

# Animal Industry Development & Transition

## Planning for farm infrastructure

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# Shelters & Barns used with Grazing Animal Production,



- Need better description of its purpose
- Used to mitigate climatic seasonal events
- Infrequency occupation
- Facility to support pasture systems when grazing problematic
- Shade and shelter only
- Supplementary feeding



# Victorian Planning Reforms

**Grazing animal production** applies to farms where grazing is a key component of the farming system. There is an intention for the animals to meaningfully obtain food by directly grazing/browsing/foraging (e.g. eating grass growing in the paddock);

*Includes:*

- **emergency feeding** means providing feed to animals when an emergency event such as a flood, bushfire or biosecurity event restricts or prevents the animals from grazing, browsing or foraging plants growing on the land;
- **seasonal feeding** means providing feed to animals when seasonal conditions, including drought, restrict or prevent the animals from grazing, browsing or foraging plants growing on the land;
- **supplementary feeding** means providing feed to animals to supplement the food the animals obtain by directly grazing, browsing or foraging plants growing on the land.

Section 1 No planning permit required.

**BUT** other planning triggers will come into play if:

- Constructing roofing (building and works)
- Can't meet separation distances
- Constructing on an property overlay



# Intensive Dairy Systems

1. Freestalls (Open or closed, individual stalls)
2. Barns (composted bedding pack, Loose housing)
3. Dairy Dry lots

The facilities are designed and capable of housing cattle for long-term occupation with limited or zero grazing.

**Intensive Animal Production:** land used for animal production where the animals' food is imported from outside the immediate building, enclosure, paddock or pen. The provision or availability of nominal, incidental or minimal grazing is not sufficient for a farm to be considered *grazing animal production*.

***Dairy (restricted)*** means a dairy that is conducted on a commercial basis where restriction facilities (in addition to milking sheds and holding yards) are present and where cattle have access to grazing for less than 10 hours in any 24-hour period

