

Legend

- - - Land Boundary
- Deeper cut wetland areas
- Existing Stopbank
- Proposed Stopbank
- - - ➔ Subsurface perforated drain pipe laid in invert of existing/new drains then drain backfilled with wood chips, bark and hay
- Channel taking flow from drains in vegetable growing area to feed into wetland
- Approximate edge of wetland wetted area
- Sediment Basin

Construction Phases

- Phase 1

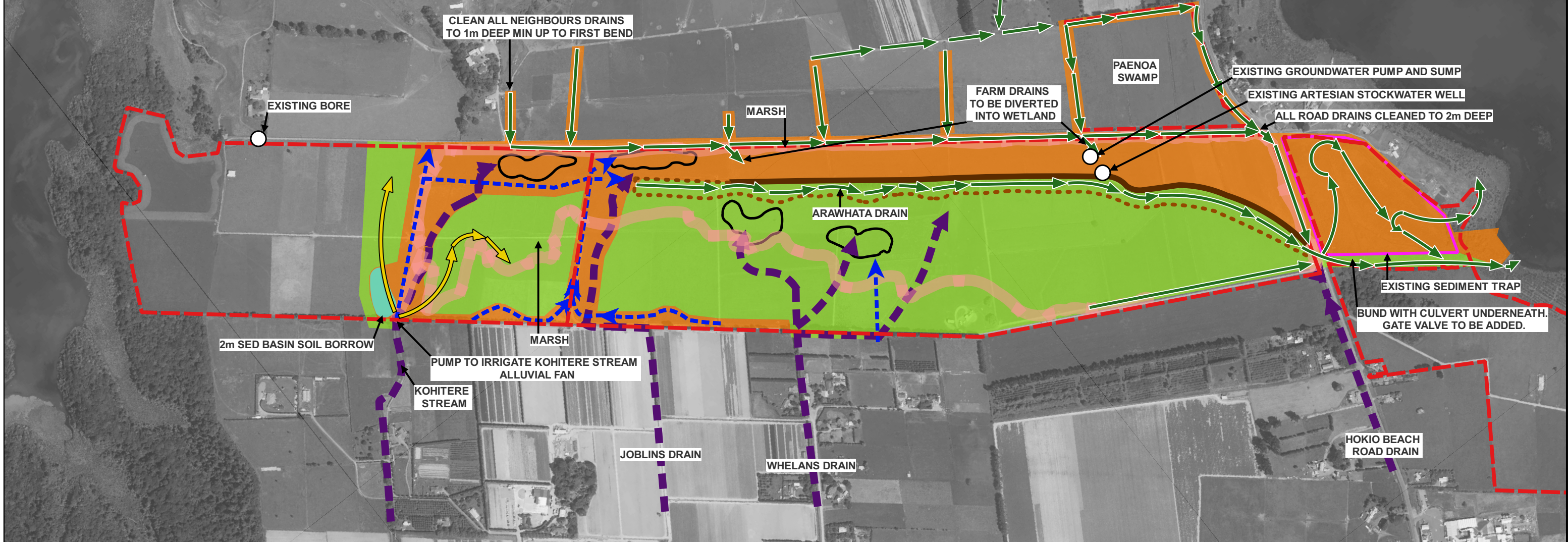
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Scale: 1:8500

0 200 400 m

DRAFT

Phase 1 Components

- Sediment Basin construction at Kohitere Stream/site boundary
- Installation of perforated pipe in existing Kohitere and Joblins Drain channels (within the site boundary) and drains as well as new drains along the property boundary either side of Joblins Drain, backfilled with woodchips/bark/hay for groundwater treatment (Blue dashed arrows).
- Construction of new channels at flatter grade than ground slope such that water can be discharged onto surface of wetlands from Kohitere stream and Joblins Drain. (purple arrows)
- Surface water overflow from sediment trap directed into new channels (purple) under gravity.
- Partial planting through wetland areas.
- Retention of existing groundwater pump + southern well for irrigation
- Plants for phase 1 need to be purchased.
- Collection of groundwater along the boundary either side of Joblins Drain
- Cleaning out/deepening farm drains on neighbour's land such that groundwater is intercepted. Invert to still be sloped and discharged to Arawhata Stream.
- Extension of stopbanks along Arawhata Stream west side.
- Construction of sliding weir gate on culvert in Arawhata Stream alongside the existing sediment trap. This will normally be shut to direct flows through the sediment trap.
- Add rip rap on slope of the existing sediment trap outlet to control water level and protect embankment.
- Sediment trap to be retained as is



Legend

- Land Boundary
- Deeper cut wetland areas
- Existing Stopbank
- Proposed Stopbank
- Surface irrigation perforated pipe to irrigation Kohitere stream alluvial fan
- - - Subsurface perforated drain pipe laid in invert of existing/new drains then drain backfilled with wood chips, bark and hay
- Sediment Basin
- Channel taking flow from drains in vegetable growing area to feed into wetland
- Approximate edge of wetland wetted area

Construction Phases

- Phase 1
- Phase 2

NZGD2000
Scale: 1:8500

0 200 400 m

DRAFT

Phase 2 Components

- Construction of new channels at flatter grade than ground slope such that water can be discharged onto surface of wetlands from Whelans Drains.
- More planting in Phase 1 and Phase 2 areas
- New bund on east side of existing Arawhata Stream to contain Phase 2 wetland.
- A lower section of bund/stopbank will be built at the downstream end alongside Hokio Beach Road to discharge treated wetland flow into the main Arawhata drain.
- New groundwater collection drains along Hokio Beach road and wetland site boundary.
- Installation of small new pump to irrigate sediment pond water into Kohitere Stream alluvial fan in areas where it cannot flow under gravity.



