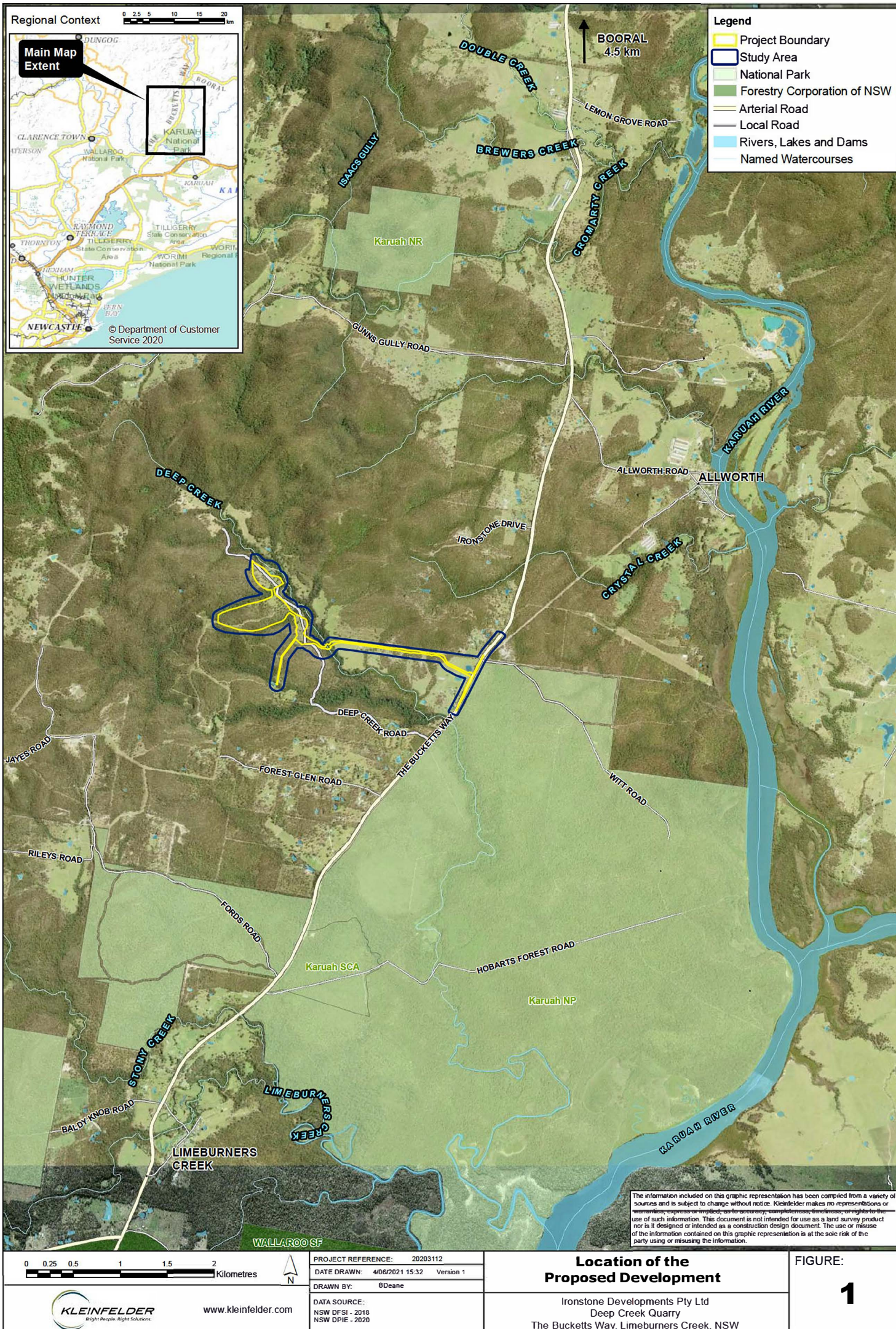
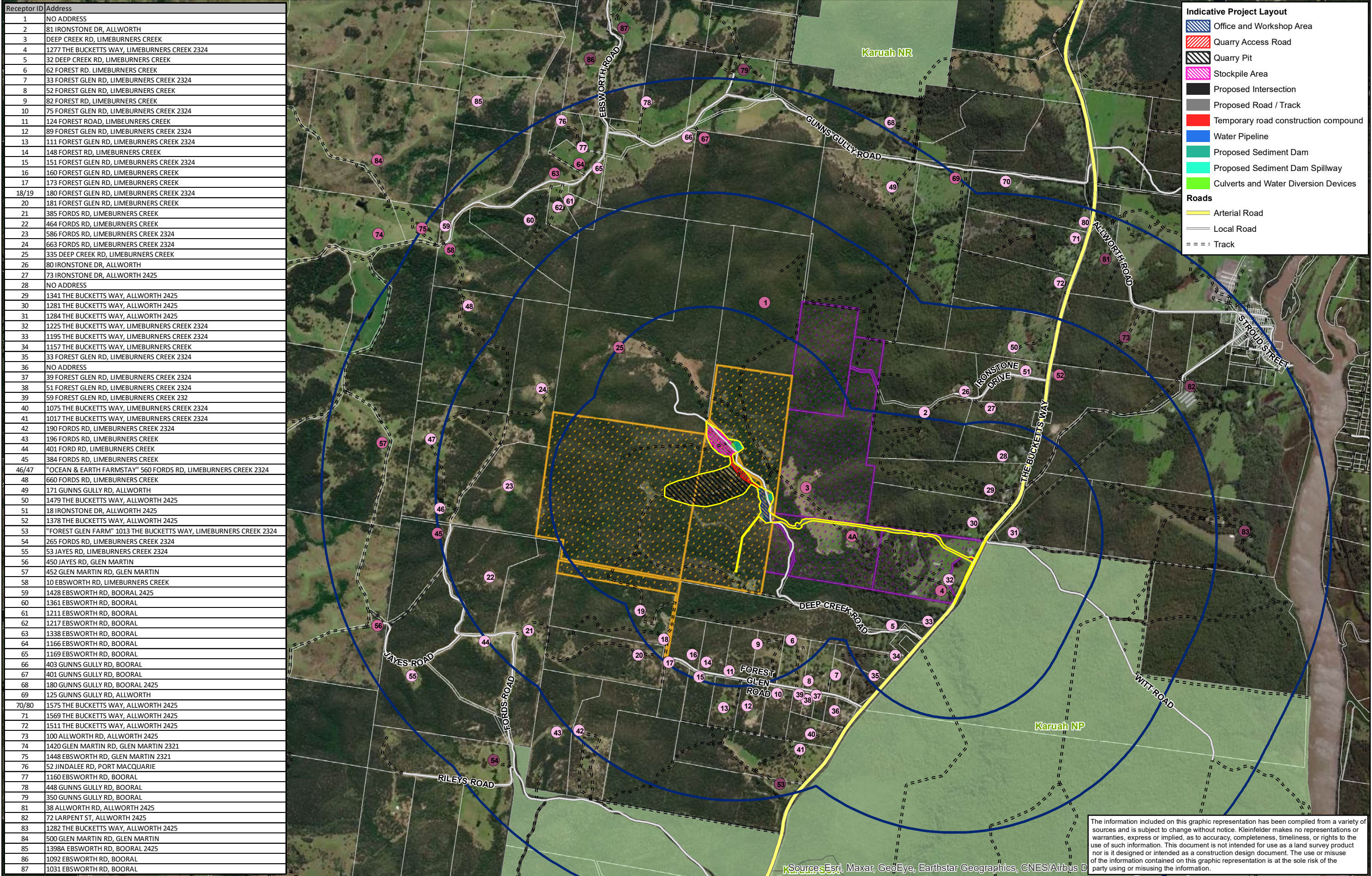




APPENDIX B: FIGURES AND DRAWINGS







Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus D

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Legend

Buffers (1, 2, 3 km)

Project Boundary

Lot Boundaries

National Park

Ironstone Development Pty Ltd Owned

Agreement with Ironstone Development Pty Ltd

Receptor Locations

Existing Receptor

Potential Future Receptor

Existing Receptor (outside domain)

00.250.511.52

km

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N

PROJECT REFERENCE: 20203112

DATE DRAWN: 2021/10/21 14:03 Version 1

DRAWN BY: GJoyce

DATA SOURCE:
NSW DFSI - 2021
NSW DPIE - 2020

Residential Receptors Surrounding
the Subject Land

Ironstone Developments Pty Ltd
Deep Creek Quarry
The Bucketts Way, Limeburners Creek, NSW

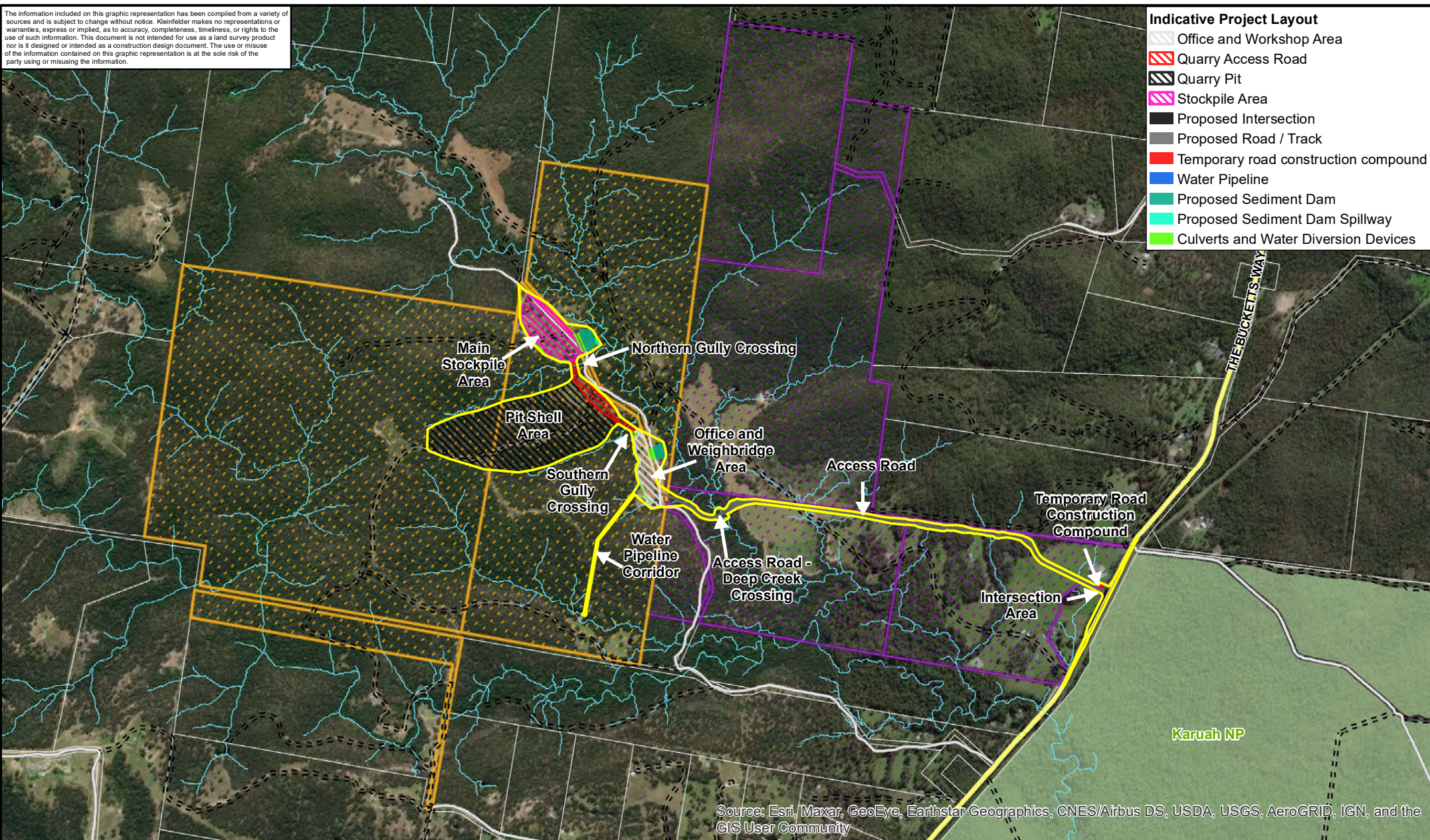
FIGURE:

2

L:\GIS FOLDER\00 CLIENT FILES\124371_IronstoneDev_Woodbury\20203112_DeepCreekQuarry_EIS\Mapping\20203112_EIS_Fig02_NoiseModelDomainV6_Buffers.mxd

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- Indicative Project Layout**
- Office and Workshop Area
 - Quarry Access Road
 - Quarry Pit
 - Stockpile Area
 - Proposed Intersection
 - Proposed Road / Track
 - Temporary road construction compound
 - Water Pipeline
 - Proposed Sediment Dam
 - Proposed Sediment Dam Spillway
 - Culverts and Water Diversion Devices



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

- Project Boundary
- Lot Boundaries
- Ironstone Development Pty Ltd Owned
- Agreement with Ironstone Development Pty Ltd
- DEM Derived Creek Lines
- National Park
- Arterial Road
- Local Road
- Track



PROJECT REFERENCE: 20203112

DATE DRAWN: 2021/10/21 13:56 Version 1

DRAWN BY: G.Joyce

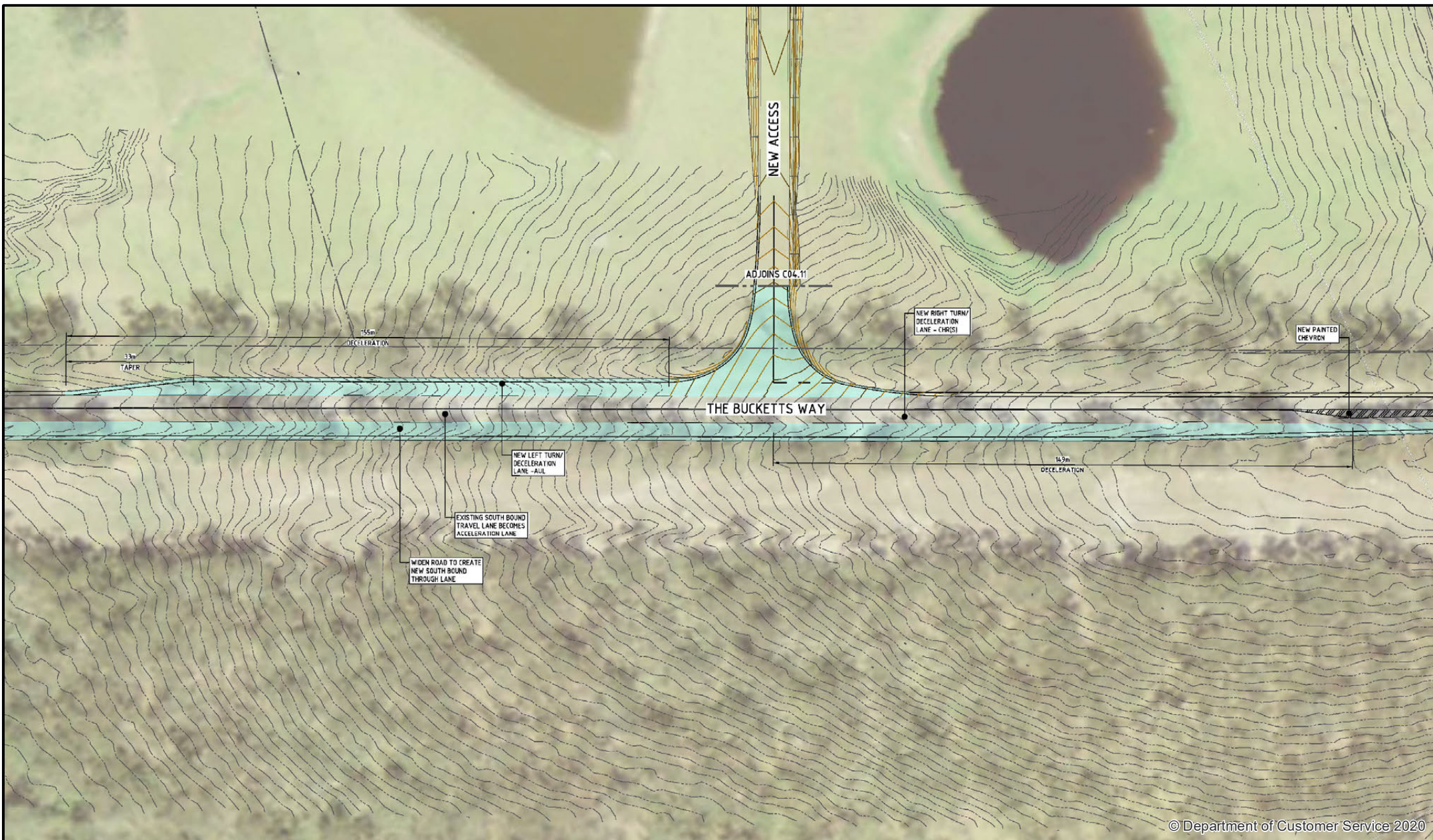
DATA SOURCE:
NSW DFSI - 2018
NSW DPIE - 2020
Wedgetail - 2021

Layout of the Proposed Development

Ironstone Developments Pty Ltd
Deep Creek Quarry
The Bucketts Way, Limeburners Creek, NSW

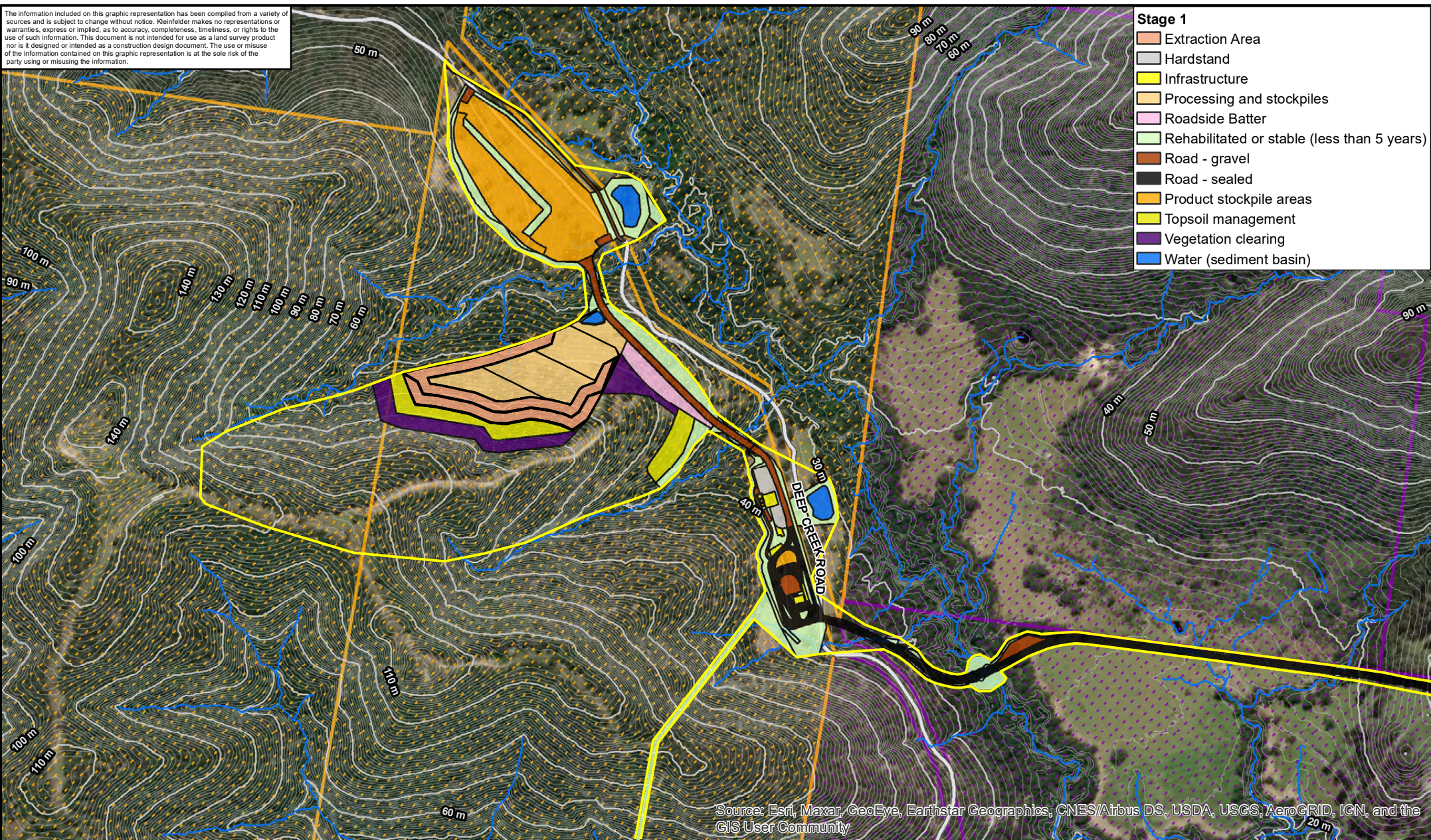
FIGURE:

3



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Legend	
	Project Boundary
	Ironstone Development Pty Ltd Owned
	Agreement with Ironstone Development Pty Ltd
	Local Road
	DEM Derived Creek Lines
	1m Contours
	10m Contours

