	Yes	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
General Farming one					
3	Insert	After Objective 4	Attachment 5	Yes	No
4	Insert	After the fourth paragraph of the statement of Desired Character	Attachment 6	No	No
5	Insert	At the end of PDC 1	• wind farm and ancillary development • wind monitoring mast and ancillary development	No	No
6	Insert	After PDC 2	Attachment 7	Yes	No
7	Insert	After 'Value adding agricultural industry and warehousing' in PDC 15	Attachment 8	No	No
TABLES					
Amendments required (Yes/No): No					
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: Renmark Paringa Council

Name of Development Plan: Renmark Paringa Council

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Renmark Paringa Council Development Plan** consolidated on **1 December 2011**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Delete	Design and Appearance Objective 3		No	No
2	Delete	Design and Appearance PDC 3		Yes	No
3	Replace	Design and Appearance PDC 22(c)	not result in or contribute to a detrimental impact upon the function, appearance or character of the locality.	No	No
4	Replace	Infrastructure Objective 4	The visual impact of infrastructure facilities minimised.	No	No
5	Delete	Infrastructure PDC 8		Yes	No
6	Delete	Interface between Land Uses Objective 3		No	No
7	Delete	Interface between Land Uses PDC 3		Yes	No
8	Delete	Natural Resources PDC 2		Yes	No
9	Replace	Orderly and Sustainable Development PDC 2	Land outside of townships and settlements should primarily be used for primary production and conservation purposes.	No	No
10	Replace	Renewable Energy Facilities Objectives and PDCs	Attachment 1	Yes	No
11	Delete	Siting and Visibility Objective 3		No	No

12	Replace	Siting and Visibility PDC 6	The number of buildings and structures on land outside of urban areas should be limited to that necessary for the efficient management of the land.	No	No
13	Delete	Sloping Land Objective 2		No	No
14	Delete	Sloping Land PDC 3		Yes	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
Primary Production one					
15	Replace	Objective 4	Attachment 5	No	No
16	Delete	Explanatory text associated with Objective 5		No	No
17	Insert	After the final paragraph in the statement of Desired Character	Attachment 6	No	No
18	Insert	At the end of PDC 1	• wind monitoring mast and ancillary development	No	No
19	Replace	PDC 3	Attachment 7	No	No
20	Replace	The entry for 'wind farms or wind monitoring masts, and ancillary development…" in the column titled 'Category 2'	Attachment 8	No	No
Primary Production one Horticulture Policy Area 4					
21	Delete	Objective 3		Yes	No
22	Delete	Fourth paragraph of statement of Desired Character		No	No
23	Insert	At the end of PDC 1	• wind monitoring mast and ancillary development	No	No
24	Delete	PDC 2		Yes	No
River Murray Flood one					
25	Delete	Objective 7 and associated explanatory text		Yes	No
26	Delete	'wind farms and ancillary development' from PDC 1		No	No
27	Delete	PDC 3		Yes	No
28	Delete	The entry for 'wind farms or wind monitoring masts, and ancillary development…" from the column titled 'Category 2'		No	No
River Murray Fringe one					
29	Delete	Objective 5 and associated explanatory text		Yes	No
30	Delete	'wind farms and ancillary development' from PDC 1		No	No
31	Delete	PDC 3		Yes	No
32	Delete	The entry for 'wind farms or wind monitoring masts, and ancillary development…" from the column titled 'Category 2'		No	No

TABLES					
Amendments required (Yes/No): Yes					
Table RePa/1					
33	Insert	After '12 metres' in relation to 'All buildings sited adjacent to other rural roads'	Except for wind farms and ancillary development	No	No
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: District Council of Robe

Name of Development Plan: Robe Council

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Robe Council Development Plan** consolidated on **10 November 2011**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Delete	Design and Appearance Objective 3		No	No
2	Delete	Design and Appearance PDC 3		Yes	No
3	Replace	Design and Appearance PDC 17(c)	not result in or contribute to a detrimental impact upon the function, appearance or character of the locality.	No	No
4	Replace	Infrastructure Objective 4	The visual impact of infrastructure facilities minimised.	No	No
5	Delete	Infrastructure PDC 9		Yes	No
6	Delete	Interface between Land Uses Objective 3		No	No
7	Delete	Interface between Land Uses PDC 3		Yes	No
8	Delete	Natural Resources PDC 2		Yes	No
9	Replace	Orderly and Sustainable Development PDC 2	Land outside of townships and settlements should primarily be used for primary production and conservation purposes.	No	No
10	Replace	Renewable Energy Facilities Objectives and PDCs	Attachment 1	No	No
11	Delete	Siting and Visibility Objective 2		No	No

12	Replace	Siting and Visibility PDC 6	The number of buildings and structures on land outside of urban areas should be limited to that necessary for the efficient management of the land.	No	No
13	Delete	Sloping Land Objective 2		No	No
14	Delete	Sloping Land PDC 3		Yes	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
Coastal Conservation one					
15	Delete	Objective 3 and associated explanatory text		Yes	No
16	Delete	'wind farms and ancillary development' from PDC 1		No	No
17	Delete	PDCs 3 and 4		Yes	No
18	Delete	The entry for 'wind farms or wind monitoring masts, and ancillary development…" from the column titled 'Category 2'		No	No
Coastal Open Space one					
19	Delete	Objective 5 and associated explanatory text		Yes	No
20	Delete	'wind farms and ancillary development' from PDC 1		No	No
21	Delete	PDCs 3 and 4		Yes	No
22	Delete	The entry for 'wind farms or wind monitoring masts, and ancillary development…' from the column titled 'Category 2'		No	No
Primary Production one					
23	Replace	Objective 5	Attachment 5	No	No
24	Delete	Explanatory text associated with Objective 5		No	No
25	Insert	After the final paragraph in the statement of Desired Character	Attachment 6	No	No
26	Insert	At the end of PDC 1	• wind monitoring mast and ancillary development	No	No
27	Replace	PDC 3	Attachment 7	No	No
28	Replace	The entry for 'wind farms or wind monitoring masts, and ancillary development…" in the column titled 'Category 2'	Attachment 8	No	No
TABLES					
Amendments required (Yes/No): Yes					
Table Ro/1 – Building Setbacks from Road Boundaries					
29	Replace	Table	Attachment Ro1	No	No
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: Roxby Council

Name of Development Plan: Roxby Downs (Municipality)

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Roxby Downs (Municipality) Development Plan** consolidated on **8 March 2012 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment and approval of the Roxby Downs and Environs DPA**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Objectives 35, 36 and 37	Attachment 2	No	No
2	Delete	PDCs 3 and 4		Yes	No
3	Replace	PDCs 195, 196 and 197	Attachment 3	No	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
Special Use one					
4	Delete	Objective 6		No	No
5	Delete	Explanatory text following Objective 6		No	No
6	Delete	PDCs 5 and 6		Yes	No
7	Delete	The entry for 'Wind farms or wind monitoring masts, and ancillary development…' from the column titled 'Category 2'		No	No
TABLES					
Amendments required (Yes/No): No					
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: Southern Mallee District Council

Name of Development Plan: Southern Mallee District Council

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Southern Mallee (DC) Development Plan** consolidated on **22 March 2012 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Objectives 38 and 39	Attachment 2	Yes	No
2	Replace	PDCs 149, 150 and 151	Attachment 3	Yes	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
General Farming one					
3	Insert	After the explanatory text following Objective 6	Attachment 4	No	No
4	Replace	PDC 2	The Zone should be retained for cropping and grazing, horticulture, intensive animal keeping in appropriate locations and wind farms and ancillary development.	No	No
5	Insert	After PDC 25	Attachment 7	Yes	No
6	Insert	After 'Tourist development (including host farms, bed and breakfast and cottage accommodation)' in PDC 60	Attachment 8	No	No

TABLES					
Amendments required (Yes/No): Yes					
Table SoMa/3					
7	Insert	After '50 metres' in relation to the General Farming Zone	except for wind farms and ancillary development	No	No
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: District Council of Streaky Bay

Name of Development Plan: Streaky Bay (DC)

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Streaky Bay (DC) Development Plan** consolidated on **15 December 2012 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	PDC 18	Buildings should not be erected, added to, or altered so that any portion of the building would be located nearer to the existing boundary of a road than the prescribed distance for each road or portion thereof in Table StB/4, unless a lesser difference would not cause interference to neighbouring properties or detract from the character or amenity of the locality, accepting that wind farms and ancillary development may need to be located closer to road boundaries.	No	No
2	Replace	Objectives 74 and 75 and PDCs 268, 269 and 270	Attachment 1	Yes	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
Primary Industry one					
3	Insert	After Objective 1	Attachment 4	Yes	No
4	Replace	PDC 3	Development not associated with farming, mining activities or wind farms should not be undertaken, unless such development is for: (a) the establishment of tourist	No	No

			accommodation facilities having a high standard of design and appearance, able to be served with necessary public utilities and makes adequate provision for car parking and suitable landscaping; (b) industrial purposes of a type not likely to detract from the amenity of a township area or cause disturbance to neighbours by its visual impact or generation of noise, smell, waste water, smoke or fumes.		
5	Insert	After PDC 3	Attachment 7	Yes	No
6	Insert	After 'Tourist accommodation associated with existing farming properties' in PDC 60	Attachment 8	No	No
Robinson Groundwater Basin Protection one					
7	Insert	After Objective 1	Attachment 4	Yes	No
8	Insert	After PDC 2	Attachment 7	Yes	No
9	Insert	After PDC 5	Attachment StB1	No	No
TABLES					
Amendments required (Yes/No): No					
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: Tatiara District Council

Name of Development Plan: Tatiara (DC)

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Tatiara (DC) Development Plan** consolidated on **22 March 2012 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Objectives 80 and 81	Attachment 2	Yes	No
2	Replace	PDCs 224, 225 and 226	Attachment 3	Yes	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
Primary Industry one					
3	Insert	After Objective 2	Attachment 4	Yes	No
4	Insert	After PDC 2	Attachment 7	Yes	No
5	Replace	'Wind Farm' and 'Wind Turbine' in PDC 52	Attachment 8	No	No
Water Protection one					
6	Insert	After Objective 2	Attachment 4	No	No
7	Insert	After PDC 2	Attachment 7	Yes	No
8	Insert	After PDC 13	Attachment 11	No	No
TABLES					
Amendments required (Yes/No): No					
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: District Council of Tumby Bay

Name of Development Plan: Tumby Bay (DC)

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Tumby Bay (DC) Development Plan** consolidated on **24 November 2011 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
EYRE REGIONAL PROVISIONS					
Amendments required (Yes/No): No					
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Objectives 81 and 82	Attachment 2	Yes	No
2	Replace	PDCs 264, 265 and 266	Attachment 3	Yes	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
General Farming one					
3	Insert	After Objective 3	Attachment 4	Yes	No
4	Insert	After PDC 1	Attachment 7	Yes	No
5	Insert	After PDC 13	Attachment TB1	No	No
Tod River Water Protection one					
6	Insert	After explanatory text following Objective 1	Attachment 4	No	No
7	Insert	After PDC 1	Attachment 7	Yes	No
8	Insert	After PDC 8	Attachment TB2	No	No
TABLES					
Amendments required (Yes/No): Yes					
9	Insert	After '30 metres' in Column 2 of Table TuB/2	unless required to facilitate the development of wind farms and ancillary development		
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: City of Victor Harbor

Name of Development Plan: Victor Harbor (City)

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Victor Harbor (City) Development Plan** consolidated on **3 November 2011 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Insert	After PDC 374	Attachment 1	Yes	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): No					
TABLES					
Amendments required (Yes/No): No					
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: Wakefield Regional Council

Name of Development Plan: Wakefield Regional Council

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Wakefield Regional Council Development Plan** consolidated on **9 August 2012 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Renewable Energy Facilities Objectives and PDCs	Attachment 1	No	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
Primary Production one					
2	Insert	After Objective 3	Attachment 5	Yes	No
3	Insert	After twelfth paragraph in the statement of Desired Character	Attachment 6	No	No
4	Insert	At the end of PDC 1	• wind farm and ancillary development • wind monitoring mast and ancillary development	No	No
5	Insert	After PDC 2	Attachment 7	Yes	No
6	Insert	After 'Tourist accommodation in association with a dwelling' in the column titled 'Category 2'	Attachment 8	No	No
Primary Production one Beaufort Flood Protection Policy Area 2					
7	Insert	At the end of PDC 1	• wind farm and ancillary development • wind monitoring mast and ancillary development	No	No

TABLES
Amendments required (Yes/No): No
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)
Amendments required (Yes/No): No

Amendment Instructions Table

Name of Local Government Area: Wattle Range Council

Name of Development Plan: Wattle Range Council

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Wattle Range Council Development Plan** consolidated on **9 February 2012 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Renewable Energy Facilities Objectives and PDCs	Attachment 1	No	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
Primary Production one					
2	Insert	After Objective 4	Attachment 4	No	No
3	Insert	At the end of PDC 1	• wind farm and ancillary development • wind monitoring mast and ancillary development	No	No
4	Insert	After PDC 6	Attachment 7	Yes	No
5	Insert	After 'Special industry for wood processing works or pulp or paper works' in the column titled 'Category 2'	Attachment 8	No	No
Primary Production one Horticulture Policy Area 2					
6	Insert	At the end of PDC 1	• wind farm and ancillary development • wind monitoring mast and ancillary development	No	No

Primary Production one Katnook Primary Industry Policy Area 3					
7	Insert	At the end of PDC 1	• wind farm and ancillary development • wind monitoring mast and ancillary development	No	No
Primary Production one Primary Production Policy Area 5					
8	Insert	At the end of PDC 1	• wind farm and ancillary development • wind monitoring mast and ancillary development	No	No
TABLES					
Amendments required (Yes/No): No					
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: Whyalla City Council

Name of Development Plan: Whyalla Council

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Whyalla Council Development Plan** consolidated on **17 May 2012 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Renewable Energy Facilities Objectives and PDCs	Attachment WHY1	No	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
Rural Industry (Buffer) one					
2	Insert	After Objective 1	Attachment 4	No	No
3	Insert	After PDC 1	Attachment 7	No	No
4	Insert	After '2008' beneath the heading 'Public Notification'	Attachment 9	No	No
TABLES					
Amendments required (Yes/No): No					
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: Wudinna District Council

Name of Development Plan: Wudinna District Council

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Wudinna District Council Development Plan** consolidated on **1 March 2012 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Renewable Energy Facilities Objectives and PDCs	Attachment 1	No	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
Primary Production one					
2	Insert	After Objective 3	Attachment 5	Yes	No
3	Replace	Objective 4	Land adjacent to the Eyre Highway kept free of development other than that necessary for primary production or required to facilitate the development of wind farms and ancillary development.	No	No
4	Insert	After the final paragraph in the statement of Desired Character	Attachment 6	No	No
5	Insert	At the end of PDC 1	• wind farm and ancillary development • wind monitoring mast and ancillary development	No	No
6	Insert	After PDC 2	Attachment 7	Yes	No
7	Insert	After '2008' beneath the heading 'Public Notification'	Attachment 9	No	No

TABLES
Amendments required (Yes/No): No
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)
Amendments required (Yes/No): No

Amendment Instructions Table

Name of Local Government Area: District Council of Yankalilla

Name of Development Plan: Yankalilla (DC)

Name of DPA: Statewide Wind Farms

*The following amendment instructions (at the time of drafting) relate to the **Streaky Bay (DC) Development Plan** consolidated on **22 March 2012 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Objective 63 and 64	Attachment 2	No	No
2	Replace	PDCs 246, 247 and 248	Attachment 3	No	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): No					
TABLES					
Amendments required (Yes/No): No					
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

Amendment Instructions Table

Name of Local Government Area: Yorke Peninsula

Name of Development Plan: Yorke Peninsula (DC) Development Plan

Name of DPA: Statewide Wind Farms Development Plan Amendment

*The following amendment instructions (at the time of drafting) relate to the **Yorke Peninsula (DC) Development Plan** consolidated on **22 March 2012 as amended by cessation of interim operation of the consultation version of the Statewide Wind Farms Development Plan Amendment**. Where amendments to this Development Plan have been authorised after the aforementioned consolidation date, consequential changes to the following amendment instructions will be made as necessary to give effect to this amendment.*

Amendment instructions

Amendment Instruction Number	Method of Change • Replace • Delete • Insert	Detail what is to be replaced or deleted or detail where new policy is to be inserted. • Ob ective (Ob) • Principle of Development Control (PDC) • Desired Character Statement (DCS) • Map/Table No. • Other (Specify)	Detail what material is to be inserted (if applicable, i.e., use for Insert or Replace methods of change only).	Is Renumbering re uired (Y/N)	Subse uent Policy cross-references re uiring update (Y/N) if yes please specify.
COUNCIL WIDE / GENERAL PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
1	Replace	Renewable Energy Objectives, associated explanatory text and PDCs	Attachment 1	No	No
ONE AND/OR POLICY AREA AND/OR PRECINCT PROVISIONS (including figures and illustrations contained in the text)					
Amendments required (Yes/No): Yes					
General Farming one					
2	Insert	After Objective 5	Attachment 3	Yes	No
3	Insert	After the fourth paragraph of the Desired Character Statement	Attachment 6	No	No
4	Insert	After PDC 1	Attachment 7	Yes	No
5	Replace	'Wind farm' in PDC 19	Attachment 8	No	No
Water Protection one					
6	Insert	After Objective 2	Attachment 4	Yes	No
7	Insert	After PDC 2	Attachment 7	Yes	No
8	Insert	After PDC 5	Attachment 11	No	No
TABLES					
Amendments required (Yes/No): No					
MAPPING (Structure Plans, Overlays, Enlargements, one Maps Policy Area Maps)					
Amendments required (Yes/No): No					

ATTACHMENT 1

RENEWABLE ENERGY FACILITIES

OBJECTIVES

Development of renewable energy facilities that benefit the environment, the community and the state.

The development of renewable energy facilities, such as wind farms and ancillary development, in areas that provide opportunity to harvest natural resources for the efficient generation of electricity.

_ Location, siting, design and operation of renewable energy facilities to avoid or minimise adverse impacts on the natural environment and other land uses.

PRINCIPLES OF DEVELOPMENT CONTROL

_. Renewable energy facilities, including wind farms and ancillary development, should be:

(a) located in areas that maximize efficient generation and supply of electricity; and

(b) designed and sited so as not to impact on the safety of water or air transport and the operation of ports, airfields and designated landing strips.

Wind Farms and Ancillary Development

_. The visual impacts of wind farms and ancillary development (such as substations, maintenance sheds, access roads and wind monitoring masts) should be managed through:

(a) wind turbine generators being:

(i) setback at least 1000 metres from non-associated (non-stakeholder) dwellings and tourist accommodation

(ii) setback at least 2000 metres from defined and zoned township, settlement or urban areas (including deferred urban areas)

(iii) regularly spaced

(iv) uniform in colour, size and shape and blade rotation direction

(v) mounted on tubular towers (as opposed to lattice towers)

(b) provision of vegetated buffers around substations, maintenance sheds and other ancillary structures.

_. Wind farms and ancillary development should avoid or minimise the following impacts on nearby property owners / occupiers, road users and wildlife:

(a) shadowing, flickering, reflection or glint

(b) excessive noise

(c) interference with television and radio signals and geographic positioning systems

(d) interference with low altitude aircraft movements associated with agriculture

(e) modification of vegetation, soils and habitats

(f) striking of birds and bats

_ Wind turbine generators should be setback from dwellings, tourist accommodation and frequently visited public places (such as viewing platforms) a distance that will ensure that failure does not present an unacceptable risk to safety.

ATTACHMENT 2

RENEWABLE ENERGY FACILITIES

OBJECTIVES

Development of renewable energy facilities that benefit the environment, the community and the state.

The development of renewable energy facilities, such as wind farms and ancillary development, in areas that provide opportunity to harvest natural resources for the efficient generation of electricity.

_ Location, siting, design and operation of renewable energy facilities to avoid or minimise adverse impacts on the natural environment and other land uses.

ATTACHMENT 3

RENEWABLE ENERGY FACILITIES

PRINCIPLES OF DEVELOPMENT CONTROL

_. Renewable energy facilities, including wind farms and ancillary development, should be:

(a) located in areas that maximize efficient generation and supply of electricity; and

(b) designed and sited so as not to impact on the safety of water or air transport and the operation of ports, airfields and designated landing strips.

Wind Farms and Ancillary Development

_. The visual impacts of wind farms and ancillary development (such as substations, maintenance sheds, access roads and wind monitoring masts) should be managed through:

(a) wind turbine generators being:

(i) setback at least 1000 metres from non-associated (non-stakeholder) dwellings and tourist accommodation

(ii) setback at least 2000 metres from defined and zoned township, settlement or urban areas (including deferred urban areas)

(iii) regularly spaced

(iv) uniform in colour, size and shape and blade rotation direction

(v) mounted on tubular towers (as opposed to lattice towers)

(b) provision of vegetated buffers around substations, maintenance sheds and other ancillary structures.

_. Wind farms and ancillary development should avoid or minimise the following impacts on nearby property owners / occupiers, road users and wildlife:

(a) shadowing, flickering, reflection or glint

(b) excessive noise

(c) interference with television and radio signals and geographic positioning systems

(d) interference with low altitude aircraft movements associated with agriculture

(e) modification of vegetation, soils and habitats

(f) striking of birds and bats

– Wind turbine generators should be setback from dwellings, tourist accommodation and frequently visited public places (such as viewing platforms) a distance that will ensure that failure does not present an unacceptable risk to safety.

ATTACHMENT 4

Ob ective : Accommodation of wind farms and ancillary development.

Wind farms and ancillary development such as substations, maintenance sheds, access roads and connecting power-lines (including to the National Electricity Grid) are envisaged within the zone and constitute a component of the zone's desired character. These facilities will need to be located in areas where they can take advantage of the natural resource upon which they rely and, as a consequence, components (particularly turbines) may need to be:

- located in visually prominent locations such as ridgelines;
- visible from scenic routes and valuable scenic and environmental areas; and
- located closer to roads than envisaged by generic setback policy.

This, coupled with the large scale of these facilities (in terms of both height and spread of components), renders it difficult to mitigate the visual impacts of wind farms to the degree expected of other types of development. Subject to implementation of management techniques set out by general / council wide policy regarding renewable energy facilities, these visual impacts are to be accepted in pursuit of benefits derived from increased generation of renewable energy.

ATTACHMENT 5

Ob ective : Accommodation of wind farms and ancillary development.

ATTACHMENT

Wind farms and ancillary development such as substations, maintenance sheds, access roads and connecting power-lines (including to the National Electricity Grid) are envisaged within the zone and constitute a component of the zone's desired character. These facilities will need to be located in areas where they can take advantage of the natural resource upon which they rely and, as a consequence, components (particularly turbines) may need to be:

- located in visually prominent locations such as ridgelines;
- visible from scenic routes and valuable scenic and environmental areas; and
- located closer to roads than envisaged by generic setback policy.

This, coupled with the large scale of these facilities (in terms of both height and spread of components), renders it difficult to mitigate the visual impacts of wind farms to the degree expected of other types of development. Subject to implementation of management techniques set out by general / council wide policy regarding renewable energy facilities, these visual impacts are to be accepted in pursuit of benefits derived from increased generation of renewable energy.

ATTACHMENT

: Wind farms and ancillary development should be located in areas which provide opportunity for harvesting of wind and efficient generation of electricity and may therefore be sited:

(a) in visually prominent locations

(b) closer to roads than envisaged by generic setback policy.

ATTACHMENT 8

Wind farms and ancillary development such as substations, maintenance sheds, access roads and connecting power-lines (including to the National Electricity Grid) where the base of all wind turbines is located at least 2000 metres from:

(a) an existing dwelling or tourist accommodation that is not associated with the wind farm

(b) a proposed dwelling or tourist accommodation for which an operable development plan consent exists

(c) the boundaries of any Airfield, Airport, Centre, Community, Fringe, Historic Conservation, Home Industry, Living, Mixed Use, Residential, Settlement, Tourist, Township or Urban Zone, Policy Area or Precinct or any Heritage Area (including within the area of an adjoining Development Plan)

Wind monitoring mast and ancillary development

ATTACHMENT

Further, the following forms of development (except where the development is non-complying) are designated:

Category 1	Category 2
	Wind farms and ancillary development such as substations, maintenance sheds, access roads and connecting power-lines (including to the National Electricity Grid) where the base of all wind turbines is located at least 2000 metres from: (a) an existing dwelling or tourist accommodation that is not associated with the wind farm (b) a proposed dwelling or tourist accommodation for which an operable development plan consent exists (c) the boundaries of any Airfield, Airport, Centre, Community, Fringe, Historic Conservation, Home Industry, Living, Mixed Use, Residential, Settlement, Tourist, Township or Urban Zone, Policy Area or Precinct or any Heritage Area (including within the area of an adjoining Development Plan) Wind monitoring mast and ancillary development

ATTACHMENT 10

Further, the following forms of development (except where the development is non-complying) are designated:

Category 2

Wind farms and ancillary development such as substations, maintenance sheds, access roads and connecting power-lines (including to the National Electricity Grid) where the base of all wind turbines is located at least 2000 metres from:

(a) an existing dwelling or tourist accommodation that is not associated with the wind farm

(b) a proposed dwelling or tourist accommodation for which an operable development plan consent exists

(c) the boundaries of any Airfield, Airport, Centre, Community, Fringe, Historic Conservation, Home Industry, Living, Mixed Use, Residential, Settlement, Tourist, Township or Urban Zone, Policy Area or Precinct or any Heritage Area (including within the area of an adjoining Development Plan)

Wind monitoring mast and ancillary development

ATTACHMENT 11

_ The following kinds of development are assigned to Category 2 in the Water Protection Zone:

Wind farms and ancillary development such as substations, maintenance sheds, access roads and connecting power-lines (including to the National Electricity Grid) where the base of all wind turbines is located at least 2000 metres from:

(a) an existing dwelling or tourist accommodation that is not associated with the wind farm

(b) a proposed dwelling or tourist accommodation for which an operable development plan consent exists

(c) the boundaries of any Airfield, Airport, Centre, Community, Fringe, Historic Conservation, Home Industry, Living, Mixed Use, Residential, Settlement, Tourist, Township or Urban Zone, Policy Area or Precinct or any Heritage Area (including within the area of an adjoining Development Plan)

Wind monitoring mast and ancillary development

ATTACHMENT 12

Ob ective : Accommodation of wind farms and ancillary development outside of the Barossa Valley Character Preservation District as defined by Character Preservation legislation.

ATTACHMENT 13

Wind farms and ancillary development such as substations, maintenance sheds, access roads and connecting power-lines (including to the National Electricity Grid) are envisaged within that part of the zone outside of the Barossa Valley Character Preservation district (as defined by Character Preservation legislation) and constitute a component of the desired character of this part of the zone. These facilities will need to be located in areas where they can take advantage of the natural resource upon which they rely and, as a consequence, components (particularly turbines) may need to be:

- located in visually prominent locations such as ridgelines;
- visible from scenic routes and valuable scenic and environmental areas; and
- located closer to roads than envisaged by generic setback policy.

This, coupled with the large scale of these facilities (in terms of both height and spread of components), renders it difficult to mitigate the visual impacts of wind farms to the degree expected of other types of development. Subject to implementation of management techniques set out by general / council wide policy regarding renewable energy facilities, these visual impacts are to be accepted in pursuit of benefits derived from increased generation of renewable energy.

ATTACHMENT 14

: Wind farms and ancillary development should be located in areas outside of the Barossa Valley Character Preservation District as defined by Character Preservation legislation which provide opportunity for harvesting of wind and efficient generation of electricity and may therefore be sited:

(a) in visually prominent locations

(b) closer to roads than envisaged by generic setback policy.

ATTACHMENT 15

Wind farm and ancillary development such as substations, maintenance sheds, access roads and connecting power lines (including to the National Electricity Grid) located within the Barossa Valley Character Preservation District as defined by Character Preservation legislation

Wind monitoring mast located within the Barossa Valley Character Preservation District as defined by Character Preservation legislation

ATTACHMENT 1

Wind farms and ancillary development such as substations, maintenance sheds, access roads and connecting power-lines (including to the National Electricity Grid) located outside of the Barossa Valley Protection District as defined by Character Preservation legislation where the base of all wind turbines is located at least 2000 metres from:

(a) an existing dwelling or tourist accommodation that is not associated with the wind farm

(b) a proposed dwelling or tourist accommodation for which an operable development plan consent exists

(c) the boundaries of any Airfield, Airport, Centre, Community, Fringe, Historic Conservation, Home Industry, Living, Mixed Use, Residential, Settlement, Tourist, Township or Urban Zone, Policy Area or Precinct or any Heritage Area (including within the area of an adjoining Development Plan)

Wind monitoring mast and ancillary development located outside of the Barossa Valley Character Preservation District as defined by Character Preservation legislation

ATTACHMENT AdHi1

Wind farm and ancillary development such as substations, maintenance sheds, access roads and connecting power lines (including to the National Electricity Grid) located outside the Barossa Valley Character Preservation District as defined by Character Preservation legislation

Wind monitoring mast located outside the Barossa Valley Character Preservation District as defined by Character Preservation legislation

Wind turbine within the Barossa Valley Character Preservation District as defined by Character Preservation legislation where the turbine generates power to be used wholly for activities to be located on the property upon which the turbine is situated and the turbine does not exceed 10 metres in height

ATTACHMENT Alex1

_ The following kinds of development are assigned to Category 2 in the Flood Zone:

Wind farms and ancillary development such as substations, maintenance sheds, access roads and connecting power-lines (including to the National Electricity Grid) where the base of all wind turbines is located at least 2000 metres from:

(a) an existing dwelling or tourist accommodation that is not associated with the wind farm

(b) a proposed dwelling or tourist accommodation for which an operable development plan consent exists

(c) the boundaries of any Airfield, Airport, Centre, Community, Fringe, Historic Conservation, Home Industry, Living, Mixed Use, Residential, Settlement, Tourist, Township or Urban Zone, Policy Area or Precinct or any Heritage Area (including within the area of an adjoining Development Plan)

Wind monitoring mast and ancillary development

ATTACHMENT BaW1

_ Within the General Farming Zone, wind farms and ancillary development such as substations, maintenance sheds, access roads and connecting power-lines (including to the National Electricity Grid) where the base of all wind turbines is located at least 2000 metres from:

(a) an existing dwelling or tourist accommodation that is not associated with the wind farm

(b) a proposed dwelling or tourist accommodation for which an operable development plan consent exists

(c) the boundaries of any Airfield, Airport, Centre, Community, Fringe, Historic Conservation, Home Industry, Living, Mixed Use, Residential, Settlement, Tourist, Township or Urban Zone, Policy Area or Precinct or any Heritage Area (including within the area of an adjoining Development Plan)

_ Within the General Farming Zone, wind monitoring mast and ancillary development

ATTACHMENT CGV1

Wind farms and ancillary development such as substations, maintenance sheds, access roads and connecting power-lines (including to the National Electricity Grid) are envisaged within that part of the zone outside of Horticulture Policy Area 2 and constitute a component of this part of the zone's desired character. These facilities will need to be located in areas where they can take advantage of the natural resource upon which they rely and, as a consequence, components (particularly turbines) may need to be:

- located in visually prominent locations such as ridgelines;
- visible from scenic routes and valuable scenic and environmental areas; and
- located closer to roads than envisaged by generic setback policy.

This, coupled with the large scale of these facilities (in terms of both height and spread of components), renders it difficult to mitigate the visual impacts of wind farms to the degree expected of other types of development. Subject to implementation of management techniques set out by general / council wide policy regarding renewable energy facilities, these visual impacts are to be accepted in pursuit of benefits derived from increased generation of renewable energy.

