

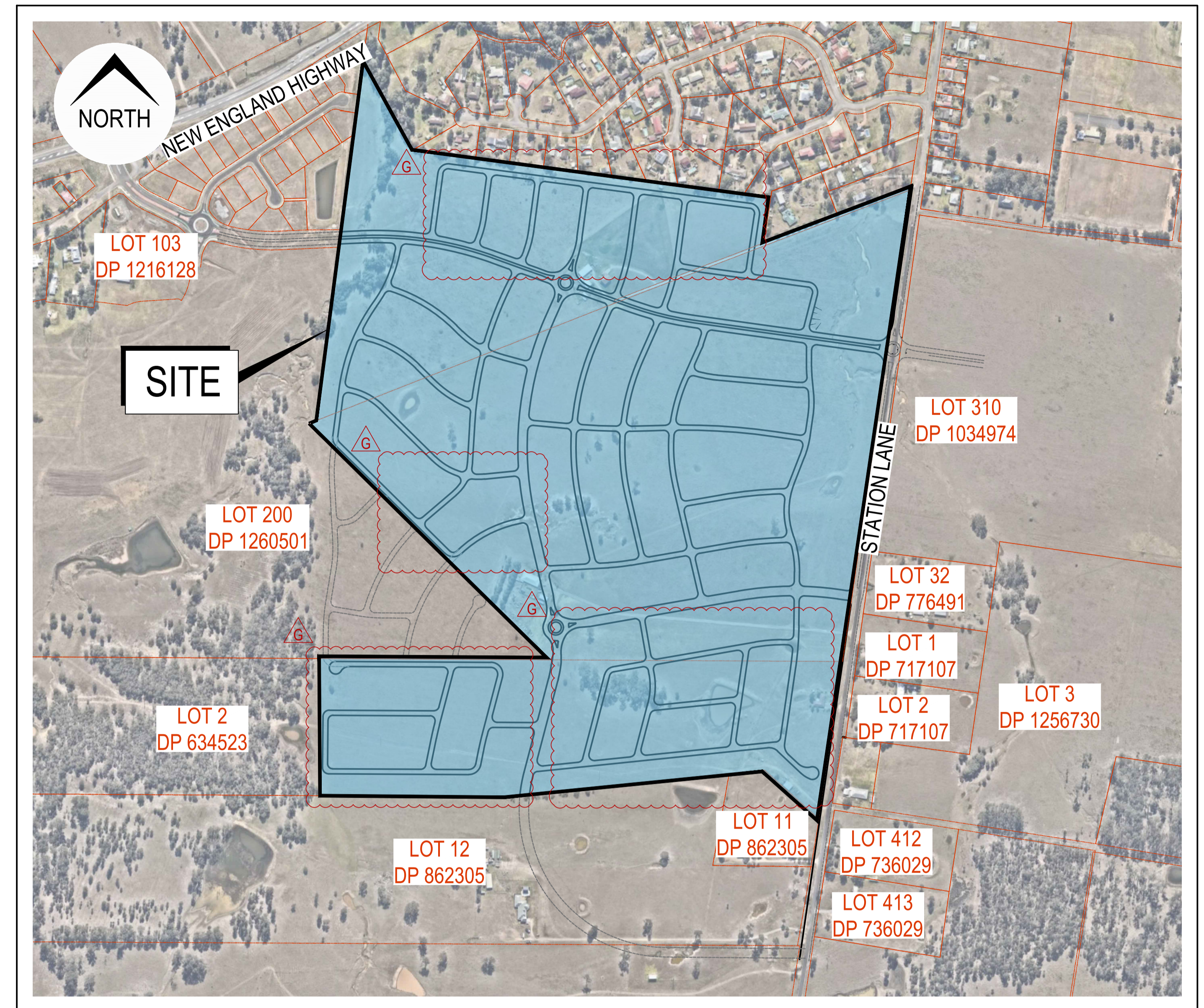
Prepared by:



Prepared for:



LGA:



SITE / LOCATION (Image courtesy of Nearmap 14.08.2019)

LOT 3 D.P.564631  
 LOT 2 & 4 D.P.634523

# 51, 134 & 146 STATION LANE, LOCHINVAR MASTER PLAN DESIGN

ISSUED FOR **DEVELOPMENT APPLICATION**  
 NOT FOR CONSTRUCTION

PLAN INDEX		
No.	PLAN	REV
<b>PRELIMINARIES</b>		
DA 000	COVER SHEET & PLAN INDEX	G
DA 001	GENERAL LAYOUT PLAN NOTES & LEGEND	E
DA 002	EXISTING SITE LOCALITY & SURVEY PLAN	C
DA 003	LAND USE PLAN	D
DA 004	DEMOLITION & TREE MANAGEMENT PLAN	B
DA 005	SITE REGRADING ALIGNMENT PLAN	C
DA 006	SITE REGRADING PLAN SHEET 01 OF 04	C
DA 007	SITE REGRADING PLAN SHEET 02 OF 04	C
DA 008	SITE REGRADING PLAN SHEET 03 OF 04	C
DA 009	SITE REGRADING PLAN SHEET 04 OF 04	C
DA 010	SITE REGRADING SECTIONS SHEET 01 OF 09	C
DA 011	SITE REGRADING SECTIONS SHEET 02 OF 09	B
DA 012	SITE REGRADING SECTIONS SHEET 03 OF 09	B
DA 013	SITE REGRADING SECTIONS SHEET 04 OF 09	A
DA 014	SITE REGRADING SECTIONS SHEET 05 OF 09	B
DA 015	SITE REGRADING SECTIONS SHEET 06 OF 09	A
DA 016	SITE REGRADING SECTIONS SHEET 07 OF 09	B
DA 017	SITE REGRADING SECTIONS SHEET 08 OF 09	B
DA 018	SITE REGRADING SECTIONS SHEET 09 OF 09	C
<b>SEDIMENT &amp; EROSION CONTROL</b>		
DA 100	SOIL & WATER MANAGEMENT PLAN SHEET 01 OF 04	B
DA 101	SOIL & WATER MANAGEMENT PLAN SHEET 02 OF 04	C
DA 102	SOIL & WATER MANAGEMENT PLAN SHEET 03 OF 04	C
DA 103	SOIL & WATER MANAGEMENT PLAN SHEET 04 OF 04	C
DA 104	SOIL & WATER MANAGEMENT NOTES & DETAILS	C
<b>ENGINEERING &amp; ROADWORKS</b>		
DA 200	ENGINEERING PLAN	E
DA 201	CONCEPT STAGING PLAN	D
DA 202	ROAD HIERARCHY PLAN AND WIDTHS	C
DA 300	TYPICAL ROAD CROSS SECTIONS	A
DA 301	MODIFIED TYPICAL ROAD CROSS SECTIONS	A
<b>STORMWATER DRAINAGE &amp; BASINS</b>		
DA 400	EXISTING STORMWATER CATCHMENT PLAN	A
DA 401	POST DEVELOPMENT STORMWATER CATCHMENT PLAN	A
DA 402	WSUD/ MUSIC BASIN CATCHMENT PLAN	D





**LEGEND**

	EXISTING	PROPOSED	FUTURE
UTILITY - ELECTRICITY	E	E	E
GAS	G	G	G
SEWER	S	S	S
WATER	W	W	W
TELECOMS	T	T	T
NBN	NBN	NBN	NBN
OPTIC FIBRE	OF	OF	OF
OVERHEAD WIRE	OH	OH	OH
CONTOUR LINE & LABEL	20.0	20.0	20.0
LOT NUMBER & BOUNDARY	LOT #	LOT #	LOT #
APPROXIMATE LIMIT OF WORKS			
EXISTING PAVEMENT			
BUILDING / ENVELOPE			
ROAD, NUMBER, CONTROL LINE & CHAINAGE MARK	ROAD	ROAD	ROAD
EASEMENT (REFER LEGEND)	(A) (B) (C)	(A) (B) (C)	(A) (B) (C)
TREE - TO BE RETAINED			
TREE - TO BE REMOVED			
EXISTING CADASTRAL			
2ND ORDER STREAM VRZ			
3RD ORDER STREAM VRZ			
CULVERT CROSSING			
EXISTING VEGETATION TO BE REMOVED			
EXISTING VEGETATION TO BE RETAINED			

**GENERAL NOTES**

- ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH MAITLAND CITY COUNCIL WORKS SPECIFICATION CIVIL (CURRENT EDITION) AND/OR AS DIRECTED BY THEIR REPRESENTATIVE.
- THE CONTRACTOR IS TO IDENTIFY, LOCATE AND LEVEL ALL EXISTING SERVICES PRIOR TO COMMENCEMENT OF CONSTRUCTION WORKS AND WHERE NECESSARY MAKE ARRANGEMENTS WITH THE RELEVANT AUTHORITY TO RELOCATE OR ADJUST WHERE NECESSARY.
- COUNCIL'S TREE PRESERVATION ORDER MUST BE OBSERVED AND NO TREE SHALL BE FELLED, LOPPED OR REMOVED WITHOUT THE PRIOR APPROVAL OF COUNCIL.
- DIMENSIONS SHALL NOT BE SCALED FROM THE PLANS. CLARIFICATION OF DIMENSIONS SHALL BE SOUGHT FROM THE SUPERINTENDENT OR REFERRED TO THE DESIGNER.
- ALL NEW WORK IS TO MAKE A SMOOTH JUNCTION WITH THE EXISTING CONDITIONS.

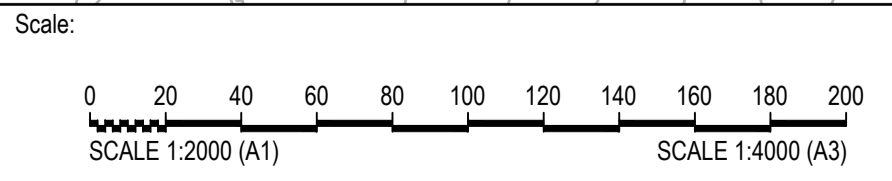


UTILITIES SHOWN ARE DIAGRAMMATIC ONLY AND MAY NOT INCLUDE ALL SERVICES WITHIN THE LIMIT OF WORKS.  
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY, LOCATE AND AVOID DAMAGE TO THEM AS SPECIFIED BY EACH UTILITIES EXCAVATION GUIDE LINES/STANDARDS.

**ISSUED FOR DEVELOPMENT APPLICATION NOT FOR CONSTRUCTION**

Rev	Drawn	Design	Appd.	Date	Revision Description
E	AP	CS	JM	29/06/2021	ROAD LAYOUT AND INTERFACES UPDATED
D	MG	CS	MP	15/09/2020	GENERAL MASTERPLAN UPDATES
C	MG	CS	MP	30/6/2020	WATER QUALITY BASINS AND INTERFACES UPDATED
B	MG	CS	MP	27/04/2020	ISSUED FOR MASTER PLAN DA APPROVAL
A	MG	CS	MP	20/04/2020	ISSUED FOR MASTER PLAN DA APPROVAL

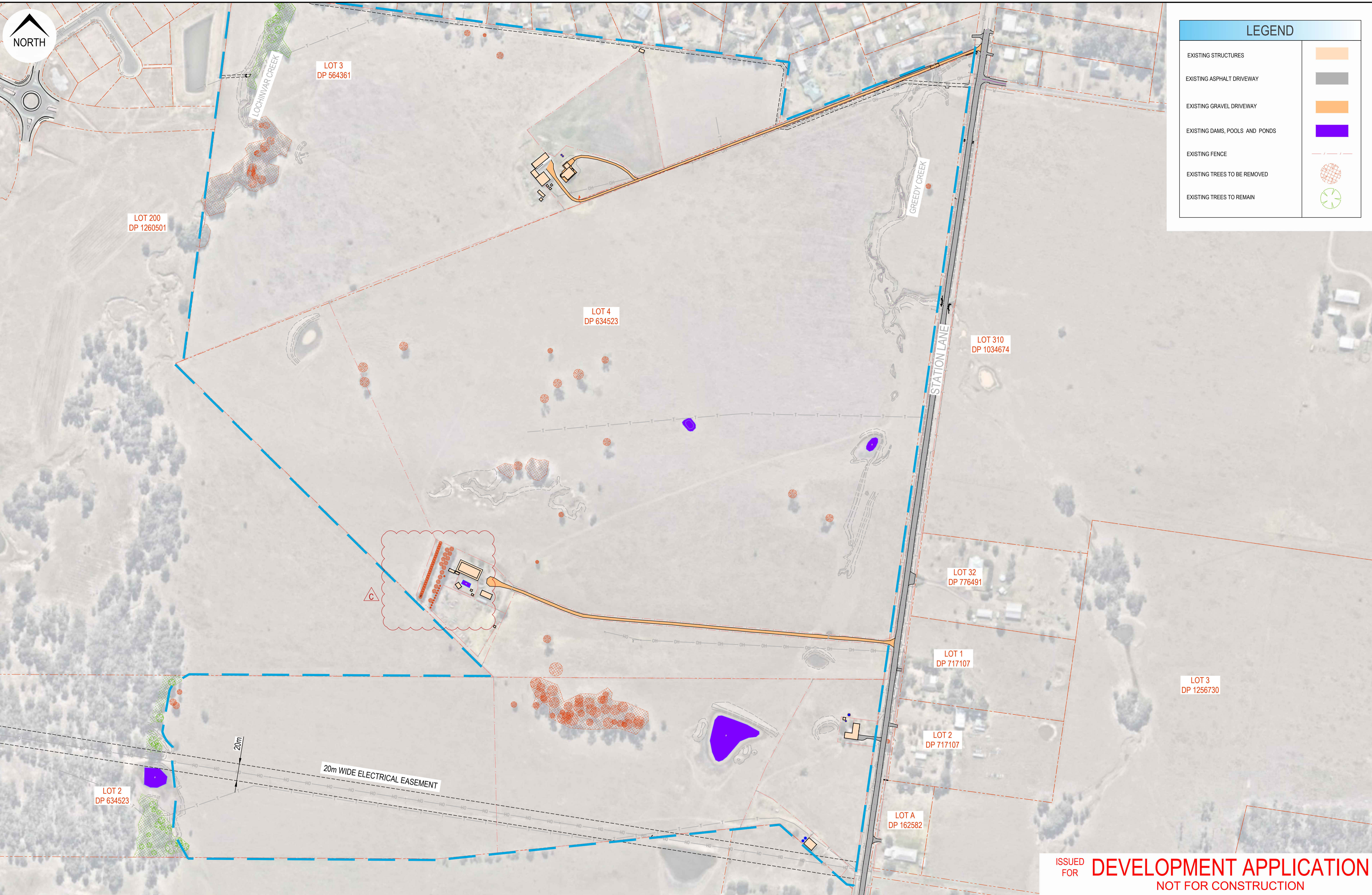
Disclaimer and Copyright:  
ALL DIMENSIONS TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE.  
THESE DRAWINGS, PLANS, AND SPECIFICATIONS AND THE COPYRIGHT ARE THE PROPERTY OF ORION CONSULTING ENGINEERS PTY LTD AND MUST NOT BE REPRODUCED OR COPIED WHOLLY OR IN PART WITHOUT THE PERMISSION OF ORION CONSULTING ENGINEERS PTY LTD



Project: No. 51, 134, 146 STATION LANE, LOCHINVAR MASTERPLAN DA

Project No.	Set No.	Milestone	Plan	Revision
19-0042	02	DA	001	E

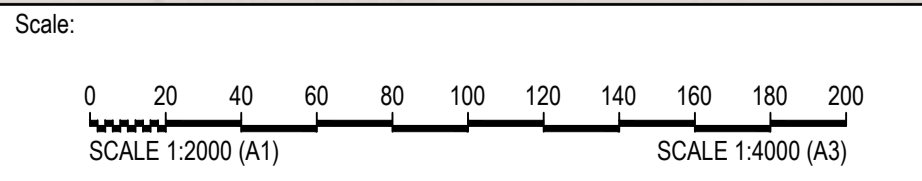




ISSUED FOR **DEVELOPMENT APPLICATION**  
NOT FOR CONSTRUCTION

Rev	Drawn	Design	Appd.	Date	Revision Description
C	MG	CS	MP	23/06/2020	ISSUED FOR MASTER PLAN DA APPROVAL
B	MG	CS	MP	27/04/2020	ISSUED FOR MASTER PLAN DA APPROVAL
A	MG	CS	MP	20/04/2020	ISSUED FOR MASTER PLAN DA APPROVAL

Disclaimer and Copyright:  
ALL DIMENSIONS TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE. THESE DRAWINGS, PLANS, AND SPECIFICATIONS AND THE COPYRIGHT ARE THE PROPERTY OF ORION CONSULTING ENGINEERS PTY LTD AND MUST NOT BE REPRODUCED OR COPIED WHOLLY OR IN PART WITHOUT THE PERMISSION OF ORION CONSULTING ENGINEERS PTY LTD



Project: No. 51, 134, 146 STATION LANE, LOCHINVAR MASTERPLAN DA

Project No.	Set No.	Milestone	Plan	Revision
19-0042	02	DA	002	C

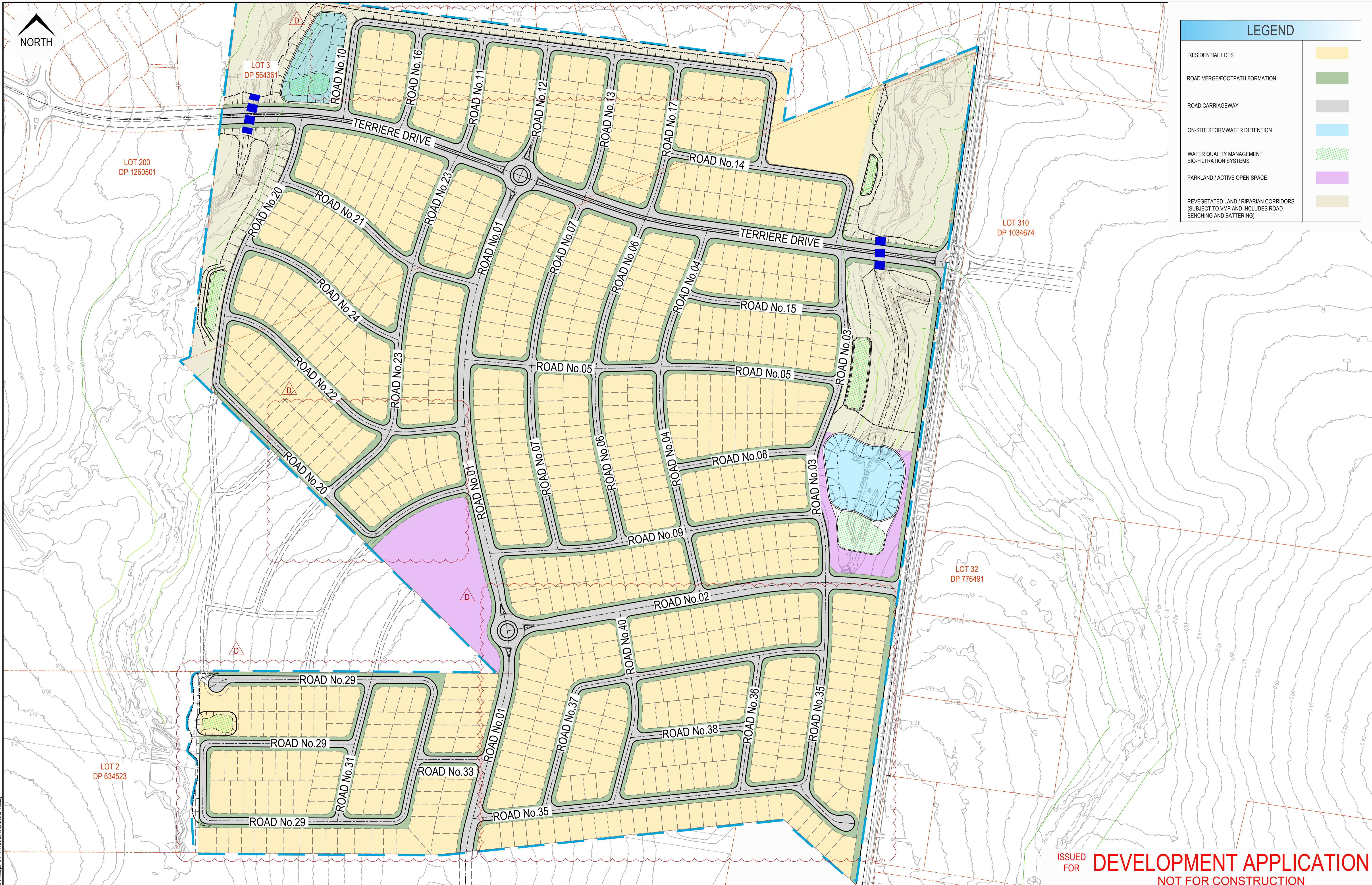
Project: File Name: C:\Users\orion\OneDrive\Documents\19-0042\DA Masterplan DA\_19-0042\DA\_002.dwg  
 Date: 23/06/2020 10:00:00 AM





### LEGEND

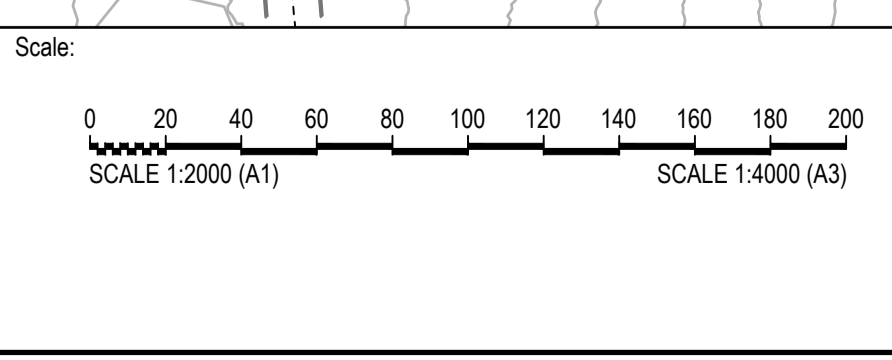
RESIDENTIAL LOTS	
ROAD VERGE/FOOTPATH FORMATION	
ROAD CARRIAGEWAY	
ON-SITE STORMWATER DETENTION	
WATER QUALITY MANAGEMENT BIO-FILTRATION SYSTEMS	
PARKLAND / ACTIVE OPEN SPACE	
REVEGETATED LAND / RIPARIAN CORRIDORS (SUBJECT TO VMP AND INCLUDES ROAD BENCHING AND BATTERING)	



**ISSUED FOR DEVELOPMENT APPLICATION**  
**NOT FOR CONSTRUCTION**

Rev	Drawn	Design	Appd.	Date	Revision Description
D	AP	CS	JM	29/06/2021	ROAD LAYOUT AND INTERFACES UPDATED
C	MG	CS	MP	15/09/2020	GENERAL MASTERPLAN UPDATES
B	MG	CS	MP	30/6/2020	WATER QUALITY BASINS AND INTERFACES UPDATED
A	MG	CS	MP	20/04/2020	ISSUED FOR MASTER PLAN DA APPROVAL

**Disclaimer and Copyright:**  
 ALL DIMENSIONS TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE. THESE DRAWINGS, PLANS, AND SPECIFICATIONS AND THE COPYRIGHT ARE THE PROPERTY OF ORION CONSULTING ENGINEERS PTY LTD AND MUST NOT BE REPRODUCED OR COPIED WHOLLY OR IN PART WITHOUT THE PERMISSION OF ORION CONSULTING ENGINEERS PTY LTD



For:

**The Bathla Group**

By:

**Orion Consulting**

ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@orionconsulting.com.au

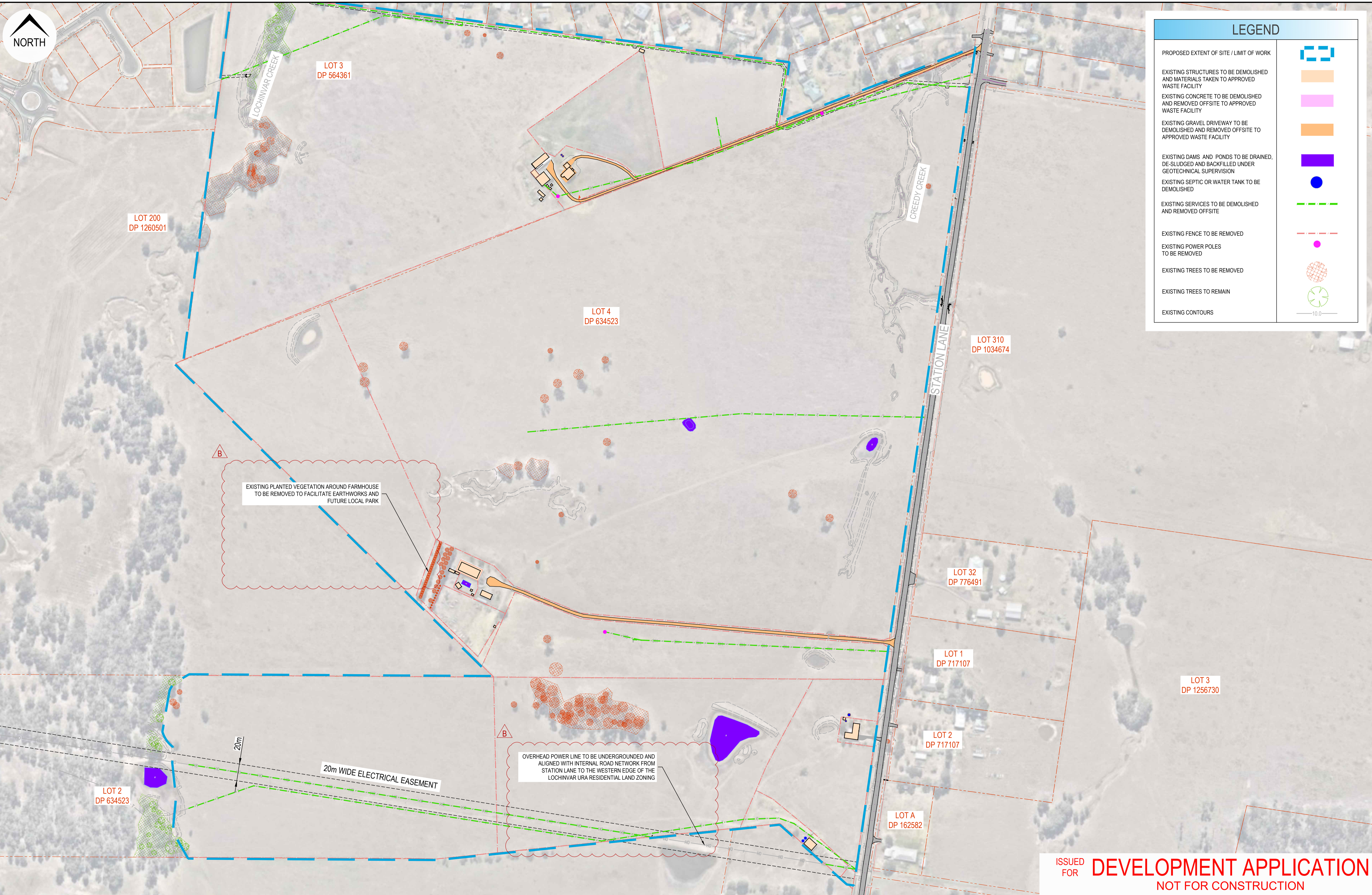
Project:

**No. 51, 134, 146 STATION LANE, LOCHINVAR MASTERPLAN DA**

Title: **CONCEPT LAND USE PLAN**

Project No.	Set No.	Milestone	Plan	Revision
19-0042	02	DA	003	D



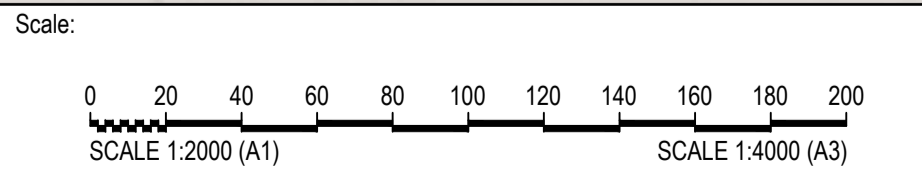


LEGEND	
PROPOSED EXTENT OF SITE / LIMIT OF WORK	
EXISTING STRUCTURES TO BE DEMOLISHED AND MATERIALS TAKEN TO APPROVED WASTE FACILITY	
EXISTING CONCRETE TO BE DEMOLISHED AND REMOVED OFFSITE TO APPROVED WASTE FACILITY	
EXISTING GRAVEL DRIVEWAY TO BE DEMOLISHED AND REMOVED OFFSITE TO APPROVED WASTE FACILITY	
EXISTING DAMS AND PONDS TO BE DRAINED, DE-SLUDGED AND BACKFILLED UNDER GEOTECHNICAL SUPERVISION	
EXISTING SEPTIC OR WATER TANK TO BE DEMOLISHED	
EXISTING SERVICES TO BE DEMOLISHED AND REMOVED OFFSITE	
EXISTING FENCE TO BE REMOVED	
EXISTING POWER POLES TO BE REMOVED	
EXISTING TREES TO BE REMOVED	
EXISTING TREES TO REMAIN	
EXISTING CONTOURS	

**ISSUED FOR DEVELOPMENT APPLICATION**  
NOT FOR CONSTRUCTION

Rev	Drawn	Design	Appd.	Date	Revision Description
B	AP	CS	JM	29/06/2021	NOTES ADDED TO PLAN
A	MG	CS	MP	23/06/2020	ISSUED FOR MASTER PLAN DA APPROVAL

**Disclaimer and Copyright:**  
ALL DIMENSIONS TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE. THESE DRAWINGS, PLANS, AND SPECIFICATIONS AND THE COPYRIGHT ARE THE PROPERTY OF ORION CONSULTING ENGINEERS PTY LTD AND MUST NOT BE REPRODUCED OR COPIED WHOLLY OR IN PART WITHOUT THE PERMISSION OF ORION CONSULTING ENGINEERS PTY LTD



Project: No. 51, 134, 146 STATION LANE, LOCHINVAR MASTERPLAN DA

Title: DEMOLITION & TREE MANAGEMENT PLAN				
Project No.	Set No.	Milestone	Plan	Revision
19-0042	02	DA	004	B

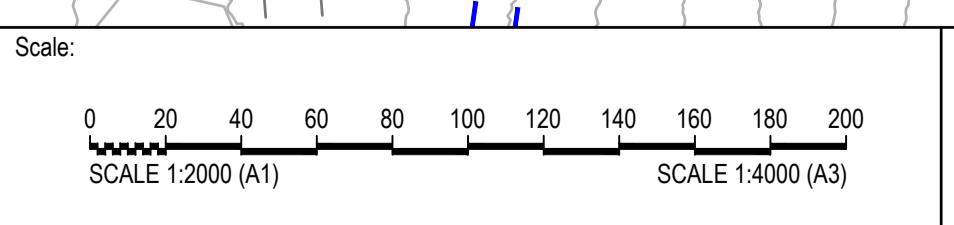




ISSUED FOR **DEVELOPMENT APPLICATION**  
NOT FOR CONSTRUCTION

Rev	Drawn	Design	Appd.	Date	Revision Description
C	AP	CS	JM	29/06/2021	ROAD LAYOUT AND INTERFACES UPDATED
B	MG	CS	MP	15/09/2020	GENERAL MASTERPLAN UPDATES
A	MG	CS	MP	23/06/2020	ISSUED FOR MASTER PLAN DA APPROVAL

Disclaimer and Copyright:  
ALL DIMENSIONS TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO CONSTRUCTION.  
USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE.  
THESE DRAWINGS, PLANS, AND SPECIFICATIONS AND THE COPYRIGHT ARE THE PROPERTY OF ORION CONSULTING ENGINEERS PTY LTD AND MUST NOT BE REPRODUCED OR COPIED WHOLLY OR IN PART WITHOUT THE PERMISSION OF ORION CONSULTING ENGINEERS PTY LTD



For: **Orion Consulting**  
 ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@orionconsulting.com.au

Project: **No. 51, 134, 146 STATION LANE, LOCHINVAR MASTERPLAN DA**

Project No.	Set No.	Milestone	Plan	Revision
19-0042	02	DA	005	C





LEGEND	
APPROXIMATE EXTENT OF FILL	
0.0 - 0.5m	
0.5 - 1.0m	
1.0 - 1.5m	
1.5 - 2.0m	
2.0 - 2.5m	
> 2.5m	
APPROXIMATE EXTENT OF CUT	
0.0 - 0.5m	
0.5 - 1.0m	
1.0 - 1.5m	
1.5 - 2.0m	
2.0 - 2.5m	
> 2.5m	

UTILITIES SHOWN ARE DIAGRAMMATIC ONLY AND MAY NOT INCLUDE ALL SERVICES WITHIN THE LIMIT OF WORKS.