Metres
0 25 50 100 150 200 250

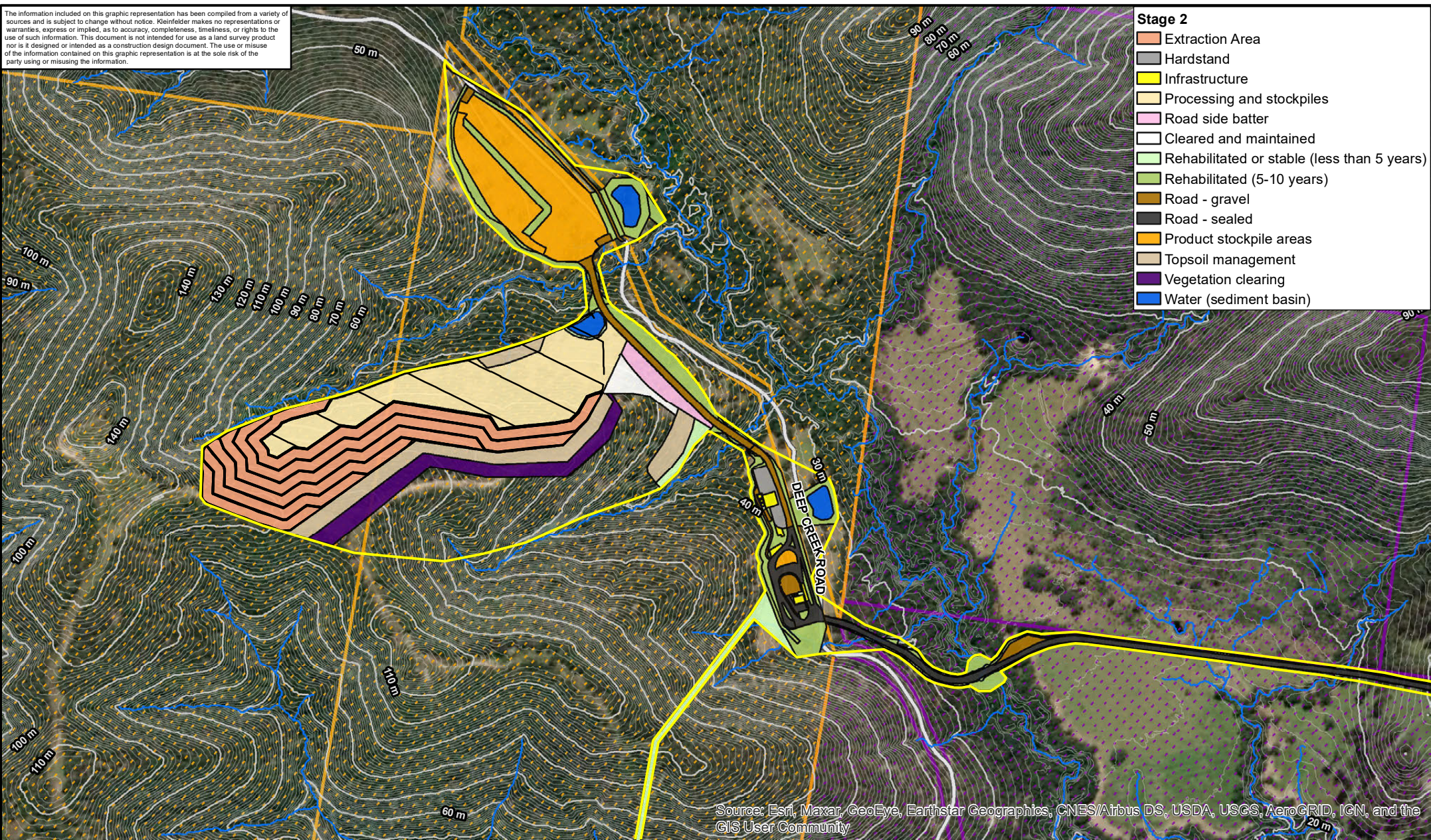
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PROJECT REFERENCE: 20203112
DATE DRAWN: 2021/10/21 11:43 Version 1
DRAWN BY: GJoyce
DATA SOURCE: NSW DFSI - 2018 NSW DPIE - 2020 Wedgetail - 2021 Engeny - 2021

Stage 1 of Development
Ironstone Developments Pty Ltd Deep Creek Quarry The Bucketts Way, Limeburners Creek, NSW

FIGURE:
5

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Legend	
	Project Boundary
	Ironstone Development Pty Ltd Owned
	Agreement with Ironstone Development Pty Ltd
	Local Road
	DEM Derived Creek Lines
	1m Contours
	10m Contours

Metres
0 25 50 100 150 200 250

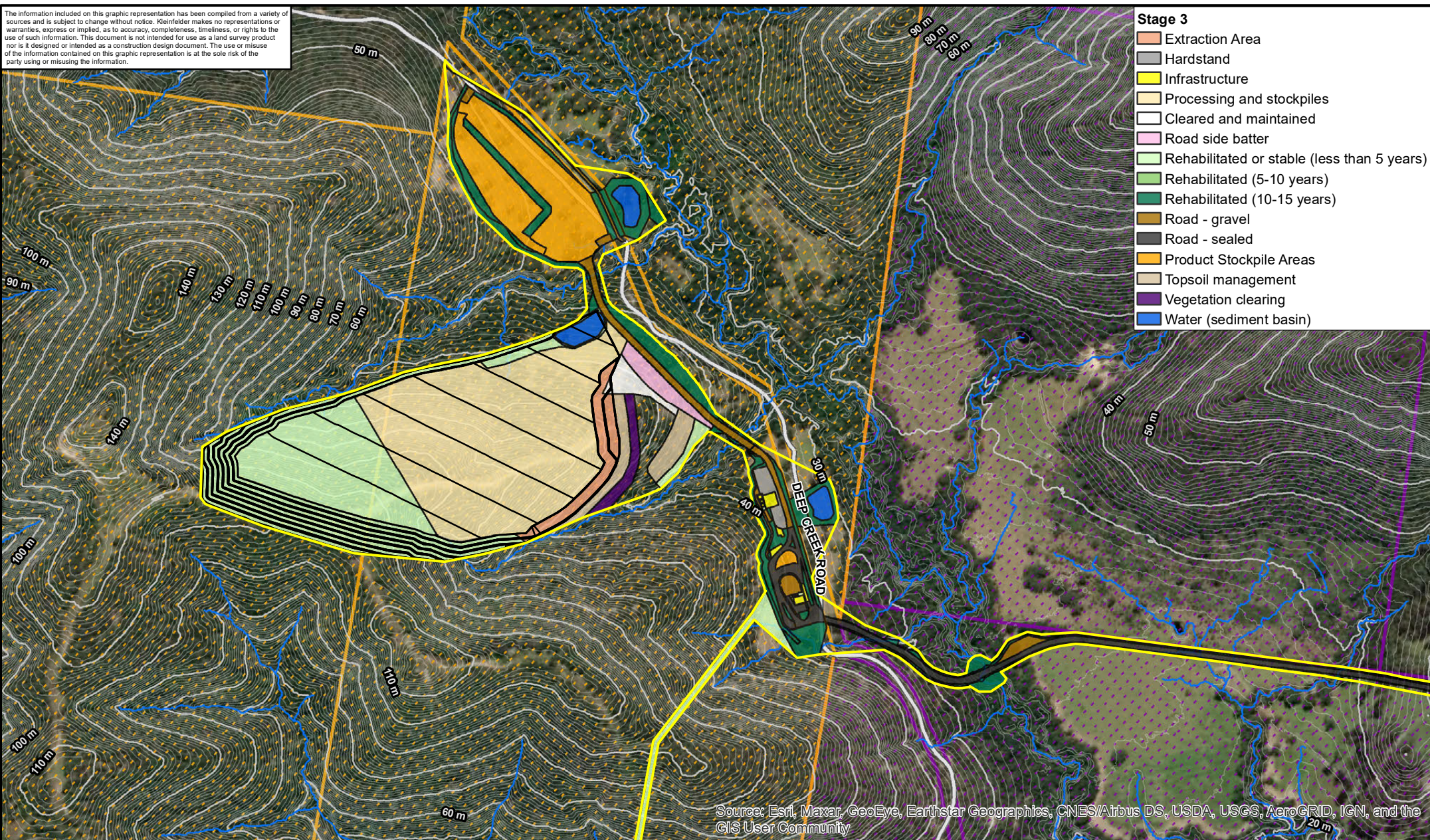
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PROJECT REFERENCE: 20203112
DATE DRAWN: 2021/10/21 12:47 Version 1
DRAWN BY: GJoyce
DATA SOURCE: NSW DFSI - 2018 NSW DPIE - 2020 Wedgetail - 2021 Engeny - 2021

Stage 2 of Development
Ironstone Developments Pty Ltd Deep Creek Quarry The Bucketts Way, Limeburners Creek, NSW

FIGURE:
6

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Legend

Project Boundary

Ironstone Development Pty Ltd Owned

Agreement with Ironstone Development Pty Ltd

Local Road

DEM Derived Creek Lines

1m Contours

10m Contours

Metres
0 25 50 100 150 200 250



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PROJECT REFERENCE: 20203112

DATE DRAWN: 2021/10/21 12:17 Version 1

DRAWN BY: G.Joyce

DATA SOURCE:
NSW DFSI - 2018
NSW DPIE - 2020
Wedgetail - 2021
Engeny - 2021

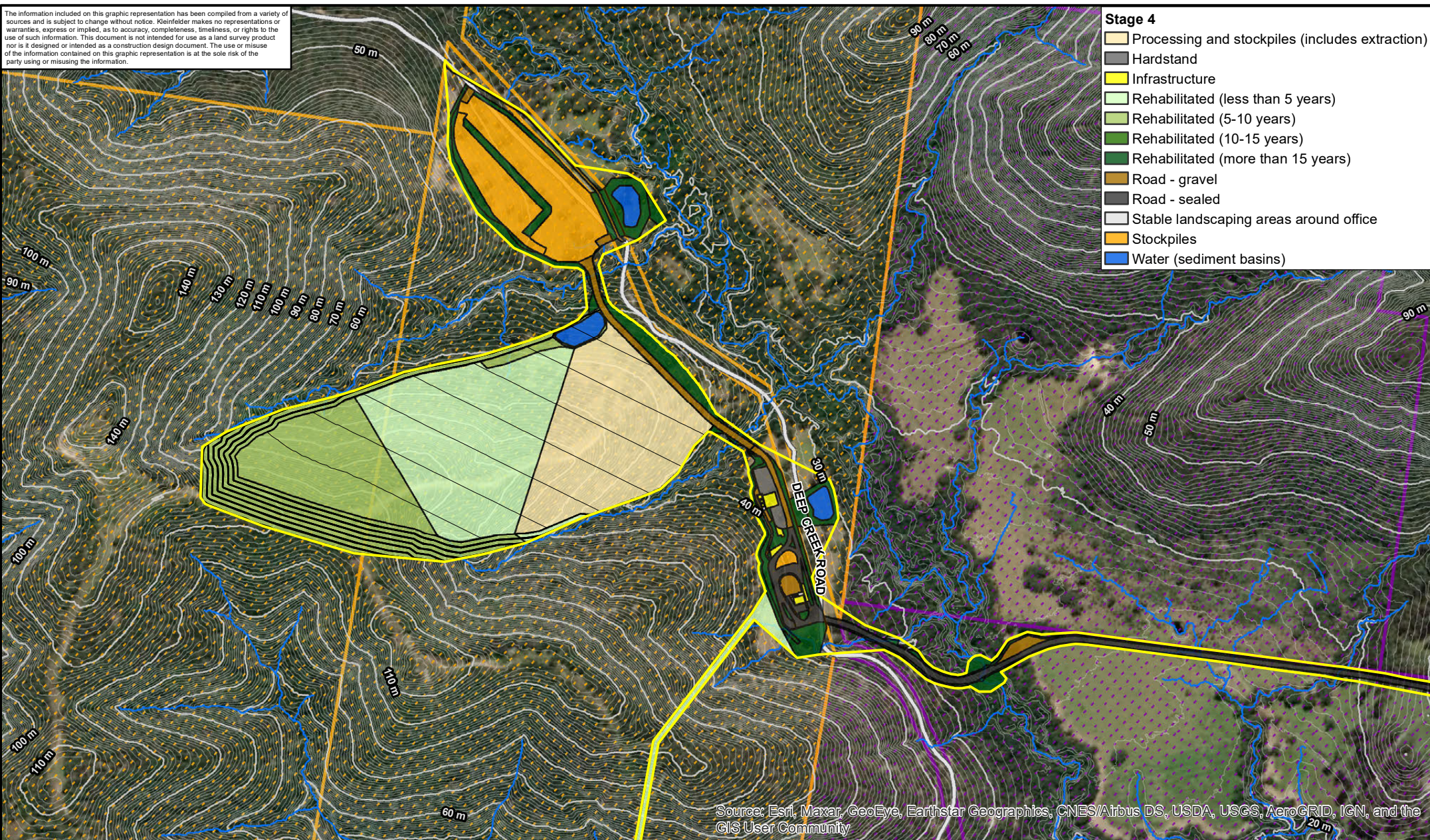
Stage 3 of Development

Ironstone Developments Pty Ltd
Deep Creek Quarry
The Bucketts Way, Limeburners Creek, NSW

FIGURE:

7

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Legend

- Project Boundary
- Ironstone Development Pty Ltd Owned
- Agreement with Ironstone Development Pty Ltd

- Local Road
- DEM Derived Creek Lines
- 1m Contours
- 10m Contours

Metres
0 25 50 100 150 200 250



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PROJECT REFERENCE: 20203112

DATE DRAWN: 2021/10/21 12:14 Version 1

DRAWN BY: GJoyce

DATA SOURCE:
NSW DFSI - 2018
NSW DPIE - 2020
Wedgetail - 2021
Engeny - 2021

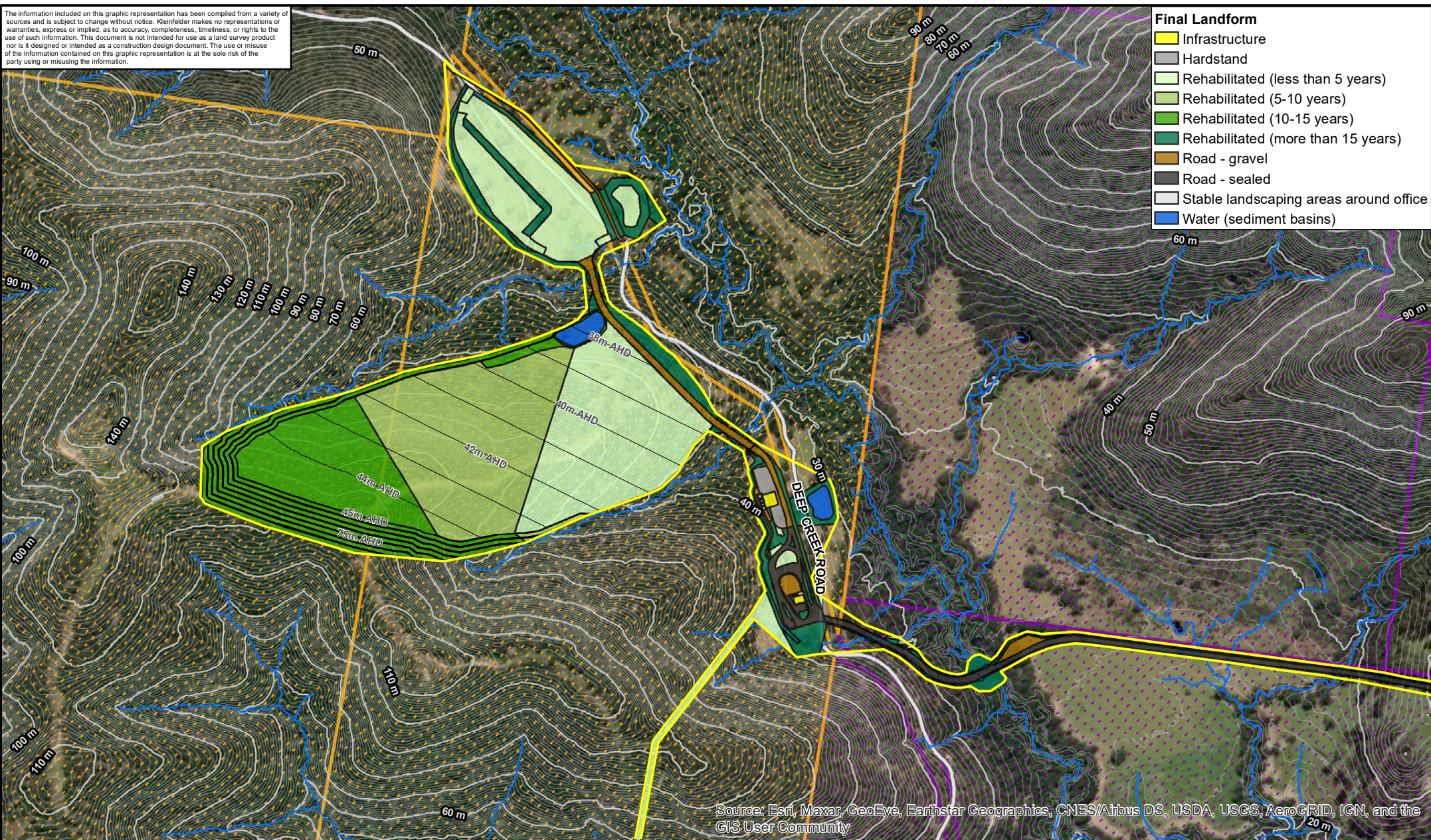
Stage 4 of Development

Ironstone Developments Pty Ltd
Deep Creek Quarry
The Bucketts Way, Limeburners Creek, NSW

FIGURE:

8

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Legend

- Project Boundary
- Ironstone Development Pty Ltd Owned
- Agreement with Ironstone Development Pty Ltd
- Local Road
- DEM Derived Creek Lines
- 1m Contours
- 10m Contours

Metres
0 25 50 100 150 200 250



PROJECT REFERENCE: 20203112

DATE DRAWN: 2021/10/21 15:47 Version 1

DRAWN BY: GJoyce

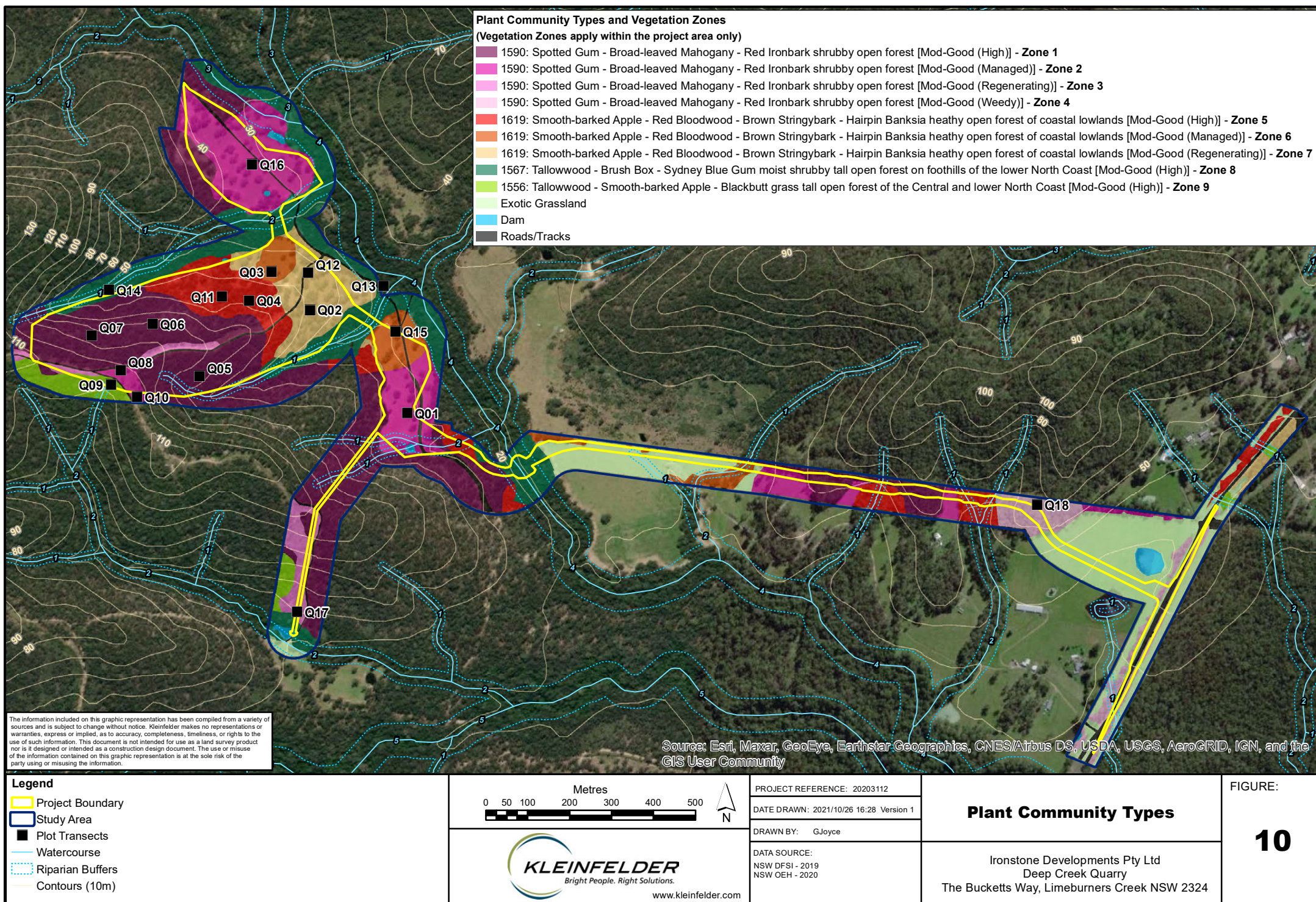
DATA SOURCE:
NSW DFSI - 2018
NSW DPIE - 2020
Wedgetail - 2021
Engeny - 2021