Legend

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Construction Phases

- Phase 1
- Phase 2
- Phase 3



- Phase 3 Components**
- Planting in Paenoa Swamp
 - Divert – channels in western area into Paenoa swamp
 - Planting upland (southern) forest area
 - Further fill in wetland areas with more planting
 - New dispersed outlet into Lake Horowhenua
 - Construction of walking trail

DRAFT

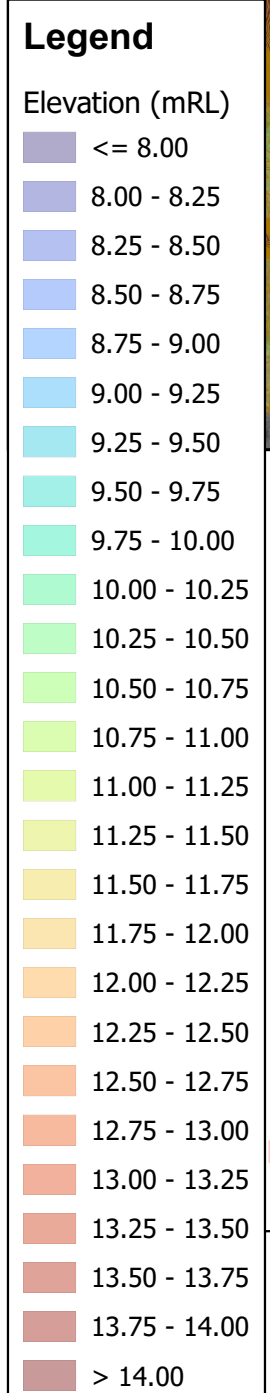
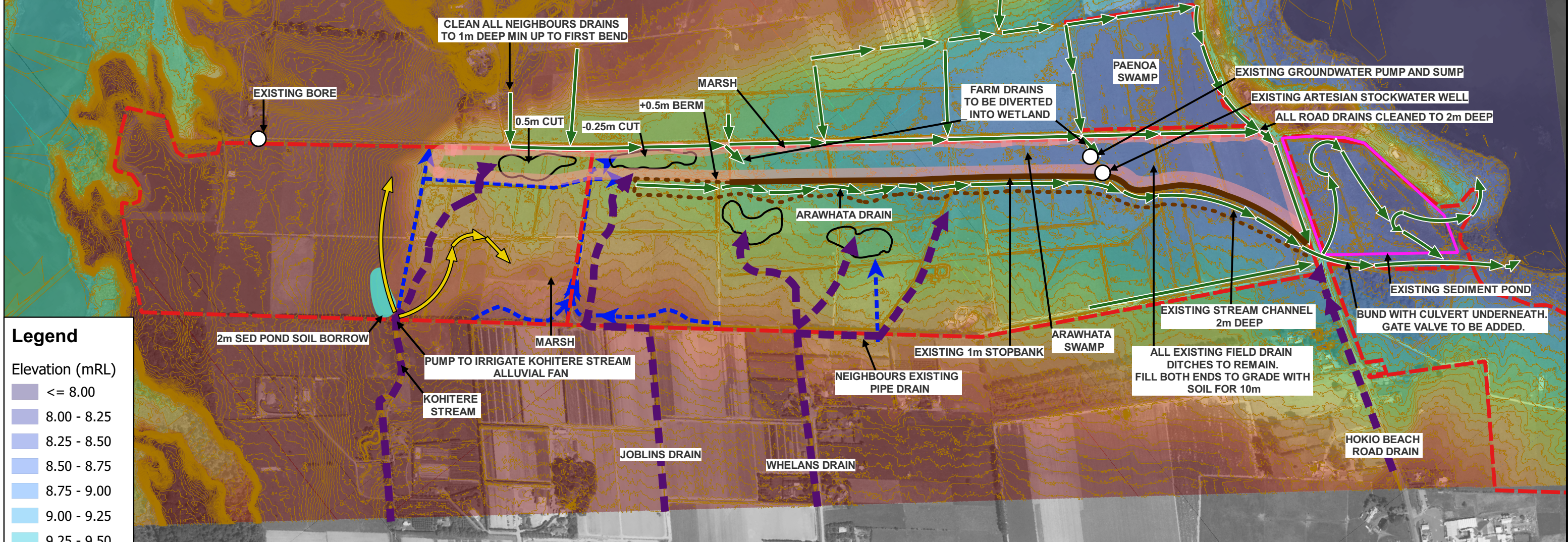


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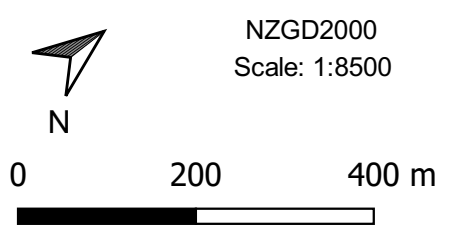
- ◆ Water Quality and Flow Gauging Sites
- Land Boundary

NZGD2000
Scale: 1:8500

0 200 400 m



- Land Boundary
- Deeper cut wetland areas
- 0.25m Contours
- Existing Stopbank
- Proposed Stopbank
- Existing/new channel farm drains
- Surface irrigation perforated pipe to irrigate Kohitere stream alluvial fan
- Subsurface perforated drain pipe laid in invert of existing/new drains then drain backfilled with wood chips, bark and hay
- Channel taking flow from drains in vegetable growing area to feed into wetland
- Approximate edge of wetland wetted area
- Sediment Pond



