PROPOSED SUBDIVISION

1A FLOWERS DRIVE CATHERINE HILL BAY

(HAMLET B)

WALLALONG LAND DEVELOPMENTS PTY LTD

LAKE MACQUARIE CITY COUNCIL

DRAWING SCHEDULE 19259C

DWG No.	SHEET TITLE	REV
C500	COVER SHEET	5
C501	GENERAL ARRANGEMENT PLAN	3
C502	PLAN SHEET (1 OF 2)	5
C503	PLAN SHEET (2 OF 4)	5
C504	PLAN SHEET (3 OF 4)	5
C505	PLAN SHEET (4 OF 4)	5
C506	TYPICAL SECTIONS AND NOTES (1 OF 2)	5
C507	TYPICAL SECTIONS AND NOTES (2 OF 2)	5
C508	COLLERY ROAD LONGITUDINAL SECTION (1 OF 2)	3
C509	COLLERY ROAD LONGITUDINAL SECTION (2 OF 2)	3
C510	COLLERY ROAD CROSS SECTIONS (1 OF 7)	3
C511	COLLERY ROAD CROSS SECTIONS (2 OF 7)	3
C512	COLLERY ROAD CROSS SECTIONS (3 OF 7)	3
C513	COLLERY ROAD CROSS SECTIONS (4 OF 7)	3
C514	COLLERY ROAD CROSS SECTIONS (5 OF 7)	3
C515	COLLERY ROAD CROSS SECTIONS (6 OF 7)	3
C516	COLLERY ROAD CROSS SECTIONS (7 OF 7)	3
C517	ROAD 6 LONGITUDINAL SECTION (1 OF 2)	3
C518	ROAD 6 LONGITUDINAL SECTION (2 OF 2)	3
C519	ROAD 6 CROSS SECTIONS (1 OF 7)	5
C520	ROAD 6 CROSS SECTIONS (2 OF 7)	5
C521	ROAD 6 CROSS SECTIONS (3 OF 7)	5
C522	ROAD 6 CROSS SECTIONS (4 OF 7)	5
C523	ROAD 6 CROSS SECTIONS (5 OF 7)	5
C524	ROAD 6 CROSS SECTIONS (6 OF 7)	5
C525	ROAD 6 CROSS SECTIONS (7 OF 7)	5
C526	ROAD 7 LONGITUDINAL SECTION (1 OF 3)	3
C527	ROAD 7 LONGITUDINAL SECTION (2 OF 3)	3
C528	ROAD 7 LONGITUDINAL SECTION (3 OF 3)	3
C529	ROAD 7 CROSS SECTIONS (1 OF 12)	5
C530	ROAD 7 CROSS SECTIONS (2 OF 12)	5
C531	ROAD 7 CROSS SECTIONS (3 OF 12)	5
C532	ROAD 7 CROSS SECTIONS (4 OF 12)	5
C533	ROAD 7 CROSS SECTIONS (5 OF 12)	5
C534	ROAD 7 CROSS SECTIONS (6 OF 12)	5
C535	ROAD 7 CROSS SECTIONS (7 OF 12)	5
C536	ROAD 7 CROSS SECTIONS (8 OF 12)	5
C537	ROAD 7 CROSS SECTIONS (9 OF 12)	5
C538	ROAD 7 CROSS SECTIONS (10 OF 12)	5
C539	ROAD 7 CROSS SECTIONS (11 OF 12)	5
C540	ROAD 7 CROSS SECTIONS (12 OF 12)	5
C541	ROAD 8 LONGITUDINAL SECTION	3
C542	ROAD 8 CROSS SECTIONS (1 OF 2)	3
C543	ROAD 8 CROSS SECTIONS (2 OF 2)	3
C544	ROAD 9 LONGITUDINAL SECTION	3
C545	ROAD 9 CROSS SECTIONS (1 OF 2)	3
C546	ROAD 9 CROSS SECTIONS (2 OF 2)	3
C547	ROAD 10 LONGITUDINAL SECTION	3
C548	ROAD 10 CROSS SECTIONS (1 OF 2)	3
C549	ROAD 10 CROSS SECTIONS (2 OF 2)	3
C550	ROAD 11 LONGITUDINAL SECTION	3
C551	ROAD 11 CROSS SECTIONS (1 OF 2)	3
C552	ROAD 11 CROSS SECTIONS (2 OF 2)	3
C553	ROAD 12 LONGITUDINAL SECTION	3
C554	ROAD 12 CROSS SECTIONS (1 OF 2)	3
C555	ROAD 12 CROSS SECTIONS (2 OF 2)	3
C556	CUT/FILL PLAN	3
C557	SOIL AND WATER MANAGEMENT PLAN (1 OF 4)	4
C558	SOIL AND WATER MANAGEMENT PLAN (2 OF 4)	4
C559	SOIL AND WATER MANAGEMENT PLAN (3 OF 4)	4
C560	SOIL AND WATER MANAGEMENT PLAN (4 OF 4)	4
C561	SOIL AND WATER MANAGEMENT DETAILS	3
C562	LANDCOM BLUE BOOK FIGURES (1 OF 2)	3
C563	LANDCOM BLUE BOOK FIGURES (2 OF 2)	3