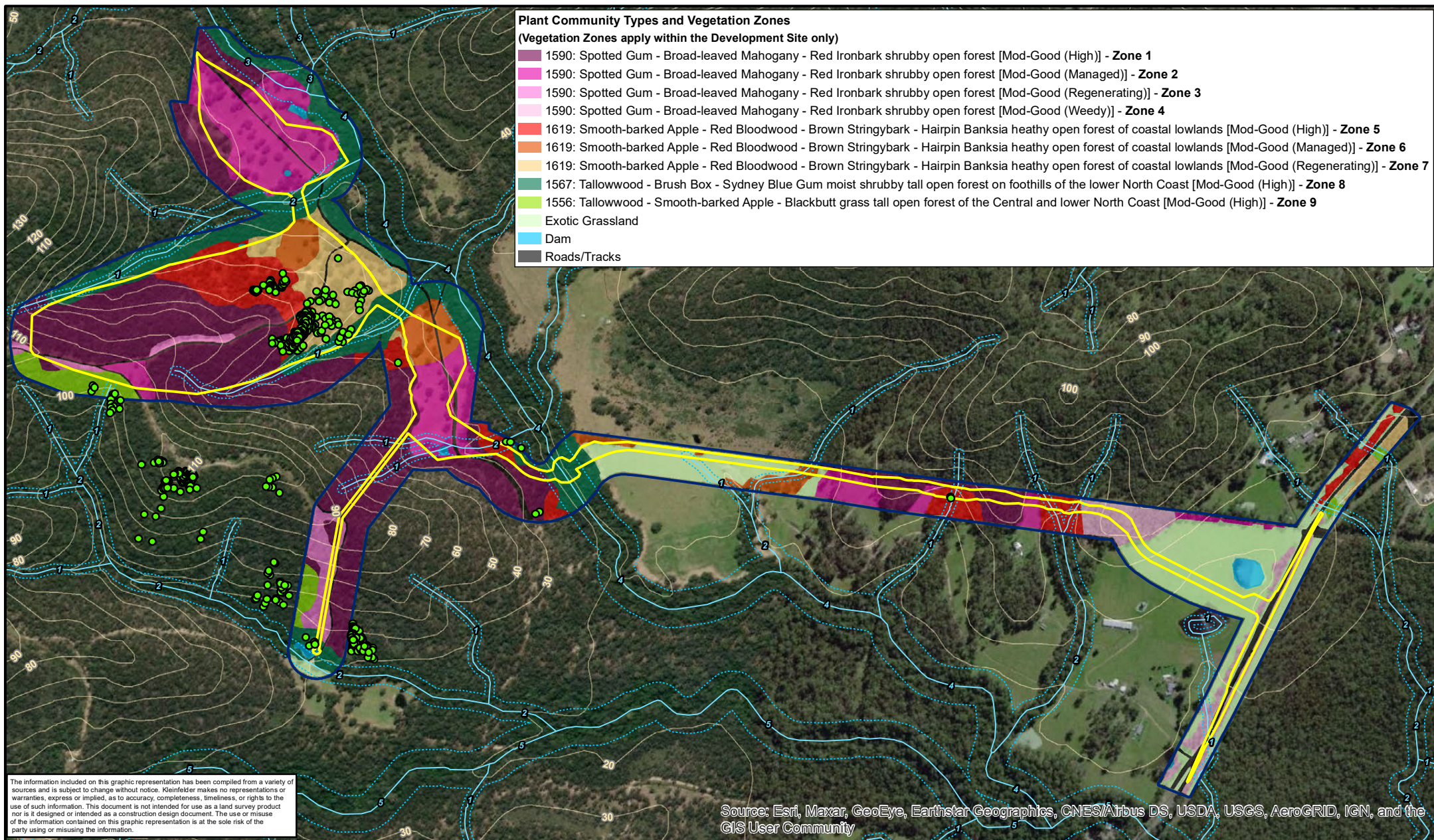
Final Landform

Ironstone Developments Pty Ltd
Deep Creek Quarry
The Bucketts Way, Limeburners Creek, NSW

FIGURE:

9





Legend

Project Boundary

Study Area

Tetratheca juncea Presence

Watercourse

Riparian Buffers

Contours (10m)

Metres
0 50 100 200 300 400 500



PROJECT REFERENCE: 20203112

DATE DRAWN: 2021/10/21 14:46 Version 1

DRAWN BY: GJoyce

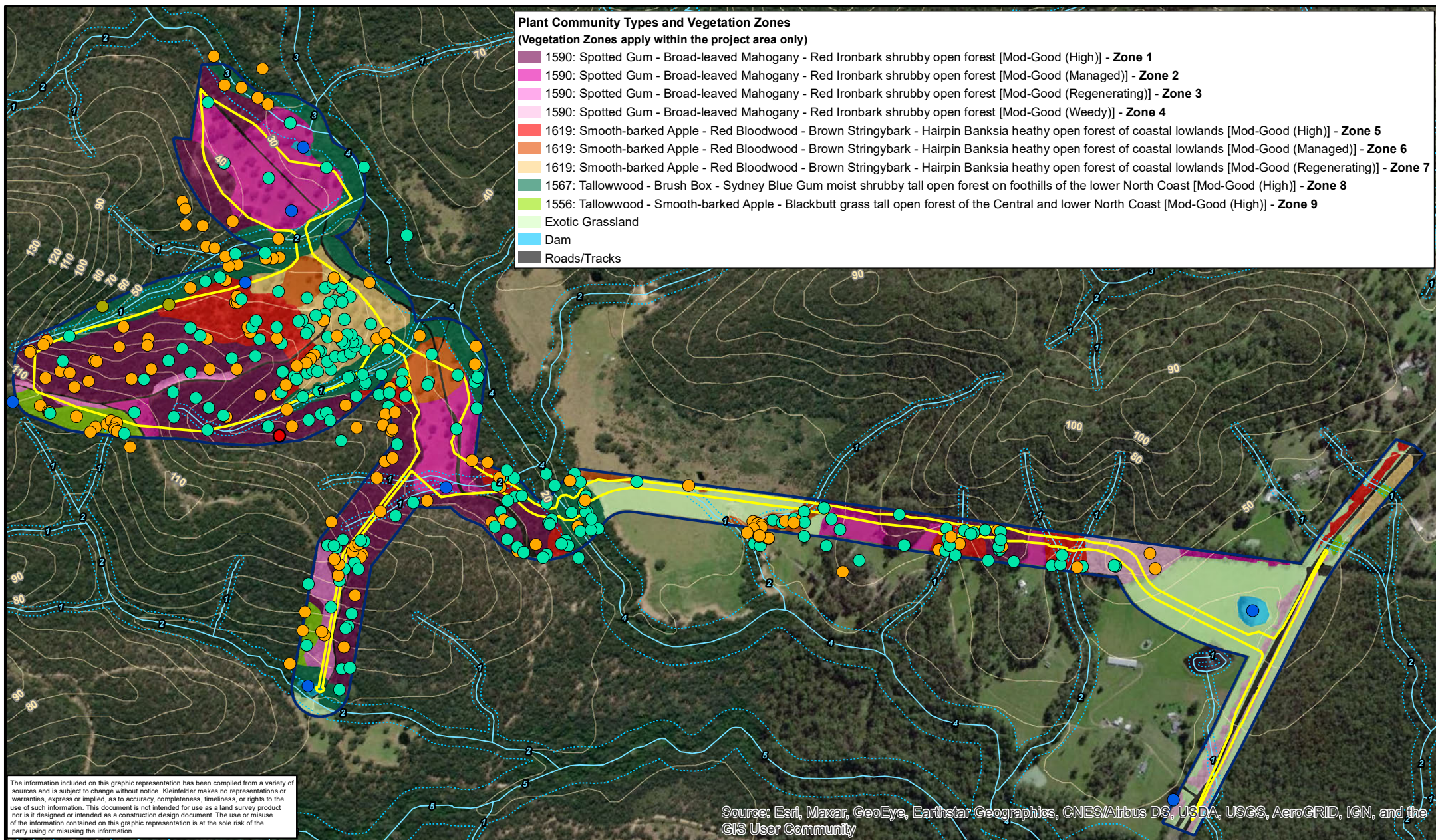
DATA SOURCE:
NSW DFSI - 2019
NSW OEH - 2020

Tetratheca juncea (Black-eyed Susan) Presence

Ironstone Developments Pty Ltd
Deep Creek Quarry
The Bucketts Way, Limeburners Creek NSW 2324

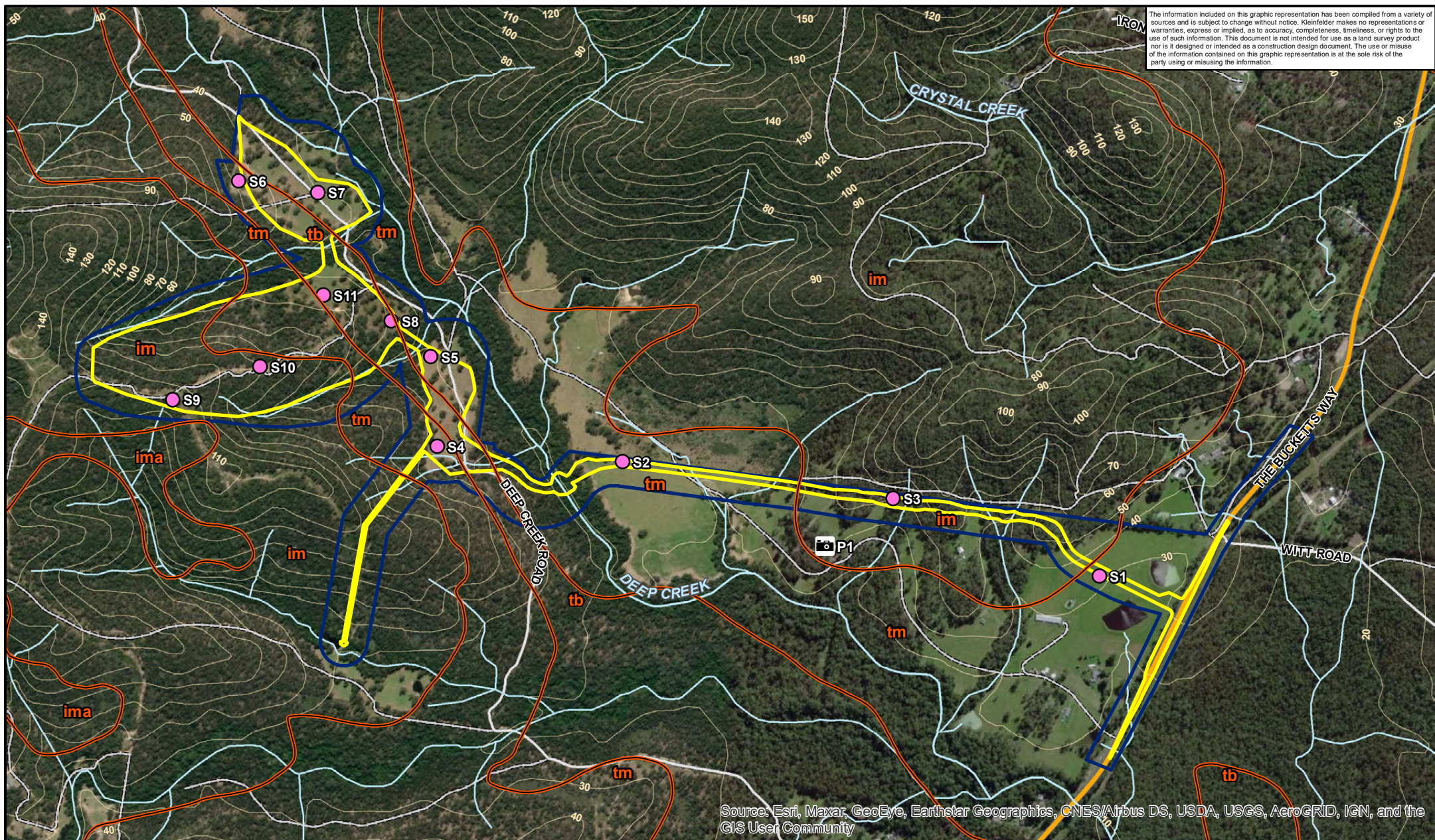
FIGURE:

11



Project Boundary Study Area Watercourse Riparian Buffers Contours (10m) Habitat Feature Dead Stag Hollow-bearing Tree Nest Water feature Rock Den	050100200300400500 Metres
--	---

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Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

- Project Area
- Study Area
- Soil Landscapes Boundary (Newcastle)
- Soil Sampling Location
- 📷 Photo Location
- Named Watercourse
- Unnamed Watercourse
- Contours (10m)
- == Track-Vehicular
- Arterial Road
- Local Road

Metres
0 50 100 200 300 400 500



PROJECT REFERENCE: 20203112

DATE DRAWN: 2021/10/21 15:29 Version 1

DRAWN BY: G.Joyce

DATA SOURCE:
NSW DFSI - 2020
NSW OEH - 2020

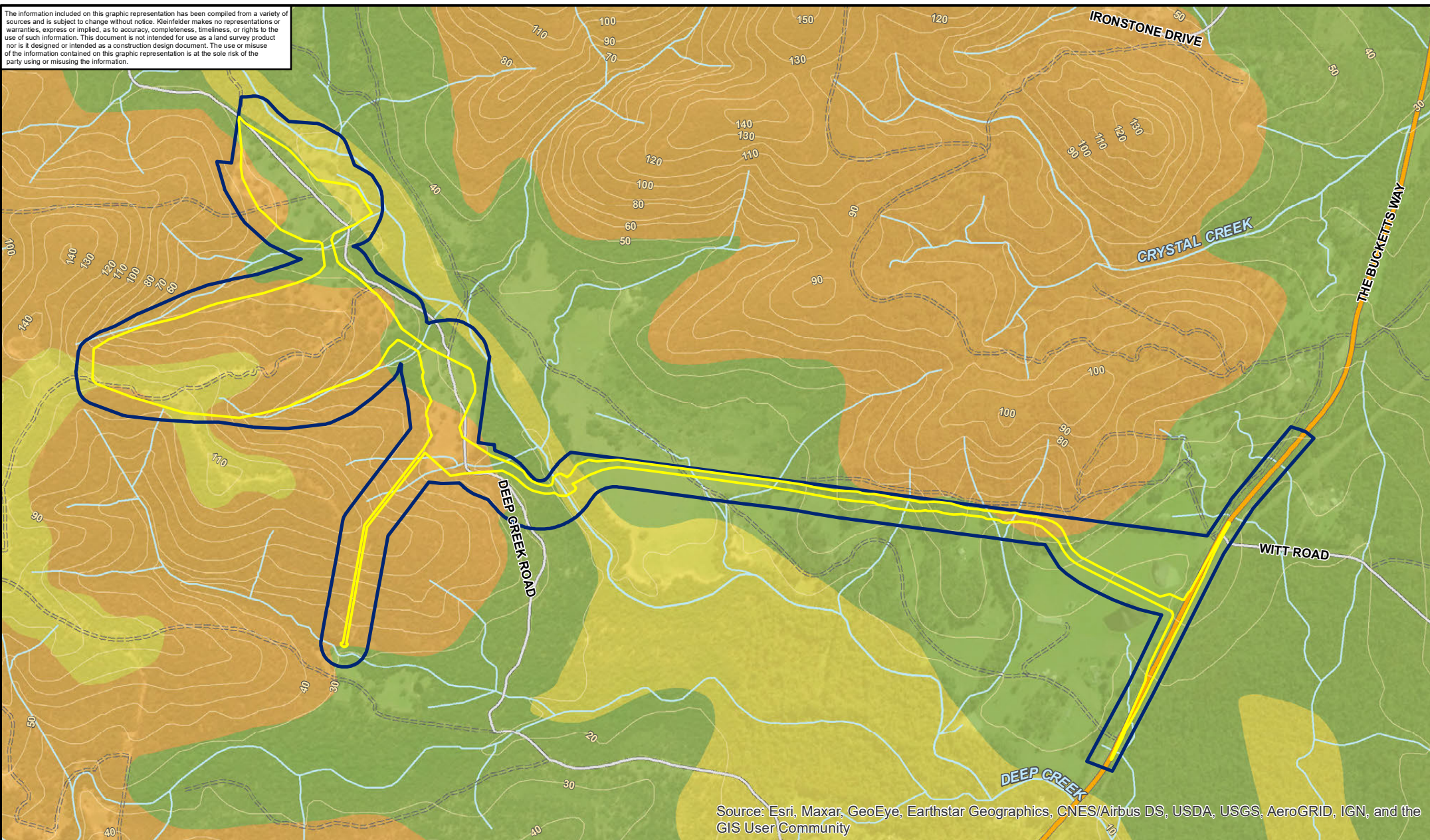
Archaeological, Geological Units and Soil Sample Locations

Ironstone Developments Pty Ltd
Deep Creek Quarry
The Bucketts Way, Limeburners Creek NSW 2324

FIGURE:

13

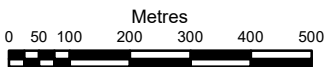
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Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

- Project Area
 - Study Area
 - Track-Vehicular
 - Arterial Road
 - Local Road
 - Contours (10m)
 - Named Watercourse
 - Unnamed Watercourse
- Land Soil Capability Class**
- 4
 - 5
 - 6



PROJECT REFERENCE: 20203112

DATE DRAWN: 2021/10/21 15:53 Version 1

DRAWN BY: G.Joyce

DATA SOURCE:
NSW DFSI - 2020
NSW DPIE - 1998

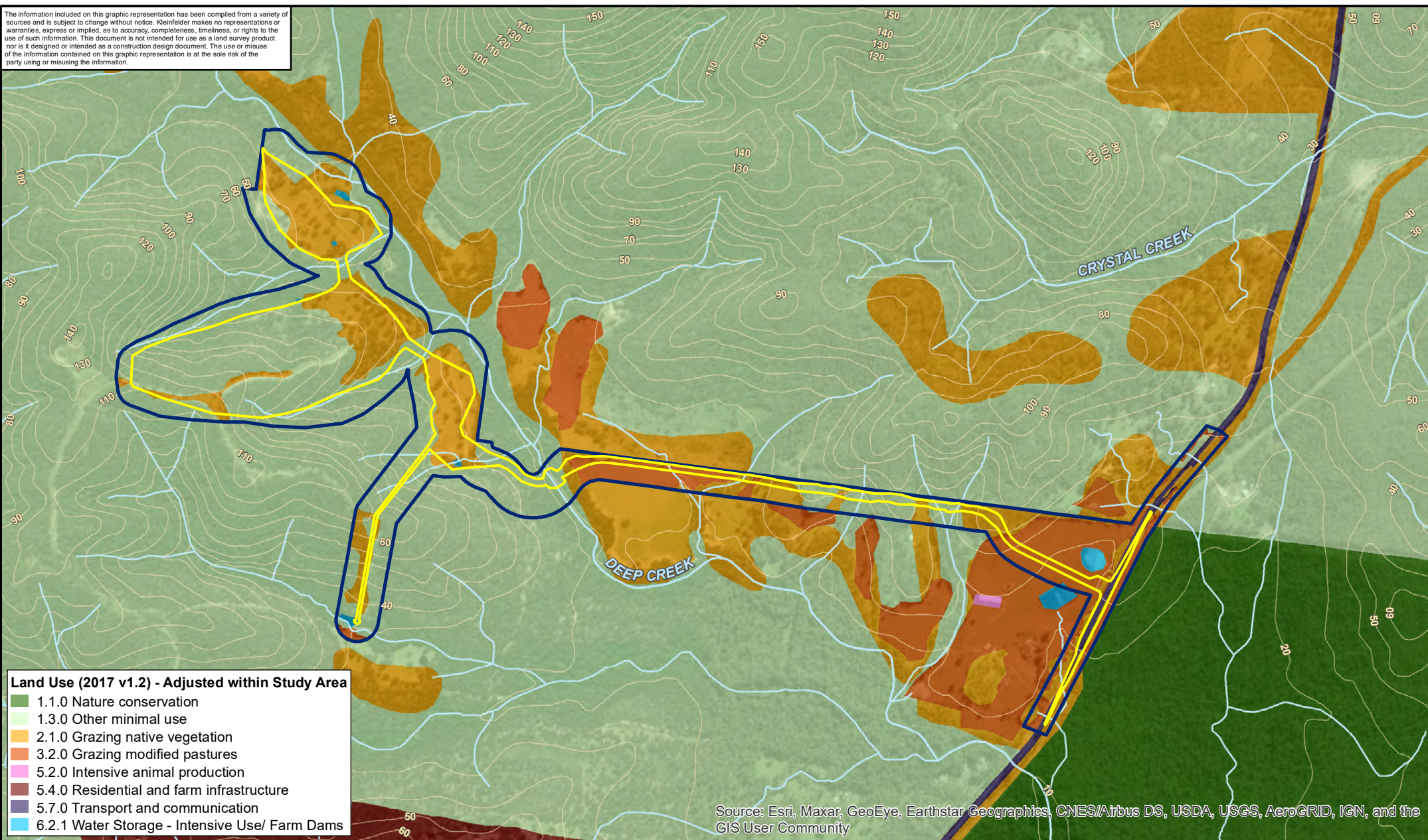
Land Soil Capability Mapping

Ironstone Developments Pty Ltd
Deep Creek Quarry
The Bucketts Way, Limeburners Creek NSW 2324

FIGURE:

14

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Legend

- Project Area
- Study Area
- Named Watercourse
- Unnamed Watercourse
- Contours (10m)

