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Drainage to improve pasture productivity

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Ag Logic

Ag Logic is a Tasmanian born and bred business established in 2010. We specialise in practical ways to make technology work on farms.



Introduction

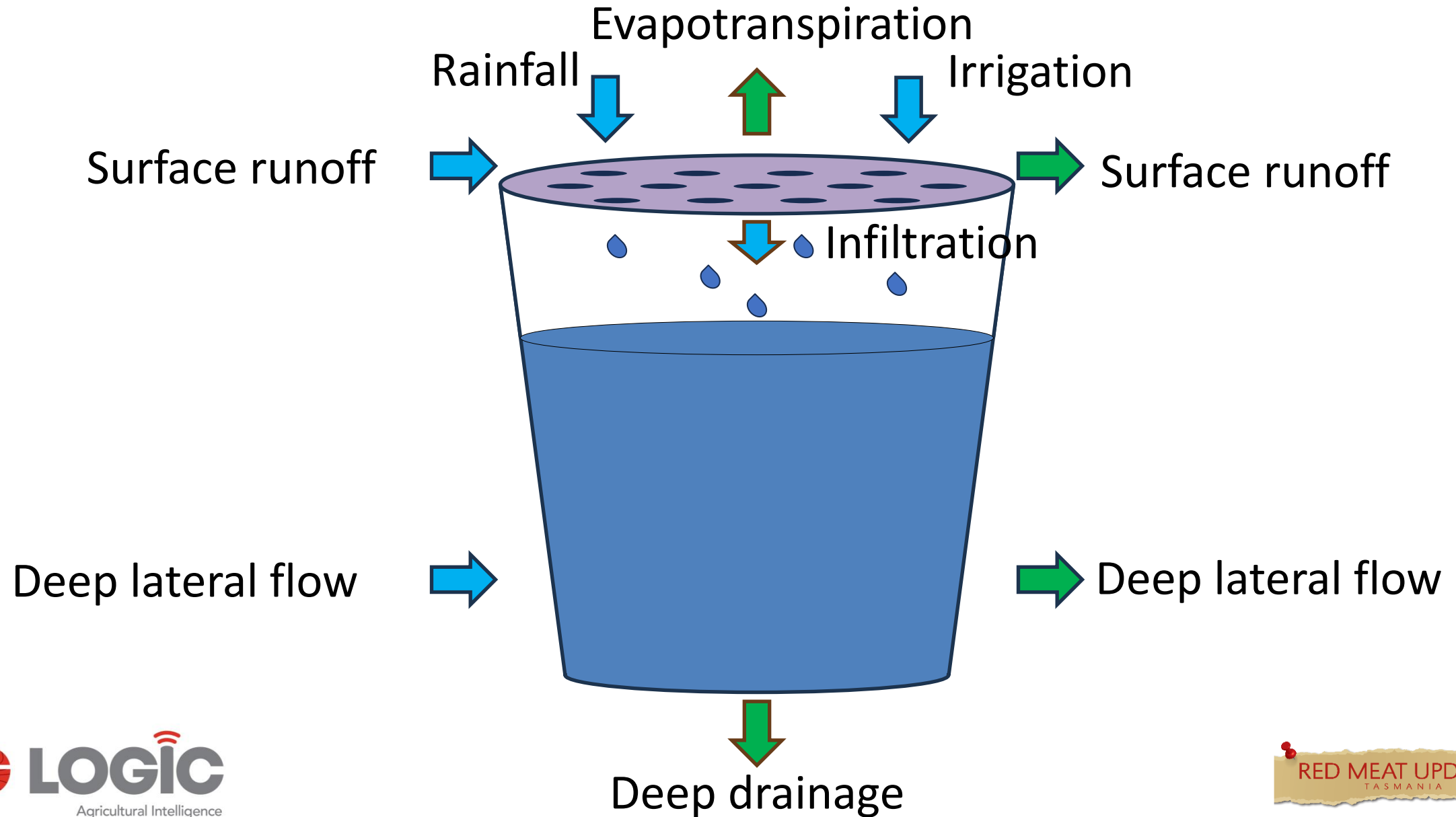
Take home points:

- Drainage is worth your attention.
- The best drainage includes planning and thought.
- Modern drainage tools can make a significant improvement to the outcome.

What causes waterlogging?

Rate of
water going
in $>$ Rate of water
leaving

What causes waterlogging?



What causes waterlogging?

Bottom line

- Understanding the drivers at your site is the key to getting the best solution.

Key concepts

Water only drains downhill

- You need to create 'fall'
- No point putting a drain above the water.