GCA
ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811



LOCALITY PLAN

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION



Amendment	Description	Drawn	App'd	Date
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	CLIENT COMMENTS	DB	AS	17.12.21
1	ORIGINAL ISSUE	D.B	A.S	02.11.21

North

Scale
0 40 80 120 160m
1:2000 (A1) 1:4000 (A3)

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Designed: A.M
Cad Reference: 19259C dC501 r3
Scale: 1:2000
A1 SHEET
Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION 1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
GENERAL ARRANGEMENT PLAN

Project No: 19259C
Drawing No: C501
Revision: 3

PLOT DATE: 1/11/2022 10:54:30 AM
CAD FILE: Q:\19\19259 1A Flowers Drive, Catherine Hill Bay\02_CAD\AutoCAD\Civil\500 Series - Hamlet B\19259C dC501 r3.dwg

LEGEND

- SITE REGRADE
- ACCESSWAY
- FOOTPATH
- PROPOSED STORMWATER PIPE
- EKI PIT
- SAG PIT
- IAD PIT
- PROPOSED BATTER
- PROPOSED EASEMENT
- 32.00 DESIGN MAJOR CONTOUR
- DESIGN MINOR CONTOUR
- 32.00 EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR

RETAINING WALL LEGEND

- 0m - 0.5m HIGH
- 0.5m - 1.5m HIGH
- 1.5m - 2.5m HIGH
- 2.5m - 3.5m HIGH
- 3.5m - 4.5m HIGH

ROAD 6
ROAD 7
ROAD 12
COLLERY ROAD
FLOWERS DRIVE
PROPOSED BIORETENTION SWALE
PROPOSED BIORETENTION SWALE
RESERVE
PROPOSED 2.0m WIDE INTERALLOTMENT DRAINAGE EASEMENT
PROPOSED 2.0m WIDE INTERALLOTMENT DRAINAGE EASEMENT
1.2m WIDE CONCRETE FOOTPATH
1.2m WIDE CONCRETE FOOTPATH
1.2m WIDE CONCRETE FOOTPATH
2.5m WIDE CONCRETE SHARED PATH
2.5m WIDE CONCRETE SHARED PATH
GROSS POLLUTANT TRAP
GROSS POLLUTANT TRAP
1:4 FILL BATTER
FILL RETAINING WALL WITH EXCLUSION FENCE TO LMCC EGSD-602.
GRASSED SWALE BELOW RETAINING WALL (TYP.)
FILL RETAINING WALL MAX 3.6m HIGH. REFER TYPICAL SECTION C506
RETAINING WALL
BASIN OUTLET
BASIN OUTLET
EXISTING HOUSE TO BE TEMPORARILY RELOCATED AND REINSTATED ON COMPLETION OF EARTHWORKS.
CT153/642
CT58/731
TC35/685
TC33/683
CT13/183
TC10/733
TC10/226
TC10/227
TC10/994
517 518 519 520 242 243 244 245 231 223 224 225 226 227 228 229 230 208 209 210 211

