

Date: 3rd April 2023

Our Ref: **21064 WR3 Rev B**

Your Ref: TBC

The Managing Director
PSA Consulting Pty Ltd
Level 11/270 Adelaide Street
BRISBANE QLD 4000

Attention: Mr David Ireland

RE: Concept Stormwater Plan, Proposed Poultry Development (Layer Farm)
Client: Pace Farms Pty Ltd
Location: 1095 Inverkip Road, Warrah Ridge, 2343
Land: Lot 52 in DP 1168698

We refer to your request for a concept stormwater management plan for the above-mentioned poultry development. We have subsequently undertaken a preliminary review of the stormwater requirements and possible impacts associated with the site.

Based upon this preliminary review, we have prepared a concept stormwater design (see attached) which seeks to capture and divert stormwater flows away from the proposed farm infrastructure.

The review of the development involved the determination of preliminary stormwater flows across the site and subsequent 1:100-year ARI (developed) channel flow using the *Probabilistic Rational Method* and rainfall data obtained from the *Bureau of Meteorology*.

The concept arrangement proposes to utilise a combination of the construction of new drains and culverts as well as augmenting existing contour banks present onsite. The concept design aims to prevent upslope flow from entering each of the four (4) layer sheds site. The new works will comprise a series of three (3) metre wide trapezoidal channels and other drainage structures to collect and divert stormwater flows.

The channels and drainage structures have been sized to accommodate the anticipated design flows and convey them to downstream areas. All discharge points associated with the drainage structures will feature appropriate scour protection measures to dissipate, slow velocities and reduce any sediments loads.

Given the nature of the catchment and stormwater analysis undertaken, all engineering details shown on the attached plan are concept only. As result of the preliminary nature of the works undertaken, all concept stormwater details and measures are subject to change as part of the detailed design as part of a future Construction Certificate application. We note that no assessment of offsite infrastructure and/or areas has been undertaken. However, the plans are expected to result in negligible additional impacts to stormwater flows leaving the site or result in nuisance to downstream receiving environments.

We trust that the information provided will be sufficient for the assessment and determination of the proposed development.

If you require any additional information or would like to discuss this matter further, please do not hesitate to contact our office.

Yours faithfully,

Tim McLean

Senior Consultant

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Attachments:

- Concept Drainage Layout Rev B

	5.00	3.95	1.50	0.00	1.50	4.31	5.00
DESIGN SURFACE	333.00	334.84	334.84	334.84	334.84	335.54	335.54
NATURAL SURFACE	335.46	335.52	335.53	335.53	335.53	335.54	335.54
OFFSET	5.00	3.95	1.50	0.00	1.50	4.31	5.00

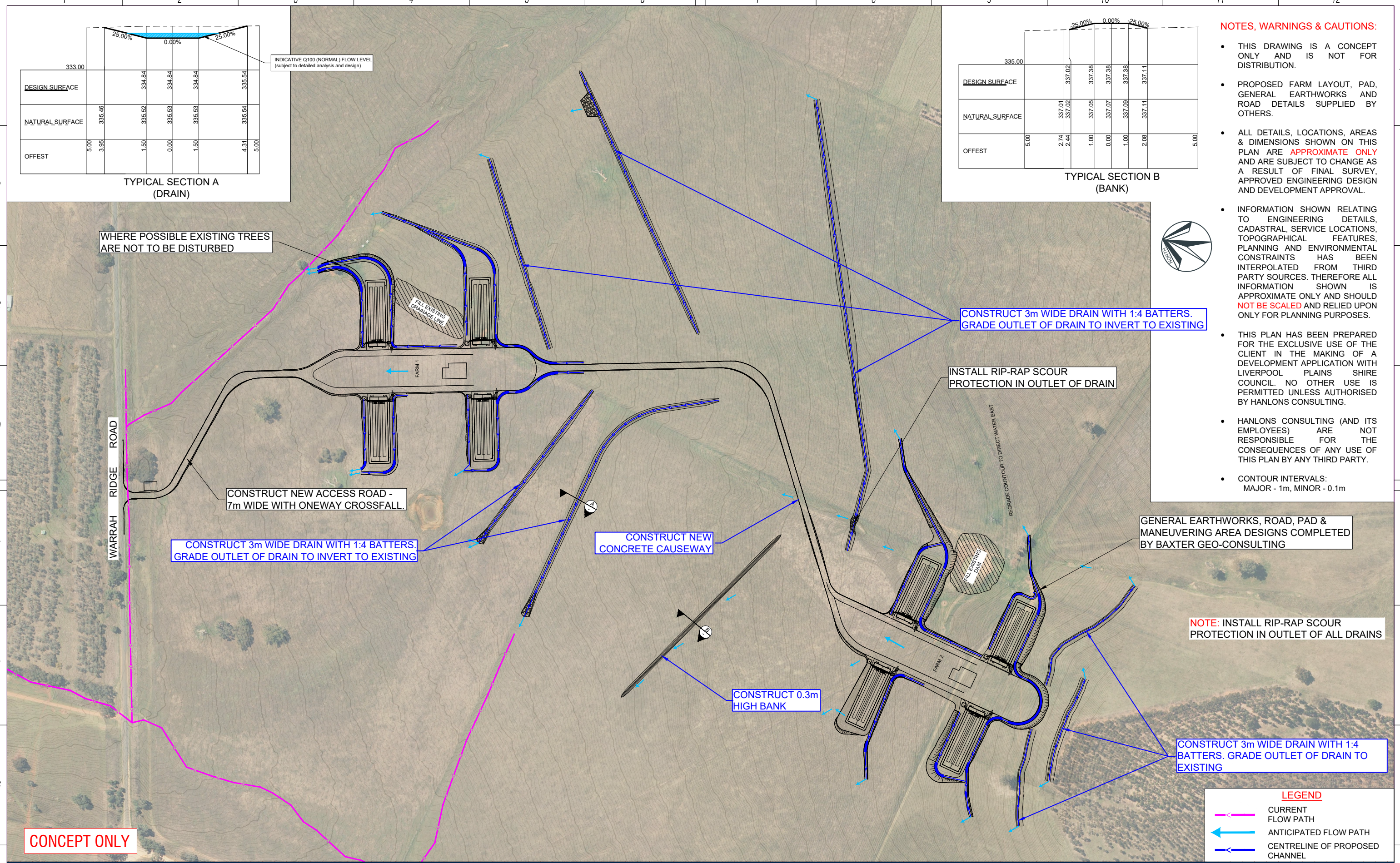
TYPICAL SECTION A (DRAIN)