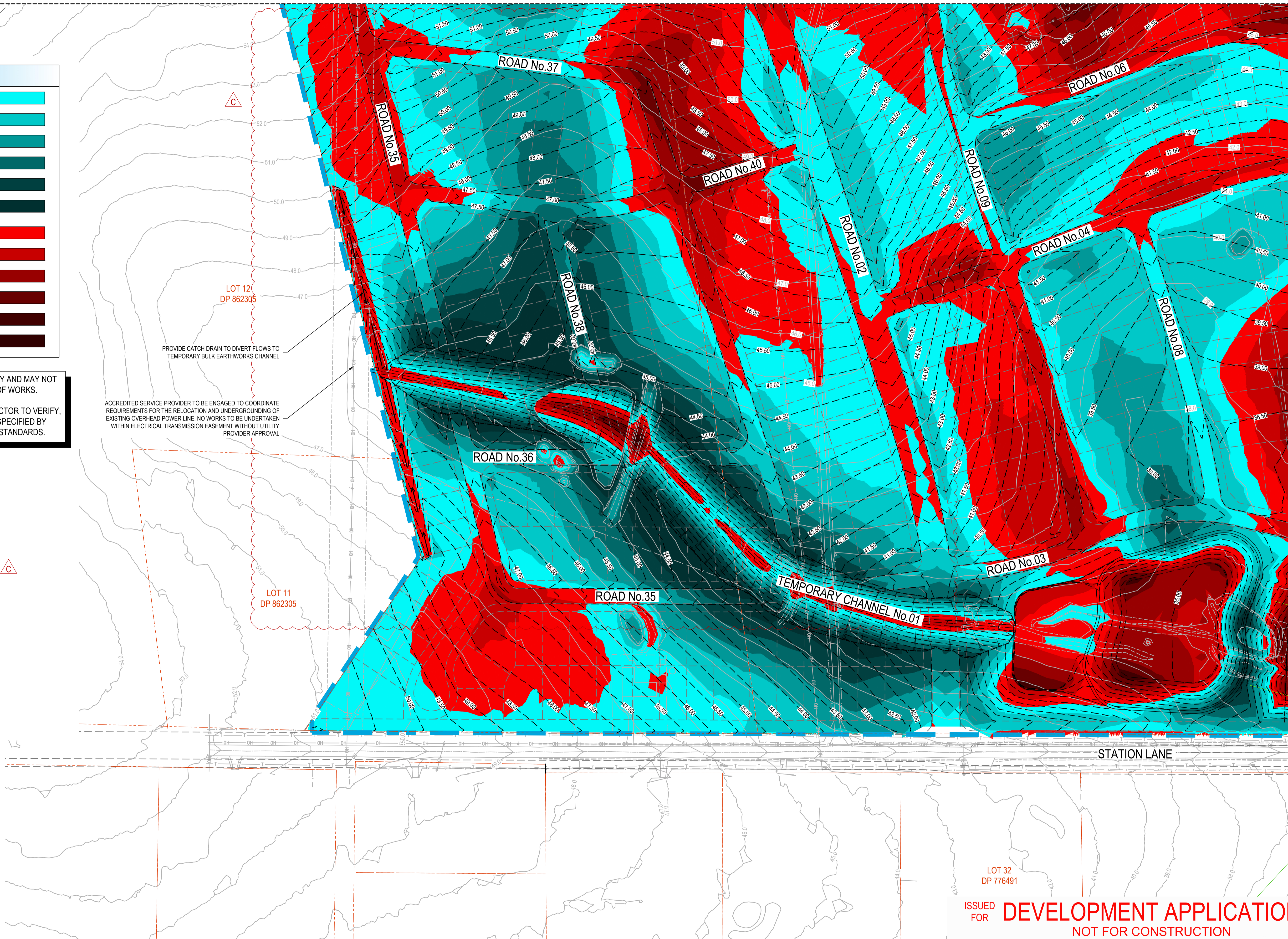
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY, LOCATE AND AVOID DAMAGE TO THEM AS SPECIFIED BY EACH UTILITIES EXCAVATION GUIDE LINES/STANDARDS.



VOLUMES	
CUT -	263,276m <sup>3</sup>
FILL -	265,610m <sup>3</sup>
IMPORT -	2,334m <sup>3</sup>

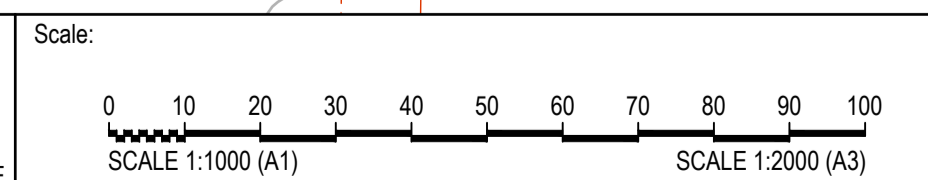
- NOTES:**
- VOLUME CALCULATED BETWEEN BULK EARTHWORKS DESIGN TIN AND STRIPPED SURFACE SURVEY TIN.
  - 500mm ALLOWANCE FOR ROAD PAVEMENT THICKNESS WITHIN BULK EARTHWORKS DESIGN TIN (NO PAVEMENT DESIGN REPORT SUBJECT TO DETAILED DESIGN STAGE)
  - DOES NOT INCLUDE ROAD BOXING OR ANY WORKS WITHIN STATION LANE.
  - VOLUMES DO INCLUDE TEMPORARY CHANNEL 01
  - FINISHED DESIGN BULK EARTHWORKS SURFACE CONTOURS SHOWING INCLUDING TEMPORARY CHANNEL 01.
  - TOPSOIL STRIPPING FOR MAXIMUM 150mm OF TOPSOIL.
  - NO BULKING FACTOR HAS BEEN APPLIED.
  - NO ALLOWANCE HAS BEEN MADE FOR TRENCHING OR SERVICES
  - NO ALLOWANCE HAS BEEN MADE FOR UNSUITABLE MATERIAL ASSOCIATED WITH EXISTING DAMS SUCH AS WATER, MUD, SLUDGE ETC.
  - CONSTRUCTION OF ROADS & RETAINING WALLS DOES NOT FORM PART OF BULK EARTHWORKS SCOPE.
  - ROADS & RETAINING WALLS ARE TO BE CONSTRUCTED AS PART OF CIVIL WORKS IN FUTURE CC.

- NOTES:**
- ALL ENM/VENM IS TO BE CERTIFIED.
  - CONSTRUCTION AND COMPACTION TO BE IN ACCORDANCE WITH COUNCIL'S WORKS SPECIFICATIONS.
  - BULK EARTHWORKS ONLY. APPROVAL TO SUBGRADE LEVEL.
  - ROAD BOXING DEPTHS = 500mm THROUGHOUT.
  - LOT REGRADING = 150mm LOWER THAN FINISHED DESIGN SURFACE



Rev	Drawn	Design	Appd.	Date	Revision Description
C	AP	CS	JM	29/06/2021	ROAD LAYOUT AND INTERFACES UPDATED
B	MG	CS	MP	15/09/2020	GENERAL MASTERPLAN UPDATES
A	MG	CS	MP	23/06/2020	ISSUED FOR MASTER PLAN DA APPROVAL

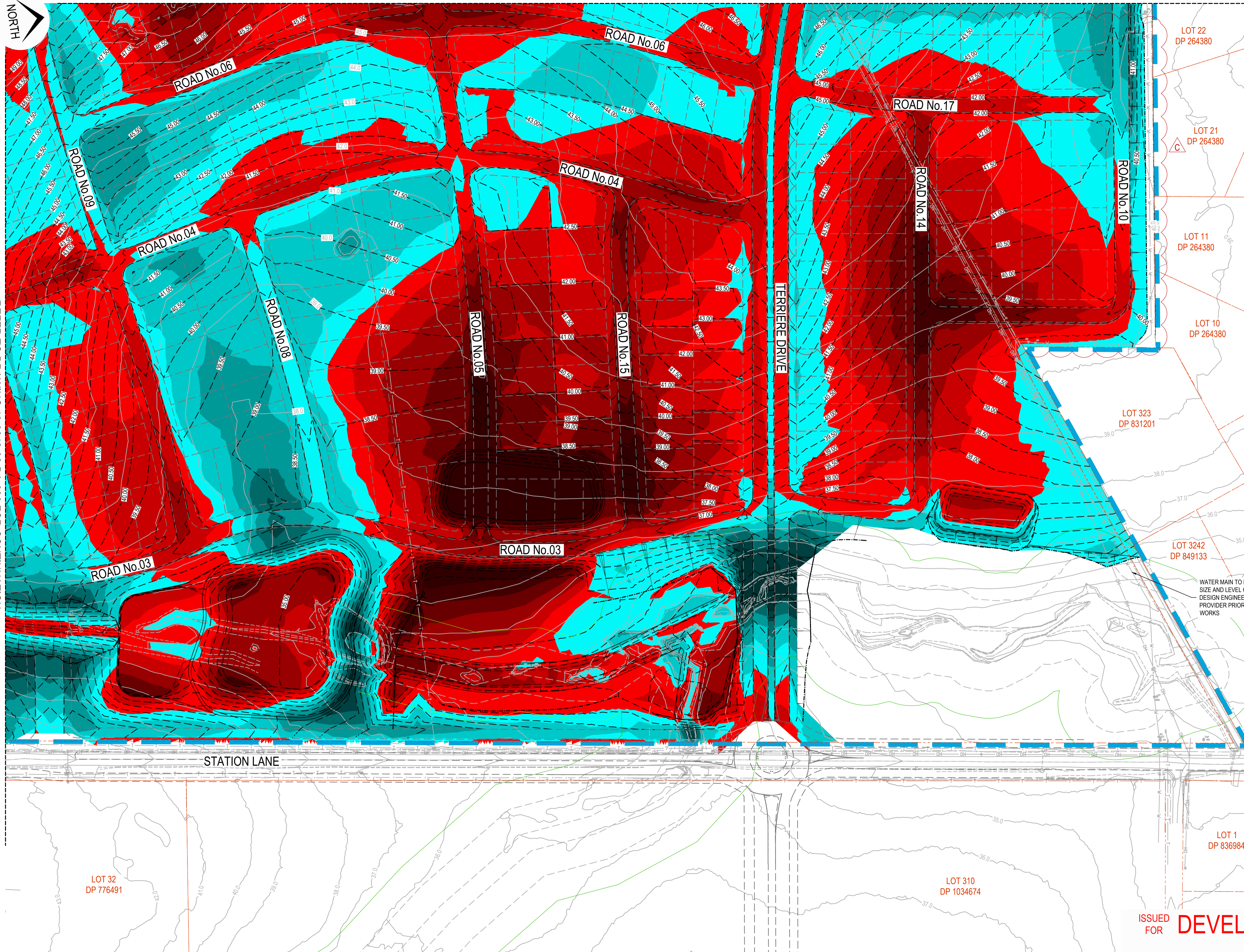
Disclaimer and Copyright:  
 ALL DIMENSIONS TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO CONSTRUCTION.  
 USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE.  
 THESE DRAWINGS, PLANS, AND SPECIFICATIONS AND THE COPYRIGHT ARE THE PROPERTY OF ORION CONSULTING ENGINEERS PTY LTD AND MUST NOT BE REPRODUCED OR COPIED WHOLLY OR IN PART WITHOUT THE PERMISSION OF ORION CONSULTING ENGINEERS PTY LTD



By: Orion Consulting  
 Member Firm  
 Project: No. 51, 134, 146 STATION LANE, LOCHINVAR MASTERPLAN DA  
 Title: SITE REGRADING PLAN SHEET 01 OF 04  
 Project No: 19-0042 Set No: 02 Milestone: DA Plan: 006 Revision: C  
 ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@orionconsulting.com.au

ISSUED FOR **DEVELOPMENT APPLICATION**  
 NOT FOR CONSTRUCTION





LEGEND	
APPROXIMATE EXTENT OF FILL	0.0 - 0.5m
	0.5 - 1.0m
	1.0 - 1.5m
	1.5 - 2.0m
	2.0 - 2.5m
	> 2.5m
APPROXIMATE EXTENT OF CUT	0.0 - 0.5m
	0.5 - 1.0m
	1.0 - 1.5m
	1.5 - 2.0m
	2.0 - 2.5m
	> 2.5m

UTILITIES SHOWN ARE DIAGRAMMATIC ONLY AND MAY NOT INCLUDE ALL SERVICES WITHIN THE LIMIT OF WORKS.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY, LOCATE AND AVOID DAMAGE TO THEM AS SPECIFIED BY EACH UTILITIES EXCAVATION GUIDE LINES/STANDARDS.



VOLUMES	
CUT -	263,276m <sup>3</sup>
FILL -	265,610m <sup>3</sup>
IMPORT -	2,334m <sup>3</sup>

**NOTES:**

- VOLUME CALCULATED BETWEEN BULK EARTHWORKS DESIGN TIN AND STRIPPED SURFACE SURVEY TIN.
- 500mm ALLOWANCE FOR ROAD PAVEMENT THICKNESS WITHIN BULK EARTHWORKS DESIGN TIN TO PAVEMENT DESIGN REPORT SUBJECT TO DETAILED DESIGN STAGE)
- DOES NOT INCLUDE ROAD BOXING OR ANY WORKS WITHIN STATION LANE.
- VOLUMES DO NOT INCLUDE TEMPORARY CHANNEL 01
- FINISHED DESIGN BULK EARTHWORKS SURFACE CONTOURS SHOWN INCLUDING TEMPORARY CHANNEL 01.
- TOPSOIL STRIPPING FOR MAXIMUM 150mm OF TOPSOIL.
- NO BULKING FACTOR HAS BEEN APPLIED.
- NO ALLOWANCE HAS BEEN MADE FOR TRENCHING OR SERVICES
- NO ALLOWANCE HAS BEEN MADE FOR UNSUITABLE MATERIAL ASSOCIATED WITH EXISTING DAMS SUCH AS WATER, MUD, SLUDGE ETC.
- CONSTRUCTION OF ROADS & RETAINING WALLS DOES NOT FORM PART OF BULK EARTHWORKS SCOPE.
- ROADS & RETAINING WALLS ARE TO BE CONSTRUCTED AS PART OF CIVIL WORKS IN FUTURE CC.

**NOTES:**

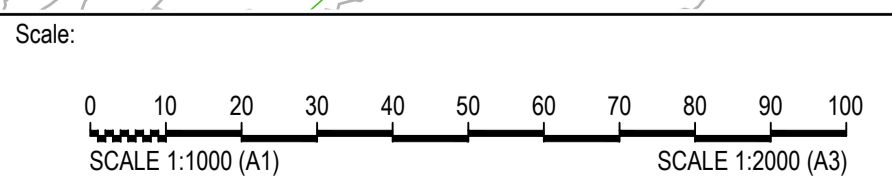
- ALL ENVMEN IS TO BE CERTIFIED.
- CONSTRUCTION AND COMPACTION TO BE IN ACCORDANCE WITH COUNCIL'S WORKS SPECIFICATIONS
- BULK EARTHWORKS ONLY. APPROVAL TO SUBGRADE LEVEL.
- ROAD BOXING DEPTHS = 500mm THROUGHOUT.
- LOT REGRADING = 150mm LOWER THAN FINISHED DESIGN SURFACE

ISSUED FOR **DEVELOPMENT APPLICATION**  
NOT FOR CONSTRUCTION

REFER TO DRAWING 19-0042-02-DA-006 FOR CONTINUATION

Rev	Drawn	Design	Appd.	Date	Revision Description
C	AP	CS	JM	29/06/2021	ROAD LAYOUT AND INTERFACES UPDATED
B	MG	CS	MP	15/09/2020	GENERAL MASTERPLAN UPDATES
A	MG	CS	MP	23/06/2020	ISSUED FOR MASTER PLAN DA APPROVAL

**Disclaimer and Copyright:**  
ALL DIMENSIONS TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE. THESE DRAWINGS, PLANS, AND SPECIFICATIONS AND THE COPYRIGHT ARE THE PROPERTY OF ORION CONSULTING ENGINEERS PTY LTD AND MUST NOT BE REPRODUCED OR COPIED WHOLLY OR IN PART WITHOUT THE PERMISSION OF ORION CONSULTING ENGINEERS PTY LTD



For: **The Bathla Group**

By: **Orion Consulting**  
ABN:25 604 069 981 PO Box:7336, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@orionconsulting.com.au

Project: **No. 51, 134, 146 STATION LANE, LOCHINVAR MASTERPLAN DA**

Title: <b>SITE REGRADING PLAN SHEET 02 OF 04</b>				
Project No: <b>19-0042</b>	Set No: <b>02</b>	Milestone: <b>DA</b>	Plan: <b>007</b>	Revision: <b>C</b>





### LEGEND

APPROXIMATE EXTENT OF FILL	
0.0 - 0.5m	[Light Blue Swatch]
0.5 - 1.0m	[Medium Blue Swatch]
1.0 - 1.5m	[Dark Blue Swatch]
1.5 - 2.0m	[Very Dark Blue Swatch]
2.0 - 2.5m	[Darkest Blue Swatch]
> 2.5m	[Black Swatch]

APPROXIMATE EXTENT OF CUT	
0.0 - 0.5m	[Light Red Swatch]
0.5 - 1.0m	[Medium Red Swatch]
1.0 - 1.5m	[Dark Red Swatch]
1.5 - 2.0m	[Very Dark Red Swatch]
2.0 - 2.5m	[Darkest Red Swatch]
> 2.5m	[Black Swatch]

UTILITIES SHOWN ARE DIAGRAMMATIC ONLY AND MAY NOT INCLUDE ALL SERVICES WITHIN THE LIMIT OF WORKS.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY, LOCATE AND AVOID DAMAGE TO THEM AS SPECIFIED BY EACH UTILITIES EXCAVATION GUIDE LINES/STANDARDS.



### VOLUMES

CUT -	263,276m <sup>3</sup>
FILL -	265,610m <sup>3</sup>
IMPORT -	2,334m <sup>3</sup>

### NOTES:

- VOLUME CALCULATED BETWEEN BULK EARTHWORKS DESIGN TIN AND STRIPPED SURFACE SURVEY TIN.
- 500mm ALLOWANCE FOR ROAD PAVEMENT THICKNESS WITHIN BULK EARTHWORKS DESIGN TIN (NO PAVEMENT DESIGN REPORT SUBJECT TO DETAILED DESIGN STAGE)
- DOES NOT INCLUDE ROAD BOXING OR ANY WORKS WITHIN STATION LANE.
- VOLUMES DO INCLUDE TEMPORARY CHANNEL 01
- FINISHED DESIGN BULK EARTHWORKS SURFACE CONTOURS SHOWN INCLUDING TEMPORARY CHANNEL 01.
- TOPSOIL STRIPPING FOR MAXIMUM 150mm OF TOPSOIL
- NO BULKING FACTOR HAS BEEN APPLIED.
- NO ALLOWANCE HAS BEEN MADE FOR TRENCHING OR SERVICES
- NO ALLOWANCE HAS BEEN MADE FOR UNSUITABLE MATERIAL ASSOCIATED WITH EXISTING DAMS SUCH AS WATER, MUD, SLUDGE ETC.
- CONSTRUCTION OF ROADS & RETAINING WALLS DOES NOT FORM PART OF BULK EARTHWORKS SCOPE.
- ROADS & RETAINING WALLS ARE TO BE CONSTRUCTED AS PART OF CIVIL WORKS IN FUTURE CC.

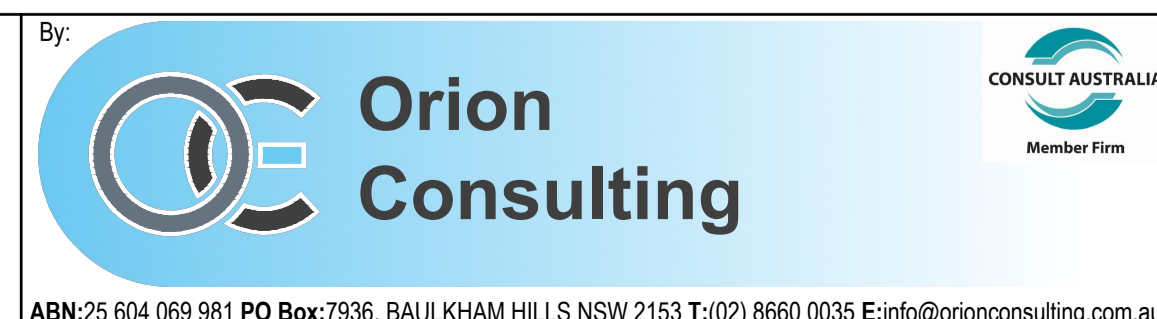
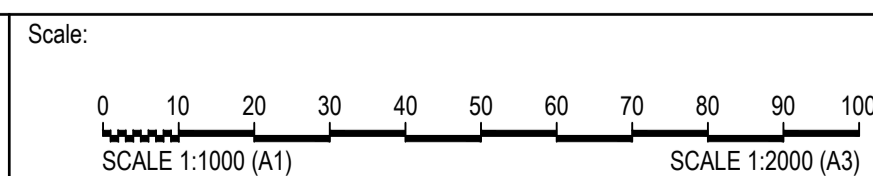
### NOTES:

- ALL ENVMENN IS TO BE CERTIFIED.
- CONSTRUCTION AND COMPACTION TO BE IN ACCORDANCE WITH COUNCIL'S WORKS SPECIFICATIONS.
- BULK EARTHWORKS ONLY. APPROVAL TO SUBGRADE LEVEL.
- ROAD BOXING DEPTHS = 500mm THROUGHOUT.
- LOT REGRADING = 150mm LOWER THAN FINISHED DESIGN SURFACE

ACCREDITED SERVICE PROVIDER TO BE ENGAGED TO COORDINATE REQUIREMENTS FOR THE RELOCATION AND UNDERGROUNDING OF EXISTING OVERHEAD POWER LINE. NO WORKS TO BE UNDERTAKEN WITHIN ELECTRICAL TRANSMISSION EASEMENT WITHOUT UTILITY PROVIDER APPROVAL.

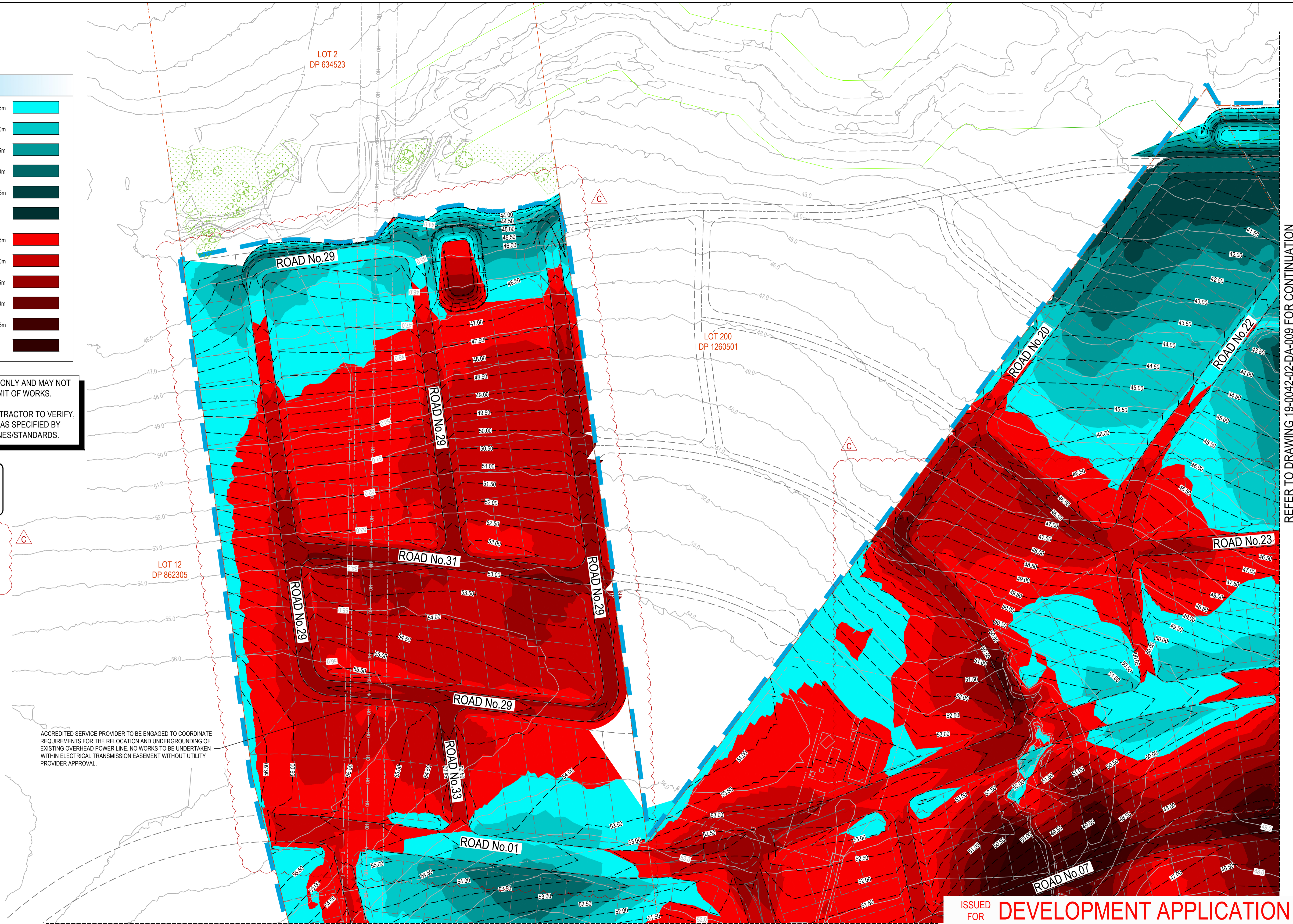
Rev	Drawn	Design	Appd.	Date	Revision Description
C	AP	CS	JM	29/06/2021	ROAD LAYOUT AND INTERFACES UPDATED
B	MG	CS	MP	15/09/2020	GENERAL MASTERPLAN UPDATES
A	MG	CS	MP	23/06/2020	ISSUED FOR MASTER PLAN DA APPROVAL

Disclaimer and Copyright:  
ALL DIMENSIONS TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO CONSTRUCTION.  
USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE.  
THESE DRAWINGS, PLANS, AND SPECIFICATIONS AND THE COPYRIGHT ARE THE PROPERTY OF ORION CONSULTING ENGINEERS PTY LTD AND MUST NOT BE REPRODUCED OR COPIED WHOLLY OR IN PART WITHOUT THE PERMISSION OF ORION CONSULTING ENGINEERS PTY LTD



Project: No. 51, 134, 146 STATION LANE, LOCHINVAR MASTERPLAN DA

Title: SITE REGRADING PLAN SHEET 03 OF 04				
Project No. 19-0042	Set No. 02	Milestone DA	Plan 008	Revision C



REFER TO DRAWING 19-0042-02-DA-006 FOR CONTINUATION

ISSUED FOR DEVELOPMENT APPLICATION NOT FOR CONSTRUCTION

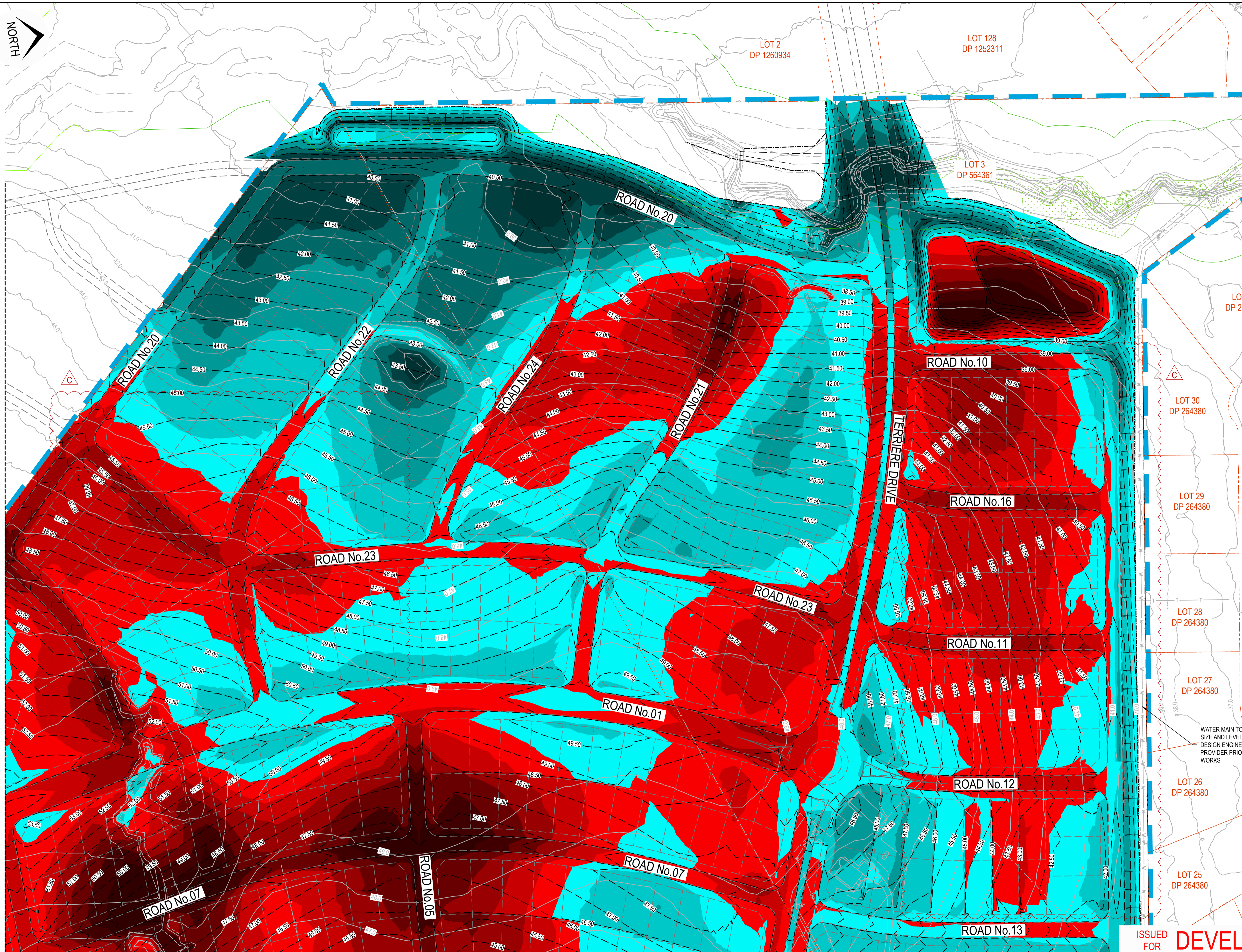
REFER TO DRAWING 19-0042-02-DA-009 FOR CONTINUATION

Project File Name: C:\Users\orion\Documents\19-0042-02-DA-006.dwg





REFER TO DRAWING 19-0042-02-DA-008 FOR CONTINUATION



LEGEND	
APPROXIMATE EXTENT OF FILL	0.0 - 0.5m
	0.5 - 1.0m
	1.0 - 1.5m
	1.5 - 2.0m
	2.0 - 2.5m
	> 2.5m
APPROXIMATE EXTENT OF CUT	0.0 - 0.5m
	0.5 - 1.0m
	1.0 - 1.5m
	1.5 - 2.0m
	2.0 - 2.5m
	> 2.5m

UTILITIES SHOWN ARE DIAGRAMMATIC ONLY AND MAY NOT INCLUDE ALL SERVICES WITHIN THE LIMIT OF WORKS.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY, LOCATE AND AVOID DAMAGE TO THEM AS SPECIFIED BY EACH UTILITIES EXCAVATION GUIDE LINES/STANDARDS.



