4. ENVIRONMENTAL, SOCIAL AND ECONOMIC CONTEXT

The proposed project development area is located in the Darling Downs Region (Darling Downs) of Queensland within the Goondiwindi, Toowoomba and Western Downs regional council areas (see Figure 2.2). This chapter describes the broad environmental, social and economic context of the project.

4.1 Physical and Natural Environment

The physical attributes of the Darling Downs are favourable to agriculture and have led to the development of agricultural activities across the region. This in turn has led to significant modification to the environment since non-Indigenous settlement commenced in the 1840s. Details of the landscape, climate, water resources and terrestrial and aquatic ecology relative to the general region and the project development area specifically, are discussed below.

4.1.1 Landscape

The Great Dividing Range and Kumbarilla Ridge run through the Darling Downs to separate the three major drainage basins that dominate the landscape: the Fitzroy to the north, the Border Rivers to the southwest, and the Condamine-Culgoa drainage basin which runs from the southeast to the northwest through the centre of the project development area (Figure 4.1).

The land use in the area is strongly related to the different soil types and topography. Soils within the project development area are dominated by heavy clays, which form rich agricultural soils around the Condamine River. These soils are characterised by self-mulching, cracking clays with a deep profile. At higher elevations, shallow, gravelly soils are present. Soil erosion is evident in areas where brigalow woodland has been extensively cleared.

Agricultural land use within the project development area ranges from concentrated agriculture on the Condamine River floodplain, where many paddocks have been laser-levelled to achieve effective flood irrigation, through to cattle grazing in more marginal areas located to the north and west. Limited agricultural activity exists in areas of higher elevation and within state forests.

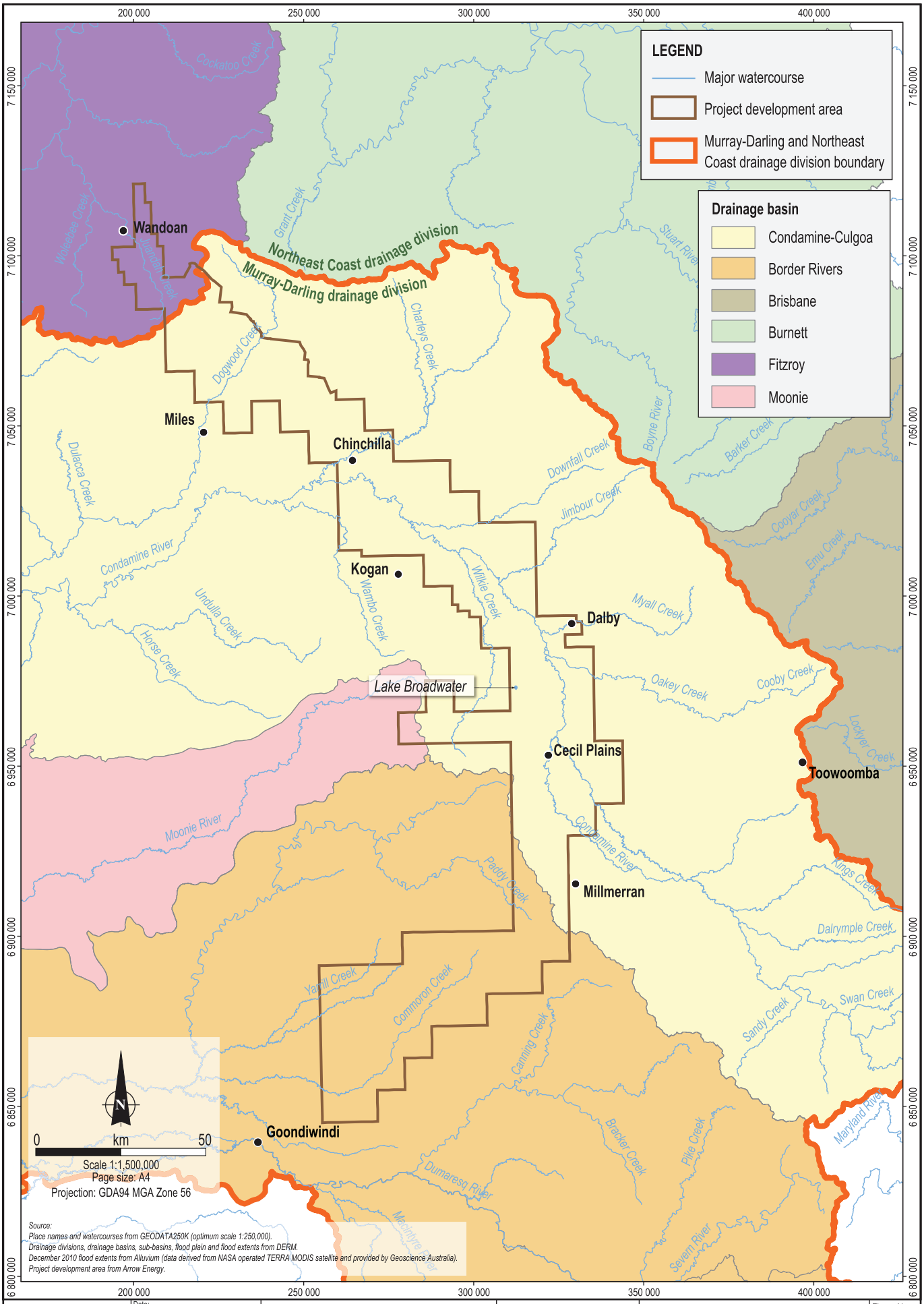
Land within the project development area is predominantly freehold tenure. Crown land comprising conservation reserves and national parks is also present in the region. Figure 4.2 shows these conservation reserves and national parks.

The elevation of the project development area ranges from 240 m Australian Height Datum (AHD) in the south at Wondalli to 645 m AHD at Mount Domville near Millmerran (Figure 4.3).

4.1.2 Climate

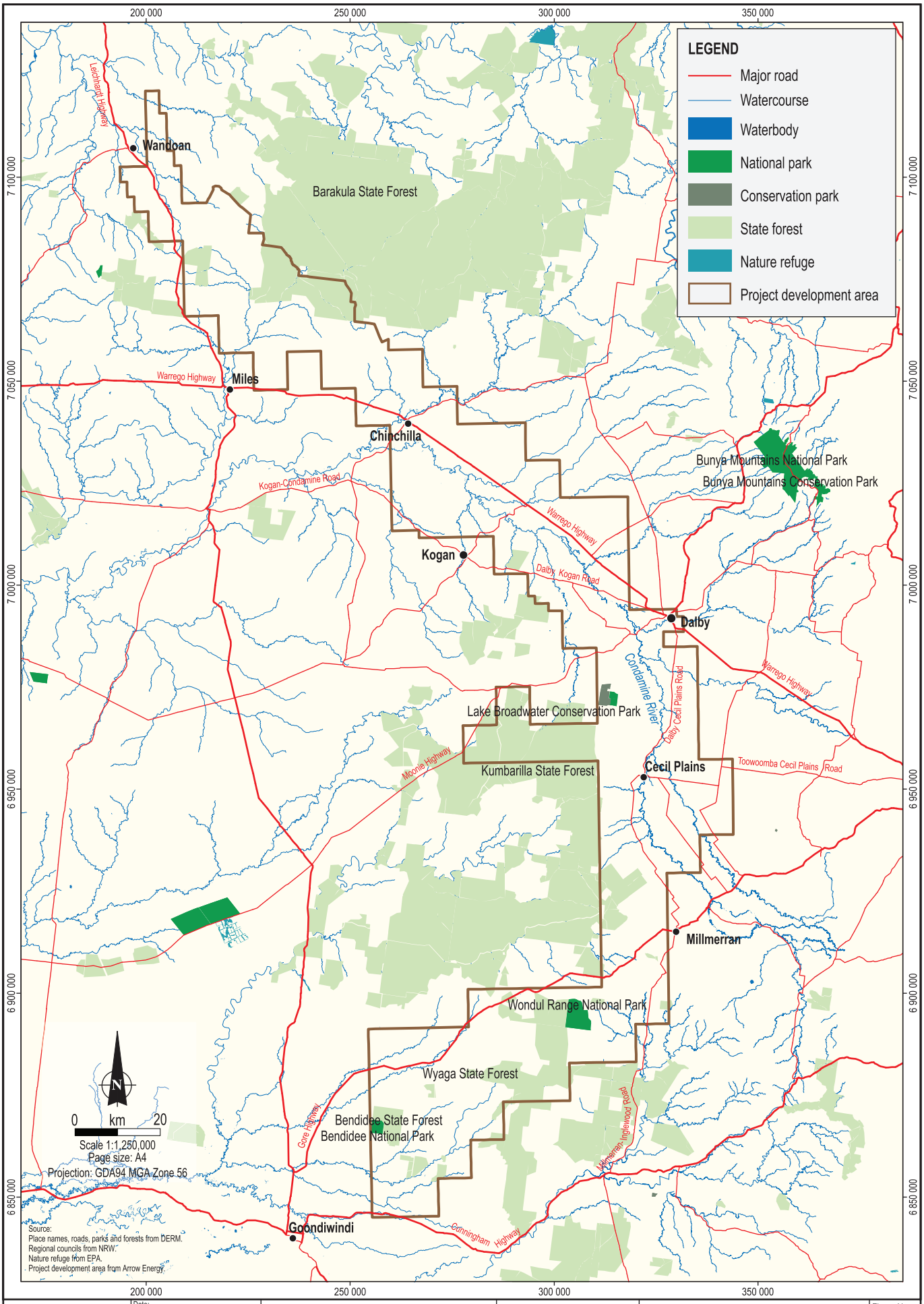
The Darling Downs has a warm climate typical of subtropical regions with mean temperatures in the project development area ranging from a mean monthly minimum of 3.6 in winter months (June to August) to a mean monthly maximum of 35°C in summer months (December to February).