A change in LAND USE

# Freestalls and Barns – Intensive Dairy Farms

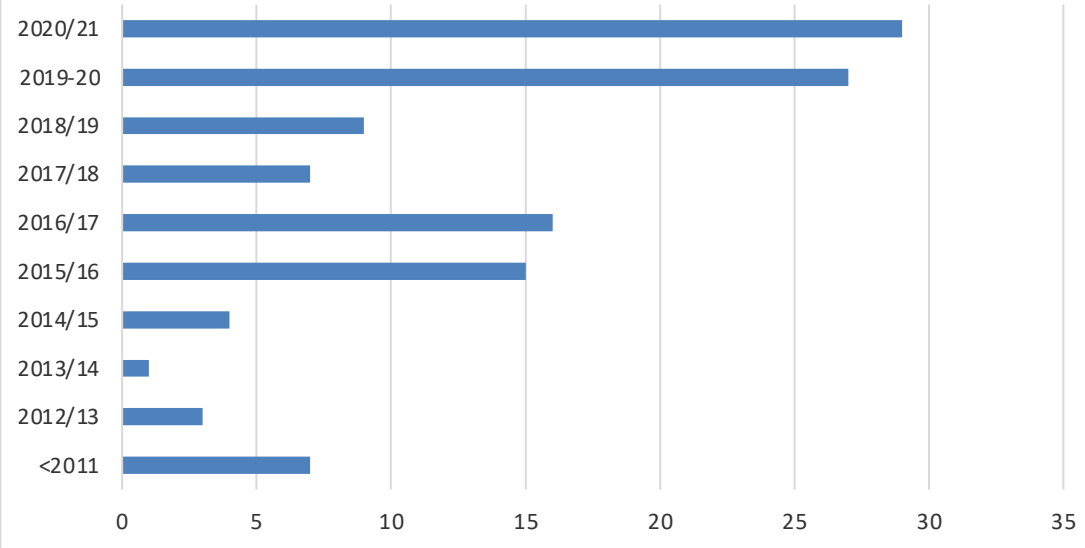


## Dairy Dry Lots

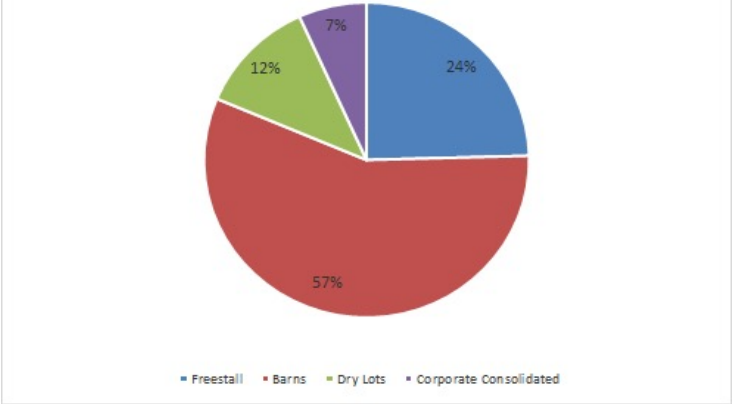


# AgVic Dairy TMR clients

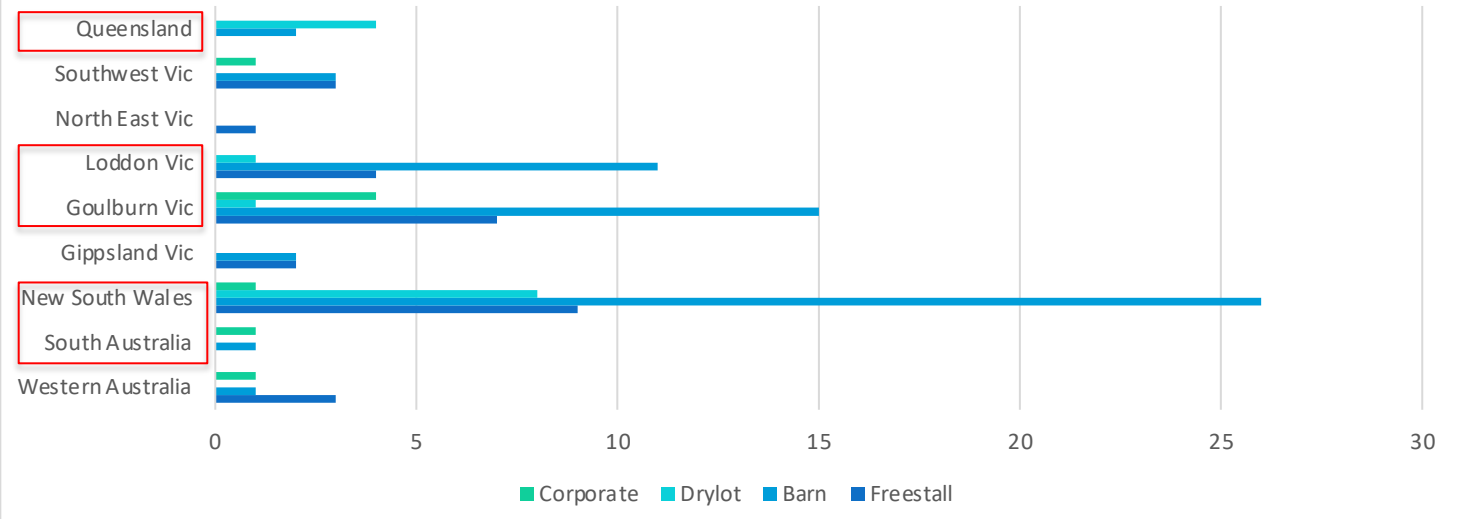
Agriculture Victoria TMR Client Enquiries