0	31/10/22	CZ	MM/AP	KS	ISSUE FOR INFORMATION	IA273100-001	ARAWHATA WETLAND-TOPOGRAPHICAL PLAN
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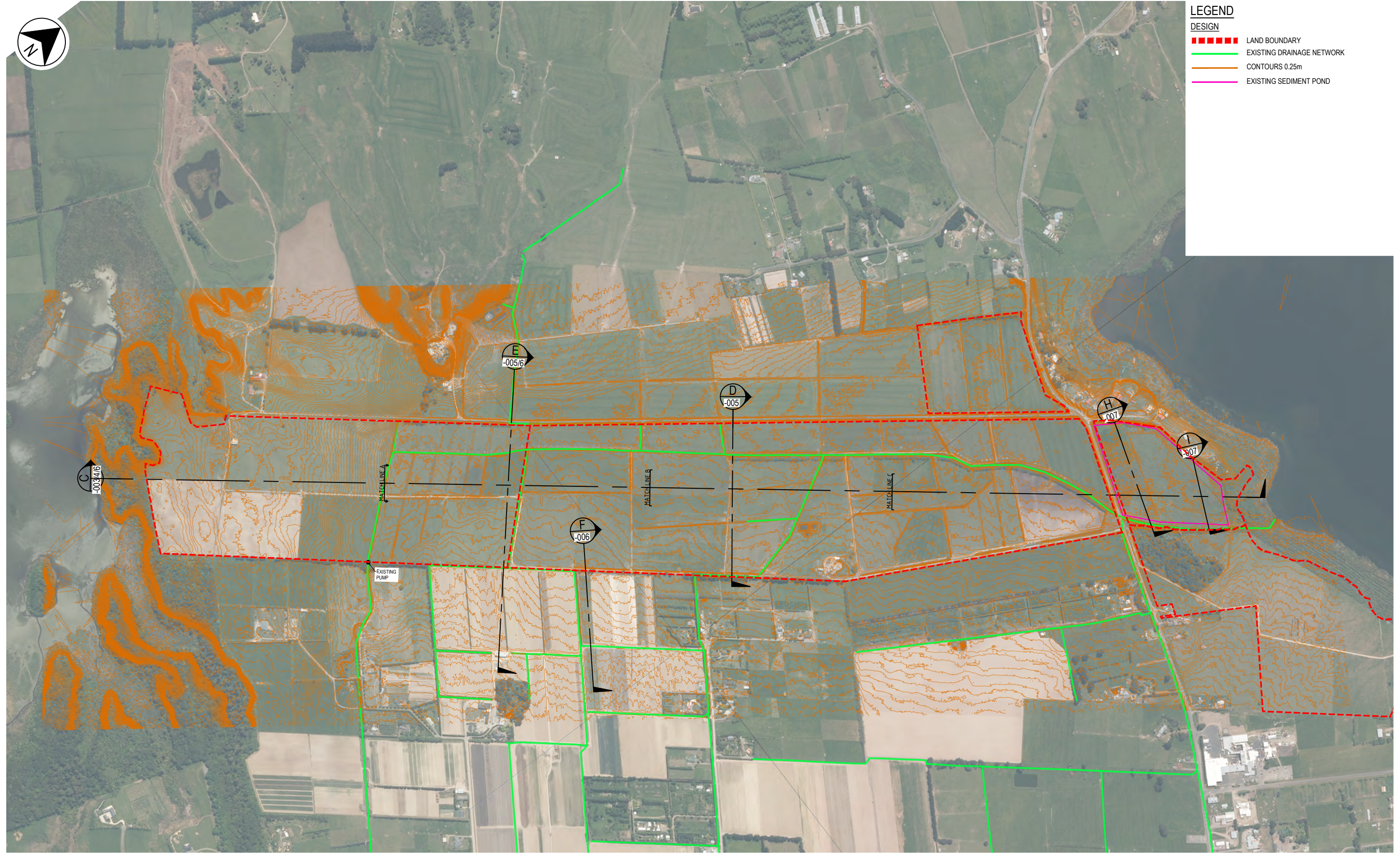




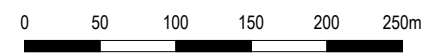
LEGEND

DESIGN

- ▬▬▬▬ LAND BOUNDARY
- ▬▬▬▬ EXISTING DRAINAGE NETWORK
- ▬▬▬▬ CONTOURS 0.25m
- ▬▬▬▬ EXISTING SEDIMENT POND



PLAN - ARAWHATA WETLAND
 SCALE 1:4000



SCALE 1:5000 (A3)