Key concepts

The rate of drainage is determined by the lowest flow rate in the system:

- Targeting these points will make any drainage investment much more effective.

Key concepts

Stop the water getting in

- Cutoff drains
- Surface drains
- Land forming

Help the water out again

- Deep open drains
- Subsurface drains

When to use surface drains

- Good surface drains are the cheapest, fastest way to remove excess water.
- Bad surface drains cause erosion and don't fix the waterlogging.

What spoils a grader drain?

Graders are cheap and quick tools for putting in drains, but have two problems:

1. The spoil creates a barrier, reducing flow rate just before the drain
2. The V base is prone to erosion

Surface drains



Surface drains



Better options

- Denison drainers
- Purpose designed drainage implements (e.g. Wolverine, Hansa spinner)
- Cut and carry bucket.

Surface drains



Surface drains



Surface drains



Surface drains



Surface drains



Surface drains



Surface drains



Surface drains



What is land forming?

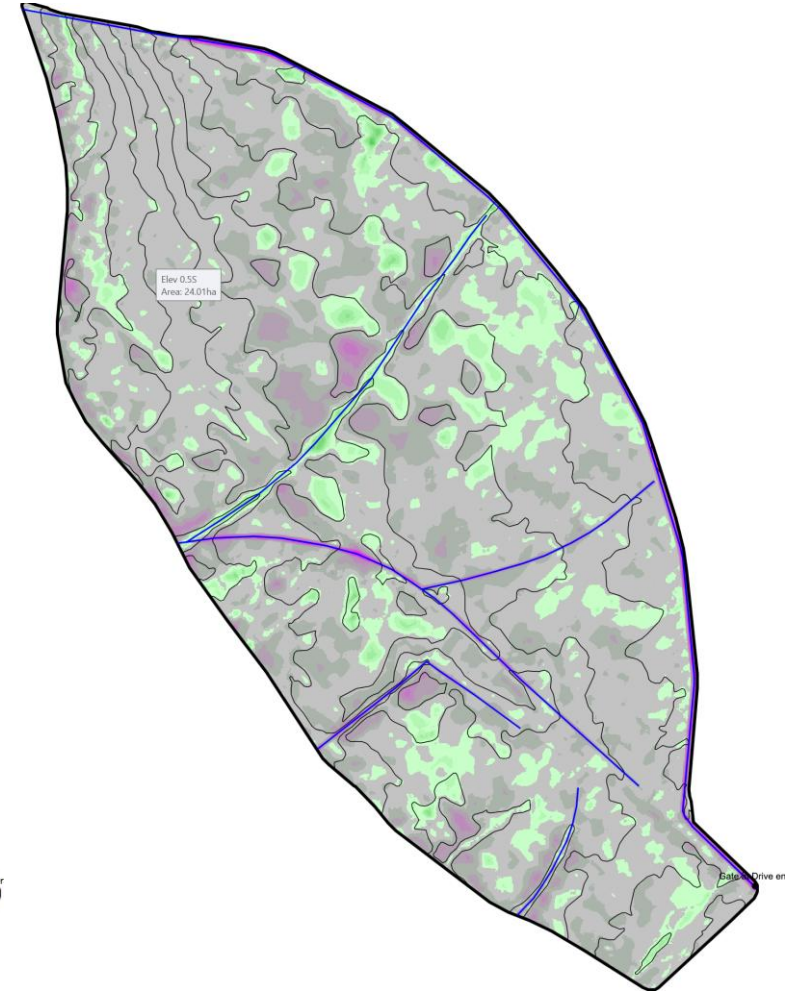
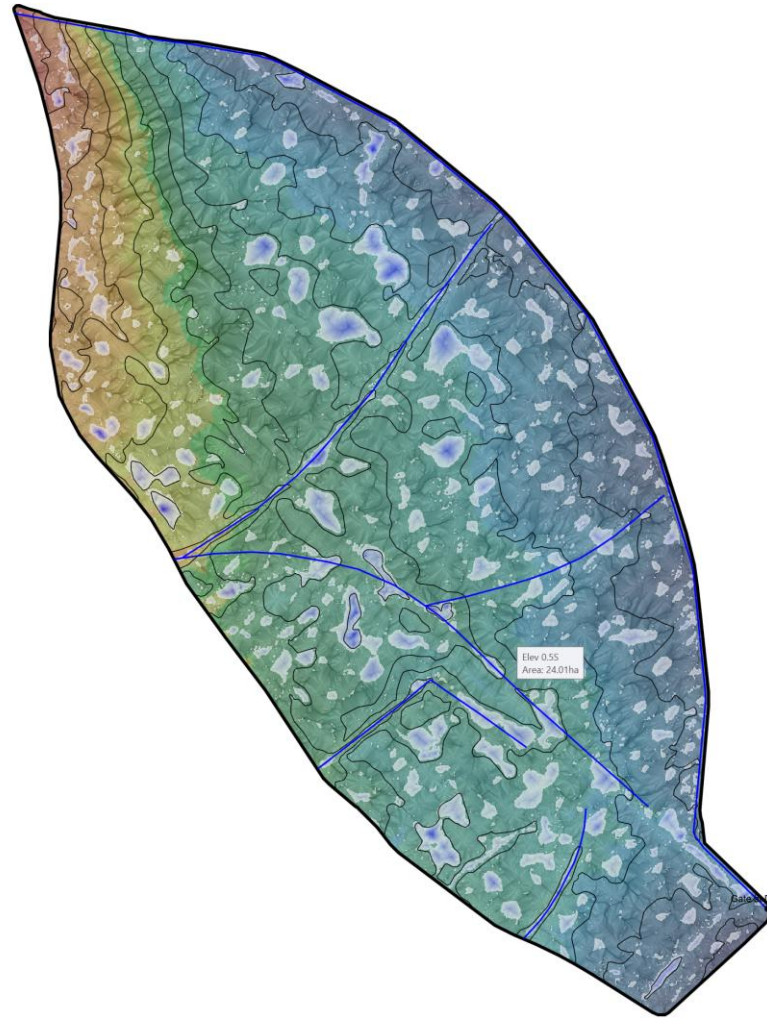
Reshaping the topography to improve drainage:

- Fill holes so no drain is needed.
- Improve slope to the open drains.

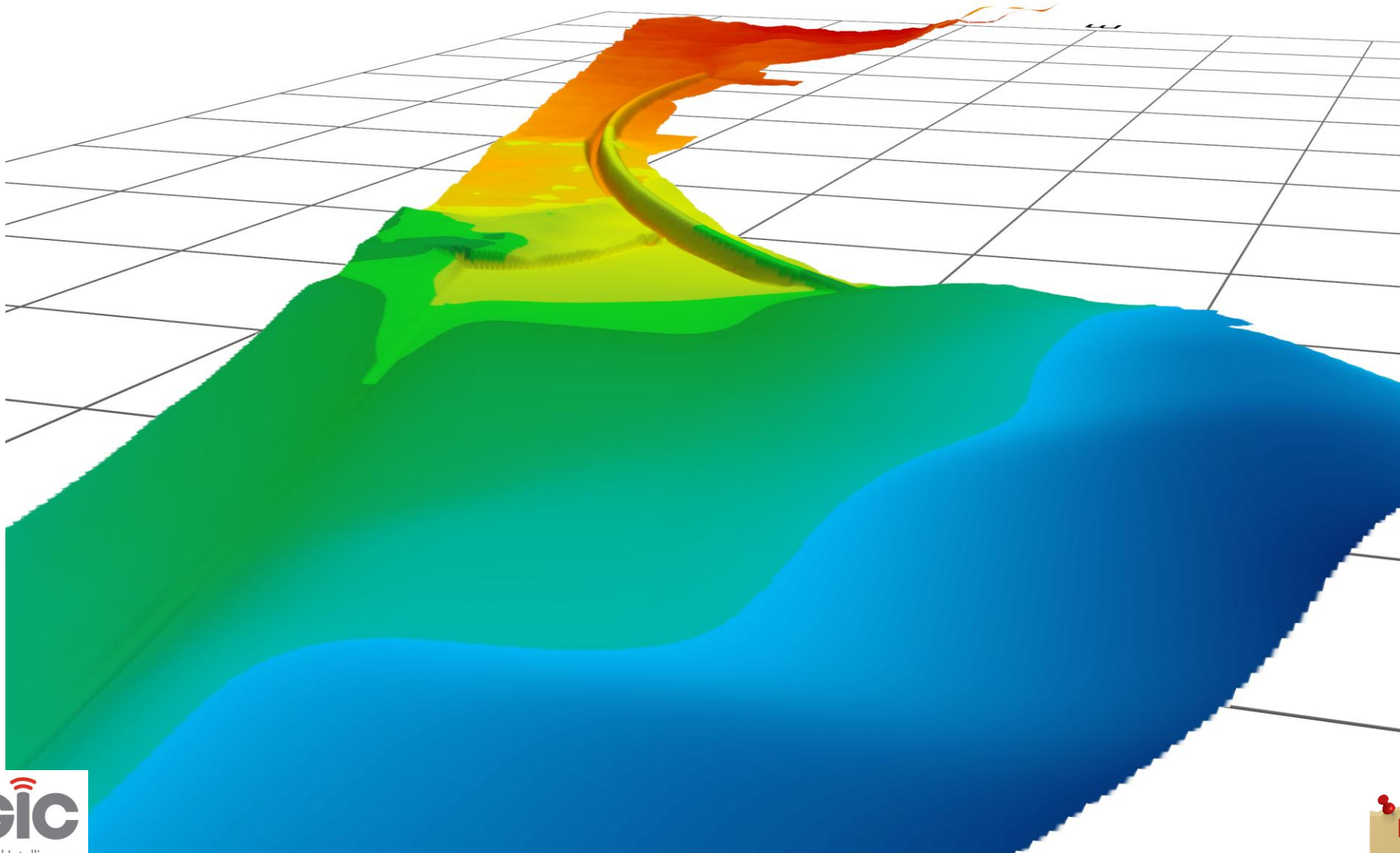
Land forming



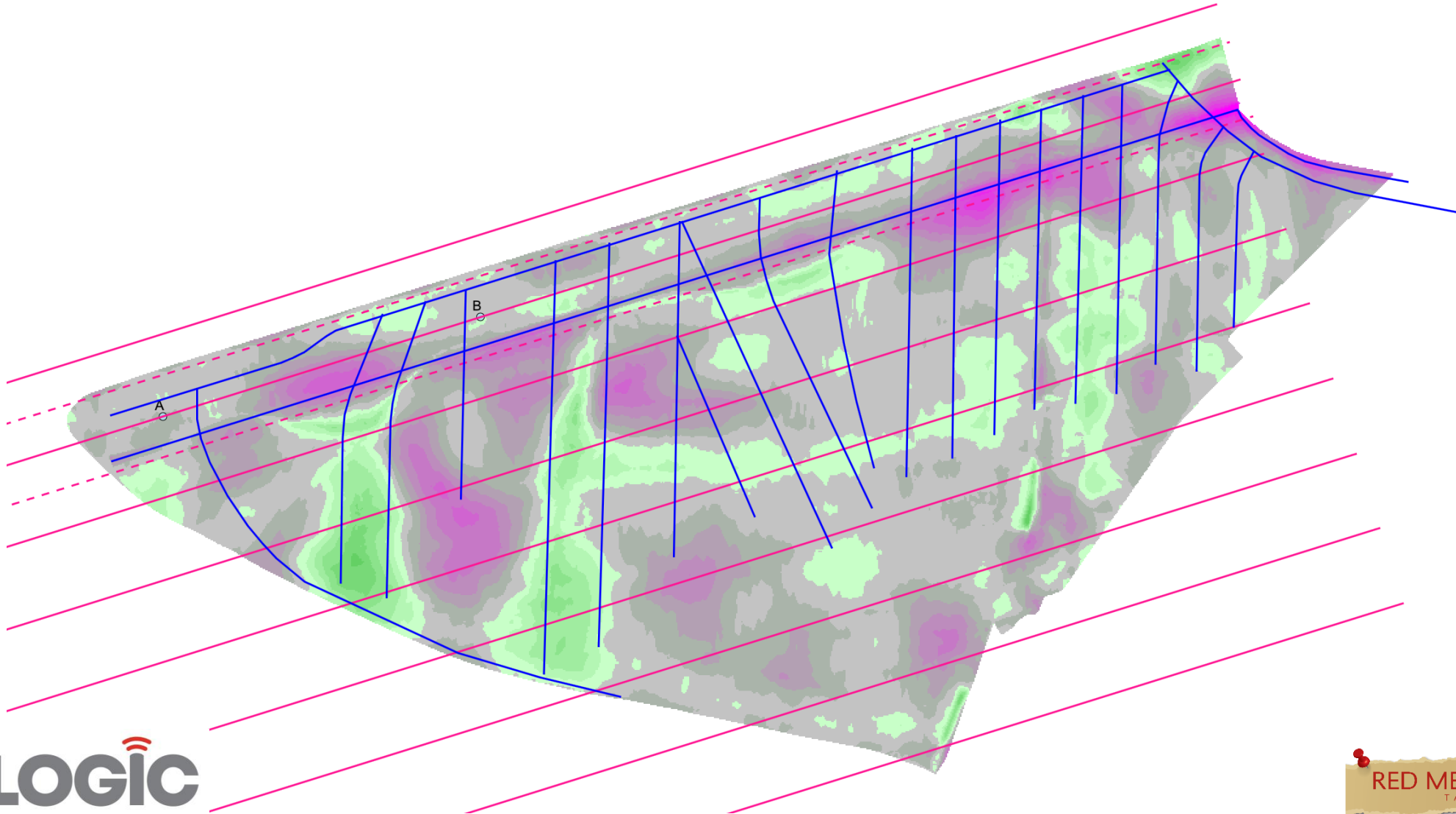
Land forming



Surface drains



Land forming



Key concepts

Stop the water getting in

- Cutoff drains
- Surface drains
- Land forming

Help the water out again

- Deep open drains
- Subsurface drains

Subsurface drainage

- The “help the water out again” solution.
- When successful, they fix the problem better than any other option.
- When unsuccessful, they are an expensive mistake.

Subsurface drainage

To be successful you need:

- Water to get into pipes fast enough to be useful.
- Flow through the pipes (grade, pipe and installation system are important).
- Depth at the outlet.

Subsurface drainage

Actions towards success:

- Soil analysis
- Plan using elevation data
- At scale, use a contractor.