TMR System Choice

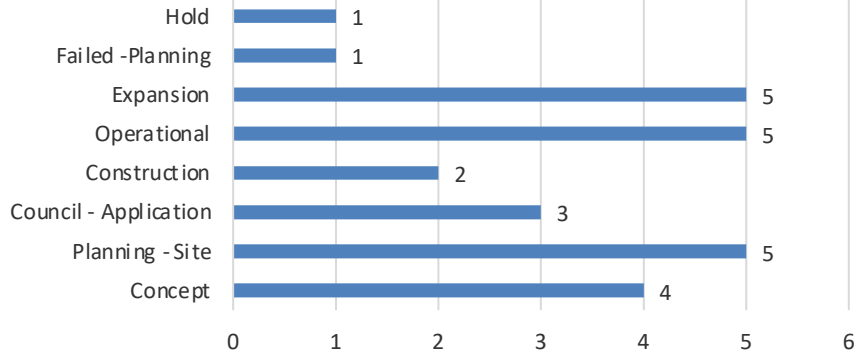


Australian Dairy TMR

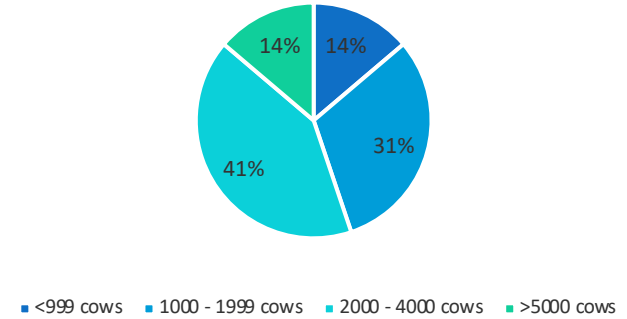


# AgVic client progression & herd capacity

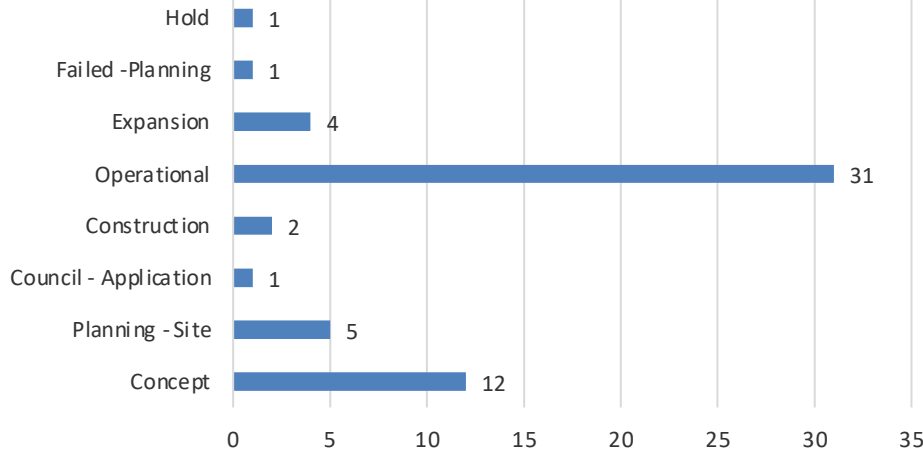
## Freestall Progression



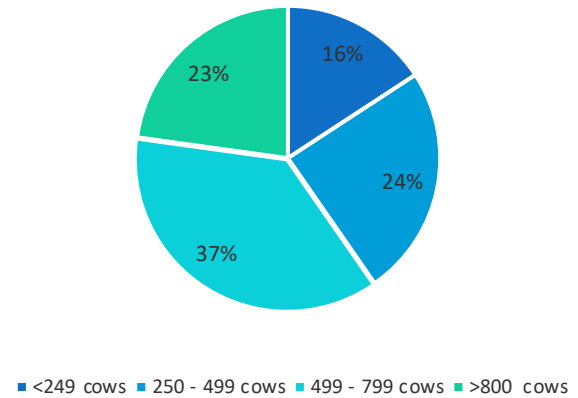
## Freestall Herd Capacity



## Barn Progression



## Barn Herd Capacity





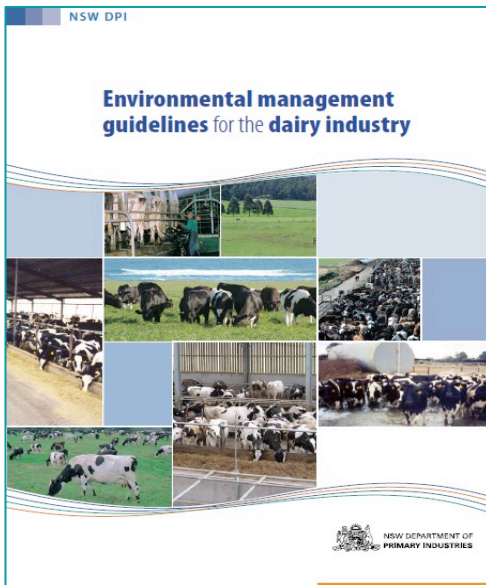
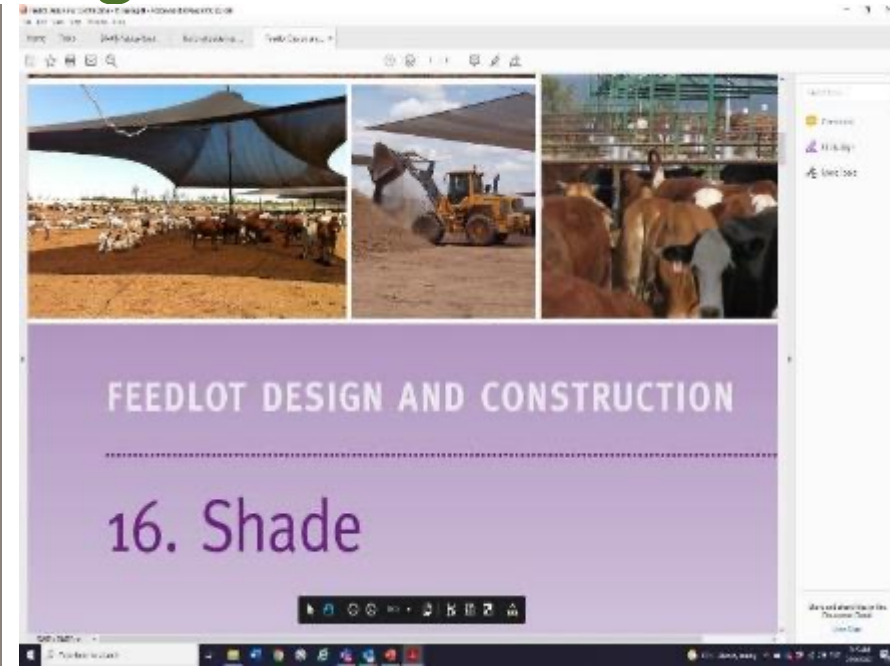
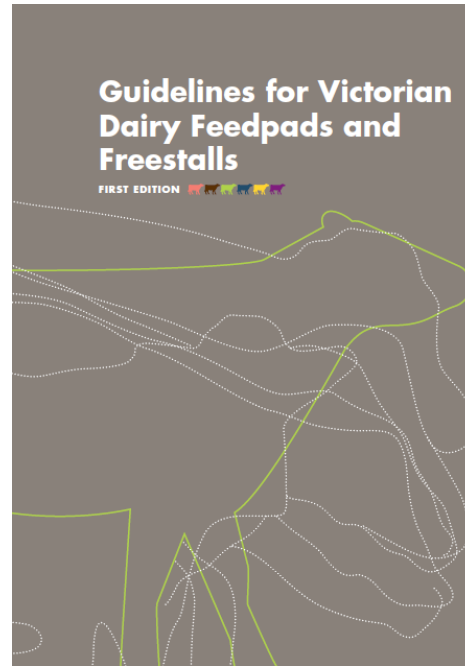
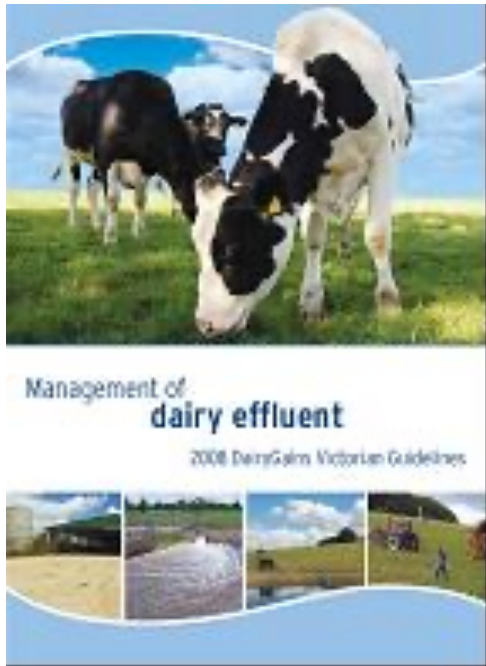
# Intensive Dairy Planning \*