ATTACHMENT CGV2

Further, the following forms of development (except where the development is non-complying) are designated:

Category 1	Category 2
	Except within the Horticulture Policy Area 2, wind farms and ancillary development such as substations, maintenance sheds, access roads and connecting power-lines (including to the National Electricity Grid) where the base of all wind turbines is located at least 2000 metres from: (a) an existing dwelling or tourist accommodation that is not associated with the wind farm (b) a proposed dwelling or tourist accommodation for which an operable development plan consent exists (c) the boundaries of any Airfield, Airport, Centre, Community, Fringe, Historic Conservation, Home Industry, Living, Mixed Use, Residential, Settlement, Tourist, Township or Urban Zone, Policy Area or Precinct or any Heritage Area (including within the area of an adjoining Development Plan) Except within the Horticulture Policy Area 2, wind monitoring mast and ancillary development

ATTACHMENT LNWCAF1

_ The following kinds of development are assigned to Category 2 in the Pastoral Zone:

Wind farms and ancillary development such as substations, maintenance sheds, access roads and connecting power-lines (including to the National Electricity Grid) where the base of all wind turbines is located at least 2000 metres from:

(a) an existing dwelling or tourist accommodation that is not associated with the wind farm

(b) a proposed dwelling or tourist accommodation for which an operable development plan consent exists

(c) the boundaries of any Airfield, Airport, Centre, Community, Fringe, Historic Conservation, Home Industry, Living, Mixed Use, Residential, Settlement, Tourist, Township or Urban Zone, Policy Area or Precinct or any Heritage Area (including within the area of an adjoining Development Plan)

Wind monitoring mast and ancillary development

ATTACHMENT LNWCAM1

_ The following kinds of development are assigned to Category 2 in the Public Purpose (Power Station) Zone:

Wind farms and ancillary development such as substations, maintenance sheds, access roads and connecting power-lines (including to the National Electricity Grid) where the base of all wind turbines is located at least 2000 metres from:

(a) an existing dwelling or tourist accommodation that is not associated with the wind farm

(b) a proposed dwelling or tourist accommodation for which an operable development plan consent exists

(c) the boundaries of any Airfield, Airport, Centre, Community, Fringe, Historic Conservation, Home Industry, Living, Mixed Use, Residential, Settlement, Tourist, Township or Urban Zone, Policy Area or Precinct or any Heritage Area (including within the area of an adjoining Development Plan)

Wind monitoring mast and ancillary development

ATTACHMENT MiMu1

_: The following kinds of development are assigned to Category 2 in the (Mid Murray) Enterprise Zone:

Wind farms and ancillary development such as substations, maintenance sheds, access roads and connecting power-lines (including to the National Electricity Grid) where the base of all wind turbines is located at least 2000 metres from:

(a) an existing dwelling or tourist accommodation that is not associated with the wind farm

(b) a proposed dwelling or tourist accommodation for which an operable development plan consent exists

(c) the boundaries of any Airfield, Airport, Centre, Community, Fringe, Historic Conservation, Home Industry, Living, Mixed Use, Residential, Settlement, Tourist, Township or Urban Zone, Policy Area or Precinct or any Heritage Area (including within the area of an adjoining Development Plan)

Wind monitoring mast and ancillary development

ATTACHMENT Ro1

Road Boundary	Setback distance from road boundary (metres)
Within the **Coastal Conservation one**	30 metres
Within the **Conservation one**	30 metres
Within the **Conservation one** - **Frenchman Bay Policy Area 1**	6 metres
Within **Primary Production one** (except for wind farms and ancillary development)	100 metres – Southern Ports Highway 50 metres – all other roads
Within **Deferred Urban one**	100 metres – Southern Ports Highway 50 metres – all other roads
Within the **Industry one**	8 metres
Within the **Residential one**	6 metres – primary road 3 metres – secondary road
Within the **Residential Character one** (where the building is not in proximity to a heritage place)	6 metres – primary road 3 metres – secondary road
Within the **Town Centre one** (where it involves non-residential development)	Nil
Within the **Town Centre one** (where it involves a residential building that is not in proximity to a heritage place)	6 metres – primary road 3 metres – secondary road
Within the **Settlement one**	7 metres – primary road 4 metres – secondary road
Within the **Rural Living one**	20 metres

ATTACHMENT StB1

_ The following kinds of development are assigned to Category 2 in the Robinson Groundwater Basin Protection Zone:

Wind farms and ancillary development such as substations, maintenance sheds, access roads and connecting power-lines (including to the National Electricity Grid) where the base of all wind turbines is located at least 2000 metres from:

(a) an existing dwelling or tourist accommodation that is not associated with the wind farm

(b) a proposed dwelling or tourist accommodation for which an operable development plan consent exists

(c) the boundaries of any Airfield, Airport, Centre, Community, Fringe, Historic Conservation, Home Industry, Living, Mixed Use, Residential, Settlement, Tourist, Township or Urban Zone, Policy Area or Precinct or any Heritage Area (including within the area of an adjoining Development Plan)

Wind monitoring mast and ancillary development

ATTACHMENT TB1

_ The following kinds of development are assigned to Category 2 in the General Farming Zone:

Wind farms and ancillary development such as substations, maintenance sheds, access roads and connecting power-lines (including to the National Electricity Grid) where the base of all wind turbines is located at least 2000 metres from:

(a) an existing dwelling or tourist accommodation that is not associated with the wind farm

(b) a proposed dwelling or tourist accommodation for which an operable development plan consent exists

(c) the boundaries of any Airfield, Airport, Centre, Community, Fringe, Historic Conservation, Home Industry, Living, Mixed Use, Residential, Settlement, Tourist, Township or Urban Zone, Policy Area or Precinct or any Heritage Area (including within the area of an adjoining Development Plan)

Wind monitoring mast and ancillary development

ATTACHMENT TB2

_ The following kinds of development are assigned to Category 2 in the Tod River Water Protection Zone:

Wind farms and ancillary development such as substations, maintenance sheds, access roads and connecting power-lines (including to the National Electricity Grid) where the base of all wind turbines is located at least 2000 metres from:

(a) an existing dwelling or tourist accommodation that is not associated with the wind farm

(b) a proposed dwelling or tourist accommodation for which an operable development plan consent exists

(c) the boundaries of any Airfield, Airport, Centre, Community, Fringe, Historic Conservation, Home Industry, Living, Mixed Use, Residential, Settlement, Tourist, Township or Urban Zone, Policy Area or Precinct or any Heritage Area (including within the area of an adjoining Development Plan)

Wind monitoring mast and ancillary development

ATTACHMENT WHY1

RENEWABLE ENERGY FACILITIES

OBJECTIVES

Development of renewable energy facilities that benefit the environment, the community and the state.

The development of renewable energy facilities, such as wind farms and ancillary development, in areas that provide opportunity to harvest natural resources for the efficient generation of electricity.

_ Location, siting, design and operation of renewable energy facilities to avoid or minimise adverse impacts on the natural environment and other land uses.

PRINCIPLES OF DEVELOPMENT CONTROL

_. Renewable energy facilities, including wind farms and ancillary development, should be:

(a) located in areas that maximize efficient generation and supply of electricity; and

(b) designed and sited so as not to impact on the safety of water or air transport and the operation of ports, airfields and designated landing strips.

Wind Farms and Ancillary Development

_. The visual impacts of wind farms and ancillary development (such as substations, maintenance sheds, access roads and wind monitoring masts) should be managed through:

(a) wind turbine generators being:

(i) setback at least 1000 metres from non-associated (non-stakeholder) dwellings and tourist accommodation

(ii) setback at least 2000 metres from defined and zoned township, settlement or urban areas (including deferred urban areas)

(iii) regularly spaced

(iv) uniform in colour, size and shape and blade rotation direction

(v) mounted on tubular towers (as opposed to lattice towers)

(b) provision of vegetated buffers around substations, maintenance sheds and other ancillary structures.

_. Wind farms and ancillary development should avoid or minimise the following impacts on nearby property owners / occupiers, road users and wildlife:

(a) shadowing, flickering, reflection or glint

(b) excessive noise

(c) interference with television and radio signals and geographic positioning systems

(d) interference with low altitude aircraft movements associated with agriculture

(e) modification of vegetation, soils and habitats

(f) striking of birds and bats

_ Wind turbine generators should be setback from dwellings, tourist accommodation and frequently visited public places (such as viewing platforms) a distance that will ensure that failure does not present an unacceptable risk to safety.

_ The following forms of development are designated Category 2 within that part of the Council Area identified as having No Zones:

Wind farms and ancillary development such as substations, maintenance sheds, access roads and connecting power-lines (including to the National Electricity Grid) where the base of all wind turbines is located at least 2000 metres from:

(a) an existing dwelling or tourist accommodation that is not associated with the wind farm

(b) a proposed dwelling or tourist accommodation for which an operable development plan consent exists

(c) the boundaries of any Airfield, Airport, Centre, Community, Fringe, Historic Conservation, Home Industry, Living, Mixed Use, Residential, Settlement, Tourist, Township or Urban Zone, Policy Area or Precinct or any Heritage Area (including within the area of an adjoining Development Plan)

Wind monitoring mast and ancillary development

Government of South Australia

Department of Planning, Transport and Infrastructure

Adelaide Hills Council, Alexandrina Council, Barossa Council, Barunga West Council, Berri Barmera Council, Ceduna Council, Clare and Gilbert Valleys Council, Cleve Council, Coober Pedy Council, The Coorong District Council, Copper Coast Council, Elliston Council, Flinders Ranges Council, Franklin Harbour Council, Gawler Council, Goyder Council, Grant Council, Kangaroo Island District Council, Karoonda East Murray Council, Kimba Council, Kingston Council, Land Not Within A Council Area (Coastal Waters), Land Not Within A Council Area (Eyre, Far North, Riverland and Whyalla), Land Not Within A Council Area (Flinders), Land Not Within A Council Area (Metropolitan), Light Council, Lower Eyre Peninsula Council, Loxton Waikerie Council, Mallala Council, Mid Murray Council, Mount Barker Council, Mount Remarkable Council, Murray Bridge Council, Naracoorte Lucindale Council, Northern Areas Council, Onkaparinga Council, Orroroo Carrieton Council, Peterborough Council, Playford Council, Port Augusta Council, Port Lincoln Council, Port Pirie Council, Renmark Paringa Council, Robe Council, Roxby Downs Council, Southern Mallee Council, Streaky Bay Council, Tatiara Council, Tumby Bay Council, Victor Harbor Council, Wakefield Regional Council, Wattle Range Council, Whyalla Council, Wudinna Council, Yankalilla Council and Yorke Peninsula Council Development Plans

STATEWIDE WIND FARMS

Approval Development Plan Amendment

By the Minister

EXECUTIVE SUMMARY AND ANALYSIS RELEASED FOR CONSULTATION FROM 1 OCTOBER 2011 TO 23 DECEMBER 2011

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EXECUTIVE SUMMARY

INTRODUCTION

The *Development Act 1993* (the Act) provides the legislative framework for undertaking amendments to a Development Plan. The Act allows either the relevant council or, under prescribed circumstances, the Minister for Urban Development, Planning and the City of Adelaide to amend a Development Plan.

In this case, the Minister is undertaking the amendment because he is of the opinion that the matter is of significant social, economic or environmental importance (Section 24(1)(g) of the Development Act 1993).

A Development Plan Amendment (DPA) (this document) explains what policy changes are being proposed and why, and how the amendment process will be conducted.

A DPA may consist of:

- Executive Summary (this section)
- Analysis
- The Amendment.

NEED FOR THE AMENDMENT

On 22 June 2011, the Premier of South Australia made a Ministerial Statement to Members of Parliament in the House of Assembly advising that South Australia had met the target, set by the Government in 2007, "*of having 20% of electricity generated within the State coming from renewable energy".*

This statement was based on figures recently released by the Australian Energy Market Operator (established by the Council of Australian Governments) which advised in its recently released draft supply and demand outlook report that *there is now 1,150 MW of wind generating capacity in the State* and that some 72 MW of solar generation has also been installed.

The Premier also confirmed that the new target, set by the Government in 2009, "*of having 33% of our electricity generation come from renewable energy by 2020"*, is being pursued.

The Premier also commented that "*the Government is concerned about the impact on future wind investment of a recent judgement handed down by the Environment, Resources and Development Court",* where the Court upheld an appeal against a wind farm proposal on the grounds of its adverse impact on visual amenity, while an earlier appeal dismissed the visual impact argument of another wind farm proposal. The Premier noted that this most recent decision "*potentially contributes to uncertainty within communities and among wind investors* and that *a large part of our success in building an international reputation for hosting wind investment has been*

our commitment to making the regulatory environment as certain as possible. The Government will now be considering its options for maintaining that certainty in the light of the Court's decisions".

Policies relating to Renewable Energy Facilities were originally introduced into Development Plans across the State in 2003, and have not been significantly reviewed since.

Since then, a number of development applications for wind farms have been assessed, and the wind farms developed, so that their impacts are now better understood. There have also been a number of studies, investigations and Court rulings in South Australia, interstate and overseas regarding wind farms.

In this context, and in order to maintain the reputation of the South Australian planning system for fairness, transparency and efficiency, it is important to update the provisions of many Council Development Plans in relation to wind farm development.

The amendments are designed to restore the role of Local Government in development assessment and give investors confidence in the process run by Local Councils.

AREA AFFECTED

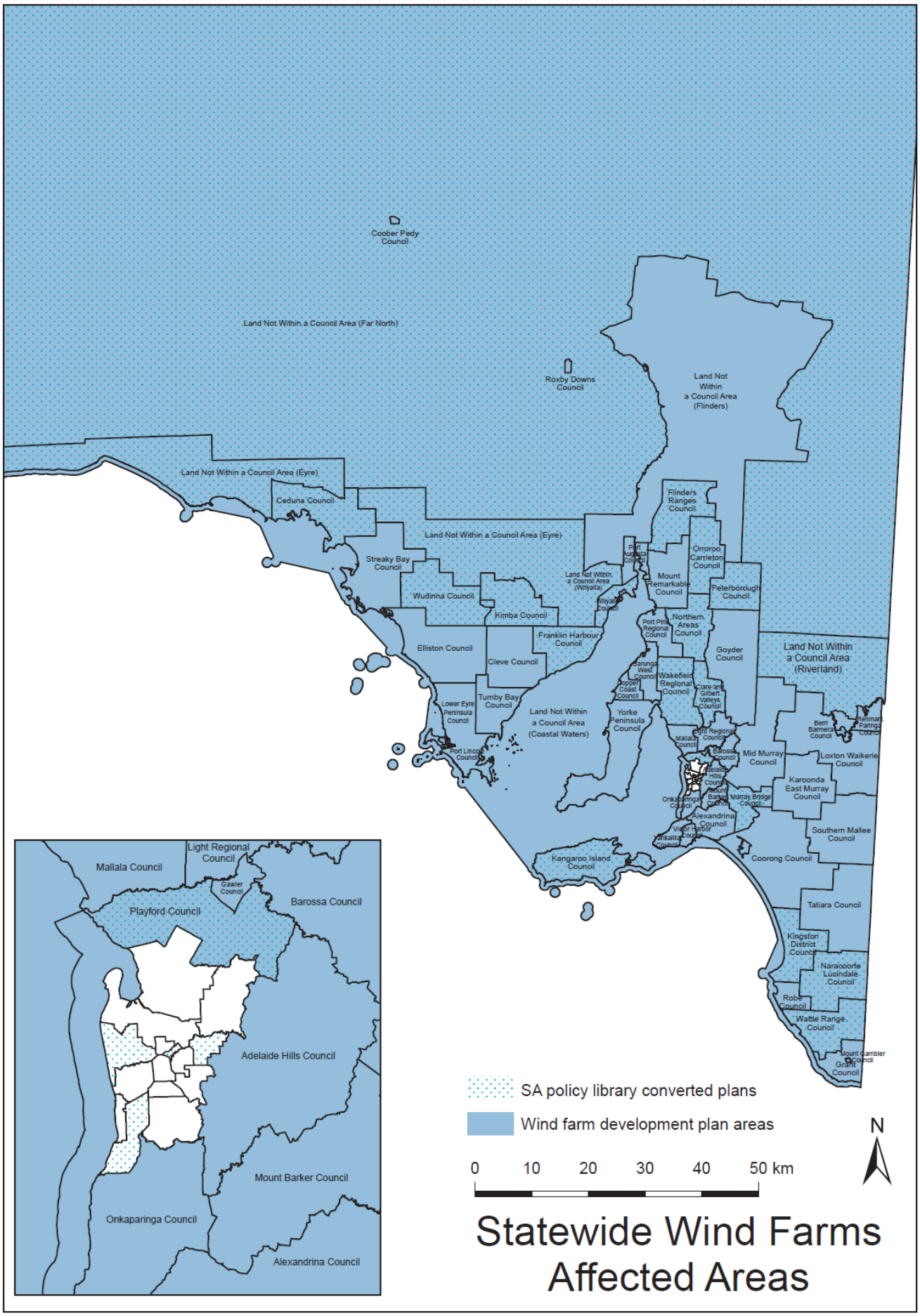
This DPA affects 56 Development Plans across the State, predominantly outside the Metropolitan Adelaide as shown in Figure 1.

PROPOSED POLICY CHANGES

Wind farms and ancillary development will be explicitly identified as anticipated development in certain Zones. These zones (both in State Planning Policy Library format and non-SPPL format), have been selected on the basis that they generally relate to land where there is best access to wind resources, while also containing a limited amount of sensitive land uses such as dwellings. While the specific zone titles are varied, they generally fall under the following generic types (in alphabetical order, rather than any priority order):

- Coastal
- Conservation
- Flood
- Fringe
- Horticulture
- Landscape
- Public Purpose
- Ranges
- Rural, Primary Production, Primary Industry, General Farming, Grazing.
- Remote Areas
- Watershed, Water Protection.

FIGURE 1


Coober Pedy Council
Land Not Within a Council Area (Far North)
Roxby Downs Council
Land Not Within a Council Area (Flinders)
Land Not Within a Council Area (Eyre)
Ceduna Council
Land Not Within a Council Area (Eyre)
Flinders Ranges Council
Streaky Bay Council
Wudinna Council
Kimba Council
Franklin Harbour Council
Elliston Council
Cleve Council
Tumby Bay Council
Lower Eyre Peninsula Council
Port Lincoln Council
Land Not Within a Council Area (Coastal Waters)
Yorke Peninsula Council
Orroroo Carrieton Council
Mount Remarkable Council
Peterborough Council
Northern Areas Council
Goyder Council
Land Not Within a Council Area (Riverland)
Wakefield Regional Council
Clare and Gilbert Valleys Council
Light Regional Council
Barossa Council
Mid Murray Council
Loxton Waikerie Council
Karoonda East Murray Council
Murray Bridge Council
Alexandrina Council
Southern Mallee Council
Coorong Council
Kangaroo Island Council
Tatiara Council
Kingston District Council
Naracoorte Lucindale Council
Robe Council
Wattle Range Council
Grant Council
Mallala Council
Gawler Council
Playford Council
Barossa Council
Adelaide Hills Council
Mount Barker Council
Onkaparinga Council
Alexandrina Council
SA policy library converted plans
Wind farm development plan areas
0 10 20 30 40 50 km
N
Statewide Wind Farms Affected Areas

Provisions will be amended / inserted at the General / Council Wide level of each Development Plan which focus on the need for visual impact of wind farms and ancillary development to be “managed”, rather than “avoided”. Guidance will also be given as to how to manage such visual impact, including at least a 1 kilometre separation distance from a wind turbine and a dwelling not associated with the development, vegetated buffers, careful spacing of turbines, blades that rotate in the same direction and uniformity of colour.

These minor amendments are made to the following State Planning Policy Library (SPPL) General Section modules as adopted by the relevant Councils:

- Coastal Areas
- Design and Appearance
- Infrastructure
- Interface Between Land Uses
- Natural Resources
- Orderly and Sustainable Development
- Renewable Energy Facilities
- Siting and Visibility
- Sloping Land.

Similar amendments have been made to the Council Wide section of Development Plans not yet converted to the SPPL format.

Wind farms and ancillary development in sparsely populated areas, such as those in the Coastal or Rural Zones, will be assigned Category 2 for the purposes of public notification except where one or more turbines are to be located within two kilometres of the periphery of more populated areas. Owners and occupiers of adjacent land and other prescribed persons will receive notification and can make representations to Council, but there are no third party appeal rights (except on grounds of judicial review).

Wind farms and ancillary development in other zones will default to a Category 3 form of development, as is the case now, and third party rights of appeal will remain. Development within Rural Living zones, which are more densely populated than Rural zones, will also remain subject to Category 3 public notification.

The practical effect of this is that proposals for wind turbines to be located within two kilometres of the periphery of country towns and more populated areas will remain subject to Category 3 for the purposes of public notification.

The issue of visual amenity is specifically addressed by requiring assessors to accept that wind farms have a visual impact and that visual amenity is protected so long as wind turbines are located at least one kilometre from dwellings, except where agreed between the developer and the owner.

LEGAL REQUIREMENTS

Prior to the preparation of this DPA, the Minister received advice from a person or persons holding prescribed qualifications pursuant to Section 101 of the *Development Act 1993*.

The DPA has assessed the extent to which the proposed amendment:

- accords with the Planning Strategy
- accords with other parts of the various Development Plans
- complements the policies in Development Plans for adjoining areas
- satisfies the requirements prescribed by the Regulations.

INTERIM OPERATION

This DPA has been brought in on Interim Operation pursuant to Section 28(1) of the *Development Act 1993*.

Interim operation is considered necessary on the basis that the DPA will allow for the timely application of an updated and relevant policy framework relating to renewable energy facilities, in particular wind farms and ancillary development. Clarity and certainty to the industry as well as an enhanced facilitative framework policy, will allow for orderly and proper development.

CONSULTATION

This DPA has interim effect. This is required to avoid a rush of requests for State agency sponsorship of wind farm development applications and to provide Councils, wind developers and communities with some medium-term certainty regarding the assessment process.

This document is now released for concurrent Council, agency and public consultation.

The organisations and agencies that will be consulted on the DPA are:

- Department of the Premier and Cabinet
- Department for Transport, Energy and Infrastructure
- Department of Justice
- Department of Treasury and Finance
- Department of Environment and Natural Resources
- Environment Protection Authority
- Department of Planning and Local Government
- Primary Industries and Resources SA

- Department of Education & Children's Services
- Department for Families & Communities
- Land Management Corporation
- Department of Health
- Department for Water
- Department of Further Education, Employment, Science and Technology
- SA Tourism Commission
- ETSA Utilities
- Electranet P/L
- Origin Energy
- SA Water
- All 52 affected councils (some areas affected are out-of-council)
- Local Government Association of South Australia
- Conservation Council of SA
- National Trust of SA
- Clean Energy Council
- SafeWork SA
- Natural Resource Management Boards

All written and verbal agency and public submissions made during the consultation phase will be recorded and considered by the Development Policy Advisory Committee (DPAC), which is an independent body responsible for conducting the consultation stage of Ministerial DPAs. Changes to the DPA may occur as a result of this consultation process. (See also 'Have your say' information box at the front of this DPA.)

THE FINAL STAGE

When DPAC has considered the comments received and heard all the public representations, it will provide the Minister for Urban Development, Planning with a report on its findings.

The Minister will then either approve (with or without changes) or refuse the DPA.

(Note: This Executive Summary is for information only and does not form part of the Amendment to the Development Plan)

ANALYSIS

1. BACKGROUND

The current policies for “renewable energy facilities” were originally introduced into Development Plans across the State in 2003, and have not been significantly reviewed since.

Wind turbines are currently the main source of renewable energy in South Australia. South Australia has proved an attractive destination for wind farm developments. According to the Clean Energy Council, $2.8 billion has been invested into wind farms with 1,150 megawatts of capacity or 534 turbines installed to date. At the time of writing, this represents 54% of Australia’s total wind power generating capacity.

In 2010/2011, wind comprised 21.7% of electricity generated within South Australia. This means that the Government’s target of having 20% of its electricity coming from renewable sources by 2014 has been met 3 years ahead of schedule. It is also 9 years ahead of the national target.

The Government is now moving on to the next phase of the development of the renewable energy industry by working toward its further target to have 33% of its electricity come from renewable sources by 2020.

There are several key reasons for South Australia attracting such a disproportionate share of wind power investment.

- The State has an excellent wind resource.
- Many of the best locations are sparsely populated.
- The State’s planning system enjoys a reputation for fairness, transparency and efficiency.

Another critical success factor has been the contribution of Local Councils, both in supporting the transition to a cleaner economy and in skilfully navigating outcomes which meet local needs, address community concerns and support the State’s overall renewable energy objectives.

South Australia presently has 14 operating wind farms and another one under construction. All but one of these has received approval through Local Council development assessment processes.

A further 9 projects have received Council approval but either have not yet entered the construction phase or are subject to court action. One other wind farm, located in the Unincorporated Area of the State, has received approval using the State Government development assessment process.

The Government considers it highly desirable that Councils continue to play this key role in the development of the State’s wind power industry.

More recently, there has been a trend for objectors to wind farm applications to resort to court action in response to the granting of approval by some Local Councils. So far, there have been four court actions.

The first was initiated in mid 2009. It was dismissed but was appealed to the Supreme Court in December 2010. A judgment is still pending two years after the initial action was taken.

The second case was appealed to the ERD Court in July 2010. The judgment was handed down almost one year later. It upheld the appeal on the grounds of its impact on visual amenity. An appeal to the Supreme Court has been lodged by the proponent.

A third case is an appeal against an application for a temporary wind monitoring mast. This case was dismissed in September 2011.

The fourth is a case where three separate appeals have been lodged against a wind farm development in July and August 2011. The appeal is expected to take at least a year to resolve.

Anecdotally, many wind farm developers have expressed a preference for using Council assessment processes, rather than State Government assessment processes (e.g. via Section 49 of the Development Act 1993), were it not for the delays and uncertainties created by third party appeals. Councils are closer to their communities and have proved adept at securing outcomes to the benefit of all parties.

Since the introduction of Development Plan provisions relating to renewable energy facilities in 2003, there have been a number of studies and investigations into the impact of wind farm project in South Australia, nationally and overseas. These impacts are now better understood.

Against this background, the Government is proposing a Development Plan policy framework designed to reinforce and restore the role of Councils in wind farm development assessment; provide communities and investors with greater certainty and confidence; and improve the quality of information flows between communities, developers, Councils and the Government. A Ministerial Development Plan Amendment (DPA) is the vehicle for updating the Development Plan policy.

In addition to the revised planning policy framework, there are a number of initiatives currently being explored by the South Australian Government. RenewablesSA, Department of Premier and Cabinet is exploring through legislative amendment, the creation of a wind farm notification regime to enable broader consultation for those directly affected by wind farm developments. A regional liaison manager will be established to assist Councils and others on renewable energy issues, a fund will be provided for Councils to access to provide expert consulting advice when assessing renewable energy proposals, and new guidelines will be produced for limiting access by wind farm developers to the Crown development pathway.

For further information on these initiatives visit the RenewablesSA website www.renewablessa.sa.gov.au

2. THE STRATEGIC CONTEXT AND POLICY DIRECTIONS

2.1 South Australia s Strategic Plan

South Australia's Strategic Plan outlines a medium to long-term course for the whole of South Australia. It has two important, complementary roles. First, it provides a framework for the activities of the South Australian Government, business and the entire South Australian community. Second, it is a means for tracking state-wide progress, with the targets acting as points of reference that can be assessed periodically.

Amending Development Plan policy so that it provides additional certainty to the development of renewable energy facilities will assist in achieving a number of the Strategic Plan's objectives and targets as discussed below:

Strategic Plan Ob ectives/Targets	Response
Our Prosperity **35 Economic growth:** exceed the national economic growth rate over the period to 2020. **38 Business investment:** Exceed Australia's ration of business investment to $25 billion by 2020 **4 Jobs:** increase employment by 2% each year from 2010 to 2016. **5 Strategic infrastructure:** ensure that the provision of key economic and social infrastructure accommodates population growth.	The DPA seeks to provide a planning framework that will provide increased certainty in the regulatory environment for renewable energy facilities. In turn this will support improved business investment opportunities resulting in economic growth and job growth in the provision of strategic infrastructure.
Our Environment **5 Greenhouse gas emissions reduction:** achieve the Kyoto target by limiting the state's greenhouse gas emissions to 108% of 1990 levels during 2008-2012, as a first step towards reducing emissions by 60% (to 40% of 1990 levels) by 2050 **4 Renewable energy:** support the development of renewable energy so that it comprises 33% of the state's electricity production and consumption by 2020. **Emissions intensity:** limit the carbon intensity of total South Australian electricity generation to 0.5 tonnes of CO2-e/MWh by 2020.	The DPA policies will support the development of renewable energy facilities in the State which will assist in greenhouse gas emissions reduction by reducing the reliance on power generation from fossil fuels.

2.2 Consistency with the Planning Strategy

The Planning Strategy presents current State Government policy for development in South Australia. In particular, it seeks to guide and coordinate State Government activity in the construction and provision of services and infrastructure that influence the development of South Australia. It also indicates directions for future development to the community, the private sector and local government.

There are currently seven volumes of the Planning Strategy, with additional volumes in draft form. Regard has been given to these volumes in relation to policies on renewable energy. The following table summarises relevant portions of the Strategy:

PLANNING STRATEGY VOLUME	STRATEGY/POLICY
The 30-Year Plan for Greater Adelaide	
Climate Change	Policy 22: Introduce planning policies to encourage large-scale renewable energy projects to serve the region. Target E: Increase the state's renewable energy production to 33 percent of all energy production by 2020 in line with the State Government's recent announcement.
Regional South Australia	
Infrastructure	5.1 Goals: Reliable, efficient and competitive inter and intra-regional infrastructure Regional infrastructure that supports economic development A renewable energy industry 5.2: Priorities Enhancing competitive energy supplies Planning for renewable energy supply 5.4 Strategies Promote commercial opportunities for the development of renewable energy Promote the use of renewable energy sources by planning for wind farms, landfill gas extraction and other forms of renewable energy supply
Yorke Peninsula Regional Land Use Framework	
Economic Development	Objective 16: Foster sustainable alternative energy and water supply industries Strategy 16.1: Provide for development of alternative and innovative energy generation and water supply facilities, including guidance on environmental assessment requirements
Murray and Mallee Region Plan	
Economic Development	Encouraging the development of alternative energy industries (for example, solar, wind, geothermal and bio-fuels)
Infrastructure and Service Provision	Expanding the local generation of electricity through solar, wind farms and peaking plants to increase

	capacity for economic activity
Vision	Promote the generation and use of renewable energy supplies such as solar, wind and thermal rock technologies
Economic Development	Policy 5.4: Promote the development of renewable energy in appropriate locations and facilitate the establishment of supply chains in association with renewable energy developments
Kangaroo Island Plan4	
Infrastructure and Service Provision	Encouraging investment in infrastructure to support economic and population growth Expanding the local generation of electricity through wind, solar and wave farms to enable greater capacity for economic activity
Limestone Coast Region Plan	
Economic Development	Encouraging further development of alternative energy industries (solar, wind, geothermal and wave)
Infrastructure and Services	Investing in infrastructure to support economic and population growth Expanding electricity wind farms and fostering the development of other renewable energy sources and related infrastructure to enable greater capacity for economic activity
Vision	Support emerging industries, including the renewable energy sector
Environment and Culture	Policy 4.4: Provide for the development of alternative and innovative energy generation (e.g. marine, biomass and geothermal technologies) and water supply facilities, as well as guidance on environmental assessment requirements
Economic Development	The region has significant geothermal, wind and wave potential for renewable power, and is well placed in relation to power infrastructure and links to the eastern states
Eyre and Western Region Plan (Draft)	
Environment and Culture	Policy 4.4: Support the development of renewable and innovative energy generation (for example, biomass and marine technologies) and water supply facilities, as well as guidance on environmental assessment requirements Policy 5.8: Promote the development of renewable energy in appropriate locations and facilitate the establishment of supply chains in association with renewable energy developments
Far North	
Environment and Culture	Policy 14.1: Provide for the development of alternative and innovative energy generation (for example, marine, biomass and geothermal technologies) and water supply facilities, and include guidance on environmental assessment requirements
Mid North Regional Land Use Framework	
Managing Climate Change	Increasing renewable and low emission energy generation (e.g. wind farms)

Economic Development	Encourage development of wind farms and train people within the region to meet ongoing operation and maintenance requirements
Infrastructure and Services	Expand the local generation of electricity through wind farms and gas-fired peak demand plants to enable greater capacity for economic activity
Economic Development	Objective 13: Foster sustainable alternative energy and water supply industries Strategy 13.1: Provide for development of alternative and innovative energy generation and water supply facilities, including guidance on environmental assessment requirements

There are a number of objectives/directions in the various volumes of the Planning Strategy that support the development of renewable energy facilities with the Target of increasing the State's renewable energy production to 33% of all energy production by 2020.

It must also be acknowledged that there are also a number of objectives/directions in the various volumes of the Planning Strategy that are potentially 'at tension' with the successful location and development of renewable energy facilities. These objectives/directions seek such things as the "*preservation of areas of high landscape and amenity value*" and that development be designed to "*retain high quality landscapes that can be viewed from tourist routes, walking trails, the river and the sea by addressing factors such as the location, height, materials and colour of buildings."*

The policies in this DPA are aimed at providing stronger support for renewable energy facilities in certain zones, recognising that to be successful the facilities may need to be located in prominent locations to take advantage of the natural resource upon which they rely (e.g. wind). The policies also recognise that some renewable energy facilities, such as wind farms, may be of a large scale, comprised of a number of components (e.g. individual wind turbines of significant height, base footings, hard stand areas, access tracks, underground and overhead electricity cabling infrastructure, wind monitoring masts, sub-stations, connecting overhead power line infrastructure, etc), and require an extended and/or dispersed development pattern. Given these characteristics, facilities will often be visible when viewed from development in the locality and from public roads, public spaces and walking trails. The policies require that such facilities, rather than avoiding impact, will have a managed level of impact on the locality.

2.3 Other Key Documents

Strategic Infrastructure Plan for South Australia (2005/0 – 2014/15)

The principal purpose of the Strategic Infrastructure plan is to guide new infrastructure investment by government and the private sector over the next five and 10 years and improve the management and use of the state's existing infrastructure assets.

The Strategic Infrastructure Plan presents strategies for 14 infrastructure sectors and a number of potential projects to be pursued over the next five and 10 years.

In relation to Energy, the Plan states:

> "*Research and development into promising renewable technologies will be encouraged including support for investigations for geothermal power opportunities currently being evaluated in northern South Australia.*"
>
> "*The government is committed to reducing greenhouse gas emissions and will work with the Australian and other state governments and industry to grow the renewable energy sector.*"
>
> *Renewable and Distributed Energy Generation*
>
> "*The most promising renewables of interest to South Australia, based on regional comparative advantages, are wind, solar and geothermal energy. The state's biomass resources, particularly in the South East, can also be exploited. The achievement of South Australia's Strategic Plan target for renewable energy consumption will focus on: leveraging investor interest in wind farms, geothermal energy and biomass plants increasing the penetration rates of solar hot water heaters and photovoltaics (PV) active programs of research and development, particularly in solar PV and geothermal energy and the complexities of managing significant quantities of intermittent wind generation in conventional networks.*"

As a Strategic Priority, the Plan identifies:

> "*Support research and development in renewable technologies, particularly wind, solar PV and geothermal energy, to enhance their technical and economic viability.*"

In relation to Renewable Energy Projects the Plan lists:

- *"Promote the development of geothermal power*
- *Construct licensed wind farms, commensurate with market and network stability*
- *Continue to investigate the commercial viability of biomass power stations in the South East*
- *Expand bio-diesel production facilities to provide fuel for transport and electricity generation.*"

The Strategic Infrastructure Plan therefore provides clear support for the further development of renewable energy facilities into the future.

Related DPAs

The proposed DPA has a specific focus on renewable energy facilities and, in particular, wind farms. Current polices in Development Plans on renewable energy facilities were inserted via a Ministerial DPA in 2003 into the Council Wide sections of all Development Plans in the State. This DPA proposes to amend these policies in

Council Wide/General Sections of relevant Development Plans to provide clearer and up to date guidelines on the development of renewable energy facilities, as well as inserting supporting policy in to specific zones where renewable energy facilities are considered more appropriate and more likely to occur (i.e. primary production zones, coastal zones, etc). Given the relatively specific focus of the proposed policies, it is not anticipated that they will affect other, current Development Plan Amendments.

3. INVESTIGATIONS INFORMING THIS DPA

3.1 RenewablesSA s Investigative Land Use Planning and Development System Study

RenewablesSA (with assistance from URPS and Norman Waterhouse Lawyers), undertook an Investigative Land Use Planning and Development System Study in late 2010. This study aimed to identify strategies available through the land use planning system to facilitate commercial renewable energy development (namely, large scale wind and solar farms), in South Australia to ensure that the State remains an attractive location for investment by renewable energy developers.

