



APPROXIMATE LOT YIELD -
198 LOTS EXCLUDING PROPOSED
AREA (211 TOTAL)

SUBDIVISION CONCEPT PLAN



EXECUTIVE SUMMARY

This summary is part of an application lodged within the upcoming LEP to rezone a 40 hectare parcel of land from 'rural' to 'residential'. This land, due to its close proximity to Moama, multiple road access points and relatively high topography offers a unique development opportunity that is not available to other land parcels east of the main town levee. The land is located in Moama and is bounded by Holmes St, Moama St and Old Deniliquin Road. See attached map *Appendix A*

COMMUNITY BENEFITS IN REZONING LAND PARCEL TO RESIDENTIAL

BASE BENEFITS

- The land is extremely central with its border only 1.4 km from the Moama Shire offices and Meninya Street. It can be accessed from 8 separate streets/roads.
- Essential services – mains water, sewage, electricity and gas – border the land. Minimal distances are involved to connect services to land parcel.
- The natural land height is greater than much of the land in Moama east of Meninya Street.
- The Flood Study shows the land is generally clear of a 1 in 100 year flood event. With minimal difficulty, additional earthworks would be undertaken to provide flood protection comparable with the rest of Moama (600mm freeboard above the 1 in 200 year ARI). Suitable flood design is central in this application.

ENVIRONMENTAL BENEFITS

- Residential development is master planned around achieving a 6-star green rating. This means that its net draw on Moama's essential services (energy and water) is planned to be zero.
- The communities' first integrated solar array will provide electricity for the whole development. Excess green electricity generated will be sold back into the grid.
- An integrated water array will be installed to conserve town fresh water supplies. The array will centrally capture gray, storm and rainwater water for the development. Where appropriate, this water will be recycled for use in households and for maintaining gardens, parks and waterways.
- Extensive grassed and native parkland, as well as waterways, will be a feature of the development. This will assist in attracting and supporting additional native wildlife.

ADDITIONAL BENEFITS

- A 'Regional Produce Centre of Excellence' is incorporated into the master planning. This centre will be a focal point for the display, marketing and sale of regional food produce. The facility will take the form of a display centre / delicatessen / restaurant, overlooking parklands central to the development.
- The facility will create a wide range of employment and community benefits. The centre itself will create 10 to 12 FTE jobs. There will also be significant flow-on effects in the local community. By providing support, marketing and access to various markets for value added product, the facility will encourage and assist in the growth and creation of local niche food manufacturing enterprises.
- The facility will be configured to enable it to host a wide range of functions, conferences and large outdoor events.

PRELIMINARY INFORMATION BRIEF

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LAND DETAILS

- Location:** Bounded by Moama St on the east, Edwards St / Old Deniliquin Rd to the west and Holmes St to the South. (see *Appendix A*). This area is designated the 'Land'.
- Land Size:** 40 Hectares.
- Title Background:** The land parcel is currently on 46 separate titles (see *Appendix B*).
- Building Permits:** There are 16 existing building permits on land parcel. A *Development Application* utilising these existing permits and rights is anticipated to be lodged with the Shire as soon as the LEP Strategy Plan is finalised. The residences covered by these permits are planned to be located near the corner of Holmes and Moama Streets

ZONING

Current

For rating purposes, the 'Land' is currently categorised as **Residential**, under sub-category, **Non-Urban Residential**. Under the old Local Environmental Plan (LEP), this land is designated **Zone 1(a) – General Rural**.

Future

An application is being initiated, within the structure of the new LEP, to re-gazette most of the 'Land' to be zoned **Living Zone – Low Density**. The eventual goal is to receive consent on the remaining land to allow for a 'multiuse zone' allowing for urban and tourism developments.