The majority of rain falls between November and February. The average annual rainfall varies across the region and ranges from an average of 20 to 40 mm in winter, to 70 to 100 mm summer. Around 20 thunderstorm days per year occur in the region, often involving strong winds, heavy rainfall and flooding.

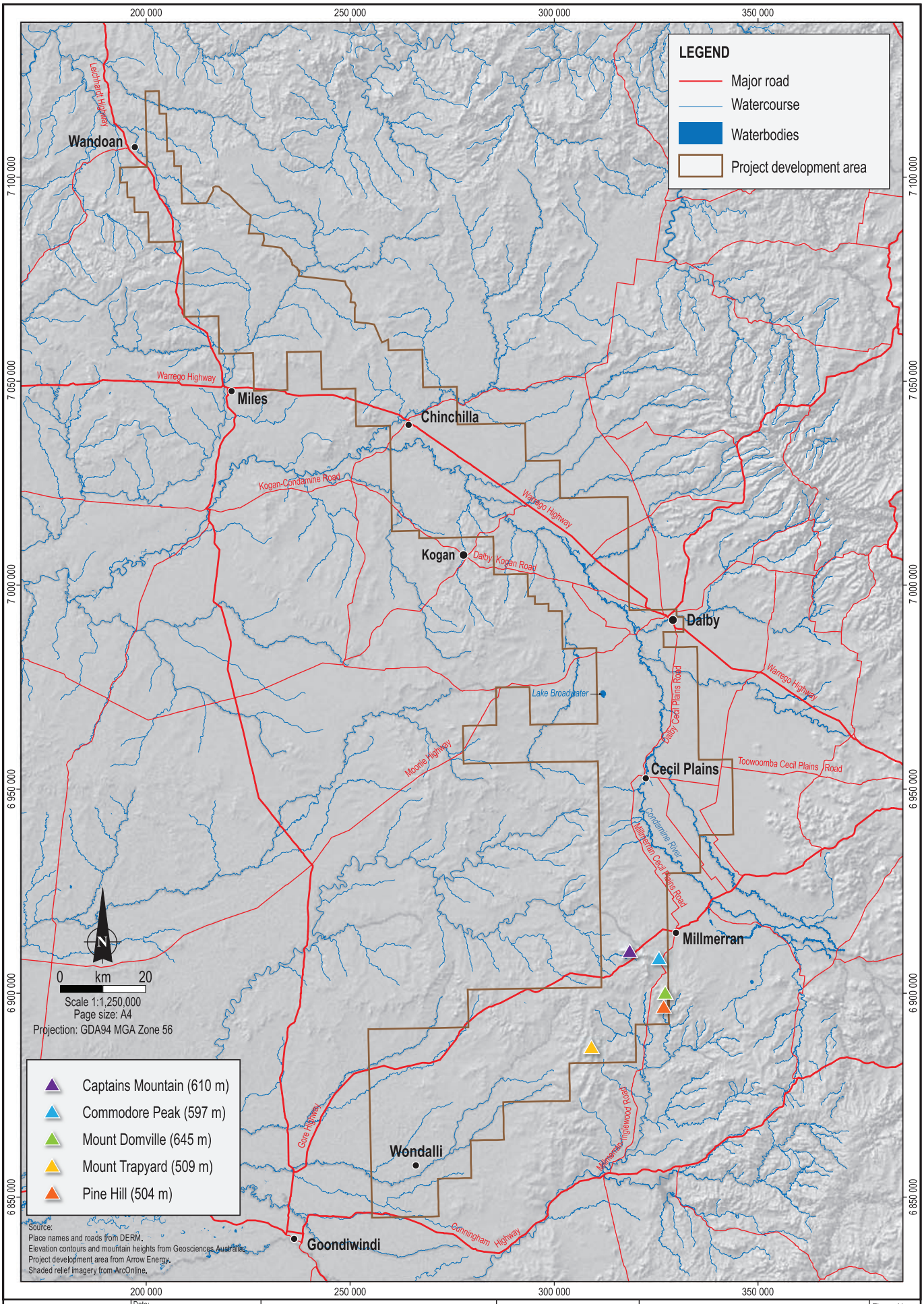


Source:
Place names and watercourses from GEODATA250K (optimum scale 1:250,000).
Drainage divisions, drainage basins, sub-basins, flood plain and flood extents from DERM.
December 2010 flood extents from Alluvium (data derived from NASA operated TERRA MODIS satellite and provided by Geoscience Australia).
Project development area from Arrow Energy.

coffey environments	Date: 10.11.2011 MXD: 7040AC_04_GIS033_v1_2 File Name: 7040_04_F04.01_GIS_GL	Arrow Energy Surat Gas Project	arrow energy go further	Major watercourses and drainage divisions within the project development area	Figure No: 4.1



coffey environments	Date: 09.12.2011 MXD: 7040AC_04_GIS035_v1_4 File Name: 7040_04_F04.02_GIS_GL	Arrow Energy Surat Gas Project	arrow energy go further	Conservation reserves and national parks in the region	Figure No: 4.2



coffey environments	Date: 04.11.2011 MXD: 7040AC_04_GIS095_v0_3 File Name: 7040_04_F04.03_GIS_FT	Arrow Energy Surat Gas Project	arrow energy go further	Project development area elevation	Figure No: 4.3

The central part of the project development area around Dalby has winds characterised by predominant easterly winds in the morning and easterly and westerly winds in the afternoons. The northern and southern areas (recorded by weather stations at Miles Post Office and Goondiwindi Airport, respectively) show a more even spread of wind direction throughout the day. There is a high frequency of calm and very light winds across the region (Figure 4.4).

Hot summers and prolonged cycle of drought can increase the risk of bush fires. The project development area is categorised as a medium to low bush fire risk, with bush fire hazard areas shown on Figure 4.5.

4.1.3 Water Resources

The project development area straddles the Murray-Darling and Northeast Coast drainage divisions (two of Australia's 12 drainage divisions). The notable watercourses in the area include the Condamine River, Dawson River, Balonne River and the Charleys, Commoron, Jimbour and Wilkie creeks. Several wetlands also exist. The most notable is Lake Broadwater, which supports a number of significant terrestrial and aquatic ecological communities.

The aquatic systems range from permanent to semi-permanent and highly-seasonal flowing water environments. Large-scale water use for agricultural activities and the incidence of soil erosion has generally resulted in moderate modification of these environments (Plate 4.1). In some areas, high levels of modification can be observed.

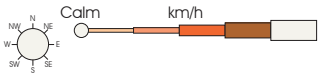
Communities of the Darling Downs experience regular flooding events as a result of high rainfall. These events have been known to result in the evacuation of homes, the isolation of communities and the disruption of road and rail links. Figure 4.6 shows the extent of flooding to the region from 1956 to 1988 and Figure 4.7 shows the extent of flooding on 31 December 2010.

Groundwater in the region has been used extensively and continues to be relied upon for domestic use and to sustain the agricultural industry. The major aquifer systems in the project development area include the:

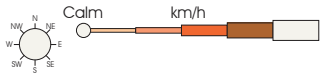
- Shallow groundwater system: Quaternary alluvium aquifers, which include the Condamine Alluvium (average depth of 25 m below ground surface (mbgs)).
- Intermediate groundwater system: Mooga Sandstone, Gubberamunda Sandstone and Springbok Sandstone (indicative depth of 150 mbgs with a maximum thickness of approximately 380 m).
- Coal seam groundwater system: Walloon Coal Measures (indicative depth of 600 mbgs with a maximum thickness of approximately 300 m).
- Deep groundwater system: Hutton Sandstone/Marburg Formation and Precipice Sandstone (indicative depth of 900 mbgs with a maximum thickness of approximately 375 m).

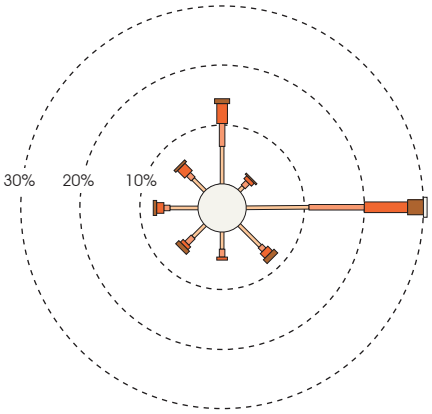
The majority of bores in the area draw water from the Condamine Alluvium (part of the shallow groundwater system). The water drawn from the alluvium is slightly acidic to alkaline (pH 5.6 to 9.7) and is generally brackish or slightly saline (average total dissolved solids (TDS) is 1,361 mg/L); however, it ranges from fresh to saline (TDS of 146 to 21,313 mg/L). Water from the Condamine Alluvium is generally utilised for crop irrigation and stock watering purposes but there is a potential for it to be used for domestic purposes.