Subsurface drains



Subsurface drains



Subsurface drains



Subsurface drains



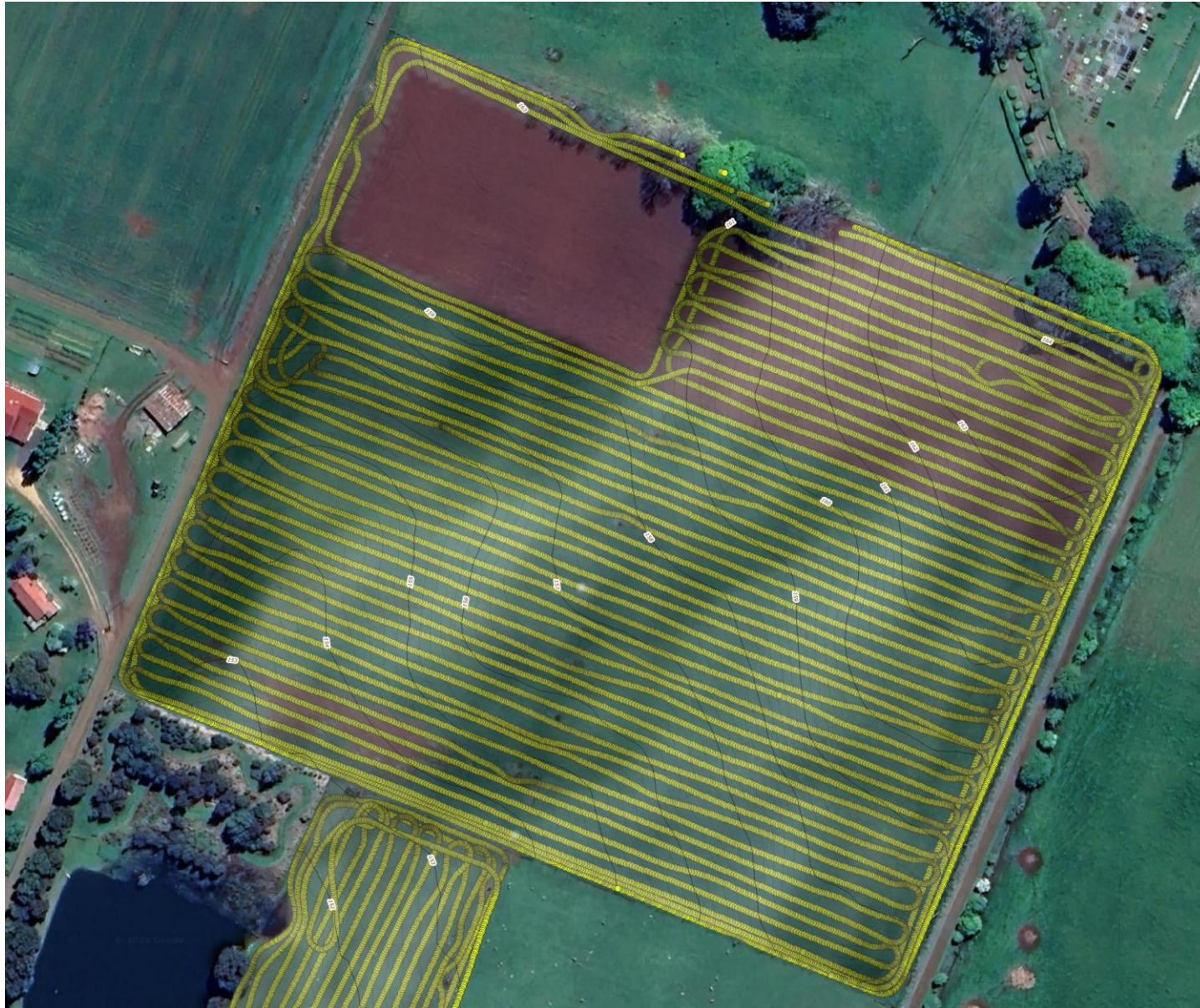