FLOOD EVENT ISSUES

Flood Protection

- **Supporting Technical Studies** in the **Moama Floodplain Management Study** (dated January 2001) show the 'Land' is flood water free in a 100 year ARI flood event, except for a small edge along Holmes St and a small part of the south east tip. See *Appendix C*.
- To protect the 'Land' against potential extreme flood events, levee works will be undertaken to provide the same standard of protection as the rest of Moama. This will be quite straight-forward, due to the relatively high median AHD height of this land when compared to other areas of Moama. Equivalent flood protection would be achieved by increasing existing earthwork and land levels by approximately 700mm (70cm). This will protect against a 1 in 200 year flood event with 600mm of freeboard.

Connectivity During Flooding

- During the 1993 flood (rated a 1 in 50 year ARI flood) the land could still be accessed from the south-east (via Chanter and Edwards Streets) and the south-west (via Holmes Street). In a 1 in 200 year flood the waters would be approximately 30cm higher for this locality. These depths are still within the criteria set out for residents being able to safely drive through floodwaters.
- If deemed necessary, an access point to cope with extreme flood conditions (above 1 in 200 year floods) could be configured from the north-west corner of the Land. It would be relatively straightforward to construct a connecting causeway from the land to the town levee. It would need to contain a culvert that has the same capacity as the existing culvert under the railway line on Blair Street. This causeway would need to be approximately 60 metres in length.
- An additional alternative route (for emergencies) to access the 'Land' is already in place. The railway line currently connects the Moama levee to the 'Land'. The level of this connecting portion of the railway line is above the 1 in 200 year ARI flood event.

Storm Water Management

- Internal lakes and rainwater storage tanks will be used as initial detention points for storm water.
- For major rainfall events (above 35mm per day over an extended period), the lay of the land supports the use of existing natural storm water runoff channels down Moama St.
- For maintaining constant waterway levels during median rainfall events (up to 35mm per 24 hours), a 400mm pipe is already in place connecting the land to the Murray River. The pipe has a 14 megalitre per day capacity which may either add, or remove water from the water arrays.

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ESSENTIAL SERVICES INFORMATION

Sewage

A major hub for Moama's sewage is located in the Moama Industrial Estate. This is in close proximity to the north-west corner of the 'Land' (150-200 meters away). This direct access is expected to negate the need for extensive infrastructure work to pipe sewage to the pumping substation located at the corner of Winall and Council St. The developments, 'Moama on the Murray Resort', 'Horseshoe Lagoon Caravan Park' and 'Moama Waters' all had to take this circuitous route to provide this service to their land.

Water

Bordering properties are connected to town water. The main point of connection to town water is expected to be through the Moama Industrial Estate. Although the proposed development will be connected to the town water, it is envisaged that extensive use of water sensitive urban design – via an integrated water array encompassing the whole development - (storm water run-off, grey water systems and rainwater tanks) will minimise any additional load the development might place on Moama's services. This will greatly conserve town fresh water supplies. Additionally, there are substantial pumping infrastructure and assets already in place to lift water directly out of the Murray. This can ensure provision of untreated river water for pond, irrigation of private gardens and public areas.

Electricity

The 'Land' is currently serviced with electricity.

Natural Gas

Natural gas pipelines are installed on 2 sides of the 'Land'. These are along Moama St and a portion of Holmes St. Plans are already with the council to extend the pipeline along the full length of Holmes St. This service is considered highly desirable for the development due to its low energy cost and its low carbon dioxide footprint.

PRELIMINARY INFORMATION BRIEF

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DEVELOPMENT CONCEPT

Target Outcomes of Development

- To create an aesthetically pleasing Urban residential development of approximately 170 titles. Development will have a significantly reduced environmental and greenhouse gas footprint compared to the majority of new developments throughout Australia. The objective is to achieve a 6 star rating for greenhouse gas emissions and create a model for 'like' future developments within the Shire.
- To include a tourism and hospitality aspect to service the large numbers of tourists who stay at the adjacent resorts and caravan parks. Prospective development will include a 'Restaurant / Delicatessen' overlooking large grounds. This will double as a function centre and includes provision for tourist accommodation on the grounds.
- Restaurant complex will be configured to function as a centralised display and outlet for the best of our region's food products.
- To create a development that is sympathetic to the existing character of the locality and to include a range of block sizes.
- Use complimentary and integrated environmental innovations to ensure development places a minimal demand (and potentially creates a positive impact) on the provision and extension of public amenities and services.
- To ensure eventual development of the land parcel is not done in a fragmented way. This would make long term development more difficult and costly and negate the scale of economy that commercially supports many of the planned environmental innovations.