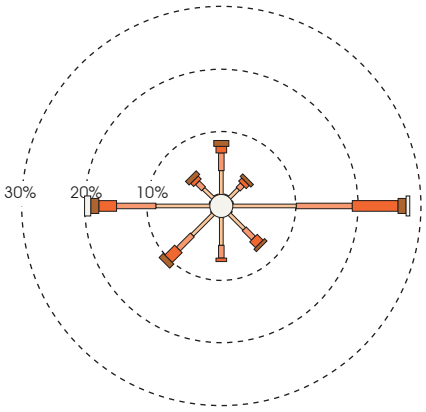
9 am
5,980 Total Observations
Calm 19%



3 pm
5,988 Total Observations
Calm 9%

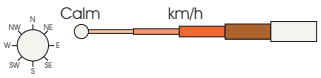




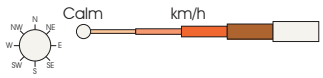


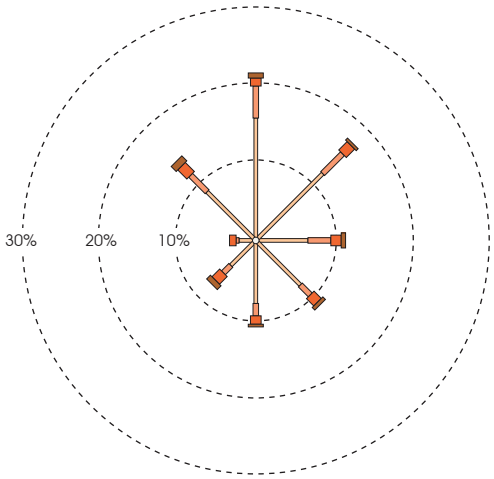
a) Long-term average 9 am (left) and 3 pm (right) wind roses from Dalby Airport

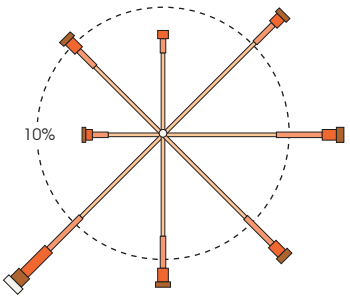
9 am
18,338 Total Observations
Calm 3%



3 pm
14,214 Total Observations
Calm 2%

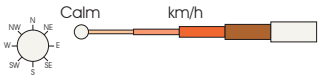




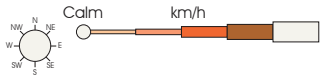


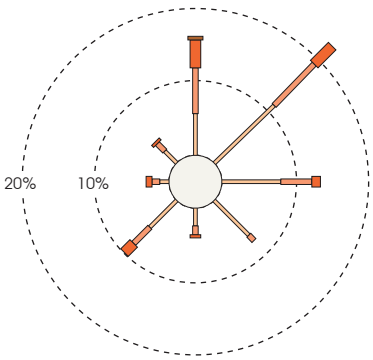
b) Long-term average 9 am (left) and 3 pm (right) wind roses from Miles Post Office

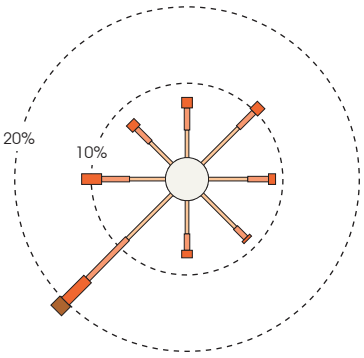
9 am
6,204 Total Observations
Calm 18%



3 pm
8,201 Total Observations
Calm 13%



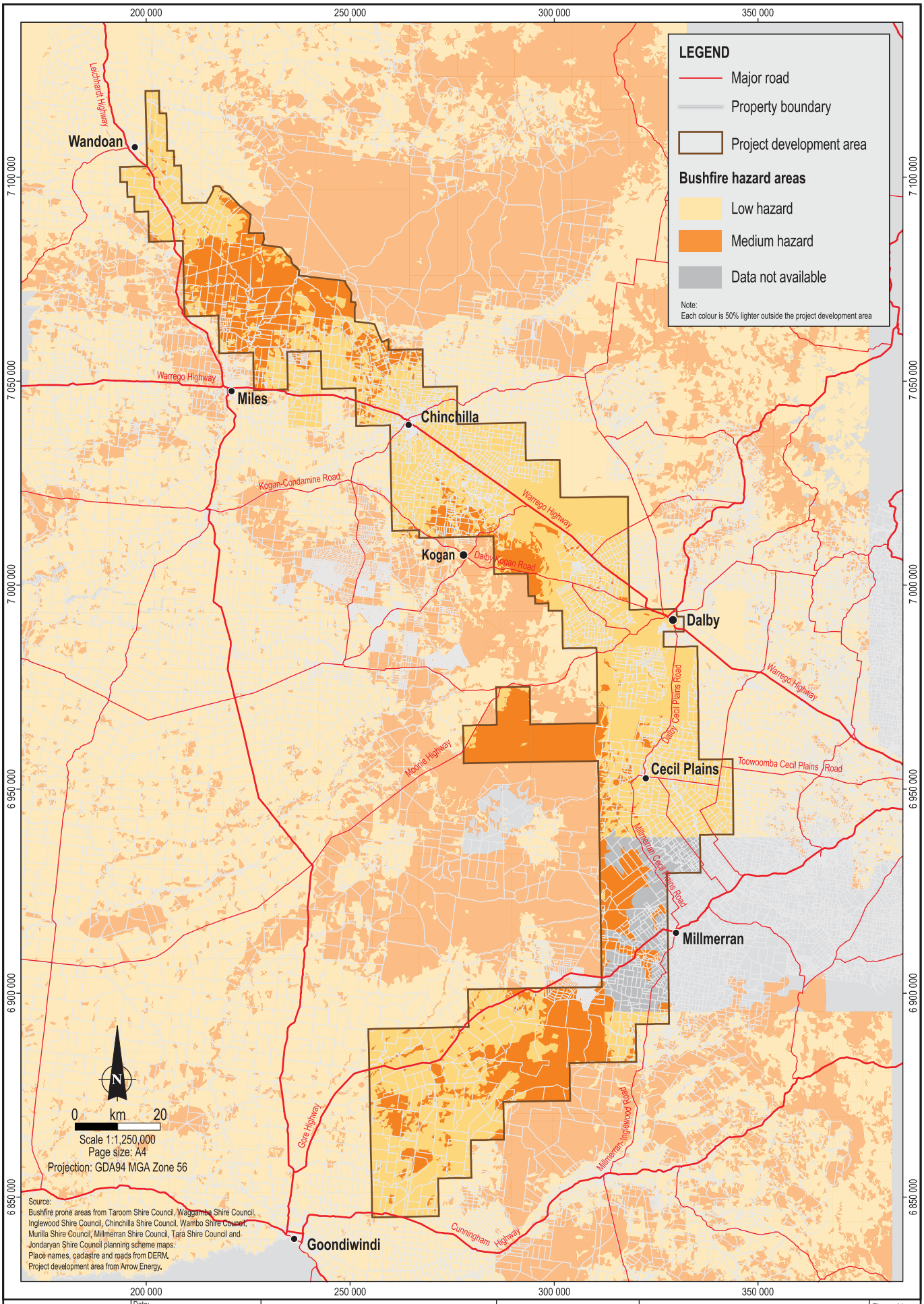




c) Long-term average 9 am (left) and 3 pm (right) wind roses from Goondiwindi Airport

Source: Appendix C, Air Quality Assessment

coffey environments	Job No: 7040	Arrow Energy	arrow energy go further	Wind roses for the project development area	Figure No: 4.4
	File Name: 7040_04_F04.04_FT	Surat Gas Project			