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
5	SWALE AMENDMENTS	DB	AS	31.10.22
4	RETAINING WALL HEIGHTS AMENDED	DB	AS	27.06.22
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	CLIENT COMMENTS	DB	AS	17.12.21
1	ORIGINAL ISSUE	D.B	A.S	02.11.21

North

Scale
0 10 20 30 40m
1:500 (A1) 1:1000 (A3)

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Designed: A.M
Cad Reference: 19259C dC502 r5
Scale: 1:500
A1 SHEET
Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
HAMLET B
PLAN SHEET (1 OF 4)

Project No: 19259C
Drawing No: C502
Revision: 5

PLOT DATE: 1/11/2022 10:54:34 AM
CAD FILE: Q:\19\19259 1A Flowers Drive, Catherine Hill Bay\02_CAD\AutoCAD\Civil\500 Series - Hamlet B\19259C dC502 r5.dwg



Amendment	Description	Drawn	App'd	Date
5	SWALE AMENDMENTS	DB	AS	31.10.22
4	RETAINING WALL HEIGHTS AMENDED	DB	AS	27.07.22
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	CLIENT COMMENTS	DB	AS	17.12.21
1	ORIGINAL ISSUE	D.B	A.S	02.11.21

North

Scale
0 10 20 30 40m
1:500 (A1) 1:1000 (A3)

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Designed	A.M
Cad Reference	19259C dC503 r5
Scale	1:500
	A1 SHEET
Project Approval	IAN HILL (B.E) Consulting Civil Engineer

Client

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A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION 1A FLOWERS DRIVE CATHERINE HILL BAY

HAMLET B
PLAN SHEET (2 OF 4)

Project No	
19259C	
Drawing No	Revision
C503	5

PLOT DATE: 1/11/2022 10:54:37 AM
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CUT RETAINING WALL MAX 2.7m HIGH. REFER TYPICAL SECTION C506
RETAINING WALL
ROAD 6
1.2m WIDE CONCRETE FOOTPATH
PROPOSED 2.0m WIDE INTERALLOTMENT DRAINAGE EASEMENT
FILL RETAINING WALL WITH EXCLUSION FENCE TO LMCC EGSD-602.
FILL RETAINING WALL MAX 1.4m HIGH. REFER TYPICAL SECTION C506
CUT RETAINING WALL MAX 0.9m HIGH. REFER TYPICAL SECTION C506
ROAD 7
ROAD 10
FILL RETAINING WALL MAX 0.8m HIGH. REFER TYPICAL SECTION C506
1:4 FILL BATTER
COLLERY ROAD
2.5m WIDE CONCRETE SHARED PATH
PROPOSED BIORETENTION SWALE
GROSS POLLUTANT TRAP
BASIN OUTLET

LEGEND

- SITE REGRADE
- FOOTPATH
- PROPOSED STORMWATER PIPE
- EKI PIT
- SAG PIT
- IAD PIT
- PROPOSED BATTER
- PROPOSED EASEMENT
- 32.00 DESIGN MAJOR CONTOUR
- DESIGN MINOR CONTOUR
- 32.00 EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR

RETAINING WALL LEGEND

- 0m - 0.5m HIGH
- 0.5m - 1.5m HIGH
- 1.5m - 2.5m HIGH
- 2.5m - 3.5m HIGH
- 3.5m - 4.5m HIGH

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
5	SWALE AMENDMENTS	DB	AS	31.10.22
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1	ORIGINAL ISSUE	D.B	A.S	02.11.21

North

Scale
0 10 20 30 40m
1:500 (A1) 1:1000 (A3)

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Designed: A.M
Cad Reference: 19259C dC504 r5
Scale: 1:500
A1 SHEET
Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
HAMLET B
PLAN SHEET (3 OF 4)

Project No: 19259C
Drawing No: C504
Revision: 5

PLOT DATE: 1/11/2022 10:54:41 AM
CAD FILE: Q:\19\19259 1A Flowers Drive, Catherine Hill Bay\02_CAD\AutoCAD\Civil\500 Series - Hamlet B\19259C dC504 r5.dwg