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ENVIRONMENTAL POLICIES OF PROPOSED DEVELOPMENT

Sustainability Goals

- To promote best practice in the efficient use of all resources.
- To use contemporary materials, with new technology and best practice construction requirement covenants to create a development that is protective of the environment and sympathetic to the history of local culture.
- To minimise negative environmental outcomes through recycling water, reducing wastes, emissions and other pollutants, whilst minimising energy usage.
- It is a commercial necessity that sustainable energy initiatives must add, or at least not detract, from the dwellings' value.

Our strategy is to commission appropriate senior students undertaking Masters Studies to base their thesis on best practice environmental structures to provide energy and water arrays for the development. The resulting energy development/design plans will be overseen and drawn up by an engineering design company that has suitable Environmentally Sustainable Design (ESD) credentials. Universities have enormous resources containing the latest research data. This approach will provide access to this information as well as dedicated personnel (in the form of their most senior post graduate students) and so locally tailor and customise 'green' energy solutions specifically for the Murray Shire.

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ENVIRONMENTAL POLICIES cont

Energy Conservation

The goal is to use design to fundamentally reduce household energy demand. This is expected to be achieved through strict building covenants and planned infrastructure support the creation of highly energy efficient dwellings.

Both 'passive' and 'active' design guidelines will be applied.

'Passive' requirements will include design, aspect & orientation of dwelling, insulation (roof, walls and windows) as well as the use of natural light and ducted ventilation of refrigerators.

'Active' will include solar cells, natural gas and water use (grey, storm water and rain water)

Water Conservation

A shared water array will be set up to service whole proposed development. This will provide dual water systems for grey and potable water. Grey water will be recycled for use in irrigation. Potable water will be supplemented (in toilets and washing machines) with communal rainwater reservoirs.

As far as practical, Wetland areas will be serviced by stormwater

Communal spaces will be landscaped with drought tolerant plant varieties and grassed areas will be maintained with water efficient irrigation systems.

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ENVIRONMENTAL POLICIES cont

Electricity

Investigate the feasibility of creating a 'Moama Community Power Station'.

The goal will be to create a shared solar grid interactive system covering all the dwellings in the development. When an entity generates more than 25 megawatts hrs/p.a. it can be registered as a 'Power Generator' or 'Power Station'. 25 megawatt hrs/p.a. is equivalent to the average energy consumed by 5 household in 12 months.

Registering the development as a 'Power Generator' creates a number of benefits. Once accredited, the energy generated by the development can be sold on the national market at premium 'green' rates. Currently an individual household with photovoltaic cells feeding electricity back into the grid is only 'paid' a nominal amount for this electricity. The rate is equivalent to a third the price the household buys electricity off the network provider. A Community Power Station can sell green electricity at a 20% more than the price it buys energy from non-renewable sources. This vastly changes the economics and payback periods for installing photovoltaic cells. Additionally, this electricity also accrues 'Renewable Energy Certificates' that can be sold to heavy energy using companies.

Solar 'insolation' in the Murray Shire (watts of sunlight per square metre per day) is high (*Appendix D*). The average daily sunshine hours per annum in this area is 8 hrs. This compares to 6 in Melbourne. This means that solar cells in Moama are 34% more efficient than the same solar cells in Melbourne.

Preliminary figures indicate that a system costing \$12,500 to install will save the average household \$950 p.a. over its 30 year life. A major goal of the developers is to drive the use of solar power over the whole development.

Once a 'Community Power Station' structure is initiated, there is little reason that future developments around the local area couldn't piggyback on the system. Eventually a permanent position may even be created within the Shire to manage this essential service for the area, and provide support for additional growth to the scheme.