VOLUMES	
CUT -	263,276m <sup>3</sup>
FILL -	265,610m <sup>3</sup>
IMPORT -	2,334m <sup>3</sup>

**NOTES:**

- VOLUME CALCULATED BETWEEN BULK EARTHWORKS DESIGN TIN AND STRIPPED SURFACE SURVEY TIN.
- 500mm ALLOWANCE FOR ROAD PAVEMENT THICKNESS WITHIN BULK EARTHWORKS DESIGN TIN (NO PAVEMENT DESIGN REPORT SUBJECT TO DETAILED DESIGN STAGE)
- DOES NOT INCLUDE ROAD BOXING OR ANY WORKS WITHIN STATION LANE.
- VOLUMES DO INCLUDE TEMPORARY CHANNEL 01
- FINISHED DESIGN BULK EARTHWORKS SURFACE CONTOURS SHOWN INCLUDING TEMPORARY CHANNEL 01.
- TOPSOIL STRIPPING FOR MAXIMUM 150mm OF TOPSOIL.
- NO BULKING FACTOR HAS BEEN APPLIED.
- NO ALLOWANCE HAS BEEN MADE FOR TRENCHING OR SERVICES
- NO ALLOWANCE HAS BEEN MADE FOR UNSUITABLE MATERIAL ASSOCIATED WITH EXISTING DAMS SUCH AS WATER, MUD, SLUDGE ETC.
- CONSTRUCTION OF ROADS & RETAINING WALLS DOES NOT FORM PART OF BULK EARTHWORKS SCOPE.
- ROADS & RETAINING WALLS ARE TO BE CONSTRUCTED AS PART OF CIVIL WORKS IN FUTURE CC.

**NOTES:**

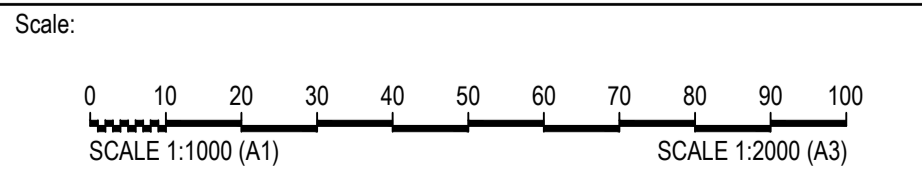
- ALL ENVMEN IS TO BE CERTIFIED.
- CONSTRUCTION AND COMPACTION TO BE IN ACCORDANCE WITH COUNCIL'S WORKS SPECIFICATIONS
- BULK EARTHWORKS ONLY. APPROVAL TO SUBGRADE LEVEL.
- ROAD BOXING DEPTHS = 500mm THROUGHOUT.
- LOT REGRADING = 150mm LOWER THAN FINISHED DESIGN SURFACE

ISSUED FOR **DEVELOPMENT APPLICATION**  
NOT FOR CONSTRUCTION

REFER TO DRAWING 19-0042-02-DA-007 FOR CONTINUATION

Rev	Drawn	Design	Appd.	Date	Revision Description
C	AP	CS	JM	29/06/2021	ROAD LAYOUT AND INTERFACES UPDATED
B	MG	CS	MP	15/09/2020	GENERAL MASTERPLAN UPDATES
A	MG	CS	MP	23/06/2020	ISSUED FOR MASTER PLAN DA APPROVAL

Disclaimer and Copyright:  
ALL DIMENSIONS TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE. THESE DRAWINGS, PLANS, AND SPECIFICATIONS AND THE COPYRIGHT ARE THE PROPERTY OF ORION CONSULTING ENGINEERS PTY LTD AND MUST NOT BE REPRODUCED OR COPIED WHOLLY OR IN PART WITHOUT THE PERMISSION OF ORION CONSULTING ENGINEERS PTY LTD



For: **The Bathla Group**

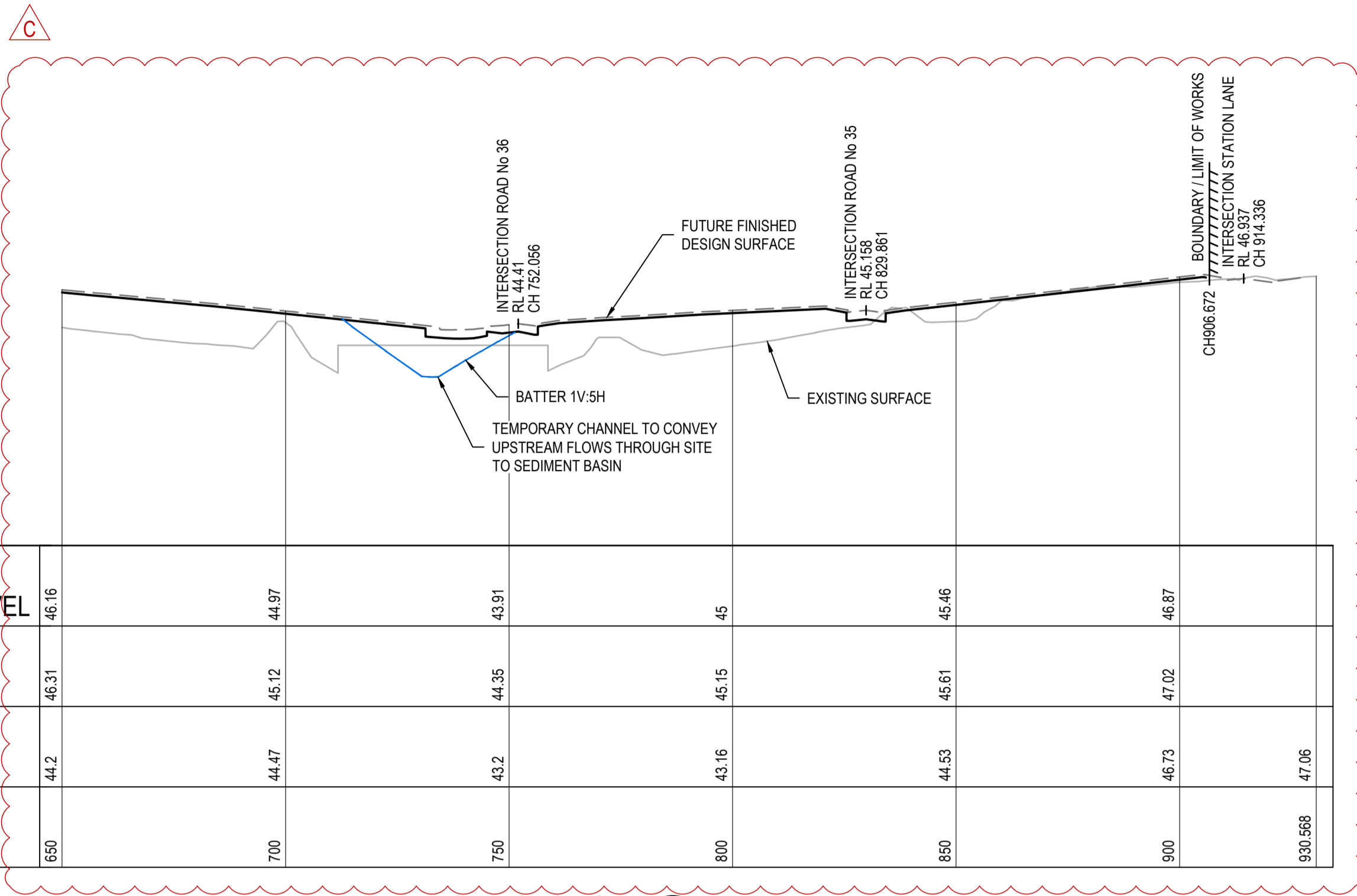
By: **Orion Consulting**  
ABN:25 604 069 981 PO Box:7336, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@orionconsulting.com.au

Project: **No. 51, 134, 146 STATION LANE, LOCHINVAR MASTERPLAN DA**

Title: **SITE REGRADING PLAN SHEET 04 OF 04**

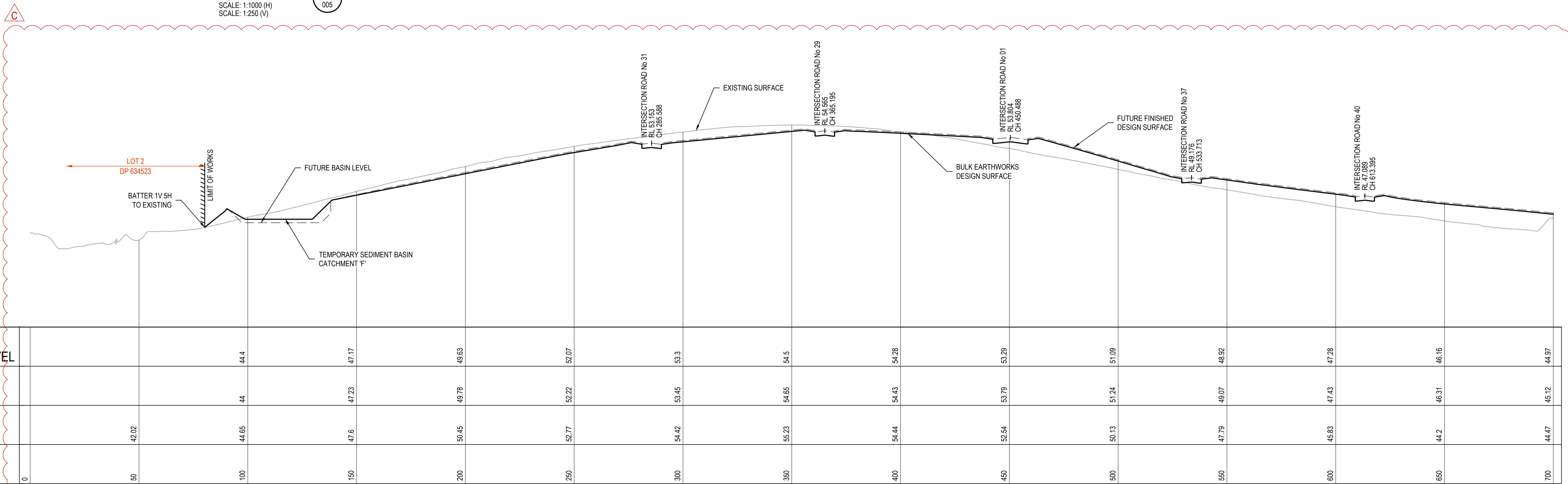
Project No	Set No	Milestone	Plan	Revision
19-0042	02	DA	009	C





DATUM R.L. 32		650	700	750	800	850	900	930.568
DESIGN BULK EARTHWORKS LEVEL	46.16	44.97	43.91	45	45.46	46.87		
FUTURE FINISHED DESIGN LEVEL	46.31	45.12	44.35	45.15	45.61	47.02		
EXISTING LEVEL	44.2	44.47	43.2	43.16	44.53	46.73	47.06	
CHAINAGE								

**SITE SECTION A**  
 SCALE: 1:1000 (H)  
 SCALE: 1:250 (V)



DATUM R.L. 32		0	50	100	150	200	250	300	350	400	450	500	550	600	650	700
DESIGN BULK EARTHWORKS LEVEL				44.4	47.17	48.63	52.07	53.3	54.5	54.28	53.29	51.09	48.92	47.28	46.16	44.97
FUTURE FINISHED DESIGN LEVEL			44	47.23	48.78	52.22	53.45	54.65	54.43	53.79	51.24	49.07	47.43	46.31	45.12	44.97
EXISTING LEVEL		42.02	44.65	47.6	50.45	52.77	54.42	55.23	54.44	52.54	50.13	47.79	45.83	44.2	44.47	
CHAINAGE																

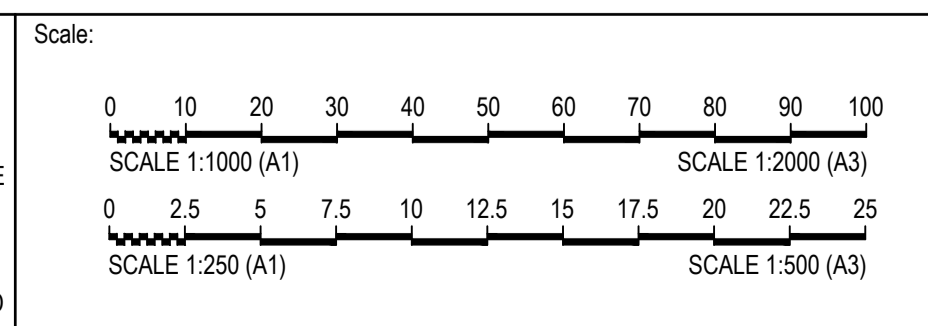
**SITE SECTION A**  
 SCALE: 1:1000 (H)  
 SCALE: 1:250 (V)

**ISSUED FOR DEVELOPMENT APPLICATION**  
 NOT FOR CONSTRUCTION

Project: File Name: C:\Users\craib\OneDrive\Documents\19-0042\DA Masterplan DA\_19-0042\DA 010.dwg

Rev	Drawn	Design	Appd.	Date	Revision Description
C	AP	CS	JM	29/06/2021	ROAD LAYOUT AND INTERFACES UPDATED
B	MG	CS	MP	15/09/2020	GENERAL MASTERPLAN UPDATES
A	MG	CS	MP	23/06/2020	ISSUED FOR MASTER PLAN DA APPROVAL

**Disclaimer and Copyright:**  
 ALL DIMENSIONS TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE. THESE DRAWINGS, PLANS, AND SPECIFICATIONS AND THE COPYRIGHT ARE THE PROPERTY OF ORION CONSULTING ENGINEERS PTY LTD AND MUST NOT BE REPRODUCED OR COPIED WHOLLY OR IN PART WITHOUT THE PERMISSION OF ORION CONSULTING ENGINEERS PTY LTD

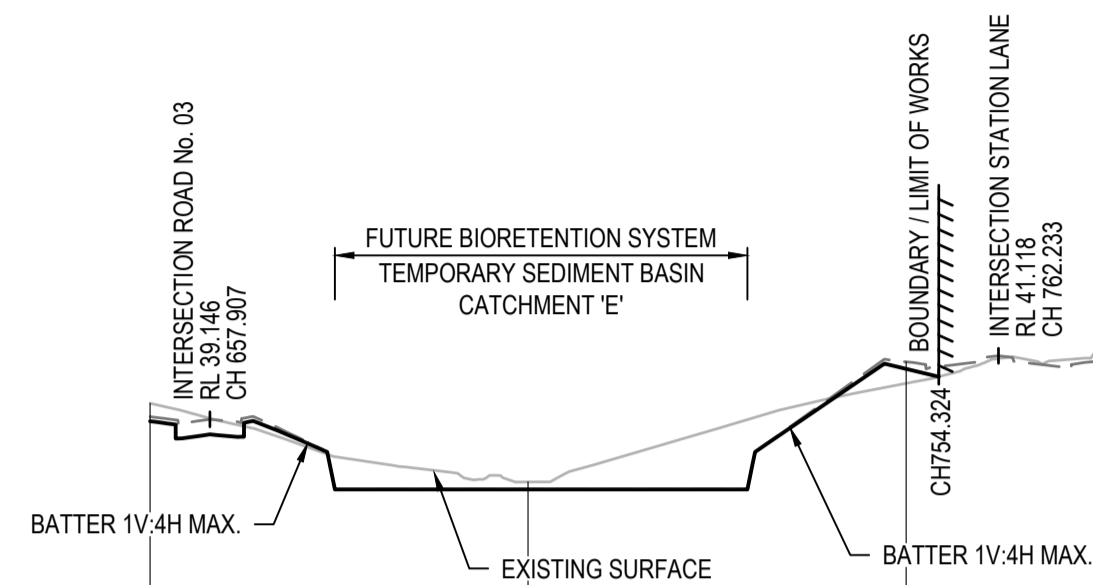


By: **Orion Consulting**  
 CONSULT AUSTRALIA Member Firm  
 ABN: 25 604 069 981 PO Box: 7936, BAULKHAM HILLS NSW 2153 T: (02) 8660 0035 E: info@orionconsulting.com.au

Project: **No. 51, 134, 146 STATION LANE, LOCHINVAR MASTERPLAN DA**

Title: <b>SITE REGRADING SECTIONS SHEET 01 OF 09</b>				
Project No.	Set No.	Milestone	Plan	Revision
19-0042	02	DA	010	C

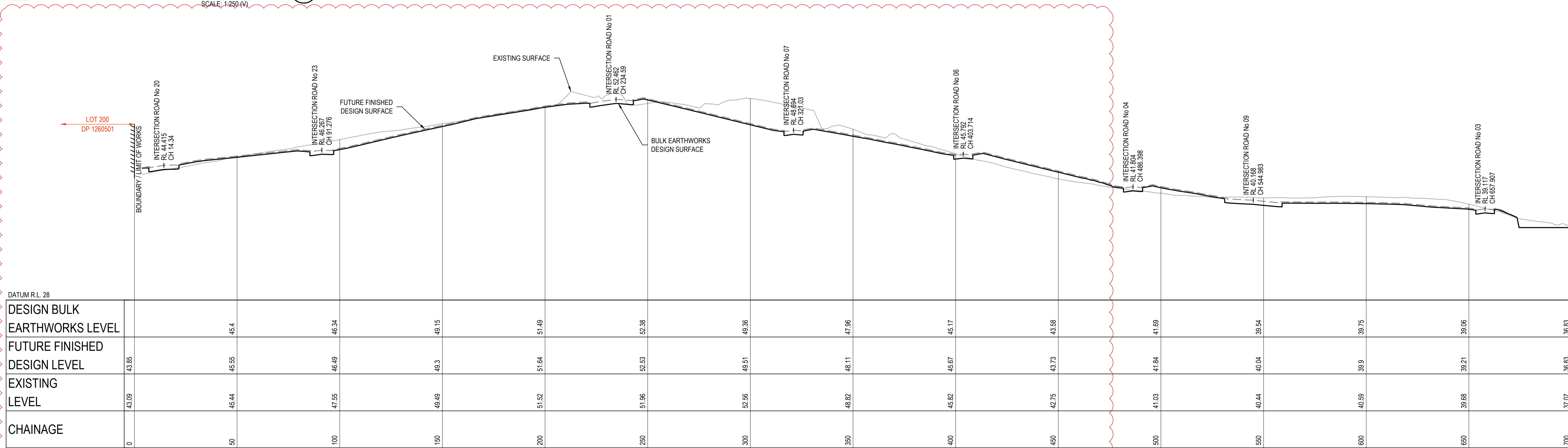




DATUM R.L. 28

DESIGN BULK EARTHWORKS LEVEL	30.08	36.83	40.89	
FUTURE FINISHED DESIGN LEVEL	30.23	36.83	41.05	41.09
EXISTING LEVEL	30.68	37.07	40.33	41.19
CHAINAGE	650	700	750	775.78

**SITE SECTION B**  
SCALE: 1:1000 (H)  
SCALE: 1:250 (V)



DATUM R.L. 28

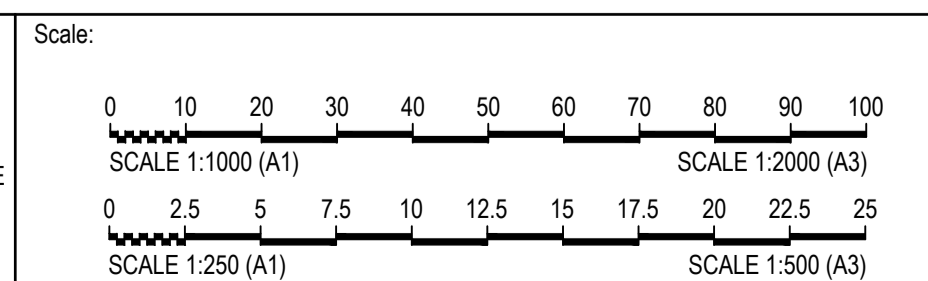
DESIGN BULK EARTHWORKS LEVEL		45.4	46.34	49.15	51.49	49.36	47.96	45.17	43.58	41.69	39.54	39.75	39.06	36.83	
FUTURE FINISHED DESIGN LEVEL	43.85	45.55	46.49	49.3	51.64	49.51	48.11	45.67	43.73	41.84	40.04	39.9	39.21	36.83	
EXISTING LEVEL	43.09	45.44	47.55	49.49	51.52	52.56	48.82	46.82	42.75	41.03	40.44	40.59	39.68	37.07	
CHAINAGE	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700

**SITE SECTION B**  
SCALE: 1:1000 (H)  
SCALE: 1:250 (V)

ISSUED FOR **DEVELOPMENT APPLICATION**  
NOT FOR CONSTRUCTION

Rev	Drawn	Design	Appd.	Date	Revision Description
B	AP	CS	JM	29/06/2021	ROAD LAYOUT AND INTERFACES UPDATED
A	MG	CS	MP	23/06/2020	ISSUED FOR MASTER PLAN DA APPROVAL

Disclaimer and Copyright:  
ALL DIMENSIONS TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE. THESE DRAWINGS, PLANS, AND SPECIFICATIONS AND THE COPYRIGHT ARE THE PROPERTY OF ORION CONSULTING ENGINEERS PTY LTD AND MUST NOT BE REPRODUCED OR COPIED WHOLLY OR IN PART WITHOUT THE PERMISSION OF ORION CONSULTING ENGINEERS PTY LTD



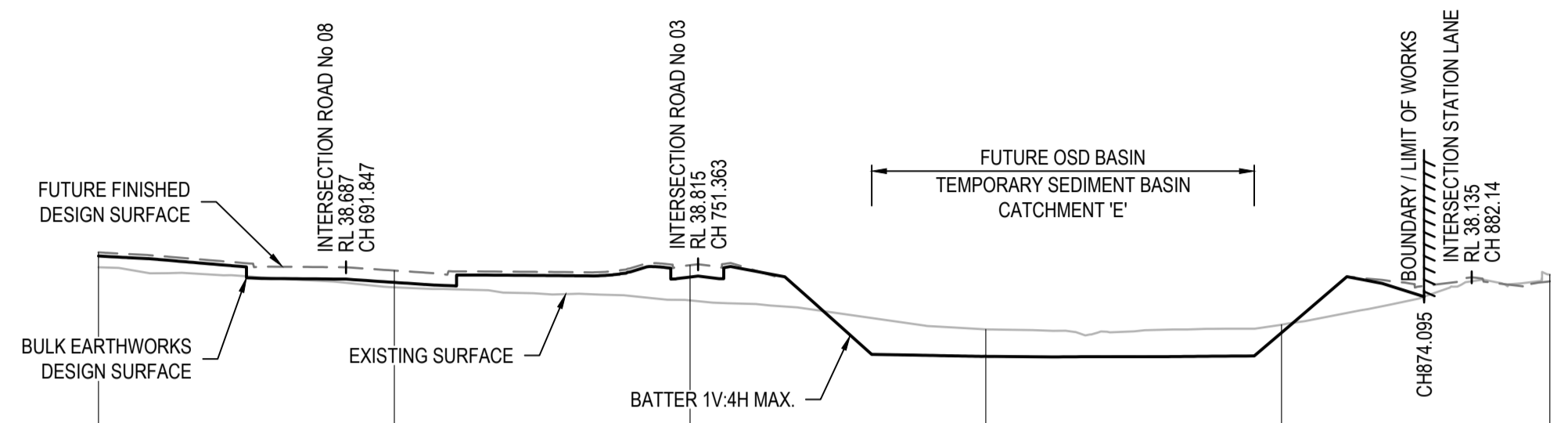
By: **Orion Consulting**  
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@orionconsulting.com.au

Project: **No. 51, 134, 146 STATION LANE, LOCHINVAR MASTERPLAN DA**

Title: **SITE REGRADING SECTIONS SHEET 02 OF 09**

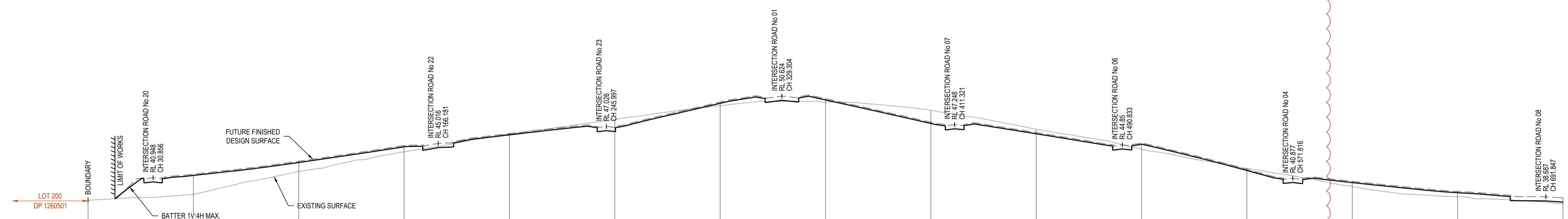
Project No.	Set No.	Milestone	Plan	Revision
19-0042	02	DA	011	B





DATUM R.L. 26	
DESIGN BULK EARTHWORKS LEVEL	38.17
FUTURE FINISHED DESIGN LEVEL	38.32
EXISTING LEVEL	38.69
CHAINAGE	650

**SITE SECTION C**  
 SCALE: 1:1000 (H)  
 SCALE: 1:250 (V)



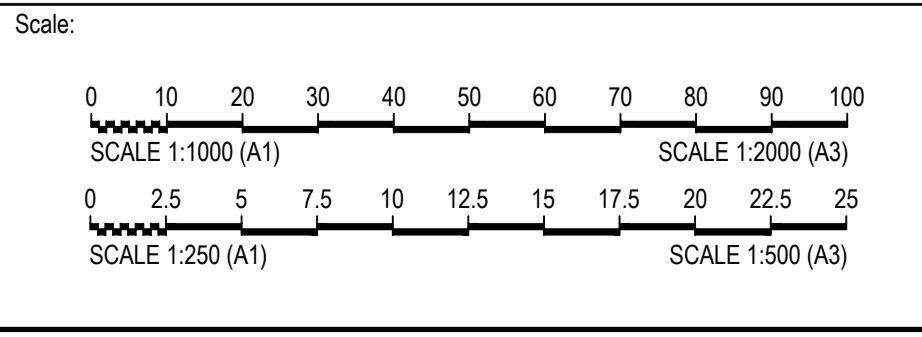
DATUM R.L. 28	
DESIGN BULK EARTHWORKS LEVEL	41.22
FUTURE FINISHED DESIGN LEVEL	41.37
EXISTING LEVEL	41.67
CHAINAGE	0

**SITE SECTION C**  
 SCALE: 1:1000 (H)  
 SCALE: 1:250 (V)

ISSUED FOR **DEVELOPMENT APPLICATION**  
 NOT FOR CONSTRUCTION

Rev	Drawn	Design	Appd.	Date	Revision Description
B	AP	CS	JM	29/06/2021	ROAD LAYOUT AND INTERFACES UPDATED
A	MG	CS	MP	23/06/2020	ISSUED FOR MASTER PLAN DA APPROVAL

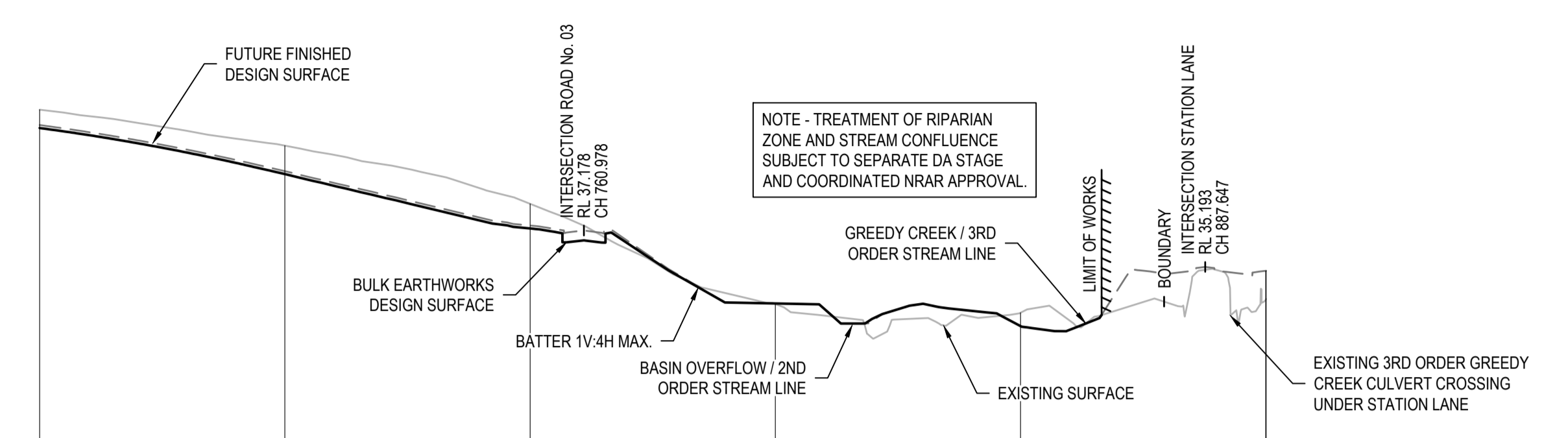
Disclaimer and Copyright:  
 ALL DIMENSIONS TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE. THESE DRAWINGS, PLANS, AND SPECIFICATIONS AND THE COPYRIGHT ARE THE PROPERTY OF ORION CONSULTING ENGINEERS PTY LTD AND MUST NOT BE REPRODUCED OR COPIED WHOLLY OR IN PART WITHOUT THE PERMISSION OF ORION CONSULTING ENGINEERS PTY LTD



Project: No. 51, 134, 146 STATION LANE, LOCHINVAR MASTERPLAN DA

Title: SITE REGRADING SECTIONS SHEET 03 OF 09				
Project No.	Set No.	Milestone	Plan	Revision
19-0042	02	DA	012	B

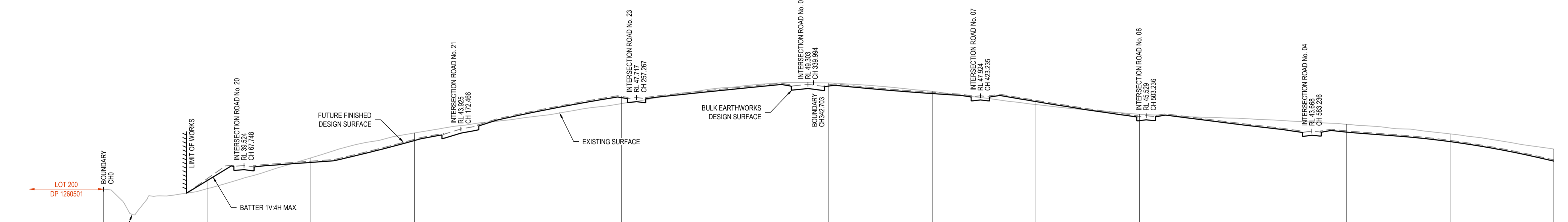




DATUM R.L. 22

DESIGN BULK EARTHWORKS LEVEL	42.4	40.06	37.28	33.46	32.31	
FUTURE FINISHED DESIGN LEVEL	42.55	40.21	37.43	33.46	32.31	35.12 35.13
EXISTING LEVEL	43.33	41.5	38.54	33.43	32.99	33.66 33.69
CHAINAGE	650	700	750	800	850	900.069

**SITE SECTION D**  
 SCALE: 1:1000 (H)  
 SCALE: 1:250 (V)



DATUM R.L. 24

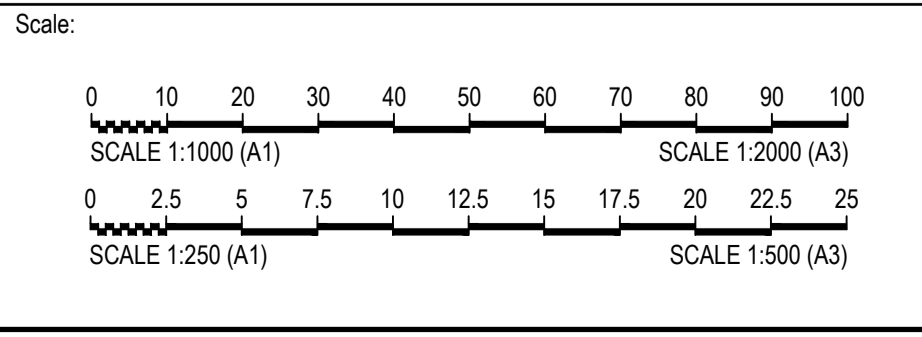
DESIGN BULK EARTHWORKS LEVEL		37.71	39.9	42.53	45.55	47.7	48.62	48.1	48.19	47.23	44.93	44.41	43.55	42.4	40.06
FUTURE FINISHED DESIGN LEVEL		37.94	40.05	42.68	45.7	47.85	48.77	49.25	48.34	47.38	45.43	44.56	43.7	42.55	40.21
EXISTING LEVEL	36.67	36.74	40.44	43.44	45.17	46.98	48.91	49.47	48.46	46.87	45.7	45.18	44.49	43.33	41.5
CHAINAGE	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700