LEGEND

- SITE REGRADE
- FOOTPATH
- PROPOSED STORMWATER PIPE
- EKI PIT
- SAG PIT
- IAD PIT
- PROPOSED BATTER
- PROPOSED EASEMENT
- 32.00 DESIGN MAJOR CONTOUR
- DESIGN MINOR CONTOUR
- 32.00 EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR

RETAINING WALL LEGEND

- 0m - 0.5m HIGH
- 0.5m - 1.5m HIGH
- 1.5m - 2.5m HIGH
- 2.5m - 3.5m HIGH
- 3.5m - 4.5m HIGH

CUT RETAINING WALL MAX 2.5m HIGH. REFER TYPICAL SECTION C506

TABLE DRAIN ABOVE WALL

FILL RETAINING WALL MAX 2.5m HIGH. REFER TYPICAL SECTION C506

1:4 CUT BATTER

FILL RETAINING WALL WITH EXCLUSION FENCE TO LMCC EGSD-602.

RETAINING WALL

1.2m WIDE CONCRETE FOOTPATH

MAX 1:3 FILL BATTER

PROPOSED 2.0m WIDE INTERALLOTMENT DRAINAGE EASEMENT

1:4 FILL BATTER

2.5m WIDE CONCRETE SHARED PATH

CUT RETAINING WALL MAX 2.7m HIGH. REFER TYPICAL SECTION C506

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
5	SWALE AMENDMENTS	DB	AS	31.10.22
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3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	CLIENT COMMENTS	DB	AS	17.12.21
1	ORIGINAL ISSUE	D.B	A.S	02.11.21

North

Scale: 0 10 20 30 40m — 1:500 (A1) 1:1000 (A3)

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Designed	A.M
Cad Reference	19259C dC505 r5
Scale	1:500
	A1 SHEET
Project Approval	IAN HILL (B.E) Consulting Civil Engineer
Client	

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A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION 1A FLOWERS DRIVE CATHERINE HILL BAY

HAMLET B
PLAN SHEET (4 OF 4)

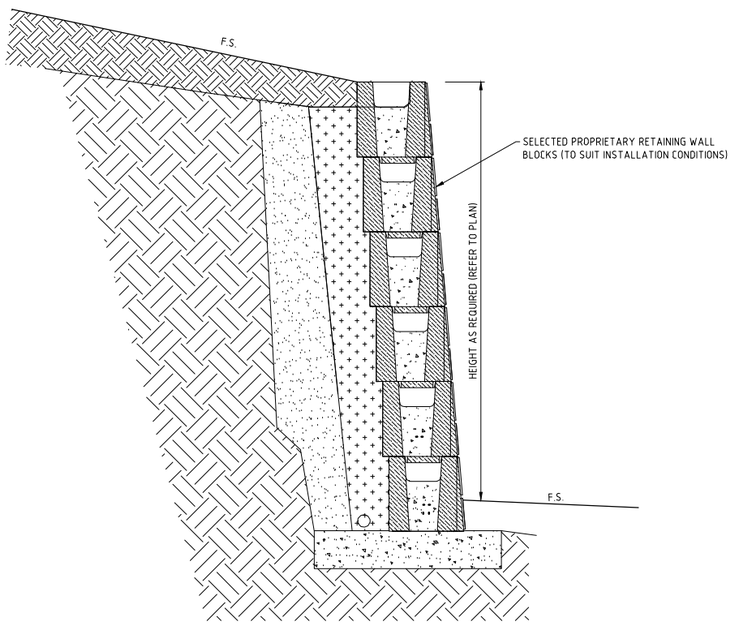
Project No	
19259C	
Drawing No	Revision
C505	5