Metres
0 50 100 200 300 400 500



PROJECT REFERENCE: 20203112

DATE DRAWN: 2021/10/21 15:56 Version 1

DRAWN BY: GJoyce

DATA SOURCE:
NSW DFSI - 2020

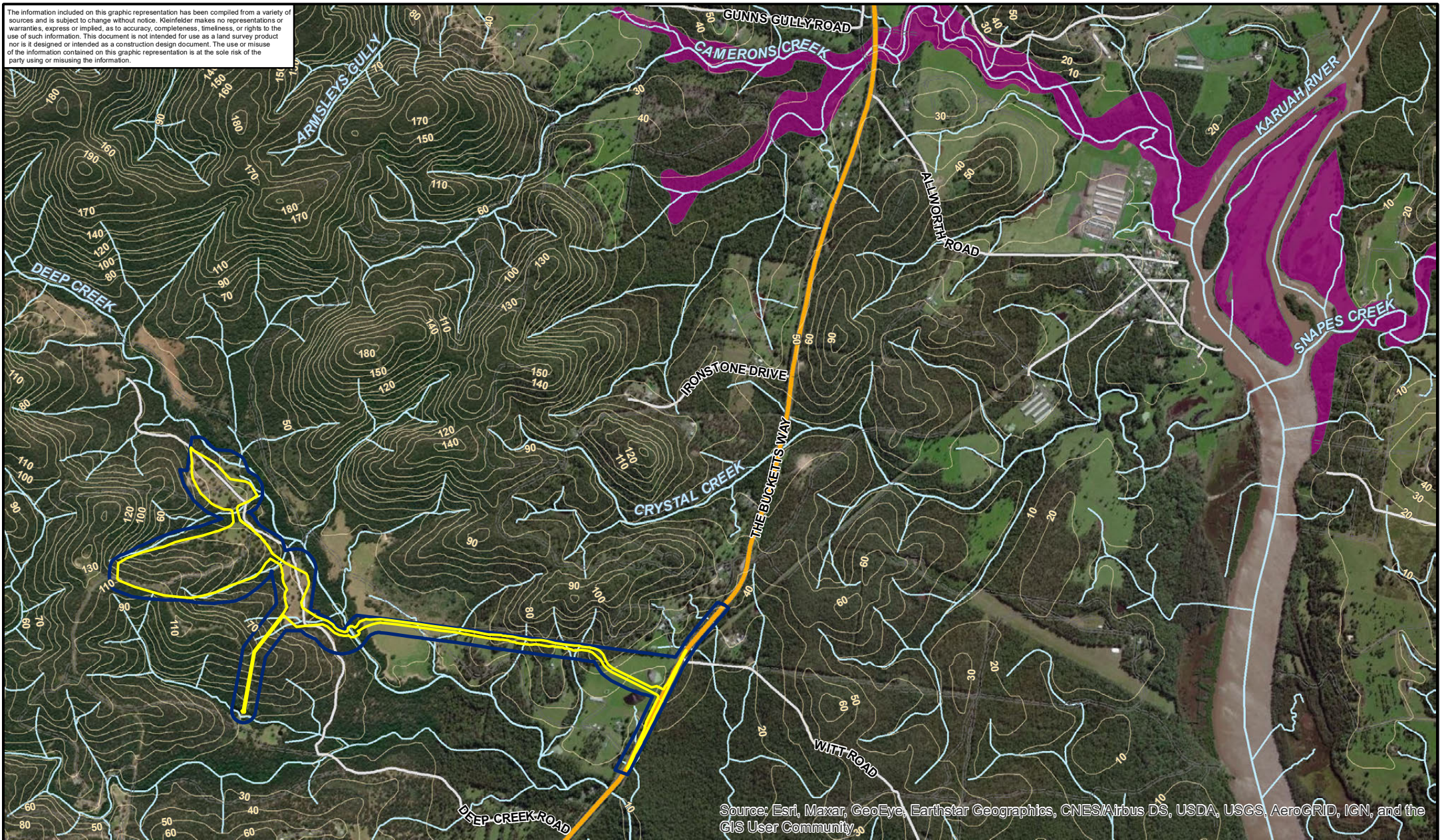
Land Use Mapping

Ironstone Developments Pty Ltd
Deep Creek Quarry
The Bucketts Way, Limeburners Creek NSW 2324

FIGURE:

15

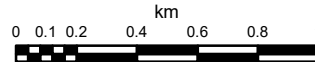
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Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

- Project Area
- Study Area
- Track-Vehicular
- Arterial Road
- Local Road
- Named Watercourse
- Unnamed Watercourse
- Contours (10m)
- Strategic Agricultural Land
- Biophysical Strategic Agricultural Land



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PROJECT REFERENCE: 20203112

DATE DRAWN: 2021/10/21 15:59 Version 1

DRAWN BY: GJoyce

DATA SOURCE:
NSW DFSI - 2020
NSW DPIE - 2020

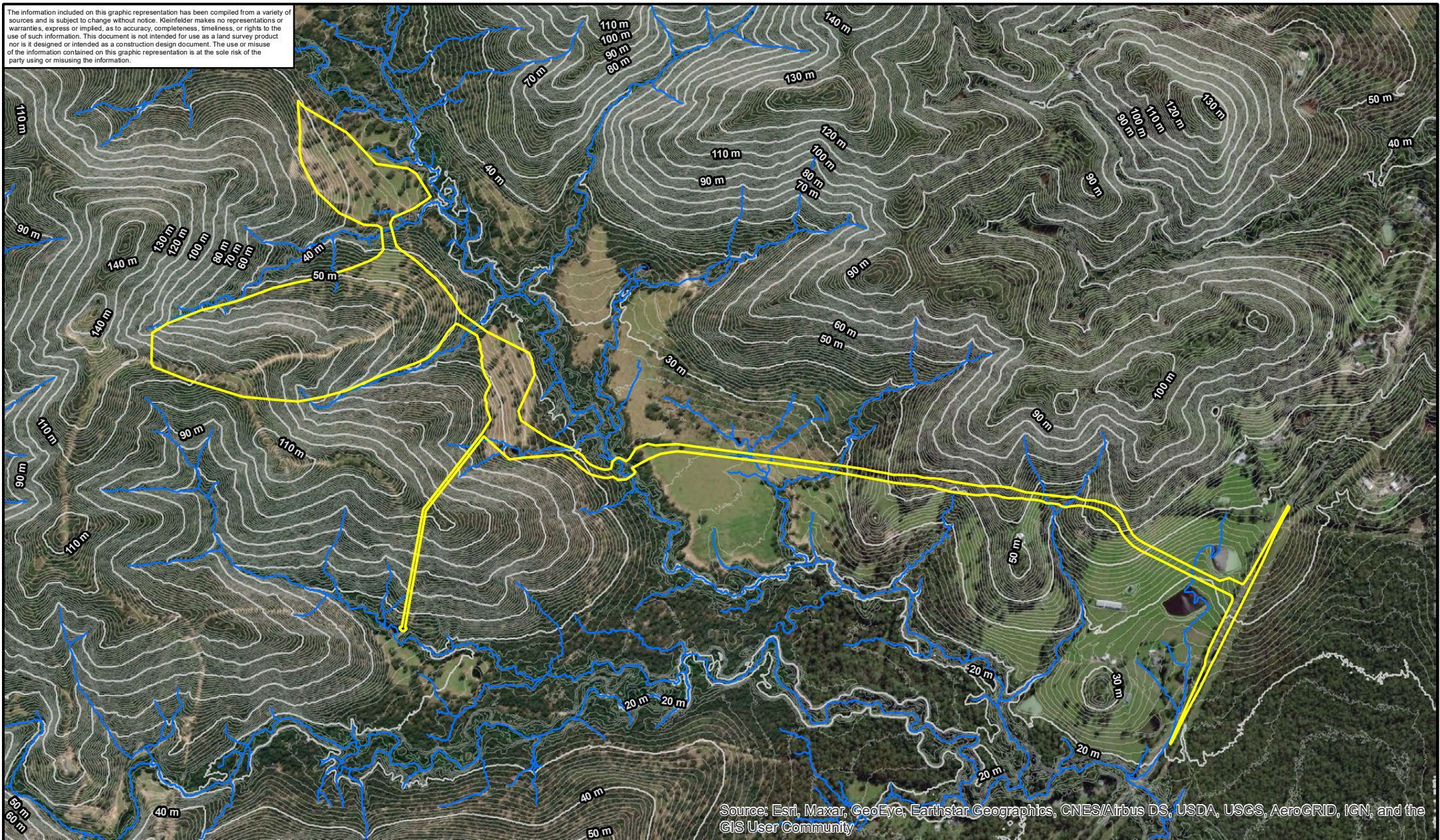
Strategic Agricultural Land in the Vicinity of the Deep Creek Quarry

Ironstone Developments Pty Ltd
Deep Creek Quarry
The Bucketts Way, Limeburners Creek NSW 2324

FIGURE:

16

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Legend

- Project Boundary
- DEM Derived Creek Lines
- 1m Contours
- 10m Contours

Metres
0 50 100 200 300 400 500



PROJECT REFERENCE: 20203112

DATE DRAWN: 2021/10/21 16:10 Version 1

DRAWN BY: G.Joyce

DATA SOURCE:
Commonwealth of Australia
(Geoscience Australia) - 2020

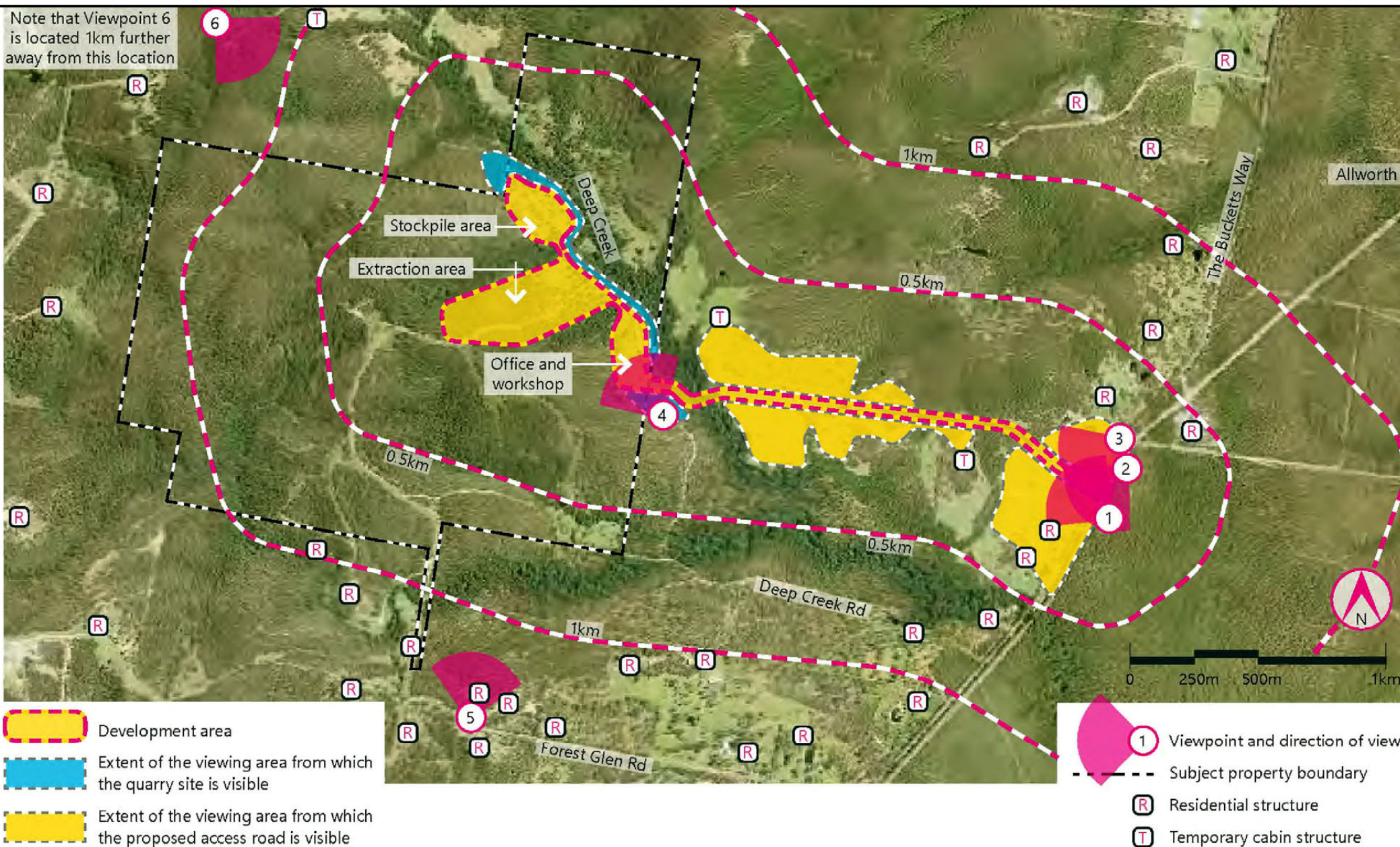
Site Topography (ELVIS 2020)

Ironstone Developments Pty Ltd
Deep Creek Quarry
The Bucketts Way, Limeburners Creek, NSW

FIGURE:

17

Note that Viewpoint 6 is located 1km further away from this location

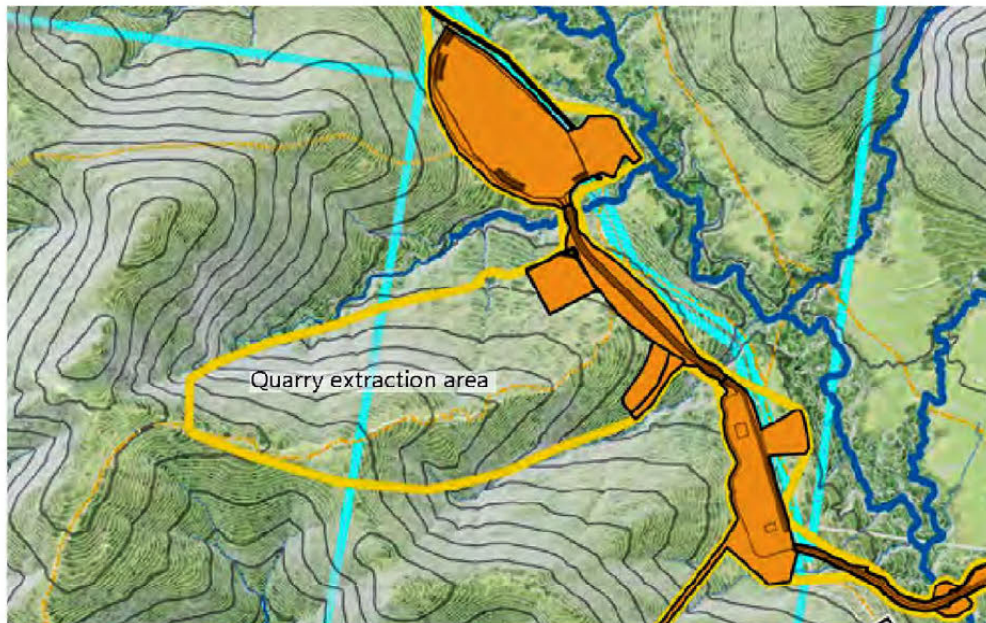


Viewing Zones

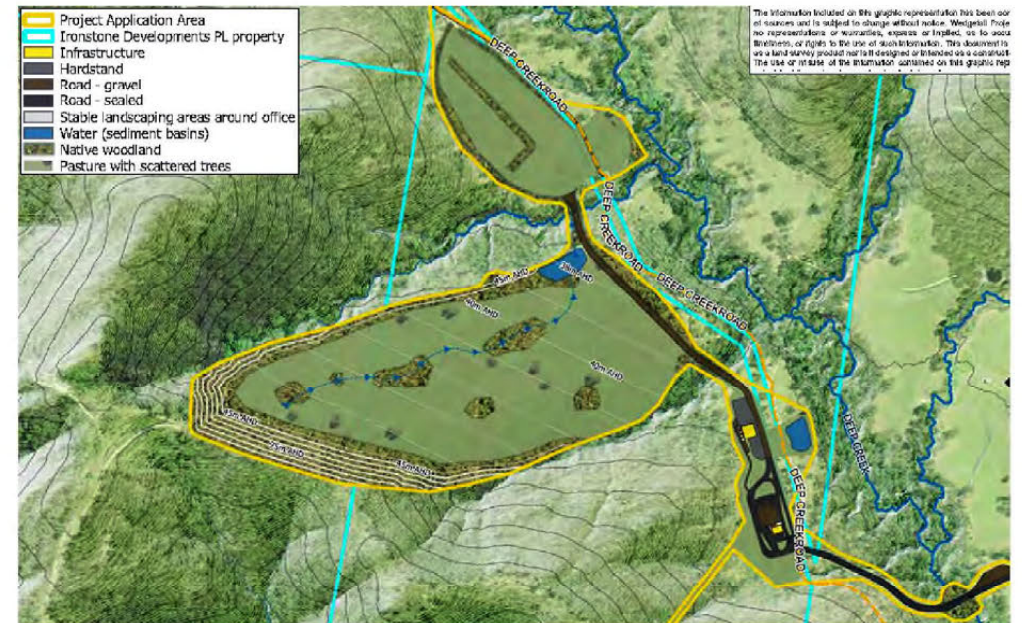
Ironstone Developments Pty Ltd
Deep Creek Quarry
The Bucketts Way, Limeburners Creek, NSW

FIGURE:

18



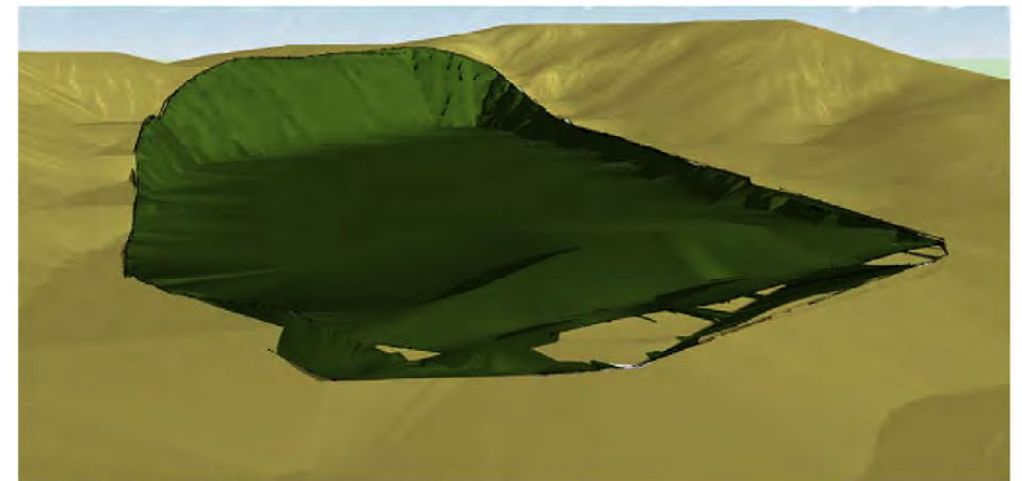
Initial phase of the project prior to any quarrying activity - 3d modelling below



Final condition of the site after rehabilitation - 3d modelling below

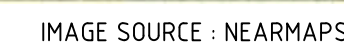


Existing landform void of vegetation - extraction area in green



Final landform after rehabilitation

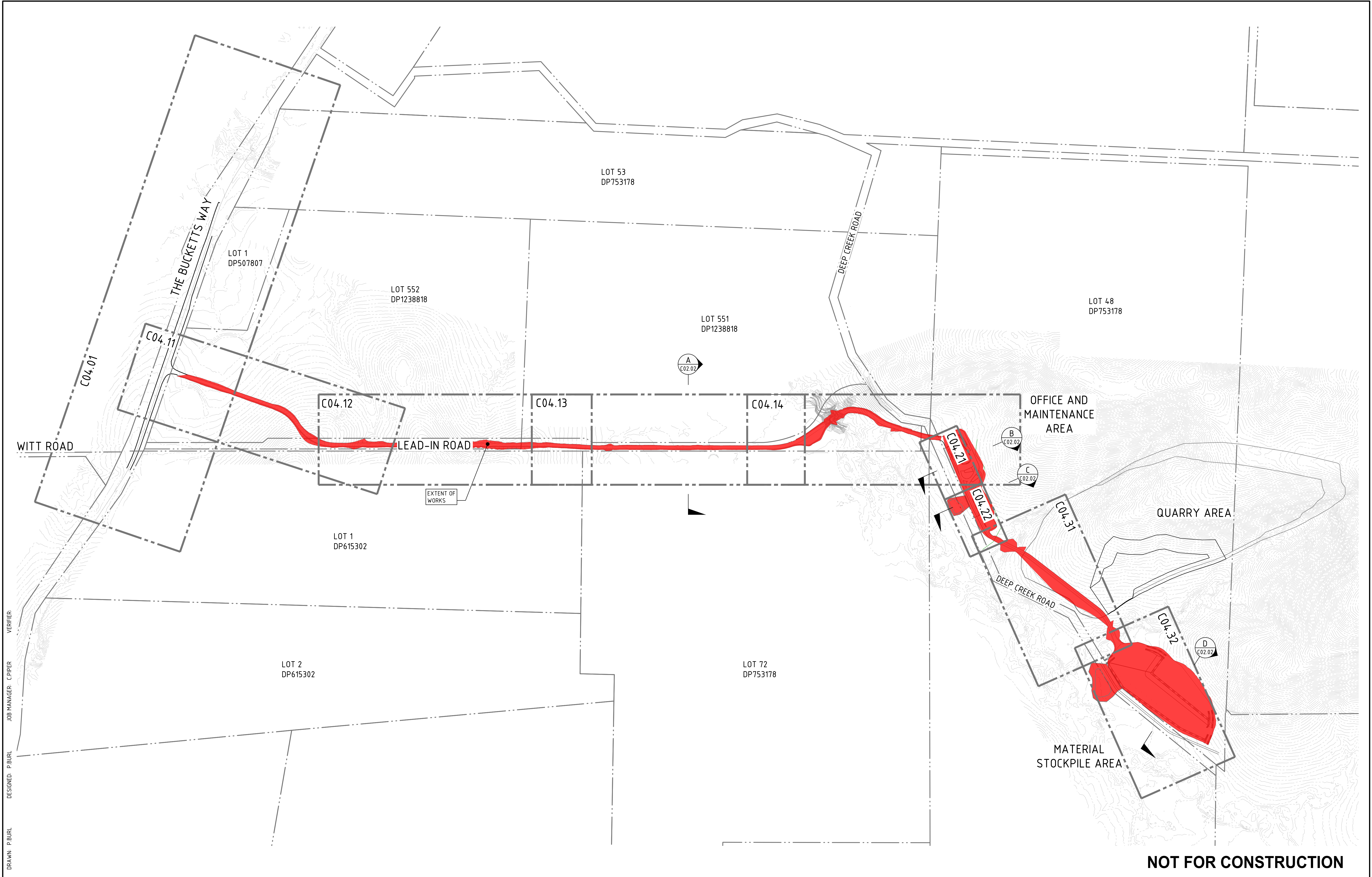
THE BUCKETTS WAY, LIMEBURNERS CREEK CIVIL ENGINEERING PACKAGE



LOCALITY PLAN

DWG No.	DRAWING TITLE
DA-C01.01	COVER SHEET, DRAWING LIST AND LOCALITY PLAN
DA-C02.01	GENERAL ARRANGEMENT PLAN
DA-C02.02	TYPICAL SECTIONS
DA-C03.01	BULK EARTHWORKS PLAN - SHEET 1
DA-C03.02	BULK EARTHWORKS PLAN - SHEET 2
DA-C04.01	CIVIL WORKS PLAN - INTERSECTION - SHEET 1
DA-C04.02	CIVIL WORKS PLAN - INTERSECTION - SHEET 2
DA-C04.11	CIVIL WORKS PLAN - LEAD-IN ROAD - SHEET 1
DA-C04.12	CIVIL WORKS PLAN - LEAD-IN ROAD - SHEET 2
DA-C04.13	CIVIL WORKS PLAN - LEAD-IN ROAD - SHEET 3
DA-C04.14	CIVIL WORKS PLAN - LEAD-IN ROAD - SHEET 4
DA-C04.21	CIVIL WORKS PLAN - OFFICE - SHEET 1
DA-C04.22	CIVIL WORKS PLAN - OFFICE - SHEET 2
DA-C04.31	CIVIL WORKS PLAN - STOCKPILE AREA - SHEET 1
DA-C04.32	CIVIL WORKS PLAN - STOCKPILE AREA - SHEET 2
DA-C04.41	CIVIL WORKS PLAN - CULVERT CROSSING - SHEET 1
DA-C04.42	CIVIL WORKS PLAN - CULVERT CROSSING - SHEET 2
DA-C04.43	CIVIL WORKS PLAN - CULVERT CROSSING - SHEET 3
DA-C09.01	CIVIL DETAILS