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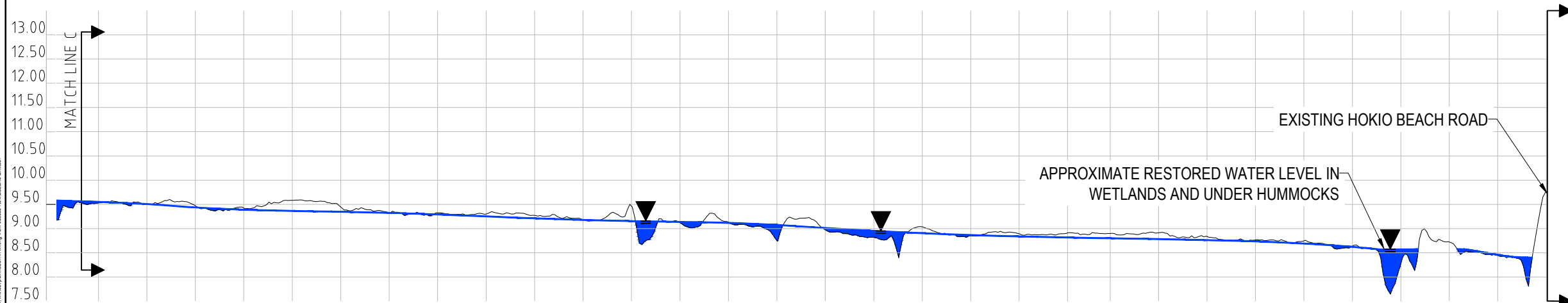
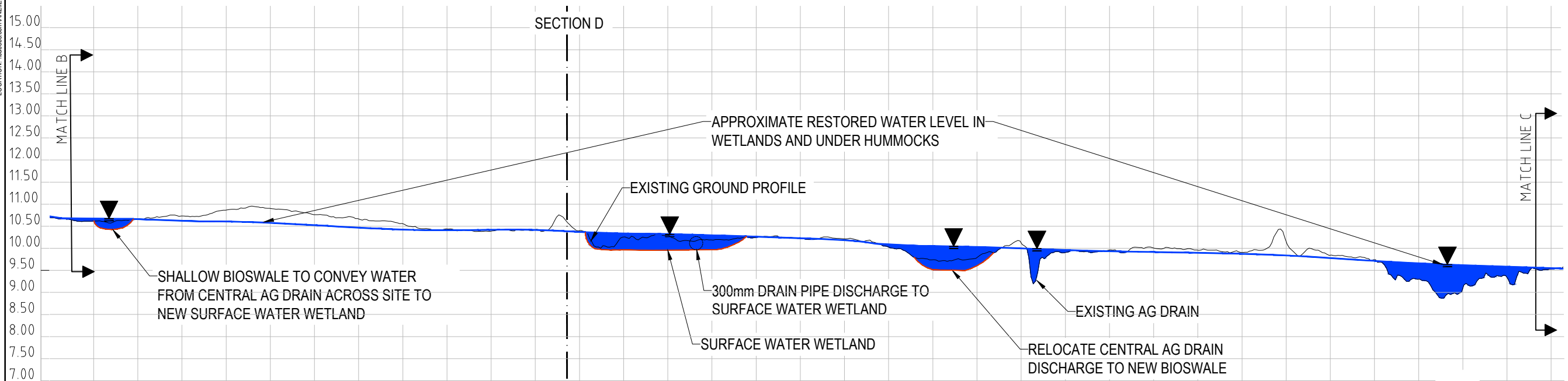
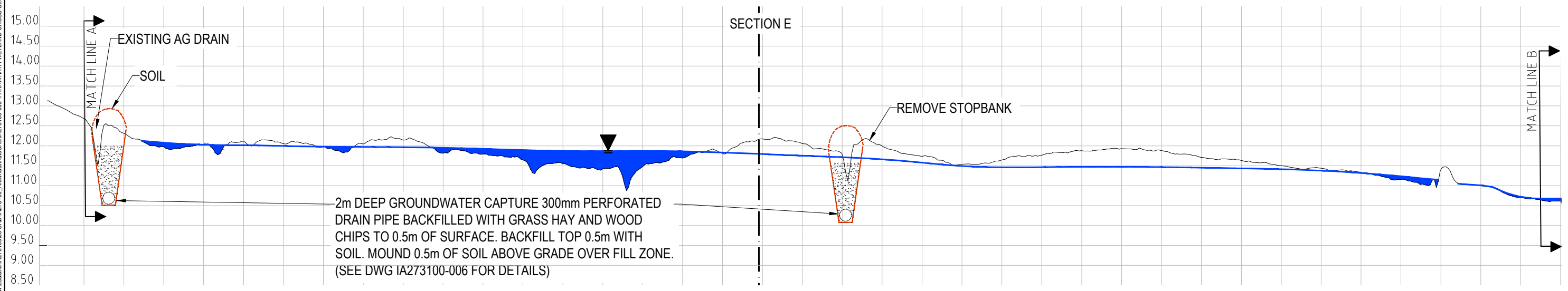
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PROJECT ARAWHATA WETLAND PROJECT			
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DESIGNED	DESIGN REVIEW	DATE	DATE

TITLE HOKIO BEACH ROAD TO LAKE PAPAITONGA KEY OF PROFILE SECTIONS		
SCALE AS SHOWN	DRAWING No IA273100-002	REV 0



SECTION C
 SCALE 1:1000H 1:50V

ARAWHATA WETLAND - LONGSECTION

REFER TO DRAWING IA273100-007-ARAWHATA WETLAND-CROSS SECTIONS C, H & I

LEGEND
 EXISTING ——— EXISTING GROUND PROFILE
 DESIGN ——— PROPOSED GROUND PROFILE

0 0.5 1 1.5 2.0 2.5m
 VERTICAL SCALE 1:50 (A3)

0 10 20 30 40 50m
 HORIZONTAL SCALE 1:1000 (A3)