While the focus of the study was primarily on the land use planning system and opportunities to further facilitate renewable energy development, it was also recognised that there is growing community concern regarding such developments.

The Study concluded that the South Australian planning system, compared to planning systems interstate, is very competitive in facilitating renewable energy development. However, in order to maintain and improve this competitive edge, there are a number of challenges that should be addressed.

3.2 Recent Court Rulings

There have been 3 recent court actions relating to wind farms and ancillary development as follows:

- Quinn & Ors v Regional Council of Goyder & Anor [2010] SAERDC 63
- King & Anor v Minister for Planning [2010] NSWLEC 1102
- Paltridge & Ors v District Council of Grant & Anor [2011] SAERDC 23

In the first two cases, the appeals were dismissed and the decision of the relevant Council to approve the proposal was upheld. In these circumstances, the visual impact of the proposed wind farms was not deemed to be so significant as to warrant refusal against the provisions of the relevant Development Plan. However, in the more recent case of Paltridge & Ors v District Council of Grant, the ERD Court ruled that the proposed Wind Farm should not proceed largely on the basis of visual impact. Specifically, the Court found that:

> *"As in Quinn [47], this Development Plan places a high value on the scenic qualities of the landscape both generally and in the Primary Industry Zone. In the context of the Primary Industry Zone, there are a number of Principles that support the retention of the "existing pleasant rural landscape". We refer here,*

in the first instance, to Principles 11 and 26 that, amongst other things, seek the protection of visual amenity generally and the views from public roads in particular; speak against the proliferation of buildings and structures and advocate their proper design and siting.

In addition, there are in our view, other provisions in the Primary Industry Zone that emphasise the Plan's aim to preserve and maintain the existing level of visual amenity. We cite but four examples in respect of developments that, unlike the proposal, are expressly mentioned in the Primary Industry Zone. Principle 7, directed to "dwellings and other buildings intended for human habitation", seeks their "siting, design and appearance" to be "compatible with the rural character of the area". Principle 10 speaks to "[f]arming in the form of land based aquaculture" in several ways including the minimisation of "visual impact by the use of low profile structures that are limited in size and number". Principle 15 requires that buildings, associated with an industry, be set-back a "minimum of 100 m from any road" and Principle 19 seeks "tourist oriented development" associated with Mount Schank be "sensitively sited so as not to detract from or destroy [its] natural beauty ...".

That need to maintain and/or enhance the environment, landscape quality and visual amenity is also reinforced in the general section of the Plan e.g. in Objective 33 and the Renewable Energy provisions, themselves.

...We are of the opinion that, properly construed, the purpose of the Plan (as expressed in Principles 196 and 198 and as implied, if not expressed, in the Principles in the Zone to which we have referred), namely for development to minimize visual impact to an acceptable level, has not been achieved by this proposal.

...we are of the opinion that the development will not "avoid or minimise" adverse visual impacts on the character and amenity of the locality to the "acceptable level" sought by the Plan..." (my underlining added)

Of all these considerations associated with the assessment of wind farms (e.g. noise, flicker, bird strike), visual amenity impact is the one most open to subjective assessment. It is therefore the one likely to create the greatest uncertainty for communities, investors and assessors of wind farm development applications.

The ruling in the Paltridge Case also emphasises the difficulty that wind farm proposals face in many locations when measured against Development Plan provisions that state that development should "avoid" visual impact.

3.3 Other Relevant Background Documents

Guidelines for Wind farm Development – Planning Bulletin, West Australian Planning Commission, May 2004.

Wind farm developments may have direct and indirect benefits for the community and its economy. The assessment and consultation process should allow for any

potential negative impacts, such as visual impact, to be considered in the context of their benefits (underlining added).

Visual impact is based on a number of factors which affect the perceived visual quality. The degree to which a wind farm development will impact on the landscape will depend upon:

- Siting, layout and design of the turbines, infrastructure, signage and ancillary facilities, including provision for tourism.
- Number, colour, shape, height and surface reflectivity of the towers and blades.
- Visibility of the development, having regard to the location, distance from which the development is visible, skyline and view sheds.
- Significance and sensitivity of the landscape, having regard to topography, the extent and type of vegetation, natural features, land use patterns, built form character and community values.

Methods to ameliorate visual impact include:

- Ensuring all turbines look alike, have a clean, sleek appearance and that the blades rotate in the same direction.
- Minimising the number of turbines, as appropriate, by using the largest possible model (subject to the visual absorption capabilities and environmental considerations of the site) rather than numerous small ones.
- Siting the wind farm, ancillary buildings, access roads and transmission infrastructure to complement the natural landform contours and landform backdrop, including ridgelines.
- Ensuring the choice of materials and colour (e.g. off-white and grey for turbines, low contrast for roads) for the development complements the skyline and the backdrop of the view sheds.
- Minimising removal of vegetation and using advanced planting of vegetation screens as visual buffers where appropriate.
- Ensuring good quality vegetation and landform rehabilitation, onsite and off-site, where appropriate.
- Locating turbines to reflect landscape and topographical features (e.g. a random pattern may suit a rolling, varied landform and a linear pattern may suit a coastal edge, farm or industrial site).
- Avoiding clutter, such as advertisements and apparatus.

Inquiry into the social and economic impacts of rural wind farms, Senate Community Affairs References Committee, Parliament of Australia, June 2011.

According to the Northern Areas Council, its local community considers that the state policy does not adequately protect residents and the environment from perceived adverse impacts resulting from the operation of wind turbines. In its view, there is a

need for a stronger planning focus in the development plan to better balance economic benefits with the environmental and social consequences of wind farms.

The Southern & Hills Local Government Association also expressed dissatisfaction with the 2003 objectives and principles, stating that:

> *"they are pretty general in nature, although there are other council wide planning principles and objectives that can be applied to different aspects of this type of development. The issue is that the conditions are of a general nature and making a case to support or reject can mean paying for expert consultants. Over the last several years, international and interstate standards have become more detailed and more 'performance based', seeking to establish greater setback distances to more adequately deal with low frequency sound impacts on human health etc. The Planning Principles within South Australia have not been updated since they were introduced in 2003."* (underlining added)

National Wind farm Development Guidelines – Draft, Environment Protection and Heritage Council, July 2010.

Landscapes change over time, both naturally and through human intervention. Landscape values, being subjective, change not only with time, but also from person to person. This results in a wide variety of opinions of what is valued and what is not. The perceptions by which we value landscapes are influenced by a range of factors such as visual, cultural, spiritual, environmental, and based on memories or different aesthetics (underlining added).

Visual impacts of a wind farm proposal need to be considered, in part at least, in relation to viewsheds and views. Views can take a number of forms, including panoramas, prospects, point-to-point and so on. Viewpoints – the location of the viewer – can be static or dynamic (an example of the latter is a tourist drive). A viewshed is defined as the area of land visible from a point, or series of points – in other words, the 'seen' area. Identification of important views is fundamental when considering the impact of a wind farm on a landscape. The locations from which these views are accessed are also important. Viewing locations from which the proposed wind farm is likely to be visible range from designated viewing platforms to the more incidental public use locations (such as roads and settlements). In some cases, close-to-viewer mitigation works, such as screening of a view, may resolve identified site level viewing impacts. In most other cases, the siting or layout of a wind farm may need to be adjusted to reach an acceptable level of impact (underlining added).

Management and mitigation refers to actions taken to reduce or eliminate impacts as a result of the full landscape assessment and visual impact assessment. It is imperative to note that mitigation measures are very limited for wind farm development and therefore general location and site selection is of utmost importance.

The assessment should identify, rate and describe the visibility and relative visual intrusion of the wind farm development on identified viewsheds and views. Particular consideration should be given to:

- Regionally and/or locally significant views and viewing locations, as identified in the viewshed and views analysis.

- Key views and viewing locations from which the wind farm will be viewed (public and private), as identified in the viewshed and views analysis.

- The expected number of viewers at each viewing location, taking into consideration land tenure and access, occurrence of tourism and recreation locations.

- The distance from which the wind farm, or elements of it, will be viewed (from identified key public and private locations) (identification of distance zones may be appropriate).

- The benefit of keeping the outlook from at least one side of a dwelling free of views of the wind farm development.

- Local transient, seasonal and climatic influences on visibility (e.g. atmospheric effects).

- Occurrence of other buildings and structures and vegetation which will affect visibility.

- Attributes of the wind farm turbines or ancillary infrastructure relevant to understanding visual intrusion (e.g. movement, colour, materials, reflectivity, transparency).

Policy and planning guidelines for development of wind energy facilities in Victoria, Department of Planning and Community Development (Vic) August 2011.

The visual impact of the development relates to:

- the number, height, scale, spacing, colour and surface reflectivity of the wind turbines
- the quantity and characteristics of lighting, including aviation obstacle lighting (subject to CASA requirements and advice)
- avoidance of visual clutter caused by turbine layout and ability to view through a cluster or array (visually well ordered series) of turbines in an orderly manner
- the removal or planting of vegetation
- the location and scale of other buildings and works including transmission lines and associated access roads
- proximity to sensitive areas
- proximity to an existing or proposed wind energy facility, having regard to cumulative visual effects.

The following measures are suggested to reduce the visual impacts of wind energy facilities:

- siting and design to minimise impacts on views from areas used for recreation and from dwellings
- locating arrays of turbines to reflect dominant topographical and/or cultural features, such as ridgelines, the coastline, watercourses, windbreaks or transmission lines
- using turbine colour to reduce visual impacts from key public view points
- limiting night lighting to that required for safe operation of a wind energy facility and for aviation safety
- reducing the number of wind turbines with obstacle lights while not compromising aviation safety
- mitigating light glare from obstacle lighting through measures such as baffling
- selecting turbines that are consistent in height, appearance and rotate the same way
- spacing turbines to respond to landscape characteristics
- undergrounding electricity lines wherever practicable
- minimising earthworks and providing measures to protect drainage lines and waterways
- minimising removal of vegetation
- avoiding additional clutter on turbines, such as unrelated advertising and telecommunications apparatus.

Report on Impediments to Environmentally and Socially Responsible Wind Farm Development, Environment Protection and Heritage Council, November 2008.

The construction of a wind farm may impact on landscape values. A landscape is the appearance or expression of an area of land, referring to the combination of elements such as landform, vegetation, waterform and all types of human land use. Landscape values are the perception of these elements held by people and communities. Landscapes change over time, both naturally and through human intervention.

Landscapes are made up of different layers and meaning. There are differing opinions regarding what is valued and what is not. Some of the elements through which we value landscapes include visual, cultural, spiritual, environmental, based on memories, perceptions or different aesthetics. Many highly valued landscapes enjoy statutory protections, for example through national parks, nature reserves, marine parks and zoning controls, to ensure they remain essentially natural in character. However, there are many significant landscapes that do not have specific protection and special care needs to be taken to identify and protect the values of those landscapes.

There are a range of methodologies that could assist in the assessment of landscape values in response to wind farm developments. Not all jurisdictions have a state methodology to refer to. However, most already apply various elements of best practice when dealing with the issue of visual landscape impacts as a result of wind farm developments.

Where appropriate, each jurisdiction should continue to use best practice techniques when dealing with impacts on landscape values in response to wind farm developments (underlining added). In conjunction with the proposed National Wind Farm Development Guidelines, develop a nationally consistent best practice approach to landscape assessment. This should have a framework containing both principles and methodologies. Existing resources such as the National Assessment Framework and other relevant state documents should form inputs to this process.

Rural wind farms, General Purpose Standing Committee No. 5, NSW Legislative Council, December 2009.

The Committee acknowledges the impact that wind farms have on the landscape and the concern that this causes many Inquiry participants. The Committee also notes concerns regarding the potential impact of wind farms on cultural and heritage values.

The Committee acknowledges that changes to local landscapes can be difficult for many residents to accept. The impacts experienced by residents may be compounded by poor community consultation methods and a perception that the government will approve such developments regardless of their impacts.

The Committee notes that there are few changes that can be made to a wind farm to reduce the impact on the landscape. While turbines can be coloured to blend as far as practicable with the surrounding landscape and trees planted, they are still highly obvious in most settings.

The Committee further notes that wind farm developers are not able to change the design of the wind farms to suit all residents. However, the Committee believes that every effort should be made by the Department of Planning and wind farm developers to respectfully respond to and address these sensitive issues as far as practicable.

State Enabling Legislation for Commercial-Scale Wind Power Siting and the Local Government Role, Environmental Law Institute Report USA, 2011

Model ordinances sometimes use siting restrictions to protect scenic resources, either by restricting siting within or near officially designated scenic zones, or by requiring setbacks from certain types of resources. The New York model includes both kinds of regulations: Ordinances may require that “where wind characteristics permit, wind towers shall be set back from the tops of visually prominent ridgelines to minimize the visual contrast from any public access.” Or, they may require that “no individual tower facility shall be installed at any location that would substantially detract from or block the view of the major portion of a recognized scenic vista, as

viewed from any public road right-of-way or publicly-accessible parkland or open space within the Town."

To minimize the impact on scenic river valleys, the Minnesota model ordinance recommends setbacks of 500, 1,000, or 1,320 feet from major river bluffs. In a footnote, the drafters emphasize that "care should be taken to avoid excessive setbacks, particularly from bluffs overlooking smaller tributaries."

Maine's siting process protects impacts on formally catalogued scenic resources. Scenic impacts may also be addressed through informational requirements. For example, Vermont regulations require that petitions to construct wind energy generation facilities "must include a view-shed analysis that includes an analysis of aesthetic impacts for a ten-mile radius from the proposed project site."

Most model ordinances address the visual impact of wind energy facilities by setting requirements for various aspects of the turbine design. The most commonly addressed characteristics are *color*, *uniformity*, *lighting*, and *advertising*.

Wind Farms Planning Bulletin Draft for Consultation, Planning SA, August 2002.

From a planning perspective the most challenging issue is often that of visual impact. This is because the subjective nature of aesthetic perception makes it difficult to determine the extent to which the general 'public' perceives a landscape as having significant aesthetic value. Equally, it makes it difficult to determine the extent to which turbines will be regarded as having a positive or negative impact on a particular landscape. Each individual's perception of landscape value will be influenced by a number of factors including the 'visual user' group with which they identify. For instance, an eco-tourist visiting an area for an experience of nature is more likely to consider wind turbines to devalue a landscape than are members of the local community who might stand to benefit from the increased employment that a wind farm may generate.

Visual impact is likely to be a recurring issue because optimal wind farm sites tend to occur along coast lines and ridge tops, which may be areas of prominence and/or scenic beauty. In assessing wind farm proposals it is necessary to use an effective visual assessment methodology that takes into account the full range of factors that contribute to the way in which the public is likely to perceive the visual impact of a wind farm development.

The methodology should take into account the various perspectives of the 'visual user' groups represented in the local community, the degree to which turbines modify landscapes, the visibility of the proposal from public viewpoints, the proximity to sites of significance such as conservation areas and national parks and the State significance of the landscape in question.

<u>Visual impact is important and must be taken into account, however, it must also be balanced against the economic, social and environmental benefits that wind farms can generate</u> (underlining added).

3.4 The Scale of Wind Farms and Associated Development

In order to understand the nature of wind farms and ancillary development, it is useful to consider the detail of some recent example developments.

A wind farm development in the North Mount Lofty Ranges, which gained approval after consideration by the Environment, Resources and Development Court, comprised the following:

- 33 wind turbines, each with a tower height of 80 metres
- turbine blades of 44 metres length which, when combined with the tower height, give an overall height of 124 metres
- a cleared area of 40 x 40 metres around each tower to meet CFS requirements
- a base footing/foundation of reinforced concrete or a reinforced/prestressed concrete rock foundation
- underground cabling installed to a depth of between 0.8 and 1.0 metres
- access tracks of 12 to 14 metres during construction, reduced to 6 to 9 metres after construction, constructed of compacted, engineered base material
- an on-site substation, comprised of above ground cabling, a site shed, lightning rods up to 25 metres high and associated facilities, including a 33kV to 132kV step-up transformer. The hardstand area for the substation will be 62 x 30 metres and surfaced with compacted quarry rubble
- two 80 metre high wind monitoring masts with associated guy ropes, of either lattice or tubular steel constructions
- temporary infrastructure during construction
- an overall site area of some 36 square kilometres.

In another example, the proposal also required the installation of overhead power line infrastructure, including 21 metre high Stobie poles, to connect the wind farm to the electricity grid approximately nine kilometres away.

This DPA is cognisant of the fact that infrastructure associated with wind farms will often be large, both in size and the number of elements, may have an extended development pattern and is likely to be of a different form to that of other types of development typically found in a particular locality.

3.5 The Identification of ones where Wind Farms are Envisaged

Wind farms need to be located where there is best access to wind resources. This potentially encompasses a vast amount of land across South Australia. This land falls within a variety of Zones identified in a variety of Development Plans.

At the same time, it is acknowledged that wind farms may be less appropriate in some windy locations that also contain areas of sensitive flora or fauna habitat, or urban areas.

In this context, detailed consideration has been given to the identification of appropriate Zones where wind farms and ancillary development should be explicitly identified as anticipated development.

While the specific zone titles are varied, they generally fall under the following generic types (in alphabetical order, rather than any priority order):

- Coastal
- Conservation
- Flood
- River Murray Fringe
- Horticulture
- Landscape
- Public Purpose
- Ranges
- Rural, Primary Production, Primary Industry, General Farming, Grazing.
- Remote Areas
- Watershed, Water Protection

It is important to note that not all such Zones in all relevant Development Plans are appropriate for the nomination of wind farms and ancillary development as anticipated development. For example:

- Where the existing Development Plan provisions relating to a particular Conservation Zone seek to preserve and enhance significant environmental features, wind farms and ancillary development should not be expressly envisaged. However, where some Conservation Zones anticipate the continuation operation of primary production activities and wind farms are unlikely to negatively impact on the conservation objectives for the Zone, wind farms and ancillary development could be envisaged; and

- Where some Landscape Zones are relatively expansive in area and generally contain large allotment sizes (providing opportunity for wind farms to have significant separation distances from other land uses), and are generally not located adjacent to urban areas, wind farms and ancillary development could be reasonably envisaged.

It is also emphasised that the identification of zones where wind farms and ancillary development may be reasonably anticipated will still require thorough assessment of the impacts of such development in terms of appearance, noise, biodiversity, habitat etc.

3. The Separation of Wind Farms from Housing in South Australia

Based on analysis of the State's existing wind farms show, only 1% of the state's wind turbines are within the radius of one kilometre from a dwelling where there is no commercial agreement between the landholder and developer. Of the 559 turbines assessed, 105 are within one kilometre of a dwelling. Of those within one kilometre radius, 97 are the result of freely negotiated agreements between land holders and developers and only eight, or 1% are non-stakeholder dwellings.

From the 2006 Census, there were ten centres outside of the Greater Adelaide areas with populations in excess of 10,000. These ten had populations at least twice the size of the next largest centre which was Goolwa with 5,881. The ten are Crafers/Bridgewater, Gawler, Mount Barker, Mt Gambier, Murray Bridge, Pt Augusta, Pt Lincoln, Pt Pirie, Victor Harbour and Whyalla. Investigation into existing wind farms indicates that there are no turbines within 3 kilometres of any of these ten regional centres.

3. Public Notification Associated with Wind Farms

To date, wind farms and ancillary development has been subject to Category 3 public notification in almost all circumstances throughout South Australia. However, some Councils have identified wind farms as being Category 2 for the purposes of public notification in certain Zones.

These investigations propose a number of Zones where wind farms and ancillary development are envisaged. Therefore, consideration needs to be given to the nature of public notification in these proposed new circumstances.

It is considered that wind farms and ancillary development should be identified as Category 2 for the purposes of public notification in the zones where such development is anticipated (e.g. primary production zones). It is planning convention to ensure that envisaged development is not Category 3 to ensure an appropriate level of certainty. However, it is also considered that the Category 2 designation of wind turbines in envisaged Zones should be on the proviso that they are located at least 2 kilometres from the boundary of zones where it is anticipated that there will be a significant residential density. These include residential, settlement, country township, historic (conservation), rural living, and caravan and tourist park zones.

Where wind turbines are proposed to be located closer than 2 kilometres from zones where the majority of people live, such applications will be subject to the Category 3 public notification process. Furthermore, any wind farm proposal in a zone where wind farms are not specifically envisaged in the Development Plan provisions remains Category 3 for the purposes of public notification. In such instances, any objectors will have a right of appeal against any approval of a proposed wind farm.

4. CONCLUSIONS AND RECOMMENDED POLICY CHANGES

4.1 Justification for Amendment

The Government is committed to achieving 33% of the State's electricity coming from renewable sources by 2020. Wind energy is considered to be the most significant source of renewable energy in South Australia in the foreseeable future.

Provisions specifically relating to renewable energy facilities, including wind farms, were introduced into Development Plans across South Australia in 2003. Since then, a number of development applications for wind farms have been assessed and the wind farms developed so that there impacts are now better understood.

In this context, in order to maintain the reputation of the South Australian planning system for fairness, transparency and efficiency, and in order to restore local decision making, it is important to update the provisions of many Council Development Plans in relation to wind farm development.

A key area of focus in the assessment of wind farms in recent years has been visual impact. Many existing Development Plan provisions require new development to be 'subservient' to development already existing in the area. This can be seen in the repetition of the use of the term "...should avoid or minimise impact...". With such guidelines in place, it is considered impractical to expect that wind farms avoid visual impact in places where they often need to be located, such as ridgelines in rural landscapes and along coastlines.

The Ministerial DPA amends the guidelines in many Development Plans to ensure that wind farms are given greater primacy in locations where they may be reasonably anticipated e.g. along ridgelines in some rural and coastal areas. The DPA also enables the insertion of guidelines for the design/location of wind turbines so that their visual impact is effectively managed e.g. separation distance between wind farms and existing houses. This gives greater certainty to wind farm developers and surrounding land owners regarding what constitutes acceptable or managed level of visual impact.

A total of 56 of the 72 Development Plans in South Australia are amended as part of this DPA, relating to those areas predominantly outside the Adelaide metropolitan area where wind farm development is most likely to occur.

4.2 Summary of Proposed Policy Amendments

Wind farms and ancillary development will be subject to the 'on merit' assessment process in almost all zones. This means that they are neither "complying" nor "non-complying", and are subject to assessment against all of the relevant guidelines in each Development Plan. This DPA will not alter the need for the relevant planning authority to take into account all relevant provisions within the Development Plan.

Wind farms and ancillary development will be explicitly identified as anticipated development in certain Zones. These zones have been selected on the basis that

they generally relate to land where there is best access to wind resources, while also containing a limited amount of sensitive land uses such as dwellings. While the specific zone titles are varied, they generally fall under the following generic types (in alphabetical order, rather than any priority order):

- Coastal
- Conservation
- Flood
- Fringe
- Horticulture
- Landscape
- Public Purpose
- Ranges
- Rural, Primary Production, Primary Industry, General Farming, Grazing.
- Remote Areas
- Watershed, Water Protection

No changes are proposed to those zones intended to accommodate urban activities likely to be sensitive to wind farms and ancillary development (e.g. Residential, Town Centre, Historic Conservation Zones).

Provisions will be amended / inserted at the General / Council Wide level of each Development Plan which focus on the need for visual impact of wind farms and ancillary development to be "managed", rather than "avoided or minimised". Guidance will also be given as to how to manage such visual impact, including at least a 1 kilometre separation distance from a wind turbine and a dwelling not associated with the development, vegetated buffers, careful spacing of turbines, blades that rotate in the same direction and uniformity of colour.

These amendments are made to provisions within the following General Sections of the State Planning Policy Library:

- Coastal Areas
- Design and Appearance
- Infrastructure
- Interface Between Land Uses
- Natural Resources
- Orderly and Sustainable Development
- Renewable Energy Facilities
- Siting and Visibility
- Sloping Land.

The same or similar amendments have been made to the Council Wide section of Development Plans that have not yet adopted the SPPL format.

Wind farms and ancillary development in sparsely populated areas, such as those in the Coastal or Rural Zones, will be assigned Category 2 for the purposes of public notification except where one or more turbines are to be located within two kilometres of the periphery of more populated areas. Owners and occupiers of adjacent land

and other prescribed persons will receive notification and can make representations to Council, but there are no third party appeal rights (except on grounds of judicial review).

Wind farms and ancillary development in other non-targeted zones will default to a Category 3 form of development, and third party rights of appeal will remain. Development within Rural Living zones, which are more densely populated than Rural zones, will also remain subject to Category 3 public notification.

The practical effect of this is that proposals for wind turbines to be located within two kilometres of the periphery of country towns and more populated areas will remain subject to Category 3 for the purposes of public notification.

The issue of visual amenity is specifically addressed by requiring assessors to accept that wind farms have a visual impact and that visual amenity is protected so long as wind turbines are located at least one kilometre from dwellings, except where agreed between the developer and the owner of the dwelling.

South Australia has been generally well-served by the relevant Councils in supporting wind farms and in brokering the issues they raise for their communities. The package aims to provide stronger support for this approach.

5. STATEMENT OF STATUTORY COMPLIANCE

Section 25 of the *Development Act 1993* prescribes that the DPA must assess the extent to which the proposed amendment:

- accords with the Planning Strategy
- accords with other parts of the Development Plan
- complements the policies in the Development Plans for adjoining areas
- satisfies the requirements prescribed by the Regulations.

5.1 Accords with the Planning Strategy

Relevant strategies from the Planning Strategy are summarised in Section 2.2 of this document. It is the intent of the DPA to support the achievement of the Planning Strategy policies.

5.2 Accords with other parts of the Development Plan

The policies proposed in this DPA are consistent with the format, content and structure of the affected Development Plans, namely:

Adelaide Hills Council, Alexandrina Council, Barossa Council, Barunga West Council, Berri Barmera Council, Ceduna Council, Clare and Gilbert Valleys Council, Cleve Council, Coober Pedy Council, The Coorong District Council, Copper Coast Council, Elliston Council, Flinders Ranges Council, Franklin Harbour Council, Gawler Council, Goyder Council, Grant Council, Kangaroo Island District Council, Karoonda East Murray Council, Kimba Council, Kingston Council, Land Nor Within A Council Area (Coastal Waters), Land Not Within A Council Area (Eyre, Far North, Riverland and Whyalla), Land Not Within A Council Area (Flinders), Land Not Within A Council Area

(Metropolitan), Light Council, Lower Eyre Peninsula Council, Loxton Waikerie Council, Mallala Council, Mid Murray Council, Mount Barker Council, Mount Remarkable Council, Murray Bridge Council, Naracoorte Lucindale Council, Northern Areas Council, Onkaparinga Council, Orroroo Carrieton Council, Peterborough Council, Playford Council, Port Augusta Council, Port Lincoln Council, Port Pirie Council, Renmark Paringa Council, Robe Council, Roxby Downs Council, Southern Mallee Council, Streaky Bay Council, Tatiara Council, Tumby Bay Council, Victor Harbor Council, Wakefield Regional Council, Wattle Range Council, Whyalla Council, Wudinna Council, Yankalilla Council and Yorke Peninsula Council.

5.3 Complements the policies in the Development Plans for ad oining areas

The policies proposed amend 56 Development Plans across South Australia and are complementary in nature. The Development Plans not altered by this DPA cover urban areas where wind farms and ancillary development are generally not anticipated and will retain the existing policy regarding renewable energy facilities.

5.4 Satisfies the re uirements prescribed by the Regulations

The requirements for public consultation (Regulation 11) and the public meeting (Regulation 12) associated with this DPA will be met.

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Wind Farm Development Guidelines

for

Developers and Local Government Planners

Prepared by the
Central Local Government Region of South Australia

June 2014

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1 Purpose of this Report

This Report seeks to create a set of wind farm development guidelines that have a practical value and benefit to both wind farm developers and local government planners.

The project is sponsored by the Central Local Government Region of South Australia (CLGR) with funding provided by the Local Government Association's Research and Development Scheme. The CLGR is a regional local government authority with a primary aim of co-ordinating opinion and advocating on behalf of its 15 member Councils spanning the Barossa and Clare Valleys, the Adelaide Plains through to Yorke Peninsula, the Mid North and the Flinders Ranges.

Given the significant presence of the wind industry within the CLGR area, the motivation for preparing development guidelines has flowed from the actual experiences and participation of Councils who have had to manage, locally, the process and assessment of wind farm proposals. This has, however, tended to be a complex and highly divisive undertaking in the communities they serve. Appropriately, then, the development guidelines take a realistic and commonsense approach, based on best practice as drawn from relevant publications and influenced by the practical knowledge and understanding those Councils gained in dealing with wind farm development applications.

Key factors identified in this Report as having some clear association in defining potential wind farm impacts that have helped inform the content of the development guidelines include:

Planning

- location and setting, surrounding land uses, nature of the built environment
- the location of turbines and proximity to dwellings
- local and arterial roads and network of proposed private access roads
- impacts on key regional land uses (mineral exploration and extraction, tourism, conservation parks and reserves, areas of significant landscape value)
- safety and operation of airports and landing strips, sea ports
- cumulative impact

Technical

- wind farm lighting
- geological landforms, geo-technical/ground stability
- emergency and bushfire management
- shadow flicker, reflection or blade glint
- interference with television, radio and other electronic equipment (ie GPS)
- construction impacts, including site access routes for construction vehicles
- site construction remediation

Environmental

- character, landscape quality, visual significance and amenity of the area
- natural environment, native vegetation, biodiversity and matters of national environment significance (EPBC Act 1999)
- areas of heritage significance, sites of cultural significance and indigenous heritage
- impact on surface and groundwater
- soils and erosion potential
- coastal erosion and/or inundation
- noise

Management

- community and stakeholder engagement, nearby property owners
- indication of whether the proposed development will proceed in stages and the timing of each stage
- construction costs of the development
- decommissioning and land rehabilitation
- local economic benefits and employment generation

2 Executive Summary

As the demand for electricity continues to increase in the State, the wind industry emerged as the electricity generator capable of providing increased electricity capacity that would deliver a range of economic and environmental benefits through the ability to reduce greenhouse gas emissions and to provide improved and more extensive energy infrastructure.

The current legislative planning framework, as with most legislative frameworks, outline to applicants, developers and Council planners the minimum documentation required to be submitted for particular kinds of development. The information accompanying these development proposals is then assessed against the set of planning policies specified in Development Plans, for which Councils have primary responsibility, and especially against the provisions of individual zones, policy areas and precincts defined in those Development Plans.

Considering that there are currently 15 operational wind farms located within South Australia, of which 8 or over half are located within the Mid North, the Central Local Government Region of South Australia (CLGR) believes there is a need to generate a set of development guidelines applicable to wind farms for the benefit of wind farm developers and local government planners.

These guidelines have been prepared with the aim of informing wind farm developers and Council planners regarding not only an acceptable level of documentation that wind farm developers must provide, but also a presumption for a higher standard of development detail that exceeds the minimum requirements and one that accepts and supports a *best practice* approach based on an appreciation of the expectations of Regional Councils and their communities.

The development guidelines also highlight the principal assessment criteria found in Development Plans, as introduced by the Minister and confirmed in October 2012. The guidelines are intended to usefully identify and explain the key factors associated with Development Plan policy to help planners determine whether particular wind farm proposals are an appropriate development or not.

The State Government's position supports the use of renewable energy as a means of reducing adverse impacts of energy production on the environment.

To this end, the Government has placed an enhanced set of planning policies in Development Plans that explicitly acknowledges and promotes wind farm development throughout most rural areas.

Managing the application and the planning assessment process of wind farm proposals and balancing outcomes to ensure that the interests of the wind farm industry, local government and the community are given due consideration and are respected is a major challenge for planning authorities.

However, the guidelines cannot be used as the prima facie instrument for the assessment of wind farm proposals as a substitute for their proper analysis against Development Plan policy. Nor do they have statutory authority within the existing planning system whereby developers have a legal obligation to comply with the information requirements recommended in the guidelines other than those defined in the legislation.

Rather, they are a tool to help reinforce and clarify the application process and the relevant assessment criteria and need to be understood and used in this context. Although they raise the bar as to the expectations for high quality development applications, this is not an unreasonable expectation given the scale of wind farms and their influence on a locality.

The CLGR has confidence that wind farm developers in the future will respect the essential value of these guidelines and will extend a greater understanding of local government and community aspirations and objectives than what has on occasions transpired in the past.

3 Background

3.1 Wind Farm Legislative Framework

The key legal documents that provide the legislative framework establishing the planning and development system and setting out its statutory procedures are the *Development Act 1993* and the associated *Development Regulations 2008*.

Development Act 1993

The *Development Act 1993* is the core legislation enacted by the South Australian Parliament which establishes the planning and development system and the legal structure for controlling the use and development of land throughout the State, by whom and how.

It creates the general framework for development control (including processes for assessing development applications) and vests this control primarily in Councils, with the State having a residual control function for certain classes of development and/or in certain areas of the State.

The Act sets out the powers and responsibilities of the respective 'players' in the planning system and creates formal roles for the Minister who has carriage of the Act, statutory bodies such as the Development Assessment Commission (DAC) and the Development Policy Advisory Committee (DPAC), and for local government (including Development Assessment Panels).

Under the Act, a wind turbine is considered to be a 'building' as it is a structure that is fixed to the land, and consequently is defined as a 'development'.

Wind farms comprise a series of connected wind turbines, along with ancillary infrastructure to support their operation, with the aim of generating electricity for export from the site. Collectively, this type of development is representative of a change of land use for which a development approval is needed.

Simply, the Act provides the head powers for:

- making and amending planning strategy and policy
- regulating development
- creating statutory bodies to supervise and administer the system
- acquiring, managing and developing land

Development Regulations 2008

The *Development Regulations 2008* are generated under the Act and provide more of the administrative details and operating procedures that fills out the framework set by the Act. They are standard throughout the State and apply to all Councils and, importantly, set out how development applications are to be dealt with.

In conjunction with the Act, the Regulations distribute responsibility for regulating development between State and local government, including consultation and referral procedures.

The *Subordinate Legislation Act 1978* establishes a process that ensures all regulations are periodically reviewed by the Governor on the advice of the Minister so that they are relevant and up-to-date. All regulations expire ten years after they are made, but can be extended for up to four years. Regulations must be remade prior to their expiry to ensure continuity.