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE	CLIENT	PROJECT MANAGER	 ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE COMMENCING WORK. NORTHROP ACCEPTS NO RESPONSIBILITY FOR THE USABILITY, COMPLETENESS OR SCALE OF DRAWINGS TRANSFERRED ELECTRONICALLY. THIS DRAWING MAY HAVE BEEN PREPARED USING COLOUR, AND MAY BE INCOMPLETE IF COPIED TO BLACK & WHITE.	 Level 1, 215 Pacific Hwy, Charlestown NSW 2290 Ph (02) 4943 1777 Email newcastle@northrop.com.au ABN 81 094 433 100	PROJECT	DRAWING TITLE	JOB NUMBER
1	FOR APPROVAL	BD	CP	PB	24.06.21	IRONSTONE DEVELOPMENTS 	DEEP CREEK QUARRY THE BUCKETS WAY, LIMEBURNERS CREEK			CIVIL ENGINEERING PACKAGE	NL200342	
2	FOR APPROVAL	BD	CP	PB	20.07.21							
						DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS VERIFICATION SIGNATURE HAS BEEN ADDED	THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD			DRAWING NUMBER	REVISION	
										DA-C01.01	2	
											DRAWING SHEET SIZE = A1	

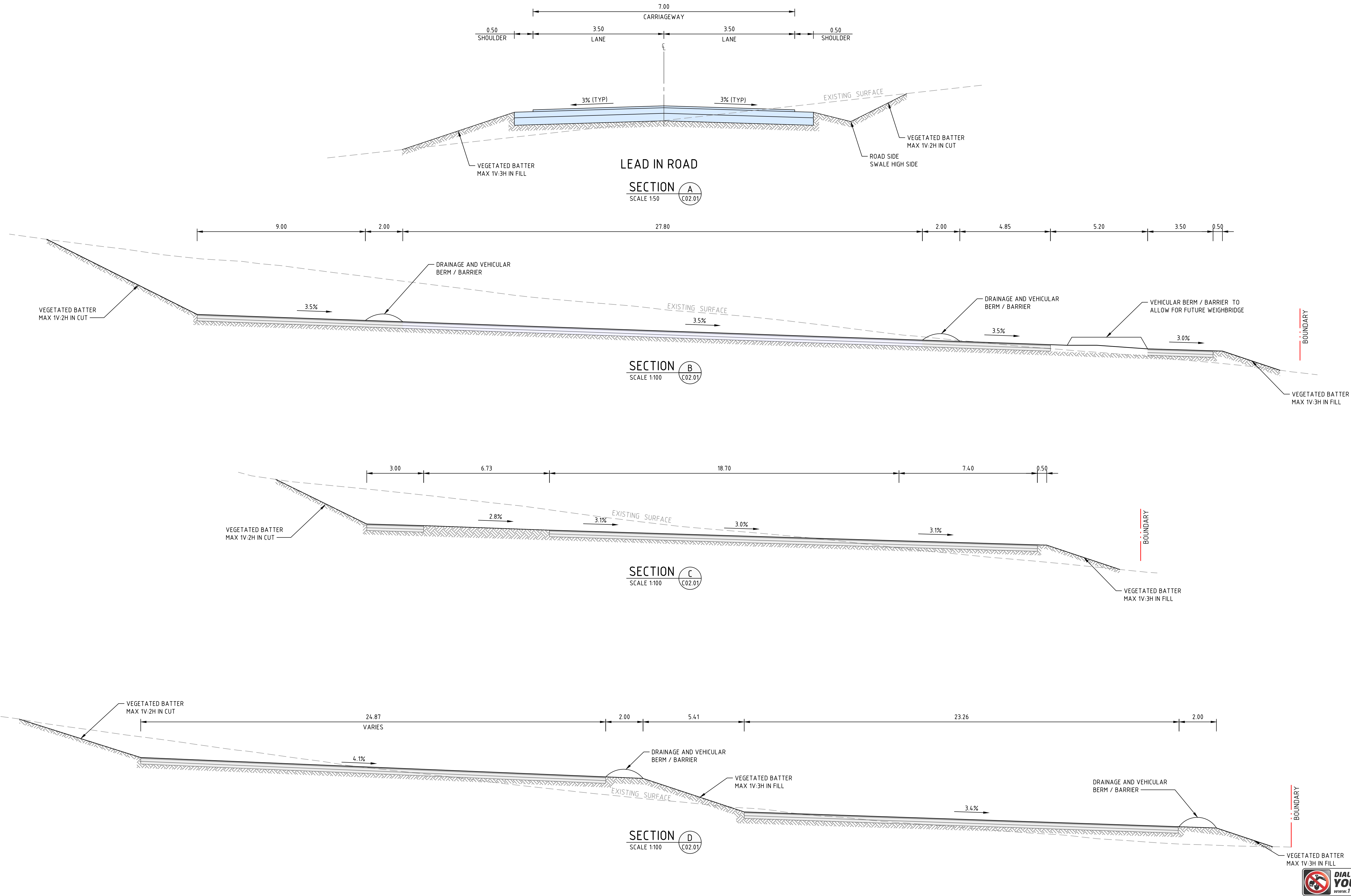


NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE	CLIENT	PROJECT MANAGER	SCALE	ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE COMMENCING WORK. NORTHROP ACCEPTS NO RESPONSIBILITY FOR THE USABILITY, COMPLETENESS OR SCALE OF DRAWINGS TRANSFERRED ELECTRONICALLY. THIS DRAWING MAY HAVE BEEN PREPARED USING COLOUR, AND MAY BE INCOMPLETE IF COPIED TO BLACK & WHITE.	PROJECT	DRAWING TITLE	DRAWING NUMBER	REVISION
1	PRELIMINARY	PB		CP	30.11.20	IRONSTONE DEVELOPMENTS		SCALE 1:4,000 @ A1		DEEP CREEK QUARRY THE BUCKETTS WAY, LIMEBURNERS CREEK	CIVIL ENGINEERING PACKAGE GENERAL ARRANGEMENT PLAN	NL200342 DA-C02.01	3
2	FOR APPROVAL	BD	CP	PB	24.06.21								
3	FOR APPROVAL	BD	CP	PB	20.07.21								
						DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS VERIFICATION SIGNATURE HAS BEEN ADDED	THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD						

VERIFIER:
JOB MANAGER: CHIPER
DESIGNED: P.BURL
DRAWN: P.BURL

VERIFIER:
JOB MANAGER: CHIPER
DESIGNED: P.BURL
DRAWN: P.BURL



NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE	CLIENT	PROJECT MANAGER	ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE COMMENCING WORK. NORTHROP ACCEPTS NO RESPONSIBILITY FOR THE USABILITY, COMPLETENESS OR SCALE OF DRAWINGS TRANSFERRED ELECTRONICALLY. THIS DRAWING MAY HAVE BEEN PREPARED USING COLOUR, AND MAY BE INCOMPLETE IF COPIED TO BLACK & WHITE.		PROJECT	DRAWING TITLE	JOB NUMBER	
1	FOR APPROVAL	BD	CP	PB	24.06.21	IRONSTONE DEVELOPMENTS		 Newcastle Level 1, 215 Pacific Hwy, Charlestown NSW 2290 Ph (02) 4943 1777 Email newcastle@northrop.com.au ABN 81 094 433 100		DEEP CREEK QUARRY THE BUCKETTS WAY, LIMEBURNERS CREEK	CIVIL ENGINEERING PACKAGE	NL200342	
2	FOR APPROVAL	BD	CP	PB	20.07.21								
						DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS VERIFICATION SIGNATURE HAS BEEN ADDED	THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD				TYPICAL SECTIONS	DRAWING NUMBER DA-C02.02	REVISION 2
												DRAWING SHEET SIZE = A1	

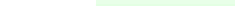
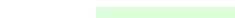
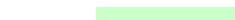
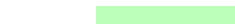
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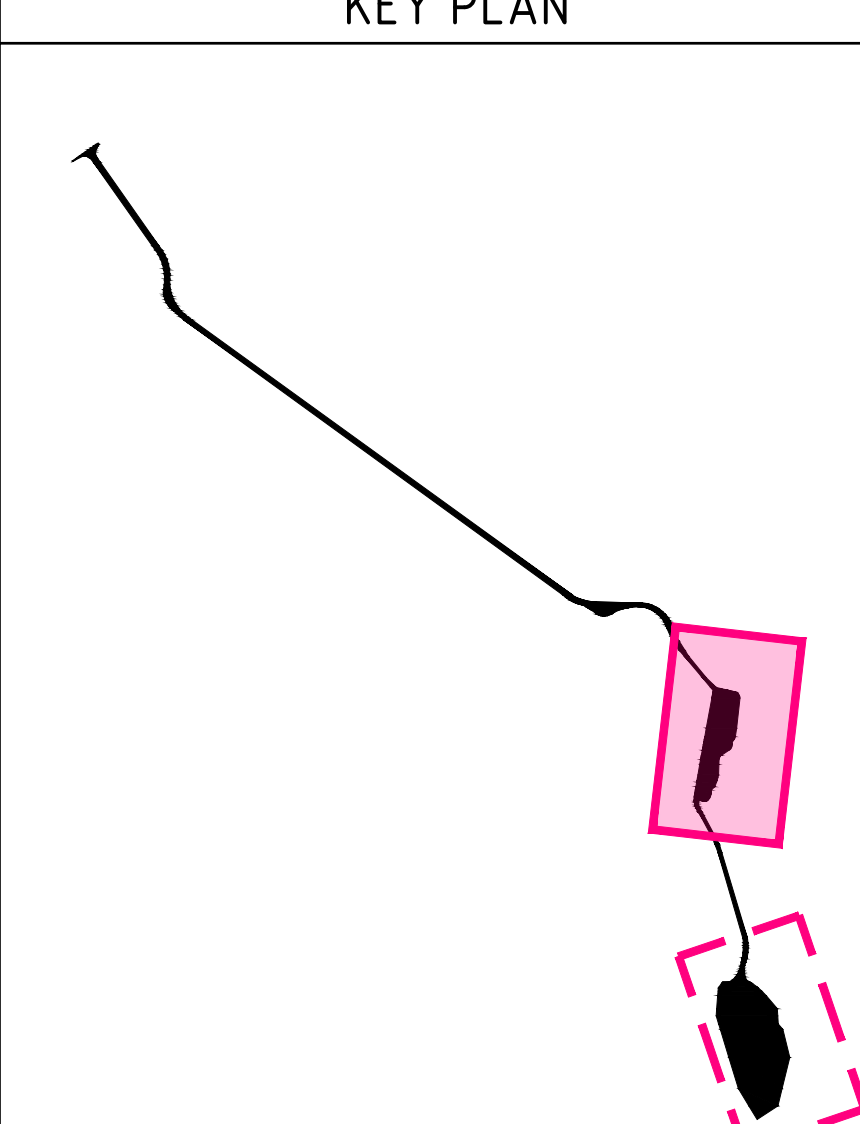
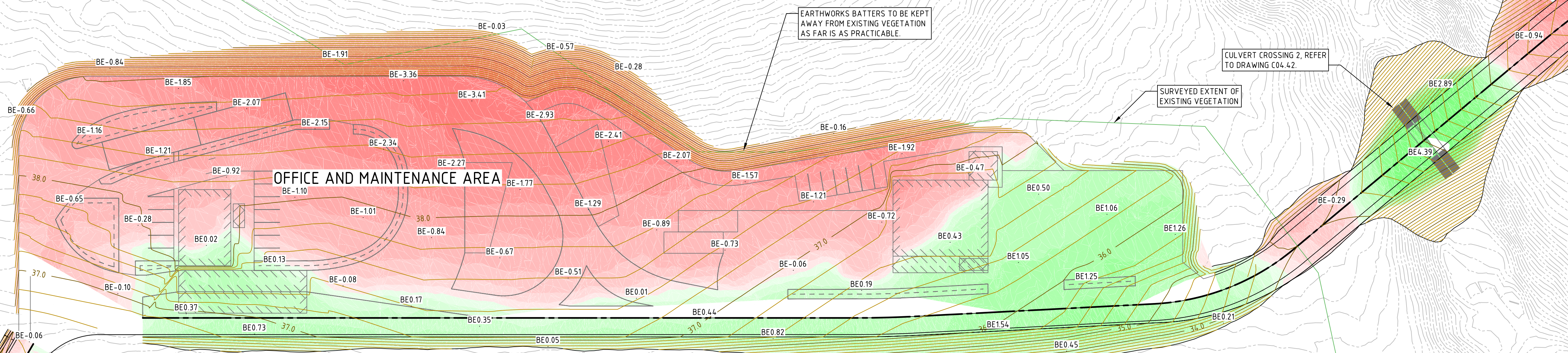
1. BULK EARTHWORKS HAVE BEEN CALCULATED FROM EXISTING SURFACE TO PROPOSED BULK EARTHWORK SURFACE
2. DEPTHS AND VOLUMES ARE INTENDED AS A GUIDE SUBJECT TO DETAILED DESIGN. VOLUMES DO NOT ACCOUNT FOR PAVEMENT WHICH WILL INCREASE VOLUME OF EXPORT, TO BE TRANSFERRED TO STOCKPILE AREA TO ACHIEVE A CLOSER BALANCE.

CUT = 11,200m³
FILL = 2,500m³

BALANCE = -8,800m³ (EXCESS TO BE TRANSFERRED TO STOCKPILE AREA, REFER TO DRAWING C03.02)

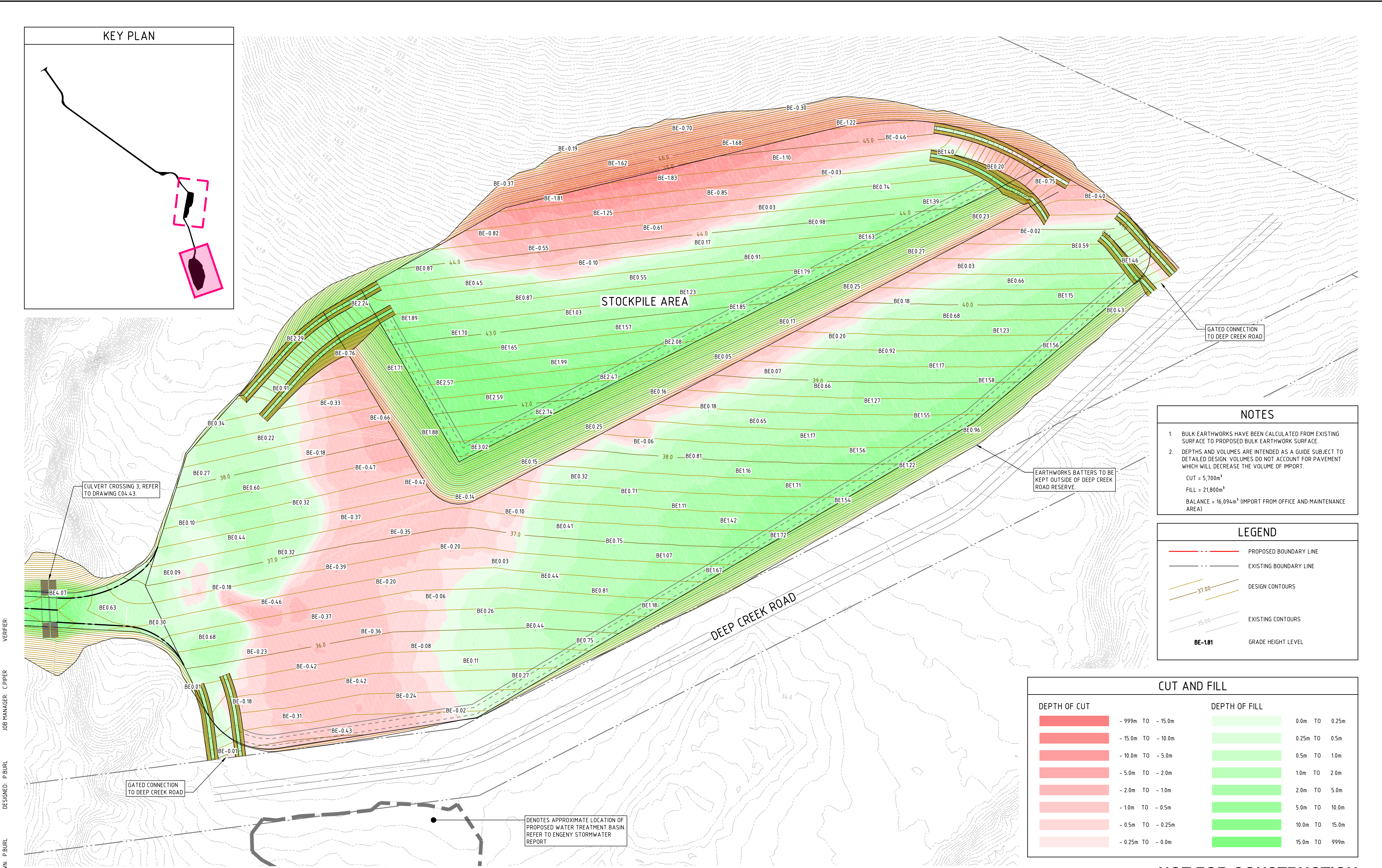
 PROPOSED BOUNDARY LINE
 EXISTING BOUNDARY LINE
 DESIGN CONTOURS
 37.00
 EXISTING CONTOURS
 35.00
 GRADE HEIGHT LEVEL

DEPTH OF CUT		DEPTH OF FILL	
	- 999m TO - 15.0m		0.0m TO 0.25m
	- 15.0m TO - 10.0m		0.25m TO 0.5m
	- 10.0m TO - 5.0m		0.5m TO 1.0m
	- 5.0m TO - 2.0m		1.0m TO 2.0m
	- 2.0m TO - 1.0m		2.0m TO 5.0m
	- 1.0m TO - 0.5m		5.0m TO 10.0m
	- 0.5m TO - 0.25m		10.0m TO 15.0m
	- 0.25m TO - 0.0m		15.0m TO 999m



NOT FOR CONSTRUCTION

REVISION		DESCRIPTION	ISSUED	VER'D	APP'D	DATE	CLIENT	PROJECT MANAGER	 ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE COMMENCING WORK. NORTHROP ACCEPTS NO RESPONSIBILITY FOR THE USABILITY, COMPLETENESS OR SCALE OF DRAWINGS TRANSFERRED ELECTRONICALLY. THIS DRAWING MAY HAVE BEEN PREPARED USING COLOUR, AND MAY BE INCOMPLETE IF COPIED TO BLACK & WHITE.		PROJECT	DRAWING TITLE	JOB NUMBER		
1		FOR APPROVAL	BD	CP	PB	24.06.21	IRONSTONE DEVELOPMENTS		 NORTHROP Level 1, 215 Pacific Hwy, Charlestown NSW 2290 Ph (02) 4943 1777 Email newcastle@northrop.com.au ABN 81 094 433 100	 DEEP CREEK QUARRY THE BUCKETTS WAY, LIMEBURNERS CREEK	CIVIL ENGINEERING PACKAGE	NL200342			
2		FOR APPROVAL	BD	CP	PB	20.07.21						DRAWING NUMBER	DA-C03.01	REVISION	2
												DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS VERIFICATION SIGNATURE HAS BEEN ADDED	THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD.	SCALE 1:500@ A1	



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DESIGNED: P.BURL
DRAWN: P.BURL

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
1	FOR APPROVAL	BD	CP	PB	24.06.21
2	FOR APPROVAL	BD	CP	PB	20.07.21

CLIENT

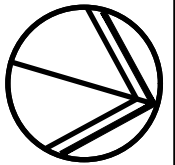
IRONSTONE DEVELOPMENTS

DRAWING NOT TO BE USED FOR CONSTRUCTION
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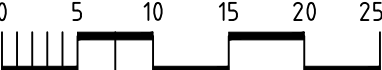
PROJECT MANAGER


KLEINFELDER
Engineering & Construction

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SCALE 1:500@A1




Newcastle

Level 1, 215 Pacific Hwy, Charlestown NSW 2290
Ph (02) 4943 1777 Email newcastle@northrop.com.au
ABN 81 094 433 100

PROJECT

DEEP CREEK QUARRY
THE BUCKETTS WAY,
LIMEBURNERS CREEK

DRAWING TITLE

CIVIL ENGINEERING PACKAGE

BULK EARTHWORKS PLAN - SHEET 2

DRAWING NUMBER

REVISION

DA-C03.02

2

DRAWING SHEET SIZE = A1

VERIFIER: JOB MANAGER: CHIPER DESIGNED: P.BURL DRAWN: P.BURL



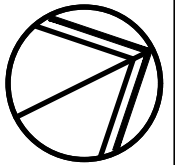
NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
1	PRELIMINARY	PB		CP	30.11.20
2	FOR APPROVAL	BD	CP	PB	24.06.21
3	FOR APPROVAL	BD	CP	PB	20.07.21

CLIENT
IRONSTONE DEVELOPMENTS
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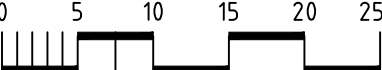
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SCALE 1:500@A1