Planning



Planning



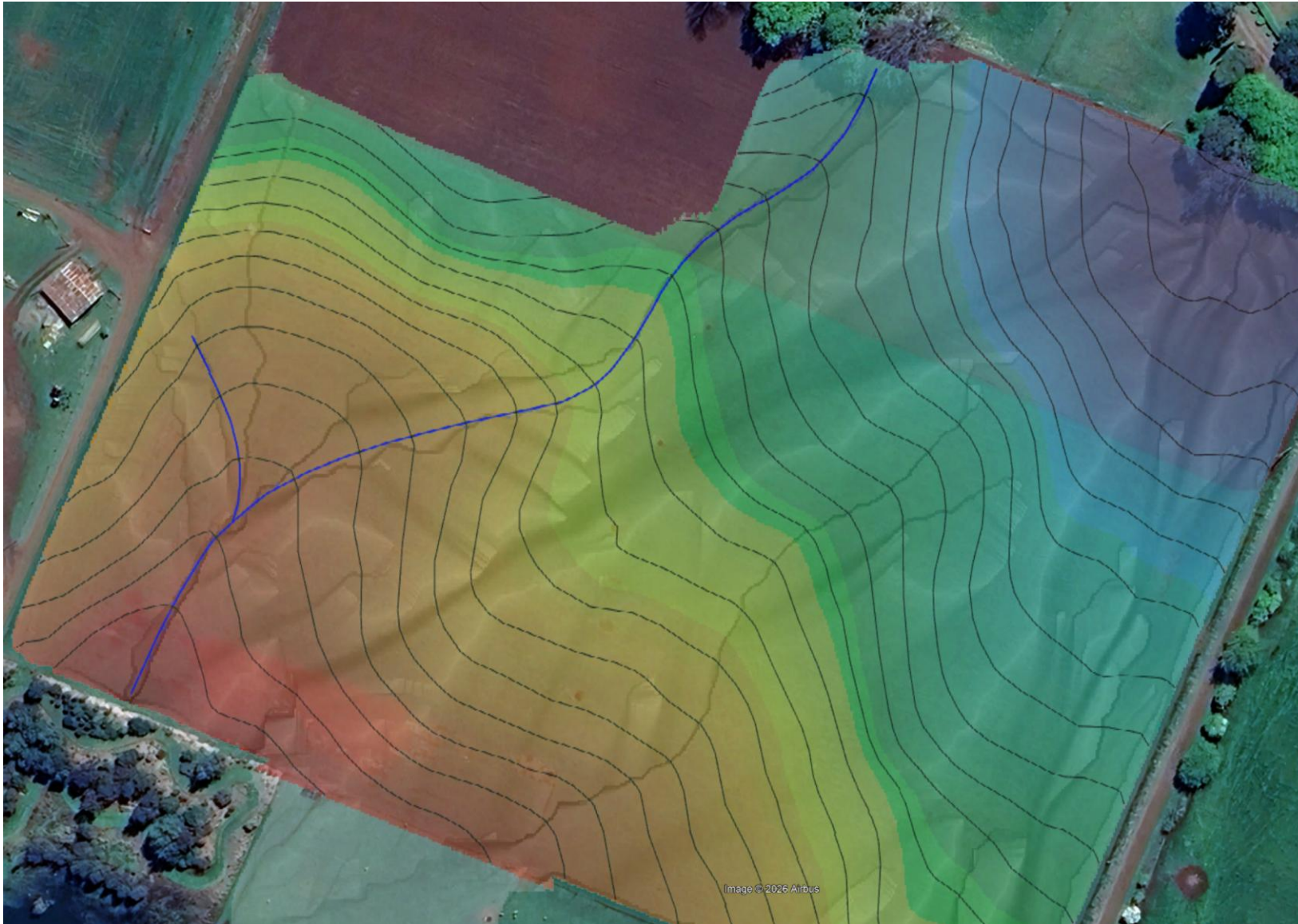
Planning