1. Section 2 – Planning permit required or Section 3 prohibited (rural living zone)
2. State and national based livestock codes and guidelines are critical
  - Victorian Animal Production Code- Intensive Dairy Farm, Cattle Feedlots (2022)
  - Australian Dairy Feedpads and Contained Housing Guidelines (2022)
  - NSW – Intensive Livestock Agriculture Developments (2019)
  - National guidelines beef cattle feedlots (2012)
3. These documents outline: that farm systems Objective, Standards and Approved Measures which enables the development of Environmental Impact Statement (EIS) to support Development Approval or Consent



**Beware:** Fairly lengthy documents

# Relevance of livestock sector guidelines and codes



- Livestock industries way to link best practices to State Environmental Protection Policies (SEPP's) and statutory planning
- Specific technical guidelines (use all information available)
- Never use term "feedlot" in any dairy developments
- Beef feedlots contemplating housing could use dairy housing guidelines

# 1. Infrastructure siting from a farm perspective

Key considerations include integration to access:

- ✓ Commodity areas (silage pits, feed bunkers for ration formulation)
- ✓ Main laneways
- ✓ Dairy and ancillary handling facility
- ✓ Power and water supplies
- ✓ Nature topography
- ✓ Effluent and manure systems



## 2. Infrastructure siting from a planning perspective \*

Key considerations to minimise risks and impacts:

- ✓ Nearby townships
- ✓ Neighbouring residences
- ✓ Waterways, special water supply catchments
- ✓ Relevant property overlays (Environmental, Land Subject to Inundation, Cultural)
- ✓ Removal of native or remnant vegetation
- ✓ Property boundaries and road networks
- ✓ Transport entering & exiting site
- ✓ Dust suppression during construction phase



# Getting Property Reports

## State based online planning tools:

- ✓ Victoria- Mapshare, Vicmaps, Navigating Farm Developments
- ✓ NSW ePlanning Spatial viewer, six maps, Waters NSW
- ✓ South Australia – Property Planning Atlas (SAPPA)
- ✓ Guide to Planning Healthy Agriculture (Queensland)

The screenshot displays the MapshareVic website interface. The main content area shows property details for a location in TOWONG, VIC. The Council Property Number is 270450, and the Directory Reference is Vicroads 36 F7. A note indicates that the property is in a designated bushfire prone area and that special bushfire construction requirements apply. Below this, there is a section for SITE DIMENSIONS, which includes a map showing the property boundaries and site dimensions. The area is 18,974 sq. m (184,011 sq. ft) and the perimeter is 1,039 m. The map also shows the road frontage. The interface includes a search bar at the top, a list of address suggestions, and a sidebar with navigation options.

Local Government Area (Council): **TOWONG**

Council Property Number: **270450**

Directory Reference: **Vicroads 36 F7**

**This property is in a designated bushfire prone area. Special bushfire construction requirements apply. Planning provisions may apply.**

Further information about the building control system and building in bushfire prone areas can be found on the Victorian Building Authority web site at <http://www.vba.vic.gov.au>.

**SITE DIMENSIONS**

All dimensions and areas are approximate. They may not agree with those shown on a title or plan.

**Area:** 18,974 sq. m (184,011 sq. ft)

**Perimeter:** 1,039 m

For this property:

- Site boundaries
- Road frontage

Dimensions for individual parcels require separate search, but dimensions for individual units are generally not available.

2D overhead dimensions on labels are not being displayed.

Calculating the area from the dimensions shown may give different values to the road shown above.

For more accurate dimensions get a copy of plan at [www.vba.vic.gov.au](http://www.vba.vic.gov.au).