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REV	DATE	DRAWN	REVD	APPD	REVISION	DRAWING NUMBER	REFERENCE DRAWING TITLE
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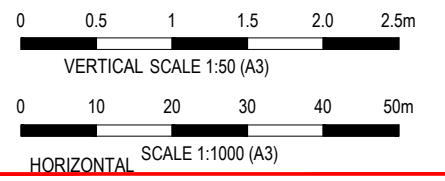
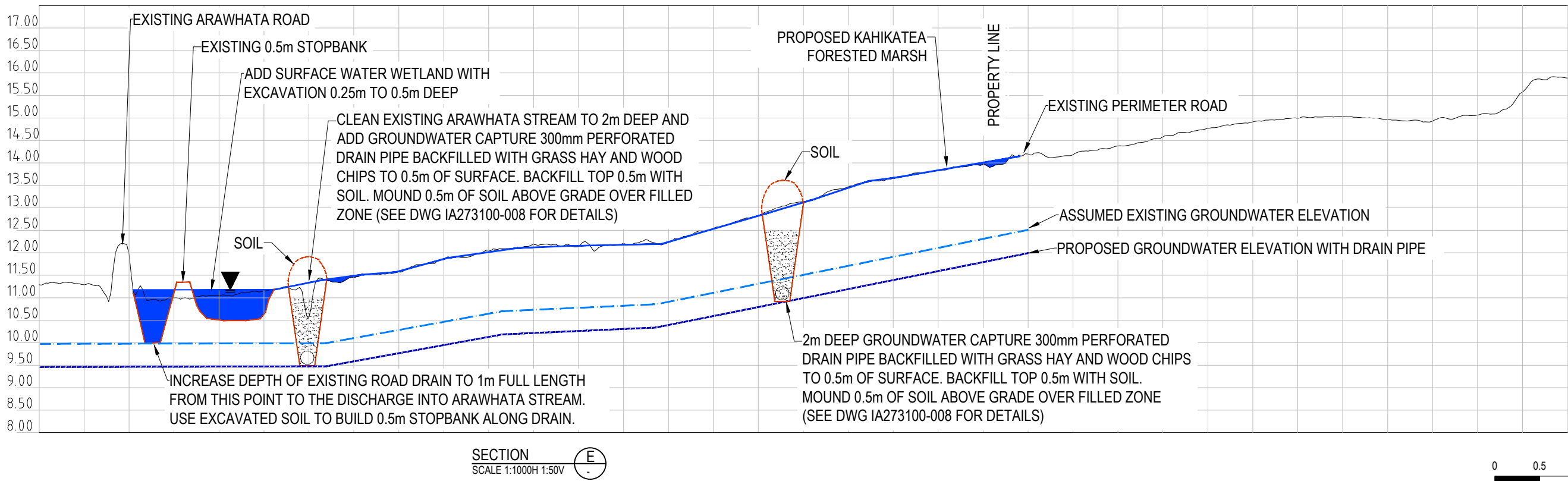
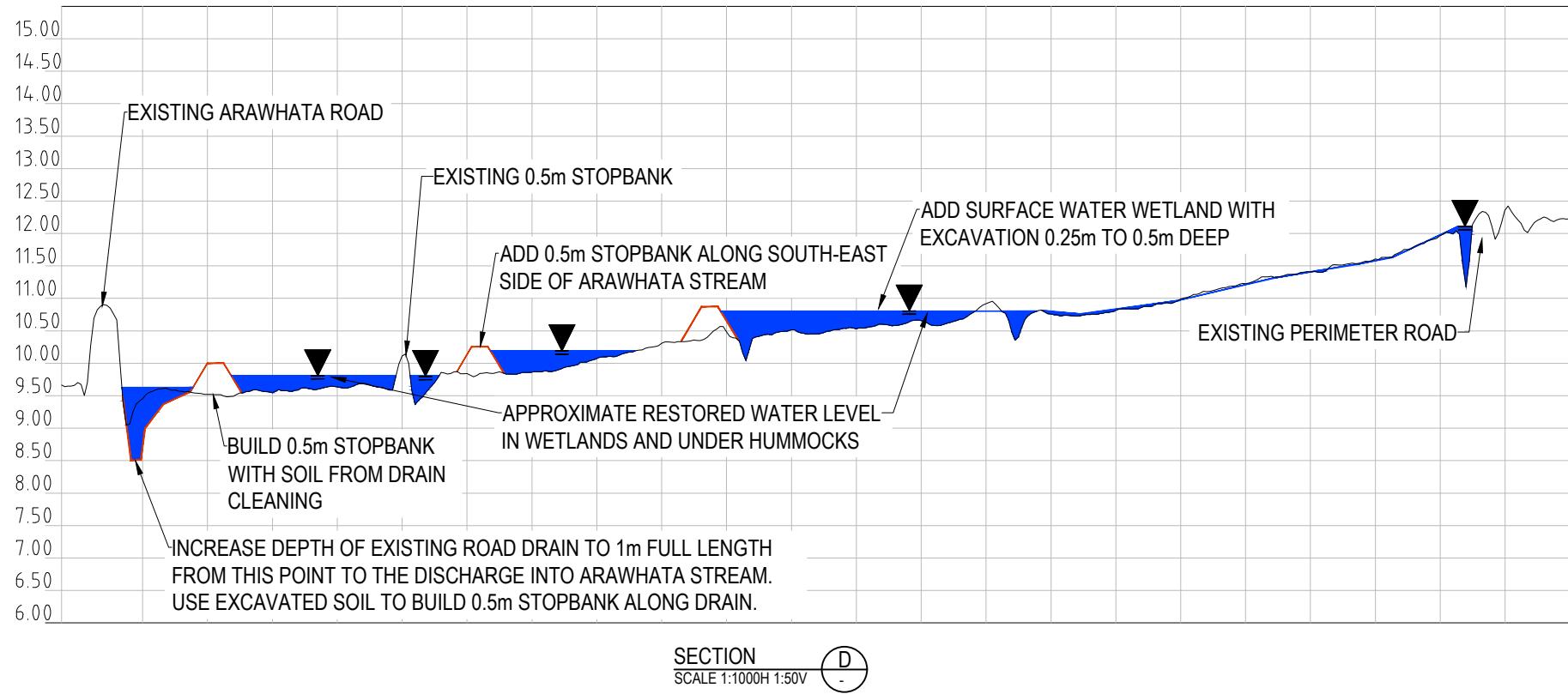


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PROJECT	ARAWHATA WETLAND PROJECT		
DRAWN	DRAWING CHECK	REVIEWED	APPROVED
CZ			
DESIGNED	DESIGN REVIEW	DATE	DATE
MM			

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SCALE	DRAWING No	REV	
AS SHOWN	IA273100-004	0	

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LEGEND
 EXISTING
 — EXISTING GROUND PROFILE
 DESIGN
 — PROPOSED GROUND PROFILE



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ARAWHATA WETLAND - CROSS SECTIONS D & E