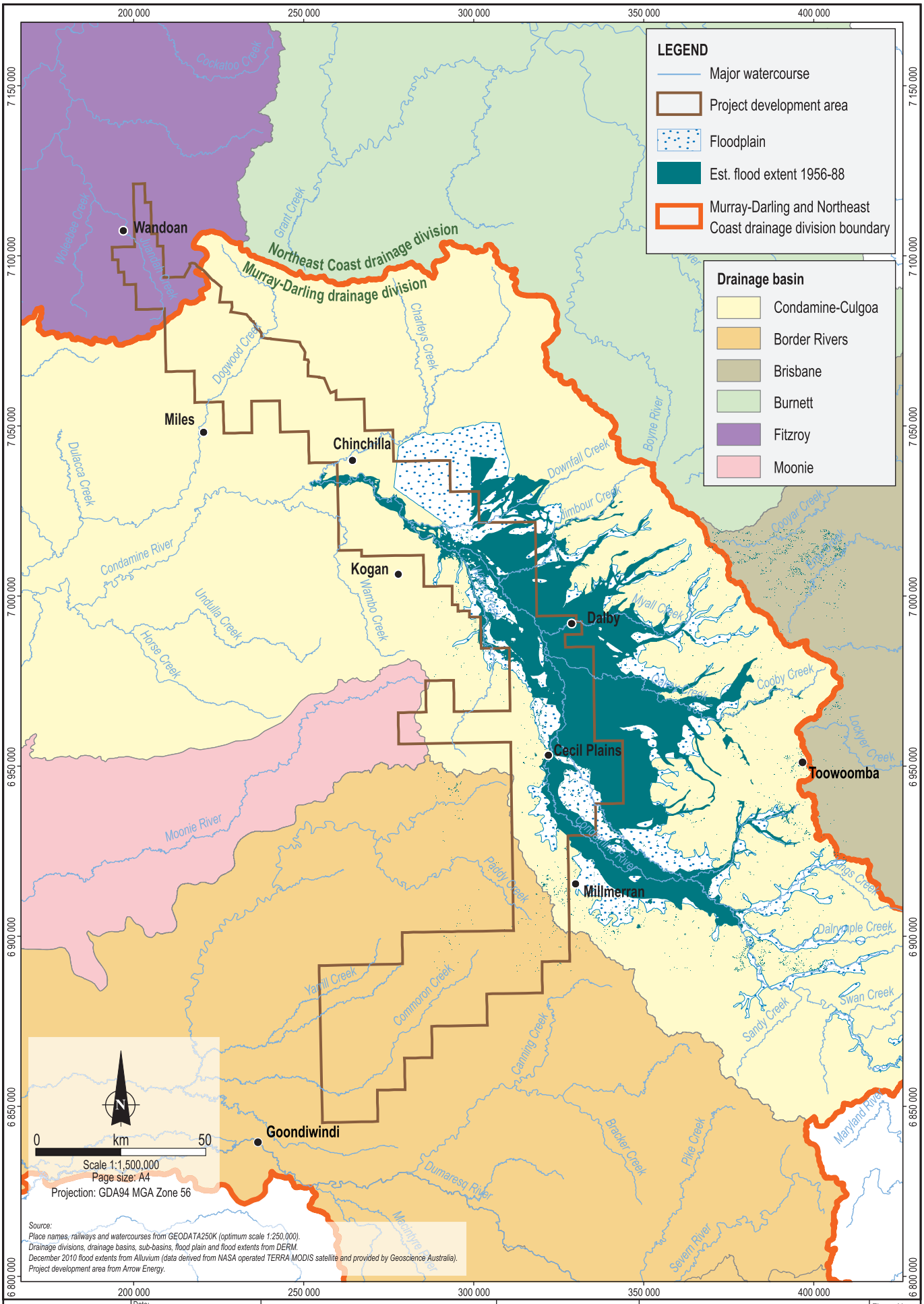
coffey environments	Date: 16.11.2011 MXD: 7040AC_04_GIS200_v1_1 File Name: 7040_04_F04.05_GIS_GL	Arrow Energy Surat Gas Project	arrow energy go further	Bushfire hazard areas in the project development area	Figure No: 4.5

Source: Arrow.

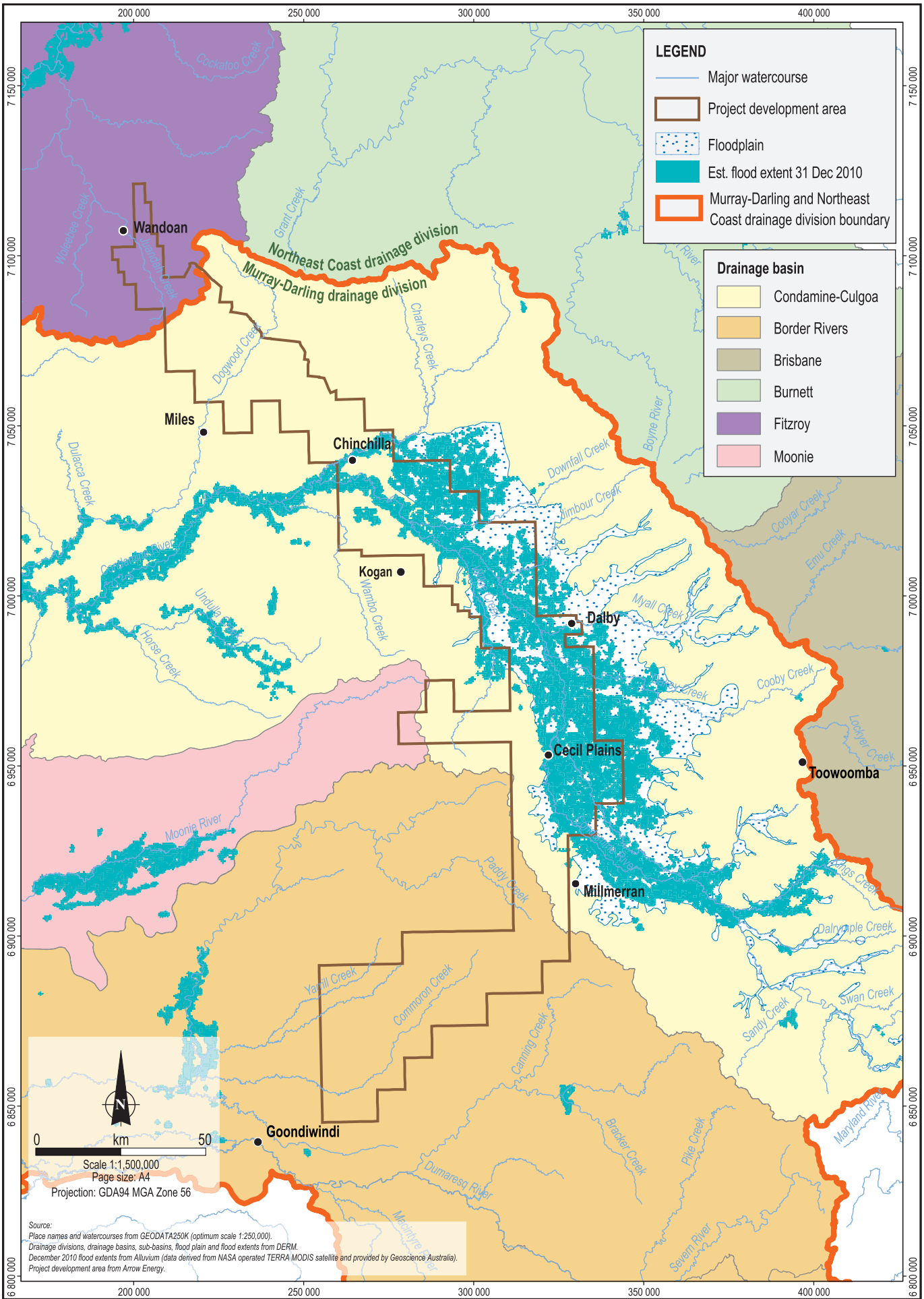
Plate 4.1
Watercourse displaying a high level of modification typical of the project development area

Source: Arrow.

Plate 4.2
Agricultural block typical of the project development area



coffey environments	Date: 21.11.2011 MXD: 7040AC_04_GIS033_v1_3 File Name: 7040_04_F04.06_GIS_GL	Arrow Energy Surat Gas Project	arrow energy go further	Extent of flooding from 1956 to 1988	Figure No: 4.6



Source:
Place names and watercourses from GEODATA250K (optimum scale 1:250,000).
Drainage divisions, drainage basins, sub-basins, flood plain and flood extents from DERM.
December 2010 flood extents from Alluvium (data derived from NASA operated TERRA MODIS satellite and provided by Geoscience Australia).
Project development area from Arrow Energy.

coffey environments	Date: 21.11.2011 MXD: 7040AC_04_GIS033_v1_4 File Name: 7040_04_F04.07_GIS_GL	Arrow Energy Surat Gas Project	arrow energy go further	Extent of flooding on 31 December 2010	Figure No: 4.7

Water in the intermediate groundwater system has been classified as fresh with a neutral pH; however, this is based on limited sampling information.

Water in the coal seam groundwater system is generally slightly alkaline (pH 7.1 to 11.4) and is classified as ranging from highly brackish to saline (TDS range from 5,340 to 20,150 mg/L). The water is generally suitable for stock watering. In comparison, the TDS of seawater is typically between 36,000 and 38,000 mg/L (DERM, 2011c).

Water within the deep groundwater system is generally slightly alkaline (pH from 7.2 to 8.6) and ranges from fresh (TDS of 162 mg/L) to highly brackish (TDS of 10,108 mg/L). The water may be used for irrigation and stock watering purposes. The deeper of these formations form part of the Great Artesian Basin that covers parts of the Northern Territory, Queensland, New South Wales and South Australia.

4.1.4 Terrestrial and Aquatic Ecology

The project development area lies within the Brigalow Belt South Bioregion and has been extensively modified since non-Indigenous settlement through land clearing and agricultural practices and now supports little of the former indigenous vegetation. Consequently, much of the native flora and wildlife habitat that remains has elevated importance regionally.

Ecological assessments undertaken as part of the EIS identified a diverse range of flora with over 1,390 species known to occur. Fauna identified within the project development area comprised 29 frog species, 97 reptile species, 308 bird species and 63 mammal species, as well as a number of invertebrate species.

Of the identified flora and fauna, 6 vegetation communities, 37 flora species and 27 fauna species are listed as endangered, vulnerable or near threatened under national and/or state legislation and are known or likely to occur. The region is also impacted by 20 declared pest plant species, with weed infestation being of particular concern to land managers.

Surveys undertaken as part of the EIS indicate that aquatic ecosystems within the project development area are of moderate health and capable of supporting a number of aquatic species.

One fish species of particular conservation interest (the Murray cod, *Maccullochella peelii peelii*) is known to exist within the project development area both as a remnant population of wild fish and as a stocked recreational species. The Fitzroy River turtle is also nationally listed and known to exist in the project development area.

4.2 Social Environment

The modern-day communities in and around the project development area have evolved from agricultural settlements established in the 1800s and retain a rural and agricultural character. Community values relating to the project development area and wider region include relative proximity to services, relaxed lifestyle, safe and family-friendly community, and rural outlook with open space and opportunity for recreation.