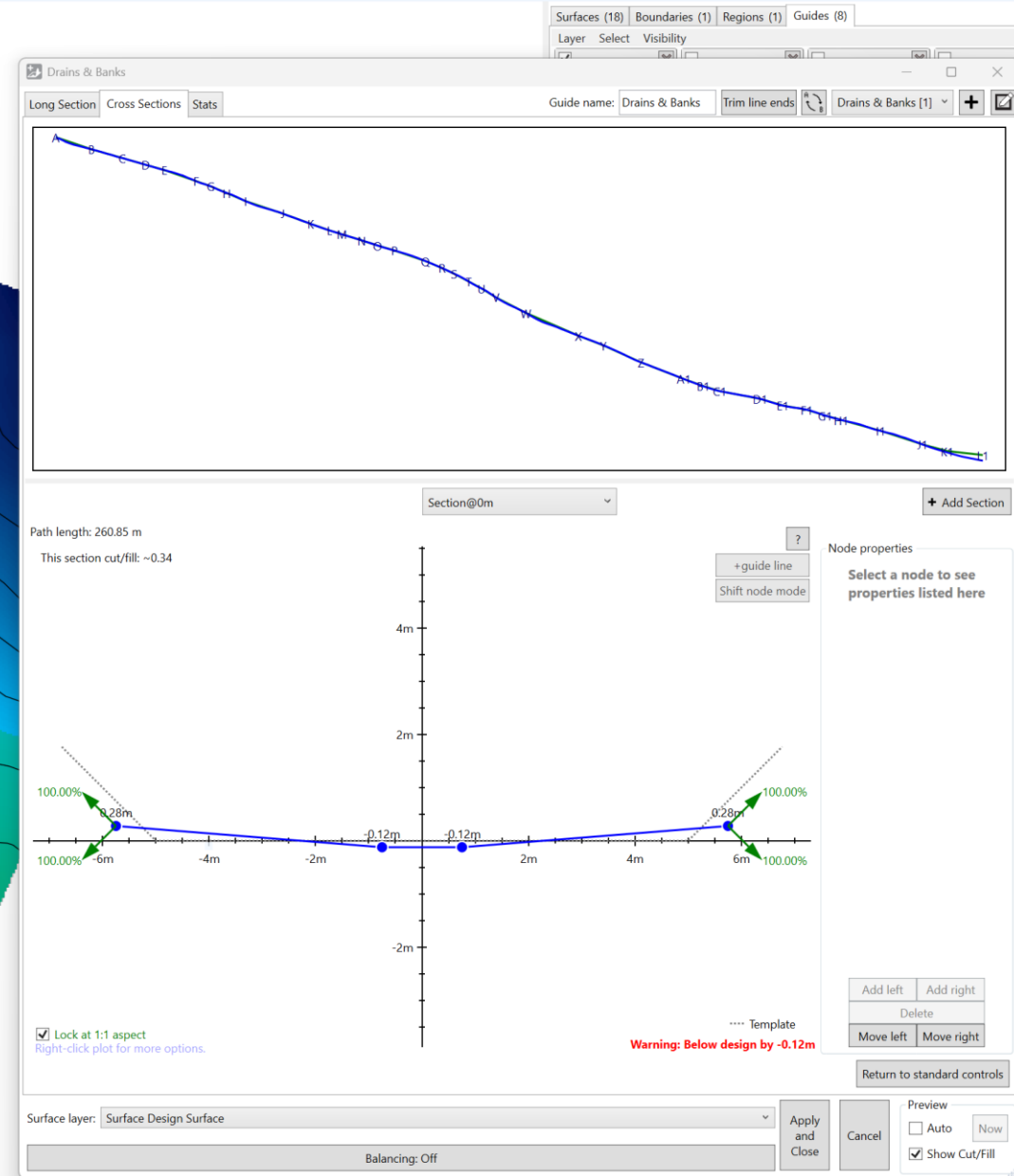
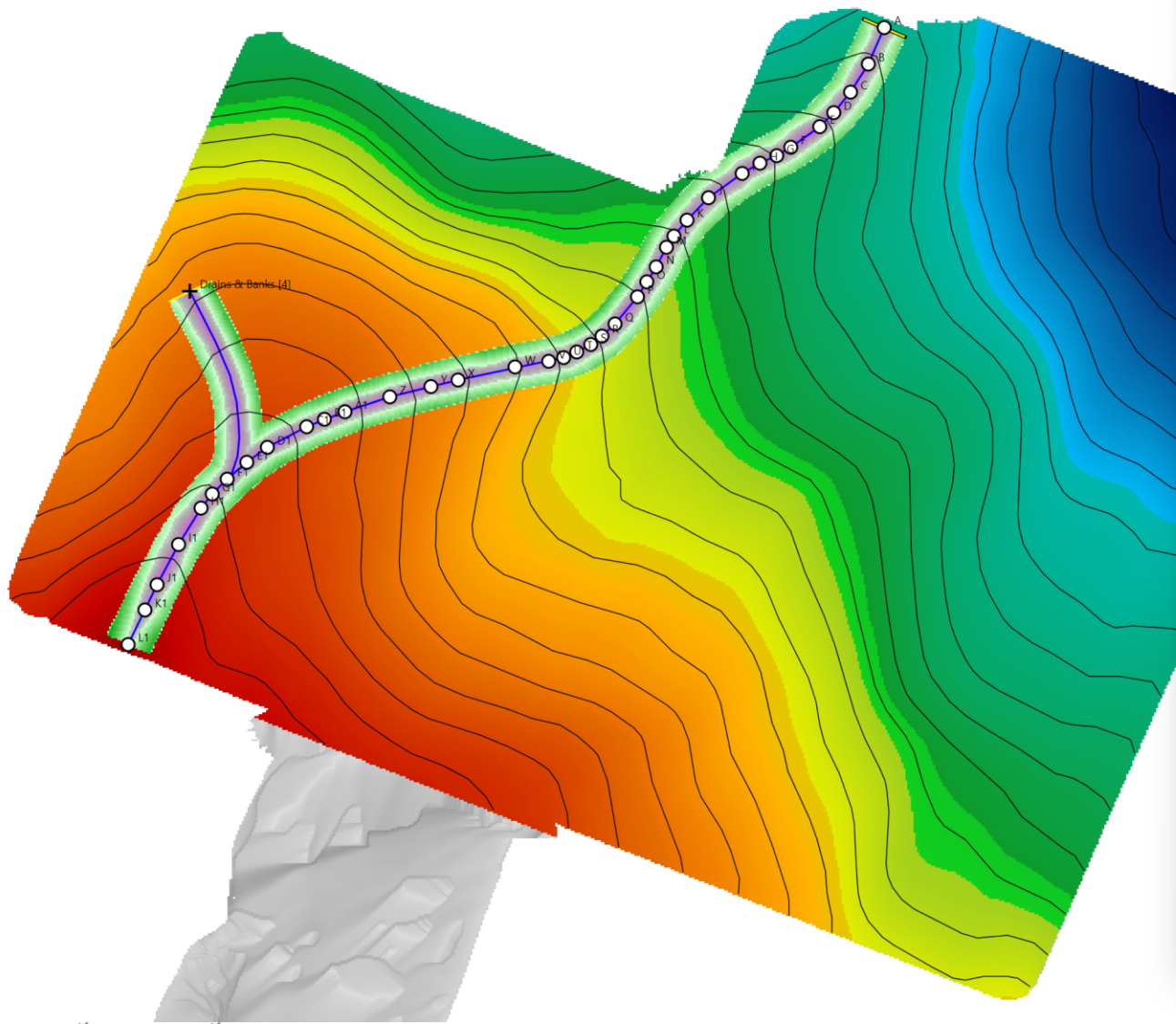
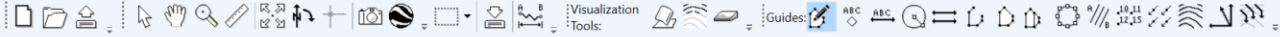