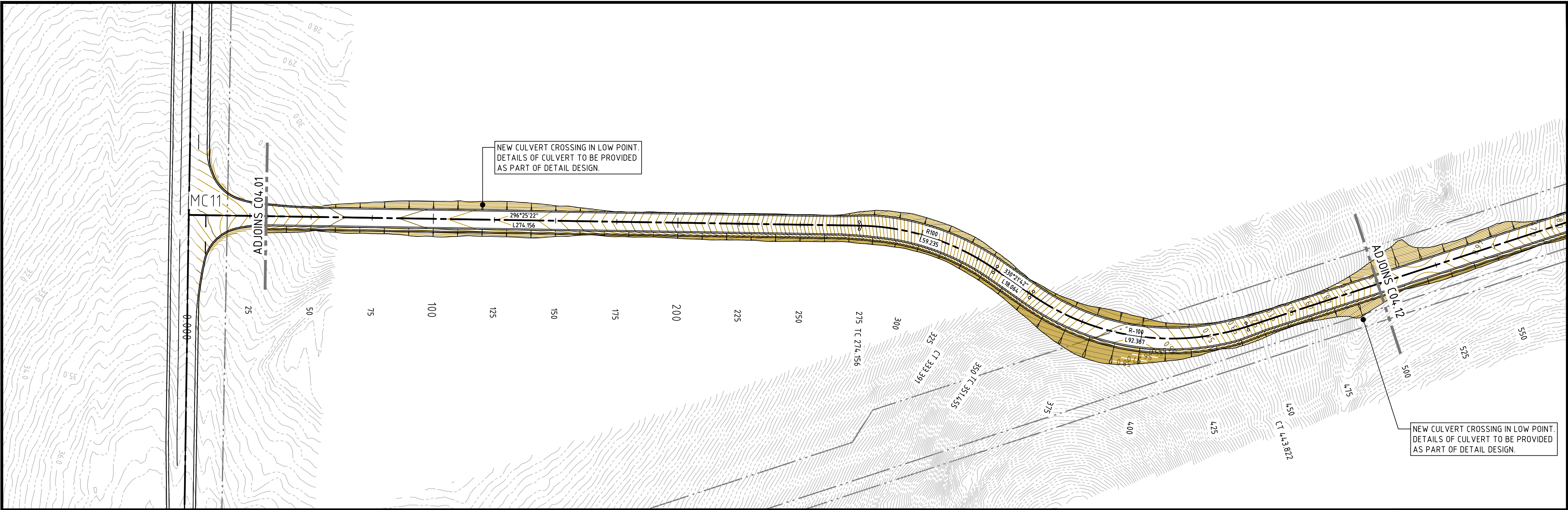
Level 1, 215 Pacific Hwy, Charlestown NSW 2290
Ph (02) 4943 1777 Email newcastle@northrop.com.au
ABN 81 094 433 100

PROJECT
DEEP CREEK QUARRY THE BUCKETTS WAY, LIMEBURNERS CREEK

DRAWING TITLE
CIVIL ENGINEERING PACKAGE
CIVIL WORKS PLAN - INTERSECTION - SHEET 2

JOB NUMBER
NL200342
DRAWING NUMBER
DA-C04.02
REVISION
3
DRAWING SHEET SIZE = A1

VERIFIER: CHIPER
JOB MANAGER: P.BURL
DESIGNED: P.BURL
DRAWN: P.BURL



PLAN VIEW
SCALE @ 1:1000

LEGEND

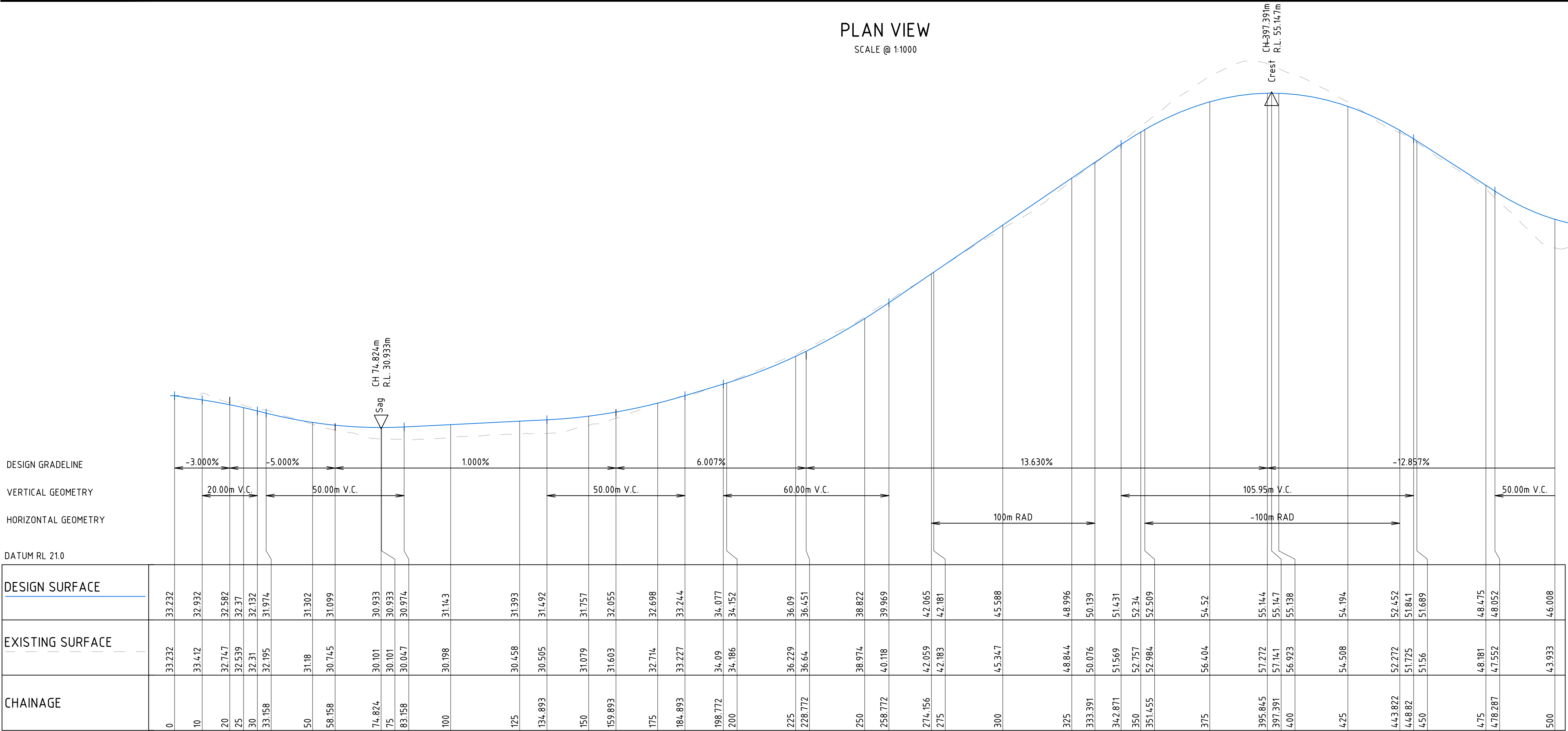
PROPOSED BOUNDARY LINE

EXISTING BOUNDARY LINE

DESIGN CONTOURS

EXISTING CONTOURS

PROPOSED ROAD CONTROL LINE



LONGITUDINAL SECTION ALONG MC11
HORIZONTAL SCALE 1:1000@A1
VERTICAL SCALE 1:200@A1

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1	PRELIMINARY	P.B.		C.P.	30.11.20
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CLIENT

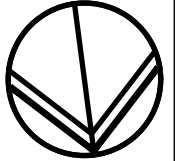
IRONSTONE DEVELOPMENTS

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SCALE 1:200@A1
SCALE 1:1000@A1

0 2 4 6 8 10m

0 10 20 30 40 50m


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Level 1, 215 Pacific Hwy, Charlestown NSW 2290
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ABN 81 094 433 100

PROJECT

DEEP CREEK QUARRY
THE BUCKETTS WAY,
LIMEBURNERS CREEK

DRAWING TITLE

CIVIL ENGINEERING PACKAGE

CIVIL WORKS PLAN - LEAD-IN ROAD -
SHEET 1

JOB NUMBER

NL200342

DRAWING NUMBER

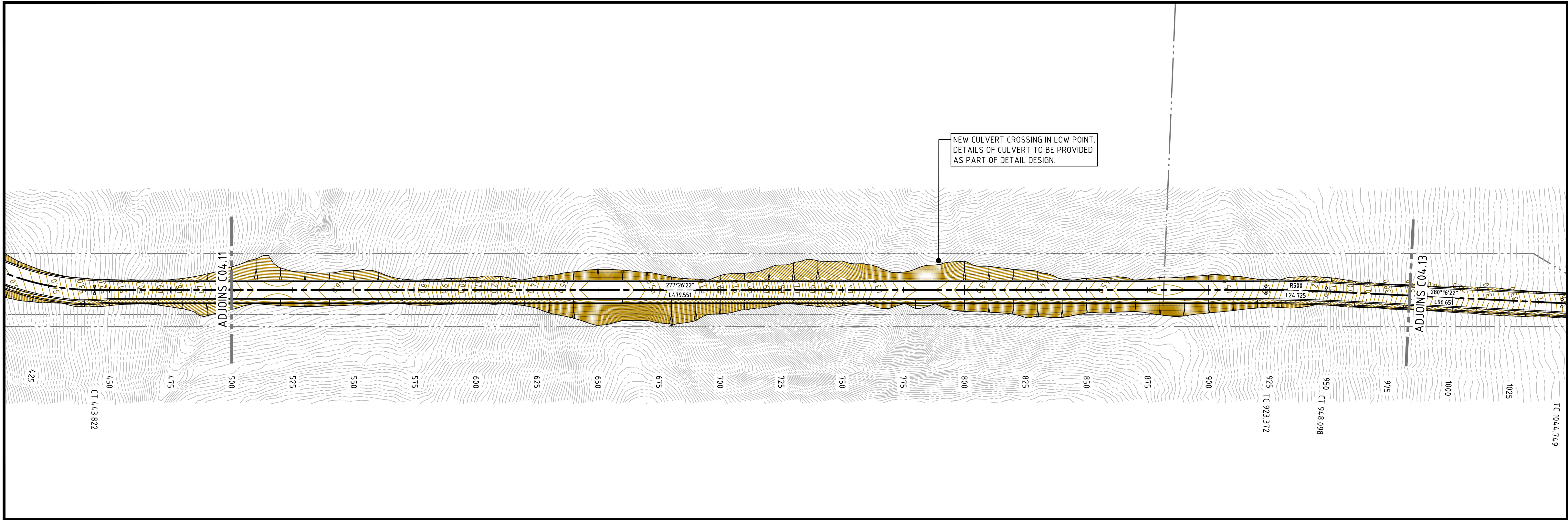
DA-C04.11

REVISION

3

DRAWING SHEET SIZE = A1

VERIFIER: CHIPER
JOB MANAGER: P.BURL
DESIGNED: P.BURL
DRAWN: P.BURL



LEGEND

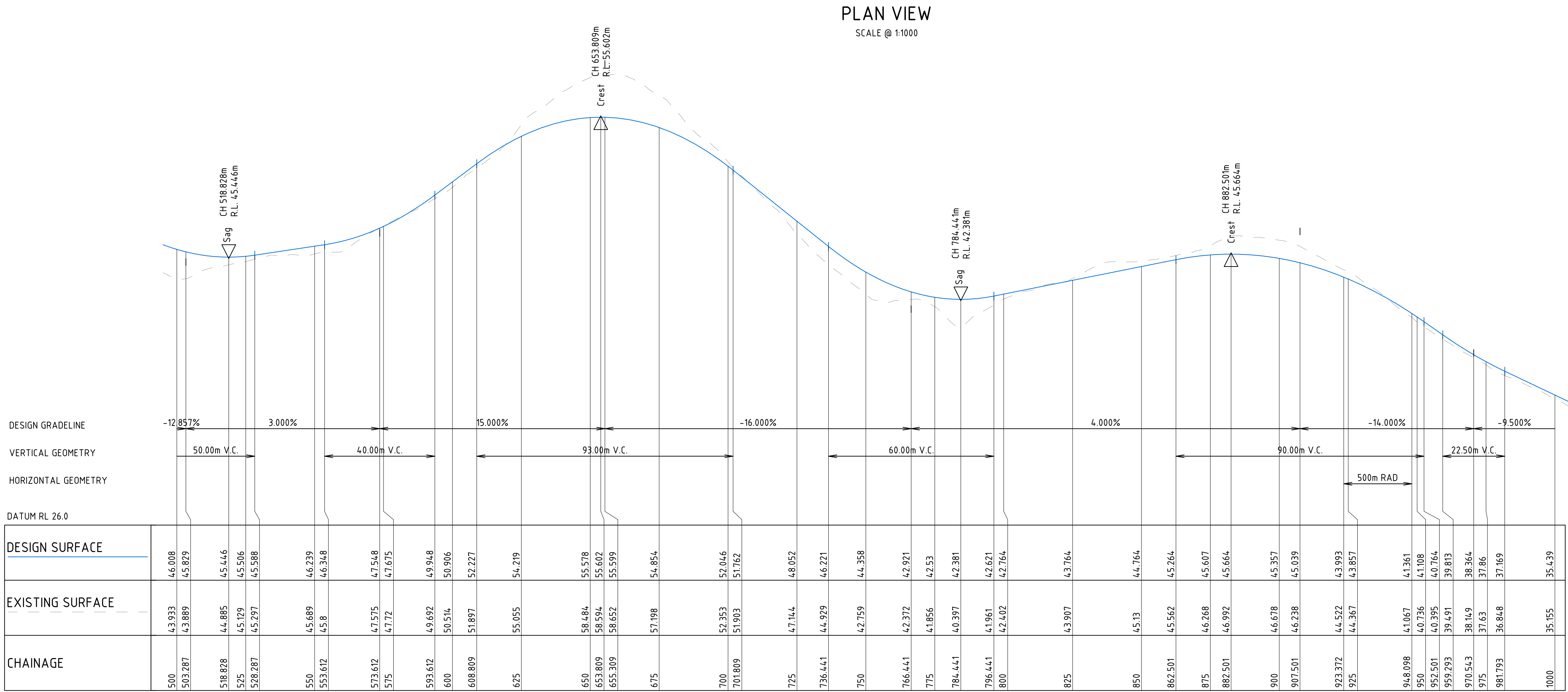
PROPOSED BOUNDARY LINE

EXISTING BOUNDARY LINE

DESIGN CONTOURS

EXISTING CONTOURS

PROPOSED ROAD CONTROL LINE



LONGITUDINAL SECTION ALONG MC11

HORIZONTAL SCALE 1:1000@A1

VERTICAL SCALE 1200@A1

NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
1	PRELIMINARY	P.B.		C.P.	30.11.20
2	FOR APPROVAL	BD	CP	PB	24.06.21
3	FOR APPROVAL	BD	CP	PB	20.07.21

CLIENT

IRONSTONE DEVELOPMENTS

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SCALE 1:200@A1

SCALE 1:1000@A1

0 2 4 6 8 10m

0 10 20 30 40 50m

NORTHROP

Newcastle

Level 1, 215 Pacific Hwy, Charlestown NSW 2290

Ph (02) 4943 1777 Email newcastle@northrop.com.au

ABN 81 094 433 100

PROJECT

DEEP CREEK QUARRY
THE BUCKETTS WAY,
LIMEBURNERS CREEK

DRAWING TITLE

CIVIL ENGINEERING PACKAGE

CIVIL WORKS PLAN - LEAD-IN ROAD -
SHEET 2

JOB NUMBER

NL200342

DRAWING NUMBER

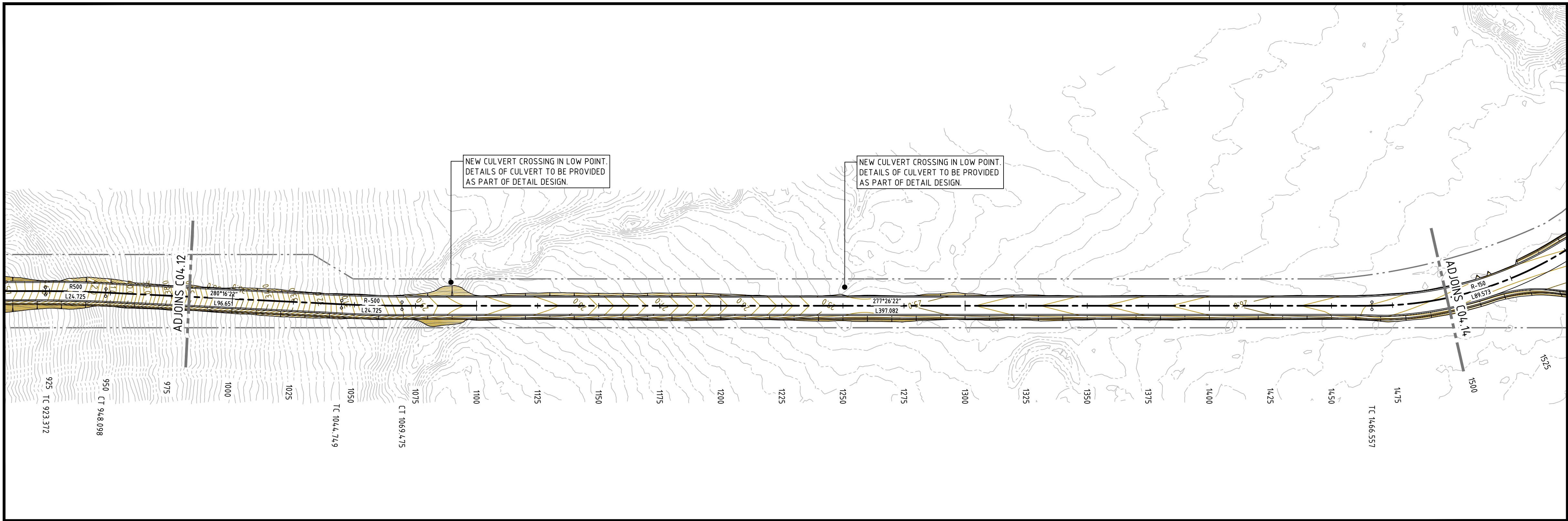
DA-C04.12

REVISION

3

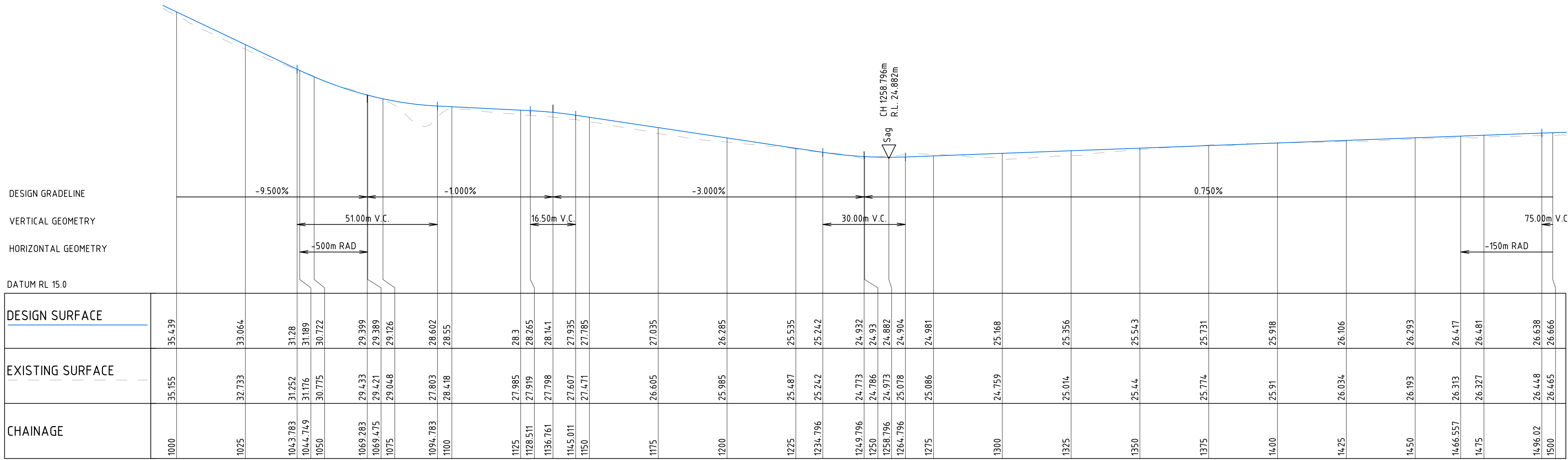
DRAWING SHEET SIZE = A1

VERIFIER: CIPER
JOB MANAGER: P.BURL
DESIGNED: P.BURL
DRAWN: P.BURL



PLAN VIEW
SCALE @ 1:1000

LEGEND	
	PROPOSED BOUNDARY LINE
	EXISTING BOUNDARY LINE
	DESIGN CONTOURS
	EXISTING CONTOURS
	PROPOSED ROAD CONTROL LINE



LONGITUDINAL SECTION ALONG MC11
HORIZONTAL SCALE 1:1000@A1
VERTICAL SCALE 1:200@A1

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REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
1	PRELIMINARY	P.B.		C.P.	30.11.20
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CLIENT	IRONSTONE DEVELOPMENTS
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PROJECT MANAGER	KLEINFELDER Right People. Right Solutions.
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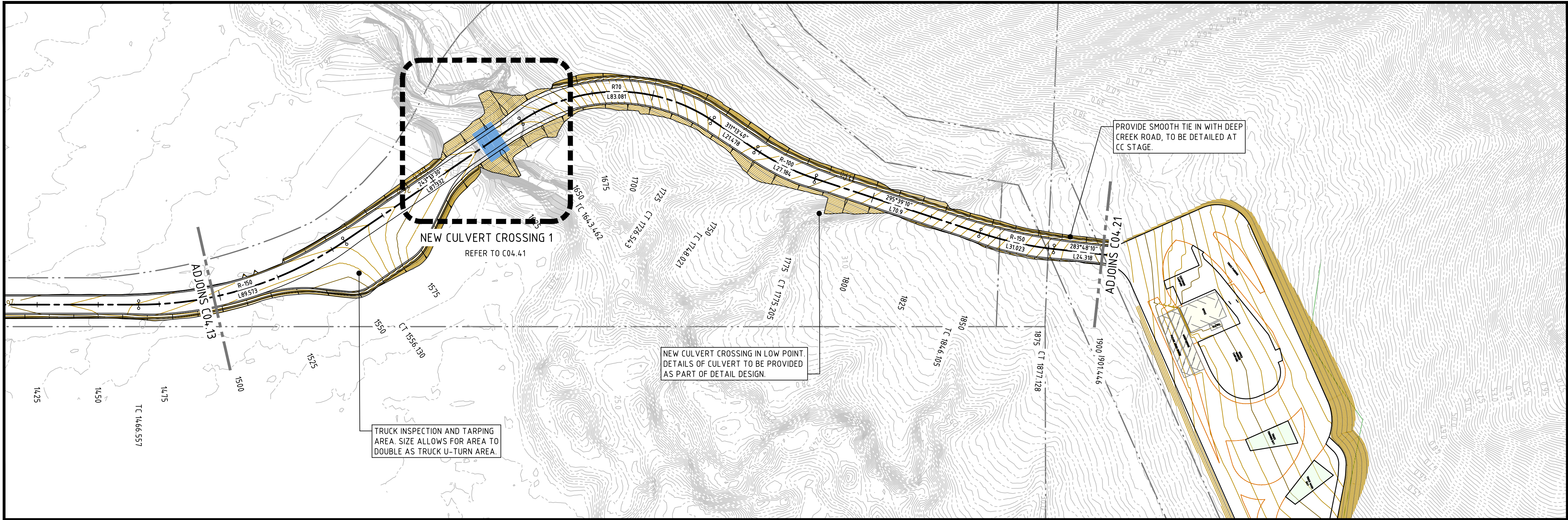
ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE COMMENCING WORK. NORTHROP ACCEPTS NO RESPONSIBILITY FOR THE USABILITY, COMPLETENESS OR SCALE OF DRAWINGS TRANSFERRED ELECTRONICALLY. THIS DRAWING MAY HAVE BEEN PREPARED USING COLOUR, AND MAY BE INCOMPLETE IF COPIED TO BLACK & WHITE.	SCALE 1:200@A1 SCALE 1:1000@A1