Details of settlement, population, community infrastructure and services, and the transport infrastructure of Wandoan, Miles, Chinchilla, Dalby, Cecil Plains, Millmerran, Goondiwindi and Toowoomba are discussed below. With the exception of Toowoomba, these communities of interest lie within close proximity to the proposed project activities. Toowoomba lies approximately 85 km east of the project development area, but may be a potential source of workers, services and accommodation. Toowoomba also lies on the main road transport route from Brisbane to the project development area.

4.2.1 History of Settlement

Stone artefacts excavated at Mount Moffat Station, approximately 250 km north of the project development area, provide physical evidence that the Darling Downs has been a location of Indigenous activity for approximately 22,000 years (French & Waterson, 1982). The Indigenous people associated with the Darling Downs include:

- Wakka Wakka language speakers (from Toowoomba, Warwick and the Bunya Mountains).
- Kamilaroi language speakers (from the region's south and west).
- Turubul language speakers (from the region's east).

Botanist Allan Cunningham was the first European to provide written first-hand accounts of Indigenous activity in the Darling Downs when he explored the area in 1823. Cunningham also wrote of the agricultural potential of the region, which encouraged the development of the first grazing runs around present-day Warwick in 1840.

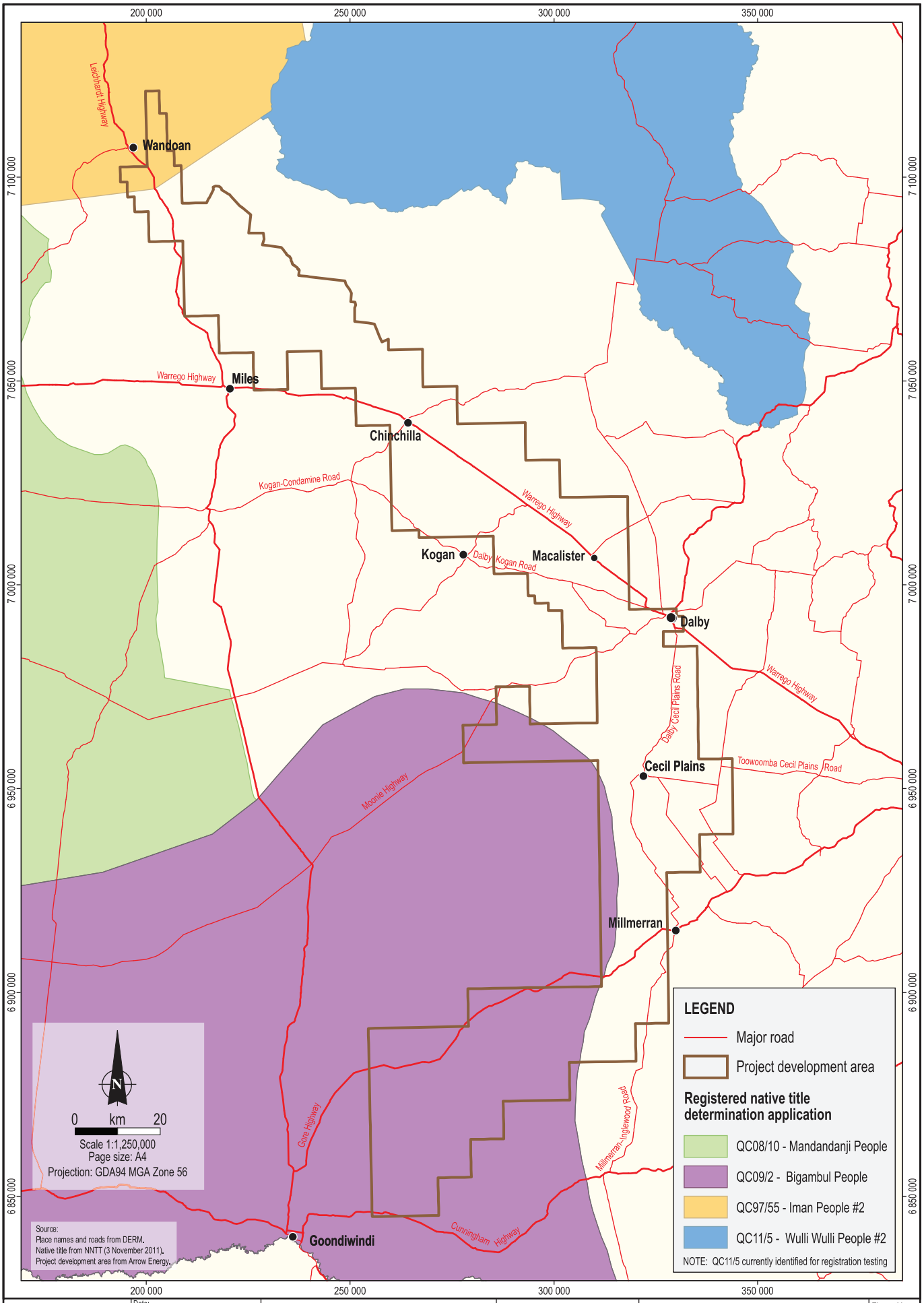
When non-Indigenous settlement commenced, Indigenous clans initially retreated to the mountains and heavy scrub, before returning to resist the settlement. Despite their resistance, particularly between 1842 and 1846, the Indigenous people were unable to dissuade further non-Indigenous settlement (French & Waterson, 1982). Native title claims currently registered over and adjacent to the project development area are shown in Table 4.1 and Figure 4.8.

Table 4.1 Native title applications over and adjacent to the project development area

Native Title Party	Claim No.	Current Status
Iman People #2	QC97/55	Active
Mandandanji People	QC08/10	Active
Wulli Wulli People #2*	QC11/5	Active
Bigambul People	QC09/02	Active

* Currently identified for registration testing.

The growth of the non-Indigenous population in the region was significantly encouraged by the Queensland Government's subdivision of large pastoral holdings in 1859. Initial growth comprised a predominantly male population (French & Waterson,1982). The completion of a railway linking Toowoomba to Ipswich in 1867 promoted further expansion of the region’s transport infrastructure and agricultural activity, which in turn facilitated development of the region’s modern-day communities. There is much evidence of the activities of the non-Indigenous pioneers that settled the Darling Downs and of the communities that followed.



coffey environments

Date: 12.12.2011
MXD: 7040AC_04_GIS043_v1_5
File Name: 7040_04_F04.08_GIS_GL

Arrow Energy

Surat Gas Project

arrow energy go further

Native title applications over and adjacent to the project development area

Figure No: 4.8

4.2.2 Population

Population data of towns and cities in and around the project development area is presented in Table 4.2.

Table 4.2 Population of towns and cities in and around the project development area

Community	1881 Population	1921 Population	2001 Population	2006 Population	2006 Population Density
Cecil Plains	-	-	281	235	76 per km^2
Chinchilla	-	3,095	3,376	3,682	265 per km^2
Dalby	1,300	2,395	9,731	9,776	204 per km^2
Goondiwindi	-	1,341	5,491	5,630	184 per km^2
Miles	-	-	1,196	1,164	277 per km^2
Millmerran	-	1,679	1,250	1,223	260 per km^2
Toowoomba	5,207	20,702	89,338	95,266	803 per km^2
Wandoan	-	-	396	385	275 per km^2
Darling Downs Statistical Division* (including persons living outside towns)	31,480	93,778	-	213,754	2 per km^2

Source: CQG (2010), ABS (2001), ABS (2007a).

* The Darling Downs Statistical Division comprises the Goondiwindi, Southern Downs, Toowoomba and Western Downs regional councils.

The average population density of two persons per square kilometre across the Darling Downs Statistical Division is indicative of the fact that over half the regional population live on rural properties outside of towns. The size of rural properties within the project development area varies. The average size of land parcels in the northern project area (Wandoan) is 400 ha. The average size of land parcels further south in Chinchilla and Kogan is 40 ha and 95 ha respectively. Dalby and Millmerran have average land parcels of 133 ha and 230 ha respectively, while the southern part of the project development area (Goondiwindi), where more land is used for grazing, has average land parcels of 478 ha.

4.2.3 Community Infrastructure and Services

Major communities have access to essential amenities such as emergency services, health services, schools, grocery stores and petrol stations within their communities, while a full range of regional services is provided in Toowoomba. Electricity, potable water and sewerage services are supplied to all established communities in the region. Telephone, internet, radio and television networks are available across the Darling Downs, as are a variety of sporting and recreational facilities. The area maintains a rural feel and the extent of services to communities in the Darling Downs is commensurate with the population density.

4.2.4 Transport Infrastructure

Major road and rail networks link the Darling Downs communities with Brisbane and other regional centres. The main highways linking townships within and around the project development area are the Warrego, Gore and Leichardt Highways. A number of lower order roads link rural areas and communities within the project development area. A regular passenger rail service connects the region with Brisbane via the Western Line.

Major road and rail networks that link the Darling Downs with Brisbane and the east coast are shown in Figure 4.9.

4.3 Economic Environment

The Darling Downs was estimated to have recorded gross regional product (GRP) of $12.6 billion in 2009 to 2010, representing 5.1% of Queensland's gross state product for the year. Details of the major industries, agricultural activity and major projects proposed or under construction in the region are discussed below.

4.3.1 Major Industries

Toowoomba is the primary regional centre of the Darling Downs economy, with major industries including manufacture, construction and retail trade. The city serves as the business and service hub supporting the smaller communities in and around the project development area that receive a sizeable proportion of their income from the agricultural industry. Labour force, income and unemployment data for communities in and around the project development area at the time of the 2006 census is presented in Table 4.3.

