Land and environment consultants

24 June 2022

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Subject: Addendum to the bushfire assessment for Carseldine Village

1 Introduction

Land and Environment Consultants Pty Ltd (**LEC**) prepared a bushfire assessment and management plan and bushfire attack level (**BAL**) contour plan for Carseldine Village at 532 Beams Road, Carseldine (**the site**), properly described as lot 322/SP172124.

Economic Development Queensland (EDQ) are proposing improvements to the approved reconfiguration of lot plan which include a stormwater drainage swale and restricted vehicle access track behind lots 2049, 2050 and V002 as shown in the draft catch drain plan at Appendix 1. These operational works will be delivered in two phases with Phase 1 being aligned with the rear boundaries of lots 2049 and 2050 and Phase 2 extending through lot 9005 (formerly lot V004) and along the rear boundary of lot V002.

The proposed improvements are required to deal with stormwater run-off from the adjacent bushland area and to provide access to the stormwater drainage swale for maintenance and bushfire management and emergency purposes. They also provide approximately 13 metres (**m**) of separation between the rear boundaries of lots 2049, 2050 and V002 and the adjacent bushland area which is advantageous for reducing the risk of bushfire hazards associated with the bushland area.

The restricted vehicle access track is for the sole use of Brisbane City Council (**Council**) maintenance vehicles. Urban fire appliances will not operate from the restricted vehicle access track. They will operate from either Plaza Place or Meander Street where there is a reticulated hydrant system.

The stormwater drainage swale and restricted vehicle access track will be transferred to Council for ownership and ongoing maintenance.

This addendum provides a response to the positive changes to bushfire hazard mitigation resulting from the stormwater drainage swale and restricted vehicle access track. It provides:

- emergency vehicle design requirements for the restricted vehicle access track;
- recommendations for the rehabilitation and maintenance of the stormwater drainage swale;
- the revised location of the ≤ 10 kilowatts/square metre (**kW/m^2**) and 29 kW/m^2 radiant heat flux contours in relation to lots 2049, 2050 and V002; and
- revised BAL contours over stages 1-4 and V of the Carseldine Village.

2 Design of restricted vehicle access track

The restricted vehicle access track must be designed in accordance with the minimum requirements for a fire maintenance trail in Table 8.2.5.3.C of the Brisbane City Plan 2014 *Bushfire overlay code*. The design requirements include:

- a minimum formed width of 4 m;
- minimum vertical clearance of 4 m to any overhanging obstructions including tree branches and 5 m to overhead powerlines;
- formed vehicle surface is located within a vegetation clearing with a minimum width of 6 m;
- a maximum gradient of 12.5% with adequate drainage to prevent soil erosion and minimise ongoing track maintenance;
- minimum 6 tonne rated surface; and
- access at each end.

Phase 1 of the restricted vehicle access track is aligned with the rear boundaries of lots 2049 and 2050. It will be 130 m long and will be a dead end track for a temporary period of 9-12 months until Phase 2 works are completed. As a result, the Phase 1 restricted vehicle access track includes a reversing bay/turnaround area which is 6 m wide by 8 m deep.

A passing bay is not required along the restricted vehicle access track because it is relatively short in length, ie 250 m long when Phase 1 and 2 works are completed, and the road reserves at its entry/exit points provide manoeuvring areas.

3 Rehabilitation and maintenance of the stormwater drainage swale

Trees which are to be retained within the stormwater drainage swale must not compromise access along the emergency vehicle access track. Overhanging tree branches which are < 4 m in height above the vehicle surface must be removed.

Rehabilitation of the stormwater drainage swale must be designed to provide a low fuel hazard area with discontinuous bushfire fuels that will prevent isolated fires from developing to a size that could threaten the rear boundaries of lots 2049, 2050 and V002.

At least 70% of the stormwater drainage swale must be rehabilitated with turf. It is to be maintained as lawn by mowing it to a nominal height of 10 centimetres. The remaining area can be rehabilitated with groundcover or creeping plant species. If used, they must be located along the drainage invert and be selected from the list of groundcover and creeping plants in Appendix E of *Bushfire Resilient Guidance for Queensland Homes* (QRA 2020). They must not be planted against the rear boundaries of lots 2049, 2050 and V002 or around the base of trees.