**SITE SECTION D**  
 SCALE: 1:1000 (H)  
 SCALE: 1:250 (V)

ISSUED FOR **DEVELOPMENT APPLICATION**  
 NOT FOR CONSTRUCTION

Rev	Drawn	Design	Appd.	Date	Revision Description
A	MG	CS	MP	23/06/2020	ISSUED FOR MASTER PLAN DA APPROVAL

Disclaimer and Copyright:  
 ALL DIMENSIONS TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE. THESE DRAWINGS, PLANS, AND SPECIFICATIONS AND THE COPYRIGHT ARE THE PROPERTY OF ORION CONSULTING ENGINEERS PTY LTD AND MUST NOT BE REPRODUCED OR COPIED WHOLLY OR IN PART WITHOUT THE PERMISSION OF ORION CONSULTING ENGINEERS PTY LTD

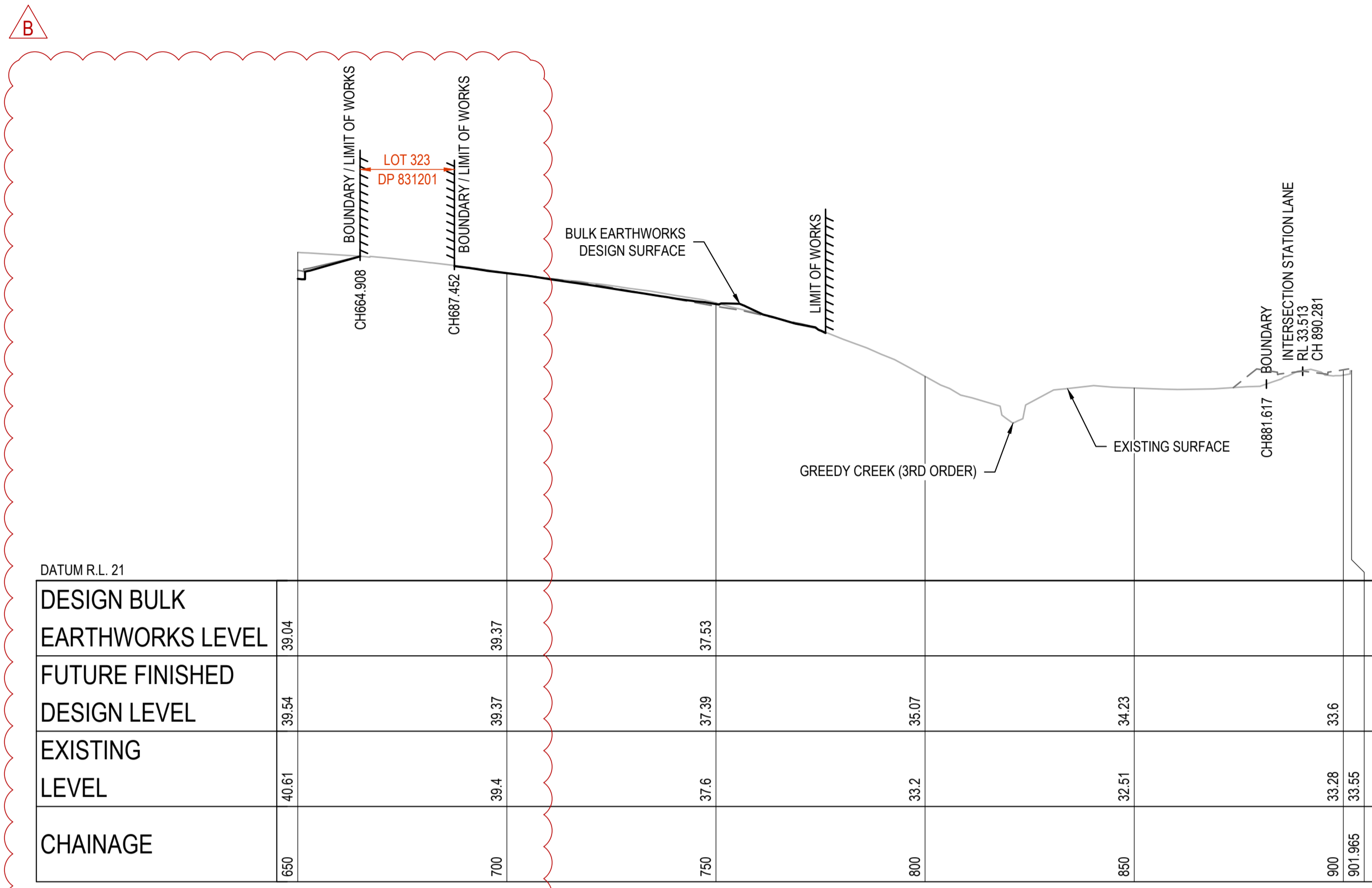


Project: No. 51, 134, 146 STATION LANE, LOCHINVAR MASTERPLAN DA

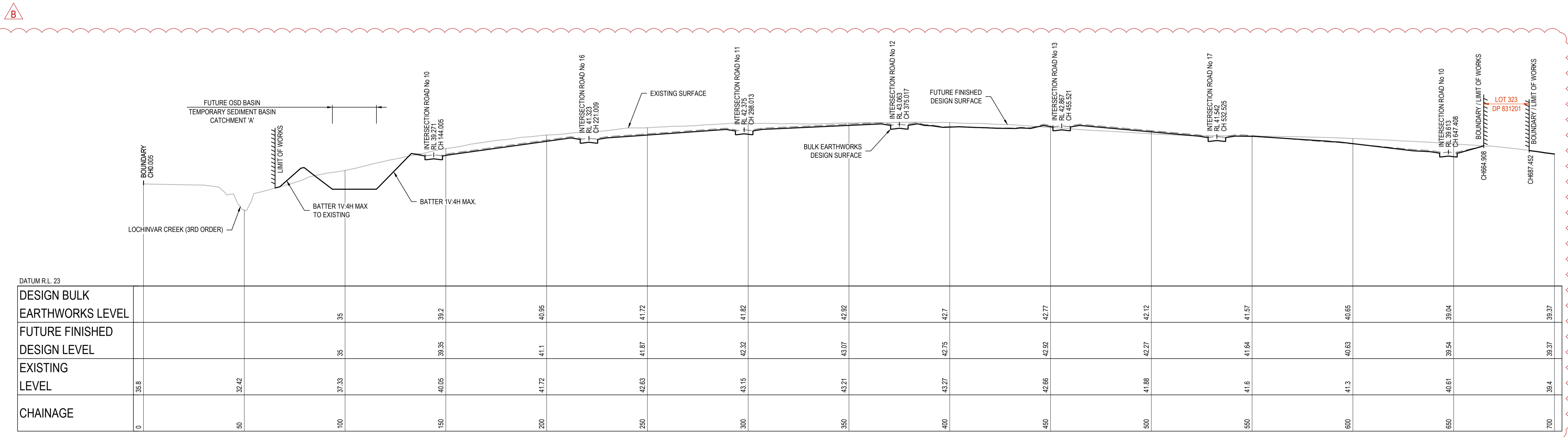
Title: SITE REGRADING SECTIONS SHEET 04 OF 09				
Project No. 19-0042	Set No. 02	Milestone DA	Plan 013	Revision A

Project: File Name: C:\Users\orion\OneDrive\Documents\19-0042\02-DA\13.dwg  
 19-0042-02-DA-Masterplan-DA\_19-0042-02-DA-13.dwg





**SITE SECTION E**  
 SCALE: 1:1000 (H)  
 SCALE: 1:250 (V)



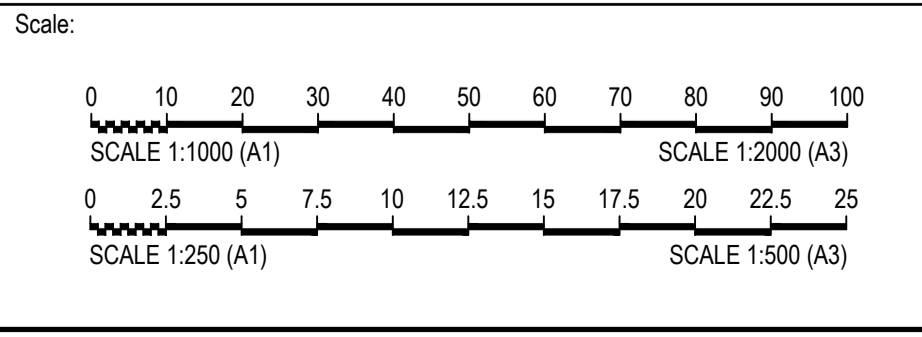
**SITE SECTION E**  
 SCALE: 1:1000 (H)  
 SCALE: 1:250 (V)

**ISSUED FOR DEVELOPMENT APPLICATION**  
 NOT FOR CONSTRUCTION

Project: The Bathla Group Orion Consulting Pty Ltd 19-0042 DA Masterplan DA\_19-0042-02-DA-014.dwg

Rev	Drawn	Design	Appd.	Date	Revision Description
B	AP	CS	JM	29/06/2021	ROAD LAYOUT AND INTERFACES UPDATED
A	MG	CS	MP	23/06/2020	ISSUED FOR MASTER PLAN DA APPROVAL

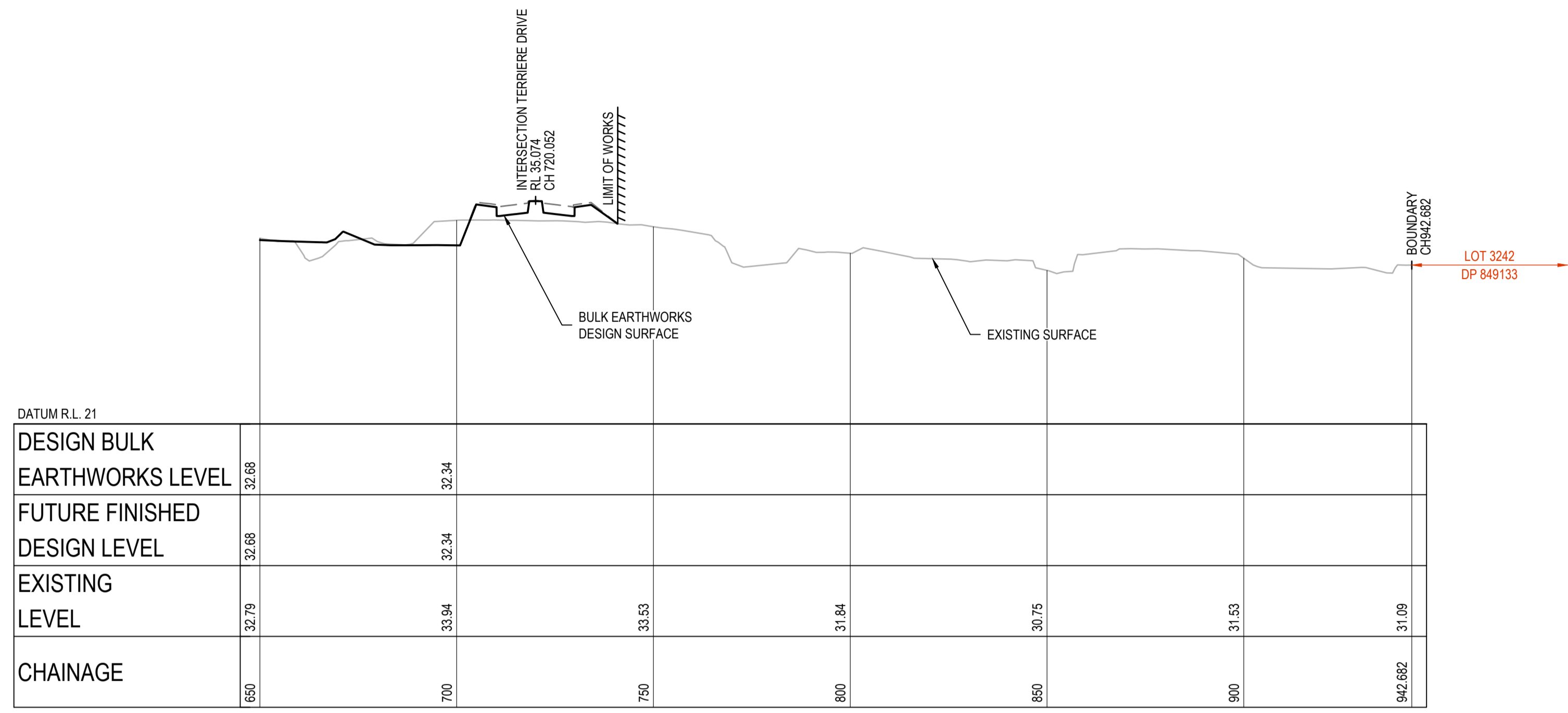
Disclaimer and Copyright:  
 ALL DIMENSIONS TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE. THESE DRAWINGS, PLANS, AND SPECIFICATIONS AND THE COPYRIGHT ARE THE PROPERTY OF ORION CONSULTING ENGINEERS PTY LTD AND MUST NOT BE REPRODUCED OR COPIED WHOLLY OR IN PART WITHOUT THE PERMISSION OF ORION CONSULTING ENGINEERS PTY LTD



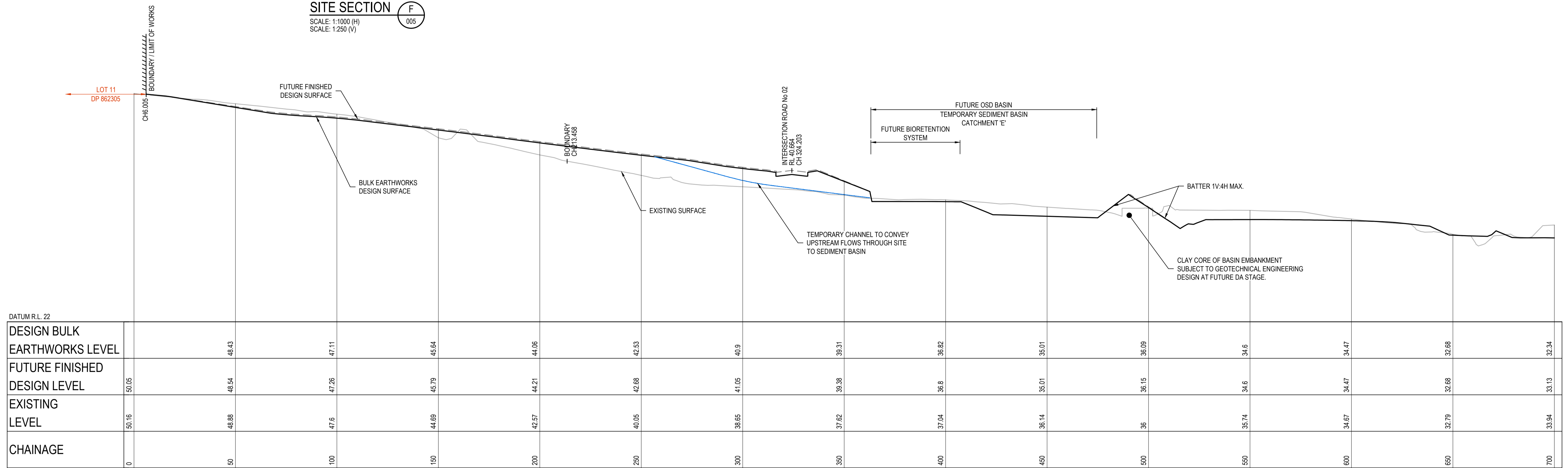
Project: No. 51, 134, 146 STATION LANE, LOCHINVAR MASTERPLAN DA

Project No.	Set No.	Milestone	Plan	Revision
19-0042	02	DA	014	B





**SITE SECTION F**  
 SCALE: 1:1000 (H)  
 SCALE: 1:250 (V)



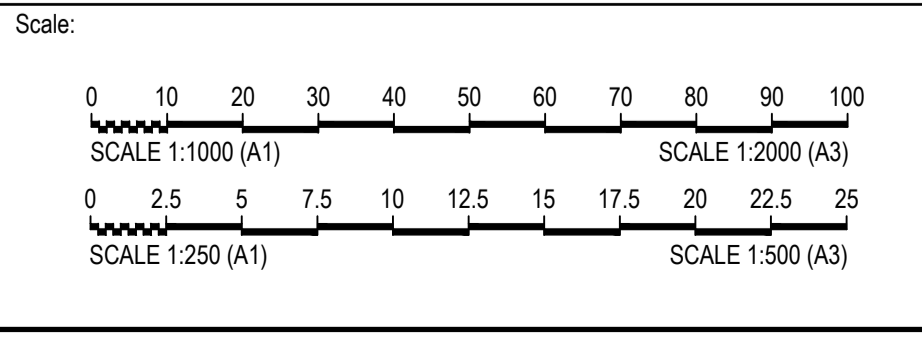
**SITE SECTION F**  
 SCALE: 1:1000 (H)  
 SCALE: 1:250 (V)

**ISSUED FOR DEVELOPMENT APPLICATION**  
 NOT FOR CONSTRUCTION

Project: The Bathla Group\ORION\SYD\19-0042\DA Masterplan DA\_19-0042-DA-015.dwg  
 Rev Drawn Design Appd Date Revision Description

Rev	Drawn	Design	Appd	Date	Revision Description
A	MG	CS	MP	23/06/2020	ISSUED FOR MASTER PLAN DA APPROVAL

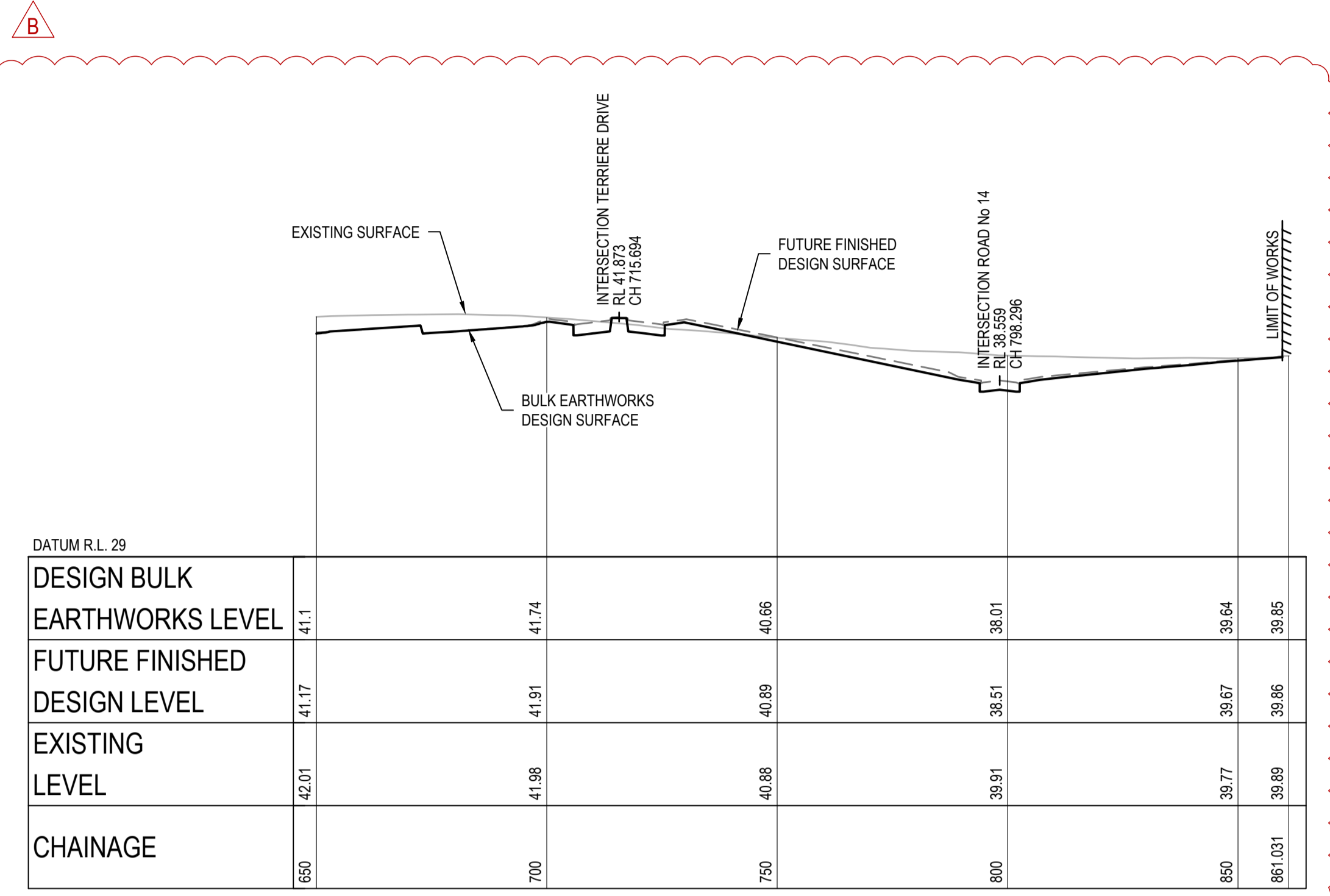
Disclaimer and Copyright:  
 ALL DIMENSIONS TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE. THESE DRAWINGS, PLANS, AND SPECIFICATIONS AND THE COPYRIGHT ARE THE PROPERTY OF ORION CONSULTING ENGINEERS PTY LTD AND MUST NOT BE REPRODUCED OR COPIED WHOLLY OR IN PART WITHOUT THE PERMISSION OF ORION CONSULTING ENGINEERS PTY LTD



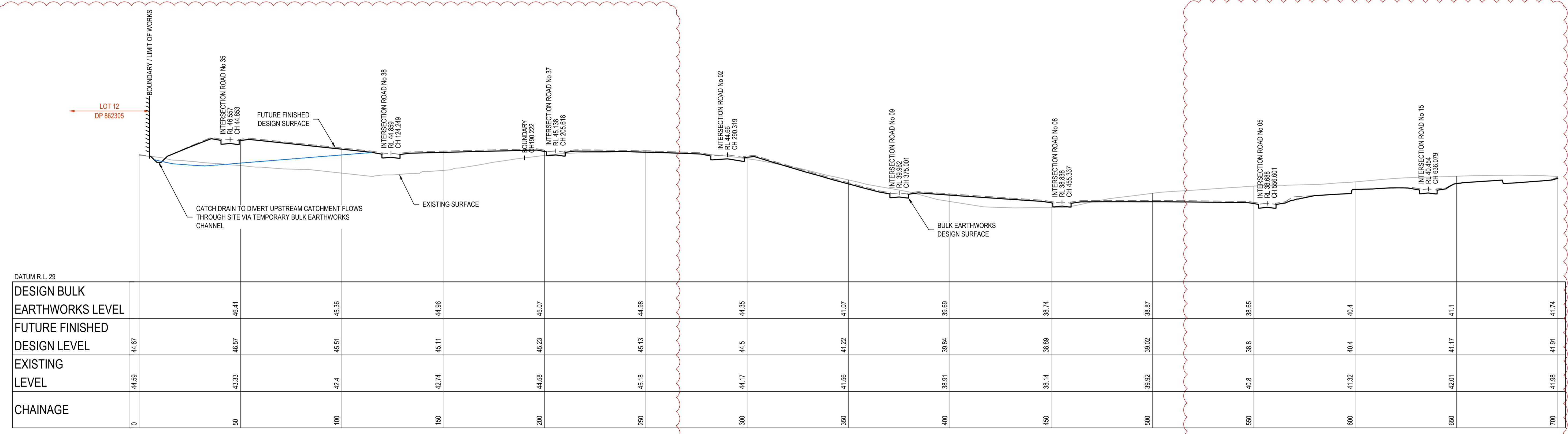
Project: No. 51, 134, 146 STATION LANE, LOCHINVAR MASTERPLAN DA

Title: SITE REGRADING SECTIONS SHEET 06 OF 09				
Project No.	Set No.	Milestone	Plan	Revision
19-0042	02	DA	015	A





**SITE SECTION G**  
SCALE: 1:1000 (H)  
SCALE: 1:250 (V)



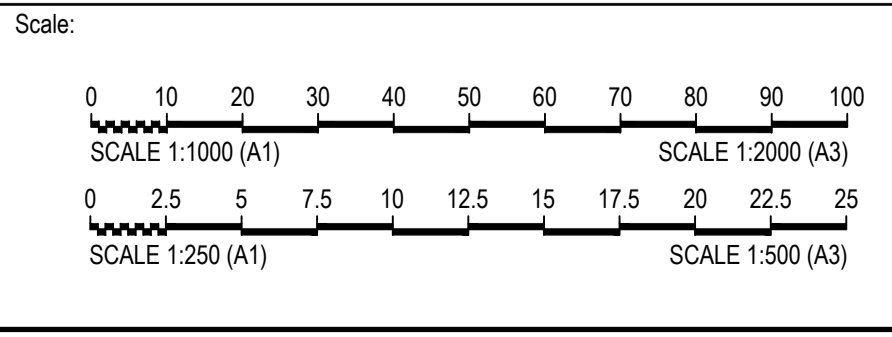
**SITE SECTION G**  
SCALE: 1:1000 (H)  
SCALE: 1:250 (V)

**ISSUED FOR DEVELOPMENT APPLICATION**  
**NOT FOR CONSTRUCTION**

Project: File Name: C:\Users\orion\OneDrive\Documents\19-0042\DA Masterplan DA\_19-0042\DA 016.dwg

Rev	Drawn	Design	Appd.	Date	Revision Description
B	AP	CS	JM	29/06/2021	ROAD LAYOUT AND INTERFACES UPDATED
A	MG	CS	MP	23/06/2020	ISSUED FOR MASTER PLAN DA APPROVAL

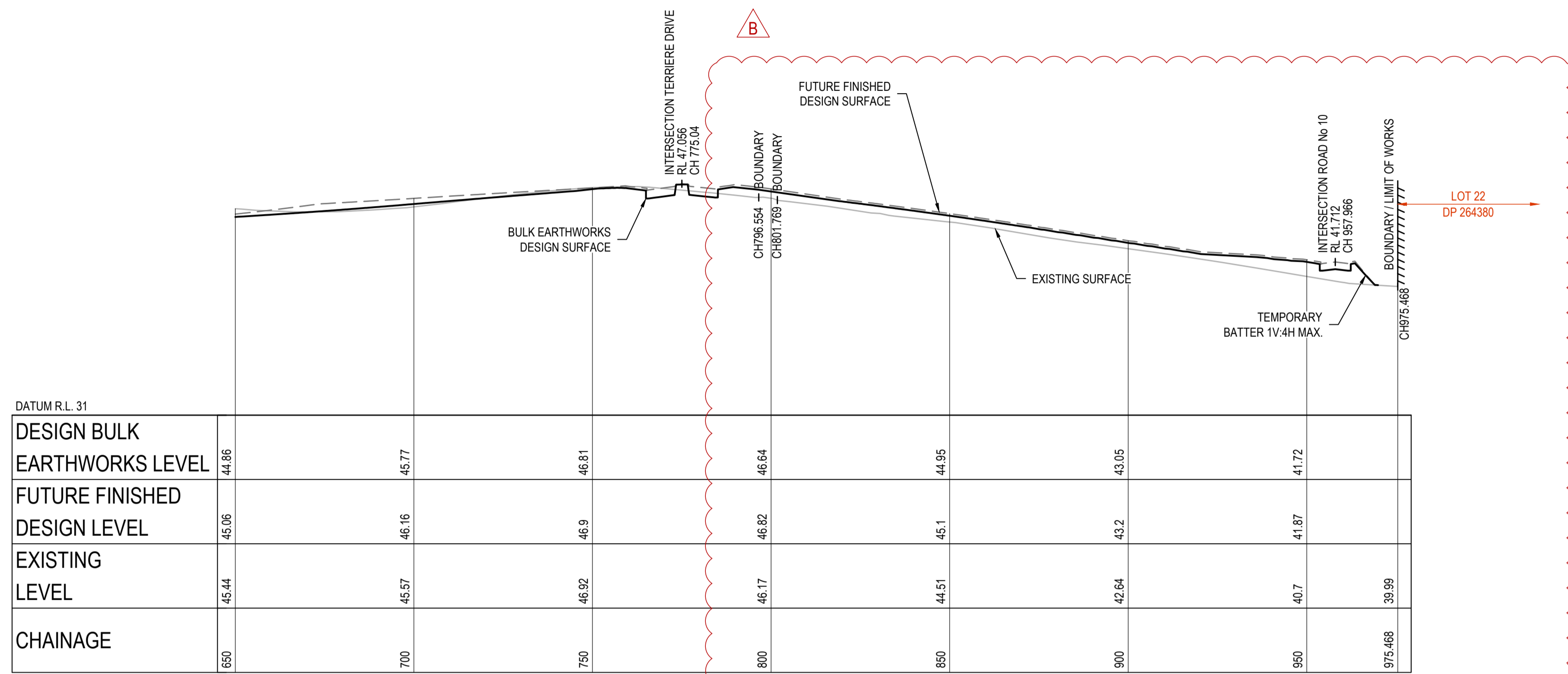
**Disclaimer and Copyright:**  
ALL DIMENSIONS TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE. THESE DRAWINGS, PLANS, AND SPECIFICATIONS AND THE COPYRIGHT ARE THE PROPERTY OF ORION CONSULTING ENGINEERS PTY LTD AND MUST NOT BE REPRODUCED OR COPIED WHOLLY OR IN PART WITHOUT THE PERMISSION OF ORION CONSULTING ENGINEERS PTY LTD



Project: **No. 51, 134, 146 STATION LANE, LOCHINVAR MASTERPLAN DA**

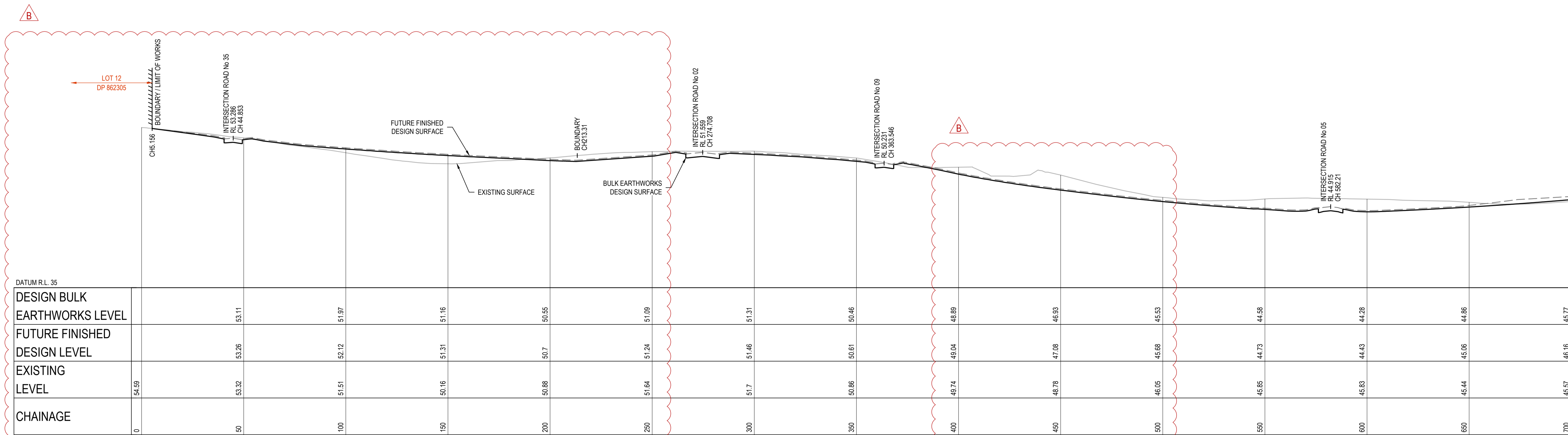
Title: <b>SITE REGRADING SECTIONS SHEET 07 OF 09</b>				
Project No.	Set No.	Milestone	Plan	Revision
19-0042	02	DA	016	B





DATUM R.L. 31	
DESIGN BULK EARTHWORKS LEVEL	44.86
FUTURE FINISHED DESIGN LEVEL	45.06
EXISTING LEVEL	45.44
CHAINAGE	650
	700
	750
	800
	850
	900
	950
	975.468