Table 4.3 Labour force, income and unemployment data in the communities of interest

	Labour Force	Median Individual Income ($/week)	Proportion of Labour Force Unemployed and Looking for Work (%)	Number of Unemployed People Looking for Work
Cecil Plains	114	466	2.6	3
Chinchilla	1,743	407	4.2	74
Dalby	4,617	453	5.1	234
Goondiwindi	2,841	501	4.5	127
Miles	487	386	3.5	17
Millmerran	569	393	5.8	33
Toowoomba	45,020	436	4.9	2,220
Wandoan	188	416	1.6	3

Source: ABS (2007a).

The Darling Downs regional economy grew at an average annual rate of 7.8% in the four years prior to 2007 to 2008. This was lower than Queensland's average annual growth of 9.8% during the same period (BITRE, 2009). In economic output terms, the five largest industries accounted for 43.4% of Darling Downs GRP. These industries included:

- Agriculture (13.0%).
- Manufacturing (9.5%).
- Retail trade (7.7%).
- Construction (6.9%).
- Health and community services (6.3%).

During the same period, the electricity, gas and water industry accounted for 2.9% of GRP, while mining accounted for 3.4% of GRP.

coffey environments	Date: 16.11.2011 MXD: 7040AC_04_GIS031_v1_3 File Name: 7040_04_F04.09_GIS_GL	Arrow Energy Surat Gas Project	arrow energy go further	Major road and rail networks linking the project development area with the east coast	Figure No: 4.9

4.3.2 Agricultural Activity

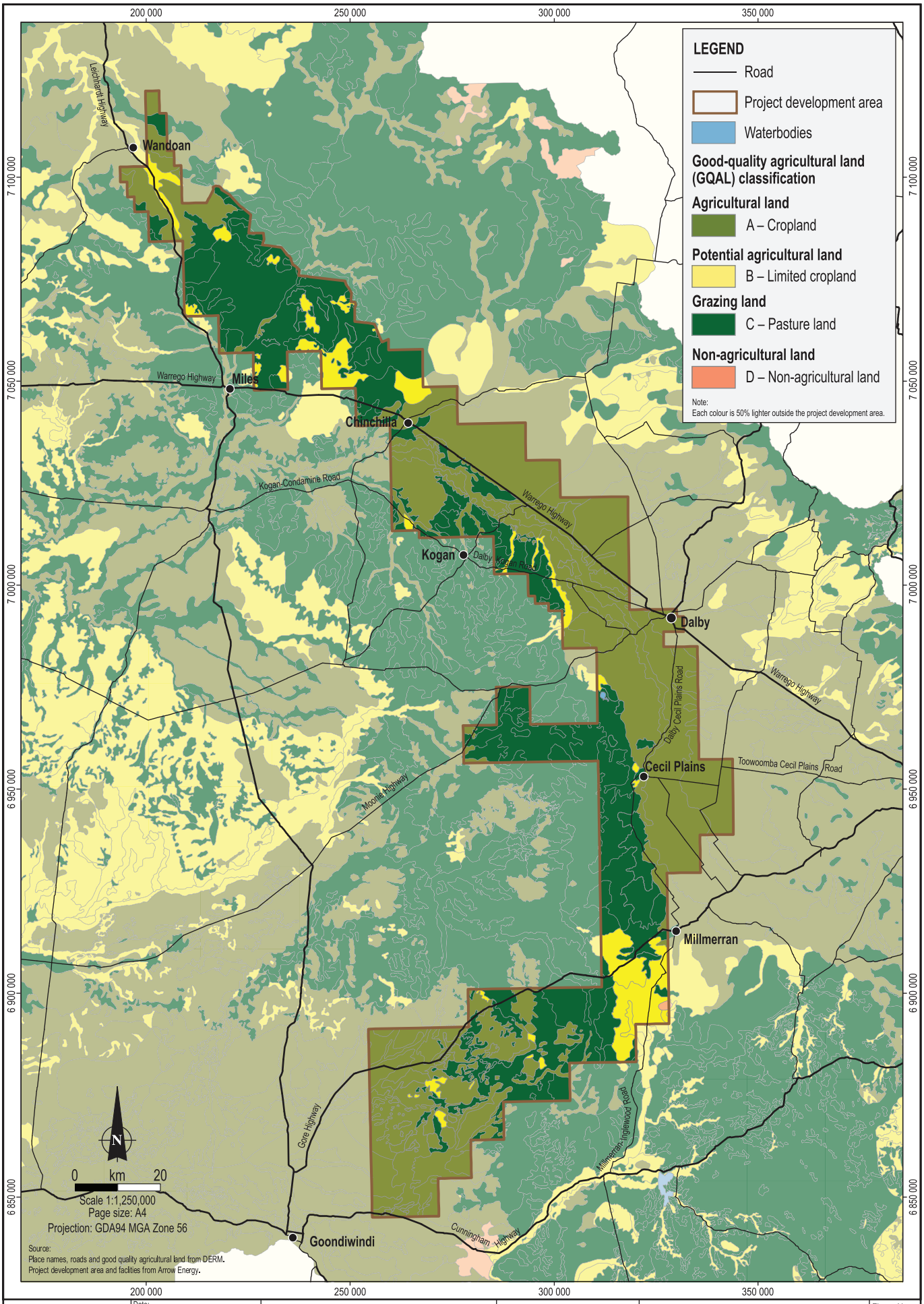
The Darling Downs is widely recognised as having soil and a climate that is highly suited to diverse agricultural production (Qld Govt., 2006) (Plate 4.2).

These natural assets have contributed to the Darling Downs' involvement in the advancement of agricultural technology (such as use of GPS in machinery movement) and farming methods, specifically focussed on sustainable production under Australian environmental conditions. Table 4.4 details the significant crop and livestock products produced in and around the project development area.

Table 4.4 Significant crop and livestock products produced in and around the project development area

Agriculture	Product	Description
Dryland broad-acre farming	Grain sorghum and sunflower	Grown throughout the project development area on a diverse range of soils.
Irrigated broad-acre farming	Cotton, soybeans, lucerne	Major irrigated crops.
	Maize, mungbean and ratoon sorghum	Minor irrigated crops due to lower returns.
Horticulture	Melons (watermelon, rockmelon, honeydew)	Grown in the area surrounding Chinchilla.
	Broccoli, onions and green beans	Grown in the Norwin/Brookstead regions and between Cecil Plains and Millmerran on black, self-mulching clays with good soil moisture reserves.
Fruit	Olives	In the Millmerran region, approximately six olive growers.
Vineyards	Grapes	Approximately 748 ha of vineyards in the Darling Downs.
Intensive livestock industries	Piggery	Some 300 to 500 piggeries are located in the Darling Downs, as per pork industry body estimates.
	Poultry	Egg (rather than meat chicken) production is predominant.
	Beef feedlots	Feedlots first established in the area in the early 1960s. Darling Downs is the most intensively developed feedlot region in Australia.
	Dairy	Extensive in the Darling Downs; however, within the project development area the number of operations is limited.
Rangeland grazing	Beef cattle (grazing) and sheep	Extensive livestock enterprises located in the Darling Downs.
Timber production	Cypress pine, spotted gum and ironbark	Significant amount of timber harvested from forests on freehold and leasehold land, and Crown-owned state forest.

Approximately 60% of the project development area is classed as category A (cropland) or B (limited cropland) good-quality agricultural land, as determined under local planning schemes in accordance with the Queensland Government's State Planning Policy (SPP) 1/92. The extent of good-quality agricultural land within and surrounding the project development area is shown in Figure 4.10.



coffey environments	Date: 03.11.2011 MXD: 7040AC_04_GIS036_v1_2 File Name: 7040_04_F04.10_GIS_GL	Arrow Energy Surat Gas Project	arrow energy go further	Good-quality agricultural land within and surrounding the project development area	Figure No: 4.10

As of 30 January 2012, coal seam gas development within the Darling Downs will be assessed under the new strategic cropping land legislation. The *Strategic Cropping Land Act 2011* (Qld) includes trigger maps that identify potential strategic cropping land. Under the act, the best cropping land, defined as strategic cropping land, is a finite resource that should be conserved and managed. The act provides planning and approval powers to protect such land from developments that lead to its alienation or diminished productivity. Therefore, strategic cropping land will need to be taken into consideration during development associated with the project.

The extent of potential strategic cropping land within and surrounding the project development area is shown in Figure 4.11.