**ADDRESS DETAILS**

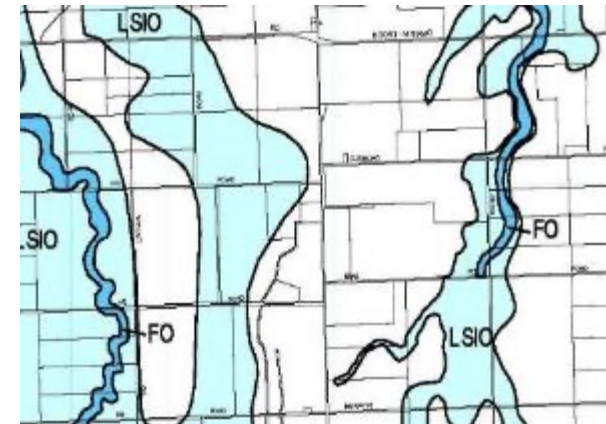
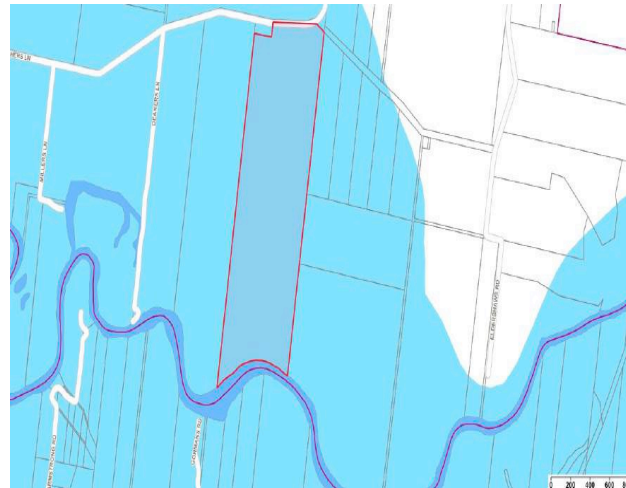
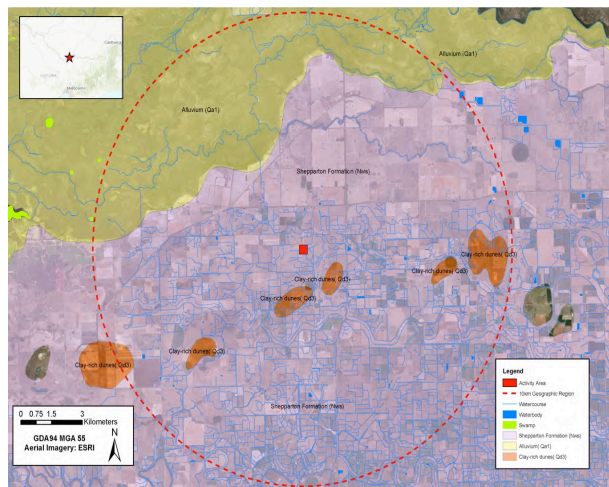
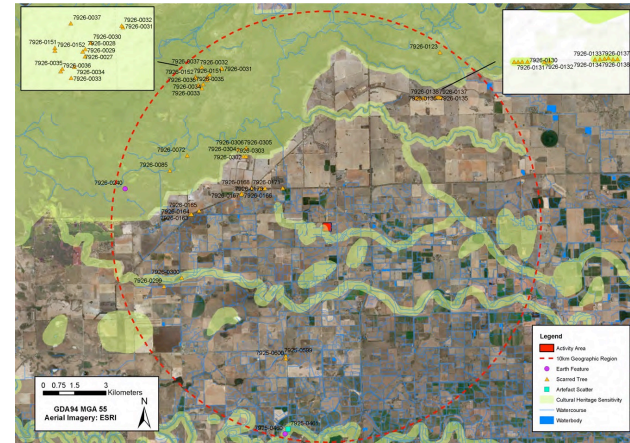
These addresses have been found for this property:

**Address**

3040A YARRA ROAD TALLAN GATTA SOUTH 3610

# Property Specific Information

- Land Subject to Inundation Overlay/Floodway Overlay
- Environmental Significance Overlay
- Vegetation Protection Overlay
- Erosion/Salinity Management Overlay
- Giant earthworms' overlays
- Cultural heritage & indigenous significant overlays
- Acid Sulphate Soils
- Bushfire prone area



# Animal Production Separation Distances

## Three Tier Approach

**Tier 1** fixed separation distances (i.e. 100m waterway, 250m dwelling)

**Tier 2** variable separation distances

### *Recommended Formula*

$$\text{Distance (m)} = N^{0.62} \times S$$

Where:

N = number of standard animals / animal factor

S = S1 x S2 x S3 x S4 x S5

S1 = design and management factor

S2 = receptor factor

S3 = surface roughness factor

S4 = terrain factor

S5 = wind factor



**Tier 3** odour dispersion modelling

- Important to ensure permanent feedpads used with grazing consideration future intention with respect to intensive housing
- Encroaching on separation not necessary NO, but more in-depth planning to mitigate associated risk

# Victorian Planning Reforms

## *Grazing animal production*

Section 1 No planning permit required.

(Grazing cows in a farming zone)