Tree and shrub species and organic (or combustible) mulch must not be used in the rehabilitation of the stormwater drainage swale.

4 Separation of buildings from bushfire hazard areas

Previous bushfire reporting for the site established the requirement for new buildings to be separated from bushfire hazard areas by a distance which achieves a radiant heat flux level ≤ 29 kW/m^2 at the building envelope. The exception was for new buildings associated with vulnerable uses, community infrastructure for essential services and hazardous chemical storage in bulk which required a separation distance which achieved a radiant heat flux level ≤ 10 kW/m^2 at the building envelope.

The stormwater drainage swale will be designed and maintained to provide a low fuel hazard area and separation for new buildings within lots 2049, 2050 and V002 from the adjacent bushfire hazard area. On this basis, the revised location of the 10 kW/m^2 and 29 kW/m^2 radiant heat flux contours in relation to lots 2049, 2050 and V002 is shown in Figure 1.

Figure 1 demonstrates that future site planning within lots 2049, 2050 and V002 is no longer constrained by the 29 kW/m^2 radiant heat flux contour (with the exception of a minor intrusion into the rear boundary of lot V002).

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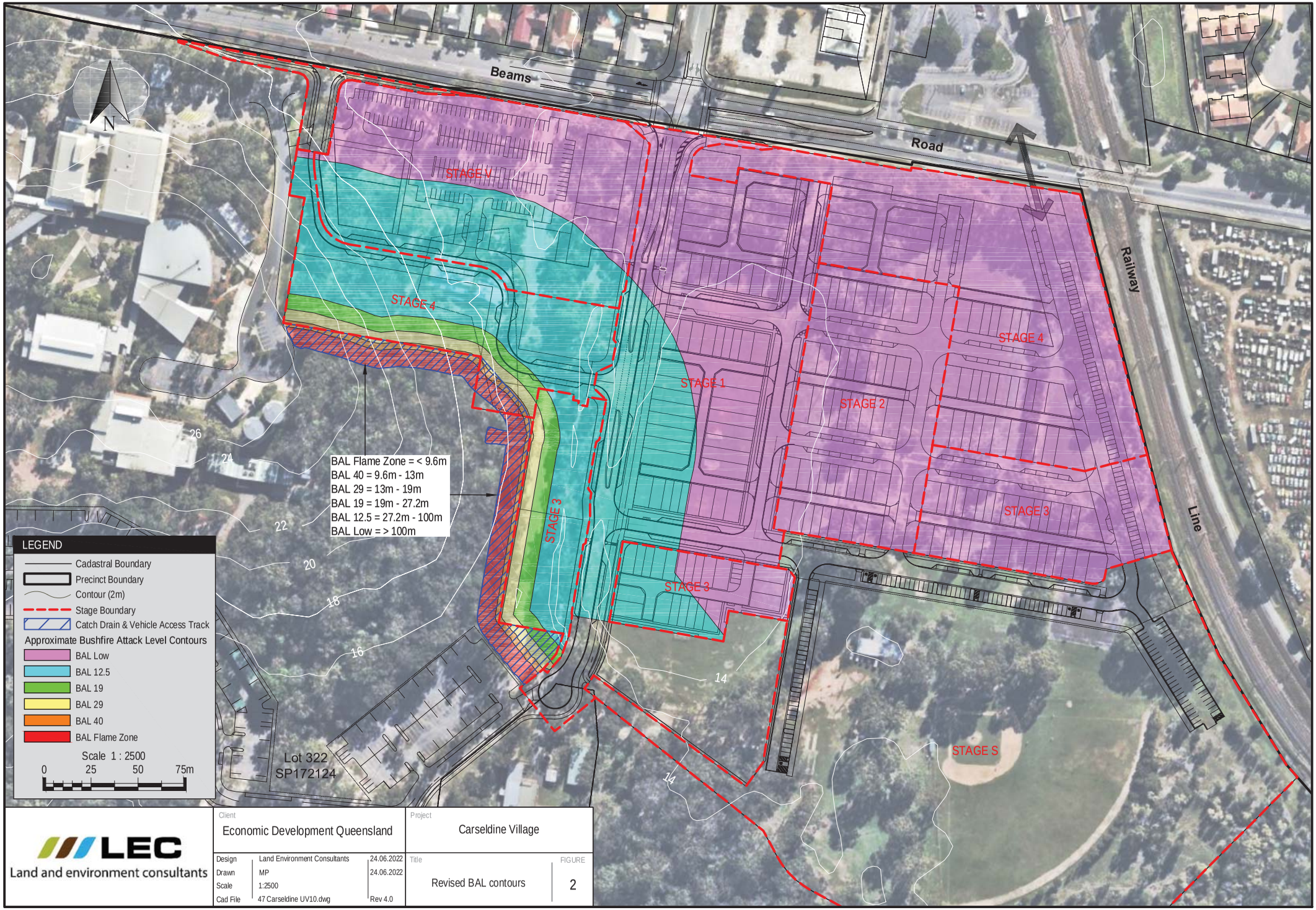
Client: Economic Development Queensland		Project: Carseldine Village
Design: Land Environment Consultants	24.06.2022	Title: Revised Radiant Heat Flux Contours
Drawn: MP	24.06.2022	FIGURE: 1
Scale: 1:2000		
Cad File: 47 Carseldine UV10.dwg	Rev 4.0	