**SITE SECTION H**  
SCALE: 1:1000 (H)  
SCALE: 1:250 (V)



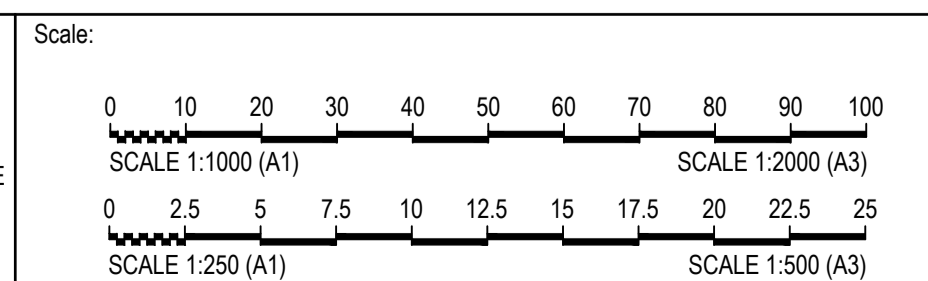
DATUM R.L. 35	
DESIGN BULK EARTHWORKS LEVEL	53.11
FUTURE FINISHED DESIGN LEVEL	53.26
EXISTING LEVEL	53.32
CHAINAGE	0
	50
	100
	150
	200
	250
	300
	350
	400
	450
	500
	550
	600
	650
	700

**SITE SECTION H**  
SCALE: 1:1000 (H)  
SCALE: 1:250 (V)

ISSUED FOR **DEVELOPMENT APPLICATION**  
NOT FOR CONSTRUCTION

Rev	Drawn	Design	Appd.	Date	Revision Description
B	AP	CS	JM	29/06/2021	ROAD LAYOUT AND INTERFACES UPDATED
A	MG	CS	MP	23/06/2020	ISSUED FOR MASTER PLAN DA APPROVAL

Disclaimer and Copyright:  
ALL DIMENSIONS TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE. THESE DRAWINGS, PLANS, AND SPECIFICATIONS AND THE COPYRIGHT ARE THE PROPERTY OF ORION CONSULTING ENGINEERS PTY LTD AND MUST NOT BE REPRODUCED OR COPIED WHOLLY OR IN PART WITHOUT THE PERMISSION OF ORION CONSULTING ENGINEERS PTY LTD

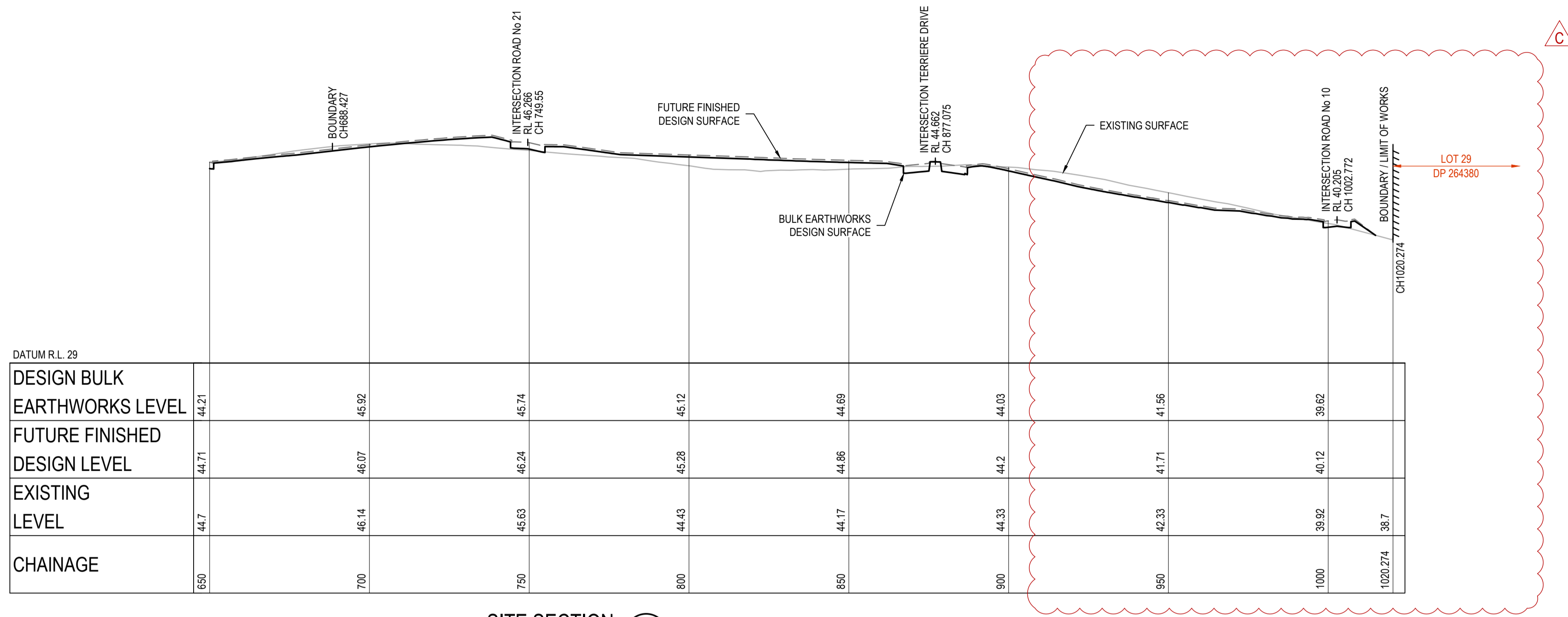


By: **Orion Consulting**  
Member Firm  
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@orionconsulting.com.au

Project: **No. 51, 134, 146 STATION LANE, LOCHINVAR MASTERPLAN DA**

Title: <b>SITE REGRADING SECTIONS SHEET 08 OF 09</b>				
Project No.	Set No.	Milestone	Plan	Revision
19-0042	02	DA	017	B

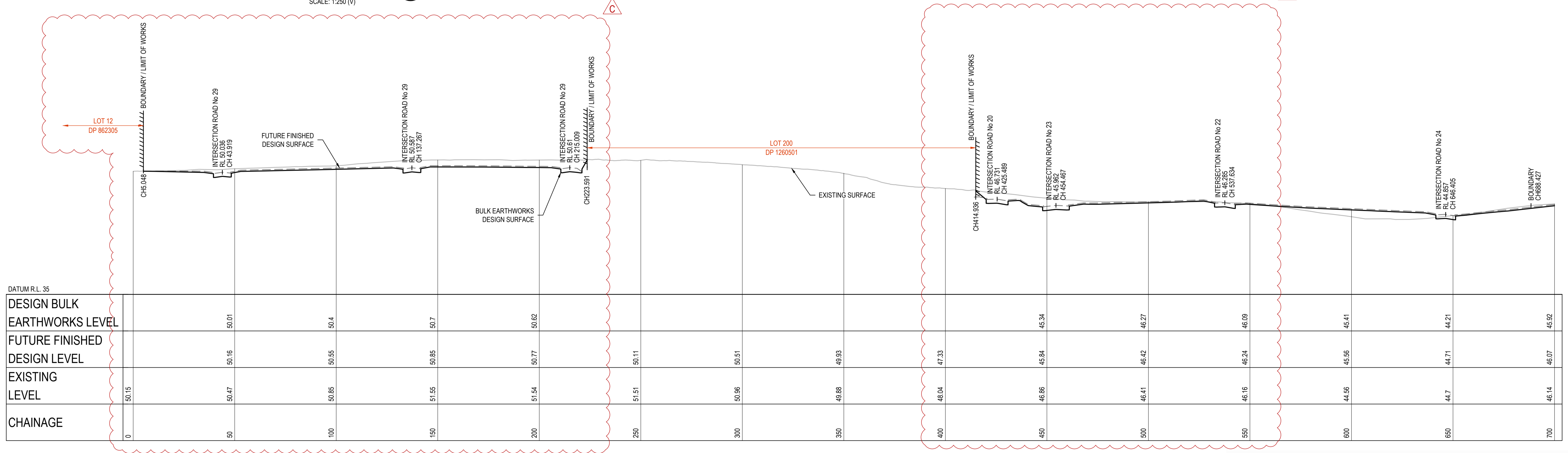




DATUM R.L. 29

DESIGN BULK EARTHWORKS LEVEL	44.21	45.92	45.74	45.12	44.69	44.03	41.96	39.62
FUTURE FINISHED DESIGN LEVEL	44.71	46.07	46.24	45.28	44.86	44.2	41.71	40.12
EXISTING LEVEL	44.7	46.14	45.63	44.43	44.17	44.33	42.33	39.92
CHAINAGE	650	700	750	800	850	900	950	1000

**SITE SECTION J**  
 SCALE: 1:1000 (H)  
 SCALE: 1:250 (V)



DATUM R.L. 35

DESIGN BULK EARTHWORKS LEVEL	50.15	50.01	50.4	50.7	50.62	50.11	49.93	47.33	45.34	46.27	46.09	45.41	44.21	46.92	
FUTURE FINISHED DESIGN LEVEL	50.47	50.16	50.55	50.85	50.77	50.11	49.93	47.33	45.84	46.42	46.24	45.56	44.71	46.07	
EXISTING LEVEL	50.47	50.16	50.55	50.85	50.77	50.11	49.93	47.33	46.86	46.41	46.16	44.56	44.71	46.14	
CHAINAGE	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700

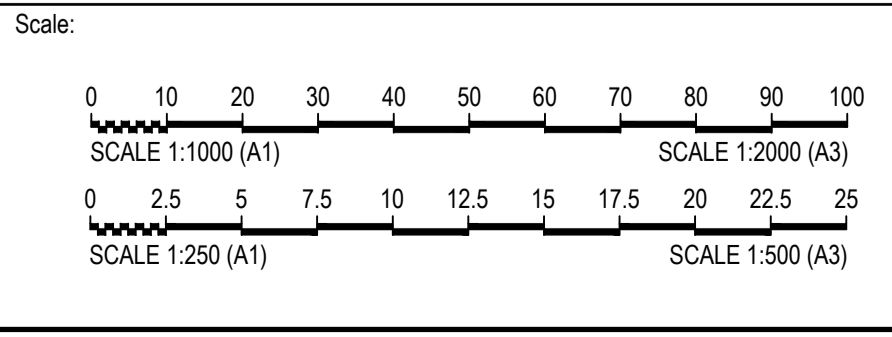
**SITE SECTION J**  
 SCALE: 1:1000 (H)  
 SCALE: 1:250 (V)

**ISSUED FOR DEVELOPMENT APPLICATION**  
 NOT FOR CONSTRUCTION

Project: File Name: C:\Users\orion\OneDrive\Documents\19-0042\DA Masterplan DA\_19-0042\DA 018.dwg  
 19-0042\DA Masterplan DA\_19-0042\DA 018.dwg

Rev	Drawn	Design	Appd.	Date	Revision Description
C	AP	CS	JM	29/06/2021	ROAD LAYOUT AND INTERFACES UPDATED
B	MG	CS	MP	15/09/2020	GENERAL MASTERPLAN UPDATES
A	MG	CS	MP	23/06/2020	ISSUED FOR MASTER PLAN DA APPROVAL

Disclaimer and Copyright:  
 ALL DIMENSIONS TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE. THESE DRAWINGS, PLANS, AND SPECIFICATIONS AND THE COPYRIGHT ARE THE PROPERTY OF ORION CONSULTING ENGINEERS PTY LTD AND MUST NOT BE REPRODUCED OR COPIED WHOLLY OR IN PART WITHOUT THE PERMISSION OF ORION CONSULTING ENGINEERS PTY LTD



By: **Orion Consulting**  
 CONSULT AUSTRALIA Member Firm  
 ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@orionconsulting.com.au

Project: **No. 51, 134, 146 STATION LANE, LOCHINVAR MASTERPLAN DA**

Title: **SITE REGRADING SECTIONS SHEET 09 OF 09**

Project No.	Set No.	Milestone	Plan	Revision
19-0042	02	DA	018	C





**LEGEND**

CONTOURS: 10.0, 20.0

STABILISED SITE ACCESS: [Symbol]

POSSIBLE STOCKPILE LOCATION: [Symbol]

SITE SECURITY FENCE: [Symbol]

SEDIMENT FENCE: [Symbol]

TEMPORARY CATCHDRAIN: [Symbol]

STRAW / HAY BALE FILTER: [Symbol]

ROCK CHECK DAM: [Symbol]

DENOTES AREA DRAINING TOWARDS TEMPORARY SEDIMENT BASIN - CATCHMENT A: [Color]

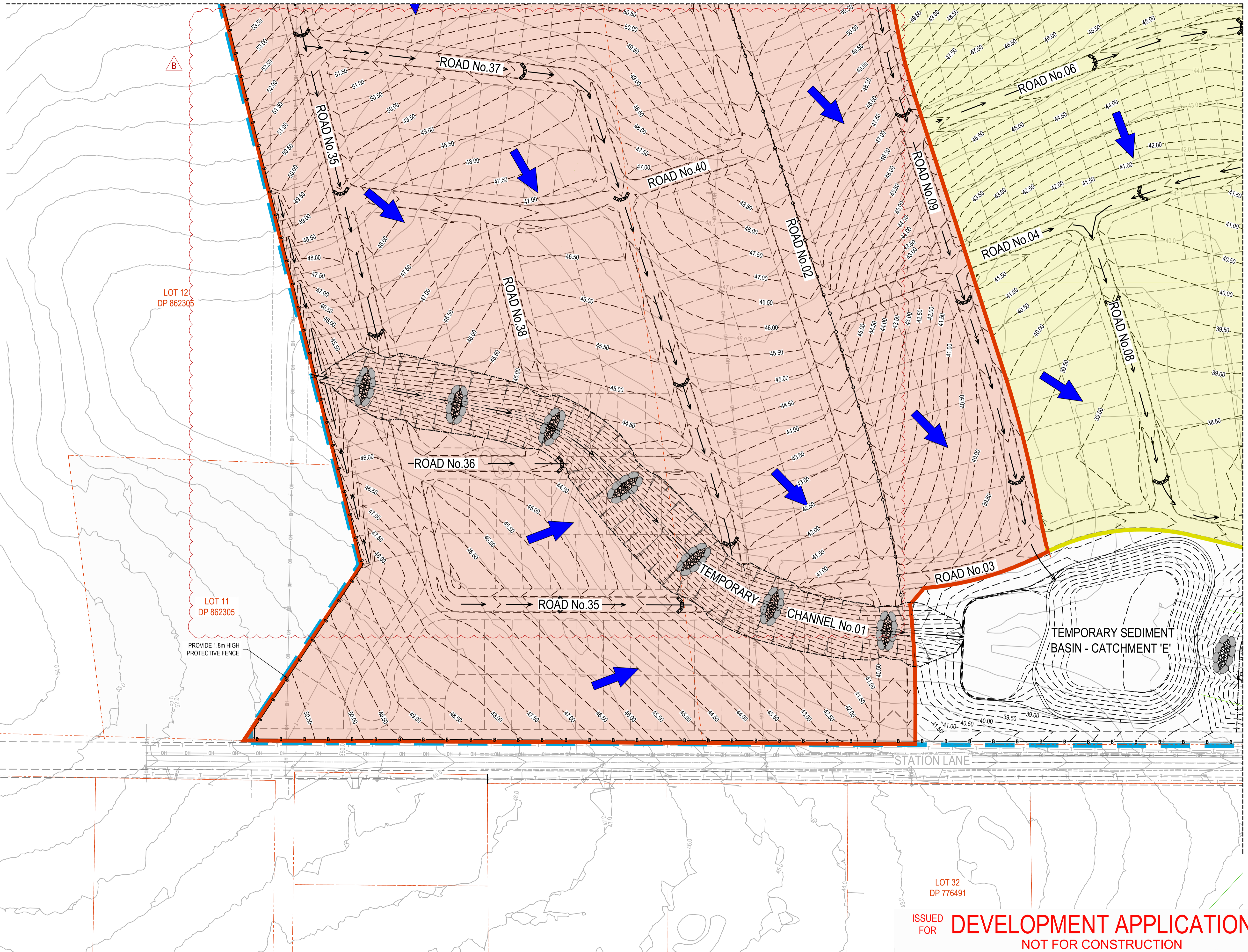
DENOTES AREA DRAINING TOWARDS TEMPORARY SEDIMENT BASIN - CATCHMENT B: [Color]

DENOTES AREA DRAINING TOWARDS TEMPORARY SEDIMENT BASIN - CATCHMENT C: [Color]

DENOTES AREA DRAINING TOWARDS TEMPORARY SEDIMENT BASIN - CATCHMENT D: [Color]

DENOTES AREA DRAINING TOWARDS TEMPORARY SEDIMENT BASIN - CATCHMENT E: [Color]

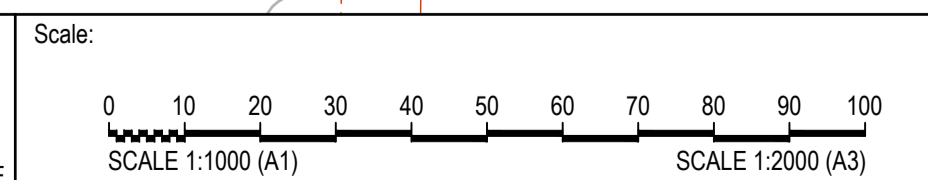
DENOTES AREA DRAINING TOWARDS TEMPORARY SEDIMENT BASIN - CATCHMENT F: [Color]



REFER TO DRAWING 19-0042-02-DA-101 FOR CONTINUATION

Rev	Drawn	Design	Appd.	Date	Revision Description
B	AP	CS	JM	29/06/2021	ROAD LAYOUT AND INTERFACES UPDATED
A	MG	CS	MP	23/06/2020	ISSUED FOR MASTER PLAN DA APPROVAL

Disclaimer and Copyright:  
 ALL DIMENSIONS TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO CONSTRUCTION.  
 USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE.  
 THESE DRAWINGS, PLANS, AND SPECIFICATIONS AND THE COPYRIGHT ARE THE PROPERTY OF ORION CONSULTING ENGINEERS PTY LTD AND MUST NOT BE REPRODUCED OR COPIED WHOLLY OR IN PART WITHOUT THE PERMISSION OF ORION CONSULTING ENGINEERS PTY LTD



For: **The Bathla Group**

By: **Orion Consulting**

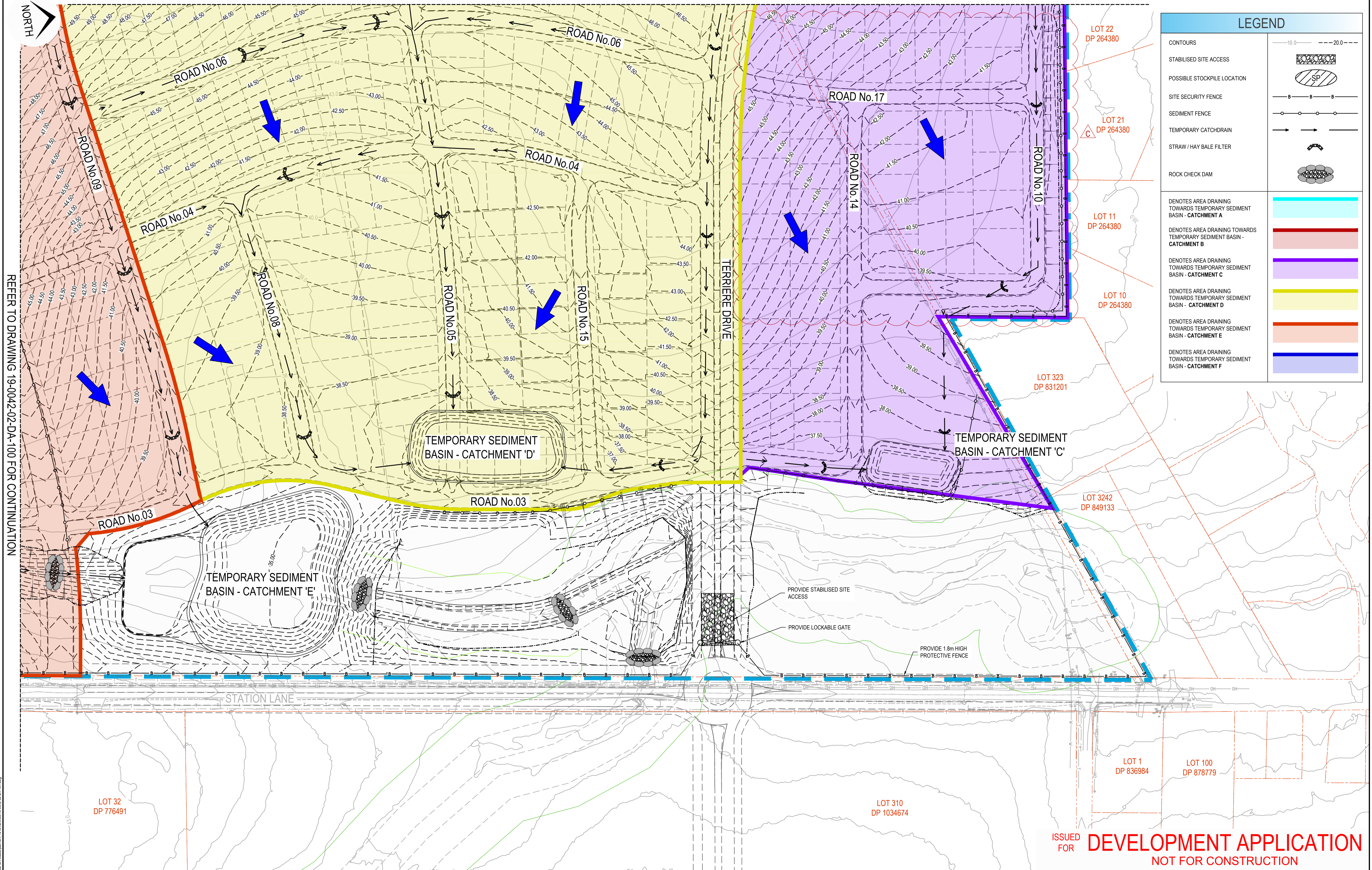
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@orionconsulting.com.au

Project: **No. 51, 134, 146 STATION LANE, LOCHINVAR MASTERPLAN DA**

Title: **SOIL & WATER MANAGEMENT PLAN SHEET 01 OF 04**

Project No.	Set No.	Milestone	Plan	Revision
19-0042	02	DA	100	B





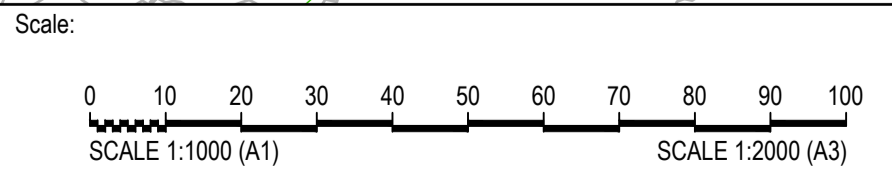
LEGEND	
CONTOURS	10.0 --- 20.0 ---
STABILISED SITE ACCESS	
POSSIBLE STOCKPILE LOCATION	
SITE SECURITY FENCE	
SEDIMENT FENCE	
TEMPORARY CATCHDRAIN	
STRAW / HAY BALE FILTER	
ROCK CHECK DAM	
DENOTES AREA DRAINING TOWARDS TEMPORARY SEDIMENT BASIN - CATCHMENT A	
DENOTES AREA DRAINING TOWARDS TEMPORARY SEDIMENT BASIN - CATCHMENT B	
DENOTES AREA DRAINING TOWARDS TEMPORARY SEDIMENT BASIN - CATCHMENT C	
DENOTES AREA DRAINING TOWARDS TEMPORARY SEDIMENT BASIN - CATCHMENT D	
DENOTES AREA DRAINING TOWARDS TEMPORARY SEDIMENT BASIN - CATCHMENT E	
DENOTES AREA DRAINING TOWARDS TEMPORARY SEDIMENT BASIN - CATCHMENT F	

REFER TO DRAWING 19-0042-02-DA-100 FOR CONTINUATION

ISSUED FOR **DEVELOPMENT APPLICATION**  
NOT FOR CONSTRUCTION

Rev	Drawn	Design	Appd.	Date	Revision Description
C	AP	CS	JM	29/06/2021	ROAD LAYOUT AND INTERFACES UPDATED
B	MG	CS	MP	15/09/2020	GENERAL MASTERPLAN UPDATES
A	MG	CS	MP	23/06/2020	ISSUED FOR MASTER PLAN DA APPROVAL

Disclaimer and Copyright:  
ALL DIMENSIONS TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE. THESE DRAWINGS, PLANS, AND SPECIFICATIONS AND THE COPYRIGHT ARE THE PROPERTY OF ORION CONSULTING ENGINEERS PTY LTD AND MUST NOT BE REPRODUCED OR COPIED WHOLLY OR IN PART WITHOUT THE PERMISSION OF ORION CONSULTING ENGINEERS PTY LTD



For: **The Bathla Group**

By: **Orion Consulting**  
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@orionconsulting.com.au

Project: **No. 51, 134, 146 STATION LANE, LOCHINVAR MASTERPLAN DA**

Title: **SOIL & WATER MANAGEMENT PLAN SHEET 02 OF 04**

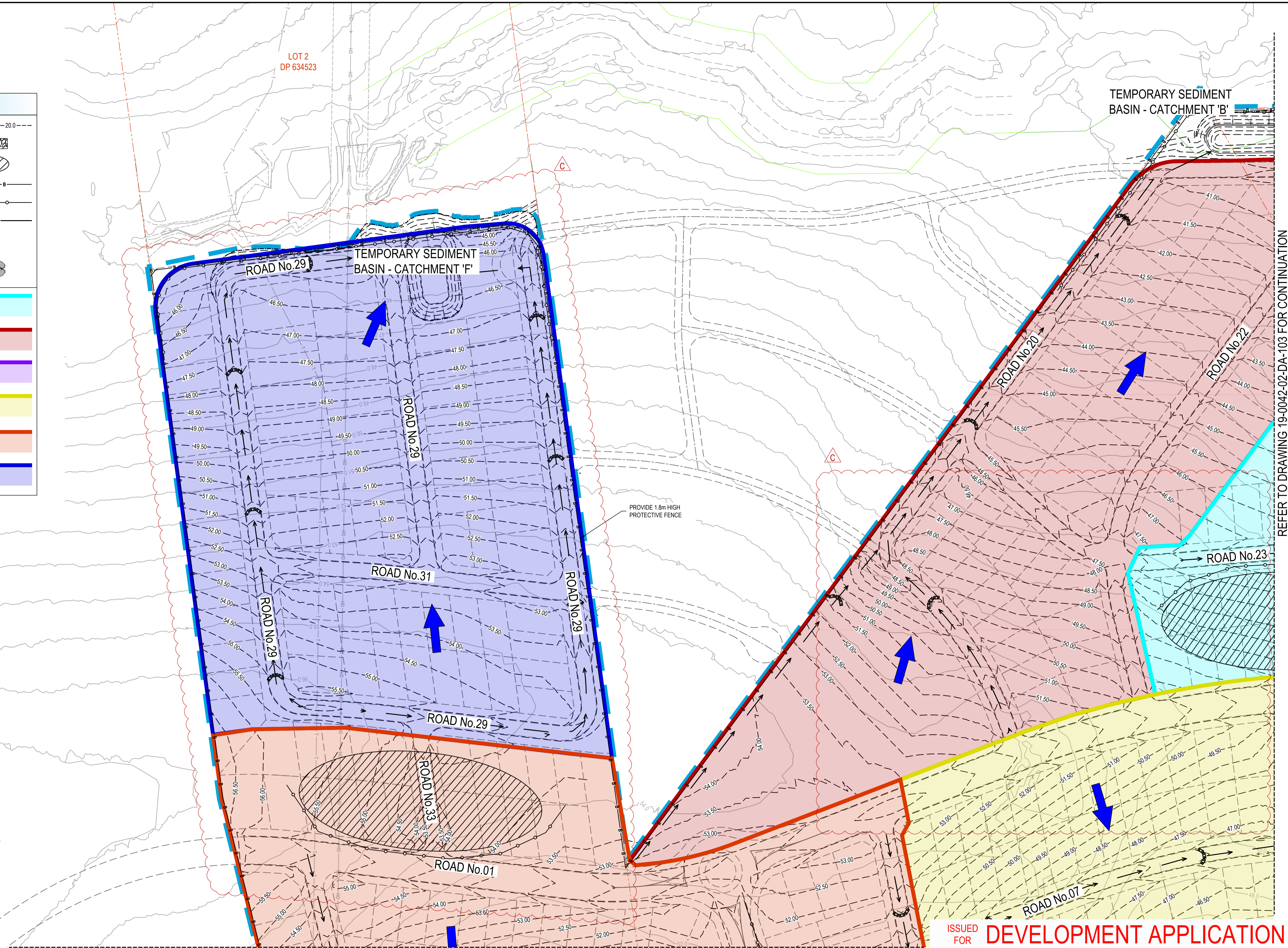
Project No.	Set No.	Milestone	Plan	Revision
19-0042	02	DA	101	C





LOT 2  
DP 634523

LEGEND	
CONTOURS	
STABILISED SITE ACCESS	
POSSIBLE STOCKPILE LOCATION	
SITE SECURITY FENCE	
SEDIMENT FENCE	
TEMPORARY CATCHDRAIN	
STRAW / HAY BALE FILTER	
ROCK CHECK DAM	
DENOTES AREA DRAINING TOWARDS TEMPORARY SEDIMENT BASIN - CATCHMENT A	
DENOTES AREA DRAINING TOWARDS TEMPORARY SEDIMENT BASIN - CATCHMENT B	
DENOTES AREA DRAINING TOWARDS TEMPORARY SEDIMENT BASIN - CATCHMENT C	
DENOTES AREA DRAINING TOWARDS TEMPORARY SEDIMENT BASIN - CATCHMENT D	
DENOTES AREA DRAINING TOWARDS TEMPORARY SEDIMENT BASIN - CATCHMENT E	
DENOTES AREA DRAINING TOWARDS TEMPORARY SEDIMENT BASIN - CATCHMENT F	



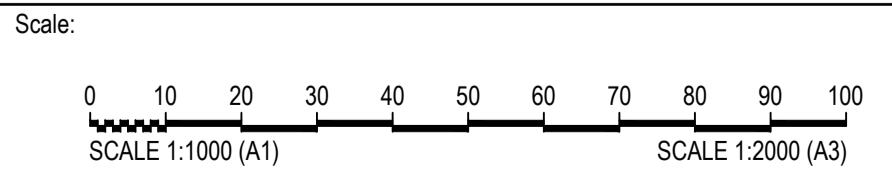
REFER TO DRAWING 19-0042-02-DA-103 FOR CONTINUATION

REFER TO DRAWING 19-0042-02-DA-100 FOR CONTINUATION

ISSUED FOR **DEVELOPMENT APPLICATION**  
NOT FOR CONSTRUCTION

Rev	Drawn	Design	Appd.	Date	Revision Description
C	AP	CS	JM	29/06/2021	ROAD LAYOUT AND INTERFACES UPDATED
B	MG	CS	MP	15/09/2020	GENERAL MASTERPLAN UPDATES
A	MG	CS	MP	23/06/2020	ISSUED FOR MASTER PLAN DA APPROVAL

Disclaimer and Copyright:  
ALL DIMENSIONS TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO CONSTRUCTION.  
USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE.  
THESE DRAWINGS, PLANS, AND SPECIFICATIONS AND THE COPYRIGHT ARE THE PROPERTY OF ORION CONSULTING ENGINEERS PTY LTD AND MUST NOT BE REPRODUCED OR COPIED WHOLLY OR IN PART WITHOUT THE PERMISSION OF ORION CONSULTING ENGINEERS PTY LTD



For:

By:   
ABN:25 604 069 981 PO Box:7336, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@orionconsulting.com.au