	5.00	2.74	2.44	1.00	0.00	1.00	2.08	5.00
DESIGN SURFACE	335.00	337.02	337.02	337.38	337.38	337.38	337.11	337.11
NATURAL SURFACE	337.01	337.02	337.02	337.05	337.07	337.09	337.11	337.11
OFFSET	5.00	2.74	2.44	1.00	0.00	1.00	2.08	5.00

TYPICAL SECTION B (BANK)

NOTES, WARNINGS & CAUTIONS:

- THIS DRAWING IS A CONCEPT ONLY AND IS NOT FOR DISTRIBUTION.
- PROPOSED FARM LAYOUT, PAD, GENERAL EARTHWORKS AND ROAD DETAILS SUPPLIED BY OTHERS.
- ALL DETAILS, LOCATIONS, AREAS & DIMENSIONS SHOWN ON THIS PLAN ARE APPROXIMATE ONLY AND ARE SUBJECT TO CHANGE AS A RESULT OF FINAL SURVEY, APPROVED ENGINEERING DESIGN AND DEVELOPMENT APPROVAL.
- INFORMATION SHOWN RELATING TO ENGINEERING DETAILS, CADASTRAL, SERVICE LOCATIONS, TOPOGRAPHICAL FEATURES, PLANNING AND ENVIRONMENTAL CONSTRAINTS HAS BEEN INTERPOLATED FROM THIRD PARTY SOURCES. THEREFORE ALL INFORMATION SHOWN IS APPROXIMATE ONLY AND SHOULD NOT BE SCALED AND RELIED UPON ONLY FOR PLANNING PURPOSES.
- THIS PLAN HAS BEEN PREPARED FOR THE EXCLUSIVE USE OF THE CLIENT IN THE MAKING OF A DEVELOPMENT APPLICATION WITH LIVERPOOL PLAINS SHIRE COUNCIL. NO OTHER USE IS PERMITTED UNLESS AUTHORISED BY HANLONS CONSULTING.
- HANLONS CONSULTING (AND ITS EMPLOYEES) ARE NOT RESPONSIBLE FOR THE CONSEQUENCES OF ANY USE OF THIS PLAN BY ANY THIRD PARTY.
- CONTOUR INTERVALS: MAJOR - 1m, MINOR - 0.1m



CONCEPT ONLY

NOTE: INSTALL RIP-RAP SCOUR PROTECTION IN OUTLET OF ALL DRAINS

CONSTRUCT 3m WIDE DRAIN WITH 1:4 BATTERS. GRADE OUTLET OF DRAIN TO EXISTING

LEGEND

	CURRENT FLOW PATH
	ANTICIPATED FLOW PATH
	CENTRELINE OF PROPOSED CHANNEL

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REV	BY	DATE	DESCRIPTION	APPD.
B	TMC	03/04/2023	ISSUED DEVELOPMENT APPLICATION	MBH
A	TMC	07/03/2023	ISSUED TO CLIENT FOR DISCUSSION	MBH

A1 Original Co-ordinate System: BY OTHERS Height Datum: BY OTHERS Scale: DO NOT SCALE

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DRAWN	T McLean
DRG CHECK	M Hanlon
DESIGNED	T McLean
DESIGN CHECK	M Hanlon
APPROVED	

PROJECT:	WARRAH RIDGE LAYER FARM 1095
CONCEPT DRAINAGE LAYOUT	
FILE No.	21064 WR3
STATUS:	PLANNING PURPOSES ONLY
FIGURE:	1

A1
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B