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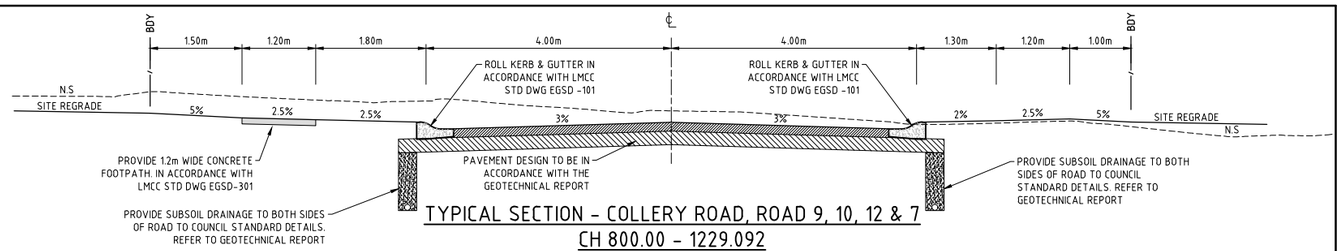
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NOTES:

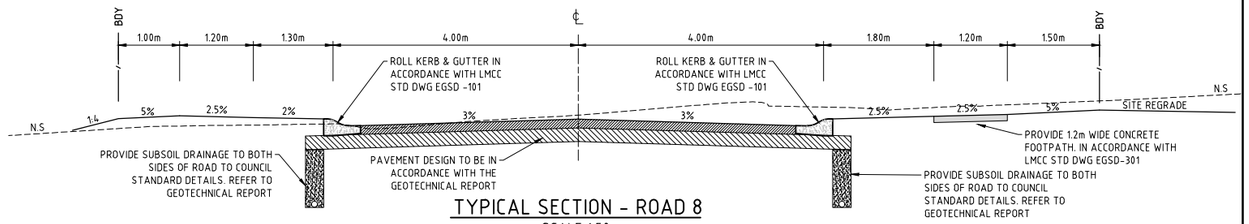
1. ALL DIMENSIONS OF EASEMENTS AND LOTS ARE SUBJECT TO REGISTRATION OF DEPOSITED PLAN.
2. ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH LMCC ENGINEERING GUIDELINES AND STANDARD DRAWINGS.
3. EROSION CONTROL DEVICES AND SILTATION TRAPS TO BE INSTALLED BEFORE SITE IS DISTURBED IN ACCORDANCE WITH THE ATTACHED SILTATION PLAN.
4. DENUDED AREAS TO BE STABILISED / RE-VEGETATED ON COMPLETION OF WORKS.
5. ALL REINFORCED CONC. STORMWATER DRAINAGE PIPES ARE TO BE RUBBER RING JOINTED.
6. ALL EKI PIT GRATES TO BE HOT DIPPED GALVANISED 80-85 MICRONS THICK. ALL GRATES TO BE PROVIDED WITH HINGE PINS IN ACCORDANCE WITH LMCC STD DWG EGSD-401.
7. ALL PITS DEEPER THAN 1.2m ARE TO BE CONSTRUCTED WITH STEP IRONS IN ACCORDANCE WITH AS 1657-1992.
8. SIDE WALLS OF ALL PITS GREATER THAN 1.5m DEEP TO HAVE SL82 MESH CENTRALLY PLACED FOR FULL DEPTH WITH N12 "L" CORNER BARS (450 LEGS) @ 400 CTS.
9. ALL INTERALLOTMENT DRAINAGE PIPES TO BE SEWER GRADE uPVC (UNLESS OTHERWISE SHOWN) OR AN APPROVED EQUIVALENT. THE MINIMUM SLOPE OF INTERALLOTMENT DRAINAGE LINES SHALL BE 1%, THE INTERALLOTMENT DRAINAGE LINE SHALL BE A MINIMUM OF 0.5m FROM THE BOUNDARY AND LOCATED IN AN EASEMENT 2.0m WIDE.
10. ALL INTERALLOTMENT DRAINAGE PITS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH LMCC STD DWG EGSD-402.
11. ALL EXISTING UNDERGROUND SERVICES MUST BE LOCATED AND EXPOSED PRIOR TO EARTHWORKS COMMENCING AND IT IS THE RESPONSIBILITY OF THOSE PERSONS USING THIS PLAN TO CONFIRM BOTH POSITION & LEVEL OF THESE UTILITIES IN CONJUNCTION WITH THE APPROPRIATE AUTHORITY.