Project: No. 51, 134, 146 STATION LANE, LOCHINVAR MASTERPLAN DA

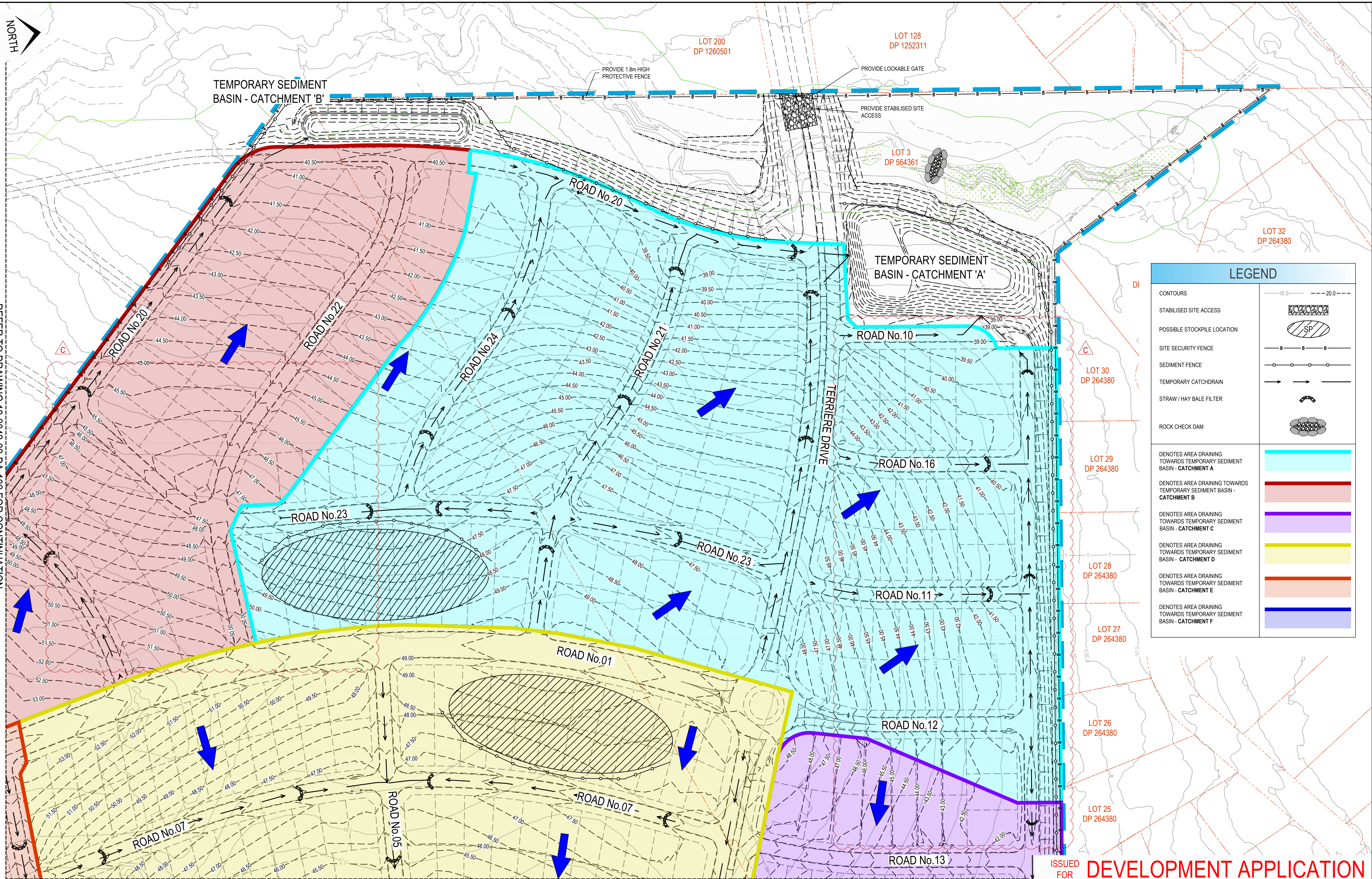
Title: SOIL & WATER MANAGEMENT PLAN SHEET 03 OF 04

Project No.	Set No.	Milestone	Plan	Revision
19-0042	02	DA	102	C





REFER TO DRAWING 19-0042-02-DA-102 FOR CONTINUATION



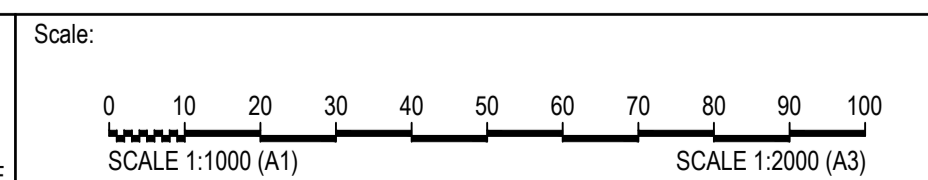
LEGEND	
CONTOURS	--- 10.0 --- 20.0 ---
STABILISED SITE ACCESS	
POSSIBLE STOCKPILE LOCATION	
SITE SECURITY FENCE	
SEDIMENT FENCE	
TEMPORARY CATCHDRAIN	
STRAW / HAY BALE FILTER	
ROCK CHECK DAM	
DENOTES AREA DRAINING TOWARDS TEMPORARY SEDIMENT BASIN - CATCHMENT A	
DENOTES AREA DRAINING TOWARDS TEMPORARY SEDIMENT BASIN - CATCHMENT B	
DENOTES AREA DRAINING TOWARDS TEMPORARY SEDIMENT BASIN - CATCHMENT C	
DENOTES AREA DRAINING TOWARDS TEMPORARY SEDIMENT BASIN - CATCHMENT D	
DENOTES AREA DRAINING TOWARDS TEMPORARY SEDIMENT BASIN - CATCHMENT E	
DENOTES AREA DRAINING TOWARDS TEMPORARY SEDIMENT BASIN - CATCHMENT F	

REFER TO DRAWING 19-0042-02-DA-101 FOR CONTINUATION

ISSUED FOR **DEVELOPMENT APPLICATION**  
NOT FOR CONSTRUCTION

Rev	Drawn	Design	Appd.	Date	Revision Description
C	AP	CS	JM	29/06/2021	ROAD LAYOUT AND INTERFACES UPDATED
B	MG	CS	MP	15/09/2020	GENERAL MASTERPLAN UPDATES
A	MG	CS	MP	23/06/2020	ISSUED FOR MASTER PLAN DA APPROVAL

Disclaimer and Copyright:  
ALL DIMENSIONS TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE. THESE DRAWINGS, PLANS, AND SPECIFICATIONS AND THE COPYRIGHT ARE THE PROPERTY OF ORION CONSULTING ENGINEERS PTY LTD AND MUST NOT BE REPRODUCED OR COPIED WHOLLY OR IN PART WITHOUT THE PERMISSION OF ORION CONSULTING ENGINEERS PTY LTD



By: Orion Consulting  
 For: CONSULT AUSTRALIA  
 Project: No. 51, 134, 146 STATION LANE, LOCHINVAR MASTERPLAN DA  
 ABN:25 604 069 981 PO Box:7336, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@orionconsulting.com.au

Project No.	Set No.	Milestone	Plan	Revision
19-0042	02	DA	103	C



**GENERAL NOTES:**

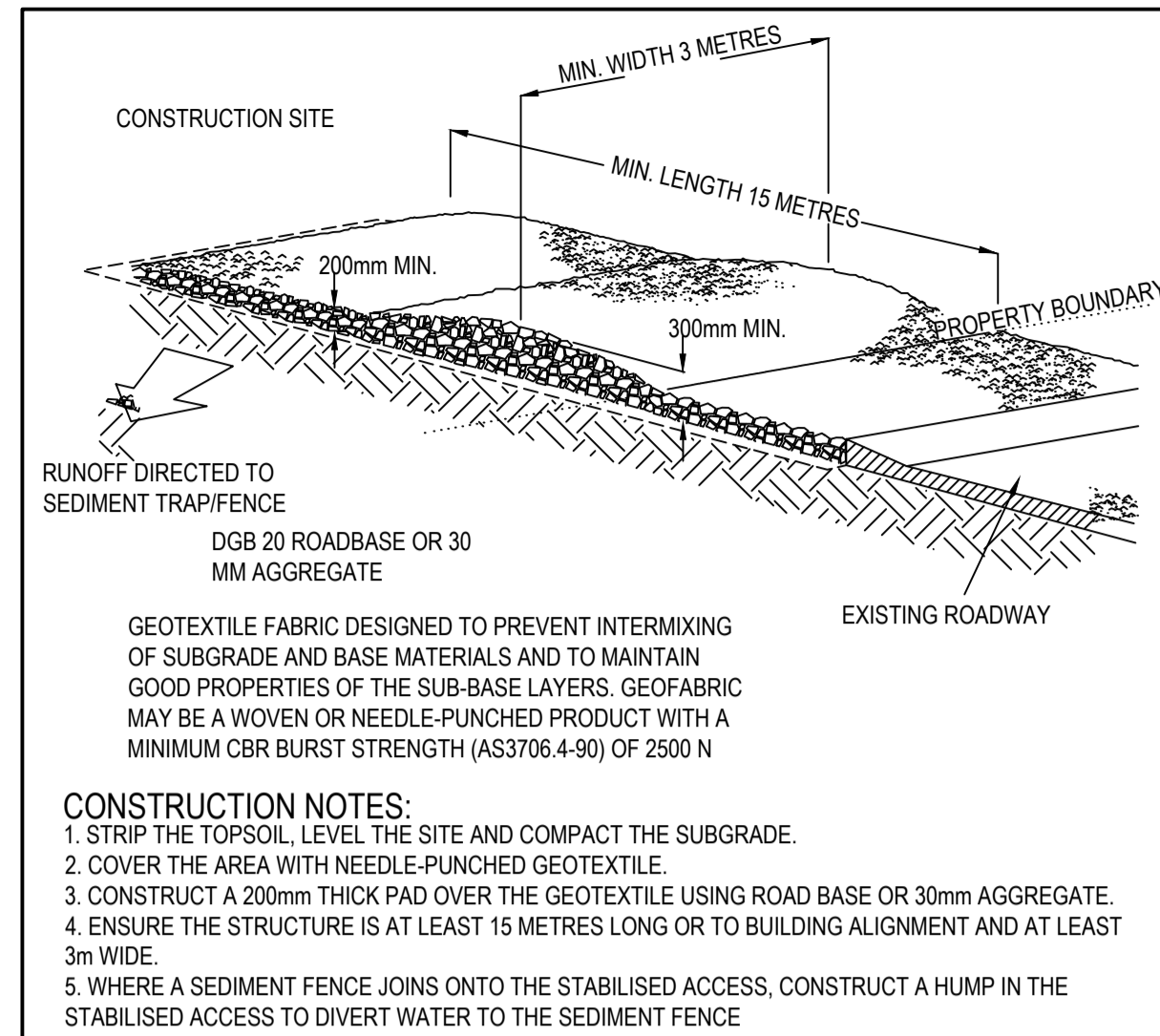
- ALL EROSION AND SEDIMENT CONTROL MEASURES, INCLUDING REVEGETATION AND STORAGE OF SOIL AND TOPSOIL, SHALL BE IMPLEMENTED TO THE REQUIREMENTS OF THE "ENVIRONMENT PROTECTION AUTHORITY" AND "DEPT OF LAND AND WATER CONSERVATION". MEASURES OUTLINED IN THE SEDIMENT & EROSION CONTROL PLAN MUST BE IMPLEMENTED PRIOR TO AND MAINTAINED DURING AND AFTER THE CONSTRUCTION WORKS.
  - TOPSOIL FROM ALL AREAS TO BE DISTURBED SHALL BE STOCKPILED AND LATER RESPAID TO AID REVEGETATION IN THOSE AREAS.
  - ALL DRAINAGE WORKS SHALL BE CONSTRUCTED AND STABILIZED AS EARLY AS POSSIBLE DURING DEVELOPMENT.
  - ALL TAIL-OUT DRAINS SHALL BE GRASSED AND TRAPEZOIDAL IN SECTION. STRAW BALES SHALL BE PLACED AS A SEDIMENT CONTROL DEVICE WHERE REQUIRED.
  - VEHICULAR TRAFFIC SHALL BE CONTROLLED DURING DEVELOPMENT CONFINING ACCESS WHERE POSSIBLE TO PROPOSED OR EXISTING ROAD ALIGNMENTS. AREAS TO BE LEFT UNDISTURBED SHALL BE MARKED OFF.
  - DISTURBANCE OF VEGETATION SHALL BE LIMITED TO FILL AREAS, ROADWAYS AND DRAINAGE LINES. NO LOT GRADING SHALL BE CARRIED OUT IN UNDISTURBED AREAS WITHOUT CONSULTATION WITH COUNCIL'S ENGINEER.
  - ALL DISTURBED AREAS SHALL BE REVEGETATED WITHIN 14 WORKING DAYS FROM THE CONCLUSION OF LAND SHAPING.
  - MINIMISE DUST BY WATERING WHEN REQUIRED.
- STOCKPILE NOTES:**
- SPOIL AND TOPSOIL STOCKPILES SHALL BE LOCATED AWAY FROM DRAINAGE LINES AND AREAS WHERE WATER MAY CONCENTRATE.
  - IF STOCKPILES ARE TO BE IN PLACE FOR LONGER THAN 14 DAYS THEN THEY SHALL BE STABILIZED BY COVERING WITH A MULCH OR WITH TEMPORARY VEGETATION.
  - FOLLOWING CONSTRUCTION, TOPSOIL SHALL BE RESPAID TO A MINIMUM DEPTH OF 100mm ON THE BARE SOIL SURFACES AND REVEGETATED.
  - ALL STOCKPILES TO BE (MAX) 2m HIGH AND PROTECTED WITH SILT FENCE.

**SPECIAL NOTES:**

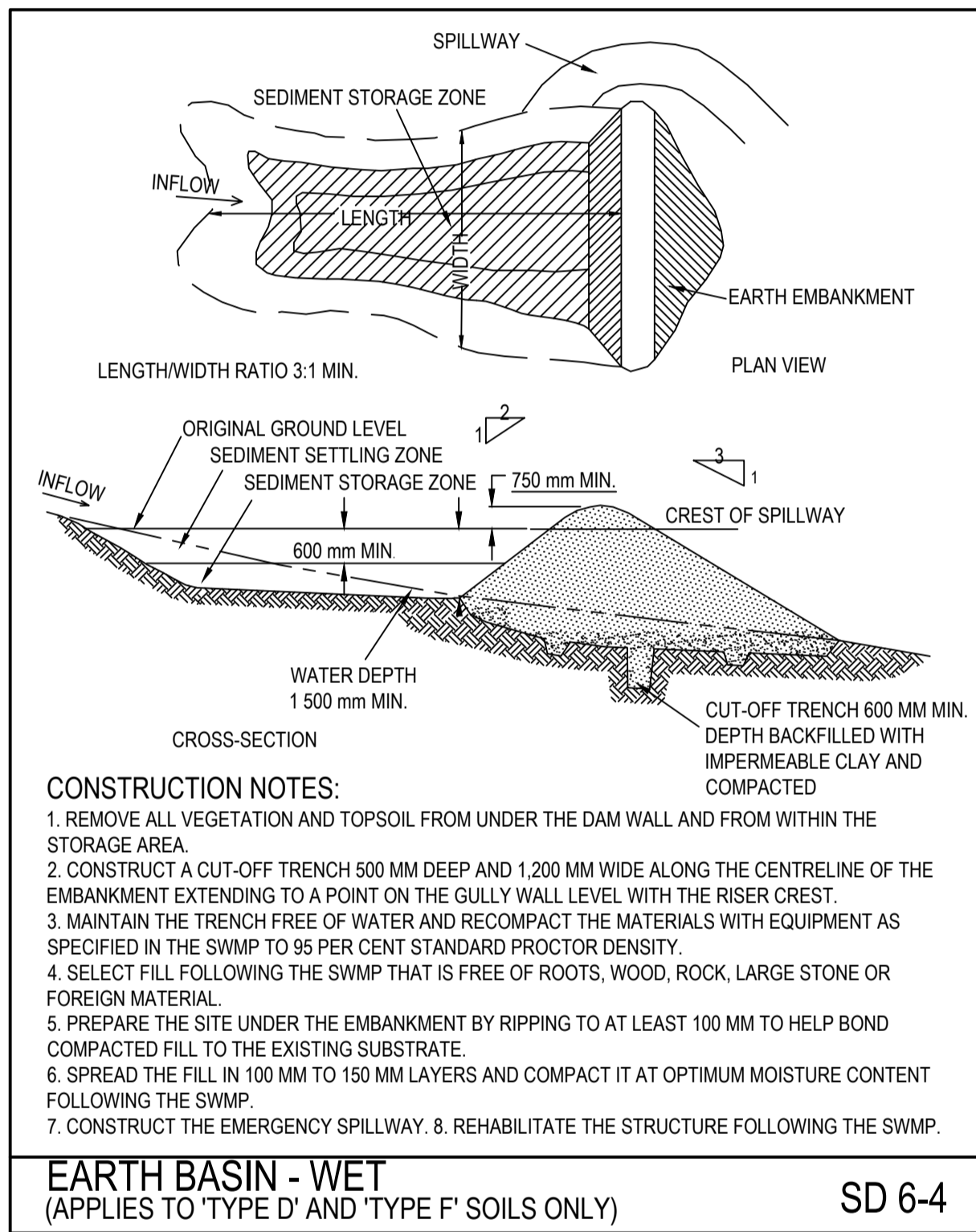
- LOCATION AND EXTENT OF SOIL AND WATER MANAGEMENT DEVICES IS DIAGRAMMATIC ONLY AND THE ACTUAL REQUIREMENTS SHALL BE CONFIRMED ON SITE.
- THIS PLAN IS TO BE READ IN CONJUNCTION WITH THE GUIDELINES SET OUT IN "MANAGING URBAN STORMWATER SOILS AND CONSTRUCTION" - 4TH EDITION AND THE ACCOMPANYING ROAD AND DRAINAGE PLANS.
- CONFORMITY WITH THIS PLAN SHALL IN NO WAY REDUCE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT AGAINST WATER DAMAGE DURING THE COURSE OF THE CONTRACT.
- MANAGEMENT DEVICES SHALL BE MAINTAINED ON A REGULAR BASIS. WHERE CLEANING IS REQUIRED, THE SEDIMENT SHALL BE REMOVED TO A POINT NOMINATED BY THE ENGINEER.
- PRIOR TO THE COMMENCEMENT OF ANY EARTHWORKS, AND AFTER THE ROAD CENTRELINES HAVE BEEN PEGGED AND/OR PERMANENTLY MARKED, THE SITE MUST BE INSPECTED BY COUNCIL'S REPRESENTATIVE AND THE APPLICANT'S REPRESENTATIVE TO IDENTIFY AND APPROPRIATELY MARK:
  - THE TREES TO BE RETAINED.
  - ALL TREES TO BE LEFT UNDISTURBED AND TO BE CORDONED OFF.
- NO TREES SHALL BE REMOVED WITHOUT COUNCIL'S CLEARANCE.
- MANAGEMENT DEVICES TO REMAIN UNTIL THE END OF THE MAINTENANCE PERIOD.

**SEDIMENTATION CONTROL DEVICES:**

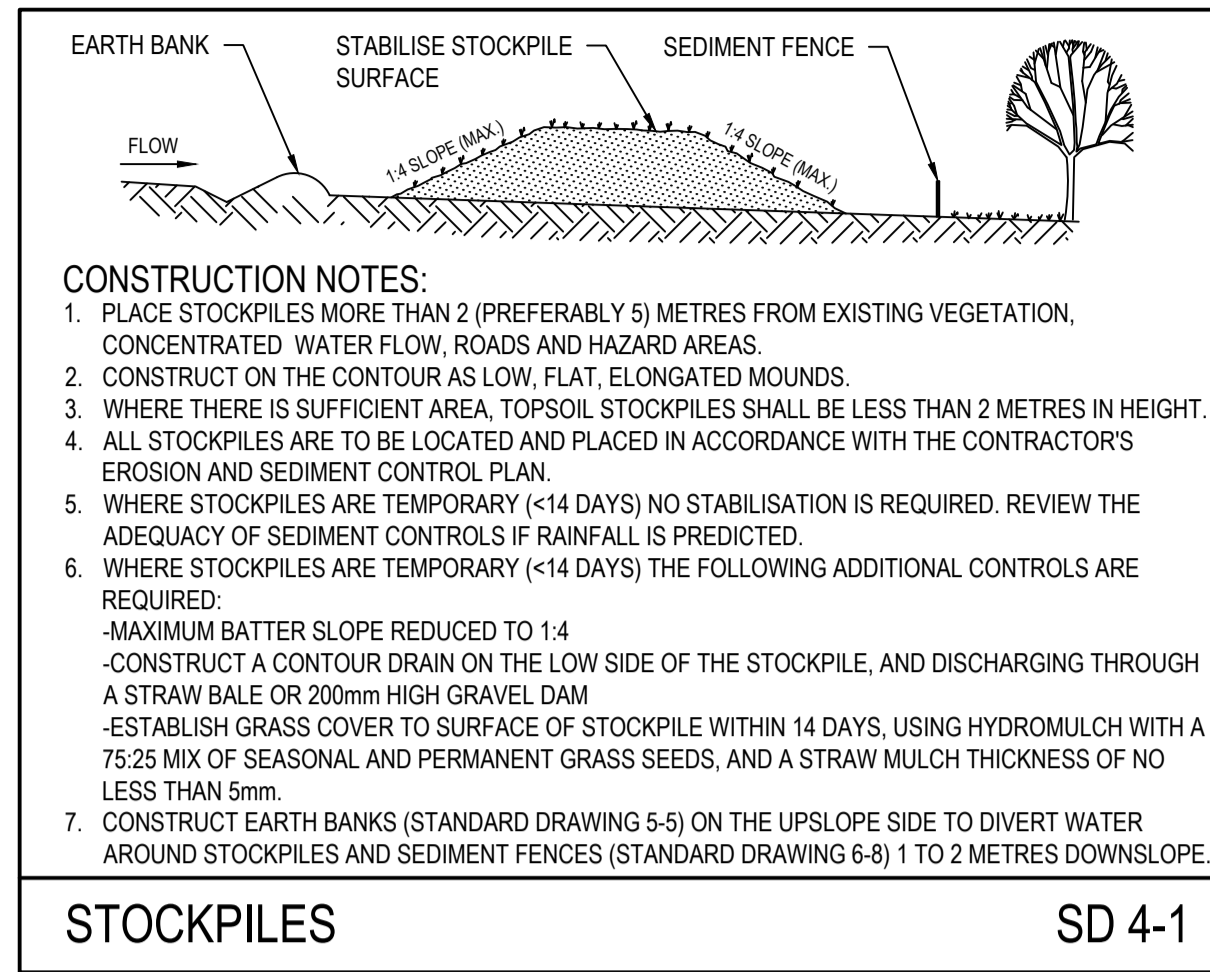
- ALL STRAW BALES SHALL BE BOUND WITH WIRE. STRAW BALES SHALL BE PLACED END TO END IN A SINGLE ROW AND EMBEDDED INTO THE SOIL TO A DEPTH OF 100mm. EACH BALE SHALL BE SECURELY ANCHORED WITH TWO STEEL STAKES DRIVEN 450mm INTO THE GROUND AND LOCATED ON THE BALE CENTRE LINE.
- SILT FENCES SHALL BE CONSTRUCTED BY STRETCHING A FILTER FABRIC (PROPEX OR SIMILAR) BETWEEN POSTS AT 2m (3m MAX) CENTRES. FABRIC SHALL BE BURIED 150mm ALONG ITS LOWER EDGE.



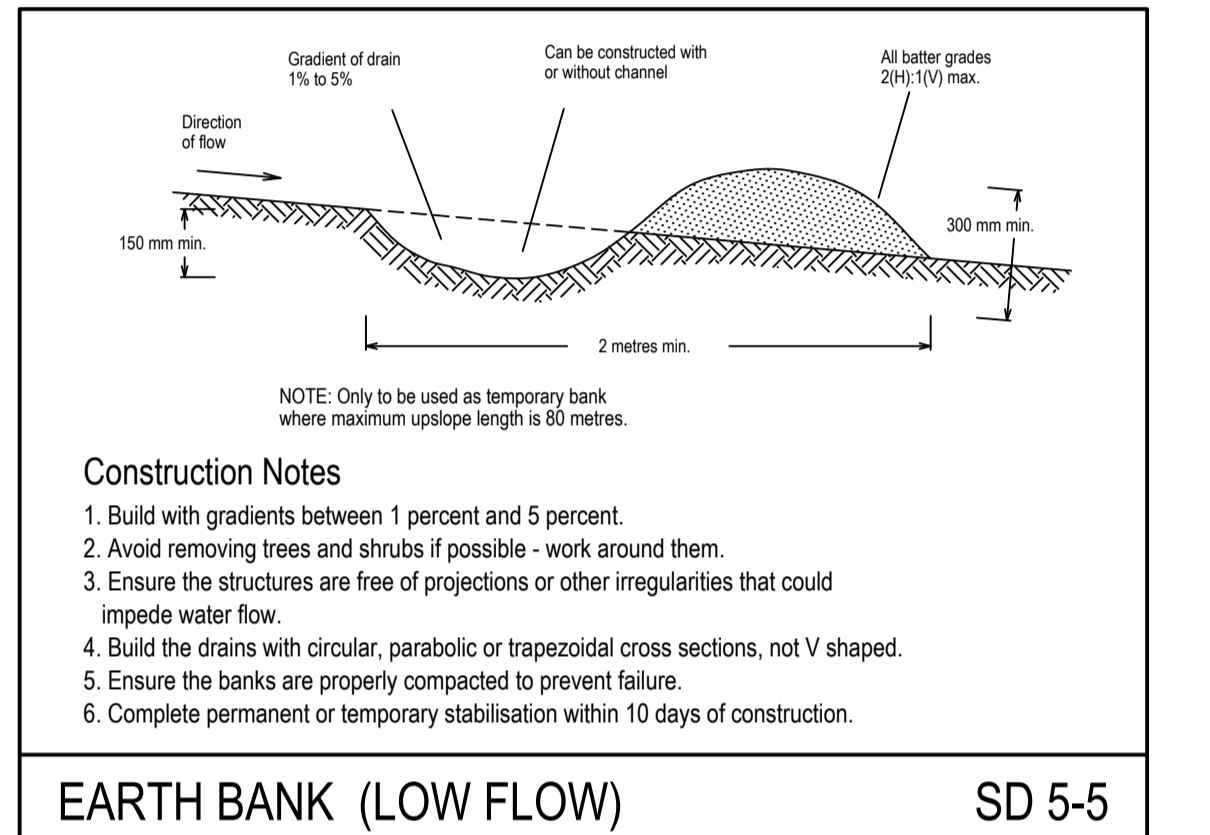
**STABILISED SITE ACCESS SD 6-14**



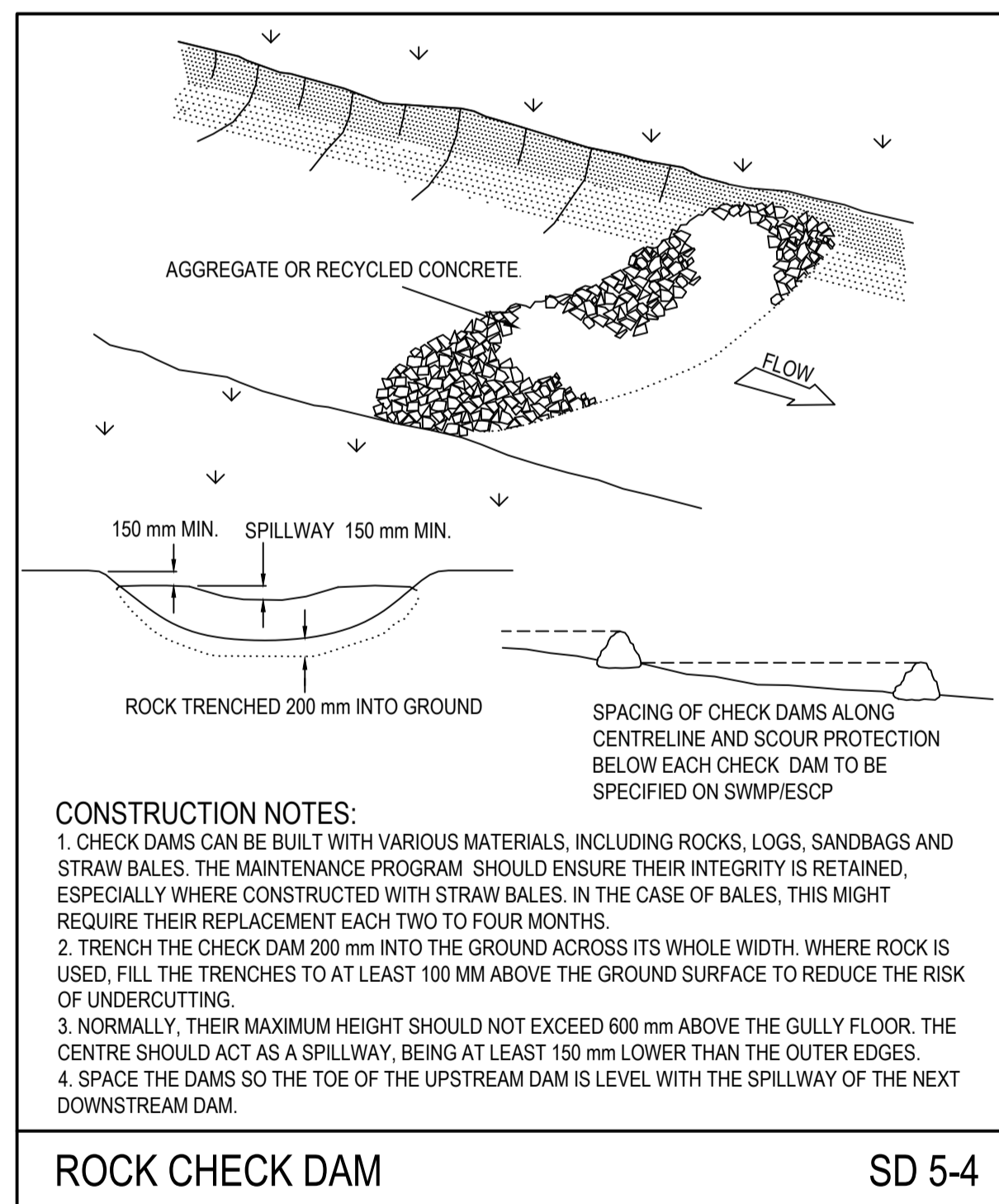
**EARTH BASIN - WET (APPLIES TO 'TYPE D' AND 'TYPE F' SOILS ONLY) SD 6-4**



**STOCKPILES SD 4-1**

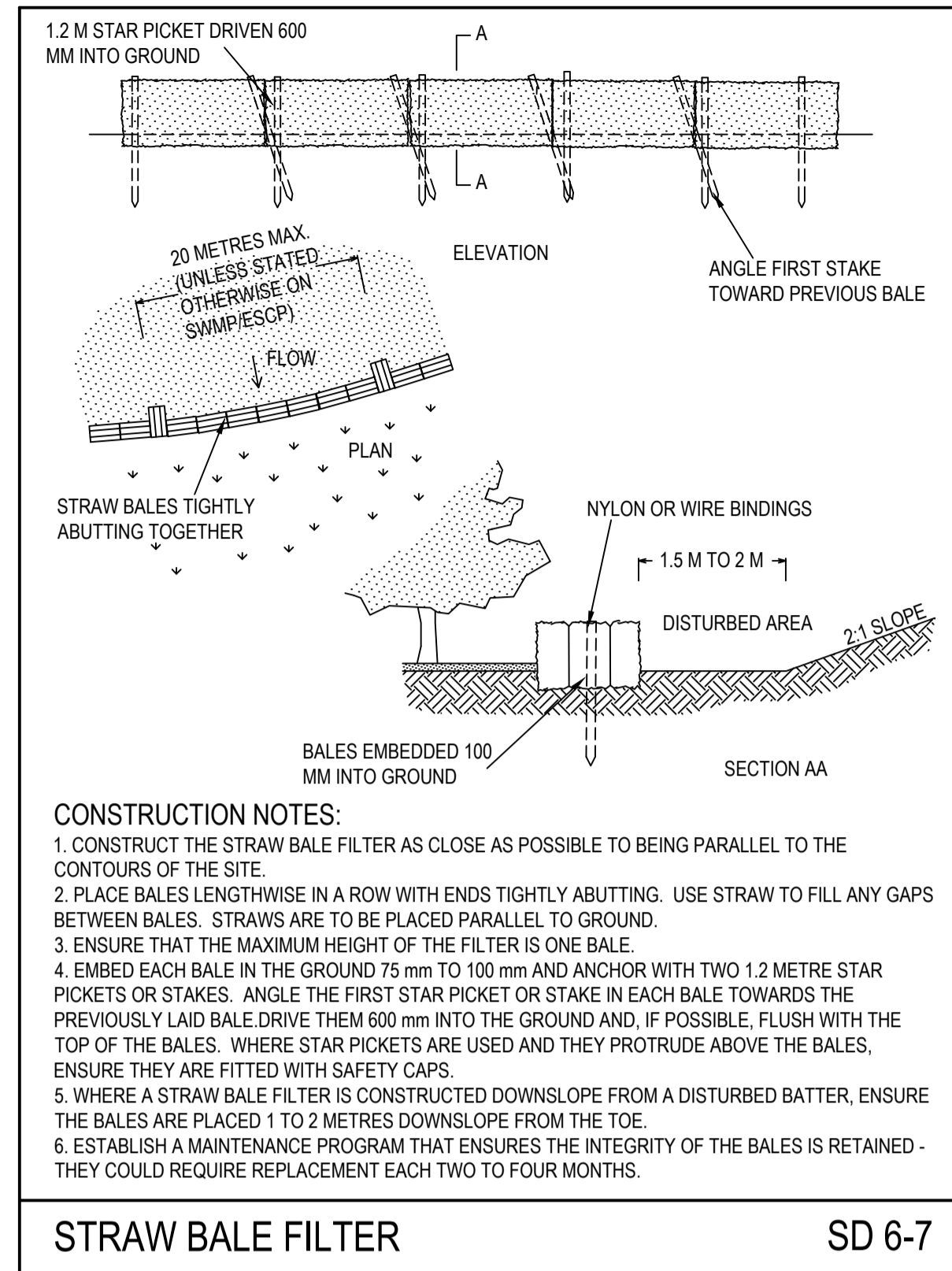


**EARTH BANK (LOW FLOW) SD 5-5**



**ROCK CHECK DAM SD 5-4**

- CONSTRUCTION NOTES:**
- CHECK DAMS CAN BE BUILT WITH VARIOUS MATERIALS, INCLUDING ROCKS, LOGS, SANDBAGS AND STRAW BALES. THE MAINTENANCE PROGRAM SHOULD ENSURE THEIR INTEGRITY IS RETAINED, ESPECIALLY WHERE CONSTRUCTED WITH STRAW BALES. IN THE CASE OF BALES, THIS MIGHT REQUIRE THEIR REPLACEMENT EACH TWO TO FOUR MONTHS.
  - TRENCH THE CHECK DAM 200 mm INTO THE GROUND ACROSS ITS WHOLE WIDTH. WHERE ROCK IS USED, FILL THE TRENCHES TO AT LEAST 100 mm ABOVE THE GROUND SURFACE TO REDUCE THE RISK OF UNDERCUTTING.
  - NORMALLY, THEIR MAXIMUM HEIGHT SHOULD NOT EXCEED 600 mm ABOVE THE GULLY FLOOR. THE CENTRE SHOULD ACT AS A SPILLWAY, BEING AT LEAST 150 mm LOWER THAN THE OUTER EDGES.
  - SPACE THE DAMS SO THE TOE OF THE UPSTREAM DAM IS LEVEL WITH THE SPILLWAY OF THE NEXT DOWNSTREAM DAM.