### **BUT section 2 planning permit:**

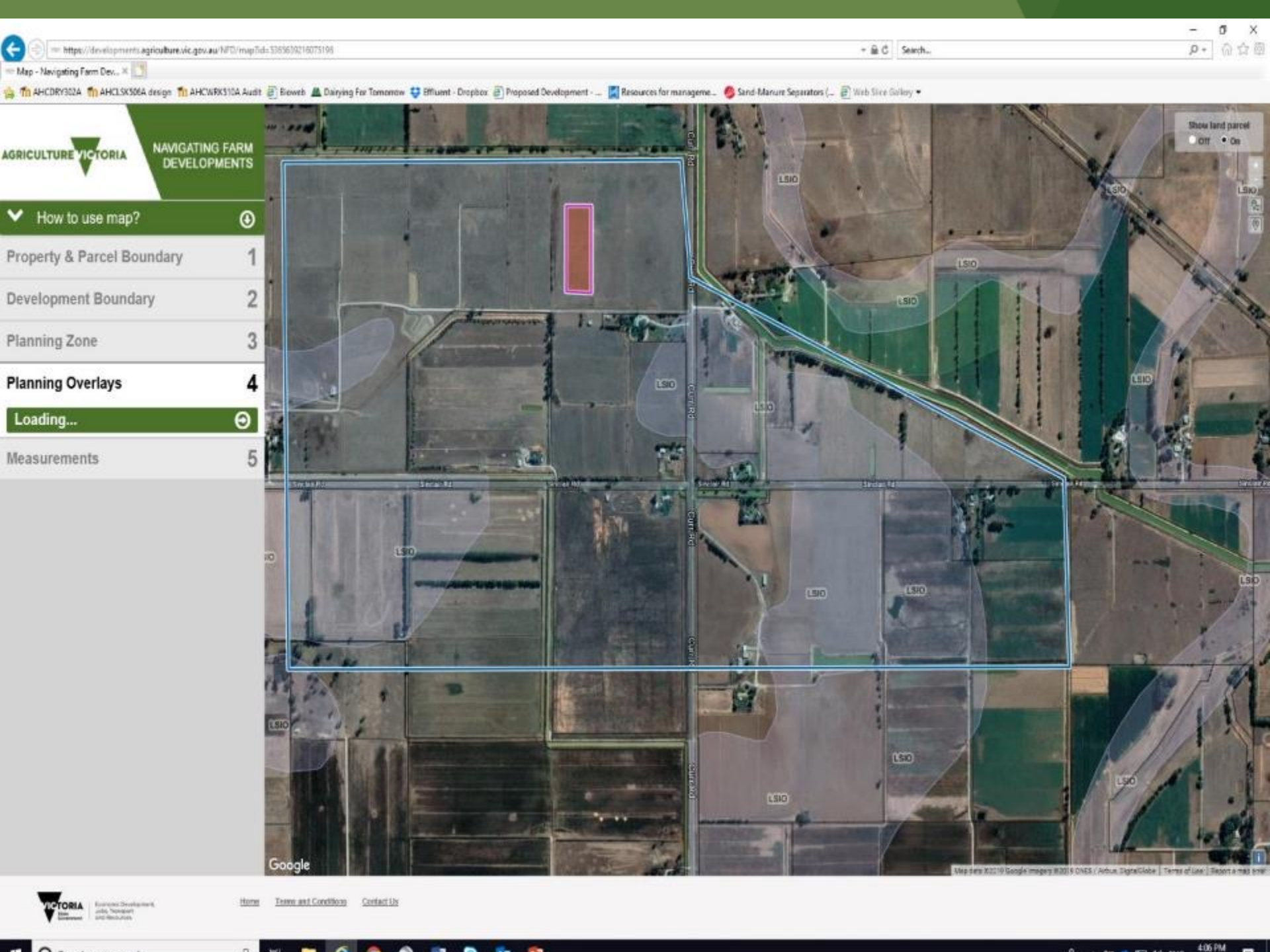
- <100 metres from a waterway, wetlands or designated floodplain
- <100 metres from a dwelling not in the same ownership
- <100 metres from a residential zone or the Urban Growth Zone

## *Building & Works*

- Incorporating a roof structures (footings)
- Significant property overlay. (Flood, cultural heritage, environmental)
- Native vegetation removal







- How to use map? ⓘ
- Property & Parcel Boundary 1
- Development Boundary 2
- Planning Zone 3
- Planning Overlays 4
- Loading... ↻
- Measurements 5



**AGRICULTURE VICTORIA** NAVIGATING FARM DEVELOPMENTS

How to use map? ①

- Property & Parcel Boundary 1
- Development Boundary 2
- Planning Zone 3
- Planning Overlays 4
- Measurements 5**

- Arterial Road
- Council Road
- Dwelling not in the same ownership
- Property boundary
- Waterways, wetlands or designated flood plain
- Water infrastructure - Channels & Drains
- Bedding - Manure stockpile**