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PROJECT	DEEP CREEK QUARRY THE BUCKETTS WAY, LIMEBURNERS CREEK
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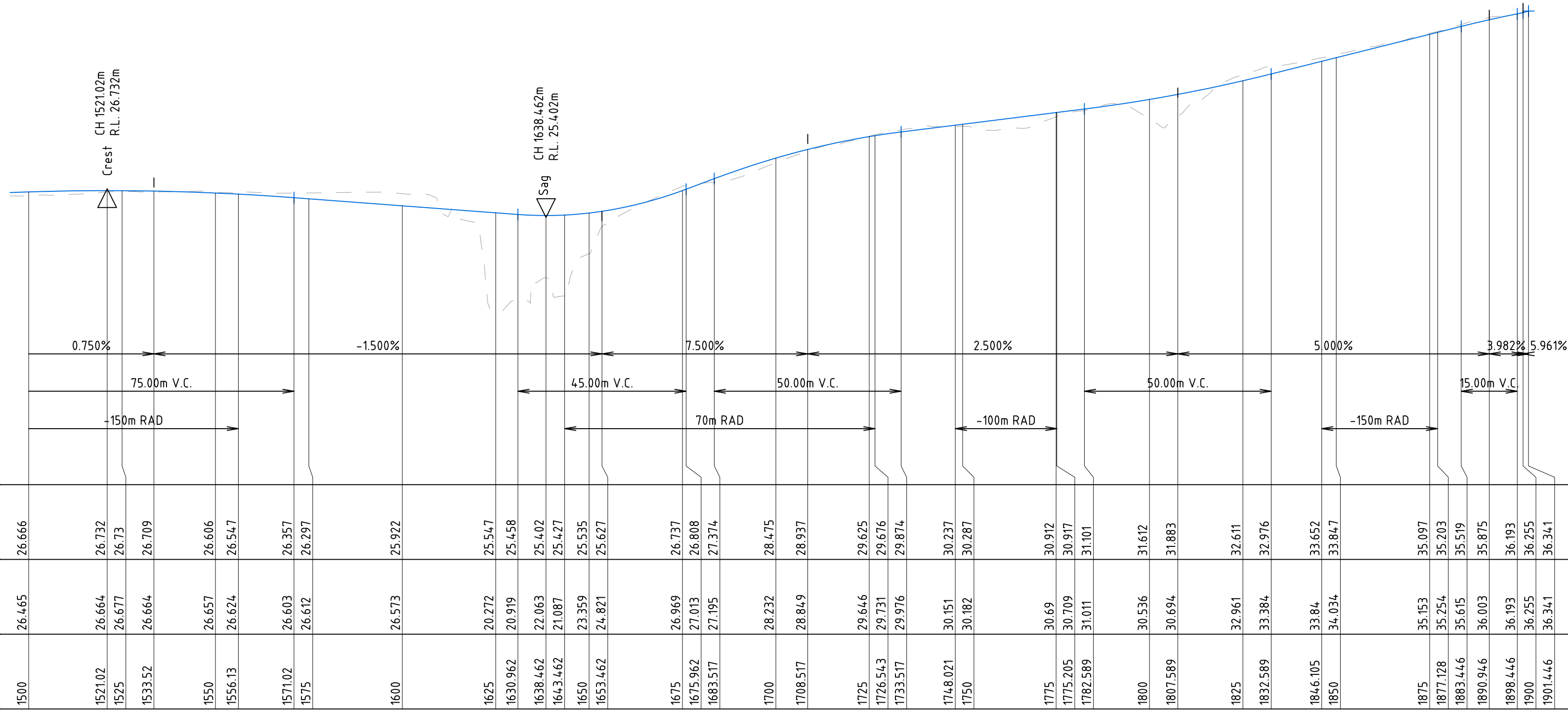
DRAWING TITLE	CIVIL ENGINEERING PACKAGE CIVIL WORKS PLAN - LEAD-IN ROAD - SHEET 3
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JOB NUMBER	NL200342
DRAWING NUMBER	DA-C04.13
REVISION	3
DRAWING SHEET SIZE = A1	



PLAN VIEW
SCALE @ 1:1000

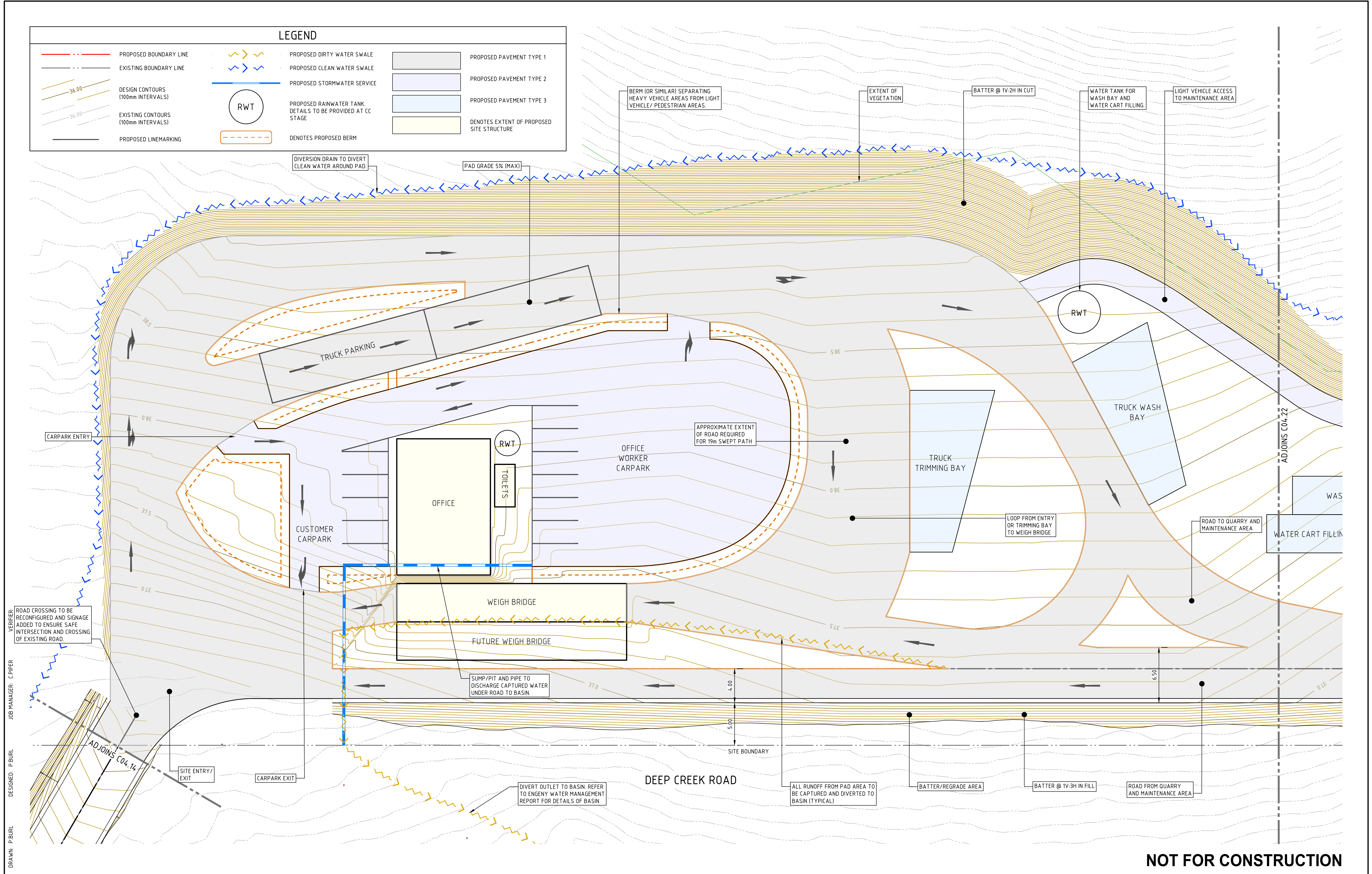
LEGEND	
	PROPOSED BOUNDARY LINE
	EXISTING BOUNDARY LINE
	DESIGN CONTOURS
	EXISTING CONTOURS
	PROPOSED ROAD CONTROL LINE



LONGITUDINAL SECTION ALONG MC11
HORIZONTAL SCALE 1:1000@A1
VERTICAL SCALE 1:200@A1

NOT FOR CONSTRUCTION

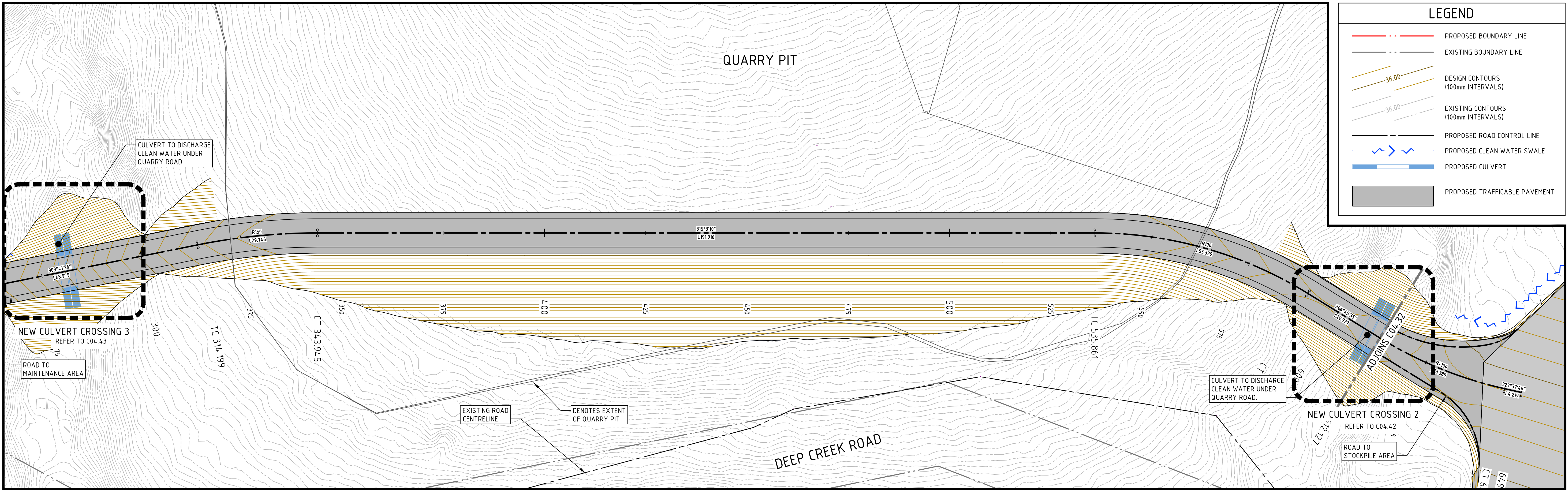
REVISION		DESCRIPTION	ISSUED	VER'D	APP'D	DATE	CLIENT	PROJECT MANAGER	 ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE COMMENCING WORK. NORTHROP ACCEPTS NO RESPONSIBILITY FOR THE USABILITY, COMPLETENESS OR SCALE OF DRAWINGS TRANSFERRED ELECTRONICALLY. THIS DRAWING MAY HAVE BEEN PREPARED USING COLOUR, AND MAY BE INCOMPLETE IF COPIED TO BLACK & WHITE.		PROJECT	DRAWING TITLE	JOB NUMBER	
1	PRELIMINARY		P.B.		C.P.	30.11.20	IRONSTONE DEVELOPMENTS			 NORTHROP Newcastle Level 1, 215 Pacific Hwy, Charlestown NSW 2290 Ph (02) 4943 1777 Email newcastle@northrop.com.au ABN 81 094 433 100	DEEP CREEK QUARRY THE BUCKETTS WAY, LIMEBURNERS CREEK	CIVIL ENGINEERING PACKAGE	NL200342	
2	FOR APPROVAL		BD	CP	PB	24.06.21								
3	FOR APPROVAL		BD	CP	PB	20.07.21								
							DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS VERIFICATION SIGNATURE HAS BEEN ADDED	THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD	 SCALE 1:200@A1  SCALE 1:1000@A1					
DRAWING SHEET SIZE = A1														



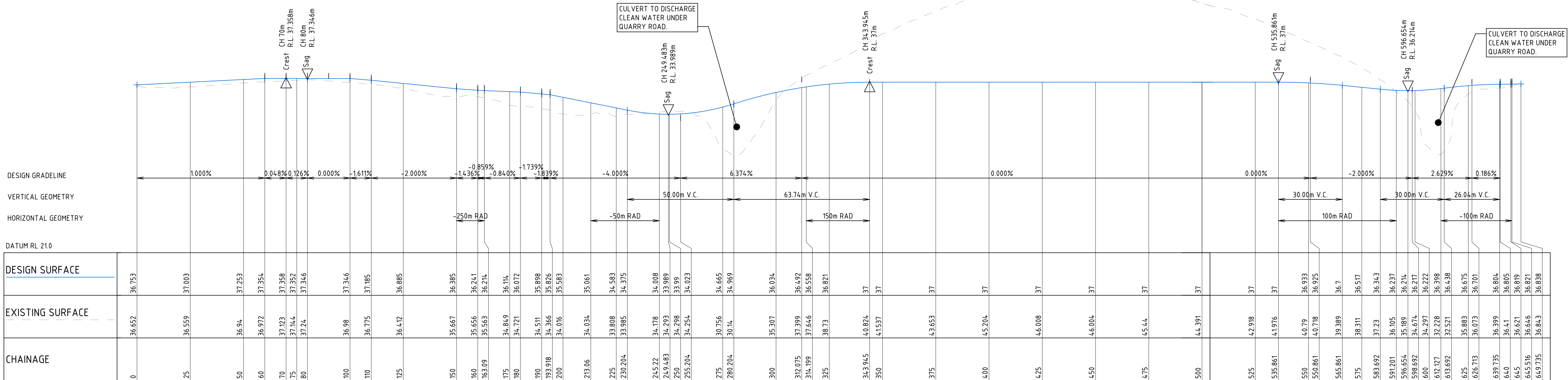
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REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE	CLIENT	PROJECT MANAGER		ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE COMMENCING WORK. NORTHROP ACCEPTS NO RESPONSIBILITY FOR THE USABILITY, COMPLETENESS OR SCALE OF DRAWINGS TRANSFERRED ELECTRONICALLY. THIS DRAWING MAY HAVE BEEN PREPARED USING COLOUR, AND MAY BE INCOMPLETE IF COPIED TO BLACK & WHITE.	PROJECT	DRAWING TITLE	JOB NUMBER	
1	PRELIMINARY	P.B.		C.P.	30.11.20	IRONSTONE DEVELOPMENTS			Newcastle Level 1, 215 Pacific Hwy, Charlestown NSW 2290 Ph (02) 4943 1777 Email newcastle@northrop.com.au ABN 81 094 433 100	DEEP CREEK QUARRY THE BUCKETTS WAY, LIMEBURNERS CREEK	CIVIL ENGINEERING PACKAGE	NL200342	
2	FOR APPROVAL	BD	CP	PB	24.06.21								
3	FOR APPROVAL	BD	CP	PB	20.07.21								
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													DRAWING SHEET SIZE = A1

VERIFIER: CHIPER
JOB MANAGER: P.BURL
DESIGNED: P.BURL
DRAWN: P.BURL



PLAN VIEW
SCALE @ 1:500



LONGITUDINAL SECTION ALONG MC12
HORIZONTAL SCALE 1:1000@A1
VERTICAL SCALE 1:200@A1

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REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
1	PRELIMINARY	P.B.		C.P.	30.11.20
2	FOR APPROVAL	BD	CP	PB	24.06.21
3	FOR APPROVAL	BD	CP	PB	20.07.21

CLIENT	PROJECT MANAGER
IRONSTONE DEVELOPMENTS	KLEINFELDER
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KLEINFELDER
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SCALE 1:500@A1 SCALE 1:1000@A1
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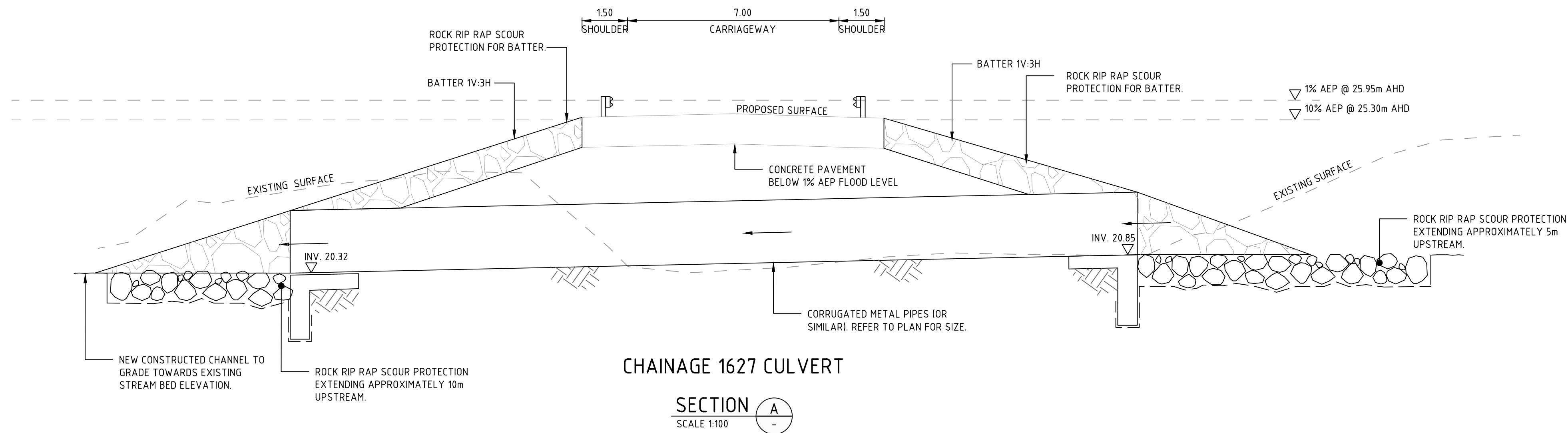
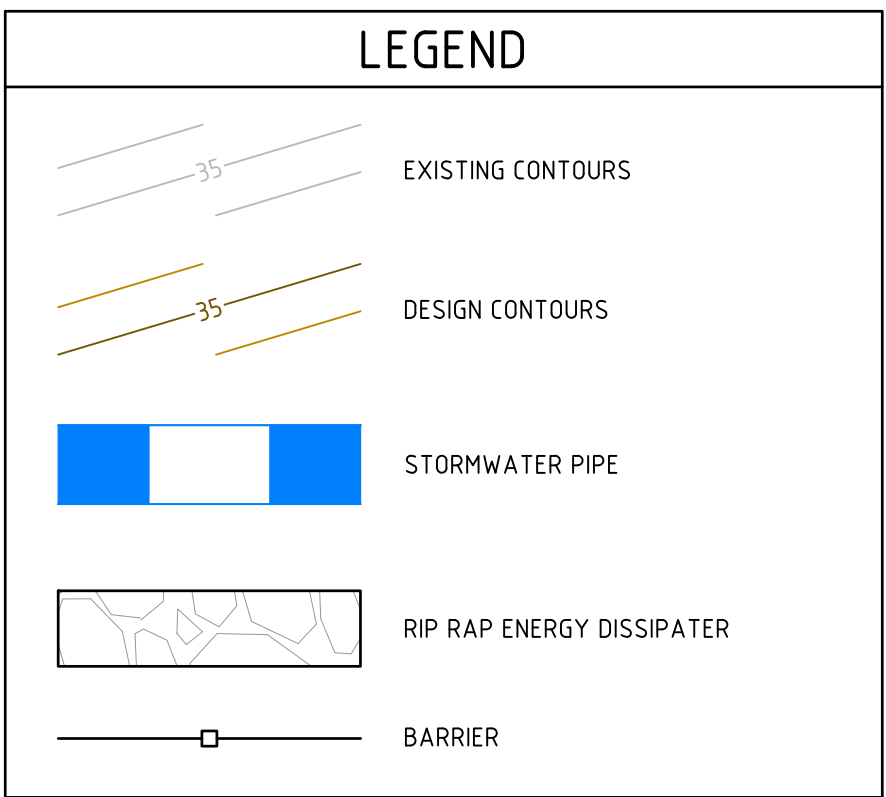
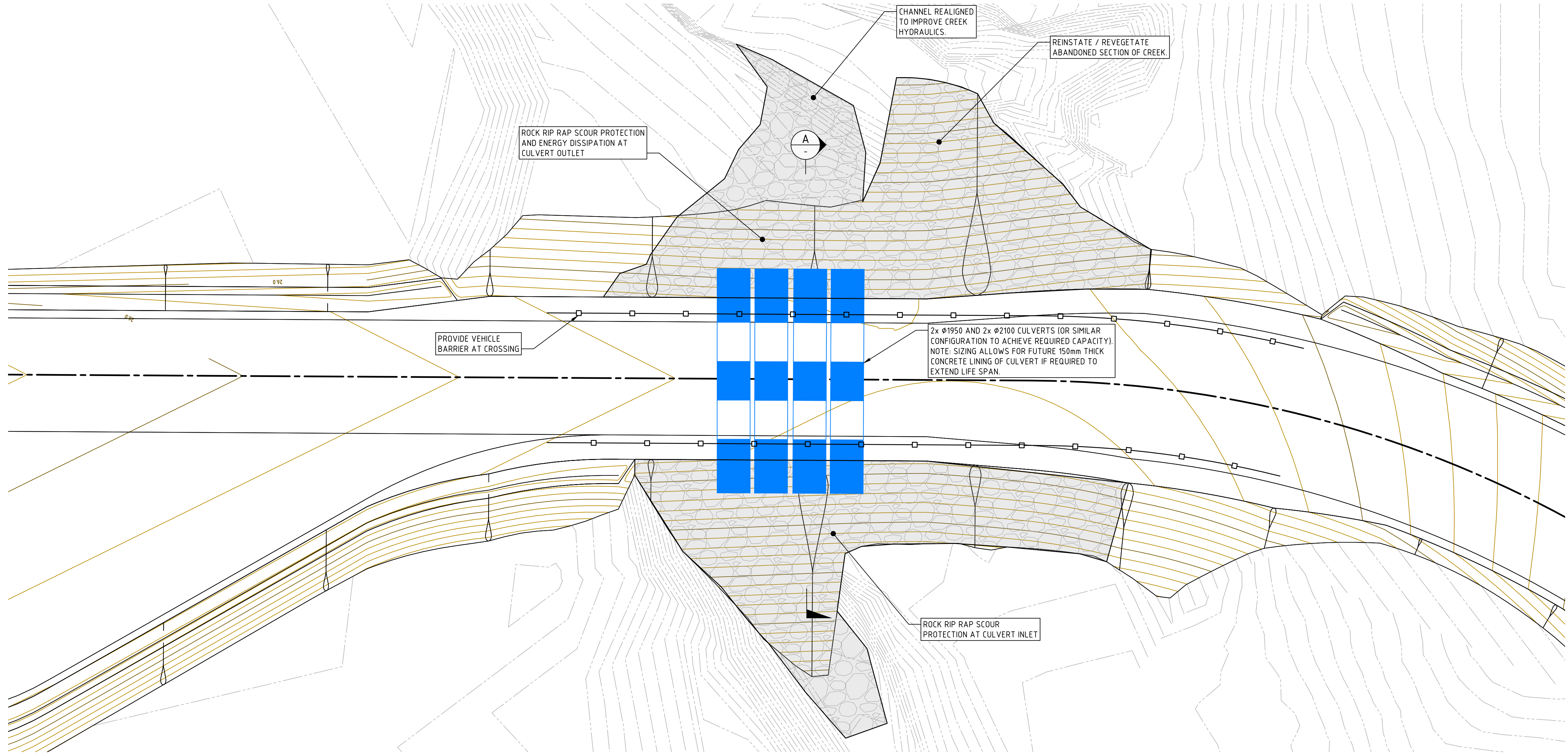
NORTHROP Newcastle Level 1, 215 Pacific Hwy, Charlestown NSW 2290 Ph (02) 4943 1777 Email newcastle@northrop.com.au ABN 81 094 433 100

