

FarmWater



WHOLE FARM PLAN MINIMUM REQUIREMENTS

- ❖ The following list is the minimum information required to be shown on a Whole Farm Plan that is to be submitted as part of application under the Farm Water Program.
- ❖ A whole farm plan is a plan for the whole property. However a property can be divided into more than one plan if there are major barriers that prevent the flow of water, for example a Goulburn Murray Water (GMW) channel, GMW drain, government road or railway line.
- ❖ Some shires within the Goulburn Murray Irrigation District require plans to be certified prior to implementation – this involves a separate process.
- ❖ Permits must be obtained from the relevant authority before construction commences (eg. GMW, Vicroads, Shires).

MINIMUM INFORMATION REQUIRED FOR ALL IRRIGATED WHOLE FARM PLANS

General Property Details		Design Information	
✓	REQUIRED	✓	REQUIRED
	Landholder details - name, allotments, address		Scalebar
	Farm size (ha)		Legend
	Property boundary		North indicator
	Location of house, dairy & other farm buildings		Designer (Name & Company)
Other Requirements			Date of final design
✓	REQUIRED		Date of survey
	GMW drain number, alignment & inlets	Geographic Information	
	Bay table and specifications	✓	REQUIRED
	Earthworks Schedule (all proposed works)		Elevations to AHD
	GMW & private assets (existing & proposed) – road crossings, occupational crossings, subways, siphons, pipelines etc.		Spot Heights of Grid Points (40m grid or less for survey)
	Dairy effluent ponds & discharge point		Contours (survey plan)
	Structure Schedule (outlets, stops, pipes, crossings, etc.)		Road names
	Existing & designed fences & laneways (numbered)		Benchmark & elevation used for survey to be specified
	Power lines (overhead &/or underground – Dial before you Dig)	Environmental Information	
	Reuse system and/or turkey nest storage location & details	✓	REQUIRED
	Temporary Bench Marks – location shown minimum 1 per 10ha (for construction purposes).		Environmental statement
	Additional sources of supply. eg. Groundwater bores, drainage diversions.		Trees – live or dead
	Proposed plantations – wildlife corridors, animal welfare, biodiversity		Easements, reserves & public land
			Dams
			Area of dryland / unirrigated land (ha)
			Rivers, creeks, wetlands, waterways etc.
			Levee banks (public & private)
			Remnant vegetation – identify areas for protection



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MINIMUM INFORMATION REQUIRED FOR ALL IRRIGATED WHOLE FARM PLANS

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GMW Backbone Supply Point/s:		Maps (where applicable)	
✓	REQUIRED	✓	REQUIRED
	➤ Meter number and type		➤ Soil Map
	➤ Head wall, floor, sill levels		➤ Proximity map
	➤ Full supply level		➤ Flood overlay
	➤ Location of supply		➤ Significant drainage lines
	➤ GMW channel number and alignment		➤ Cultural heritage sensitivity

EXISTING LASER-GRADED AREAS

Areas that are already laser graded but require a modernised design must have the following information shown to be included in the incentive payment:

✓	REQUIRED	✓	REQUIRED
	Number of Bays		Level of top and bottom bays
	Bay Widths		Existing drain bed levels and connection to reuse system
	Irrigated Area (ha)		Existing structures to be retained
	Grade of Bays		



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FLOOD IRRIGATION SYSTEMS

Bays	Farm Channels
✓ REQUIRED	✓ REQUIRED
Bay Number	Direction of Flow
Bay slope (grade)	Design of Flow Rate
Area of each bay (ha)	Channel design details/specifications – link to channel design page of supporting document (bed width, batter slopes, crest width, pad width, pad height below DWL)
Width of each bay (m)	
Checkbanks	
Contours on the bays (existing bays only)	
Cuts and fills	Existing channel dimensions - bed & bank elevations, bed width
Area to be topsoiled	
Top of bay heights and drain bed levels	Bed levels
Bottom of bay heights and drain bed levels	Design water level (DWL) levels
Drains servicing every bay to be shown (new or existing)	Channel structures – link to structure table (type, dimensions and elevation)
Bay Summary Table	Channel numbers
Earthworks summary for each bay/section	Bay Outlets – type, number, location and elevation
Pipe and Riser Systems	Earthworks schedule for new channels
✓ REQUIRED	Farm Drains and Reuse Systems
Location of supply pump(s)	✓ REQUIRED
Pipe length & diameter for each section	Drains servicing all bays to be shown as existing or new (designed)
Flow rate designed for each section	
Location of the risers	Drain bed level (new and/or existing) – every 100m and at direction change
No. of risers and size/flow rate	
Structures/valves	Reuse sump location and capacity in ML (new and/or existing)
Design for automation if required	
Pump design/pump specification – must provide details (min. 70% efficiency)	Reuse design – minimum requirements for reuse design
Operating pressure/head and velocity	
Vacuum breakers and surge relief	Identify what drains are connected to the reuse and which direction they flow.
Air relief valves	Reuse pump – design of the pump, position, flow rates from reuse (70 % efficiency)
	Drain numbers
Transient analysis (pressurised pipelines only)	Reuse return pipeline or channel – what is the return area?
	Effluent reuse options (for dairy/ piggery etc)
Report showing pump head and flow rate at various locations – steady state analysis.	Earthworks schedule for new drains & reuse sump
	Drainage structures – checks, drops, crossings / access (structure schedule)
Installation guidelines	Reuse outfall point/inlet structure – GMW drain no., sill height and implications.
	Recommend soil testing prior to reuse construction to determine soil suitability & groundwater depth.



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SPRAY & DRIP IRRIGATION SYSTEMS

Overhead Sprays (Centre pivot, lateral and linear move systems)		Drip and Micro Systems	
✓	REQUIRED	✓	REQUIRED
	Circle area, length , no. of towers, tyres		Topographic survey
	Irrigated area (ha)		Supply point
	Application rate design – mm/day		Pump specifications (min. 70 % energy efficiency)
	Uniformity of distribution (min. 75%)		
	Instantaneous precipitation rate		Mainlines, sub-lines, row spacing, sprinklers/drippers
	Supply points – outlet number or bore		
	Supply points – pipeline or channel		Irrigation area (ha)
	Pump specifications (min. 70 % energy efficiency)		Operating pressure
	Operating pressures		Application rate (mm/day)
	Other considerations – End guns, swing arms, sprinkler packages		Uniformity of distribution (min. 90%)
	Tree removal and offset plantings (permits required prior to implementation)		
	No reuse system required (drainage recommended)		

ADDITIONAL FARM PLAN CONSIDERATIONS (WHERE APPLICABLE)

✓	REQUIRED
	Biodiversity and tree plantings including location of remnant vegetation, wetlands and existing single trees, location of future revegetation areas.
	Underbore designs for road/drain/channel crossings etc.
	Stock troughs
	Soil salinity map for designs in North Central Catchment Management Authority areas (required for Loddon Valley and some areas of Torrumbarry Irrigation Area)
	Automatic irrigation , irrigation scheduling
	Requirements for certification in Shires of Campaspe, Moira, Greater Shepparton.
	Works in waterways:
	➤ Uniform earthworks planning regulations ➤ Floodplain Management Guidelines for Whole Farm Plans in Shepparton Irrigation Region
	Permits required prior to implementation