Distance in metres: 679 m

**Complete Mapping** ↻



# Community and Focus Planning Meeting \*

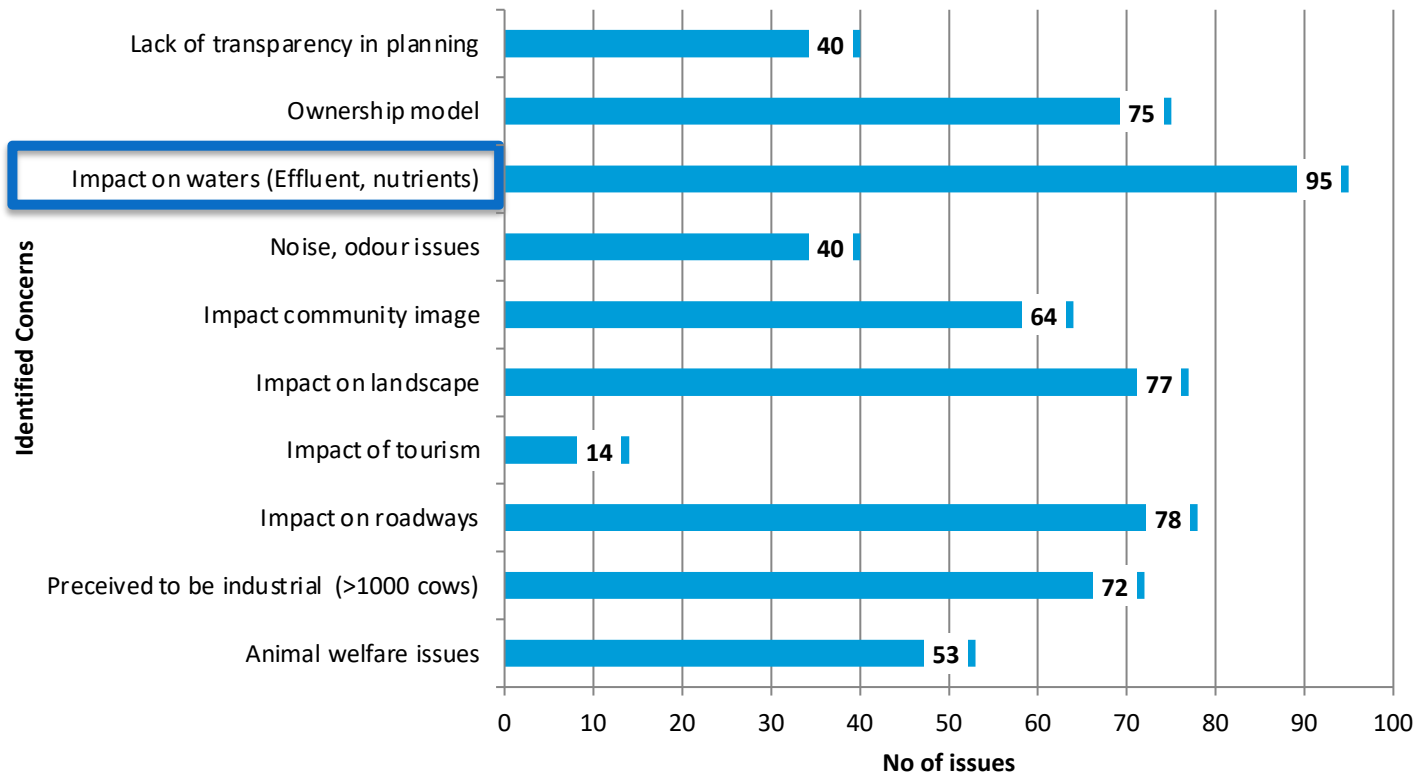
- ✓ A planning approach for larger and more complex developments
- ✓ Anticipated likelihood of objectors or community concerns
- ✓ Separate meeting: 1.local community & neighbours, 2. planning authorities
- ✓ Opportunity to clearly outline the proposal and show due diligence in planning
- ✓ Opportunity to identify potential surprises (i.e. there is a school bus route. Have you considered dust?)



Don't try to fly under the radar

# Community Expectations

- A 1000 cow grazing farm transitioning to a freestall- Victoria 2015
- 460 objectors raising 608 issues- Result 1 less dairy farm



# Effluent System Ripple Effect.

300 dairy cows  
Large herringbone dairy  
Dual ponds  
5 months winter storage



## Pond Sizing

Dairy Only

26-October-2021

Use this page to size new ponds or to determine if your current system is adequate for your needs

**Fill in all yellow cells, review all drop down box options, complete solids pond first**

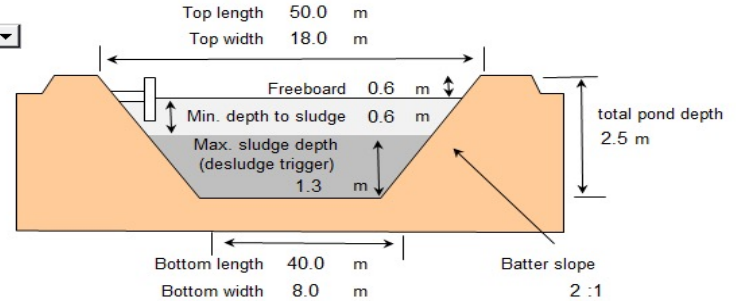
|                      |         |                |
|----------------------|---------|----------------|
| Total water use      | 10,000  | L/day          |
| Total catchment area | 480     | m <sup>2</sup> |
| Storage period       | 5       | months         |
| Location             | Kyabram |                |

### Solids Pond

Type of solids pond

Desludge period  Years  
Min. depth to sludge

Freeboard (m)   
Internal batter  :1  
Top length (m)   
Top width (m)   
Total depth (m)



Effective volume (sludge plus supernatant) required  ML

Effective volume (sludge plus supernatant) available  ML

**Total pond capacity  ML**

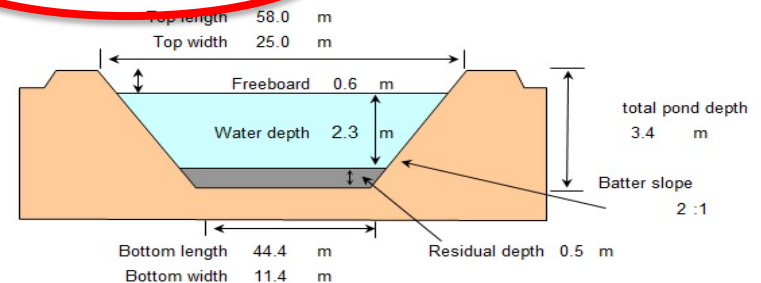
#### Breakdown of effective volume requirements

Sludge volume 0.45 ML  
Supernatant volume 0.40 ML

### 2nd pond

Used for storage

Freeboard (m)   
Internal batter  :1  
Residual depth (m)   
Top length (m)   
Top width (m)   
Total depth (m)