**STRAW BALE FILTER SD 6-7**

**1. Erosion Hazard and Sediment Basins**

Site Name: Bathla Lochinvar URA						
Site Location: Lochinvar, Maitland City Council						
Precinct/Stage: Bulk Earthworks Masterplan						
Other Details:						
Site area	Sub-catchment or Name of Structure					
	A	B	C	D	E	F
Total catchment area (ha)	11.2	6.2	6.4	17.2	18.6	6
Disturbed catchment area (ha)	11.2	6.2	6.4	17.2	18.6	6

Soil analysis (enter sediment type if known, or laboratory particle size data)						
Sediment Type (C, F or D) if known:	D	D	D	D	D	D
From Appendix C (if known)						
% sand (fraction 0.02 to 0.02 mm)						
% silt (fraction 0.002 to 0.02 mm)						
% clay (fraction finer than 0.002 mm)						
Dispersion percentage						
% of whole soil dispersible						
Soil Texture Group	D	D	D	D	D	D

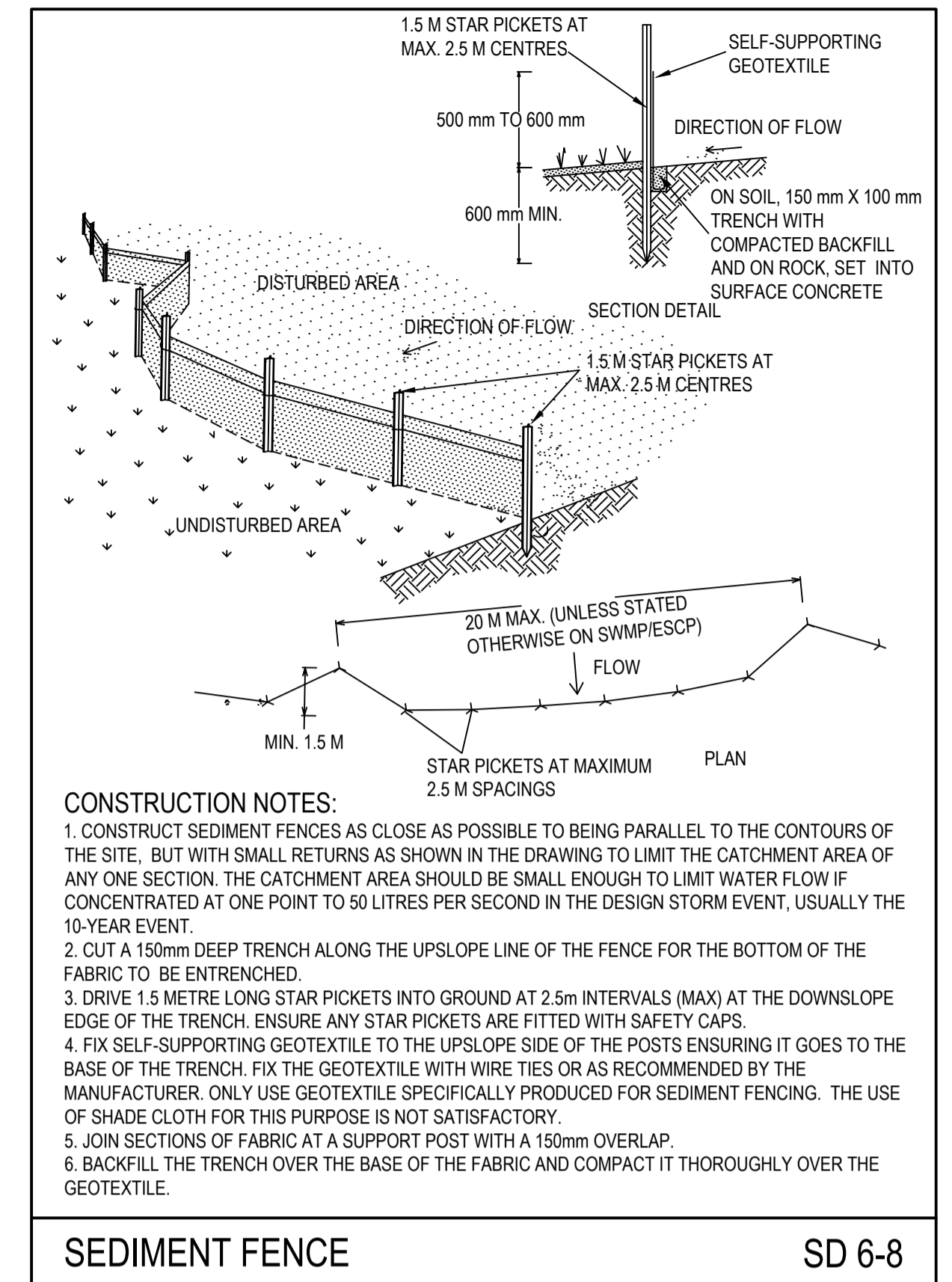
Rainfall data						
Design rainfall depth (no of days)	5	5	5	5	5	5
Design rainfall depth (percentile)	80	80	80	80	80	80
x-day, y-percentile rainfall event (mm)	24.4	24.4	24.4	24.4	24.4	24.4
Rainfall R-factor (if known)						
IFD: 2-year, 6-hour isbm (if known)	9	9	9	9	9	9

RUSLE Factors						
Rainfall erosivity (R-factor)	1850	1850	1850	1850	1850	1850
Soil erodibility (K-factor)	0.031	0.031	0.031	0.031	0.031	0.031
Slope length (m)	80	80	80	80	80	80
Slope gradient (%)	4	3.4	2.8	3	2.5	3.5
Length/gradient (LS-factor)	0.91	0.75	0.60	0.65	0.53	0.78
Erosion control practice (P-factor)	1.3	1.3	1.3	1.3	1.3	1.3
Ground cover (C-factor)	1	1	1	1	1	1

Sediment Basin Design Criteria (for Type D/F basins only. Leave blank for Type C basins)						
Storage (soil) zone design (no of months)	2	2	2	2	2	2
Cv (Volumetric runoff coefficient)	0.5	0.5	0.5	0.5	0.5	0.5

Calculations and Type D/F Sediment Basin Volumes						
Soil loss (t/ha/yr)	68	56	45	49	39	58
Soil Loss Class	1	1	1	1	1	1
Soil loss (m <sup>3</sup> /ha/yr)	52	43	34	37	30	45
Sediment basin storage (soil) volume (m <sup>3</sup> )	98	45	37	107	94	45
Sediment basin settling (water) volume (m <sup>3</sup> )	1366	756	781	2098	2269	732
Sediment basin total volume (m <sup>3</sup> )	1464	801	818	2205	2363	777

NB for sizing of Type C (coarse) sediment basins, see Worksheet 3 (if required).



**SEDIMENT FENCE SD 6-8**

**SEDIMENT BASIN VOLUME REQUIREMENTS**

CATCHMENT / BASIN	VOLUME REQUIRED (m <sup>3</sup> )	VOLUME PROVIDED (m <sup>3</sup> )
A	1464	7500 (TO R.L. 37.5 mAHD)
B	801	1090 (TO R.L. 39.7 mAHD)
C	818	1050 (TO R.L. 37.5 mAHD)
D	2205	2300 (TO R.L. 36.4 mAHD)
E	2363	6175 (TO R.L. 36.5 mAHD)
F	777	840 (TO R.L. 45.60 mAHD)

ISSUED FOR **DEVELOPMENT APPLICATION**  
NOT FOR CONSTRUCTION

Rev	Drawn	Design	Appd.	Date	Revision Description
C	AP	CS	JM	29/06/2021	MINOR CHANGES TO SEDIMENT BASIN VOLUMES
B	MG	CS	MP	15/09/2020	GENERAL MASTERPLAN UPDATES
A	MG	CS	MP	23/06/2020	ISSUED FOR MASTER PLAN DA APPROVAL

Disclaimer and Copyright:  
ALL DIMENSIONS TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE. THESE DRAWINGS, PLANS, AND SPECIFICATIONS AND THE COPYRIGHT ARE THE PROPERTY OF ORION CONSULTING ENGINEERS PTY LTD AND MUST NOT BE REPRODUCED OR COPIED WHOLLY OR IN PART WITHOUT THE PERMISSION OF ORION CONSULTING ENGINEERS PTY LTD

Scale:



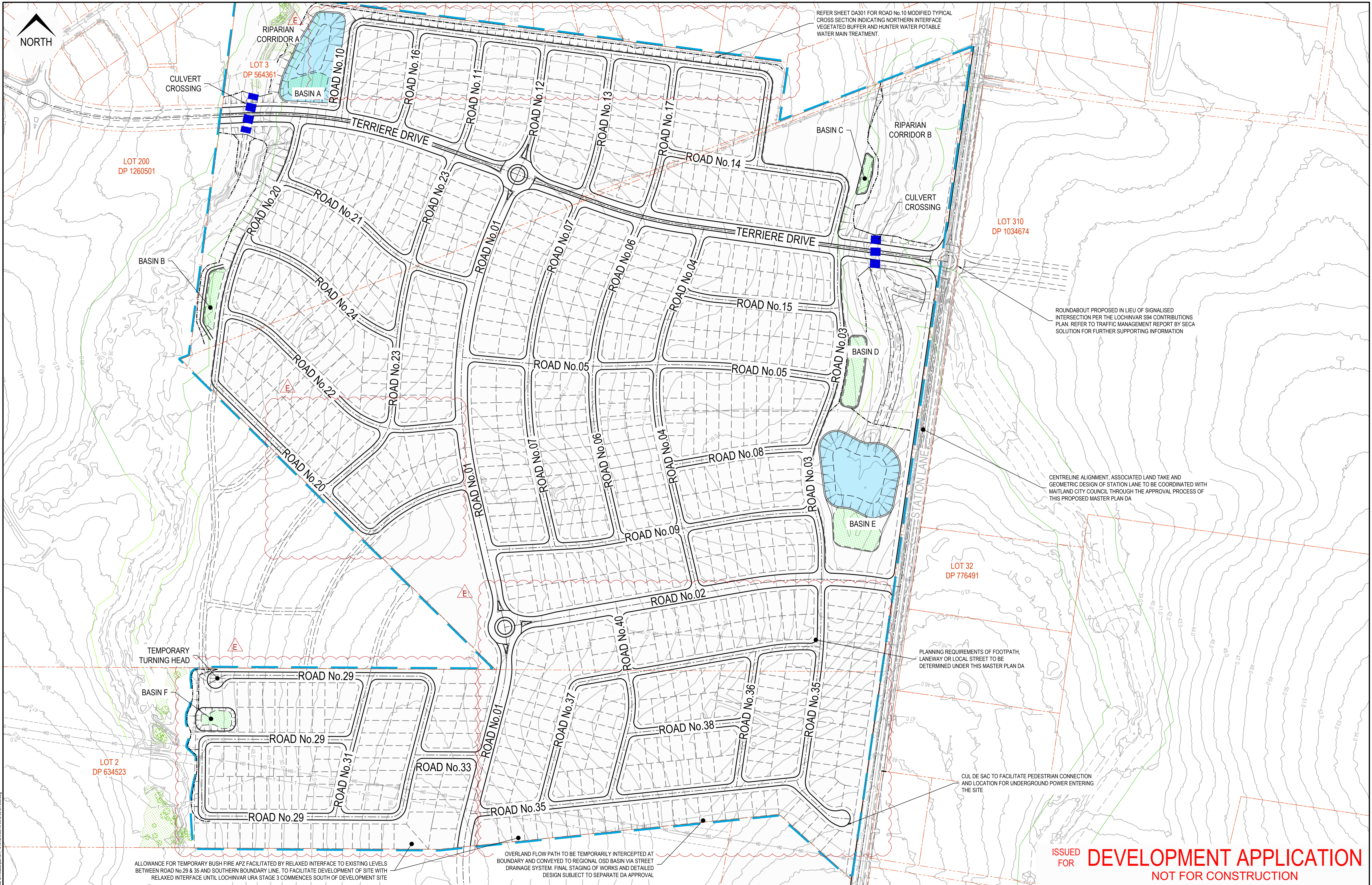
Project: No. 51, 134, 146 STATION LANE, LOCHINVAR MASTERPLAN DA

Title: SOIL & WATER MANAGEMENT NOTES & DETAILS

Project No.	Set No.	Milestone	Plan	Revision
19-0042	02	DA	104	C

ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@orionconsulting.com.au





REFER SHEET DA301 FOR ROAD No.10 MODIFIED TYPICAL CROSS SECTION INDICATING NORTHERN INTERFACE VEGETATED BUFFER AND HUNTER WATER POTABLE WATER MAIN TREATMENT.

ROUNDABOUT PROPOSED IN LIEU OF SIGNALISED INTERSECTION PER THE LOCHINVAR S94 CONTRIBUTIONS PLAN. REFER TO TRAFFIC MANAGEMENT REPORT BY SECA SOLUTION FOR FURTHER SUPPORTING INFORMATION

CENTRELINE ALIGNMENT, ASSOCIATED LAND TAKE AND GEOMETRIC DESIGN OF STATION LANE TO BE COORDINATED WITH MAITLAND CITY COUNCIL THROUGH THE APPROVAL PROCESS OF THIS PROPOSED MASTER PLAN DA

PLANNING REQUIREMENTS OF FOOTPATH, LANEWAY OR LOCAL STREET TO BE DETERMINED UNDER THIS MASTER PLAN DA

CUL DE SAC TO FACILITATE PEDESTRIAN CONNECTION AND LOCATION FOR UNDERGROUND POWER ENTERING THE SITE

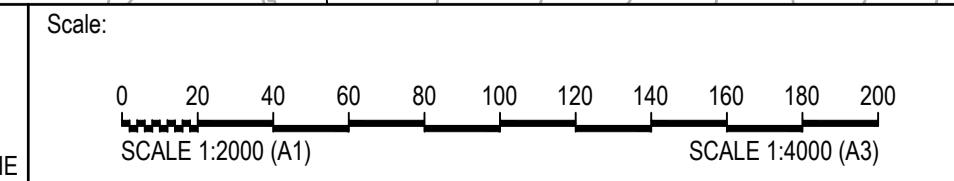
ALLOWANCE FOR TEMPORARY BUSH FIRE APZ FACILITATED BY RELAXED INTERFACE TO EXISTING LEVELS BETWEEN ROAD No.29 & 35 AND SOUTHERN BOUNDARY LINE. TO FACILITATE DEVELOPMENT OF SITE WITH RELAXED INTERFACE UNTIL LOCHINVAR URA STAGE 3 COMMENCES SOUTH OF DEVELOPMENT SITE

OVERLAND FLOW PATH TO BE TEMPORARILY INTERCEPTED AT BOUNDARY AND CONVEYED TO REGIONAL OSD BASIN VIA STREET DRAINAGE SYSTEM. FINAL STAGING OF WORKS AND DETAILED DESIGN SUBJECT TO SEPARATE DA APPROVAL

**ISSUED FOR DEVELOPMENT APPLICATION NOT FOR CONSTRUCTION**

Rev	Drawn	Design	Appd.	Date	Revision Description
E	AP	CS	JM	29/06/2021	ROAD LAYOUT AND INTERFACES UPDATED
D	MG	CS	MP	15/09/2020	GENERAL MASTERPLAN UPDATES
C	MG	CS	MP	30/06/2020	WATER QUALITY BASINS AND INTERFACES UPDATED
B	MG	CS	MP	27/04/2020	ISSUED FOR MASTER PLAN DA APPROVAL
A	MG	CS	MP	20/04/2020	ISSUED FOR MASTER PLAN DA APPROVAL

Disclaimer and Copyright:  
 ALL DIMENSIONS TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE. THESE DRAWINGS, PLANS, AND SPECIFICATIONS AND THE COPYRIGHT ARE THE PROPERTY OF ORION CONSULTING ENGINEERS PTY LTD AND MUST NOT BE REPRODUCED OR COPIED WHOLLY OR IN PART WITHOUT THE PERMISSION OF ORION CONSULTING ENGINEERS PTY LTD



By: **Orion Consulting**  
 CONSULT AUSTRALIA Member Firm  
 ABN:25 604 069 981 PO Box:7336, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@orionconsulting.com.au

Project: **No. 51, 134, 146 STATION LANE, LOCHINVAR MASTERPLAN DA**

Project No.	Set No.	Milestone	Plan	Revision
19-0042	02	DA	200	E

ENGINEERING PLAN





LOT 3  
DP 564361

LOT 200  
DP 1260501

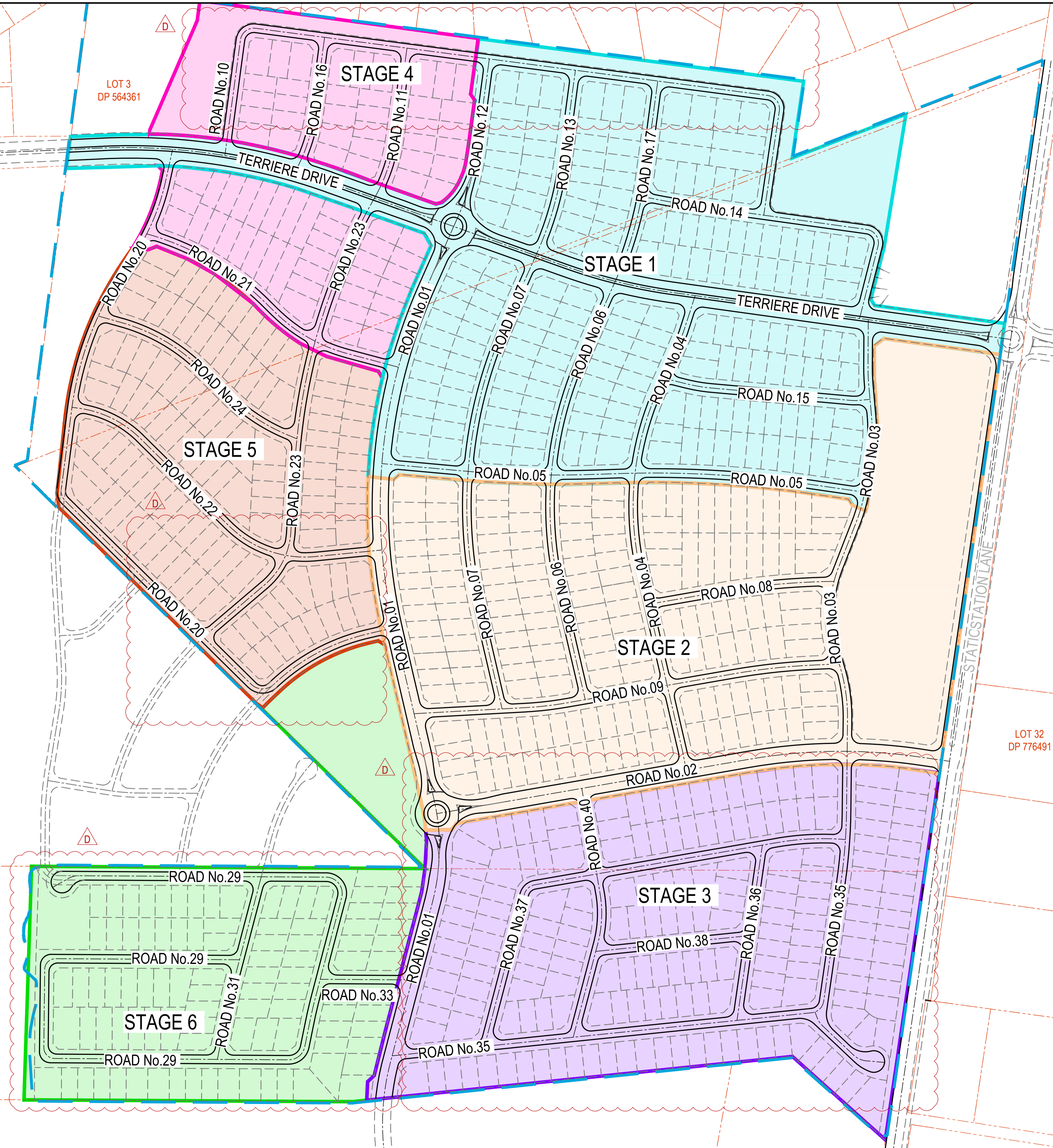
LOT 310  
DP 1034674

LOT 32  
DP 776491

LOT 2  
DP 634523

### LEGEND

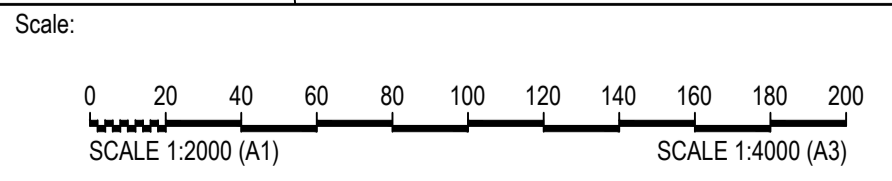
STAGE 1 LOTS TOTAL LOTS = 203 RESIDUE LOTS = 1	
STAGE 2 LOTS TOTAL LOTS = 164	
STAGE 3 LOTS TOTAL LOTS = 184	
STAGE 4 LOTS TOTAL LOTS = 83	
STAGE 5 LOTS TOTAL LOTS = 125	
STAGE 6 LOTS TOTAL LOTS = 96	
<b>TOTAL DWELLINGS = 811</b>	



ISSUED FOR **DEVELOPMENT APPLICATION**  
NOT FOR CONSTRUCTION

Rev	Drawn	Design	Appd.	Date	Revision Description
D	AP	JM	JM	29/06/2021	ROAD LAYOUT AND INTERFACES UPDATED
C	MG	CS	MP	15/09/2020	GENERAL MASTERPLAN UPDATES
B	CS	CS	MP	05/05/2020	ISSUED FOR MASTER PLAN DA APPROVAL
A	MG	CS	MP	20/04/2020	ISSUED FOR MASTER PLAN DA APPROVAL

Disclaimer and Copyright:  
ALL DIMENSIONS TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE. THESE DRAWINGS, PLANS, AND SPECIFICATIONS AND THE COPYRIGHT ARE THE PROPERTY OF ORION CONSULTING ENGINEERS PTY LTD AND MUST NOT BE REPRODUCED OR COPIED WHOLLY OR IN PART WITHOUT THE PERMISSION OF ORION CONSULTING ENGINEERS PTY LTD



By: **Orion Consulting**  
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@orionconsulting.com.au

Project: No. 51, 134, 146 STATION LANE, LOCHINVAR MASTERPLAN DA

Title: <b>CONCEPT STAGING PLAN</b>				
Project No. 19-0042	Set No. 02	Milestone DA	Plan 201	Revision D



NORTH

LOT 3  
DP 564361

LOT 200  
DP 1260501

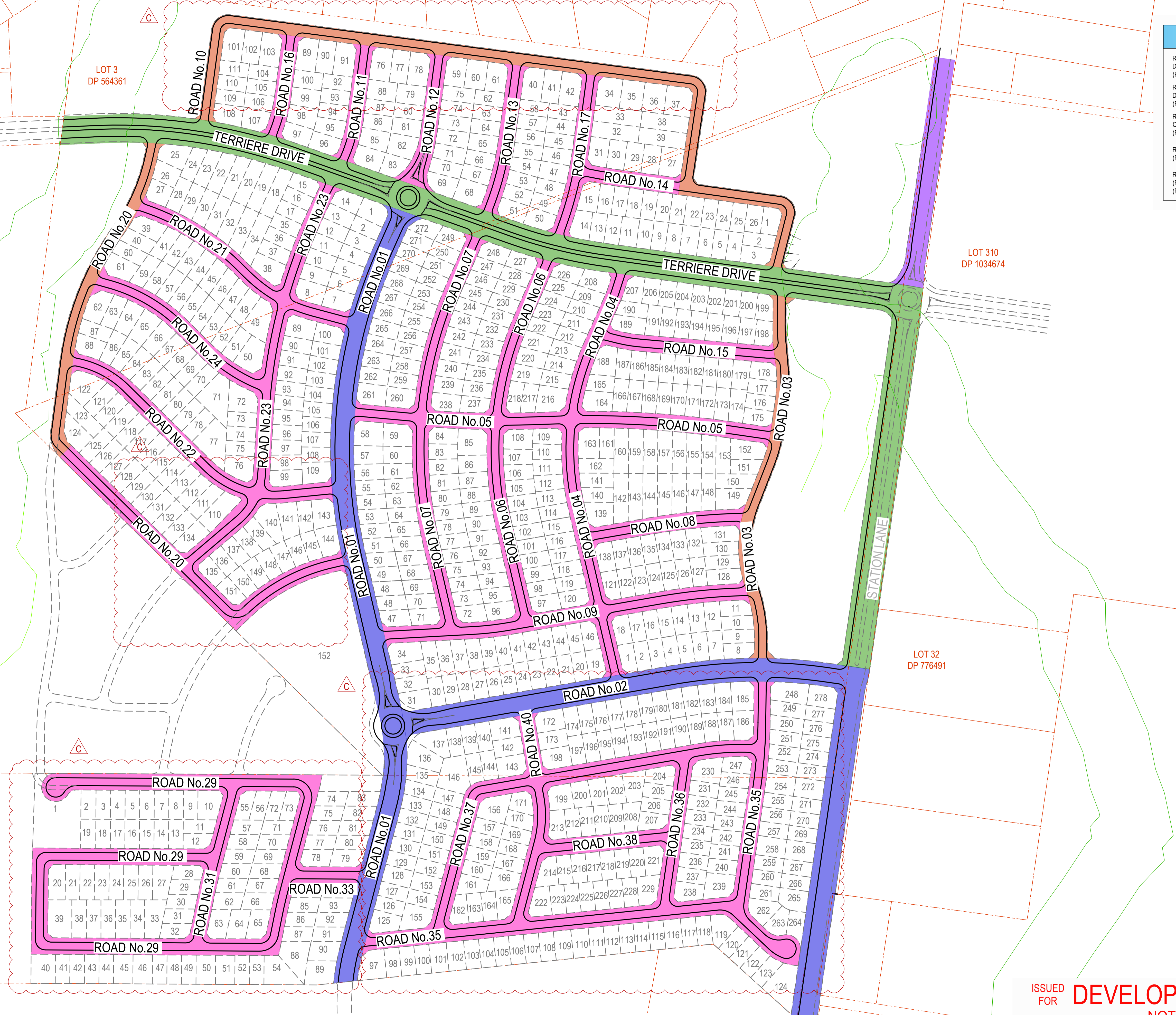
LOT 310  
DP 1034674

LOT 32  
DP 776491

LOT 2  
DP 634523

### LEGEND

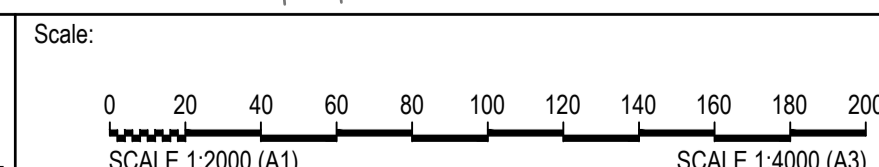
- ROAD TYPE 1 - SUB ARTERIAL DIVIDED CARRIAGEWAY (ROAD RESERVE = 29.2m WIDE)
- ROAD TYPE 2 - PRIMARY DISTRIBUTOR (ROAD RESERVE = 24m WIDE)
- ROAD TYPE 3 - PRIMARY COLLECTOR (ROAD RESERVE = 21m WIDE)
- ROAD TYPE 4 - PRIMARY LOCAL (ROAD RESERVE = 17m WIDE)
- ROAD TYPE 5 - PRIMARY LOCAL (REDUCED VERGE) (ROAD RESERVE = 13.5m WIDE)



ISSUED FOR **DEVELOPMENT APPLICATION**  
NOT FOR CONSTRUCTION

Rev	Drawn	Design	Appd.	Date	Revision Description
C	AP	CS	JM	29/06/2021	ROAD LAYOUT AND INTERFACES UPDATED
B	MG	CS	MP	15/09/2020	GENERAL MASTERPLAN UPDATES
A	MG	CS	MP	20/04/2020	ISSUED FOR MASTER PLAN DA APPROVAL

Disclaimer and Copyright:  
ALL DIMENSIONS TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE. THESE DRAWINGS, PLANS, AND SPECIFICATIONS AND THE COPYRIGHT ARE THE PROPERTY OF ORION CONSULTING ENGINEERS PTY LTD AND MUST NOT BE REPRODUCED OR COPIED WHOLLY OR IN PART WITHOUT THE PERMISSION OF ORION CONSULTING ENGINEERS PTY LTD



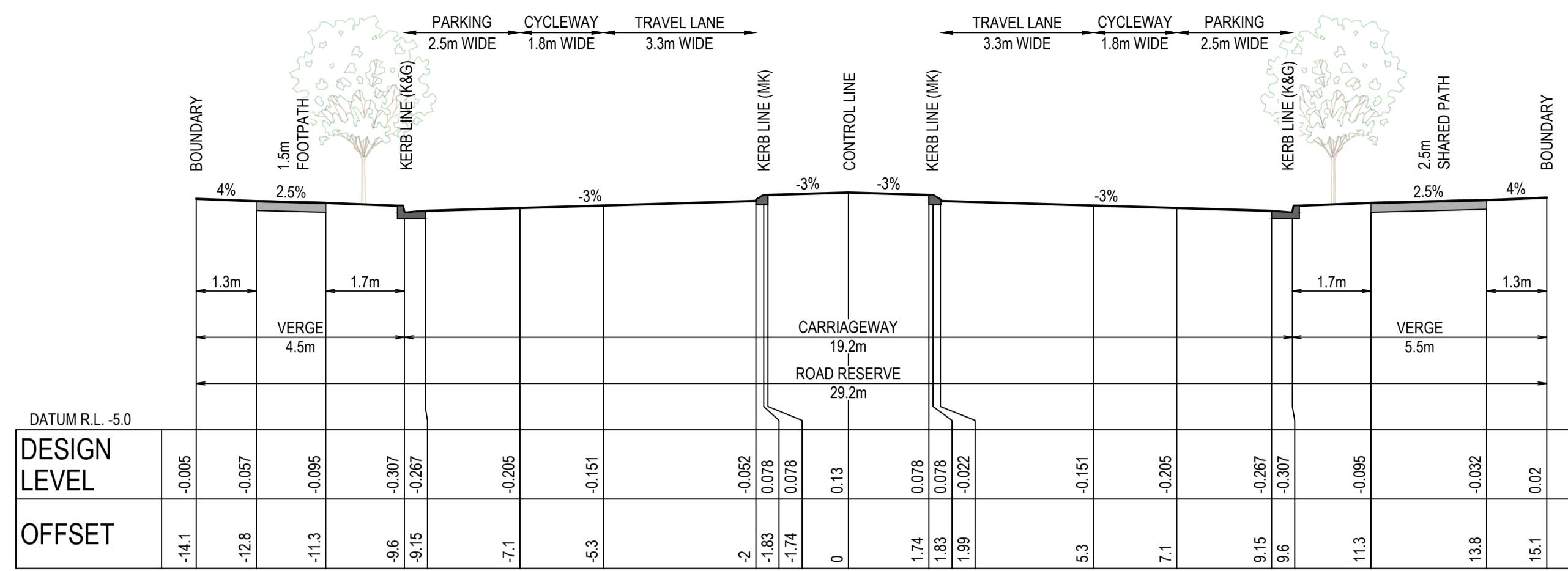
For: **The Bathla Group**

By: **Orion Consulting**  
 CONSULT AUSTRALIA Member Firm  
 ABN: 25 604 069 981 PO Box: 7936, BAULKHAM HILLS NSW 2153 T: (02) 8660 0035 E: info@orionconsulting.com.au