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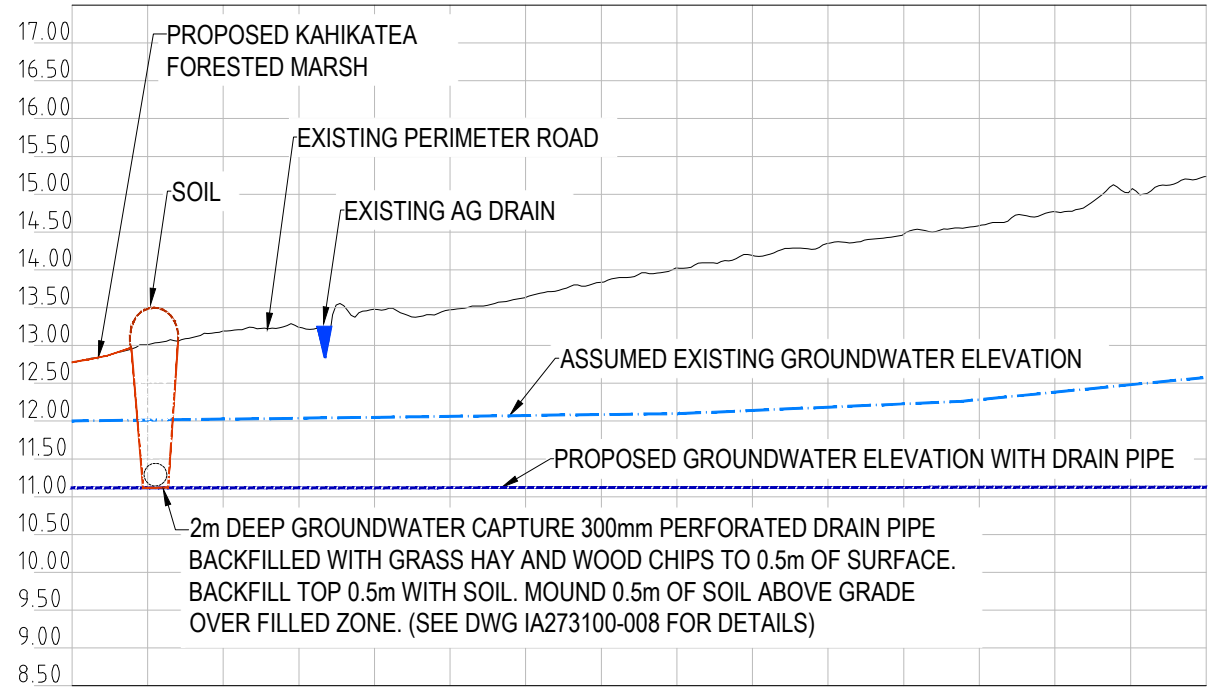


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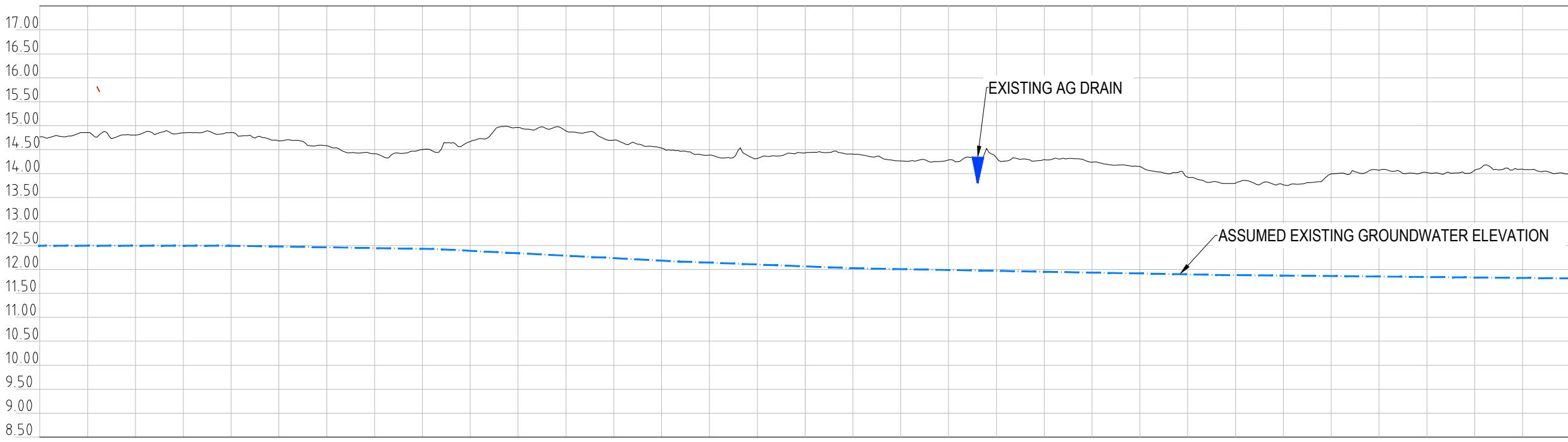
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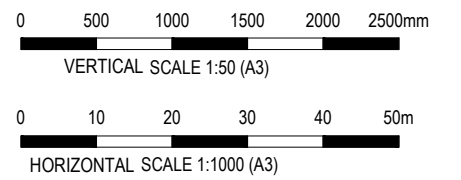
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DESIGN	PROPOSED GROUND PROFILE