Planning



Planning







Plan Work - Tillage 2026

1 Field Selection ————— 2 Work Details

Depth

Tillage Depth

-254 - 254



Unit

cm



Guidance

No AutoPath™ (Boundaries) Plans to Select



Select All Tracks

Select Guidance

0 of 0 AutoPath Plans | 1 of 4 Tracks

★ Tracks | All Curves



Equipment and Operators

Manage which machines this work plan appears on.

Machine

Greenvale 8R 370 Dean



Implements

Wolverine # 1 & #2



Operator

Select Operator



Not Sent

[+ Select Additional Equipment and Operator](#)

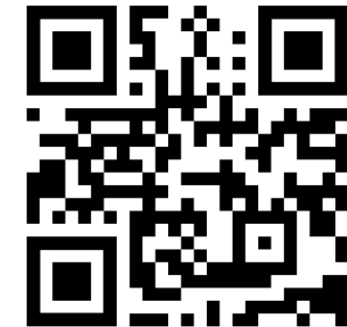
Work Order



Tools, resources & training

More info:

- Bill Cotching has released an update of his Land Drainage guide for Tasmania, and it is recommended to anyone looking for more info -landdrainagetasfarming.com.au)
- Drainage design software www.t3rra.com





RED MEAT UPDATES

T A S M A N I A



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