5 BAL contours

The revised alignment of BAL contours over stages 1-4 and V of Carseldine Village are shown in Figure 2.



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Client	Economic Development Queensland	
Project	Carseldine Village	
Design	Land Environment Consultants	24.06.2022
Drawn	MP	24.06.2022
Scale	1:2500	
Cad File	47 Carseldine UV10.dwg	Rev 4.0
Title	Revised BAL contours	FIGURE 2

6 Closing

This addendum provides a response to the positive changes to bushfire hazard mitigation resulting from the stormwater drainage swale.

We trust the information meets your requirements but please contact the undersigned if you have any questions or queries that you would like to discuss.

Yours sincerely,

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Disclaimer

Notwithstanding the precautions adopted in this report, it should always be remembered that bushfires burn under a range of conditions. An element of risk, no matter how small always remains and there can be no guarantee, because of the variable nature of bushfires, that any one building will withstand bushfire attack on every occasion.

It should be noted that upon lodgement of a development proposal, State Government, council and/or the fire authority may recommend additional requirements.

Although every care has been taken in the preparation of this report, Land and Environment Consultants Pty Ltd accept no responsibility resulting from the use of the information in this report.

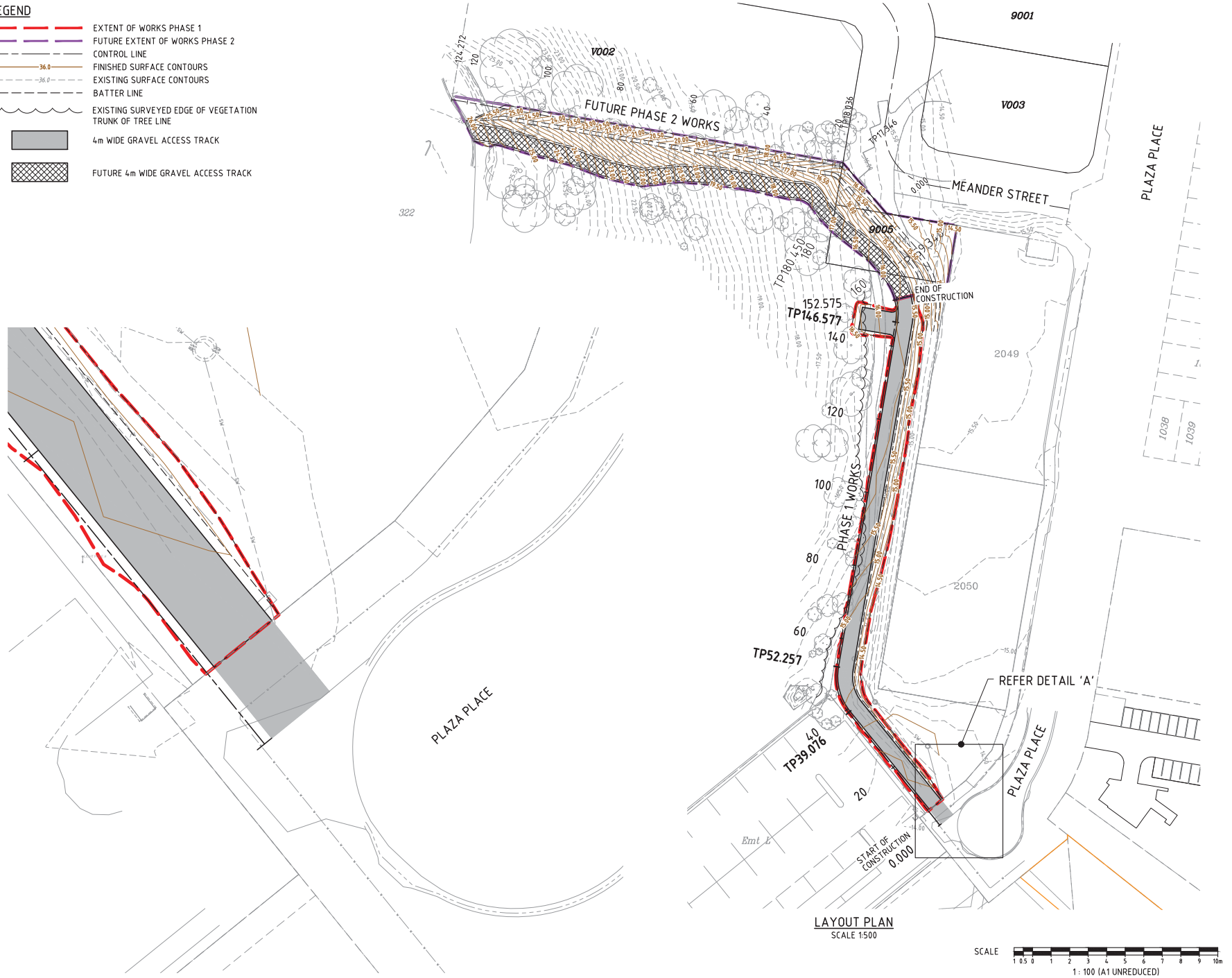
References

Queensland Reconstruction Authority (QRA) 2020, *Bushfire Resilient Building Guidance for Queensland Homes*, July 2020

Appendix 1 Draft catch drain plan

LEGEND

- EXTENT OF WORKS PHASE 1
- FUTURE EXTENT OF WORKS PHASE 2
- CONTROL LINE
- FINISHED SURFACE CONTOURS
- EXISTING SURFACE CONTOURS
- BATTER LINE
- EXISTING SURVEYED EDGE OF VEGETATION TRUNK OF TREE LINE
- 4m WIDE GRAVEL ACCESS TRACK
- FUTURE 4m WIDE GRAVEL ACCESS TRACK



LAYOUT PLAN
SCALE 1:500

DETAIL 'A'
SCALE 1:100

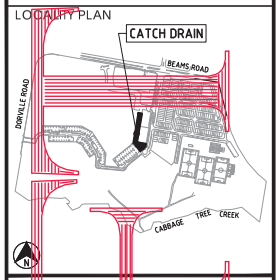
SCALE 1 0.5 0 1 2 3 4 5 6 7 8 9 10m
1 : 100 (A1 UNREDUCED)

SCALE 10 5 0 10 20 30 40 50m
1 : 500 (A1 UNREDUCED)

DO NOT SCALE THIS DRAWING
IF IN DOUBT - ASK!

NORTH

LOCALITY PLAN



REVISIONS

No	Description	Date	By
A	FOR APPROVAL	CDR 0.03	JB

Client
ECONOMIC DEVELOPMENT QUEENSLAND (EDQ)

Project
CARSELDINE VILLAGE CATCH DRAIN

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ABN 35 112 53 611
L1, 62 Astor Tce
Spring Hill Q 4000
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Approved

Drawing Title
GENERAL LAYOUT PLAN

Drawn	Designed	Checked	Date
RW	JB	MS	JUN '22

Scale	Sheet
AS SHOWN	03 of xx

	Drawing No	Revision
A1	22-106-03	A

M:\2022\22106 Carseldine Village Catch Drain\ACAD\22-106-03-GE-LAYOUT.dwg Plotted by: RW on 23/06/2022 9:16:25 AM