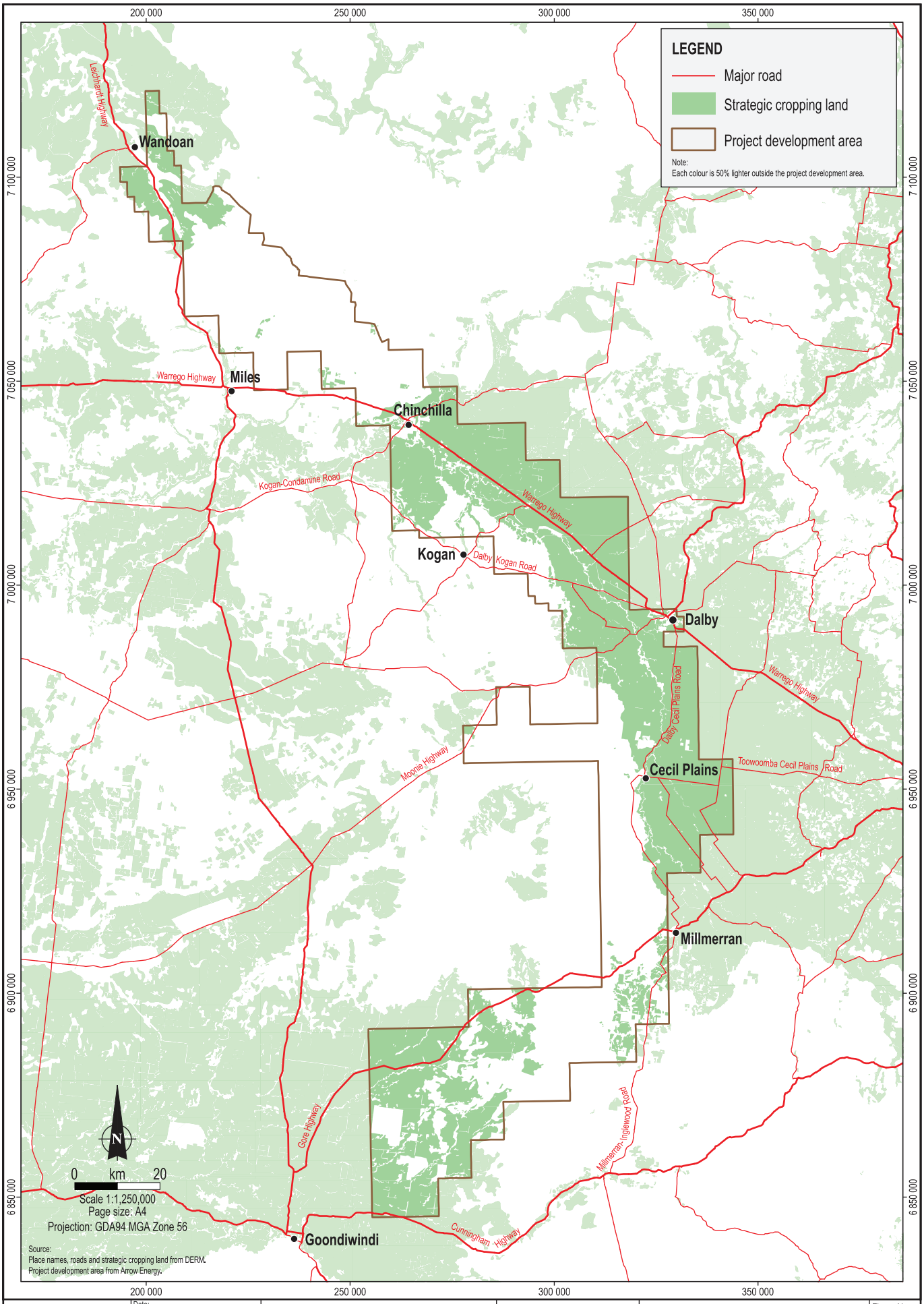
Much of the Darling Downs has been affected by drought through the past decade. The drought's impact on the agricultural industry is evident in a 2007 study of rural debt commissioned by the Rural Adjustment Authority, which concluded that farms in the Darling Downs are among Queensland's most affected (Moore Stephens, 2008). Figure 4.12 shows the areas of the Darling Downs that were drought declared on 30 September 2009, and more recently on 18 May 2010. It is typical for cycles of drought to be broken by flooding rains, as were experienced in January 2011.

4.3.3 Major Projects

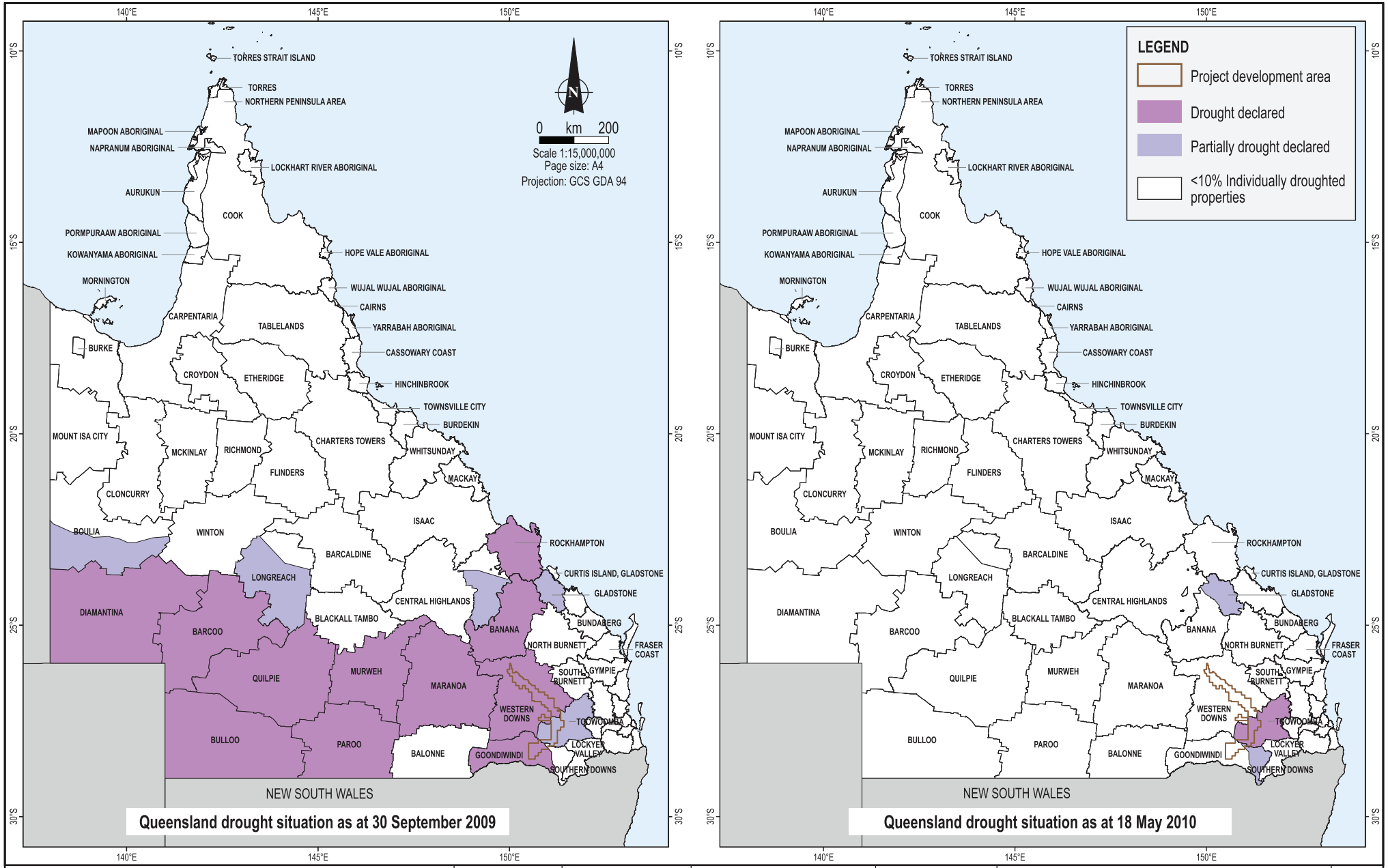
The Darling Downs contains deposits of commercially viable coal seam gas, crude oil and coal, with a number of communities in the region benefiting from the development of these energy resources. The extent of petroleum and mining tenures in proximity to the project development area are shown in Figure 4.13 and Figure 4.14, respectively.

Recent development of coal seam gas and power generation facilities in the region by companies such as Arrow, ERM Power and Origin Energy has created opportunities for local businesses. For the purposes of the EIS, major projects within the region are considered as part of either the existing environment or are taken into account through the cumulative impact assessment, depending on their status.

Existing major projects in the Darling Downs, at the time of preparation of the EIS, are presented in Table 4.5. Further development of the region’s energy resources is likely to provide subsequent benefits for other local businesses, particularly those servicing the communications, construction, infrastructure, transport and logistics industries. The approximate locations of these projects relative to the project development area are shown in Figure 4.15.



coffey environments	Date: 03.10.2011 MXD: 7040AC_04_GIS083_v1_3 File Name: 7040_04_F04.11_GIS_GL	Arrow Energy Surat Gas Project	arrow energy go further	Potential strategic cropping land within and surrounding the project development area	Figure No: 4.11



Source:
Drought situation from The Department of Employment, Economic Development and Innovation, State of Queensland, 2010.
Project development area from Arrow Energy.