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TOURISM AND HOSPITALITY

At the heart of the proposed development is a restaurant with function facilities and potentially tourist accommodation. The focus of this facility will be to be a 'Region Produce Centre of Excellence'. Its goals will be to engage and encourage high quality organic food and drink producers in our region. It will provide a mechanism and a platform to market the best of the region's products to domestic and international markets. It will also encourage new producers and provide them with support and access to a market. The facility will show case product, serve it at the restaurant and provide an outlet for its purchase by the public.

RESIDENTIAL DEVELOPMENT

A range of different land and lifestyle packages are included in the proposed development. Approximately 170 blocks with separate titles are planned. At one end of the scale will be generous housing blocks (2,000 sq metres +) with rural or water aspects. At the other end of the spectrum, low maintenance, high quality dwellings will be offered. These are dwellings planned around open communal areas, so owners have access to a full range of services, without the associated maintenance difficulties. These communal areas are anticipated to be open parks, with shared facilities such as a tennis courts, bbq areas and a community sheds and gardens. Similar dwellings will also be located around the restaurant complex grounds. See *Appendix E* for a preliminary concept. This plan is in the process of being modified to increase open green spaces and will be further modified to incorporate input from Council.

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COMMUNITY BENEFITS

Location

Close to town centre. Compact site with easy access to essential services compared to ribbon developments along the Murray. Within walking distance of Moama CBD.

Environmental Outcomes

Global best practice integrated solutions for zero greenhouse gas footprints in sustainable urban development. A showcase and a technical information bank for future developments located in our own Shire.

Demographic Demand

Development will provide for a range of property sizes and types. Demographic statistics show that the population is both growing rapidly and ageing. As well as the demand for larger properties continuing, this ageing demographic is expected to drive demand for quality property solutions that have low maintenance requirements, yet support high quality lifestyles. This property type provides direct access to open spaces and high quality services. We anticipate good demand for high quality dwellings on smaller allotments that border onto public parks, are close to the town centre and have easy access to Echuca and the clubs.

Positive Economic Impact

A conservative estimate of the money that will be spent over entire development is \$85 million. This assumes 170 dwellings at an average of \$500,000 each. The economic activity generated by this inflow can conservatively have a multiplier effect of 4. This equates to \$340 million in new economic activity for the region.

After the construction phase, there will be ongoing local employment in the restaurant/regional display centre. This will assist in the growth and development of small food manufacturing entities in the area and will help them to bring their products to market, thus driving employment growth and value adding for these entities.

Tourism

There will be a positive impact of tourism for the region. This will be created through the restaurant and function centre facilities. This will considerably increase local income in peak times. It is in close proximity to numerous caravan parks and riverside resorts. It's estimated the tourist population within 2km of this location increases by 3 - 4,000 during these peak periods.

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SYNOPSIS

1. 'Land' is flood free in respect to development criteria requirements. This is as per the 100 Year ARI Flood Hydraulic Model charts published in the *Moama Floodplain Management Study*.
2. 'Land' is in close proximity to the centre of Moama. Edge of proposed development is only 1.4 km from the Murray Shire offices in Moama. Furthest point of land is 2.2 km from Shire offices. This is one of the most centrally located sites of this size that is above the 1% (AEP) flood level.
3. Services can be easily and cost effectively accessed from site. A major sewage hub in the Moama industrial park is located on the north-west edge of the 'Land'. 'Land' is currently serviced by electricity. Natural gas and town water pipes are to the edge of the Land. In the greenhouse gas neutral format of the proposed development though, it is envisaged that there will be minimal extra load put on electricity and water services provided by the Shire.
4. Access to the 'Land' during a 200 year ARI flood event may be configured with the construction of a short causeway (that includes a culvert) at the north-west corner. As an emergency back-up, flood free access to the land is already in place. This is along the railway line linking the Moama levee to the property.
5. Landmark development for area in terms of creating a model for building a fully environmentally sustainable community.
6. Development provides a significant economic benefit to the region during construction phase, Ongoing economic benefits are through its tourism and hospitality aspects and through the support it will give to the growth of local food producers.