SECTION F
 SCALE 1:1000H 1:50V



SECTION E
 SCALE 1:1000H 1:50V



KANE FARM WETLAND - CROSS SECTIONS F & E

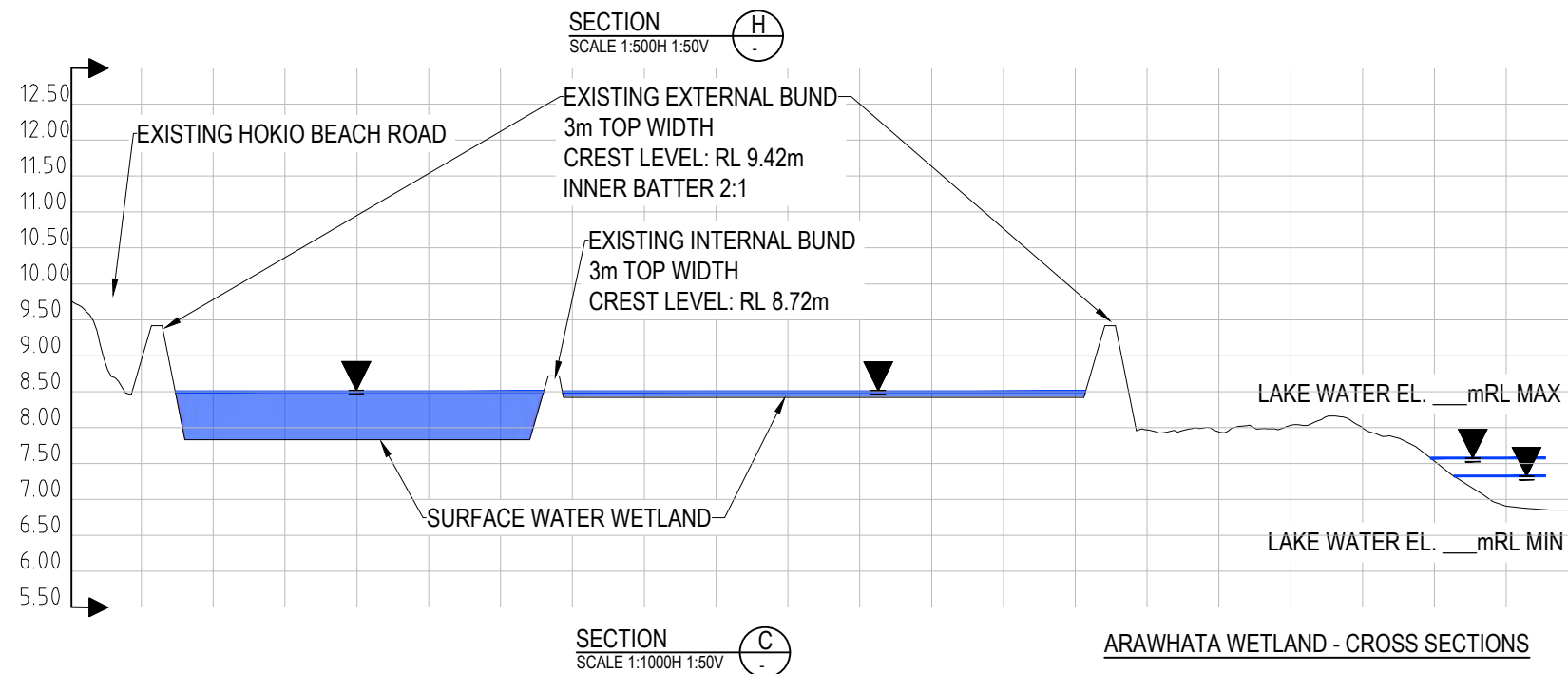
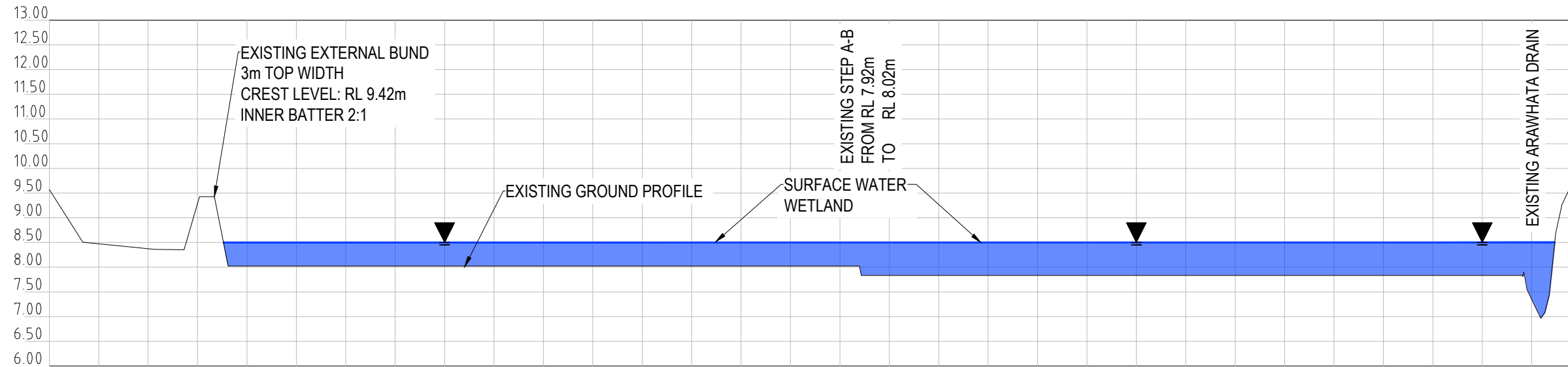
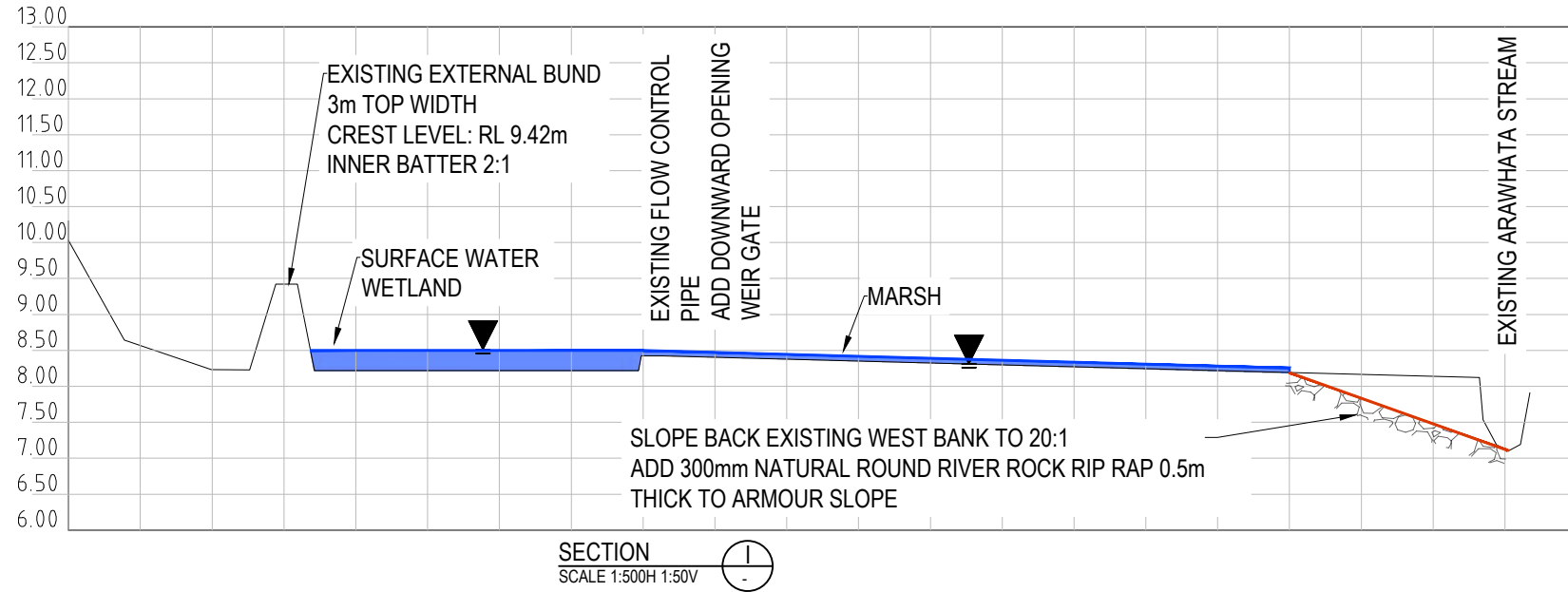
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DESIGNED MM	DESIGN REVIEW MM	DATE	DATE