PROJECT
DEEP CREEK QUARRY THE BUCKETTS WAY, LIMEBURNERS CREEK

DRAWING TITLE
CIVIL ENGINEERING PACKAGE CIVIL WORKS PLAN - STOCKPILE AREA - SHEET 1

JOB NUMBER
NL200342
DRAWING NUMBER
DA-C04.31
REVISION
3
DRAWING SHEET SIZE = A1

VERIFIER: JOB MANAGER: CIPER DESIGNED: P.BURL DRAWN: P.BURL



CHAINAGE 1627 CULVERT

SECTION A-A
SCALE 1:100

NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
1	FOR APPROVAL	BD	CP	PB	24.06.21
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KLEINFELDER Light Design Build Solutions
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SCALE 1:100 @ A1 SCALE 1:150 @ A1
0 1 2 3 4 5m 0 1.5 3 4.5 6 7.5m

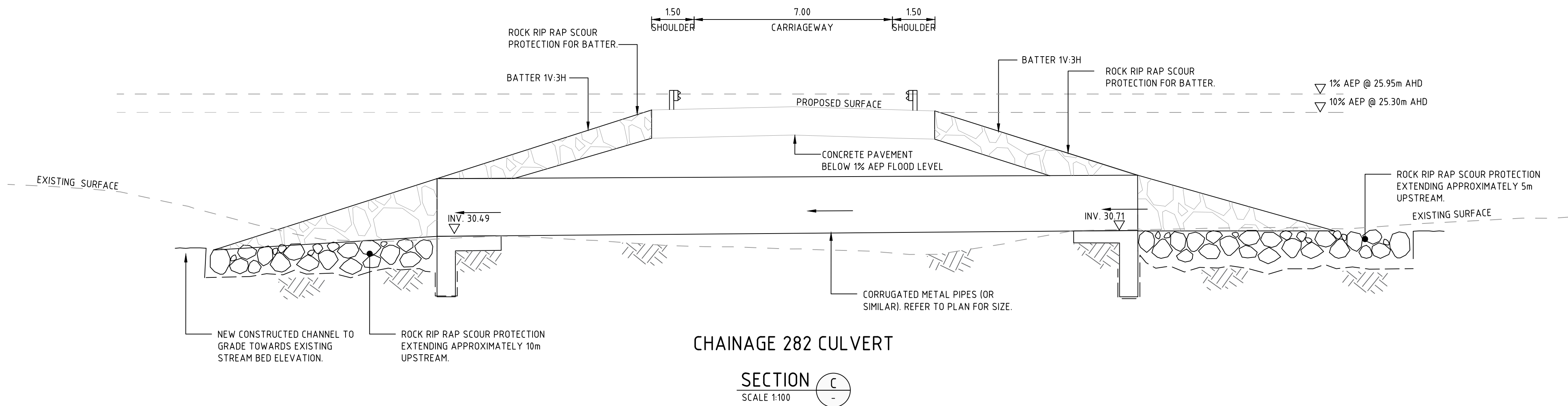
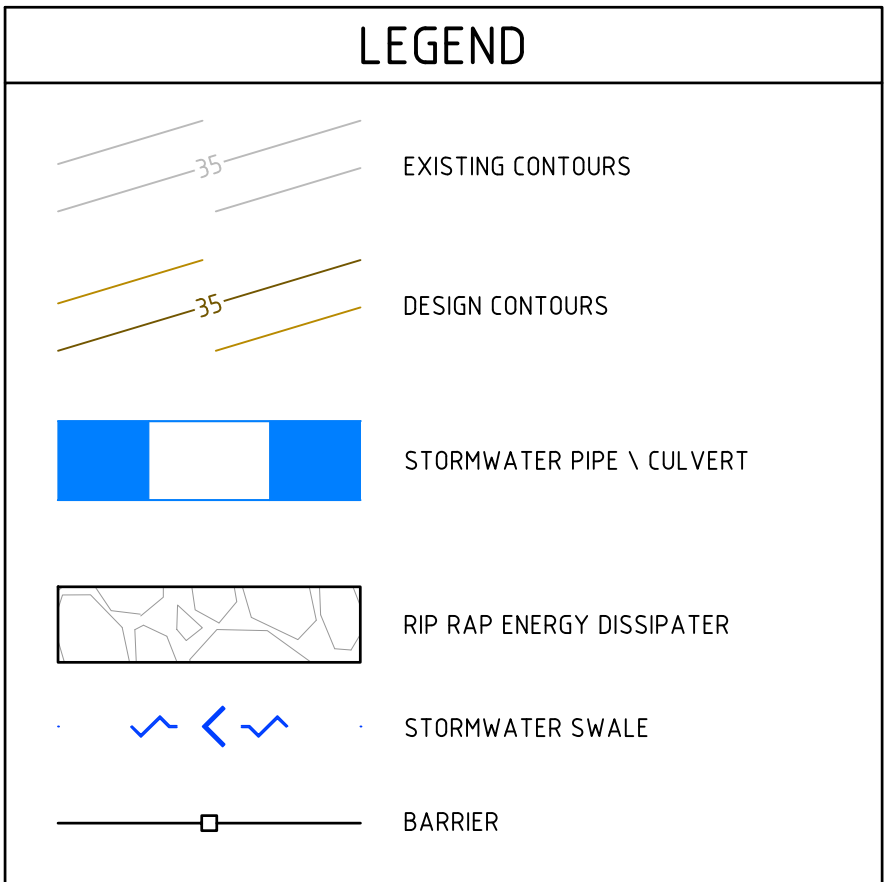
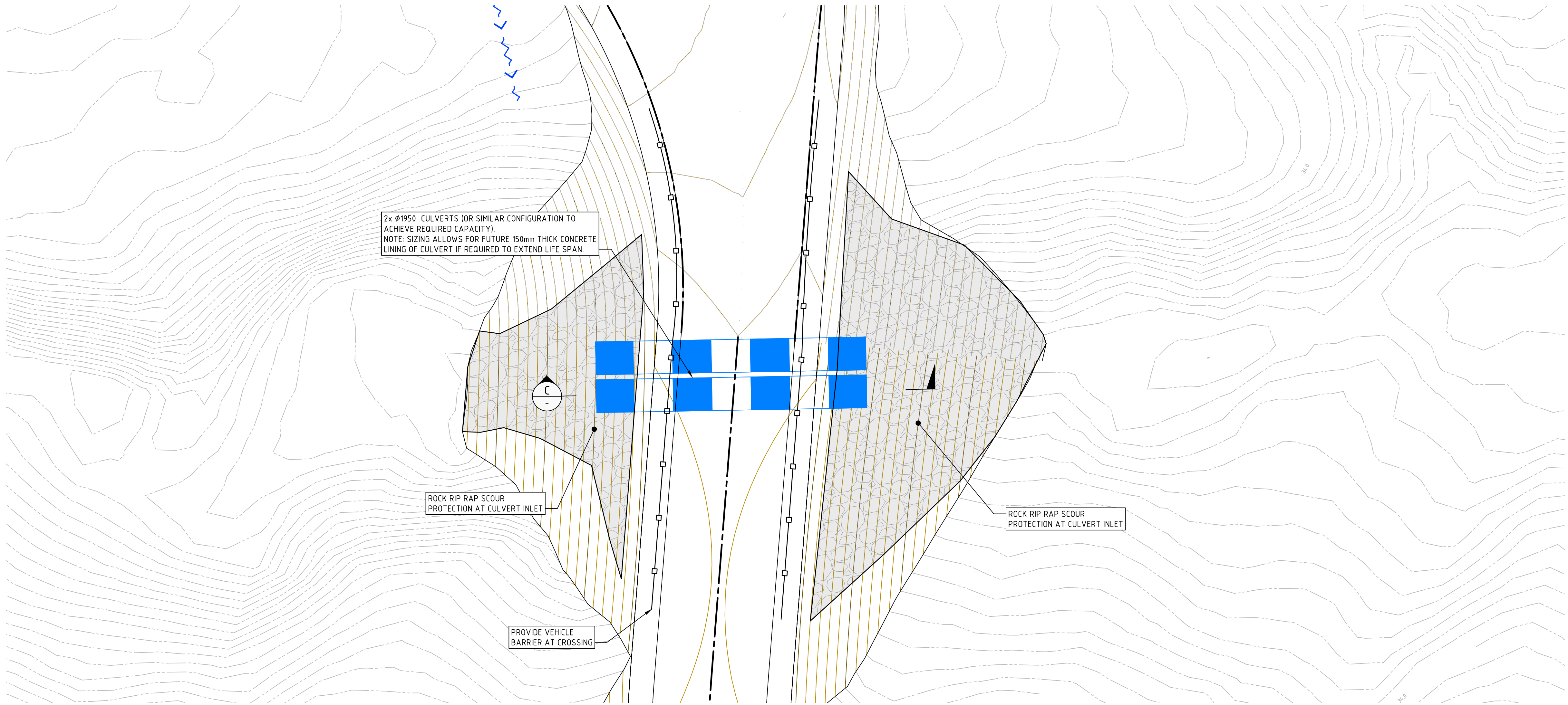
NORTHROP Newcastle Level 1, 215 Pacific Hwy, Charlestown NSW 2290 Ph (02) 4943 1777 Email newcastle@northrop.com.au ABN 81 094 433 100
--

PROJECT
DEEP CREEK QUARRY THE BUCKETTS WAY, LIMEBURNERS CREEK

DRAWING TITLE
CIVIL ENGINEERING PACKAGE
CIVIL WORKS PLAN - CULVERT CROSSING - SHEET 1

JOB NUMBER
NL200342
DRAWING NUMBER
DA-C04.41
REVISION
2
DRAWING SHEET SIZE = A1

VERIFIER: JOB MANAGER: CIPER DESIGNED: P.BURL DRAWN: P.BURL

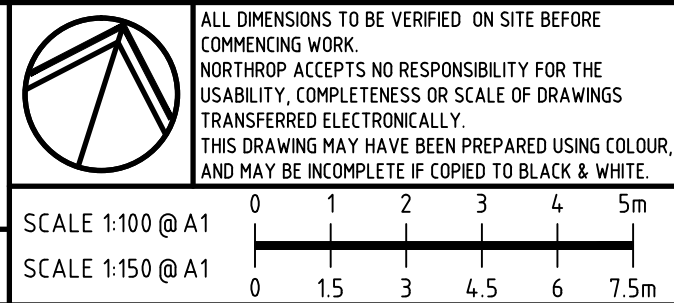


NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
1	FOR APPROVAL	BD	CP	PB	24.06.21
2	FOR APPROVAL	BD	CP	PB	20.07.21

CLIENT	IRONSTONE DEVELOPMENTS
DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS VERIFICATION SIGNATURE HAS BEEN ADDED	

PROJECT MANAGER	KLEINFELDER
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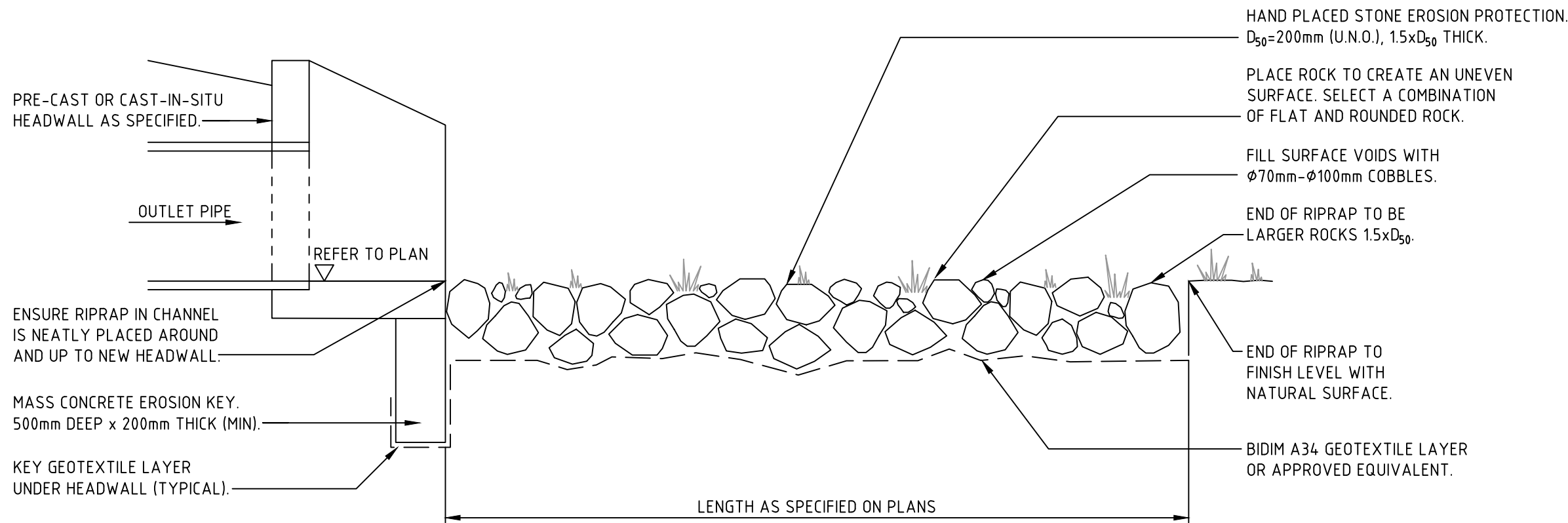
NORTHROP
Newcastle
Level 1, 215 Pacific Hwy, Charlestown NSW 2290
Ph (02) 4943 1777 Email newcastle@northrop.com.au
ABN 81 094 433 100

PROJECT	DEEP CREEK QUARRY THE BUCKETTS WAY, LIMEBURNERS CREEK
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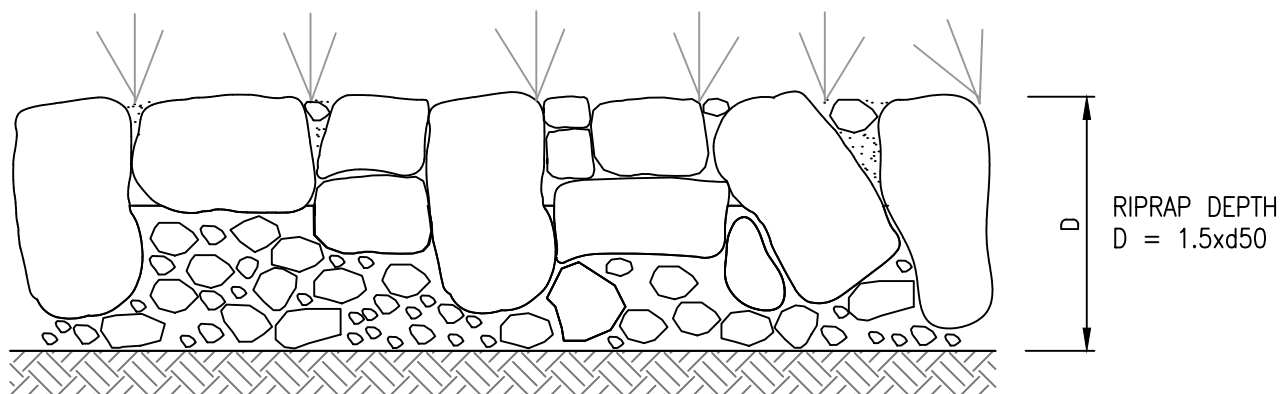
DRAWING TITLE	CIVIL ENGINEERING PACKAGE
CIVIL WORKS PLAN - CULVERT CROSSING - SHEET 3	

JOB NUMBER	NL200342
DRAWING NUMBER	DA-C04.43
REVISION	2
DRAWING SHEET SIZE	A1

VERIFIER: JOB MANAGER: CHIPER DESIGNED: P.BURL DRAWN: P.BURL



OUTLET HEADWALL RIPRAP SECTION



RIPRAP DETAIL

- NOTES:**
1. ALL RIPRAP MUST CONSIST OF HARD, DURABLE ANGULAR RUN-OF-QUARRY ROCK; RESISTANT TO WEATHERING & WATER ACTION; FREE FROM OVERBURDEN, SPOIL, SHALE & ORGANIC MATERIAL; & SHALL MEET THE GRADATION REQUIREMENTS SPECIFIED.
 2. ROUNDED STONES/BOULDERS WILL NOT BE ACCEPTABLE.
 3. SHALE AND ROCK WITH SHALE SEAMS WILL NOT BE ACCEPTABLE.
 4. ROCKS ARE TO BE PLACED OVER A 200mm LAYER OF ANGULAR COBBLES D₅₀=140mm.
 5. ALL ROCK AND COBBLES TO BE PACKED WITH TOPSOIL. GAPS IN RIPRAP TO BE PLANTED WITH SUITABLE NATIVE GRASSES/SEDGES.
 6. RIPRAP SHALL BE PLACED ON THE PREPARED SLOPE IN A MANNER THAT WILL PRODUCE A REASONABLY WELL GRADED MASS OF STONE WITH THE MINIMUM PRACTICAL PERCENTAGE OF VOIDS.
 7. LARGER STONES SHALL BE WELL DISTRIBUTED & THE ENTIRE MASS OF STONE SHALL CONFORM TO THE GRADATION SPECIFIED BY THE ENGINEERING PLANS.
 8. THE MINIMUM THICKNESS OF THE RIPRAP LAYER IS TO BE 15 TIMES THE d₅₀ ROCK SIZE & NOT BE LESS THAN 300mm FOR PRACTICAL PLACEMENT.
 9. THE MINIMUM DENSITY OF STONE USED SHALL NOT BE LESS THAN 2200 kg/cu.m.
TYPICAL ROCK WEIGHT RANGES FOR RIPRAP ARE:
M50 - 60kg (NOM 300MD)
M15 - 25kg
M100 - 120kg

NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE	CLIENT	PROJECT MANAGER	ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE COMMENCING WORK. NORTHROP ACCEPTS NO RESPONSIBILITY FOR THE USABILITY, COMPLETENESS OR SCALE OF DRAWINGS TRANSFERRED ELECTRONICALLY. THIS DRAWING MAY HAVE BEEN PREPARED USING COLOUR AND MAY BE INCOMPLETE IF COPIED TO BLACK & WHITE.		 Northrop Newcastle Level 1, 215 Pacific Hwy, Charlestown NSW 2290 Ph (02) 4943 1777 Email newcastle@northrop.com.au ABN 81 094 433 100	PROJECT	DRAWING TITLE	JOB NUMBER
1	FOR APPROVAL	BD	CP	PB	24.06.21	IRONSTONE DEVELOPMENTS 		SCALE 1:20 @A1 	DRAWING NUMBER		REVISION	NL200342	
2	FOR APPROVAL	BD	CP	PB	20.07.21				DA-C09.01		2		
						DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS VERIFICATION SIGNATURE HAS BEEN ADDED	THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD				CIVIL ENGINEERING PACKAGE CIVIL DETAILS	DRAWING SHEET SIZE ± A1	