Other Relevant Legislation

Other planning and development related legislation that may also be applicable to wind farm development are listed below:

- Architectural Practice Act 2009
- Building Code of Australia (not strictly legislation, but vital nonetheless)
- Mining Act 1971
- Petroleum and Geothermal Energy Act 2000
- Environment, Resources and Development Court Act 1993
- Environment Protection Act 1993
- Heritage Act 1993
- Native Vegetation Act 1991
- River Murray Act 2003
- Natural Resource Management Act 2004

Related legislation administered by other Federal Government includes:

- Environment Protection and Biodiversity Conservation Act 1999

Relevant Authority

Under the Act, each Council is responsible for controlling development in its area, although the State retains a measure of control for some developments and/or in some parts of the State. Local and State Governments therefore have a joint though separate responsibility to control and manage development within the legislative parameters.

In regard to wind farm developments, as these are private enterprise driven, Councils are the relevant authority for undertaking an assessment and determining a decision. However, some projects may be viewed as public infrastructure under Section 49 of the *Development Act* by being sponsored by a Government agency, in which case the Minister makes the decision, with DAC processing, assessing and making a recommendation on the proposal. A Council's role in the latter case is advisory only.

3.2 Planning Policy Framework

A policy mechanism is established by the Act comprising a two-tiered structure for defining and implementing planning policy, namely:

- the Planning Strategy
- Development Plans

Planning Strategy

The Planning Strategy is an expression of policy setting out the State Government's vision that provides long-term direction for land use and development in the State. It comprehensively covers a full range of social, economic and environmental issues and includes land use framework strategies that incorporate targets for population and land supply. An essential (and statutory) role of the Planning Strategy is to direct and influence local zoning and land use policy that is executed via Development Plans. The Planning Strategy, then, is the driver of Development Plan policy which, as a consequence, must be drafted to reinforce and be compatible with the 'visions' set out in the Planning Strategy.

It is important to note, though, that the Planning Strategy is not in itself a 'development assessment' policy document, and has no legal status in the assessment of individual development applications. That is the role of Development Plans.

Development Plans

Development Plans form the principal planning policy document in South Australia. They are, effectively, the development assessment 'rule book' that, in practice, is essential for achieving the aims of the planning system. They have two underlying tasks:

- prescribing a 'desired direction' and local land use policy structure (mostly expressed through a zoning scheme)
- defining a set of detailed planning policies and statements (both at a general level and zone-based)

Through land use zoning and through a series of objectives and principles of development control, applying either to a particular zone or across the whole of the Council area, a Development Plan helps inform the community on the types of development that are appropriate within particular parts of a Council area.

The policies in the Development Plan are the only policies that can be used in the assessment of a development application. And, a Development Plan is the only statutory planning policy document of which a Court will take judicial notice.

Wind Farm Policy

Under the legislation, the Minister has an independent capability for changing, upgrading or proposing new Development Plan policy in his/her own right, which can be site or issue specific and/or wide-ranging affecting multiple Council Development Plans. These powers were used by the Minister to insert across the board explicit wind farm policies into most Council Development Plans, firstly on an interim basis from October 2011 and then an amended version of the policies 'ratified' in October 2012.

This policy primarily takes the form of:

- a revised *Renewable Energy Facilities* module in the General section of the Development Plan (which includes a specific *Wind Farms and Ancillary Development* sub-heading)
- extra zone provisions (exclusively rural-based) wherein an objective, two specific principles of development control and further statements in the relevant zone Desired Character have been added
- in the relevant zone procedural matters, classing wind farms, wind monitoring masts and their ancillary development as *Category 2* for public notification purposes (with strict separation criteria)

Significantly, a central feature of the new policy is to take away visual impact, which is one of the most dramatic consequences of wind farms because of the way they 'advertise' their presence in the landscape, as part of the assessment process. This factor has been neutralised by an unmistakable acknowledgement in the policies that wind farms may need to be sited (and therefore accepted) in visually prominent locations.

Taken as a whole, the import of wind farm policy is to clearly support and promote wind farm development as an envisaged use in most rural areas, and one that in large part is designed to secure favourable outcomes.

Below is an extract from the zone *Desired Character* statement which encapsulates the wind farm policy approach introduced by the Minister:

> ***Wind farms and ancillary development such as substations, maintenance sheds, access roads and connecting power-lines (including to the National Electricity Grid) are envisaged within the zone and constitute a component of the zone's desired character. These facilities will need to be located in areas where they can take advantage of the natural resource upon which they rely and, as a consequence, components (particularly turbines) may need to be:***
>
> - ***located in visually prominent locations such as ridgelines***
> - ***visible from scenic routes and valuable scenic and environmental areas***
> - ***located closer to roads than envisaged by generic setback policy.***
>
> ***This, coupled with the large scale of these facilities (in terms of both height and spread of components), renders it difficult to mitigate the visual impacts of wind farms to the degree expected of other types of development. Subject to implementation of management techniques set out by general / council wide policy regarding renewable energy facilities, these visual impacts are to be accepted in pursuit of benefits derived from increased generation of renewable energy.***

3.3 Procedural Matters

Consultation

The legislation specifies that certain types of applications need to be publicly notified, thereby involving the public and giving neighbours, for instance, the opportunity to examine and express their views on particular development proposals. There are three categories of public notification ranging from none at all (Category 1) to full notice being given in a newspaper and to a broader range of landowners/occupiers (Category 3).

The middle category, ie Category 2, involves notifying only those adjacent landowners/ occupiers that abut the subject land.

As a result of the Ministerial policy, wind farm proposals have been categorised as ***Category 2*** forms of development if they achieve certain separation distances from (mostly) urban-types of development.

Whereas Category 3 notification provides an opportunity for third-parties to appeal a decision of the relevant authority to the Environment, Resources and Development Court if they are aggrieved by that decision, Category 2 confers no such right.

Community members therefore have no redress in the event that wind farm applications are approved.

However, if a wind turbine is located closer than the 2 kilometre buffer to the land uses or zones specified (see box), then the wind farm application would default to a Category 3 notification and the process that follows from this, notably providing a right of appeal to third-parties not available in the 'normal' Category 2 process.

Zone wording conferring Category 2 public notification status:

Wind farms and ancillary development such as substations, maintenance sheds, access roads and connecting power-lines (including to the National Electricity Grid) where the base of all wind turbines is located at least 2000 metres from:

(a) an existing dwelling or tourist accommodation that is not associated with the wind farm;

(b) a proposed dwelling or tourist accommodation for which an operable development plan consent exists;

(c) the boundaries of any Airfield, Airport, Centre, Community, Fringe, Historic Conservation, Home Industry, Living, Mixed Use, Residential, Settlement, Tourist, Township or Urban Zone, Policy Area or Precinct or any Heritage Area (including within the area of an adjoining Development Plan).

Wind monitoring mast and ancillary development

Formal Referrals

Schedule 8 of the *Development Regulations* lists certain types of development that are in particular locations or involve particular activities that must be referred to various Government Agencies or other bodies for their assessment and response before the relevant authority can make its decision.

Development that involves the establishment of a wind farm has to be referred to the **Environment Protection Authority** (EPA) for **regard/advice** only relating to the potential for noise impacts (*Item 9A* of the Schedule Table).

This is the only referral item in Schedule 8 that specifically references wind farms per se. In this regard, the referral to the EPA is absolute in that it applies across the board to any wind farm application irrespective of where it is located.

Schedule 8 Item '*1(1) - Interpretation*' preamble defines what is meant by a wind farm for the purpose of this Schedule:

wind farm means an undertaking where 1 or more wind turbine generators (whether or not located on the same site) are used to generate electricity that is then supplied to another person for use at another place.

But, there are other formal referrals that potentially may be required under Schedule 8 that are conditional depending upon the particular circumstances of wind farm location and/or turbine siting. The following bodies may therefore be formally involved:

- **Coast Protection Board** (*Item 1* of the Schedule Table)

  Where a development is on coastal land.

  Note that 'coastal land' is interpreted in the Schedule as meaning a zone having 'Coast' or 'Coastal'(or as similarly suggested or indicated) in its name or, in the absence of such zones, meaning land that comprises rural land and is within *500 metres* of the mean high water mark

  A development located on 'coastal land' must be referred to the CPB, for ***direction*** if earthworks are involved on sites within 100 metres of the mean high water mark, and where the volume of material exceeds 9 cubic metres in total, and for ***regard/advice*** only in any other case.

Where a a wind turbine or similar associated infrastructure is not affected by 'coastal land' (ie it is not in the prescribed zone or it is more than 500 metres of the mean high water mark) then *no* mandatory referral is required.

- **Commissioner of Highways** (*Item 3* of the Schedule Table)

  Where a development is likely to create a new or alter an existing access point or to change the nature of movement through an existing access point in all cases onto an arterial road.

  Depending upon wind farm location and how and where access to and from public roads is planned to be provided, if an arterial road is implicated a referral must be made to the Commissioner for ***regard/advice*** only.

- Minister responsible for **Heritage Places** (*Item 5* of the Schedule Table)

  Where a development directly or materially affects a State heritage place.

  If a State heritage place is possibly impacted upon by a wind farm proposal, a referral must be made to the Minister having responsibility for the *Heritage Places Act 1993* for ***regard/advice*** only.

On the occasions cited above, where a wind farm development falls within the prescribed parameters of the particular referral item, it is mandatory for the planning authority to refer the application accordingly (but remember, in the case of the EPA it is mandatory in *every* instance). These are the only compulsory or discretionary formal referrals required by the legislation.

Nonetheless, other agencies or bodies, State and Commonwealth, have an interest in wind farm developments and desirably should be involved in providing advice. These informal 'consultations' are likely to include:

- Native Vegetation Council
- Natural Resource Management Boards
- State Heritage Unit
- Country Fire Services (CFS)
- Aboriginal Heritage and Native Title issues
- Mineral Resources
- Civil Aviation Safety Authority CASA)
- Commonwealth Environment Protection and Biodiversity Conservation Act

It has to be accepted, though, that these are ***informal*** in nature forwarded by the planning authority in the belief that there are questions or concerns connected to a wind farm proposal, regarding impact issues or for explanation value or the like, on which the particular body may be able to provide helpful and useful information that could influence the assessment outcome.

As this process is not mandatory, there is no obligation for any such body to respond to a request from the planning authority; it is at their discretion whether or not they wish to provide advice, information or assist in any way.

Section 49 Process

Section 49 - Crown development and public infrastructure - of the *Development Act 1993* provides another pathway for wind farm developers to seek an approval. This section deals with development proposed to be undertaken by a State agency or, and this is the key, by a person that is *supported* by a State agency for the purposes of providing public infrastructure (see box next page). Note that public infrastructure includes equipment, works etc for the supply of electricity.

Where a wind farm company has sought and received this support from an agency (eg from the Department for Manufacturing, Innovation, Trade, Resources and Energy), then DAC becomes the processing and assessing authority and subsequently prepares a report for the Minister.

The Minister may approve, in whole or in part, with or without conditions, or may refuse the development outright (sub-sections (12) and (13) of Section 49). The Minister's decision cannot be appealed by either the public or the applicant.

A Council's role in this process is quite limited, being restricted to advice only. DAC must give notice of the prescribed particulars of the application to the relevant Council, who then has an opportunity to provide a report to DAC within 2 months of that notice. If Council's report is negative, eg if it has expressed opposition to the proposal, DAC must attach a copy of this in its own report to the Minister. And, in turn, if the Minister approves the development, he/she must then lay a report on the matter before both Houses of Parliament.

If the development cost exceeds $4 million, DAC must undertake consultation by placing a public advertisement and inviting submissions from interested persons within a 15 business day period. These are then taken into account by DAC as part of its assessment. Such persons are able to be heard personally by DAC in support of their submission, but they do not have available to them any right of appeal to the Court.

Section 49(2) defines the circumstances as to what triggers State agency status (with sub-section (c) providing the crucial avenue potentially available to wind farm developers):

(a) a State agency proposes to undertake development (other than in partnership or joint venture with a person or body that is not a State agency); or

(b) a State agency proposes to undertake development for the purposes of the provision of public infrastructure (whether or not in partnership or joint venture with a person or body that is not a State agency); or

(c) a person proposes to undertake development initiated or supported by a State agency for the purposes of the provision of public infrastructure and specifically endorsed by the State agency for the purposes of this section

Section 49A - Electricity infrastructure development - has virtually an identical pathway as the standard Section 49 process, but this section applies specifically to a 'prescribed person' who is undertaking development for the purposes of the provision of electricity infrastructure. Regulation 68(1) of the *Development Regulations 2008* defines who such a 'prescribed person' is, namely a holder of a licence under the *Electricity Act 1996* that authorises that holder to:

- operate a distribution network or
- generate electricity or
- operate a transmission network

To what extent prospective wind farm applicants can access this pathway is dependent upon whether they firstly, qualify for and secondly, hold the required statutory licence. Sub-regulation (2) does declare, however, that a State agency within the meaning of Section 49 of the Act is not a prescribed person for the purposes of Section 49A of the Act. This may have the effect of eliminating the Section 49A pathway for wind farm applicants.

Irrespective though, as stated above, from a procedural/decision-making point of view and a Council's involvement in the process, it is perhaps irrelevant as there is little if any difference in the way an application is handled between the two sections of the Act.

4 Development Guidelines and Application Checklist

The following guidelines address the specific Development Plan provisions that relate directly to wind farm development and therefore need to be taken into account as part of the planning assessment. The structure of wind farm policy presents itself somewhat as a 'sieve' in that, at the top level, because wind farms are of benefit to the State, all areas of the State are potentially open, but the second 'sieve' limits such development to areas of sound and reliable wind; the next filter is to ensure areas free from any water-based or air transport operational constraints, with a final refinement being to avoid adverse impacts on natural environmental attributes or on other land uses (mostly of a sensitive nature, ie on people and where they live). But, even after this screening process, there remains a sizeable portion of the State's rural areas implicitly available for wind farm developments.

4.1 Assessment Criteria

Renewable Energy Facilities **module (General Section of Development Plan)**		
Development Plan Policy	**Commentary**	**Implications for assessment**
Objective 1 Development of renewable energy facilities that benefit the environment, the community and the state.	Stresses benefit to the State and its consumers as well as to the environment.	Broad generic, overarching statement, but difficult to use as a measure to help judge whether a wind farm in a particular geographic area is acceptable or not. All wind farms irrespective of individual merit would be expected to 'conceptually' satisfy this universal aim. Any argument attempting to maintain that a wind farm would not achieve this Objective could clearly not be supportable.
Objective 2 The development of renewable energy facilities, such as wind farms and ancillary development, in areas that provide opportunity to harvest natural resources for the efficient generation of electricity.	Development is encouraged to locate in areas best able to harvest natural resources for energy production, ie target locations that have favourable wind patterns.	Again, a wide-ranging and over-arching statement which makes it difficult to oppose wind farms in areas where favourable wind resources are demonstrated.
Objective 3 Location, siting, design and operation of renewable energy facilities to avoid or minimise adverse impacts on the natural environment and other land uses.	The footprint of a wind farm is to be designed with impact minimisation in mind. But, by their very nature, this is hard to achieve, so there will be compromises in accepting their disposition. A potentially incompatible land use mix could arise where existing mining/ mineral extraction takes place on or near the wind farm site possibly giving rise to competing operational conditions between the two activities. Or where mineral leases are held over the land, a resource which could become sterilised and cannot be exploited if the wind farm is present.	Some leeway possibly available to 'negotiate' aspects relating to the configuration of various wind farm elements. Discretion can be exercised, for example, over the particular siting and relationship of wind farm components relative to their environmental context and locality conditions. Generally, though, the scope of exploiting these sorts of opportunities would have a somewhat limited effect on the end result and be rather specific in nature. The circumstances would be rare where these considerations are likely to lead to a conclusion that the wind farm as a whole is a totally inappropriate form of development in a particular setting due to the breadth of its potential for environmental and landscape damage. Any potential land use conflict with mining interests must be resolved to make certain a wind farm does not inhibit any ongoing mining activity or nullify mineral leases. Otherwise, the wind farm may be an ill-suited use of the particular site and should not be supported.
PDC 1 Renewable energy facilities, including wind farms and ancillary development, should be: (a) located in areas that maximize efficient generation and supply of electricity; (b) designed and sited so as not to impact on the safety of water or air transport and the operation of ports, airfields and designated landing strips.	Reinforces import of the Objectives, directs wind farm activity towards locations where turbines can capitalise upon harvesting of wind, notably coastal and inland hilly areas. But, they need to also avoid affecting operational integrity of water/air transport infrastructure. In relation to wind farm proposals in the vicinity of an airfield, it has been clarified that an 'airfield' means a commercial airfield but does also include a local farmer's airstrip. Although the policy is more focussed on commercial airfields, which would mostly be located within dedicated airfield zones, policy areas etc (and likely to be beyond the primary zones which encourage wind farms), it is probable that local farmers' landing areas will be within these favoured zones and conceivably can be adjacent or near to a wind farm development.	Again, if wind resource is 'proved-up', then proposals are prima facie acceptable. But, direction is given to avoiding certain areas where transport efficiency and safety could be jeopardised. The potential impacts on local airstrips used for agricultural spraying and the like particularly need to be identified and addressed. Accordingly, some locational examination (albeit quite limited) of the appropriateness of siting could be carried out as to the possible repercussions for the safety of local light aircraft movements.

Renewable Energy Facilities module (General Section of Development Plan)		
Development Plan Policy	**Commentary**	**Implications for assessment**
Wind Farms and Ancillary Development **sub-heading**		
PDC 2 The visual impacts of wind farms and ancillary development (such as substations, maintenance sheds, access roads and wind monitoring masts) should be managed through: (a) wind turbine generators being: (i) setback at least 1000 metres from non-associated (non-stakeholder) dwellings and tourist accommodation (ii) setback at least 2000 metres from defined and zoned township, settlement or urban areas (including deferred urban areas) (iii) regularly spaced (iv) uniform in colour, size and shape and blade rotation direction (v) mounted on tubular towers (as opposed to lattice towers) (b) provision of vegetated buffers around substations, maintenance sheds and other ancillary structures.	Visual impact is not a factor in its own right to oppose a wind farm because of its cumulative scale and appearance, whether marginal or intrusive and extensive, on the landscape. Rather, this element is to be 'managed' through a set of criteria that is essentially of a technical nature than the framing of more subjective ,'visual amenity-aligned' policy considerations. This management is exercised via turbine separation distances from residential uses and urban zones, as well as the turbines' spatial design and the way they look and are orientated. The principle also promotes the establishment of landscaping around ground-based structures (though not necessarily having any affinity with the turbines themselves) to help moderate 'visual impact'. This issue represents one of the greatest potential negatives associated with wind farms, namely their comparatively vast industrial scale and presence in rural/farming districts and their undoubted visual influence over the landscape. But, the significance of the principle makes this visual prominence largely an irrelevant factor, and one not strictly available as a valid reason in its own right for opposing a wind farm. The assessment is more focussed upon whether the impacts have been appropriately managed through the application of the criteria.	By spelling out that visual impact is to be a 'managed' element rather than one 'avoided' outright, this aspect of a wind farm's footprint across the landscape has become an issue of little critical importance in its own right. Coupled with zone policy (see section below) that recognises wind farms being an expected form of development, and one that may need to be established in prominent locations to take advantage of the wind required for operational efficiency, a proposal cannot convincingly be challenged on either land use or visual impact grounds. They appreciably reduce the emphasis that can be placed on the visual impact and visual amenity factors when assessing applications of this nature, to the extent that there is little if no ability to refuse such a development based on visual impact and loss of amenity alone. Without doubt, wind turbines are a substantial visible element and are responsible for having a very strong visual presence across the countryside. Although this may be seen as an intrusive and undesirable element in the landscape, as far as Development Plan policy is now concerned, exposed and prominent locations are premised more on the need to capitalise on the efficient harvesting of a natural resource (ie wind) rather than preserving visual amenity or scenic landscapes. Visual impact has been essentially taken away as a factor in determining the suitability of a wind farm development. The siting and layout regimes for wind farms can potentially help reduce landscape impacts. For example, the clustering of turbines to avoid significant view lines or landscape features would help mitigate their visual exposure and landscape impacts. Locating numerous turbines in an open landscape can result in negative impacts irrespective, even though it may be unavoidable in many cases due to energy efficiency determinants. The *number* of turbines in an array can be more detrimental than the *height* of the turbines themselves. The height of wind turbines is a design constraint – the higher the rotor and the longer the diameter of the rotor blade, the greater the amount of electricity produced. Hence, a reduction in rotor height or diameter may lead to an increase in the *number* of turbines required to generate a particular target output, which may in turn generate other unwanted effects such as firstly, the turbines having a more sizeable geographic footprint and consequential visual 'untidiness' and secondly, a corresponding increase in the total amount of land required for the entire development. Also, impacts caused by groups of turbines can be lessened by avoiding dense spacing which creates visual clutter and by clustering turbines into 'functional units' with substantial open space between them. This can be a useful technique for mitigating impact on particular 'targeted' views or features as well. Careful selection of colour and materials can reduce contrast and visual impact of wind turbines on the landscape. Colours which are muted (soft grey, tan, cream) and materials which have a matte finish can lessen distant visibility and 'identity'. However, borrowing colour from the surrounding landscape can also increase contrast where the sky is the backdrop. Because of the scale of wind turbines, most views of the tops of the towers and the rotors are against the backdrop of the sky, and as such lighter colours are frequently recommended. The relevant planning should not try to lock the wind farm developer into using a particular brand of turbine as this action may have the effect of preventing the adoption of improved technology. Considering the length of time that often transpires between the lodgement of an application and the actual installation of the turbines, a more advanced turbine model may be available.

Renewable Energy Facilities module (General Section of Development Plan)

Development Plan Policy	Commentary	Implications for assessment
PDC 3 Wind farms and ancillary development should avoid or minimise the following impacts on nearby property owners / occupiers, road users and wildlife: (a) shadowing, flickering, reflection or glint (b) excessive noise (c) interference with television and radio signals and geographic positioning systems (d) interference with low altitude aircraft movements associated with agriculture (e) modification of vegetation, soils and habitats, striking of birds and bats.	PDC, again, calls for wind farms to be designed with impact minimisation in mind but the principle focusses upon particular types of amenity impacts that are to be confronted. This is a significant policy since it provides scope for opposing a wind farm development if these matters cannot be satisfactorily addressed. Although mostly of a technical, and presumably solvable, nature they do provide a detailed template for assessing the appropriateness of the proposed wind farm. ***Shadow flicker*** may occur under certain combinations of geographical position and time of day, when the sun passes behind the rotating blades of a turbine and casts a moving shadow over affected areas. When viewed from a stationary position the moving shadows cause periodic flickering of the light, and glint, from the sun, giving rise to the phenomenon of 'shadow flicker'. The effect is most noticeable inside buildings, where the flicker or glint appears through a window opening or doorway. ***Noise impact*** is an obvious potential problem with the operation of the turbines. This factor is effectively assessed by the EPA due to the formal referral process, a lead taken by the planning authority accordingly. ***Electro-magnetic*** *impacts* are generally associated with the transmission Line between the wind farm and the connection to the electricity grid. Electric and magnetic fields can be produced by natural processes on earth, or by human activity involving electricity or electronic devices. The invisible fields are strongest at their source (near the transmission lines), and are quickly attenuated as the distance from the transmission lines increases.	Amenity deals with the continuing enjoyment of places, including where people live, recreational areas and travel routes and the like. Apart from being dominant visible elements, the movement of wind turbine blades themselves can also produce other visual events that may impact on amenity, such as: ◆ sun glint and strobing effects caused by sun reflecting from the blades ◆ overshadowing ◆ shadow flicker. These effects tend to be experienced by those in close proximity to a wind farm, although sun glint may be visible from several kilometres away. Reference to the *National Wind Farm Development Guidelines* can be helpful in understanding the issue of ***shadow flicker*** and some of the remedies that mitigate annoyance. For instance, this phenomenon does not cause an on-going issue to those persons residing in close proximity to a wind farm due to the following factors: ◆ the wind is not always blowing - shadow flicker will not occur when the turbine is not rotating ◆ shadow flicker will not occur when the turbine is facing away from the sun ◆ cloud cover prevents shadows ◆ vegetation, topography and other buildings/development can block shadows at certain locations. The ***noise impact assessment*** should be undertaken in accordance with *Wind Farms Environmental Noise Guidelines* published by the EPA in July 2009. The turbine manufacturer's sound power data needs to be used to predict noise emission from the proposed wind turbines. The wind farm developer needs to accept that changes to the machine type or number and placement of wind turbines will require a review of noise predictions and compliance. Noise emission from any proposed transformer sub-station associated with the wind farm is to be also included in the propagation model. To undertake a noise impact assessment at hub height, as required by the Guidelines, the provided sound power levels need to be re-referenced to wind speeds at 80m above ground level using the reference roughness length (Zo) of 0.50m. In general the effects of wind turbines on ***electro-magnetic*** waves will normally be relatively limited. The tower and blades are slim and curved, and consequently will disperse rather than obstruct or reflect the waves. Where blades are of a material transparent or absorbent to the waves, as is commonly the case, problems are likely to be minimal. However, the location, size and design of the turbines may be important, depending on the location and nature of the communication transmission facilities.
	The presence of wind turbines can also have a detrimental effect on ***radio communications services***. The scope for turbines to impact communications systems is commonly as follows: ◆ the turbine tower may obstruct, reflect or refract the electromagnetic waves used in a range of communications systems for transmission	The ***communications systems*** most likely to be affected are those which operate at super high frequencies (particularly microwave systems operating at frequencies above about 300 MHz). These rely on line of sight between transmitter and receiver. Any obstruction in the vicinity of a straight line between these two points may cause interference and signal degradation. There are three types of radio communications services, point-to-point, point-to-multipoint and broadcast (radio and TV). Despite the work that may be carried out in a report to assess the likely impacts of the proposed wind farm on radio communications services in the area, it may not be possible to accurately predict the outcomes for every individual situation. Whilst the impact on point-to-point links can be predicted with a high degree of accuracy, this is not the case for point-to-multipoint and broadcast services.

Renewable Energy Facilities module (General Section of Development Plan)		
Development Plan Policy	**Commentary**	**Implications for assessment**
	◆ the rotating blades may have similar effects, on a time-variable basis. In some cases ghosting of TV receivers close to the wind farm may occur where metal blades (or those with metallic cores or metal components such as the lightning protection system) act as an aerial to on-transmit communication signals ◆ the turbine's electrical generator itself can produce electromagnetic interference, which may need to be suppressed by shielding design and maintenance of turbines (though in practice, a generator is little different from a typical electrical motor and it is quite rare for a wind turbine generator to present this problem).	In these circumstances, it is advisable to collect information about the services before and after construction so that if issues are identified after completion of the wind farm, a comparison can be made and the extent of the impact can be quantified and remedial action implemented.
	The State Government has not published any prescriptive policy provisions in relation to ***aircraft movements*** in the vicinity of existing or proposed wind farm developments that could be helpful in the assessment process. Due to the lack of policy direction, wind farm developers are striking their own agreements with aircraft operators regarding the minimum distances that aircraft will fly near wind turbines on a case-by-case and area/wind farm-specific basis.	The height of wind farm towers can be substantial implying that their effects may be experienced by aircraft and possibly prejudice their movements. The planning authority should insist upon the developer addressing this issue and exercise due regard as to the placement of the wind farm components so that the safety of aircraft is not compromised. The policy calls for interference with low altitude aircraft movements associated with agriculture to be avoided or minimised. If this cannot be adequately demonstrated, it may give some technical ground for arguing against parts or all of the wind farm being established.
	The types, locations and significance of ***flora and fauna***, particularly endangered or threatened species in the development area, are a vital consideration in determining whether a wind farm is an appropriate use or not. Although it is highly desirable that wind farms avoid exceptionally sensitive areas of vegetation, including remnant native vegetation, this may not be a practical outcome in all cases. During construction, the disturbance and clearance of vegetation can be avoided or minimised through careful siting and close attention to issues such as erosion, drainage run-off, habitat or food source destruction, weed and feral animal control. The positioning of turbines away from avian migratory routes and the use of larger, slower turning turbines, may help reduce the risk of avian strikes.	Development issues to be addressed include controlling run-off, maintaining water quality, stabilising topsoil and retaining existing vegetation, particularly in coastal areas where vegetation can be hard to re-establish. Any construction, particularly on slopes, should not cause erosion or surface degradation, especially in sensitive areas. As a general principle, steep slopes and ridgelines should be avoided, but such landform characteristics tend to favour ideal locations for capturing wind energy. The impact of wind farms upon birds and bats must be considered. The cumulative effects of wind farms may have an impact on the migratory routes of certain bird species. Solid towers and round nacelles prevent birds from nesting in the structure.
PDC 4 Wind turbine generators should be setback from dwellings, tourist accommodation and frequently visited public places (such as viewing platforms) a distance that will ensure that failure does not present an unacceptable risk to safety.	This setback requirement is related to safety factors alone, not to mitigate any perceived nuisance impacts, and seeks to secure a degree of isolation between turbines and the public. A minimum setback distance that is deemed to be safe is not prescribed however.	The planner must verify that the developer has supplied adequate detailed information that addresses the degree and nature of any risk of turbine failure and the implications of these findings on any nearby land uses, especially those specifically mentioned in the policy, as far as any desirable safety buffer distance is concerned.

Zone-based policies (eg *Primary Production Zone* or *Rural Zone*)

Development Plan Policy	Commentary	Implications for assessment
Objective Accommodation of wind farms and ancillary development.	Simple yet unambiguous statement that the zone is an acceptable, and expected, place for wind farm activity to take place.	Explicit intent for the zone to accommodate wind farm development, supporting an unequivocal policy goal that firmly positions this type of land use as part of the zone's core function and having the same footing as conventional primary production activities.
Desired Character Wind farms and ancillary development such as substations, maintenance sheds, access roads and connecting power-lines (including to the National Electricity Grid) are envisaged within the zone and constitute a component of the zone's desired character. These facilities will need to be located in areas where they can take advantage of the natural resource upon which they rely and, as a consequence, components (particularly turbines) may need to be: ▪ located in visually prominent locations such as ridgelines ▪ visible from scenic routes and valuable scenic and environmental areas ▪ located closer to roads than envisaged by generic setback policy. This, coupled with the large scale of these facilities (in terms of both height and spread of components), renders it difficult to mitigate the visual impacts of wind farms to the degree expected of other types of development. Subject to implementation of management techniques set out by general / council wide policy regarding renewable energy facilities, these visual impacts are to be accepted in pursuit of benefits derived from increased generation of renewable energy.	The content of the Desired Character section represents Development Plan planning policy in its own right, having the same status as the conventional Objectives and PDCs. Accordingly, its 'message' is to be also taken into account for development assessment purposes. The commentary on wind farms is an unmistakable expression of support for and endorsement of this type of development in the zone. The statements encapsulate the essence of the wind farm Objectives and PDCs written elsewhere into the Development Plan. It makes the case that whilst wind farms are potentially disruptive in landscape terms, this is to be accepted nonetheless because wind farms beneficially help the environment and our electricity generation capacity. The latter justifies the former provided a best practice approach is taken in dealing with perceived negative impacts. But, in planning terms, this represents policy direction and the planner is obliged to respect its importance in the assessment process and give it due weight.	The statement makes clear that planning authorities must accept that some landscape modification is to be assumed for a development of such far-reaching magnitude and uncompromising appearance. Although representing a new element in the landscape, the view is to be taken that visual amenity impact would not adversely upset the overriding character of the zone as a whole. The Desired Character statement emphatically acknowledges that wind farm location is driven largely by 'external' factors and not just by zoning policy. Terrain characteristics, access to suitable wind patterns, proximity to the electricity grid and inter-connector capacity all constrain the options available to operators as to where best to position such developments. Nonetheless, the 'market sell' about wind farms has always been about renewable energy and quotas and how important this is to a greener future and the consequent 'profit' to the community and the economy as a whole. The positives are emphasised, the potential negatives tend to be downplayed or neglected. What does seem to be missing in much of the argument is a consideration of the smaller-scale localised effects which may be a consequence of the actual intrinsic operation of a turbine itself or a wider issue related to negative amenity/ landscape change. The industry and the community will have greater confidence in and acceptance of location and operational parameters where a greater balance between the issues and their resolution can be achieved. In the meantime, as policy stands, there is little scope for opposing wind farm developments on the basis of the Desired Character sought for the zone.
PDC The following forms of development are envisaged in the zone: . . . . . . ▪ wind farm and ancillary development ▪ wind monitoring mast and ancillary development.	Without doubt wind farms are an encouraged land use, and are recognised as being appropriate for and intended to be located within the zone. Principle confirms, and reinforces, the Objective for the zone that wind farms are an envisaged form of development. Conceptually, such development has a free run in this sense and is no more a 'foreign' land use as is conventional farming.	By identifying wind farms as an envisaged development in the particular zones, wind farms have been given an 'open door' invitation to establish themselves, that they are welcome in a land use sense in the same way, for instance, that farming is expected in a Primary Production Zone. The principle reinforces the earlier zone and General policies/statements and makes it clearly difficult to oppose a wind farm development on its unsuitability for or inappropriateness to be located in the zone.
PDC Wind farms and ancillary development should be located in areas which provide opportunity for harvesting of wind and efficient generation of electricity and may therefore be sited: (a) in visually prominent locations (b) closer to roads than envisaged by generic setback policy.	Again, PDC stresses the self-evident goal for wind farms needing to take advantage of areas having reliable and healthy wind characteristics. The implication though, recognised in the policy, is that they are likely to be exposed to view and perhaps close to public roads, but that these factors, in themselves, are not reasons to resist their presence in such locations.	Realistically, because of their structural nature, size and range, the visual consequences arising from a wind farm cannot be totally mitigated. Visual impacts are deemed to be acceptable because the benefits of green energy production outweigh any perceived loss of landscape quality. In any event, the top level policy direction makes clear that wind farms are, as of right, to be located in favourable wind areas. On this question, a planning authority may have difficulty arguing otherwise, thus depreciating the weight that can be applied to the visual aspects.