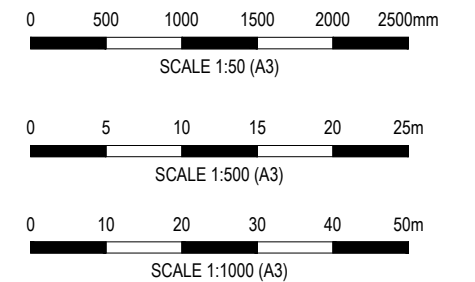
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LEGEND

- EXISTING ——— EXISTING GROUND PROFILE
- DESIGN ——— PROPOSED GROUND PROFILE

NOTES



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ARAWHATA WETLAND - CROSS SECTIONS

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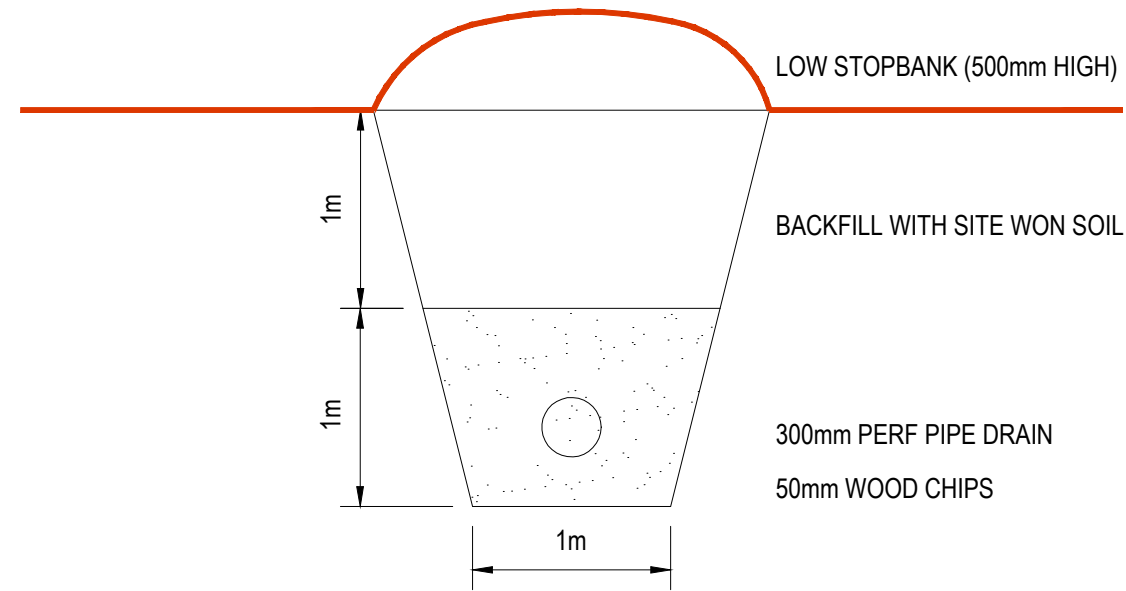


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TYPICAL DRAIN SECTION
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DESIGNED MM	DESIGN REVIEW	DATE	DATE
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