coffey environments

Date: 09.12.2011
MXD: 7040AC_04_GIS032_v1_2
File Name: 7040_04_F04.12_GIS_GL

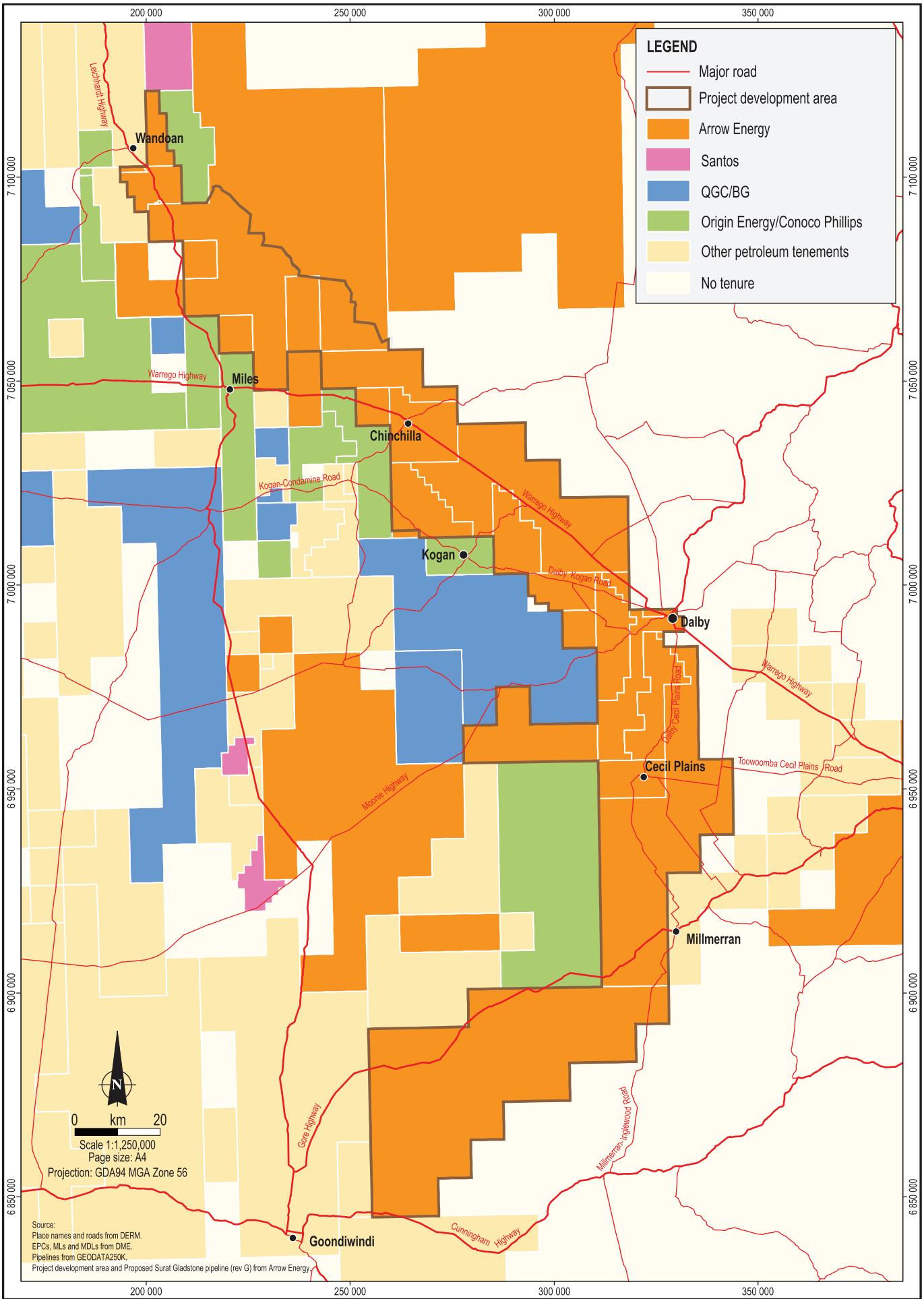
Arrow Energy

Surat Gas Project

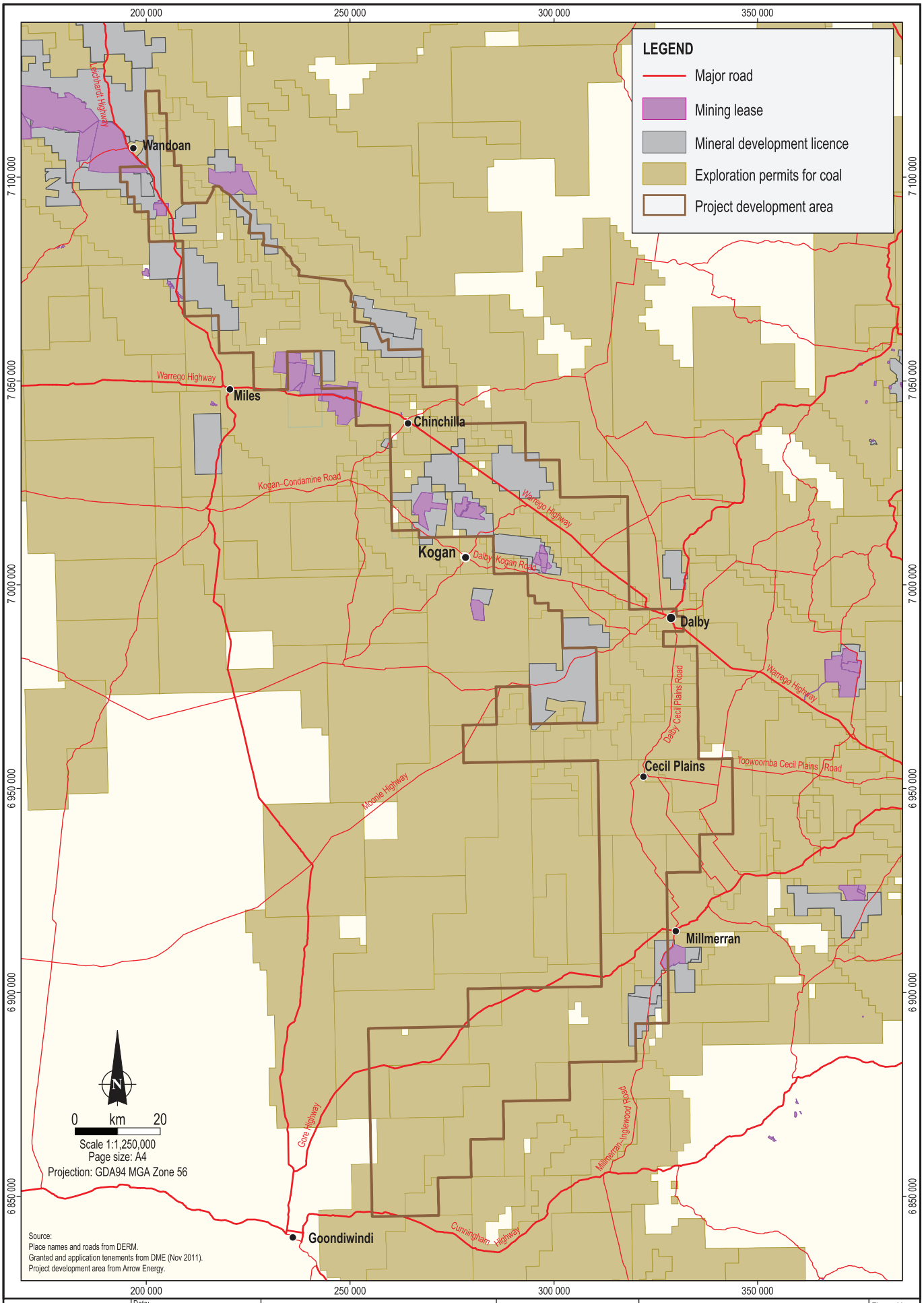
arrowenergy go further

Drought declarations,
30 September 2009 and 18 May 2010

Figure No:
4.12



coffey environments	Date: 19.05.2011 MXD: 7040AC_04_GIS037_v1_1 File Name: 7040_04_F04.13_GIS_GL	Arrow Energy Surat Gas Project	arrow energy go further	Petroleum tenures in the region surrounding the project development area	Figure No: 4.13



coffey environments	Date: 16.11.2011 MXD: 7040AC_04_GIS038_v1_4 File Name: 7040_04_F04.14_GIS_GL	Arrow Energy Surat Gas Project	arrow energy go further	Mining tenures in the region surrounding the project development area	Figure No: 4.14

coffey environments	Date: 04.11.2011 MXD: 7040AC_04_GIS074_v1_2 File Name: 7040_04_F04.15_GIS_GL	Arrow Energy Surat Gas Project	arrowenergy go further	Major projects underway or under construction in the Darling Downs	Figure No: 4.15

Table 4.5 Major projects underway or under construction in the Darling Downs

Project	Description	Status	Estimated Project Value ($Million)
Ergon Energy Upgrade Project	Ergon Energy Corporation Pty Ltd is upgrading facilities at Roma, Dalby, Kogan and Miles.	Under construction	170
New Acland Coal to Liquids Project	New Acland Coal Pty Ltd is constructing a low temperature coal conversion facility near Acland.	Under construction	65
Oakey Multi-Role Helicopter Facility	A facility is being built for the Department of Defence to support the introduction and operation of 34 new multi-role helicopters.	Completed	32
Toowoomba Pipeline Project	Toowoomba Pipeline Alliance has completed a pipeline connecting Wivenhoe Dam with Esk and Cressbrook Dam.	Completed early 2010	187
Millmerran Mine	Coal mine and associated infrastructure near Millmerran.	Operating	Unknown
Wilkie Creek Mine	Coal mine and associated infrastructure near Kogan.	Operating	Unknown
Gurulmundi Mine	Bentonite mine located between Wandoan and Miles.	Operating	Unknown
Queensland Bentonite Mine	Bentonite mine located between Wandoan and Miles.	Operating	Unknown

The terms of reference require this EIS to describe the cumulative impacts of the Surat Gas Project on environmental values, either in isolation or by combination with other known existing or planned development. The description of cumulative impacts is provided in Chapter 28, Cumulative Impacts, which has considered the proposed development of the following projects at the time of EIS writing.