Zone-based policies (eg *Primary Production Zone* or *Rural Zone*)

Development Plan Policy	Commentary	Implications for assessment
Procedural Matters ***Public Notification - Category 2*** Wind farms and ancillary development such as substations, maintenance sheds, access roads and connecting power-lines (including to the National Electricity Grid) where the base of all wind turbines is located at least 2000 metres from: (a) an existing dwelling or tourist accommodation that is not associated with the wind farm; (b) a proposed dwelling or tourist accommodation for which an operable development plan consent exists; (c) the boundaries of any Airfield, Airport, Centre, Community, Fringe, Historic Conservation, Home Industry, Living, Mixed Use, Residential, Settlement, Tourist, Township or Urban Zone, Policy Area or Precinct or any Heritage Area (including within the area of an adjoining Development Plan). Wind monitoring mast and ancillary development	If the turbines achieve the prescribed separation distance from the particular built-form or zone elements (ie 2 kilometres), the development must be processed as Category 2 public notification only. There is no discretion for 'elevating' a proposal to Category 3 where it satisfies the obligatory buffers. However, in the event that 1 or more turbines are sited within the 2 kilometre separation buffer, then the development as a whole would default to Category 3 public notification. Note that it would be a very courageous planning authority to exercise its discretion in forming an opinion that a wind farm is of a minor nature only and not having unreasonable impact etc, hence determining it as Category 1. Wind monitoring masts can only, at best, be Category 2, though some discretion for Category 1 may be exercised (see paragraph above).	Where the application is is clearly for Category 2 development, the adjoining landowners/occupiers are to be individually notified of the proposal in accord with the provisions of the legislation. This will provide potential representers with at least a 10 business day period in which to lodge a representation with the planning authority. Note that only those that have 'adjacent land' as defined in the *Development Act 1993* (Section 4 - Interpretation) are entitled to be given notice, no-one else. If a submission is received from anyone who was not entitled to be given a notice in the first place (ie someone who is not an owner/occupier of 'adjacent land'), then that submission is invalid and cannot be taken into account by the Development Assessment Panel. Valid representors may expressly ask to appear personally before the Panel, but this is only possible with the consent of the Panel in accordance with any Terms of Reference or Meeting Procedures the Panel (or the Council) may have determined. There is no automatic right for Category 2 representors to be able to address the meeting, the legislation affords the Panel an absolute discretion on this.
Summary of the key issues / impacts associated with wind farm development requiring consideration	◆ **location and land use context** ◆ **landscape character and values** ◆ **'technical' amenity concerns -**	**noise** **shadow flicker** **blade glint** **electro-magnetic / communications**
	◆ **transport -**	**access network / public road use** **air safety operations**
	◆ **environmental concerns -**	**flora and fauna** **construction effects** **public health and safety** **heritage - Aboriginal and European**
	◆ **management**	**community engagement** **socio-economic consequences** **bushfire management** **operational management and decommissioning**
Useful reference sources, guidelines, bulletins etc that can help clarify the assessment issues		Best Practice Guidelines for the Implementation of Wind Energy Projects in Australia, *Australian Wind Energy Association** (2013 update) Wind Farms and Landscape Value National Assessment Framework, *Australian Council of National Trusts* and *Australian Wind Energy Association** (2007) National Airports Safeguarding Framework - Guideline D: Managing the Risk to Aviation Safety of Wind Turbine Installations (Wind Farms)/Wind Monitoring Towers, *National Airports Safeguarding Advisory Group* (2012) Policy and Planning Guidelines for Development of Wind Energy Facilities in Victoria, *Department of Planning and Community Development* (July 2012) Guidelines for Wind Farm Development Planning Bulletin, *WA Planning Commission* (May 2004) Wind Farms Planning Bulletin - draft for consultation, *Planning SA* (August 2002)

Zone-based policies (eg *Primary Production Zone* or *Rural Zone*)

Development Plan Policy	Commentary	Implications for assessment
	Useful reference sources, guidelines, bulletins etc that can help clarify the assessment issues	Wind Farm Environmental Noise Guidelines, *EPA South Australia* (July 2009) National Wind Farm Development Guidelines - draft, *Environment Protection and Heritage Council* (July 2010) Draft standards, *Australian Radiation Protection and Nuclear Safety Agency* (*ARPANSA*) Emergency Management Guidelines for Wind Energy Facilities, *Victorian CFA* (version 4, issued February 2012 (* now superseded by the *Clean Energy Council*)

Local Government Resource Constraints - the reality . . .

Assessing wind farm applications by local government planners internally is resource hungry, particularly in terms of time commitments, if the task is to be done properly and thoroughly. This constraint is partly offset by the revenue Council receives from the application fees, especially the planning assessment fee which, for significant projects, can be up to $200,000. This financial resource gives Councils some scope for 'buying-in' extra professional expertise and services to assist with the assessment. However, a Council does not receive the full assessment fee in any event as 5% of this fee is required to be paid to the Development Assessment Commission (DAC) in accordance with Schedule 7 of the *Development Regulations* (Distribution of Fees).

But, if the application is lodged under the Section 49 Crown development route where the Minister is the decision-maker (not DAC), the State Government receives the full development fees which are not shared with Council despite Council being involved as a consultation body with a right, and an obligation, to provide a report to DAC for consideration. DAC has to take this into account in reaching its recommendation to then put to the Minister. There is a distinct financial inequity between the two different assessment paths as far as it affects local government.

Nonetheless, to do its job responsibly, a Council should strive to undertake a rigorous review of the proposal in preparing its report for DAC but, in responding to a Section 49 proposal, it can only do so off its own back without any additional financial contribution to compensate for the absence of application fees. This places a strain on Council resources and an enormous time burden on the planner to investigate the application in detail so that an informed position can be reached and upon which the Council can finalise its report. Desirably, there should be no shortcuts on this consultation and assessment effort but the reality is that Council will be supporting it entirely with its own money (either directly by commissioning external help or indirectly through the allocation of staff resources).

Tellingly, the State Government has dismantled its former community support fund directed at financially assisting Councils, and communities, to deal with wind farm proposals. This fund, among other aims, was available for Councils to tap into in responding to the Section 49 applications described above, hence helping deliver some resource capacity for Councils to produce more exhaustive and professional reports.

In assessing a wind farm application, because of their highly specialised nature and general complexity, great reliance is put onto the expert knowledge and detailed information (and conclusions drawn) contained in the technical reports provided as part of the application. The dilemma the planner faces is to what extent are these reports and their opinions/judgements/findings etc to be accepted at face value or are to be independently questioned and re-examined in regard to their 'validity'? The latter implies commissioning peer reviews of the reports' content to get a balance on the issues, but this would be at Council's expense. Is this step needed? Legal thinking suggests that the planning authority does not need to engage in a peer review process to verify the original application reports, but that these be taken in good faith and confidence be placed on their expert professional soundness.

4.2 Information Requirements

The following provides a checklist for both wind farm developers and Council planners to use as a guide to ensure that the the necessary documentation is lodged with and forms part of the application. It presents three layers (as it were) with the first two being core requirements, as a minimum, and the third taking a 'best practice' approach.

Impact assessments should be made using the best scientific knowledge available. The methodologies within these Guidelines have been produced using the best available scientific knowledge at the time of publication; however, science is constantly evolving and new information will need to be drawn upon in assessing a project.

As policy provisions are updated and changed from time to time, different or additional information, technical or other, may become necessary in the future to ensure that all potential implications of a wind farm development can be thoroughly assessed.

A. Statutory requirements

Item	Content	Significance
Development Application Form	Ensure that the applicant completes the following: ◆ the name of the Applicant and all relevant contact details supplied ◆ nature of the proposed development including all key aspects associated with the proposal ◆ a legal description of the subject land ◆ the estimated cost (including GST) is clearly stated ◆ make sure the DA Form is signed and dated by the Applicant	Required under Schedule 11 of the *Development Regulations 2008*. The first and a critical step for formally registering the application and putting the proposal into the system.
Certificate of Title(s)	A copy of the Certificate of Title is required to be provided for each and every parcel of land on which wind turbines and associated infrastructure is being proposed to be sited.	To legally identify land tenure details for the subject land, including land parcel identification, ownership information and any property constraints that may apply over it (eg easements, encumbrances, rights-of-way etc). All Titles should be up-to-date and preferably no older than 12 months of the date of lodging the application to ensure land data is current.
Electricity Declaration Form	Must be completed in full by the applicant and signed and dated.	Required pursuant to Clause 2A(1) of Schedule 5 of the *Development Regulations 2008*. This declaration is required to confirm that any building/ structure (including a turbine) constructed as part of the development is not contrary to the regulations prescribed for the purposes of Section 86 of the *Electricity Act 1996* (ie the structures will meet the clearance requirements for particular voltage powerlines).
Fees	Ensure these are paid at time of lodgement and before any processing of the application is commenced.	Schedule 6 of the *Development Regulations 2008* lists the statutory fees required to be paid to the planning authority, which for Development Plan consent, comprises payment of the appropriate lodgement, planning assessment, public notification and referral fees (note that the assessment fee payable cannot be more than a maximum of $200,000)

B. 'Base' information requirements

Item	Importance and usefulness of information requirement
Site plan and context statement	A site analysis is essential to provide a clear context for a wind farm development and its setting. Applications for wind farms should therefore include a *context statement* for the locality including an overview of the current planning framework, significant landscape and other environmental features, sites of cultural and ecological significance, characteristics (both physical and land use) and a technical assessment on the suitability of the site having regard to alternative potential sites in the area. The site analysis needs to cover, via plans, photographs or other techniques, and accurately describe: ***In relation to the site -*** ◆ the overall development boundary showing the full extent of the wind farm proposal ◆ specific site shape, dimensions and size ◆ orientation and contours

Item	Importance and usefulness of information requirement
	◆ current land use ◆ the existing use and location of existing buildings or works on the land ◆ existing vegetation types, condition and coverage ◆ the landscape of the site ◆ species of flora and fauna ◆ particular sites identifying cultural heritage significance ◆ wind characteristics ◆ any other notable features, constraints (eg acid sulphate soil, highly erodible soils and land instability) or other characteristics of the site. ***In relation to the surrounding area -*** ◆ nature of existing land uses in the locality ◆ above-ground utilities ◆ access to infrastructure ◆ direction and distances to nearby dwellings, townships, urban areas, significant conservation and recreation areas, water features, tourist routes and walking tracks, major roads, airstrips/ airports/aerodromes ◆ the location and use of buildings on adjacent properties ◆ the location of all existing dwellings within 2 kilometres of the nearest turbine (adopting a precautionary approach, accounting for micro-siting variation in final placement of turbines) ◆ the landscape, including any significant landscape features ◆ significance and sensitivity of the landscape, having regard to the blend and inter-mingling of topography, the extent and type of vegetation, natural features, land use patterns, built form character and community values ◆ views to and from the site, including views from existing dwellings and key vantage points including major roads, walking tracks, tourist routes and population growth corridors (if any) ◆ sites of flora and fauna, including any listed under the EPBC Act, and significant habitat corridors and movement corridors for these fauna ◆ sites of cultural heritage significance ◆ national parks, coastal reserves, Ramsar wetlands and other similar public land ◆ location of any nearby land which has particular landscape and/or environmental significance, specified coastal locations and areas identified to accommodate future urban growth, and separation distances between these and the development site ◆ any other notable features or characteristics of the area ◆ existence of mining/extractive industry activity or mineral resource areas ◆ bushfire risk areas ◆ capacity for the continuance of existing agricultural use of land after the development of a wind farm.
Wind farm design statement	A wind farm design statement, in written and illustrative form, should be provided and include details of the proposed development showing: ◆ wind farm layout, orientation and siting arrangements ◆ the number, location and specifications of the wind generator turbines (including the height of each turbine to the tip of the turbine blade when vertical above ground level) ◆ turbine design, including dimensions, height, colour and materials, and 'footprint' envelopes ◆ access points from the public road network, internal access routes and their on-site design and construction standard ◆ topsoil, overburden, vegetation clearing and rehabilitation areas ◆ small-scale plans and cross-sections showing the layout of the turbines, infrastructure, ancillary buildings and equipment ◆ the amount of electricity to be exported from the site, power outputs and description of electrical specifications and connections ◆ operational and maintenance arrangements, including any tourist-management facilities and amenities to be available to the public ◆ the layout of the wind turbine generators and associated buildings and works (this can include wind monitoring masts) ◆ proposed connections to the electricity grid ◆ a concept plan that includes the capacity of new grid connections, network transmission infrastructure, electricity utility works ◆ accurate visual simulations showing the appearance of the development in the context of the surrounding area and from key public view points ◆ measures to manage any fire risks associated with the facility ◆ a rehabilitation plan for the site, including plans for revegetation and regeneration works ◆ an explanation supporting and justifying how the proposed wind farm design derives from and responds to the site analysis (see section above).

Item	Importance and usefulness of information requirement
Network and grid connection details	Not only do the wind turbines themselves require assessment, but also the associated infrastructure that service them, such as sub-stations, transmission lines and poles (frequently placed overhead), wind monitoring masts and the like which have an impact as well. The physical reality of these components tends to compound the issues associated with wind farms generally as their effects can be experienced far wider than just the operation or existence of the wind farm itself. Sometimes, this allied infrastructure is not put forward at the time of the application for the wind turbines themselves but comes after an approval is given. A planning authority is then locked-in to looking at subsequent applications for this in a favourable way in light of the prior approval, ie it would appear illogical to approve the wind farm but oppose this ancillary infrastructure to make it all work. It is preferable that applications for wind farms incorporate up-front all of the components that will be required to power the wind farm development so that the total potential impacts of the development in its entirety can be assessed as one rather than piece-meal. It has sometimes been the case that attempts to get this information to accompany the original application, and thereby form part of the initial assessment process, have not been fruitful. Applicants have been reticent to provide details regarding the ancillary infrastructure. Some of the reasons given are that they have not advanced that far in their planning to have authoritative qualified data available or that it is burdensome to use up resources to do this work at the inceptive wind turbine stage. The thrust of these arguments is that the applicants are saying to the planning authority, trust us, just look at the wind turbines now, the rest will follow and all will work out well in any event. This approach means subsequent assessment frequently occurs after the event and is too late to be meaningful. Accordingly, as well as providing documentation on relation to the location of wind turbines and associated ancillary infrastructure, connection details and the route of proposed transmission lines linking the wind farm sub-station and the National Electricity Grid should be provided directly with, and form part of, the wind farm application itself. The notation of the transmission line route can be done in the same manner as the location of the proposed wind turbines by using a co-ordinate system. It is preferable that equipment with minimal visible support be selected and that power cables should be installed underground where possible. Locations close to high-voltage transmission lines or power stations reduce costs and therefore are generally favoured by developers in their preliminary selection process identifying potential sites. Wind farm developers should liaise with the Network Service Provider (NSP) to work through any network connection issues using the requirements set out in the National Electricity Rules and similar. Detailed assessment is likely to involve computer simulations of the wind farm and its connection to the grid. This is to verify that the wind farm meets the technical standards required of generators connecting to the grid and does not cause disturbance to the electrical system or to adjoining customers or generators.
'Impact-related' technical reports and proposed mitigation measures **Noise**	A wind energy facility has the potential to create noise from the following sources: ◆ mechanical noise produced by the wind turbine gearboxes/generators ◆ aerodynamic noise resulting from the movement of the rotor blades through the air ◆ general construction noise. The degree of noise impact depends on the sensitivity of the surrounding land uses, existing background noise levels, topography and wind speed and direction. Mechanical noise is being increasingly addressed in modern turbines as technology improves and usually is similar to, or less than, aerodynamic noise. Aerodynamic noise generally is 'subtle' in nature and similar to the noise of wind in trees. The noise characteristics of turbines vary according to their age, make and model. To avoid adverse noise impacts on the amenity of the surrounding community, it is imperative that the siting and design of wind farms factor in adequate buffers or separation distances between the facility and noise sensitive premises. The ultimate distance between sensitive uses and the wind turbine is usually determined on the basis of acoustical studies taking into account the sound power level of the turbine and performing sound propagation modelling for the expected range of wind speeds and directions. Noise monitoring and acoustical modelling against relevant criteria must be undertaken to demonstrate the acceptability of the wind farm based on its acoustic performance and the merits of separation distances being proposed. Certification of whether a wind energy facility complies with the *Wind Farm Environmental Noise Guidelines* issued by the EPA must be undertaken by a professional acoustic engineer. Wind farm applicants must therefore provide the detailed technical documentation signed by an impartial, properly skilled and experienced engineer who can verify that he/she has appropriate independence, qualifications and the competency to carry out the task.
Flora and fauna and biodiversity	Applicants must address whether the proposed wind energy facility is likely to impact upon species of flora or fauna. Where it is probable that sensitive species or habitats will be present on or near the site, or use the area as a migratory corridor, applicants must conduct surveys at the appropriate time for at least 12 months preceding the application. Survey work should determine the species present, any adverse impacts likely to arise from the proposed wind farm facility and any acceptable mitigation measures that may be necessary. An environmental impact assessment of the proposal should be undertaken and reported on as part of an overall environmental management plan in which the nature and degree of impacts identified (on vegetation, fauna/birds, biodiversity, ground erosion/stability, surface water/groundwater and aquifers) and what design response to the site analysis and methodologies to mitigate environmental harm was taken to faithfully manage flora and fauna is thoroughly and comprehensibly explained in plain English.

Item	Importance and usefulness of information requirement
	Potential biodiversity impacts at the site and in the surrounding area to be addressed in such an environmental management plan include: ◆ any direct and indirect removal of native vegetation and habitat that may arise because of turbine tower footings, access tracks and other infrastructure, and options that could minimise impacts through more sensitive layout design and micro-siting approaches ◆ how unavoidable native vegetation losses are to be addressed ◆ native fauna casualties resulting from construction activities ◆ the sensitivity of any protected species to disturbance, and options for minimising risks to wildlife arising from excavation and general construction works ◆ whether any species and communities are protected under the EPBC Act ◆ the potential loss of habitat of species protected under the EPBC Act ◆ measures to minimise the impacts on any native species ◆ location of proposed fences, wires and transmission lines that may interfere with or be difficult for native fauna to avoid ◆ location of transmission lines that could pose a hazard for large bird species ◆ the degree to which some species may avoid turbines by large margins, thereby leading to loss of access to their customary habitat. Additional to the above, a full dedicated avian study is recommended to take place to investigate: ◆ anticipated bird and bat casualties resulting from collisions with moving turbine blades and with stationary infrastructure (for example towers, wind monitoring masts, fences, powerlines) ◆ the risk level associated with site selection and farm layout/micro-siting for large, slow-flying birds (eg waterbirds, raptors) ◆ where lighting is to be used, the potential of collision risk resulting from disoriented birds at night ◆ whether special consideration for some bird and bat species may be required due to their significance, behaviour or movement patterns.
Blade glint	Blade glint can result from the sun reflecting from turbine blades. Blades should be finished with a surface treatment of low reflectivity to ensure that glint is minimised.
Shadow flicker	Shadow flicker results from the position of the sun in relation to the blades of the wind turbine as they rotate. This occurs under certain combinations of geographical position, time of day and weather conditions. The seasonal duration of this effect can be calculated from the geometry of the machine and the latitude of the site. Shadow flicker can be modelled in advance and siting and design can mitigate the problem. This is more likely to be an issue for turbines located to the east or west of a dwelling.
Electro-magnetic interference	The effect of wind turbines on electromagnetic waves will usually be relatively limited. Potential electromagnetic interference effects can be calculated from information about affected telecommunications transmitting or receiving stations, local conditions, turbine design and location. The potential for electromagnetic interference from the generation of electricity from a wind energy facility should be minimised, if not eliminated, through appropriate turbine design and siting. The siting of wind turbines in the 'line of sight' between transmitters and receivers should be avoided.

C. 'Best practice' information

Item	Importance and usefulness of information requirement
Landscape character and visual effect analysis	There is no doubt that wind farms impact upon the landscape, but the key is to determine whether or not the visual impact resulting from the development in the landscape is 'manageable'. In the context of Development Plan policy, visual exposure is unavoidable and an expected consequence of wind farm development, one which is to be accepted. Nonetheless, a landscape analysis is an essential tool in helping illustrate and interpret, to planners and the public, the magnitude of panoramic modification. The degree of visual impact of a wind energy facility depends on the extent of the change to the landscape caused by the development, taking into account: ◆ the overall visibility of the development ◆ the locations and distances from which the development can be viewed ◆ the significance of the landscape and proximity to sensitive areas ◆ landscape values associated with nearby public parks, conservation areas or Ramsar wetlands ◆ landscape values associated with nearby land, specified areas of landscape and environmental significance, specified coastal locations and areas identified to accommodate future urban growth ◆ the sensitivity of the landscape features to change. The features of the landscape include: ◆ the topography of the land ◆ the location, amount and type of vegetation ◆ natural features such as waterways, coast, cliffs, escarpments, hills, gullies and valleys ◆ visual boundaries between major landscape types ◆ the type, pattern, built form, scale and character of development within the landscape, including roads, tourist amenities and walking tracks

Item	Importance and usefulness of information requirement
	◆ flora and fauna habitat ◆ cultural heritage sites ◆ the nature and calibre of skyline exposure. The focus on the visual vulnerability of the development revolves around: ◆ the number, height, scale, spacing, colour and surface reflectivity of the wind turbines and towers ◆ quantity and characteristics of lighting, including aviation obstacle lighting, subject to CASA requirements and advice (though such lighting now seems to be the exception) ◆ potential to give rise to visual disorder and clutter as a consequence of turbine layout pattern ◆ the ability to view through a turbine cluster or an array of turbines because of a visually well ordered arrangement ◆ the existence of, removal or re-planting of vegetation ◆ the location and scale of other buildings and works including transmission lines and associated access roads ◆ proximity to an existing or proposed wind energy facility, having regard to cumulative visual effects. The visual prominence of a wind farm is based on a number of factors which affect the perceived scenic quality of an area and its landscape amenity and character. The degree to which a wind farm development will impact on the landscape will depend partly upon mitigation techniques. Methods that can be deployed to help reduce the visual impacts of wind farms include: ◆ locating the wind farm, ancillary buildings, access roads and transmission infrastructure to complement the natural landform contours and landform backdrop, locating arrays of turbines to reflect dominant topographical and/or cultural features, such as ridgelines, the coastline, water-courses, windbreaks or transmission lines and spacing turbines to respond to landscape characteristics - for instance, turbines reflecting landscape and topographical features may result in a random pattern that better suits a rolling, varied landform or a linear pattern more apt for a coastal edge, farmland or industrial context ◆ degree of visual exposure of the development having regard to the location, distance from which the development is visible, skyline and 'viewsheds' (zones of visual influence) ◆ location and design to minimise impacts on views from areas used for sensitive uses and tourism ◆ micro-site planning, layout and design of the turbines, infrastructure, signage and ancillary facilities ◆ ensuring all turbines, blades and towers - their profile, colour, dimensions/height and surface reflectivity - look alike, have a clean, sleek appearance and that the blades rotate in the same direction; the choice of harmonious materials and colour schemes (eg off-white and grey for turbines, low contrast for roads) to complement the skyline and the landscape backdrop to reduce visual disparity and contrast from key public view points ◆ minimising the number of turbines, as appropriate, by using the largest possible model (subject to the visual absorption capabilities and environmental considerations of the site) rather than numerous small ones ◆ limiting night lighting of the development, including obstacle lights on turbines, to that required for the safe operation of the wind farm whilst not compromising aviation safety ◆ undergrounding of electricity lines wherever practicable ◆ minimising earthworks and providing measures to prevent scouring of drainage lines and waterways ◆ minimising removal of vegetation and using advanced planting of vegetation screens comprising new vegetation of good health and quality both on- and off-site as visual buffers, ensuring sound and sensitive landform rehabilitation ◆ avoiding additional clutter on turbines, such as unrelated advertising or telecommunications apparatus.
Computer modelling and photomontages illustrating transformation of landscape values	3D computer modelling is the creation of an accurate three-dimensional digital representation of a site and/or its context. 3D computer models are generally built using a combination of GIS and animation software, which offers a diverse range of possible output types. Traditionally, 3D computer models are used to produce static images such as photomontages. However, advanced computer hardware capabilities have resulted in an increasing use of pre-rendered 'fly-through' animations and real-time 3D environments. Not only does a 3D model provide the base for a range of representation outputs, it can also be a very useful 'dynamic' design tool if generated at an early stage in the design process. A 3D model (even if it is just 'wireframe'), can allow developers to visualise the potential impacts that a proposed wind farm could have on an area and, ultimately, influencing and informing decisions regarding the favoured siting and design of a wind farm and its separate components. Regrettably, much of this early work to 'prove-up' a proposal is not made available as part of the application detail even though it could be invaluable in helping inform the process and the reasons for the chosen site and design. Photomontages are usually prepared by the applicant in order to present a pictorial presentation of what the rural landscape will look like when wind turbines are installed at the locations proposed in the application and are a very valuable tool to help people visualise a proposed development. Photomontage is a process for making a composite image by combining elements of real imagery and 3D digitalisation. The primary purpose of a photomontage is to accurately portray the proposed wind farm and the way in which it may modify or change the viewed landscape, especially the 'visual' landscape, by providing realistic 'before and after' depictions. Photomontages assist in imagining the potential impacts a proposed development could have on an area from an array of viewpoints that have been recorded digitally.

Item	Importance and usefulness of information requirement
	However, whilst they can be produced accurately to a specified method, they should always be considered as a pictorial construction that interprets the expected visibility of the wind farm. To maximise effectiveness of accuracy, the method of photomontage production should portray true scale, perspective, observer position, angle of view, colour, texture, angle of the sun and distance from the observer. Depictions taken from a prescribed viewing location can be a limitation, however, in that it does not allow all views from many other locations that may be of as great an interest to a wider section of the community; nor do photomontages give the viewer any indication of how the final layout/design of the wind farm evolved to the application stage. It does not present a series of options of how other configurations may affect the landscape, possibly to a lesser or a greater extent, that the proposal can be further judged by and, accordingly, gives the impression that this is the optimum result. This tends to reinforce the general public's view that the selected form of the wind farm has been a 'fait accompli'. Nonetheless, the photomontages must, through best endeavours, display a pictorial representation that accounts for a conception that is realistic and believable and not just a token effort in order to tick the box on a checklist. Another useful computer-generated tool is viewshed (or 'seen area') mapping which defines land visible from a point, or series of points. In its most basic form, a viewshed map or 'zone of visual influence' attempts to identify an area of landscape relative to a proposed development in terms of the latter's visibility from and within the surrounding locality. Viewshed mapping should be undertaken early in a project to also help identify the most useful locations for photomontages and similar computer generated simulations as well as, in its own right, assist planners and communities to identify locations from which the wind farm will be visible. A limitation of viewshed maps is that they are principally based on landform alone and do not take into account elements of the landscape including vegetation, built form and other ancillary infrastructure which may also influence the degree of visual exposure.
Community and stakeholder consultation strategy	The co-ordination and delivery of stakeholder participation activities is the responsibility of the wind farm developer. The industry itself has recognised the importance of this step by developing, and following, its own Code of Practice for conducting community consultation. Best practice requires the wind farm developer to not only understand community concerns but to also engage with local government and the respective community to ensure that their interests are considered in the design and development of the wind farm project as far as possible. Understandably, though, there are also limitations to the extent to which all community expectations can be satisfied and the balance of public interest can become blurred. Best practice suggests that a *Communications and Consultation Plan* be prepared to form the basis for an early commitment to connect with the community as well as, at a defined 'tactical' point, local government to provide a methodology for planning and delivering on-going community participation activities during the various stages of a wind farm's progress. The level and depth of community participation must be commensurate with the intensity of community concern. It is therefore important that stakeholder involvement is tailored to the specific circumstances of a proposed wind farm, including the nature and interests of relevant stakeholders, relative to the scale and location of the wind farm development. The plan should clearly outline the community participation requirements and activities for each stage of the wind farm development process. It is important to note that, at times, the lengthy nature of various wind farm development stages will normally require the *Communication and Consultation Plan* to be periodically revisited and updated to ensure that it remains current and relevant to the prevailing issues. This would particularly be the case for large scale wind developments which require a greater level of investigation and a corresponding level of consultation. Managing community input into the assessment and management of key technical study areas, such as noise, landscape and visual impacts, fauna/bird impacts, shadow flicker and electro-magnetic interference, is one of the key goals for the consultation.
Socio-economic impacts	There are positive economic benefits to the wider community and to individual farmers/landowners in having wind farms established in the district. Particularly during the construction phase, there are short-term employment opportunities as well as an increase in economic activity in the towns as a result of workforce expenditure on local services and goods. Likewise, farmers and landowners gain financially by accommodating turbines on their property, which supplements farm income but is unlikely to become a sustainable long-term substitute for the farm business. In South Australia, there is no set requirement for a socio-economic impact assessment to be submitted as part of an application. However, in order to satisfy specific objectives in the Development Plan and to assist with community consultation, an assessment report should be prepared detailing the significant social and economic effects of the wind farm proposal. In undertaking this assessment, a range of practices, methods and inputs can be followed, including: ◆ a site visit to gain an understanding of the wind farm site, its locality and regional characteristics and prevailing land uses that could be affected (both positively and negatively) ◆ publicly available data, primarily from the Australian Bureau of Statistics (ABS), the Federal Department of Education, Employment and Workplace Relations (DEEWR) and the South Australian Department of Further Education, Employment, Science and Technology (DFEEST), that could be used for the compilation of a demographic, workforce and industry profile and to outline pertinent social and economic trends

Item	Importance and usefulness of information requirement
	◆ scientific papers and industry publications on wind energy and its potential impacts ◆ industry standard statistical assumptions, including developer-supplied information, to estimate direct and indirect employment and investment generation associated with a particular wind farm ◆ findings of other specialist reports (including traffic and transportation, landscape and visual amenity, noise and community consultation) ◆ industry documentation and briefings regarding wind farm projects, consultation findings/ experiences, economic generators and social profit for regional communities. Wind farm developments generally have direct and indirect benefits for the community and its economy. Wind farms can be of considerable public interest and a tourist attraction. A management plan for visitors should be considered if the wind farm is to be accessible to or visited by the public.
Cumulative impact statement	Cumulative impacts occur when successive wind farm developments are located either alongside or in proximity to each other or as extensions of existing wind farm developments. The cumulative impact of multiple wind farm facilities in a region is likely to become an increasingly important issue for wind farm developments. Cumulative impacts can refer to landscape and visual effects, and a wide range of other environmental, social and economic impacts, both positive and negative. But, it can also be difficult for proponents to access information on other developments in the area. The best approach is to understand as far as possible how various impacts may theoretically change with the addition of another wind farm development in the area, and proactively work with regulators to co-ordinate more 'integrated' outcomes. Where an area is particularly well suited to wind energy production, it is probable that there will be multiple wind farm projects planned which can therefore contribute to a cumulative influence being felt over the broader area affected. Although each individual proposal must be determined as to its own merits, regard to the cumulative impacts of multiple wind farms taken collectively is also appropriate in the overall context of the locality and its ability to accommodate multiple developments, although this can be difficult in practice. A collaborative site analysis or cumulative impact audit should be called for, accompanied by plans, photographs, modelling and any other material, which describes the sites and the particular collective impacts that could be potentially generated or amplified by the proximity of multiple wind farms. These combined circumstances would have an influential bearing on the 'competency' of the specific proposal being assessed. In South Australia, cumulative impact is not an issue that is formally considered as part of the assessment process, based by and large on the fact that developers may not always have intentions to expand existing wind farms beyond the initial stage when lodging the original application or lack knowledge of the intentions of other wind farm operators for developing in the area (because of commercial confidentiality). However, as suggested above, information should be required and provided for cumulative impact assessments to be undertaken if existing wind farm developments are to be extended beyond that which was first proposed. The results from incremental impacts of multiple projects over time, either under development or about to be developed, need to be addressed and developers ought to identify those third-party developments that can be included in the assessment of indirect and cumulative impacts. Given the available tools and the nature of the impacts, this will change depending on the discipline or particular factor that contributes to the multiplier effect and is therefore relevant. Where multiple wind farm proposals already exist in close proximity to a new wind farm project under development, the following items should be considered: ◆ the propensity for an increase in specific impacts that can produce compounding and accumulative pressures that are experienced beyond the single wind farm proposal itself, thereby potentially upsetting further the landscape/environmental/ecological characteristics ◆ the propensity for an increase in bird mortality due to turbine collisions over multiple sites, rather than a single wind farm ◆ the risk that the local community could well become 'fatigued' with multiple, on-going community engagement processes - an abundance of community meetings, information sessions or materials about various developments, may result in community members tiring of attending local events or engaging in local discussions or activities and become frustrated with the whole process, implying developers may wish to consider using alternative methods for engaging the local community. Developers should maintain a dialogue with other wind farm developers in a region to ensure that consultation and/or development activities are planned cognisant of each other, and opportunities for joint collaboration between the developers and the affected communities be explored. Such an approach is encouraged in order to limit the risk of consultation 'fatigue' and subsequent disengagement from the process by the community and key stakeholders, which would be to the detriment of both developers and that community.