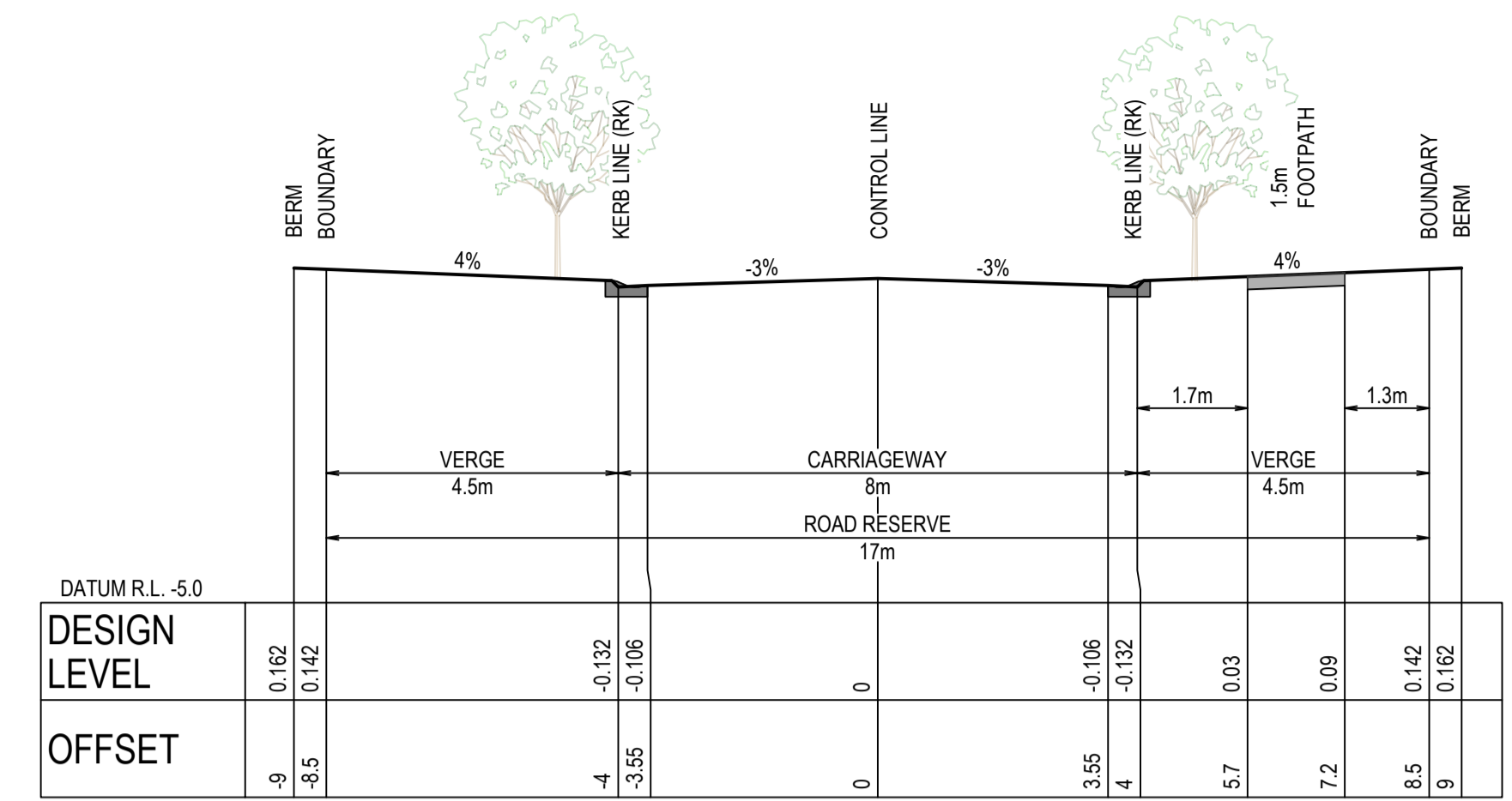
Project: **No. 51, 134, 146 STATION LANE, LOCHINVAR MASTERPLAN DA**

Title: ROAD HIERARCHY PLAN AND WIDTHS				
Project No.	Set No.	Milestone	Plan	Revision
19-0042	02	DA	202	C

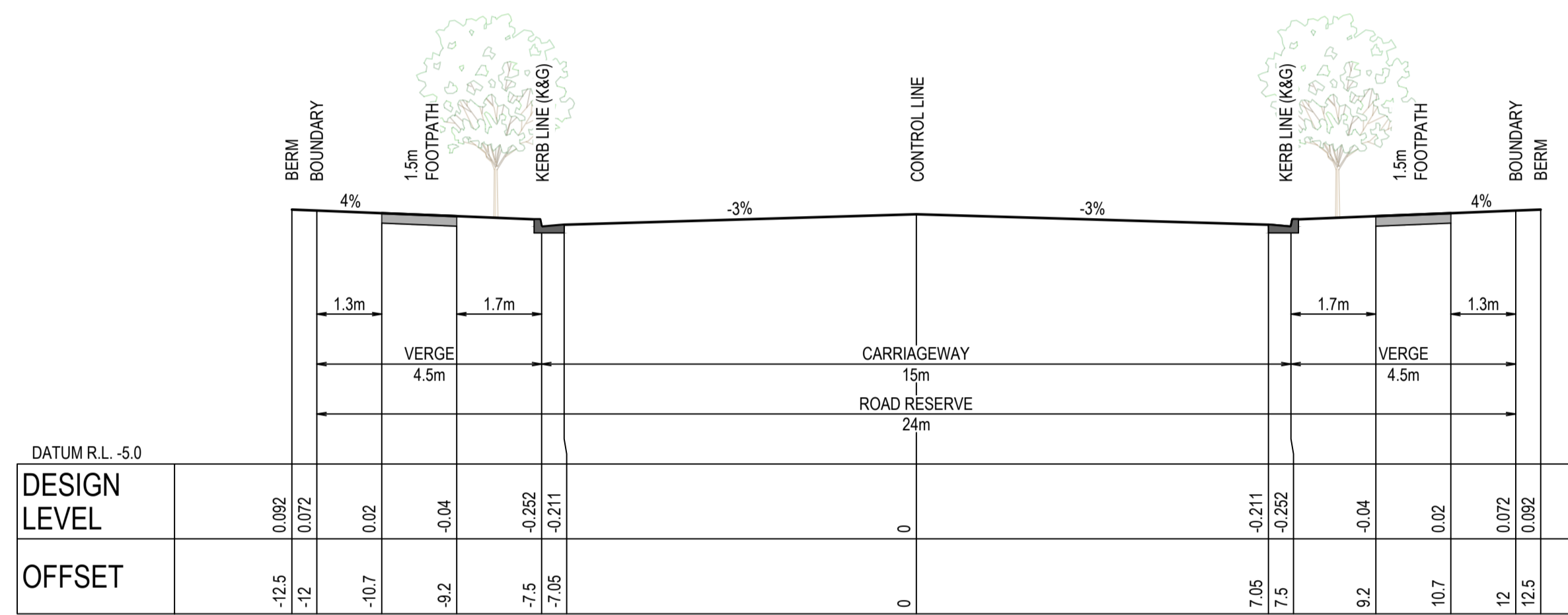




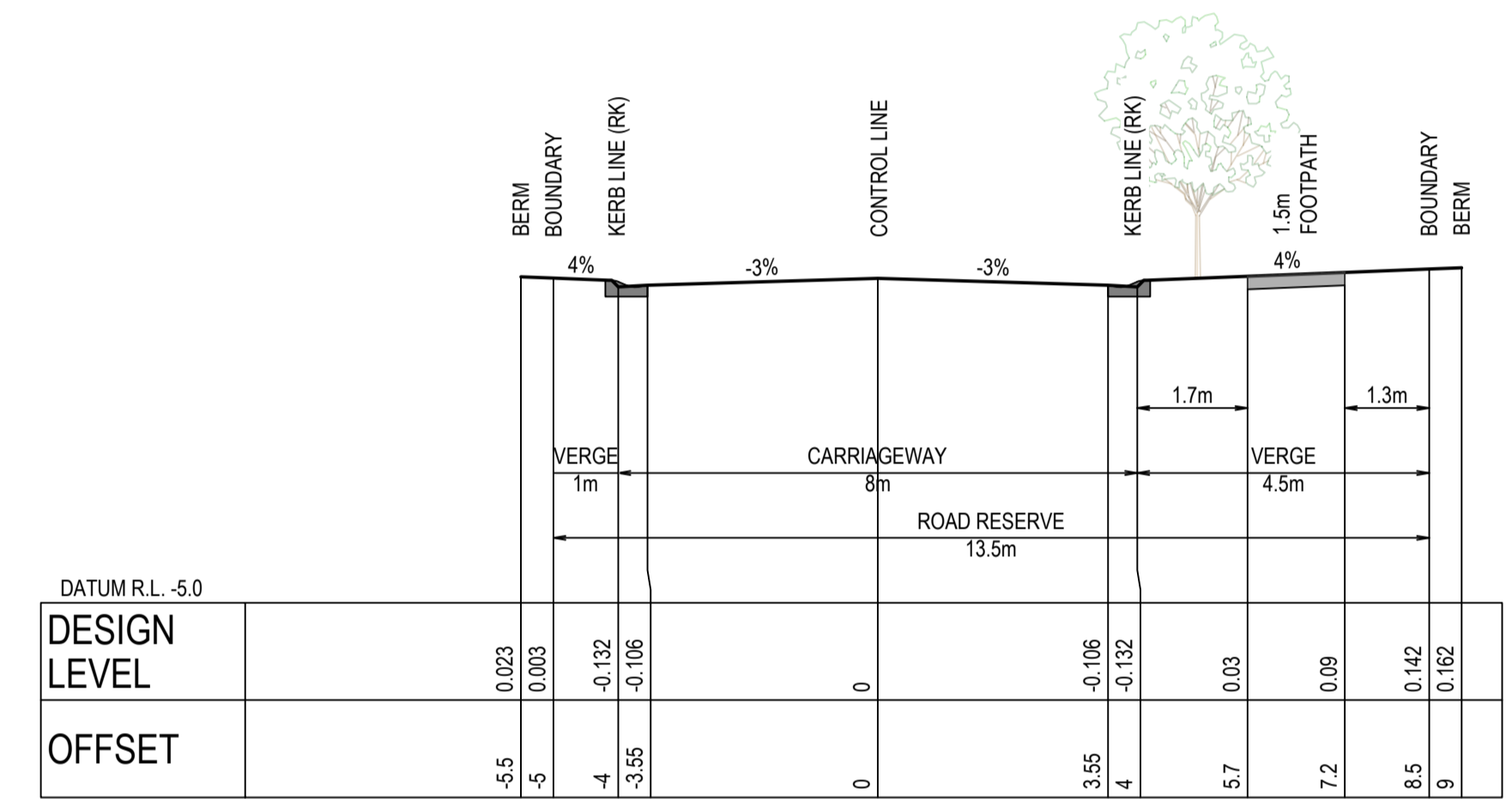
ROAD TYPE 1 - SUB ARTERIAL DIVIDED CARRIAGEWAY  
SCALE 1:100 NATURAL



ROAD TYPE 4 - PRIMARY LOCAL  
SCALE 1:100 NATURAL



ROAD TYPE 2 - PRIMARY DISTRIBUTOR  
SCALE 1:100 NATURAL



ROAD TYPE 5 - PRIMARY LOCAL (REDUCED VERGE)  
SCALE 1:100 NATURAL

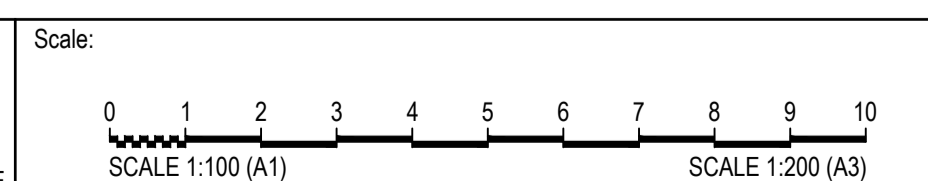


ROAD TYPE 3 - PRIMARY COLLECTOR  
(12m WIDE PER LOCHINVAR U.R.A. DCP)  
SCALE 1:100 NATURAL

ISSUED FOR **DEVELOPMENT APPLICATION**  
NOT FOR CONSTRUCTION

Rev	Drawn	Design	Appd.	Date	Revision Description
A	MG	CS	MP	20/04/2020	ISSUED FOR MASTER PLAN DA APPROVAL

Disclaimer and Copyright:  
ALL DIMENSIONS TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE. THESE DRAWINGS, PLANS, AND SPECIFICATIONS AND THE COPYRIGHT ARE THE PROPERTY OF ORION CONSULTING ENGINEERS PTY LTD AND MUST NOT BE REPRODUCED OR COPIED WHOLLY OR IN PART WITHOUT THE PERMISSION OF ORION CONSULTING ENGINEERS PTY LTD



By: **Orion Consulting**  
Member Firm  
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@orionconsulting.com.au

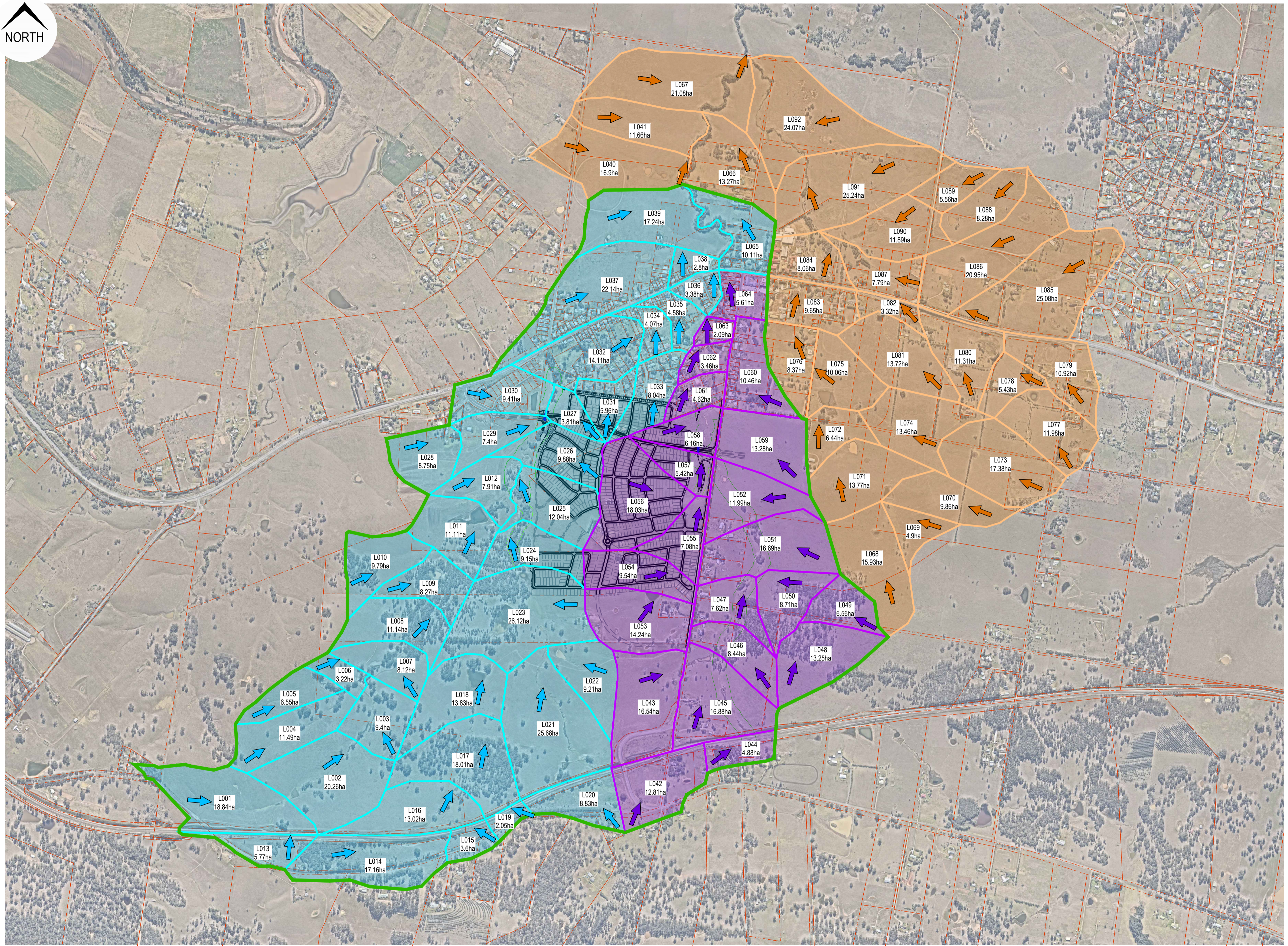
Project: No. 51, 134, 146 STATION LANE, LOCHINVAR MASTERPLAN DA

TYPICAL ROAD CROSS SECTIONS				
Project No.	Set No.	Milestone	Plan	Revision
19-0042	02	DA	300	A







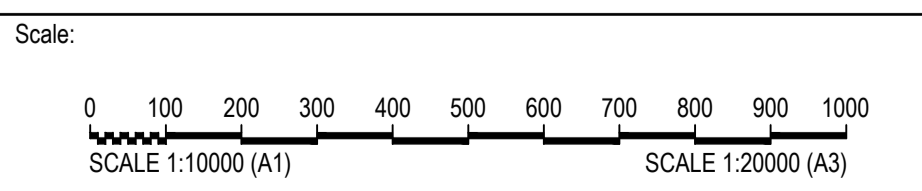


LEGEND	
CATCHMENT NAME, AREA & DIRECTION OF FALL	L000 0.0000 ha →
CONTOURS (EXISTING & DESIGN)	-10.0 - -20.0 -
LOCHINVAR CREEK CATCHMENT	→
GREEDY CREEK CATCHMENTS	→
EXTERNAL / DOWNSTREAM CATCHMENTS	→
TOTAL STUDY AREA	—

ISSUED FOR **DEVELOPMENT APPLICATION**  
NOT FOR CONSTRUCTION

Rev	Drawn	Design	Appd.	Date	Revision Description
A	MG	CS	MP	20/04/2020	ISSUED FOR MASTER PLAN DA APPROVAL

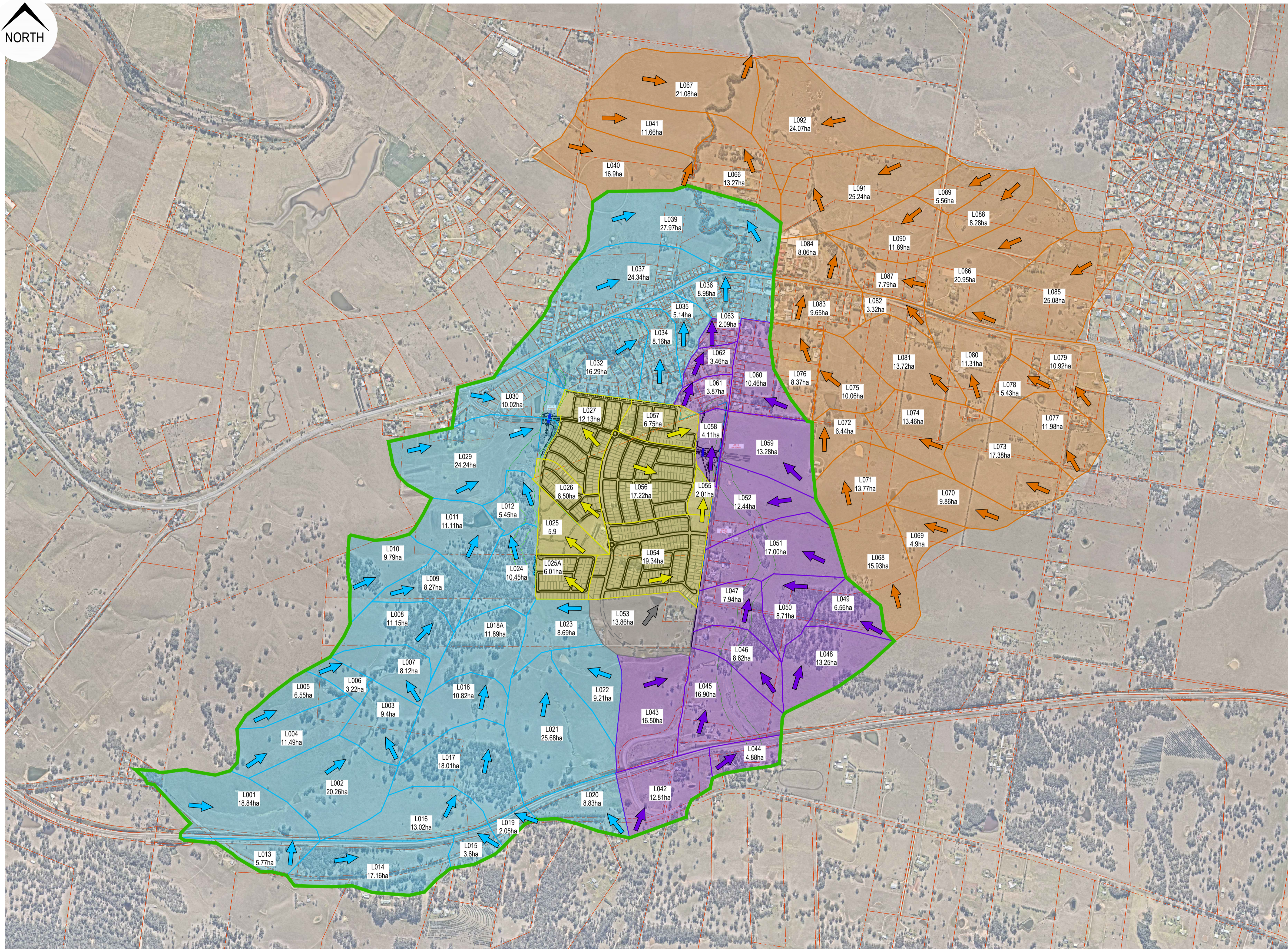
Disclaimer and Copyright:  
ALL DIMENSIONS TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE. THESE DRAWINGS, PLANS, AND SPECIFICATIONS AND THE COPYRIGHT ARE THE PROPERTY OF ORION CONSULTING ENGINEERS PTY LTD AND MUST NOT BE REPRODUCED OR COPIED WHOLLY OR IN PART WITHOUT THE PERMISSION OF ORION CONSULTING ENGINEERS PTY LTD



Project: No. 51, 134, 146 STATION LANE, LOCHINVAR MASTERPLAN DA

Project No.	Set No.	Milestone	Plan	Revision
19-0042	02	DA	400	A



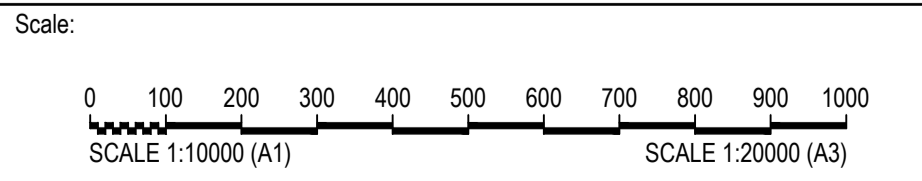


LEGEND	
CATCHMENT NAME, AREA & DIRECTION OF FALL	L000 0.0000 ha →
CONTOURS (EXISTING & DESIGN)	— 10.0 — — 20.0 —
LOCHINVAR CREEK CATCHMENT	→
DESIGN CATCHMENTS	→
GREEDY CREEK CATCHMENTS	→
EXTERNAL / DOWNSTREAM CATCHMENTS	→
DENOTES FUTURE CATCHMENT, BOUNDARY AND DIRECTION	→
TOTAL STUDY AREA	→

ISSUED FOR **DEVELOPMENT APPLICATION**  
NOT FOR CONSTRUCTION

Rev	Drawn	Design	Appd.	Date	Revision Description
A	MG	CS	MP	20/04/2020	ISSUED FOR MASTER PLAN DA APPROVAL

Disclaimer and Copyright:  
ALL DIMENSIONS TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE. THESE DRAWINGS, PLANS, AND SPECIFICATIONS AND THE COPYRIGHT ARE THE PROPERTY OF ORION CONSULTING ENGINEERS PTY LTD AND MUST NOT BE REPRODUCED OR COPIED WHOLLY OR IN PART WITHOUT THE PERMISSION OF ORION CONSULTING ENGINEERS PTY LTD

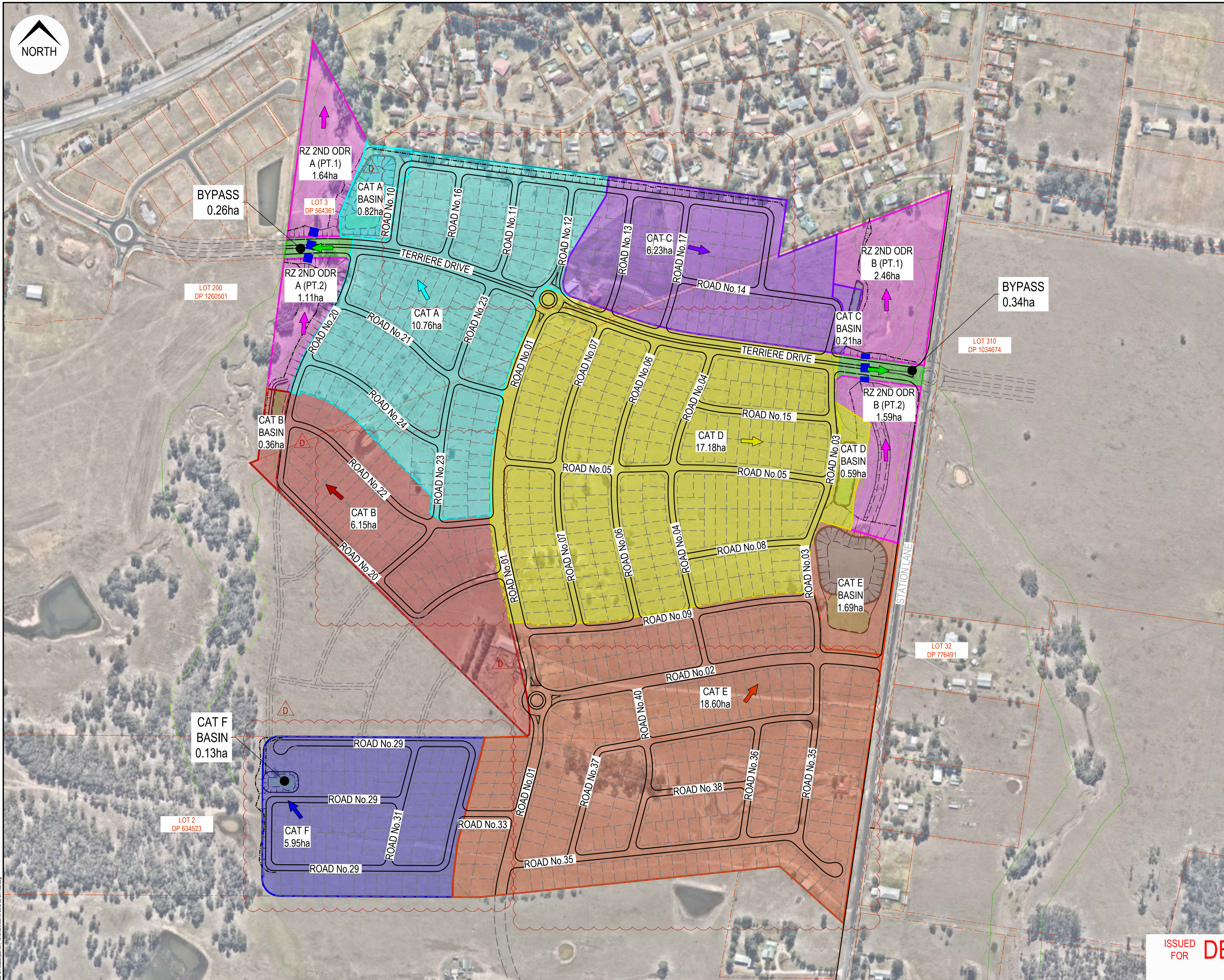


Project:

No. 51, 134, 146 STATION LANE, LOCHINVAR MASTERPLAN DA

Project No.	Set No.	Milestone	Plan	Revision
19-0042	02	DA	401	A





LEGEND	
CATCHMENT NAME, AREA & DIRECTION OF FALL	L000 0.0000 ha →
CONTOURS (EXISTING & DESIGN)	-10.0- -20.0-
DENOTES CATCHMENT A DRAINING TOWARDS GPT AND OSD BASIN-FILTRATION SYSTEM	→
DENOTES CATCHMENT B DRAINING TOWARDS GPT AND BIO-FILTRATION SYSTEM	→
DENOTES CATCHMENT C DRAINING TOWARDS GPT AND BIO-FILTRATION SYSTEM	→
DENOTES CATCHMENT D DRAINING TOWARDS GPT AND BIO-FILTRATION SYSTEM	→
DENOTES CATCHMENT E DRAINING TOWARDS GPT, OSD AND BIO-FILTRATION SYSTEM	→
DENOTES CATCHMENT F DRAINING TOWARDS GPT AND BIO-FILTRATION SYSTEM	→
BYPASS CATCHMENT AND BOUNDARY (NOT ABLE TO BE COLLECTED IN BASIN)	→
DENOTES RIPARIAN CORRIDOR CATCHMENTS TO BYPASS DEVELOPMENT SITE	→

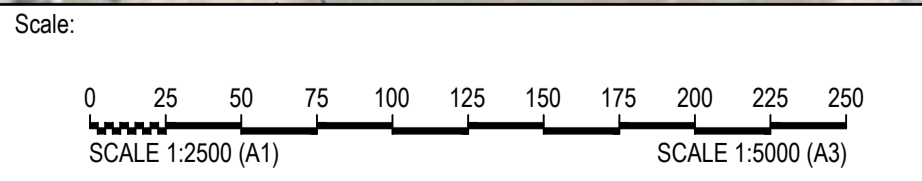
**NOTE**

REFER TO THE IWCM REPORT FOR WATER QUALITY BASIN SIZES AND WATER QUALITY TREATMENT TRAIN DETAILS

ISSUED FOR **DEVELOPMENT APPLICATION**  
NOT FOR CONSTRUCTION

Rev	Drawn	Design	Appd.	Date	Revision Description
D	AP	CS	JM	29/06/2021	ROAD LAYOUT AND INTERFACES UPDATED
C	MG	CS	MP	15/09/2020	GENERAL MASTERPLAN UPDATES
B	MG	CS	MP	30/6/2020	WATER QUALITY BASINS AND INTERFACES UPDATED
A	MG	CS	MP	20/04/2020	ISSUED FOR MASTER PLAN DA APPROVAL

Disclaimer and Copyright:  
ALL DIMENSIONS TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO CONSTRUCTION.  
USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE.  
THESE DRAWINGS, PLANS, AND SPECIFICATIONS AND THE COPYRIGHT ARE THE PROPERTY OF ORION CONSULTING ENGINEERS PTY LTD AND MUST NOT BE REPRODUCED OR COPIED WHOLLY OR IN PART WITHOUT THE PERMISSION OF ORION CONSULTING ENGINEERS PTY LTD



Project: No. 51, 134, 146 STATION LANE, LOCHINVAR MASTERPLAN DA

Project No.	Set No.	Milestone	Plan	Revision
19-0042	02	DA	402	D