Effective storage required  ML

Effective storage available  ML

**Total pond capacity  ML**

#### Breakdown of storage requirements

Net rain on pond surfaces 0.363 ML  
Rainfall catchment 0.118 ML  
water use + urine 1.645 ML  
**total effective storage required 2.126 ML**  
Freeboard 0.811 ML  
Residual volume 0.282 ML  
**total capacity required 3.219 ML**

# Additional Feedpad (4 hours/day).

Primary pond 1.5ML

Storage 3.2 ML

More manure, water and rainfall



## Pond Sizing

Use this page to to size new ponds or to determine if your current system is adequate for your needs

**Fill in all yellow cells, review all drop down box options, complete solids pond first**

Dairy & Feedpad

26-October-2021

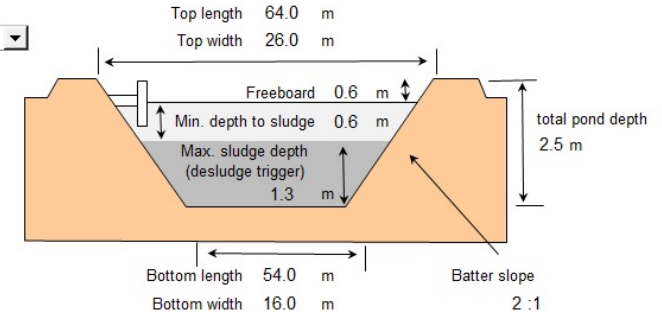
|                      |         |                |
|----------------------|---------|----------------|
| Total water use      | 20,000  | L/day          |
| Total catchment area | 2560    | m <sup>2</sup> |
| Storage period       | 5       | months         |
| Location             | Kyabram |                |

### Solids Pond

Type of solids pond

Desludge period  Years  
Min. depth to sludge

Freeboard (m)   
Internal batter  :1  
Top length (m)   
Top width (m)   
Total depth (m)



Effective volume (sludge plus supernatant) required  ML

**Breakdown of effective volume requirements**

Effective volume (sludge plus supernatant) available  ML

Sludge volume 1.34 ML

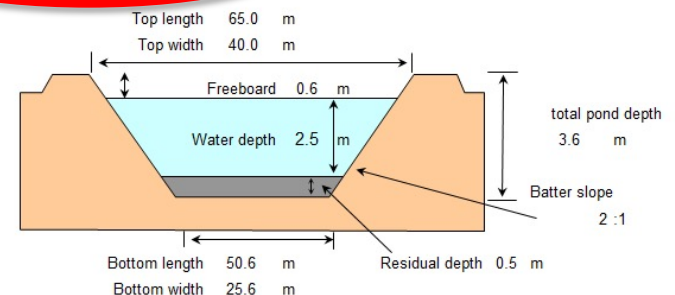
Supernatant volume 0.81 ML

**Total pond capacity  ML**

### 2nd pond

Used for storage

Freeboard (m)   
Internal batter  :1  
Residual depth (m)   
Top length (m)   
Top width (m)   
Total depth (m)



Effective storage required  ML

**Breakdown of storage requirements**

Net rain on pond surfaces 0.611 ML

Rainfall catchment 0.631 ML

water use + urine 3.404 ML

**total effective storage required 4.646 ML**

Freeboard 1.486 ML

Residual volume 0.686 ML

**total capacity required 6.818 ML**

Effective storage available  ML

**Total pond capacity  ML**

# Manure System Design and Management \*

- Range of manure system designs and many components
- Manure stream are more complex (fibrous material, range of bedding - sand, woodchips)
- Professional design and engineering required
- Designed to maintenance schedules and contingency planning
- Document all activities relating to manure management (desludging, application) as short-term odour emissions is expected
- Nutrient budgeting and distribution is just as important



# Manure Engineering Standards

Robust scientifically and technically proven standards



Effluent and Manure Management Database  
for the Australian Dairy Industry

December 2008

Beef cattle feedlots:  
waste management  
and utilisation



# Preparing an application

1. Check the planning scheme (state and local planning policies, zones, overlays)
2. Get property report and understand which referral agencies need to be involved
3. Check property titles (restriction on easements or covenants)
4. Check relevant sector guidelines and code
5. Existing Conditions Plan (boundaries, infrastructure, topography, drainage, sensitive uses)
6. Proposed Development Plan (description, design layout, locality, scale)
7. Relevant site investigations (land capability assessment, geotechnical)
8. Environmental Impact Statement (noise, odour, visual amenity, dust)
9. Manure Management Plan ( design and management)
10. Operational Management Plans
11. Check application check list all relevant documents are included

# Generic planning process

1. Prepare relevant documentation to support application
2. Some states seek development approval pre-application
3. Lodge application to council
4. Application distributed to determining (veto) and recommending agencies
5. Notification to adjoining properties, affected parties and general public
6. Request for further information (application on hold)
7. Mediation and resolution of any issues raised
8. Decision made by councillors or delegated planner
9. Decision to Approval (conditions)
10. Appeals process on conditions (either side)
11. Development rejected appeals through tribunals

Potential 60 days or >365 days

✓ Concurrent planning seek building permit and licenses during the planning phase to speed up process

# Keys to successful planning \*

1. Knowing long term vision is absolutely critical. (staged approved)
2. Don't under-estimate the need for due diligence and time required
3. Utilise specialist services to get technical robust reports
4. Don't bluff planning agencies (i.e. Grazing freestalls)
5. Inform neighbours to dispel conspiracy theories



Don't gamble and avoid planning