Item	Importance and usefulness of information requirement
Access and transport management plan	An assessment of the impact on the public road network is essential. Because of the nature of the heavy vehicles used during the construction period, there is great potential for road surfaces and pavements (including drainage infrastructure) to be seriously affected by the transport of equipment and freight to the development site. This has to be therefore carefully managed. This assessment should be submitted up-front as part of the development application. In general terms, assessment of the type and volume (number of movements per day) of traffic associated with the construction and operation of the wind farm, consideration of the potential impacts on the local and regional road network and any modifications to the road network that may be required (eg widening, resurfacing, drainage) should be carried out. The following is an overview of the content and issues to be explored by a suitably qualified traffic engineer in the preparation of an *Access and Transportation Management Plan*: **Executive summary** ◆ outline of how the assessment was undertaken, who has been involved and consulted, the defined road routes, how impacts are to be addressed and the process to be adopted to secure the necessary upgrading and on-going maintenance of the public road system **Background and existing conditions** ◆ existing road/transport conditions ◆ standard of public road network ◆ existing traffic volumes ◆ road network capacity ◆ accident data **Access routes for construction vehicles** ◆ exploration of suitable access options ◆ summary of the access options ◆ expected impact on road users and the community generally **Construction traffic considerations** ◆ traffic associated with wind farm construction ◆ traffic for transmission line and sub-station construction ◆ general traffic impact ◆ affect on road transport and vehicle movements ◆ affect on road infrastructure ◆ road maintenance strategy **Operational traffic considerations** ◆ traffic generation and impact on road surfaces and road drainage **Access considerations** ◆ main and local road transport routes ◆ road pavements, bridges and culverts ◆ site crossovers ◆ overhanging trees/vegetation clearance ◆ low level power lines ◆ floodways, ford crossings ◆ vertical road alignment ◆ corners with high crossfall ◆ potential generation of noise and dust **Permits** ◆ transport regulation (State/Police) ◆ local government permits **Safety considerations** ◆ road capacity ◆ signage ◆ sight distance at intersections ◆ hours of transport operation ◆ potential for effects on pedestrians and cyclists Subsequently, but preferably before the approval is granted, a binding Deed of Agreement (or similar) should be negotiated, and executed, between the Council itself and the applicant in respect to formally acknowledging and endorsing the *Access and Transportation Management Plan* based on the transport assessment but more securely dealing with the following matters: ◆ definition of roads and routes to be used for vehicles during construction and for on-going maintenance purposes ◆ load specifications of vehicles servicing the development ◆ identification of upgrade of roads required to accommodate all vehicles servicing the development ◆ identification of intersection treatment that is required to facilitate heavy traffic turning movements ◆ specification of engineering standards for pavement and drainage design and construction ◆ a management schedule during the construction stage of the development to minimise impact on road users ◆ a maintenance program for roads utilised by the vehicles servicing the development ◆ an agreement that all road upgrading (including drainage and water runoff measures), intersection treatment and on-going maintenance costs are to be borne by the developer of the wind farm over the anticipated operational life of the wind farm. Once turbines are in operation, there may be relatively few vehicles based continuously at the site. The need to replace machine components will from time to time generate heavier commercial vehicle movements, but these are likely to be infrequent.

Item	Importance and usefulness of information requirement
Construction and environmental management plan	The construction of a wind energy facility and associated infrastructure (access roads and transmission lines) must be managed to minimise on- and off-site adverse impacts on nearby residents and the environment. An environmental 'blueprint' should therefore be prepared setting out how environmental impacts will be managed through the construction phase and in accord with future operational and maintenance specifications. Such a plan defines and prescribes best practice management of a wind farm facility. It is an enduring, active document that is meant to run with the life of the facility and spells out how issues are to be dealt with, how they are responded to, the nature of any remedial action and who is involved, and who has primary corporate responsibility for ensuring the plan is adhered to. Accordingly, the preparation of a *Construction and Environmental Management Plan* is a necessity. This commonly demands all significant aspects of the project to be identified, including up-front and on-going risks, crucial potential hazards to the environment, actions to be taken (including mitigation), performance targets (where appropriate), monitoring processes during the construction of the wind farm as well as its future operational and maintenance performance. The *Construction and Environmental Management Plan* should form part of the application information and be 'signed off' as part of the consent granted by the planning authority. The plan should include: ◆ principles of environmental management relevant to the site and nature and scale of the facility ◆ standards to be met ◆ environmental mitigation measures ◆ monitoring requirements ◆ fauna management (including bird and bat monitoring, if required) and post-construction adaptive management measures where monitoring shows the proposal may have significant impacts on species of flora and fauna, especially that listed in the EPBC Act ◆ wind farm noise compliance management and a dedicated noise complaints registration and response process ◆ emergency management and response plan ◆ decommissioning and rehabilitation requirements (see section below) ◆ maintenance of internal site access tracks and entry points from the public road network ◆ water runoff, including stormwater, and associated management erosion and sediment control ◆ dust and construction noise management ◆ controlling the extent of works ◆ vegetation management and rehabilitation requirements ◆ storage of hazardous materials ◆ weed control ◆ waste management ◆ compliance regime and complaints handling ◆ reporting and works permit requirements ◆ emergency and incident management (including fire hazard management), audit and inspection program. The plan may be adjusted to capture any relevant conditions of consent or commitments to help ensure these are effectively communicated to the work site and are complied with. The plan should provide for the appointment of a person in the company who has absolute and unconditional authority for the carriage of the management and responsibility for the implementation of the plan throughout the construction phase and the wind farm's on-going operations.
Wind farm management plan and decommissioning	When a wind farm site is decommissioned, the demolition work will need to be properly managed and the site reinstated to its original use and condition, or other agreed use. If an operator decides that a wind farm will not be refurbished at the end of its operational life or that it will permanently cease operations at some point in time, the site must be decommissioned. The decommissioning of the site is always the responsibility of the operator of the wind farm. While the decommissioning of a wind farm is likely to be undertaken 20 years or more after the construction of the wind farm, decommissioning should be considered during the project development phase and as part of the original assessment. A *Decommissioning and Rehabilitation Plan* addressing all significant aspects of the decommissioning process should be developed as part of the *Construction and Environmental Management Plan* at the beginning of the project. The Plan should identify risks and/or significant environmental aspects, actions to be taken including mitigation and/or offsets (if required), performance targets (where appropriate) and monitoring processes during the decommissioning. It may also include a programme of community consultation and revisit the traffic management plan for potential impacts on the road network in removing the infrastructure.

Item	Importance and usefulness of information requirement
Bushfire management plan	The prevention and management of fire is a critical part of wind farm developments. Wind farms are predominantly constructed in rural and bushland environments where bushfire is a major concern. A detailed risk assessment should be conducted for the project across all stages of the development to evaluate the degree of potential fire risk and to guide response and abatement measures, including emergency response plans. As all sites and project configurations are different, standard approaches cannot be adopted although there would be common elements affecting all wind farms. The *Bushfire Management Plan* requirements would ordinarily include: ◆ provision of details of the wind farm site (such as wind farm location, turbine and access track/gate locations and on-site identification of assets) to assist the CFS determine and verify appropriate internal strategic and response planning ◆ development of an emergency response plan, in conjunction with the CFS, which would include agreed notification protocols, contacts and response actions ◆ design of internal access tracks to allow emergency vehicle access including the construction of all-weather surfaces, minimum track widths (including corners), maximum gradients (including entry and exit of dips), minimum weight bearing for crossovers and provision of turn arounds at heads of dead end tracks ◆ commitment to adhere to fuel load regulations and local CFS requirements around electrical compounds, transmission and distribution lines, buildings and other structures ◆ identification of water reserves in the local area which could be used for fire fighting, including provision of static water supply tanks and appropriate fittings and for on-site fire fighting infrastructure at agreed locations.
Air safety management plan	The height of wind turbines can be substantial and result in potential impacts upon nearby airfields/ airstrips, aircraft performance and air safety navigation. Applicants for a wind farm should address aircraft safety issues by considering the proximity of the site to airports, aerodromes, or landing areas and the likely nature of aircraft movements in the vicinity of the proposal and how these may be affected. This review would also encompass local farm landing strips used by light aircraft for agricultural purposes and CFS operational requirements when using its aerial fleet to fight bushfires. Applicants should consult with the Civil Aviation Safety Authority (CASA) for proposals that: ◆ are within 30 kilometres of a declared aerodrome or airfield ◆ infringe the obstacle limitation surface around a declared aerodrome ◆ include a building or structure, the top of which will be 110 metres or more above natural ground level (height of a wind turbine is that reached by the tip of the turbine blade when vertical above ground level). The development application should spell out that the proponent has consulted appropriately with CASA and other local or industry aviation bodies (such as Aerotch Australasia, a large aerial agribusiness firm) in relation to aircraft safety and navigation issues and confirm that these sorts of issues have been professionally explored and dealt with. These communications and consequent feedback should identify all aspects affecting the air safety characteristics emerging from the wind farm, especially that from CASA, and should be encapsulated in a more formal *Air Safety Management Plan* that is then submitted to form part of the application itself. It is desirable that this plan also address any issues associated with: ◆ light agricultural aircraft movements, the location of local landing strips and operational impacts on aerial spraying/baiting and the like that could be hindered by the existence of the proposed towers and turbines in agricultural areas ◆ in conjunction with the CFS, the safety of combatting bushfires with aerial fire fighting aircraft. It has to be appreciated that CASA may recommend appropriate safeguards to ensure aviation safety which may lead to changes to turbine locations, turbine heights and/or the provision of appropriate aviation safety lighting. Planning authorities should ensure that any concerns raised by CASA are appropriately reflected in any consent issued.

5 Decision Making

5.1 Relavant Considerations

In a legal sense, the only relevant considerations that may be taken into account in reaching a decision on a development proposal are those sourced from the provisions of the Development Plan. A role of the planning system is to ensure that any planning outcome is properly, fairly and soundly based and it achieves this by linking the development assessment process strongly to Development Plan policy.

A planning authority is therefore constrained by the legislation to assess development solely against that primary consideration and nothing else. In reality, when deciding whether to grant or to refuse a consent to an application for development, or on what conditions should be imposed, the planning authority must have regard to:

- the provisions of the relevant Development Plan in force at the time the application was lodged
- where relevant, any comments by a State agency, the report of a prescribed body or advice from the Development Assessment Commission, provided this relates to the provisions of the Development Plan (NB: any 'direction' made as a result of a referral under Schedule 8 *must* be complied with)
- any representations received as a result of public notification undertaken on the application, again provided those representations relate to the provisions of the Development Plan.

Arguments such as devaluation of property or health risk that are frequently raised as concerns by members of the local community against wind farm developments have no force where they are unfounded and not supported by evidence. Impacts such as negative effects on the value of neighbouring land, and on its re-sale prospects, and on perceived health problems resulting from the presence of wind farms are more of an emotional nature and have not survived legal scrutiny in the Court.

In regard to the latter, the Court has accepted the conclusions reached by the National Health and Medical Research Council (NHMRC) which conducted peer reviewed research indicating that there is currently no published scientific evidence to positively link wind turbines with adverse health effects; nor are there any known direct health impacts from shadow flicker or electromagnetic interference from correctly designed and sited wind farms.

Likewise, affects on land values are given no consideration or weight by the Court. Values of other property in a locality may fall or rise as a result of numerous factors, some relating to the outcome of planning decisions and new development or redevelopment, others for instance to public infrastructure decisions that may also affect the attractiveness of land. The Court has confirmed that land value is an outcome, not criteria upon which to judge a development proposal, nor founded in the primary Development Plan guide for assessing development and decision making. By falling outside of the planning system, land valuation is not a relevant consideration when assessing development proposals.

The *Development Act 1993* also makes it mandatory that, where a planning authority forms an opinion that a development proposal is seriously at variance with the relevant Development Plan, a consent cannot be granted (see Section 35(2) of the Act). In deciding what is 'serious' as opposed to 'not serious', a measure of judgment is called for by the planning authority. Occasionally, this judgement can be a fine line but the test is against the collective weight of relevant Development Plan policy and how forcefully this conflicts with and is in opposition to the development being applied for.

5.2 Conditions

The legislation allows a planning authority to approve a development subject to such conditions at its discretion and as it thinks fit which also run with the land and are binding and enforceable upon subsequent beneficiaries of that approval. The power to impose conditions on a planning consent is contained in Section 42 of the *Development Act 1993* (see box on next page). It is a wide power but there are constraints on its use. There are a number of principles, evolved through Court judgments, governing the soundness, legitimacy and nature of conditions that may be appropriate to place on an

approval. For instance, the Courts have addressed whether conditions may be too onerous (perhaps even ultra vires), whether they are valid or enforceable or are properly founded in a Development Plan context. The principles influencing the 'integrity' of conditions are as follows:

- conditions must have finality
- conditions cannot be used to alter the fundamental nature of an application
- conditions must relate to that development
- conditions cannot bind or fetter the discretion of authorities under other legislation
- conditions must have a planning purpose
- conditions must be fair and reasonable
- conditions must be clear and definite
- be wary of placing time limits on a development or to limit to temporary operation only
- only in rare circumstances would cash contributions be valid
- the need to seek approval under other Acts can be given only as advice or notes set out on the decision notification form and not as a condition.

Conditions cannot be used to overcome or obscure the primary question which a planning authority must first ask itself, namely, having regard to the objectives and principles of the relevant Development Plan, is the proposed development a suitable and appropriate use of the land?

As a principal duty of a planning authority is to control land use, this question, then, should always focus on whether, in the circumstances, the development will represent prima facie an acceptable and proper function for the subject land having regard to Development Plan policy.

Having addressed that primary question, and answered it affirmatively, the planning authority should only then turn its attention to appropriate conditions. But, conditions should not be used to alter the essential character of the development or constrain it in a manner that would be inconsistent with what was applied for. Nor should conditions be designed to 'refashion' a development into a more supportable use of the land. To approach a planning decision by framing conditions in these ways is to bypass the primary question.

Likewise, if a plethora of conditions are needed to help control the impact of a development to achieve a more tolerable outcome, then this raises doubt whether, in the first place, enough information detail was supplied with the application and secondly, are the development deficiencies of a more fundamental nature?

Section 42 states the following:

42—Conditions

(1) A decision under this Division is subject to such conditions (if any)—

(a) as a relevant authority thinks fit to impose in relation to the development; or

(b) as may be prescribed by the regulations or otherwise imposed under this Act.

(2) Any such condition—

(a) is binding on, and enforceable against—

(i) the person by whom the development is undertaken; and

(ii) any person who acquires the benefit of the decision or the development; and

(iii) the owners and occupiers of the land on which the development is undertaken; and

(b) may continue to apply in relation to the development unless or until it is varied or revoked by the relevant authority in accordance with an application under this Division.

(3) A relevant authority may, for example, approve a development subject to a condition-

(a) that regulates or restricts the use of any land or building subject to development; or

(b) that provides for the management, preservation or conservation of any land or building subject to development; or

(c) that regulates maintenance of any land or building subject to development; or

(d) where the applicant is seeking approval for a temporary development—that provides that, at a future time specified in the condition—

(i) the previous use of the land will revive, or a use of the land will cease; and

(ii) any person who has the benefit of the development will restore the land to the state in which it existed immediately before the development.

The power to impose conditions is for the purpose of enabling the planning authority to regulate incidental aspects of the development so that there is greater confidence it will not have an adverse effect upon the amenity of the neighbourhood of the development, either in the course of construction or when the development is completed. But there is

an important difference between conditions which deal with incidental aspects of the proposed development and those that fundamentally affect the intended use of the land. As stated above, conditions that have the effect of 'manipulating' the very nature and essence of a development to compel that development or land to be used in a way that is significantly different from that applied for in the first place is an improper use of conditions. Likewise, to alter the fundamental or underlying character of a proposal and to handicap its 'performance' with conditions that are unworkable, unenforceable or ultra vires is also untenable.

Nor should conditions frustrate the operation of the provisions of the Development Plan by, for example, preventing or allowing a future activity for which an application may be made or which may be contrary to those provisions. If a Court finds a condition to be invalid, it must then make a decision as to whether that condition can be merely severed from the approval or whether it has indispensable authority and its deletion would seriously alter the substance of that original approval. In the latter circumstances, the approval itself is likely to be held invalid.

On a technical point, Regulation 42(3) *Development Regulations 2008* requires the planning authority to also give reasons for conditions that are imposed on a consent. A benefit of this, however, can be to highlight why the authority wishes to impose the condition and that, in turn, can assist in determining whether the condition meets the tests for validity outlined above. This sub-regulation also requires the relevant authority in imposing any condition on the basis of a 'direction' from a Schedule 8 referral body, to expressly identify that particular prescribed body.

5.3 Reserved Matters

A planning authority, when assessing a development proposal, can defer its decision on a specific matter of that proposal. Section 33(3) of the *Development Act 1993*, allows the authority to reserve its decision on a specified matter:

> *A relevant authority may, in granting a development plan consent, reserve its decision on a specified matter until further assessment of the relevant development under this Act.*

Deadline and other pressures can understandably at times lead the planning authority to exercise the option to place reserved matters on a consent. Normally, though, it would be expected that all the relevant documentation needed to make an informed decision on the development as a whole should have been provided as part of the application in the first place, so reserve matters should be avoidable anyway.

But, if used, then caution must be exercised. Reserved matters should be used sparingly and it is unwise to defer any matter that is integral to the development. A reserved matter should really only address relatively minor and incidental details more of a technical flavour (such as stormwater, landscaping, parking, signs, lighting etc) and only after the development proposal itself is determined to be an acceptable use of the subject land, ie the primary question raised in the above section has been satisfied.

Issues that are central to and indivisible from, or have a key interdependence with, the essential qualities of a development proposal, and which will have an impact on whether consent should or should not be granted in the first place, cannot be made reserved matters to be dealt with at a later date. The development has to be regarded as a whole, not sliced into discrete and separate components that are revisited afterwards. To take any other action by way of reserving such fundamental matters is effectively to defer an assessment of the proposal against the Development Plan.

Deferred matters must be resolved prior to the granting of final development approval. But, a critical implication resulting from a refusal on a reserved matter may be to have the effect of refusing the development itself no matter how minor the reserved matter is. Courts have therefore tended to view reserved matters with some unease and have reminded planning authorities that it is a power that must be employed with great care.

In the past, some authorities have placed reserved matters by way of a condition(s) on the relevant decision notification form (DNF). However, the more appropriate approach is to include reserved matters under a separate heading, and to be clearly and independently identified as such, on the DNF quite apart from the normal conditions.

5.4 Temporary Approvals

It is self-evident that temporary approvals are approvals relating to development that is of a short-term nature only. Because of the scale involved and the level of investment commitment, it would be rare, and improbable, that a temporary approval would be sought by a wind farm applicant; and doubtlessly would be ultra vires if the planning authority attempted to time-limit in this fashion a consent to a wind farm development.

A temporary approval is more likely to be the case for wind monitoring masts which are often applied for on a short-lived basis in the first place. Their finite duration is a consequence of their preliminary role to gather wind data over an optimal period of time in order to 'prove-up' an area as to its potential suitability for wind power generation. Once these characteristics have been verified, the usefulness of the monitoring mast generally comes to an end. However, there are instances where wind farm companies wish to continue wind monitoring hand-in-hand with an established wind farm for operational and efficiency reasons.

This raises the question as to whether applications for wind monitoring masts should be described as representing a 'permanent' or a 'temporary' structure. Whether the approvals for these masts are to be truly temporary and therefore last for a limited period of time only or whether a long-term or permanent approval is sought depends, obviously, in the first instance upon what the wind farm developer applies for. Courts are wary of planning authorities forcing a temporary approval on an applicant (by way of a condition) where this was not what was originally applied for and the expectation was for an unlimited or indefinite approval.

What, then, does the term 'temporary' mean in a planning context? The Court has accepted that the most common situation in which a temporary development authorisation will be granted is one in which there are sound planning reasons why a permanent authorisation should not be granted, ie a situation where the reasons arguing that a permanent authorisation should not be granted either do not apply or do not apply with the same force to a temporary authorisation of the same development. The reasoning and assessment applied to a temporary authorisation may be materially different and as a consequence may produce a different end result.

Also, the Court has provided some guidance as to the appropriateness of a planning authority granting a temporary approval, after taking an assessment of the development as a whole, and taking into account:

- the nature of the development involved
- the relevant provisions of the Development Plan
- the character of the locality in which it lies
- the likely future rate of development of that locality
- the length of time for which the authorisation is sought
- a variety of other matters.

5.5 Extensions to Approvals

The legislation allows a relevant authority to extend the time period for a development approval, either up front at the time it makes its initial decision on an application, or on its own initiative or upon the receipt of a written request by the applicant for an extension (see box on next page, especially the Section 40(3) wording). The Courts have determined that the consent/approval need not be current at the time a request for an extension is applied for.

Frequent reasons given for seeking extensions to approvals commonly include delays in arranging development finance, difficulties in establishing construction agreements and/or a changing economic environment affecting the development's viability.

When a developer lodges an application for an extension to an existing approval that has lapsed, the planning authority has a discretion as to whether to extend the life of that approval or not. That discretion should be exercised by having regard to the relevant facts of the particular matter but the Courts have helpfully given direction as to the factors that ought to be addressed in granting such an extension, as follows:

- the length of delay in applying for the extension (and allowing for the rationale for the applicant needing an extension of time)
- the reasons for the delay (as noted above, there is no automatic bar to an application for an extension being made after the consent has lapsed)
- whether the applicant has pursued a development approval with diligence
- whether there has been a change to the Development Plan or to the planning legislation that are relevant to the application such that there may be consequent prejudice suffered by the grant of or refusal to extend the period
- any other factors appropriate to the circumstances.

The critical factor identified from the above would be the 'status' of Development Plan policy and whether this had changed or not to that which applied when the development was first approved. If it has, then depending upon the content and extent of the policy changes, the overall suitability of the development may not be as clear cut as previously and therefore an extension may not be appropriate.

Section 40—Determination of application (*Development Act 1993*)

(2) A development authorisation under this Division remains operative for a period prescribed by the regulations.

(3) A relevant authority may, on its own initiative or on the application of a person who has the benefit of any relevant development authorisation, extend a period prescribed under subsection (2).

Regulation 48—Lapse of consent or approval (*Development Regulations 2008*)

(2) A period prescribed by sub-regulation (1) [1]may be extended by a relevant authority—

(a) when the relevant consent or approval is given; or

(b) at such later time as may be appropriate.

([1] The periods specified in sub-regulation (1) require substantial commencement of the development within 12 months from the operative date of the consent/approval and substantial completion within 3 years.)

The attitude of neighbours is not a relevant consideration in determining whether an application to extend a consent should be agreed to as the issue of the development's alignment with Development Plan policy and its suitability and 'fit' within its locality were addressed in the original assessment. The planning authority need not consider this further as it is not re-doing the planning assessment of the proposal, it is merely determining if it is reasonable to grant a longer period of time in which to allow the development to get started.

Wind monitoring masts, in particular, are subject to applications for extensions to their authorisations but in these cases mostly to overcome (usually) the temporary approval originally granted. Masts, because their function is directed at identifying favourable wind areas for harvesting wind energy, were normally authorised in select locations for a 3 year period. But it is now the case that their operative value to wind farm developers goes beyond just having this short-term function.

For instance, wind monitoring data is used to source capital for future projects thereby necessitating longer time-frames being committed to monitoring and to the on-going measurement of wind characteristics. The function of masts has therefore taken on more than just a 'temporary' role 'proving-up' a particular wind farm site. It is also the case that as finance has become more difficult for developers to secure or as Commonwealth renewable energy programs are reviewed and/or redrafted, the period in which wind monitoring masts are needed tends to lengthen, often extending to a 5 year period or beyond.

Once wind monitoring masts are in place doing their planned job, the principal focus of many wind farm developers then turns towards developing the wind farm proposal itself with a result that ensuring mast approvals are current has been overlooked on occasions. Failure to ensure a temporary wind monitoring mast approval remains operative has led, in extreme cases, to some masts having to be removed at the expiration of the approval. And, where the extension of time application is not successful, the only path open to a wind farm developer is to make a new application for the mast requiring a fresh assessment and decision, with a possibility of a different outcome second time round.

5.6 Land Management Agreements

Section 57A of the *Development Act 1993* provides for Land Management Agreements (LMA) in relation to development applications by empowering a Council (or the Minister) to enter into such an agreement with the owner of the land that may relate to the development, management, preservation or conservation of land (see box for extract of Section 57A).

LMAs are therefore a tool that can help ensure that a development is managed in an acceptable way. They are not, however, a substitute for the proper development assessment process outlined in the legislation that a planning authority must adhere to. LMAs cannot be used to facilitate a way around Development Plan policy or to 'legitimise' any development that may be at odds with that policy. There must be a genuine nexus between an LMA and what the Development Plan supports.

Be aware also that a party cannot be coerced into participating in an LMA. All parties must be of similar mind and be equally willing to enter into the agreement.

In the event that an agreement is believed to be a useful mechanism for supporting or sustaining components of a wind farm development, the planning authority would be strongly advised to seek legal opinion both on the reasons and the substance as to why an LMA is believed to be necessary in the first place and also on the actual legal structure and wording of the document itself. This may help avoid future ambiguities and misunderstandings, as well as the prospect of the agreement subsequently being determined as invalid.

An LMA is only binding when it has been noted on the Certificate of Title for the land affected. Also, it runs with the land and is binding upon subsequent property owners, irrespective that the agreement was enacted with the original owner.

A register of LMAs must be kept available for public inspection and a person is entitled, on payment of a prescribed fee, to a copy of an agreement.

57A—Land management agreements—development applications

(1) Subject to this section, a designated authority may enter into an agreement under this section with a person who is applying for a development authorisation under this Act that will, in the event that the relevant development is approved, bind -

(a) the person; and

(b) any other person who has the benefit of the development authorisation; and

(c) the owner of the relevant land (if he or she is not within the ambit of paragraph (a) or (b) and if the other requirements of this section are satisfied).

(2) An agreement under this section may relate to any matter that the person applying for the development authorisation and the designated authority agree is relevant to the proposed development (including a matter that is not necessarily relevant to the assessment of the development under this Act).

(3) However, the parties proposing to enter into an agreement must have regard to—

(a) the provisions of the appropriate Development Plan; and

(b) the principle that the entering into of an agreement under this section by the designated authority should not be used as a substitute to proceeding with an amendment to a Development Plan under this Act.

(4) An agreement under this section cannot require a person who has the benefit of the relevant development authorisation to make a financial contribution for any purpose that is not directly related to an issue associated with the development to which the agreement relates.

Appendix A

South Australian Government Policy Position on Wind Farms

Planning policy in relation to the development of wind farms was first introduced by the State Government through the *Wind Farms Plan Amendment Report (Ministerial)* on 24 July 2003.

This Plan Amendment Report (PAR) was placed on interim approval meaning that the policy provisions came into effect immediately. Note that the same strategy was later adopted in the *Statewide Wind Farms DPA* released in October 2011.

The original PAR introduced a few high level, but very general, policy provisions which gave some recognition to the technical impacts that should be assessed in future wind farm developments. However, the policy provisions at that stage gave no guidance to issues such as setback requirements for a wind farm proposal generally or for individual wind turbines.

As for public notification, most wind farm applications were processed as a Category 3 form of development. This occurred essentially on the basis that as neither the Development Plan nor the *Development Regulations 2008* (Schedule 9) listed wind farms specifically as either Category 1 or Category 2, they therefore became Category 3 by default. This provided appeal rights to third-parties to challenge wind farm approvals.

However, a degree of discretion was exercised by some planning authorities when it came to wind monitoring masts. In a number of instances, wind monitoring masts were processed as Category 1 forms of development, because of the opinion formed that these were of a minor nature and not likely to unreasonably impact on owners/occupiers, and thus required no public notification.

As part of its package, the Government had earlier issued in August 2002 a '*Wind Farms - Guide for Applicants*', along with a draft '*Wind Farms Planning Bulletin*' for consultation, to some extent as a precursor to the changes subsequently made to expressly acknowledge wind farms in the planning framework of Development Plans.

The guide was written to assist wind farm developers and planning authorities by providing an indication of the information required as part of a wind farm development application. The accompanying Planning Bulletin was drafted in response to '*. . . a review of early wind farm developments in the state, research into interstate and overseas wind farm issues and . . . the increasing complexity of (wind farm) issues, particularly in regard to more prominent locations*.'

The Planning Bulletin has yet to be released in a final form.

During the period between 2003 and 2011, most of the guidelines that had been prepared by then Planning SA were not updated and much of the policy that related to wind farm and associated infrastructure (eg wind monitoring masts) were omitted from many rural Council Development Plans.

In October 2011, the Government introduced a *Statewide Wind Farms Ministerial Development Plan Amendment (DPA)*, on interim operation. This meant that the significant changes introduced by the DPA applied with immediate effect which took many by surprise, including local government and especially members of the public. The nature of the new policies and their clear inference that wind farms were by and large acceptable in rural areas, almost but not quite 'as of right', led many people to believe that the wind industry was given a 'free kick'. Many public submissions resulting from the consultation process made strong points around this belief.

Another controversial policy change resulting from the DPA was in relation to the public notification process. As outlined above, prior to the 'interim' approval of the 2011 DPA, wind farm developments were classified as Category 3. However, these became listed in the relevant zones as a Category 2 form of development for the purposes of public notification if the turbines within a wind farm were located more than 2 kilometres from a township zone or the boundary of a Council area. In essence, this took away community members' right to appeal to the Court if they were aggrieved by the planning decision.

In addition to the significant reversal of the public notification process, the DPA introduced the need for additional technical studies to be undertaken by developers to determine any potential unacceptable risk to public safety associated with turbine failure and the potential interference to low altitude aerial agricultural operations in the vicinity of the project.

The 'interim' operation of the 2011 DPA remained in place until an amended replacement set of wind farm policies (revised as a result of numerous consultation submissions received) came into operation on 18 October 2012.

Broadly speaking, however, these redrafted provisions represented a refinement of the policy framework that was established in 2011 but which, by and large, simply reinforced the original intent and approach.

Significantly, under the new policy provisions, the public notification categorisation went mostly unchanged and wind farm proposals remained a Category 2 form of development where all the turbines are located:

- at least 2 kilometres from an existing or approved dwelling or tourist accommodation (other than where an agreement is in place), and
- at least 2 kilometres from Airfield, Airport, Centre, Community, Fringe, Historic Conversation, Home Industry, Living, Mixed Use, Residential, Settlement, Tourist, Township or Urban Zone, Policy Area or Precinct or any Heritage Area.

If the above criteria cannot be met, a wind farm proposal would progress to a Category 3 form of development which then subjects the application to full public notification and third-party appeal rights. It is likely that this will be the exception, however, as wind farm developers would have a strong incentive to ensure that the planning and design of a wind farm achieve these separation distances. The new public notification criteria has therefore entrenched the ‘default’ Category 2 public notification position with its in-built avoidance of subsequent third-party appeal rights.

Another State Government initiative, indirectly related to its policy position, was a recognition of the impact of wind farm developments within the Central Local Government Region (CLGR). The region currently produces over 50% (655MW) of the State's wind energy and already contains 8 operational wind farms, with developer interest in over 30 more locations. In view of the concentration of this industry within the Mid North region, in mid-2011, the CLGR received funding from then Renewables SA to engage a '*Wind Farm Liaison Officer*' for a 12 month period to help address the growing tensions between the Mid North regional communities, local government and wind farm developers, as the industry continues to expand at an energetic pace.

Whilst there is general support for renewable energy and opportunities for further growth in the region, there is also growing community and Council concern over what many see as the inappropriate location of these large, industrial-scale developments, inadequate development policy guidance, the cumulative impacts of multiple wind farms within a relatively condensed geographic space and over operational monitoring.

Appendix B

Acknowledgements

In order to compile much of the information contained within this document, it was necessary to seek data and documentation from numerous local Councils within the CLGR that have had wind farm activity in their districts. The information supplied relating to wind farm and wind monitoring mast applications, such as Decision Notification Forms and other relevant details, has been much appreciated. The various officers within the following Councils (and DAC) who provided information or helpful background relating to projects with which they were involved, are therefore acknowledged:

Clare and Gilbert Valleys Council

DC Mount Remarkable

District Council of Mallala

Regional Council of Goyder

Light Regional Council

Northern Areas Council

Port Pirie Regional Council

Wattle Range Council

Development Assessment Commission

SUPPLEMENTARY REPORT

CRYSTAL BROOK ENERGY PARK

AVIATION IMPACT STATEMENT
SOLAR GLARE REVIEW
QUALITATIVE RISK ASSESSMENT
AND
OBSTACLE LIGHTING REVIEW

THIS REPORT MUST BE READ IN CONJUNCTION WITH THE FINAL REPORT DATED 5 MARCH 2018

CCP01

Report to:

NEOEN

21 May 2018

Chiron Aviation Consultants
Essendon Vic 3040
Australia

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DOCUMENT RELEASE APPROVAL

Approved for Final Release:

Name: Ian Jennings

Title: Principal Consultant

Date: 21 May 2018

Distribution: Tom Jenkins, Project Manager
Neoen Australia Pty Ltd

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EXECUTIVE SUMMARY

Neoen Australia Pty Ltd have requested that Chiron Aviation Consultants provide an Aviation Impact Statement, Qualitative Risk Assessment, Obstacle Lighting Review and a Solar Glare Analysis for the Crystal Brook Energy Park near Port Pirie in South Australia. The Crystal Brook Energy Park has two components, a Wind Farm comprising 26 turbines with a tip height of 240m above ground level and a Solar Farm comprising up to 150Mw or 170ha of single axis tracking photovoltaic panels facing north and no more than 4m above ground level.

The Aviation Impact Statement concludes that the Crystal Brook Energy Park **will not impact** upon the following:

- The Obstacle Limitation Surface and Procedures for Air Navigation Services ï Aircraft Operations surfaces published for any registered or certified aerodrome;
- Any air route Lowest Safe Altitudes;
- The operation of any Communication, Navigation Aids or Surveillance facilities;
- The landing or take-off phase of flight from any identified aerodromes due to glare or glint from the photovoltaic panels; and
- The normal flight of aircraft over the Solar Farm due to glare or glint from the photovoltaic panels.

The Airservices Australia assessment concurs with the above conclusions regarding the Crystal Brook Energy Park aviation impact.

The Department of Defence assessment finds that the Crystal Brook Energy Park will have no impact on Defence activities.

The Qualitative Risk Assessment finds that for the Crystal Brook Energy Park:

- By day the wind turbines are conspicuous by their size and colour;
- Night operations of aircraft do not occur below prescribed airspace. IFR aircraft are protected by the Instrument Approach Procedures;
- Where an approach to land is undertaken operating to VFR at Night, descent below the Lowest Safe Altitude does not occur until within 3nm of the airport and with it in sight; and
- Is assessed as a **LOW risk to aviation** and is therefore ***not a hazard to aircraft safety.***

The Obstacle Lighting Review for the Crystal Brook Energy Park finds that in accordance with the NASF Guideline D risk assessment:

- Obstacle lighting is not required as the **risk to aviation is LOW** and no additional mitigating strategies are necessary.

1. INTRODUCTION

Neoen Australia Pty Ltd have requested that Chiron Aviation Consultants provide an Aviation Impact Statement, Qualitative Risk Assessment, Obstacle Lighting Review and a Solar Glare Analysis for the Crystal Brook Energy Park near Port Pirie in South Australia.

This is a Supplementary Report is to be read in conjunction with the report titled *Final Report Crystal Brook Energy Park Aviation Impact Assessment, Solar Glare Analysis, Qualitative Risk Assessment and Obstacle Lighting Review, dated 5 March 2018.* [Final Report]. As noted in sections 4.10, 4.11, 8.1.1 and 8.1.2 of the Final Report the assessments from Airservices Australia and the Department of Defence would be published in a supplementary report. This Supplementary Report conveys these assessments.

2. AIRSERVICES AUSTRALIA RESPONSE

Airservices Australia provided their response and assessment of the Aviation Impact Statement by e-mail dated 6 April 2018. See Appendix A. The Airservices assessment is detailed below.

All the published Instrument Approach Procedures for Port Pirie Airport are designed by Airservices Australia.

The Airservices Australia response concurs with the findings of the Aviation Impact Statement in Part 4 of the Chiron Aviation Consultants report.

2.1 Airspace Procedures

With respect to procedures designed by Airservices in accordance with ICAO PANS-OPS and Document 9905, at a maximum height of 532m (1746ft) AHD the wind farm will not affect any sector or circling altitude, nor ay instrument approach or departure procedure at Port Pirie Airport.

Note that procedures not designed by Airservices at Port Pirie Airport were not considered in this assessment.

2.2 Communications/Navigation/Surveillance (CNS) Facilities

This wind farm to a maximum height of 532m (1746ft) AHD will not adversely impact the performance of Precision/Non-Precision Nav Aids, HF/VHF Comms, A-SMGCS, Radar, PRM, ADS-B, WAM or Satellite/Links.

3. DEPARTMENT OF DEFENCE RESPONSE

The Department of Defence have advised by letter that *Defence has no objections to the wind turbine layout and increased height*. This letter is dated 15 May 2018 [their reference ID-EP-DLP&R-OUT/2018/AF33334448]. Also attached is an earlier letter dated 30 June 2017 [their reference ID-EP-DLP&R/OUT/2017/AF29643463] referring to turbines with a lower tip height. See Appendix B.

The Department of Defence refer to various items as outlined below, associated with tall structures. All these items are dealt with in the Final Report.

3.1 Reporting Tall Structures

Tall structures are required to be reported to Airservices Australia in accordance with AC139-08 v2.0 *Reporting of tall structures and hazardous plume sources* dated March 2018. This is referred to in section 7.3 of the Final Report.

3.2 Wavelength of LED Aviation Obstruction Lighting

If LED aviation obstruction lighting is used then the light emitted should be within the range of wavelengths 655 to 930 nanometres to ensure compatibility with night vision devices used by military and civilian pilots. Aviation obstacle lighting is not required.

3.3 Marking of Meteorological Monitoring Masts

Recommendation that the top one third of met masts be painted in alternating contrasting bands of colour. This is referred to in section 7.1 of the Final Report.

3.4 National Airports Safeguarding Framework - Guideline D

The recommendations of the National Airports Safeguarding Framework (NASF) Guideline D are covered in sections 5.15 and 6.1.3 of the Final Report. Aviation obstacle lighting is not required.

4. CONCLUSION

Airservices Australia concur with the findings of the Aviation Impact Statement that the Crystal Brook Energy Park will have no impact on any Communications, Navigation or Surveillance (CNS) facilities used for civil aviation.

The Department of Defence has no objection to the Crystal Brook Energy Park with a maximum turbine height of 240m above ground level.

APPENDIX A

Airservices Australia Response To Aviation Impact Statement

Ian Jennings

From: Airport Developments <Airport.Developments@AirservicesAustralia.com>
Sent: Friday, 6 April 2018 13:08
To: 'Ian Jennings'
Cc: airspace.protection@casa.gov.au
Subject: AIRSERVICES RESPONSE: SA-WF-018 - Wind Farm, Crystal Brook Energy Park [SEC=UNCLASSIFIED]

Hi Ian,

I refer to your request for an Airservices assessment of the wind farm development for Crystal Brook Energy Park.

Airspace Procedures
With respect to procedures designed by Airservices in accordance with ICAO PANS-OPS and Document 9905, at a maximum height of 532m (1746ft) AHD the wind farm will not affect any sector or circling altitude, nor any instrument approach or departure procedure at Port Pirie Airport.

Note that procedures not designed by Airservices at Port Pirie Airport were not considered in this assessment

Communications/Navigation/Surveillance (CNS) Facilities
This wind farm to a maximum height of 532m (1746ft) AHD will not adversely impact the performance of Precision/Non-Precision Nav Aids, HF/VHF Comms, A-SMGCS, Radar, PRM, ADS-B, WAM or Satellite/Links.

Kind regards,

William Zhao
Advisor Airport Development | Operational Standards & Assurance
Airservices Australia

Phone: +61 3 9339 2504
Email: airport.developments@airservicesaustralia.com

www.airservicesaustralia.com
CAUTION: This e-mail is confidential. If you are not the intended recipient, you must not disclose or use the information contained in it. If you have received this e-mail in error, please tell us immediately by return e-mail and delete the document. Airservices Australia does not represent, warrant or guarantee that the integrity of this communication is free

APPENDIX B

Department of Defence Response To Aviation Impact Statement

Australian Government
Department of Defence
Estate and Infrastructure Group

Sonya Dare
Director Land Planning and Regulation
Estate Planning Branch
Brindabella Business Park (BP26-1-A053)
PO Box 7925
Department of Defence
CANBERRA BC ACT 2610
☎: (02) 6266 8191
💻: sonya.dare@defence.gov.au

ID-EP-DLP&R-OUT/2018/AF33334448

Mr Ian Jennings
Chiron Aviation Consultants
27 Hilda Street
ESSENDON VIC 3040

Dear Mr Jennings

RE: Crystal Brook Energy Park, SA – Aviation Impact Statement

Thank you for referring the above Aviation Impact Statement (AIS) to the Department of Defence (Defence) for comment. I understand that the AIS has been prepared to consider the impacts on aviation safety arising from the Crystal Brook Energy Park and Wind Farm which was initially assessed by Defence for turbines with a 220m tip height. The proposed AIS includes amendments to increase the turbine tip heights from 220m to 240m Above Ground Level (AGL).

Defence has assessed the proposed amendment for an increase in tip height. The previous advice provided by Defence for an earlier version of the proposed energy park / wind farm dated 30 June 2017 remains current. A copy of this submission is attached.

I note, that the *National Airports Safeguarding Framework Guideline D - Managing the Risk to Aviation Safety of Wind Turbine Installations (Wind Farms)/Wind Monitoring Towers* recommends that where a wind turbine 150 metres or taller in height is proposed away from aerodromes, the proponent should conduct an aeronautical risk assessment. It also recommends that the risk assessment be submitted to the Civil Aviation Safety Authority (CASA) to determine whether the proposal is a hazard to aircraft safety and requires approved lighting or marking. Defence supports this requirement and believes that in this instance, it would be prudent for the risk assessment of this proposal to be sent to CASA for consideration.

If CASA determines that LED obstruction lighting is to be provided, it should be compatible with persons using night vision devices and that the frequency range of the LED light emitted should be within the range of wavelengths 655 to 930 nanometers.

Defence notes that the *National Airports Safeguarding Framework Guideline D – Managing the Risk to Aviation Safety of Wind Turbine Installations (Wind Farms)/Wind Monitoring Towers - Paragraph 39* recommends that any meteorological towers used in connection with a wind farm should be appropriately marked. The guidelines indicate that the top 1/3 of wind

monitoring towers should be painted in alternating contrasting bands of colour in accordance with the Manual of Standards for Part 139 of the Civil Aviation Safety Regulations 1998.

Defence has no objections to the wind turbine layout and increased height subject to the project complying with the above conditions and those previously identified in earlier correspondence.

Should you wish to discuss the content of this advice further, my point of contact is Mr Tim Hogan at DSRGIDEP.ExecutiveSupport@defence.gov.au or by telephone on (02) 6266 8193.

Yours sincerely

Sonya Dare
Director
Land Planning and Regulation
Estate Planning Branch

15 May 2018

***Defending Australia** and its National Interests*

Australian Government
Department of Defence
Estate and Infrastructure Group

David Harrison
A/Director Land Planning and Regulation
Estate Planning Branch
Brindabella Business Park (BP26-1-A053)
PO Box 7925
Department of Defence
CANBERRA BC ACT 2610
☎: (02) 6266 8291
💻: david.harrison10@defence.gov.au

ID-EP-DLP&R/OUT/2017/AF29643463

Ms Clara Wilson
Project Manager – Australia
Neoen Australia
Level 6, 16 Marcus Clarke Street
CANBERRA ACT 2601

Dear Ms Wilson

RE: CRYSTAL BROOK ENERGY PARK – CRYSTAL BROOK, SOUTH AUSTRALIA

Thank you for your correspondence of 26 May 2017 referring the abovementioned proposal for an energy park, including solar and wind farms and storage, to the Department of Defence (Defence) for comment. The use proposes wind turbines with a height up to 220 metres above ground level (AGL). Defence has reviewed the proposal for any possible impact on the safety of flying operations and would like to provide the following comments.

At a height of up to 220 metres AGL the turbines will protrude into navigable airspace. Defence notes that the National Airports Safeguarding Framework Guideline D: 'Managing the Risk to Aviation Safety of Wind Turbine Installations (Wind Farms) / Wind Monitoring Towers' recommends that where a wind turbine of 150 metres or taller in height is proposed away from aerodromes, the proponent should conduct an aeronautical risk assessment. It also recommends that the risk assessment be submitted to the Civil Aviation Safety Authority (CASA) to determine whether the proposal is a hazard to aircraft safety and requires lighting or marking. Defence supports this requirement and believes that in this instance, it would be prudent for the risk assessment of this proposal to be sent to CASA for consideration.

If CASA determines that lighting is required, and LED obstacle lighting is proposed, it should be compatible with persons using night vision devices and that the frequency range of the LED light emitted should be within the range of wavelengths 665 to 930 nanometers. This will ensure the turbines are visible to aircrew using night vision devices.

There is an ongoing need to obtain and maintain accurate information about tall structures so that this information can be marked on aeronautical charts. Marking tall structures on aeronautical charts assists pilot navigation and enhances flight safety. Air Services Australia (ASA) is responsible for recording the location and height of tall structures. The information is held in a central database managed by ASA and relates to the erection, extension or dismantling of tall structures the top of which is above:

a. 30 metres AGL, that are within 30 kilometres of an aerodrome, and
b. 45 metres AGL elsewhere.

Defending Australia and its National Interests

The proposed wind turbines meet the requirements for reporting of tall structures. Defence therefore requests that the applicant provide ASA "as constructed" details. The details can be emailed to ASA at the following email address: vod@airservicesaustralia.com.

Should you wish to discuss the content of this advice further, my point of contact is Mrs Rebecca Soric at DSRGIDEP.ExecutiveSupport@defence.gov.au or by telephone on (02) 6266 8186.

Yours sincerely

David Harrison
A/Director
Land Planning and Regulation
Estate Planning Branch

30 June 2017

***Defending Australia** and its National Interests*

Australian Government

Civil Aviation Safety Authority

AIR NAVIGATION, AIRSPACE AND AERODROMES

File Ref: F18/1791-1

15 June 2018

Mr Lee Webb
Planning Officer
Department of Planning Transport and Infrastructure

Email: Lee.Webb@sa.gov.au

Dear Mr Webb,

PROPOSED CRYSTAL BROOK ENERGY PARK, PORT PIRIE, SA

Thank you for your email dated 22 May 2018 requesting CASA comment regarding the Crystal Brook Energy Park, Port Pirie, South Australia.

The proposal consists of two parts, a wind farm comprising 26 turbines with a maximum blade tip height of 240m AGL, and a solar farm consisting of 170ha of single axis tracking photovoltaic panels facing north.

Solar Farm

The solar farm is located at a distance from the nearest aerodrome that would not be a hazard to air navigation and therefore does not require a glare analysis.

Wind Turbines

Due to their height above ground level, CASA considers the turbines to be a potential hazard to air navigation. The risk can be suitably mitigated by the installation of steady red medium intensity hazard lights installed in accordance the NASF Guideline D – Wind Turbines, para 35 to be operational at night and at times of reduced visibility.

ICAO recommends that: *the obstacle lights should be installed on the nacelle in such a manner as to provide an unobstructed view for aircraft approaching from any direction. (Ref ICAO Annex 14 Vol 1 para 6.2.4.4).*

NASF Guideline D – Wind Turbines, para 36 states: *To minimise the visual impact on the environment, obstacle lights may be partially shielded, provided it does not compromise their operational effectiveness.*

Should obstacle lighting be considered to have a negative impact on visual amenity and result in resident objection, CASA recommends that an Aircraft Detection Lighting System (as recommended in the United States Federal Aviation Administration Advisory Circular AC 70/7460-1L CHG1 – Obstruction Marking and Lighting), be installed. Such a system would only activate the lights when an aircraft is detected in the near vicinity and

deactivate the lights once the aircraft has passed. This would be a reasonable and feasible alternative to having the lights activated from dusk to dawn and in low light levels during the day. It would also ensure that aviation hazard lighting is implemented in a manner that minimises visual intrusion to surrounding residences.

In support of subpart 175.E of the Civil Aviation Safety Regulations 1998, CASA recommends that all permanent obstacles 100 m or more above ground level are reported to the Aeronautical Information Service (AIS) provider, Airservices Australia.

Any decision to light, or not light, the proposed turbines remains with the planning authority to determine.

Yours sincerely

Kevin Scrimshaw
Acting ANAA Branch Manager
15th June 2018

Neoen and Bouygues Sheep Trial at Parkes Solar Farm in NSW

Parkes Solar Farm

Introducing Parkes

Parkes Solar Farm is large scale solar farm developed and operated by Neoen in Parkes, NSW.

The project was constructed by construction company Bouygues. The solar farm is connected to the National Electricity Market through a 66kV connection in the Transgrid Network.

Parkes Solar Farm has an installed capacity of 80MW peak and produces enough electricity annually to power 24,000 homes.

Using sheep to manage grass fire ha ards on solar Farms

The trial

A three-week trial was held over the summer of 2017/2018 at Parkes Solar Farm in NSW as a joint exercise between the local landowners, solar construction company Bouygues and solar farm owner-operator Neoen.

The trial used approximately 15 hectares of the Parkes solar Farm. Within this section of the solar farm and throughout the trial period the Parkes single axis tracking solar farm was in full operation.

Rapid ha ard reduction

400 sheep in 15 hectares of solar farm

The trial used approximately 400 sheep in a small section (15 hectares) of the Parkes solar Farm.

Under normal circumstances (in this region) farmers would usually place 15 or 30 sheep within this area, however this trial intended to facilitate rapid reduction of dry grass within the trial area, while demonstrating safe and sustainable farming practices within solar farms.

Trial Results

Successful ha ard reduction, and well-fed, well shaded livestock

The sheep were monitored closely throughout the trial period, and toward the end of the trial all of the sheep were observed to be relaxed, eating and moving freely around the 15 hectares block. By the end of the trial, all of the grass had been eaten to a reasonable length (not less than 50mm) and the hazard reduction was determined a complete success.

NEOEN

CRYSTAL BROOK energy park

neoen renewing energy

Crystal Brook Energy Park
c/o Neoen Australia
PO Box 1950
Canberra ACT 2600

19 January 2017

Dear Sir/Madam,

Crystal Brook Energy Park – One-on-one Meetings

Neoen is developing and planning the Crystal Brook Energy Park, a renewable energy storage project located approximately 23 kilometres southeast of Port Pirie and 3 kilometres north of Crystal Brook in South Australia.

The Crystal Brook Energy Park is a world-leading renewable energy project combining storage, solar and wind. The aim of this project is to develop an economically and environmentally sound project, providing reliable and dispatchable renewable energy to be used locally and exported through the national grid. The project will generate approximately 767,000 Megawatt hours of renewable electricity every year which is enough to power approximately 20% of all households in South Australia.

The Energy Park project will include:

- A battery with a capacity of 30MW – 100MW.
- A solar farm with a capacity of 50 – 100MW.
- A wind farm of up to 50 turbines.

Neoen is committed to fair and open engagement with the local community around the Crystal Brook Energy Park. We will be consulting with the local community and a wide number of stakeholders to provide information on the project as it develops and to seek valuable input into the final design.

CRYSTAL BROOK energy park

neoen renewing energy

Please do not hesitate to contact us if you would like more information, or to provide input on the project.

Thank you for your time, I look forward to hearing your views.

Yours sincerely,

Garth Heron
Head of Wind Development, Neoen Australia

From: Garth Heron
Sent: 16 February 2017 09:35
To: Greg Hatter <[redacted]
Cc: Contact Crystal Brook Energypark <contact@crystalbrookenergypark.com.au>
Subject: RE: 166 Hatters Road Crystal Brook - Crystal Brook Energy Park

Dear Greg,

Thank you for your email and attached letter. Earlier this morning I left a message on your telephone, and would be very happy to discuss Crystal Brook Energy Park whenever you have some time available: My personal mobile number 0408 998 425.

I am sorry that you missed the community open day, but I can supply you with all of the information that we provided on the day, and, a proposed layout for our proposed project together with regular updates.

I am also travelling to Sydney from time to time and if you are interested would be able to meet you personally to discuss your concerns.

Kind regards,

Garth Heron
Head of Wind Development - Australia
SYDNEY | **CANBERRA** | PERTH | PARIS (HQ) | LISBON | MEXICO | CAIRO | EL SALVADOR
Neoen Australia | Level 6 | 16 Marcus Clarke Street | Canberra ACT 2601 |
M : +61 408 998 425
garth.heron@neoen.com | www.neoen.com

From: Greg Hatter [redacted]]
Sent: 15 February 2017 17:17
To: Garth Heron <garth.heron@neoen.com>
Cc: Contact Crystal Brook Energypark <contact@crystalbrookenergypark.com.au>
Subject: 166 Hatters Road Crystal Brook - Crystal Brook Energy Park
166 Hatters Road Crystal Brook
Crystal Brook Energy Park
Please refer to the attached letter.

Regards
Greg Hatter
[redacted]

The information in this email contains privileged and confidential information intended solely for the use of the individual or entity to whom it is addressed. If the reader of this email is not the intended addressee, or the employee or agent responsible to deliver it to the addressee, you are hereby notified that any dissemination, distribution or copying of this email is strictly prohibited. If you have received this email in error, please notify me by telephone and also delete this email from your computing system.

106 Avenue Road
Mosman
New South Wales 2088

Attention: Mr Garth Heron
Neoen Australia
Suite 3 Level 14
227 Elizabeth Street
Sydney NSW 2000
Garth.heron@neoen.com
contact@crystalbrookenergypark.com.au

Dear Sir

166 Hatters Road Crystal Brook ("Impacted Property")
Crystal Brook Energy Park

I refer to your proposed development and also the referenced Impacted Property.

Last week I was advised by a third party that a meeting had taken place in Crystal Brook on Wednesday, 8 February 2017 concerning a Wind Farm proposal. The Hatter family as a land owner stands to experience a significant impact due to such a development and can only surmise that the lacking in an invitation by Neoen Australia to such a meeting was intentional.

Given that the front of our property faces east and enjoys 180 degree vistas of the start of the Flinders Ranges that stretch from Crystal Brook through to Mount Remarkable any such development will have a significant impact on same and will effectively render the residence untenable and as such leaving the property would be our only option.

I have since learnt yesterday that there will also be a solar farm added to the development. The solar farm development appears to reside against the full length of our Eastern boundary line. Again to this date there has been no consultation concerning same.

By any measure the nonexistence of information that has been conveyed to us as an affected land owner and adjoining land owner would suggest that the *Community Information Session* is lacking and in our case effectively non-existent.

It is uncertain as to whether this lacking in communication is strategic, intentional or presumptive at best.

We do not welcome the idea of leaving the property after 64 years whilst also experiencing the consequential effects of a decrease in property value, as such the Hatter family is strongly opposed to this proposed development.

Yours faithfully

Greg Hatter

Inheriting Risk

Background:

Based on industry norms and the limited information provided to date concerning the Wind Farm the following can summarise the allocation of risk between Neoen and the Beetaloo Valley and other immediate adjoining land owners, where:

- 50 Towers x 4 MW = 200MW
- 200MW x $2.5M per MW installed.

= Indicative Project Value of $500,000,000

On a typical Equity/Debt ratio basis funding for this development can be shown as follows:

Funding Type	Percentage	$ Value
Equity (Neoen)	30%	$150,000,000
Debt (Banks and the like)	70%	$350,000,000
Total	100%	$500,000,000

In order for Neoen to protect its Equity of $150,000,000 and also the banks debt they will require from an equipment supplier and constructor such as Siemens, GE, Alstom etc ("Technology Provider") to provide as a minimum, a significant number of Guarantees and instruments of agreement ("Guarantees") at the time of Contract/Project award. Conversely at the same time Beetaloo Valley residents which have an Equity asset value in their own properties of say $50,000,000 will be required to inherit significant risks. As shown below:

NEOEN			BEETALOO VALLEY AND OTHER IMMEDIATE LAND OWNERS		
Project Value of Wind Turbine Facility (Based on $2.5M PerMW installed)	Approximately	$ 500,000,000			
Neoen's Equity involvement		$ 150,000,000	Indicative Equity Value of Properties in Beetaloo Valley and surrounds	Approximately	$ 50,000,000
Contractual Requirements	**Percentage of Project Value**	**Approx Value**	**At Project Completion and Commencement of Operations the following Risks are probable**	**Instrument, Guarantee etc offered**	**Value of Instrument, Guarantee offered by Neoen**
Technology Provider would need to provide Neoen as a minimum the following			**Guarantees provided to Beetaloo and others on a back to back arrangement**		
Performance Guarantee (Unconditional Bank Guarantee) re Output, Noise, Vibration	20%	$ 100,000,000	**Possible Risk / Issues**		
Construction Risk (Unconditional Bank Guarantees)	20%	$ 100,000,000	Living with Noise that exceeds parameters	Nothing Offered	$ Zero
Parent Company Guarantee	100%	$ 500,000,000	Decrease in Land Value Risk	Nothing Offered	$ Zero
Insurances	As claimed		Community Disruption/Division	Nothing Offered	$ Zero
Warranties	As claimed		Health (essentially unquantifiable)	Nothing Offered	$ Zero
Covers Liabilities that are not included in above protection mechanisms	100%	$ 500,000,000	Other		
eg: loss of profit, direct costs, indirect costs, consequential losses etc					
(Some contracts can require as high as 200%)					
Risk Protection Value (In the Aggregate)		$ 1,200,000,000	**Beetaloo Valley and others Inherited Risk covered by**	**Nothing Offered**	**$ Zero**

Additional questions:

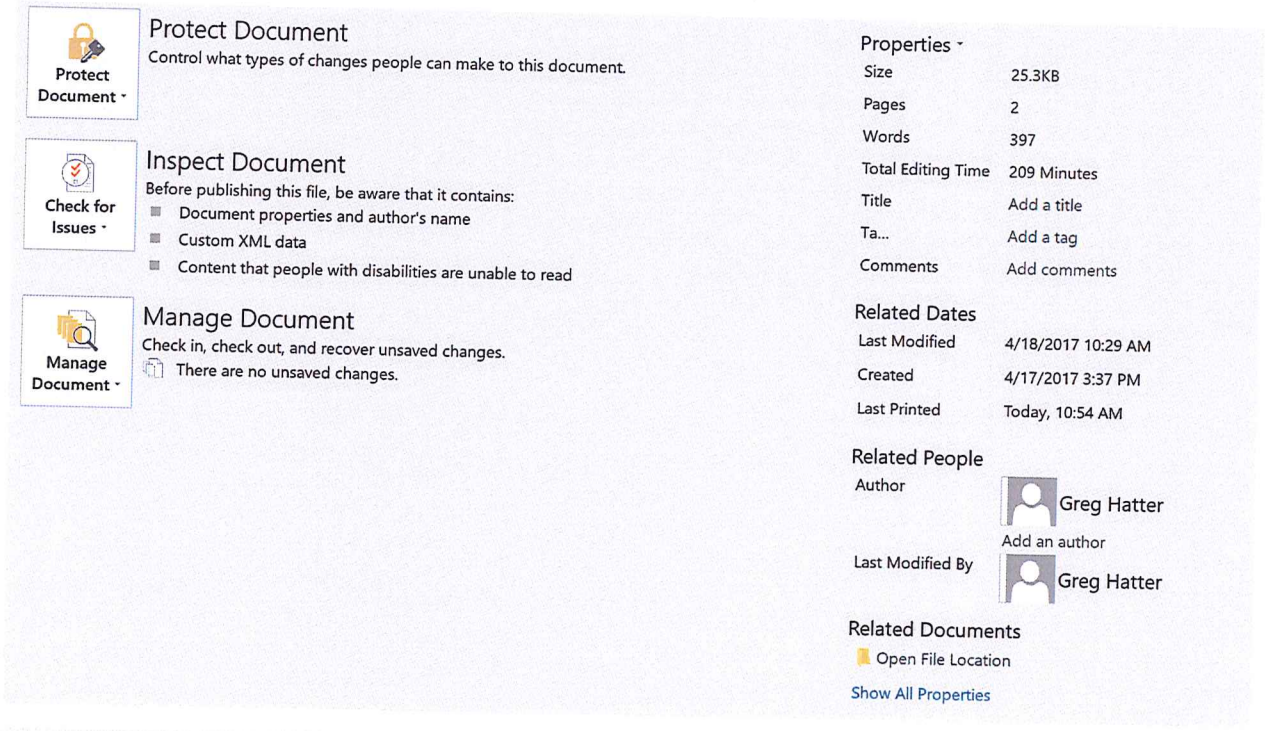
1. Should noise and vibration of a particular wind turbine exceed the specifications requirements where the effects means the disruption and quite enjoyment of nearby resident/s can Neoen confirm the identified wind turbine will be shut down immediately.

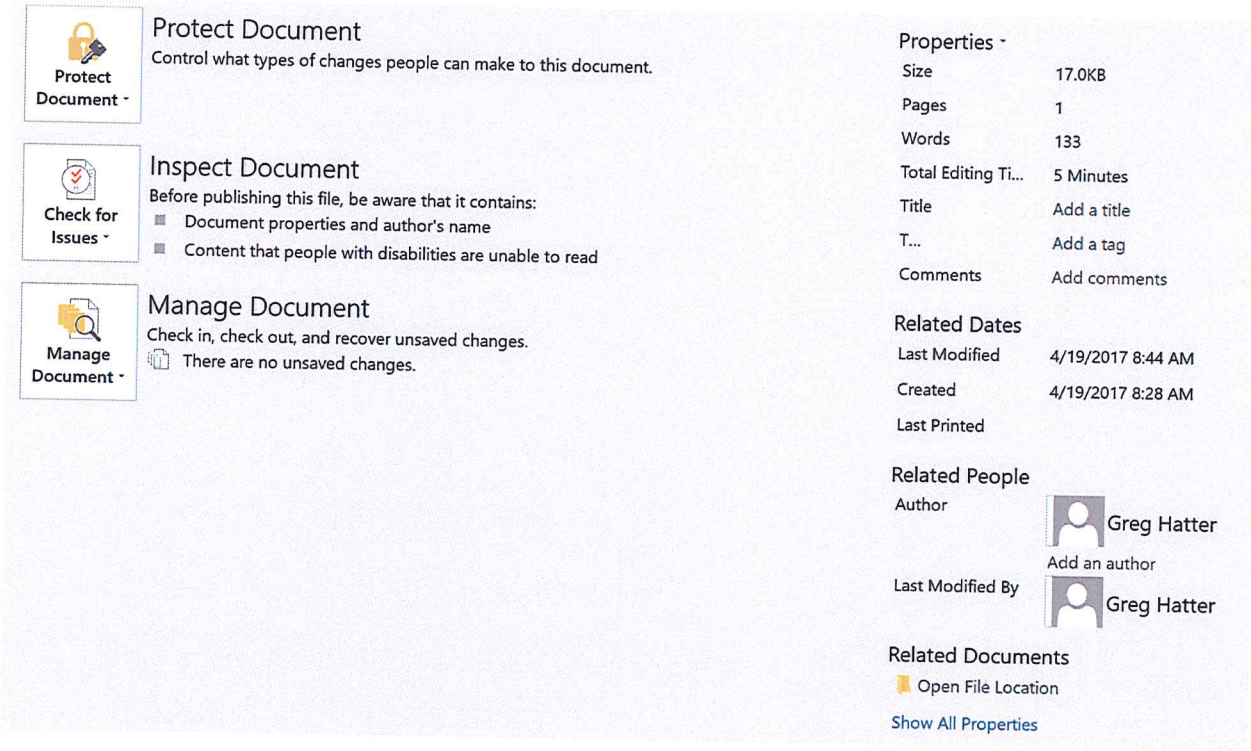
   It would be envisaged that as a condition precedent to financial close and the award of the Technology Provider contract that a written guarantee for the residents of Beetaloo Valley would be entered into to reflect this requirement.

2. Neoen are suggesting in the public domain that the full development will be a $500M whereas when calculating the development based on conservative $ per MW installed figures it suggests to be between $650M and $870M, summarised as follows:

			Lower End Cost				Upper End Cost
Cost of Assets	Cost Per MW Installed	Number of MW Per Unit	Number of Units	Total Value	Number of MW Per Unit	Number of Units	Total Value
Wind farm	$ 2,500,000	4	50	$ 500,000,000	4	50	$ 500,000,000
Solar	$ 1,900,000	30	1	$ 57,000,000	100	1	$ 190,000,000
Battery Storage	$ 1,800,000	50	1	$ 90,000,000	100	1	$ 180,000,000
Total Value				$ 647,000,000			$ 870,000,000

What is Neoen's real strategy or true intent in providing costings that don't make sense.


Protect Document
Protect Document
Control what types of changes people can make to this document.
Check for Issues
Inspect Document
Before publishing this file, be aware that it contains:
Document properties and author's name
Custom XML data
Content that people with disabilities are unable to read
Manage Document
Manage Document
Check in, check out, and recover unsaved changes.
There are no unsaved changes.
Properties
Size 25.3KB
Pages 2
Words 397
Total Editing Time 209 Minutes
Title Add a title
Ta... Add a tag
Comments Add comments
Related Dates
Last Modified 4/18/2017 10:29 AM
Created 4/17/2017 3:37 PM
Last Printed Today, 10:54 AM
Related People
Author Greg Hatter
Add an author
Last Modified By Greg Hatter
Related Documents
Open File Location
Show All Properties


Protect Document
Protect Document
Control what types of changes people can make to this document.
Check for Issues
Inspect Document
Before publishing this file, be aware that it contains:
Document properties and author's name
Content that people with disabilities are unable to read
Manage Document
Manage Document
Check in, check out, and recover unsaved changes.
There are no unsaved changes.
Properties
Size 17.0KB
Pages 1
Words 133
Total Editing Ti... 5 Minutes
Title Add a title
T... Add a tag
Comments Add comments
Related Dates
Last Modified 4/19/2017 8:44 AM
Created 4/19/2017 8:28 AM
Last Printed
Related People
Author Greg Hatter
Add an author
Last Modified By Greg Hatter
Related Documents
Open File Location
Show All Properties

Mr Xavier Barbaro,
CEO NEOEN
4 rue Euler
75008 Paris France
Sent via email: xavier.barbaro@neoen.com

Mark Cunningham and Katie King
Po Box 196
Crystal Brook, SA 5523
Australia
6 May 2015

cc via email:
- Mr Jacques Veyrat (Chairman Impala-sas: contact@impala-sas.fr)
- Mr Nicolas Dufourcq (Director General Bpifrance: admin@bpifrance.fr)
- Mr Fabien Prevost (CEO Omnes Capital: admin@omnescapital.com)
- Mr Garth Heron (Head of Wind Proj. Dev't Aust.: garth.heron@neoen.com)

Dear Monsieur Barbaro,

Further to your company's offer to conduct noise monitoring at properties surrounding the proposed Crystal Brook Industrial Wind Power Facility, I agree to that offer, **providing the following conditions (in bold) at the end of the letter are met in full, and agreed to in writing by your company, before permission to access to my property is given. Without my express written permission, no access is granted.**

In so agreeing, I note the following facts.

Your company representatives in Australia have acknowledged in their public comments to members of our community that your company will be responsible for emitting wind turbine noise from this proposed facility that could be harmful to neighbouring residents. In addition, your company's responses to the FAQ's on your website for the proposed project (http://crystalbrookenergypark.com.au/faqs/) indicate that NEOEN are clearly well aware that some people who are not "average" will find the noise intrusive. Intrusive noise, regardless of the noise source, can damage health via stress and sleep disturbance. (see the World Health Organisation's Night Noise Guidelines for Europe http://www.euro.who.int/__data/assets/pdf_file/0017/43316/E92845.pdf) ***This is therefore an admission by Australian employees of your company, that your company and its employees are well aware that the noise emitted by your proposed wind turbines will harm some residents.***

As an Australian rural community, we find this particularly morally unacceptable that a French energy company would knowingly harm Australian rural residents in such a way – many of whose ancestors fought, and lost their lives, in battles in France ***to save the French from their invaders*** in successive World Wars.

Furthermore, we note that your company states on its website that "*We also **integrate the living conditions of the species on the sites of Neoen projects: their preservation is an important component of the design phase of the project.***" (https://www.neoen.com/en/social-environmental-responsibility/). As human "species" living on the site of your proposed Industrial Wind Power Facility, your corporate social and

environmental platitudes do not fit with the conduct of your employees and your company with respect to knowingly harming our health, and our ability to live and sleep in our homes, with excessive wind turbine noise.

Simply put, your proposed project contains wind turbines that are too powerful, too big, and are too close to our homes, and you know it.

If intrusive noise occurs at night, which is when most wind power is generated, that intrusion will inevitably damage the health of many people in our community, when it leads to chronic sleep disturbance and repeated physiological stress. There is growing evidence that wind turbine noise induces sensitisation with ongoing exposure, and this leads to more and more people becoming adversely affected and perceiving the sound at lower and lower levels as exposure continues. They do not "get used to it".

Accordingly, I am sure you will understand that we wish to protect ourselves and our community from the harm you and your company clearly know you will cause to some of us, by ensuring that all members of our community who live within the immediate acoustic impact zone of this project (conservatively estimated at 10km on the basis of current very limited information about wind turbine tower and blade size, power generation capacity, siting, and separation distances) are given the chance to collect truly independent objective acoustic data by an acoustical consultant who has worked both for residents and for the wind industry. Your company's choice of Acoustical Consulting firm SONUS does not fit that criteria.

Your choice of SONUS as your preferred Acoustic Consultants is unacceptable to us for many reasons. They are clearly not financially independent of the wind industry, and documentation provided by the Association of Australian Acoustical Consultants (AAAC) in response to questions asked by the Senate Inquiry revealed that SONUS have conducted extensive work for the wind industry in Australia (submission 60, Answers to Questions on Notice, AAAC p 2 available from http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Wind_Turbines/Wind_Turbines/Additional_Documents . Whilst no monetary figure was given to accompany the long list of wind power developments for whom SONUS has worked, subsequent court evidence has confirmed that the monetary value has been in the millions of dollars.

You may be unaware that there have now been three Federal Senate Inquiries in Australia where Australian residents have provided a lot of documentation as to the adverse effects they have suffered after wind power facilities started operating near their homes and farms. Some of those residents included wind turbine hosts who had earned $1 million dollars in lease income (http://en.friends-against-wind.org/testimonies/gare-s-evidence). Other residents included people such as Trish Godfrey (Melbourne, 9 June, 2015 http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Wind_Turbines/Wind_Turbines/Public_Hearings) who had been bought out and silenced with gag agreements by the wind power developer, because of serious adverse health effects.

The residents' evidence in these Federal Senate inquiries has been supported by evidence

http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0174420 which was reported in the national Australian Newspaper "The Australian" on 2nd May, 2017. That research demonstrated that even the primitive parts of the brains of young, fit, healthy people's will directly react to sound below their audibility thresholds with a range of responses including physiological stress, fear and anxiety. Furthermore, prolonged exposure (even for a very short duration) up regulates these pathways, which means increased responsiveness to the stimuli.

This research yet again exposes the lies being told to local residents adjacent to the Crystal Brook Industrial Wind Power Facility by your Australian employees working on this project, namely that the reported symptoms are all caused by scaremongering (nocebo effect), rather than wind turbine acoustic emissions.

This behaviour of knowingly planning to harm some of us with intrusive wind turbine noise, and admitting that some people will be harmed and find the noise intrusive, but concurrently blaming a nocebo effect for the sleep disturbance and stress symptoms is not only dishonest, it is inconsistent with your stated value of ***Integrity,*** one of the four stated values your company claims on its website to define you and "guide" your "action" ***at every level,*** including with public stakeholders, such as ourselves (https://www.neoen.com/en/management-2/).

The dictionary definition of "integrity" is the following:

"the quality of being honest and having strong moral principles; moral uprightness"

It is therefore clear, from your company employees' conduct already in their interactions with members of our community, that we cannot trust Neoen and its staff to behave with integrity, nor to act in a way that will protect our health.

Accordingly, I request the following:

1. **The only acoustic consultant I give permission to be on my property is Mr Steven Cooper, from the Acoustic Group, in Sydney. He has indicated his willingness to conduct this monitoring, if approached. Mr Cooper is a court appointed independent expert acoustic witness to the NSW Land and Environment Court, and has worked for both residents and the wind industry to identify the source of noise complaints, and the acoustic triggers for the disturbances reported by residents. It is Mr Cooper's recent Australian field research, including as part of the internationally acclaimed Pacific Hydro funded Cape Bridgewater Acoustic Investigation that has identified Amplitude Modulation as the acoustic trigger for the disturbances including sleep disturbance, being reported by residents near wind turbines.**

2. **The acoustic monitoring must include full spectrum acoustic monitoring, both pre and post construction, inside and outside my home, with sound recording (WAVE files) in addition to the limited acoustic monitoring with a sound level meter currently required for planning and regulatory purposes. This is**

given by Australian and international acoustic and health professionals – even including at times admissions made by experts who consult for the wind industry. One example of the latter is the admission by UK Acoustician Geoffrey Leventhall that it is amplitude modulation of the sound that "upsets" people (Senate Inquiry hearing, Canberra 23 June, 2015 http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Wind_Turbines/Wind_Turbines/Public_Hearings).

While we are on the subject of amplitude modulation, Swedish laboratory research presented in 2016 (http://waubrafoundation.org.au/resources/smith-m-g-et-al-physiological-effects-wind-turbine-noise-sleep/) found that even young fit healthy people (who are presumably included in your company's definition of "average") had disturbed sleep, when exposed to amplitude modulated low frequency noise from wind turbines for a short duration. As a result of this Swedish research alone, your company's website FAQ response is out of date, incorrect, and misleading – clearly "average" people can indeed find the noise intrusive. I also note that our exposures will be for much longer periods than a very short laboratory study.

Wind turbines with 3 MW generation capacity have been associated with consistent residents reports of sleep disturbance out to 10km at Waterloo (http://waubrafoundation.org.au/resources/waterloo-wind-farm-survey-2012/), which have been verified by independent acoustic measurements of excessive low frequency noise out to 8km by Professor Colin Hansen and his team from Adelaide University (http://waubrafoundation.org.au/resources/hansen-zajamsek-hansen-noise-monitoring-waterloo-wind-farm/). Your project's proposed wind turbines will be larger and more powerful than those at Waterloo, and may be up to 4 MW. Larger more powerful wind turbines have been found to emit a greater proportion of low frequency noise, and therefore increased disturbance for the neighbours is likely (https://www.wind-watch.org/documents/low-frequency-noise-from-large-wind-turbines-2/).

Increased disturbance due to additional turbulence is even more likely if inadequate inter turbine separation distances are used by wind power developers, as is the case with Australian industrial wind power developments such as Macarthur, Waterloo, and Cullerin Range in NSW where there have been many complaints about excessive intrusive noise and sleep deprivation from residents, and where numerous residents have been forced to permanently abandon their homes and farms, or to seek regular respite.

Additional turbulence has been known since the late 1980's to result in increased infrasound and low frequency noise emissions, even from so called "modern" upwind bladed wind turbines (http://waubrafoundation.org.au/resources/swinbanks-m-nasa-langley-wind-turbine-noise-research/).

Finally I bring to your attention the recent research from the prestigious Max Planck Institute in Germany

http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0174420 which was reported in the national Australian Newspaper "The Australian" on 2nd May, 2017. That research demonstrated that even the primitive parts of the brains of young, fit, healthy people's will directly react to sound below their audibility thresholds with a range of responses including physiological stress, fear and anxiety. Furthermore, prolonged exposure (even for a very short duration) up regulates these pathways, which means increased responsiveness to the stimuli.

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2. **The acoustic monitoring must include full spectrum acoustic monitoring, both pre and post construction, inside and outside my home, with sound recording (WAVE files) in addition to the limited acoustic monitoring with a sound level meter currently required for planning and regulatory purposes. This is**

required to ensure that ALL sound frequencies are included, including specifically infrasound and low frequency noise, and that actual sound recordings are used so there can be no dispute about the source of the sound in those recordings, including particularly the misattribution of wind turbine noise to "wind in the trees".

3. **NEOEN must agree to ensure that there is complete transparency of the data collection from my property – ie that I will have full copies of all weather and acoustic data collected on my property.**

4. **In addition, NEOEN must also agree to provide all the SCADA (operational) data and all meteorological mast data relating to the operation of its turbines, post construction, for the life of the project, on request.**

5. **NEOEN must agree to conduct "on-off" testing and fully cooperate in any other way to help identify the source of the noise in the event that sleep disturbance and other adverse health effects are reported by any nearby residents living out to 20 km from the wind turbines, post construction.**

6. **I request that all other residents living within the immediate acoustic impact zone of 10km from the external boundary of the wind turbines are provided with the same opportunities for independent acoustic monitoring.**

7. **The monitoring period for the purposes of establishing the background noise environment pre construction must be for at least three months, and must not take place during either seeding or harvest, as these periods of time do not reflect the usual acoustic soundscape and amenity of my property for 80% of the year; particularly at night.**

I look forward to your company's acceptance of these conditions to ensure fairness and transparency, and to ensure that in the event of any local residents being harmed by your project that you cannot avoid your obligations to ensure that any noise nuisance from your industrial wind power project is properly investigated, and subsequently prevented.

Please advise me of your decision in writing. I can be contacted at the following email address: markjc1977@gmail.com

Yours sincerely

Mark Cunningham and Katie King

Encl.: Controlling Owners and Major Shareholders of Neoen

Controlling Owners and Major Shareholders of Neoen

1. **Impala-sas**
   - 55.6% Shareholder in Neoen - Controlling Role
   - Neoen is a direct subsidiary
   - Diversified Company in Energy and Manufacturing
   - Chairman of the Board: Jacques Veyrat (Founder)
   - CEO: Fabrice Dumonteil
   - Member of Group Executive Committee: Xavier Barbaro (CEO of Neoen)
   - Address: 4, rue Euler
     75008 Paris France (same address as Neoen)
   - Phone: +33 1 8169 2580
   - Email: contact@impala-sas.fr
   - Web: www.impala-sas.com

2. **Bpifrance**
   - 14.1% Shareholder in Neoen
   - French Government - State Owned Investment Bank
   - Supervised by the European Central Bank (www.ecb.europa.eu)
   - Director General: Nicolas Dufourcq
   - Address: 27-31, avenue du
     General Leclerc
     Cedex 50
     Maisons-Alfort, 94710 France
   - Phone: +33 1 4179 800
   - Email: admin@bpifrance.fr
   - Web: www.bpifrance.fr

3. **Omnes Capital**
   - 23.4% Shareholder in Neoen
   - Private Equity Investor
   - CEO: Fabien Prevost
   - Senior Advisor: Jacques Veyrat (Chairman of Impala-sas)
   - Address: 37-41 rue du Rocher
     75008 Paris France
   - Phone: +33 1 8048 7900
   - Email: admin@omnescaptial.com
   - Web: www.omnescapital.com/en

neoen
renewing energy

Mark Cunningham and Katie King
PO Box 196
Crystal Brook SA 5523
[redacted]

22 May 2017

Dear Mr Cunningham and Ms King,

Crystal Brook Energy Park – Background Noise Monitoring

We refer to your letter of 6 May 2017 in response to Neoen's offer to undertake background noise monitoring on your property in relation to the Crystal Brook Energy Park (**Energy Park**).

Neoen regrets that you are not in a position to accept the offer as proposed to you by its acoustic consultants Sonus Pty Ltd. We have reviewed the conditions upon which you would be willing to allow noise monitoring on your property, and we advise that Neoen cannot agree to the conditions set out in your letter.

We also emphatically reject the implication you draw in your letter about an admission by Neoen that noise from its wind turbines will harm some residents. The information available on the Energy Park's website which you cite does not support any such admission. We similarly do not agree with your other statements about Neoen, the Energy Park and alleged health and noise impacts of wind farms contained in your letter.

Neoen is undertaking background noise monitoring as a part of the noise assessment it must carry out for the development application for the Energy Park. In order to satisfy these requirements, Neoen has engaged Sonus to undertake an assessment in accordance with the applicable legal requirements, guidelines and standards. The conditions you propose are, unfortunately, not in line with what is required to meet those requirements and as a result your property will not be included in the background monitoring assessments.

Thank you for taking the time to write to us. I would like to add that we are still in the public consultation phase of the project, and we welcome suggestions and participation from project neighbours and members of the community.

Please feel free to call me directly on the telephone number below if you would like to discuss any aspect of the project, or arrange a face-to-face meeting.

Yours Sincerely,

Garth Heron
Head of Wind Development
Mobile: 0408 998 425

Project Manager - Australia
SYDNEY | **CANBERRA** | PERTH | PARIS (HQ) | LISBON | MEXICO | CAIRO | EL SALVADOR
Neoen Australia | Level 6 | 16 Marcus Clarke Street | Canberra ACT 2601 |
M : +61 474 774 622
clara.wilson@neoen.com | www.neoen.com

From: Clara Wilson
Sent: Thursday, April 27, 2017 3:44 PM
To: [redacted]@waubrafoundation.org.au' <[redacted]@waubrafoundation.org.au>
Cc: Garth Heron <garth.heron@neoen.com>
Subject: Crystal Brook Energy Park - Background Noise Monitoring

Dear Ms Laurie,

My name is Clara Wilson and I am the Project Manager for the Crystal Brook Energy Park, a combined storage, solar and wind farm located north of Crystal Brook in South Australia. We held an initial Community Information Session about the project in February this year, at which time we presented a preliminary draft layout, posters, fact sheets and photomontages from three different viewpoints. I have attached these materials for your reference. We will hold a second Information Session in the next couple of months – once we have a firm date I will let you know.

Neoen are working towards submitting a Development Application in June. Prior to that, we will be conducting background noise monitoring at different locations in the vicinity of the project area. We have selected Sonus as our acoustic consultant. Sonus have recommended several locations at which to conduct background noise monitoring, and your property on Beetaloo Valley Road has been included in their list of monitoring sites.
I have attached a letter detailing the noise monitoring process. In summary, the noise logger is a weatherproof briefcase sized box that sits on the ground and has a microphone on a post. The noise equipment is established outside of the house on the property. The logger needs to collect 6 weeks of data. It is possible that data may need to be collected at the mid-way point, however other than this, the logger is fully automatic and does not need to be attended. Once the logger has collected 6 weeks of data, Sonus will remove the loggers from each property. Once the monitoring has been completed, Sonus will be able to conduct noise mapping of the project area and the areas surrounding it.
Could you please let me know whether you are willing for Sonus to conduct background noise monitoring at your property.
In addition, if you have any questions about the project please feel free to contact me on the details below, or at contact@crystalbrookenergypark.com.au. Further information about the project is available on the project website at www.crystalbrookenergypark.com.au, and you can provide feedback via the Contact Us link, or by completing the Community Feedback Form.
Kind regards,
Clara Wilson
Project Manager - Australia
SYDNEY | **CANBERRA** | PERTH | PARIS (HQ) | LISBON | MEXICO | CAIRO | EL SALVADOR
Neoen Australia | Level 6 | 16 Marcus Clarke Street | Canberra ACT 2601 |
M : +61 474 774 622
clara.wilson@neoen.com | www.neoen.com

WAUBRA FOUNDATION

Sarah Laurie BMBS
(Bachelor Medicine, Bachelor Surgery
Flinders University, 1995)

CEO
PO Box 7112
Banyule VIC 3084
AUSTRALIA

(61) 474 050 463
0474 050 463

Clara Wilson

From: Clara Wilson
Sent: Friday, May 5, 2017 10:37 AM
To: Sarah Laurie
Cc: Garth Heron
Subject: RE: Crystal Brook Energy Park - Background Noise Monitoring

Dear Sarah,

Thank you for your email. I have sent the request regarding background noise monitoring to your husband via the email address you provided.

Kind regards,

Clara

From: Sarah Laurie [mailto[redacted]@waubrafoundation.org.au]
Sent: Thursday, May 4, 2017 11:07 AM
To: Clara Wilson <Clara.Wilson@neoen.com>
Cc: Garth Heron <garth.heron@neoen.com>
Subject: Re: Crystal Brook Energy Park - Background Noise Monitoring

Dear Clara

As I indicated during our brief conversation yesterday, the property at 21 Beetaloo Valley Rd, Beetaloo Valley is owned by my husband, Dr Simon Wooley.

My husband is not available via a reliable or consistent phone number, either during the day or in the evening. He works as a remote area dentist, and services a number of different communities and homelands.

I discussed your email and phone call with him, and he has requested that you contact him in writing via his email address, which is Simon Wooley <[redacted]>

As he does not always have reliable internet service, and does not always have a telephone, there may be a delay in him getting your messages and responding to them.

On May 3, 2017, at 10:01 AM, Clara Wilson <Clara.Wilson@neoen.com> wrote:

> Dear Ms Laurie,
>
> Thank you for speaking to me this morning. I understand that you would prefer us to contact your husband in relation to the property on Beetaloo Valley Road. If you could provide a contact number for your husband that would be much appreciated.
>
> Kind regards,
>
> **Clara Wilson**

Clara Wilson

From: Clara Wilson
Sent: Friday, May 5, 2017 10:26 AM
To: [redacted]
Cc: Garth Heron
Subject: Crystal Brook Energy Park - Background Noise Monitoring
Attachments: 2017.04.24 Letter regarding Background Noise Monitoring.pdf; Community Information Session materials.zip

Dear Simon,

My name is Clara Wilson and I am the Project Manager for the Crystal Brook Energy Park, a combined storage, solar and wind farm located north of Crystal Brook in South Australia. We held an initial Community Information Session about the project in February this year, at which time we presented a preliminary draft layout, posters, fact sheets and photomontages from three different viewpoints. I have attached these materials for your reference. We will hold a second Information Session in the next couple of months – once we have a firm date I will let you know.

Neoen are working towards submitting a Development Application in June. Prior to that, we will be conducting background noise monitoring at different locations in the vicinity of the project area. We have selected Sonus as our acoustic consultant. Sonus have recommended several locations at which to conduct background noise monitoring, and your property at 21 Beetaloo Valley Road has been included in their list of monitoring sites.

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Could you please let me know whether you are willing for Sonus to conduct background noise monitoring at your property.

In addition, if you have any questions about the project please feel free to contact me on the details below, or at contact@crystalbrookenergypark.com.au. Further information about the project is available on the project website at www.crystalbrookenergypark.com.au, and you can provide feedback via the Contact Us link, or by completing the Community Feedback Form.

Kind regards,

Clara Wilson
Project Manager - Australia
SYDNEY | **CANBERRA** | PERTH | PARIS (HQ) | LISBON | MEXICO | CAIRO | EL SALVADOR
Neoen Australia | Level 6 | 16 Marcus Clarke Street | Canberra ACT 2601 |
M : +61 474 774 622
clara.wilson@neoen.com | www.neoen.com

Mr Xavier Barbaro,
CEO NEOEN
4 rue Euler
75008 Paris France
Sent via email: [redacted]

Dr Simon Wooley
Beetaloo Valley Road
Beetaloo Valley SA 5523
Australia
11 May 2015

cc via email:
- Mr Jacques Veyrat (Chairman Impala-sas: [redacted])
- Mr Nicolas Dufourcq (Director General Bpifrance: [redacted])
- Mr Fabien Prevost (CEO Omnes Capital: [redacted])
- Mr Garth Heron (Head of Wind Proj. Dev't Aust.: [redacted])

Dear Monsieur Barbaro,

Further to your company's offer on 5/5/17 via Clara Wilson to conduct noise monitoring at my property included in the list of noise monitoring sites surrounding the proposed Crystal Brook Industrial Wind Power Facility, I agree to that offer, **providing the following conditions (in bold) at the end of the letter are met in full, and agreed to in writing by your company, before permission to access to my property is given. Without my express written permission, no access is granted.**

In so agreeing, I note the following facts.

Your company representatives in Australia have acknowledged in their public comments to members of our community that your company will be responsible for emitting wind turbine noise from this proposed facility that could be harmful to neighbouring residents. In addition, your company's responses to the FAQ's on your website for the proposed project (http://crystalbrookenergypark.com.au/faqs/) indicate that NEOEN are clearly well aware that some people who are not "average" will find the noise intrusive. Intrusive noise, regardless of the noise source, can damage health via stress and sleep disturbance. (see the World Health Organisation's Night Noise Guidelines for Europe http://www.euro.who.int/__data/assets/pdf_file/0017/43316/E92845.pdf) ***This is therefore an admission by Australian employees of your company, that your company and its employees are well aware that the noise emitted by your proposed wind turbines will harm some residents.***

As an Australian rural community, we find this particularly morally unacceptable that a French energy company would knowingly harm Australian rural residents in such a way – many of whose ancestors fought, and lost their lives, in battles in France ***to save the French from their invaders*** in successive World Wars.

Furthermore, we note that your company states on its website that "*We also* ***integrate the living conditions of the species on the sites of Neoen projects: their preservation is an important component of the design phase of the project.***" (https://www.neoen.com/en/social-environmental-responsibility/). As human "species" living on the site of your proposed Industrial Wind Power Facility, your corporate social and environmental platitudes do not fit with the conduct of your employees and your company

with respect to knowingly harming our health, and our ability to live and sleep in our homes, with excessive wind turbine noise.

Simply put, your proposed project contains wind turbines that are too powerful, too big, and are too close to our homes, and you know it.

If intrusive noise occurs at night, which is when most wind power is generated, that intrusion will inevitably damage the health of many people in our community, when it leads to chronic sleep disturbance and repeated physiological stress. There is growing evidence that wind turbine noise induces sensitisation with ongoing exposure, and this leads to more and more people becoming adversely affected and perceiving the sound at lower and lower levels as exposure continues. They do not "get used to it".

Accordingly, I am sure you will understand that we wish to protect ourselves and our community from the harm you and your company clearly know you will cause to some of us, by ensuring that all members of our community who live within the immediate acoustic impact zone of this project (conservatively estimated at 10km on the basis of current very limited information about wind turbine tower and blade size, power generation capacity, siting, and separation distances) are given the chance to collect truly independent objective acoustic data by an acoustical consultant who has worked both for residents and for the wind industry. Your company's choice of Acoustical Consulting firm SONUS does not fit that criteria.

Your choice of SONUS as your preferred Acoustic Consultants is unacceptable to us for many reasons. They are clearly not financially independent of the wind industry, and documentation provided by the Association of Australian Acoustical Consultants (AAAC) in response to questions asked by the Senate Inquiry revealed that SONUS have conducted extensive work for the wind industry in Australia (submission 60, Answers to Questions on Notice, AAAC p 2 available from http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Wind_Turbines/Wind_Turbines/Additional_Documents . Whilst no monetary figure was given to accompany the long list of wind power developments for whom SONUS has worked, subsequent court evidence has confirmed that the monetary value has been in the millions of dollars.

You may be unaware that there have now been three Federal Senate Inquiries in Australia where Australian residents have provided a lot of documentation as to the adverse effects they have suffered after wind power facilities started operating near their homes and farms. Some of those residents included wind turbine hosts who had earned $1 million dollars in lease income (http://en.friends-against-wind.org/testimonies/gare-s-evidence). Other residents included people such as Trish Godfrey (Melbourne, 9 June, 2015 http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Wind_Turbines/Wind_Turbines/Public_Hearings) who had been bought out and silenced with gag agreements by the wind power developer, because of serious adverse health effects.

The residents' evidence in these Federal Senate inquiries has been supported by evidence given by Australian and international acoustic and health professionals – even including at times admissions made by experts who consult for the wind industry. One example of the latter is the admission by UK Acoustician Geoffrey Leventhall that it is amplitude

modulation of the sound that "upsets" people (Senate Inquiry hearing, Canberra 23 June, 2015 http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Wind_Turbines/Wind_Turbines/Public_Hearings).

Further to the subject of amplitude modulation, Swedish laboratory research presented in 2016 (http://waubrafoundation.org.au/resources/smith-m-g-et-al-physiological-effects-wind-turbine-noise-sleep/) found that even young fit healthy people (who are presumably included in your company's definition of "average") had disturbed sleep, when exposed to amplitude modulated low frequency noise from wind turbines for a short duration. As a result of this Swedish research alone, your company's website FAQ response is out of date, incorrect, and misleading – clearly "average" people can indeed find the noise intrusive. I also note that our exposures will be for much longer periods than a very short laboratory study.

Wind turbines with 3 MW generation capacity have been associated with consistent residents reports of sleep disturbance out to 10km at Waterloo (http://waubrafoundation.org.au/resources/waterloo-wind-farm-survey-2012/), which have been verified by independent acoustic measurements of excessive low frequency noise out to 8km by Professor Colin Hansen and his team from Adelaide University (http://waubrafoundation.org.au/resources/hansen-zajamsek-hansen-noise-monitoring-waterloo-wind-farm/). Your project's proposed wind turbines will be larger and more powerful than those at Waterloo, and may be up to 4 MW. Larger more powerful wind turbines have been found to emit a greater proportion of low frequency noise, and therefore increased disturbance for the neighbours is likely (https://www.wind-watch.org/documents/low-frequency-noise-from-large-wind-turbines-2/).

Increased disturbance due to additional turbulence is even more likely if inadequate inter turbine separation distances are used by wind power developers, as is the case with Australian industrial wind power developments such as Macarthur, Waterloo, and Cullerin Range in NSW where there have been many complaints about excessive intrusive noise and sleep deprivation from residents, and where numerous residents have been forced to permanently abandon their homes and farms, or to seek regular respite.

Additional turbulence has been known since the late 1980's to result in increased infrasound and low frequency noise emissions, even from so called "modern" upwind bladed wind turbines (http://waubrafoundation.org.au/resources/swinbanks-m-nasa-langley-wind-turbine-noise-research/).

Finally I bring to your attention the recent research from the prestigious Max Planck Institute in Germany http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0174420 which was reported in the national Australian Newspaper "The Australian" on 2nd May, 2017. That research demonstrated that even the primitive parts of the brains of young, fit, healthy people's will directly react to sound below their audibility thresholds with a range of responses including physiological stress, fear and anxiety. Furthermore, prolonged exposure (even for a very short duration) up regulates these pathways, which means increased responsiveness to the stimuli.

This research yet again exposes the lies being told to local residents adjacent to the Crystal Brook Industrial Wind Power Facility by your Australian employees working on this project, namely that the reported symptoms are all caused by scaremongering (nocebo effect), rather than wind turbine acoustic emissions.

This behaviour of knowingly planning to harm some of us with intrusive wind turbine noise, and admitting that some people will be harmed and find the noise intrusive, but concurrently blaming a nocebo effect for the sleep disturbance and stress symptoms is not only dishonest, it is inconsistent with your stated value of ***Integrity,*** one of the four stated values your company claims on its website to define you and "guide" your "action" ***at every level***, including with public stakeholders, such as ourselves (https://www.neoen.com/en/management-2/).

The dictionary definition of "integrity" is the following:

"the quality of being honest and having strong moral principles; moral uprightness"

It is therefore clear, from your company employees' conduct already in their interactions with members of our community, that we cannot trust Neoen and its staff to behave with integrity, nor to act in a way that will protect our health.

Accordingly, I request the following:

1. **The only acoustic consultant I give permission to be on my property is Mr Steven Cooper, from the Acoustic Group, in Sydney. He has indicated his willingness to conduct this monitoring, if approached. Mr Cooper is a court appointed independent expert acoustic witness to the NSW Land and Environment Court, and has worked for both residents and the wind industry to identify the source of noise complaints, and the acoustic triggers for the disturbances reported by residents. It is Mr Cooper's recent Australian field research, including as part of the internationally acclaimed Pacific Hydro funded Cape Bridgewater Acoustic Investigation that has identified Amplitude Modulation as the acoustic trigger for the disturbances including sleep disturbance, being reported by residents near wind turbines.**

2. **The acoustic monitoring must include full spectrum acoustic monitoring, both pre and post construction, inside and outside my home, with sound recording (WAVE files) in addition to the limited acoustic monitoring with a sound level meter currently required for planning and regulatory purposes. This is required to ensure that ALL sound frequencies are included, including specifically infrasound and low frequency noise, and that actual sound recordings are used so there can be no dispute about the source of the sound in those recordings, including particularly the misattribution of wind turbine noise to "wind in the trees".**

3. **NEOEN must agree to ensure that there is complete transparency of the data collection from my property – ie that I will have full copies of all weather and acoustic data collected on my property.**

4. **In addition, NEOEN must also agree to provide all the SCADA (operational) data and all meteorological mast data relating to the operation of its turbines, post construction, for the life of the project, on request.**

5. **NEOEN must agree to conduct "on-off" testing and fully cooperate in any other way to help identify the source of the noise in the event that sleep disturbance and other adverse health effects are reported by any nearby residents living out to 20 km from the wind turbines, post construction.**

6. **I request that all other residents living within the immediate acoustic impact zone of 10km from the external boundary of the wind turbines are provided with the same opportunities for independent acoustic monitoring.**

7. **The monitoring period for the purposes of establishing the background noise environment pre-construction must be for at least three months, and must not take place during either seeding or harvest, as these periods of time do not reflect the usual acoustic soundscape and amenity of my property for 80% of the year; particularly at night.**

I look forward to your company's acceptance of these conditions to ensure fairness and transparency, and to ensure that in the event of any local residents being harmed by your project that you cannot avoid your obligations to ensure that any noise nuisance from your industrial wind power project is properly investigated, and subsequently prevented.

Please advise me of your decision in writing. I can be contacted at the following email address: [redacted]

Yours sincerely

Simon Wooley

Encl.: Controlling Owners and Major Shareholders of Neoen

Controlling Owners and Major Shareholders of Neoen

1. **Impala-sas**
   - 55.6% Shareholder in Neoen - Controlling Role
   - Neoen is a direct subsidiary
   - Diversified Company in Energy and Manufacturing
   - Chairman of the Board: Jacques Veyrat (Founder)
   - CEO: Fabrice Dumonteil
   - Member of Group Executive Committee: Xavier Barbaro (CEO of Neoen)
   - Address: 4, rue Euler
     75008 Paris France (same address as Neoen)
   - Phone: +33 1 8169 2580
   - Email: [redacted]
   - Web: www.impala-sas.com

2. **Bpifrance**
   - 14.1% Shareholder in Neoen
   - French Government - State Owned Investment Bank
   - Supervised by the European Central Bank (www.ecb.europa.eu)
   - Director General: Nicolas Dufourcq
   - Address: 27-31, avenue du
     General Leclerc
     Cedex 50
     Maisons-Alfort, 94710 France
   - Phone: +33 1 4179 800
   - Email: [redacted]
   - Web: www.bpifrance.fr

3. **Omnes Capital**
   - 23.4% Shareholder in Neoen
   - Private Equity Investor
   - CEO: Fabien Prevost
   - Senior Advisor: Jacques Veyrat (Chairman of Impala-sas)
   - Address: 37-41 rue du Rocher
     75008 Paris France
   - Phone: +33 1 8048 7900
   - Email: [redacted]
   - Web: www.omnescapital.com/en

neoen
renewing energy

Dr Simon Wooley
Beetaloo Valley Road
Beetaloo Valley, SA 5523
Email: [redacted]

22 May 2017

Dear Dr Wooley,

Crystal Brook Energy Park – Background Noise Monitoring

We refer to your letter of 11 May 2017 in response to Neoen's offer to undertake background noise monitoring on your property in relation to the Crystal Brook Energy Park (**Energy Park**).

Neoen regrets that you are not in a position to accept the offer as proposed to you by its acoustic consultants Sonus Pty Ltd. We have reviewed the conditions upon which you would be willing to allow noise monitoring on your property, and we advise that Neoen cannot agree to the conditions set out in your letter.

We also emphatically reject the implication you draw in your letter about an admission by Neoen that noise from its wind turbines will harm some residents. The information available on the Energy Park's website which you cite does not support any such admission. We similarly do not agree with your other statements about Neoen, the Energy Park and alleged health and noise impacts of wind farms contained in your letter.

Neoen is undertaking background noise monitoring as a part of the noise assessment it must carry out for the development application for the Energy Park. In order to satisfy these requirements, Neoen has engaged Sonus to undertake an assessment in accordance with the applicable legal requirements, guidelines and standards. The conditions you propose are, unfortunately, not in line with what is required to meet those requirements and as a result your property will not be included in the background monitoring assessments.

Thank you for taking the time to write to us. I would like to add that we are still in the public consultation phase of the project, and we welcome suggestions and participation from project neighbours and members of the community.

Please feel free to call me directly on the telephone number below if you would like to discuss any aspect of the project, or arrange a face-to-face meeting.

Yours Sincerely,

Garth Heron
Head of Wind Development
Mobile: 0408 998 425

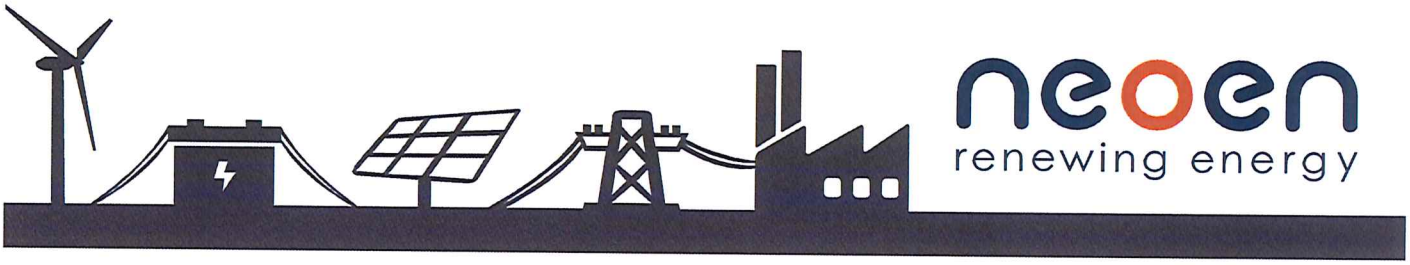
CRYSTAL BROOK
energy park

Neoen is investigating the development of a combined storage, solar and wind project near **Crystal Brook** and is holding a **Community Information Session** to share details of the proposed project and seek your feedback:

When: **Wednesday 8 February**
anytime between 3 pm and 8 pm
Where: **Crystal Brook Football Club**
Kendrew Avenue, Crystal Brook

The project team will be in attendance to answer any questions you may have on the project. The session is informal, so feel free to visit any time between 3pm and 8pm on the day.

For more information, please visit the project website www.crystalbrookenergypark.com.au or call (02) 6257 6842 or email contact@crystalbrookenergypark.com.au



neoen
renewing energy

NEOEN

Crystal Brook Energy Park
Community Open Day

Keeping the community informed

Neoen Australia will hold a Community Open Day to share project updates on Crystal Brook Energy Park; a world-leading renewable energy project combining storage, solar and wind.

Interested community members are invited to drop-in to the open day, an informal event, to meet the project team, view display materials and maps and learn about the Energy Park.

WHEN	Community Open Day Monday 26 March, 3pm to 7pm
WHERE	LOCATION, Crystal Brook, South Australia, 5523

Crystal Brook is located approximately 23 kilometres southeast of Port Pirie and 3 kilometres north of Crystal Brook in South Australia and is among the first utility-scale projects in Australia to use three renewable technologies together.

For more information on the Crystal Brook Energy Park
Visit: www.crystalbrookenergypark.com.au
Call: 0419 680 252
Email: contact@crystalbrookenergypark.com.au