12. SUBSOIL DRAINS ARE TO BE PROVIDED TO COUNCIL INSPECTOR'S REQUIREMENTS. FLUSH POINTS TO BE PROVIDED AT MAXIMUM 60.0m INTERVALS.
13. PAVEMENT THICKNESS TO BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT.
14. WORKING HOURS ON SITE SHALL BE IN ACCORDANCE WITH EPA & COUNCIL REQUIREMENTS.
15. VEHICULAR ACCESS AND ALL SERVICES ARE TO BE MAINTAINED AT ALL TIMES TO ADJOINING PROPERTIES AFFECTED BY CONSTRUCTION WORKS.
16. MAINTENANCE ON THE SEEDED AND TURFED AREAS SHALL BE OVER A 3 MONTH PERIOD. TURF THE FULL WIDTH OF ALL EARTH DISH DRAINS. LAY 600mm WIDE TURF STRIPS TO EACH SIDE OF CONCRETE ACCESSWAYS, PATHWAYS, AT THE REAR OF ALL KERB AND GUTTERING AND AT THE TOP OF CUT BATTERS. MULCH (IF AVAILABLE FROM SITE CLEARING) AND SEED ALL OTHER DISTURBED AREAS, INCLUDING TRENCHES. WHERE ADJOINING WALLARAH NATIONAL PARK, VEGETATION TO BE IN ACCORDANCE WITH THE VEGETATION MANAGEMENT PLAN.
17. ALL PERAMBULATOR RAMPS TO BE CONSTRUCTED AS SHOWN ON PLANS AND IN ACCORDANCE WITH LMCC STANDARD DRAWINGS EGSD-101 & EGSD-102.
18. TRAFFIC CONTROL MEASURES TO BE IN ACCORDANCE WITH AS 1742.3-1996.
19. ALL LEVELS MUST BE OBTAINED FROM ESTABLISHED BENCH MARKS AS DIRECTED BY THE SUPERVISOR.
20. THE CONTRACTOR IS TO ENSURE THAT ALL THE NECESSARY SERVICE PIPE CONDUITS AND FITTINGS ARE IN PLACE PRIOR TO THE FINAL WEARING COURSE BEING LAID. 22. PROVIDE STREET NAME SIGNS AT ALL INTERSECTIONS, DOUBLE BLADED WHERE NECESSARY ON BLACK POWDER COATED POLES.
21. ALL SITE FILLING TO BE CONTROLLED FILL TO AS3798 WITH TESTING TO BE CARRIED OUT BY A NATA REGISTERED LABORATORY.
22. PROVIDE ANCHOR BLOCKS AT EACH JOINT ON DRAINAGE LINES WHERE PIPE GRADE EXCEEDS 12%.



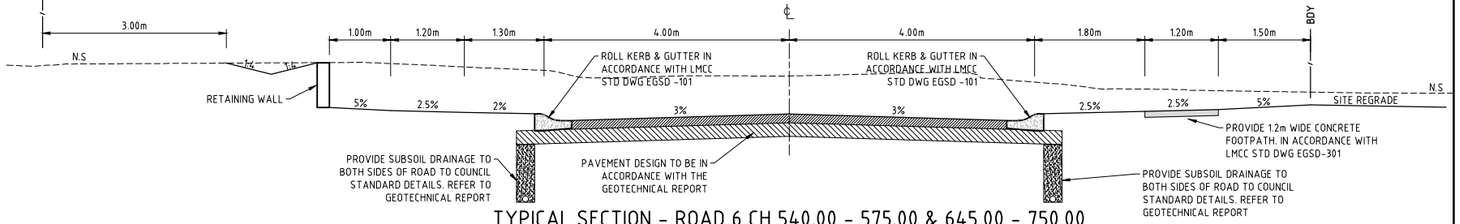
RETAINING WALL TYPICAL SECTION
SCALE 1:25



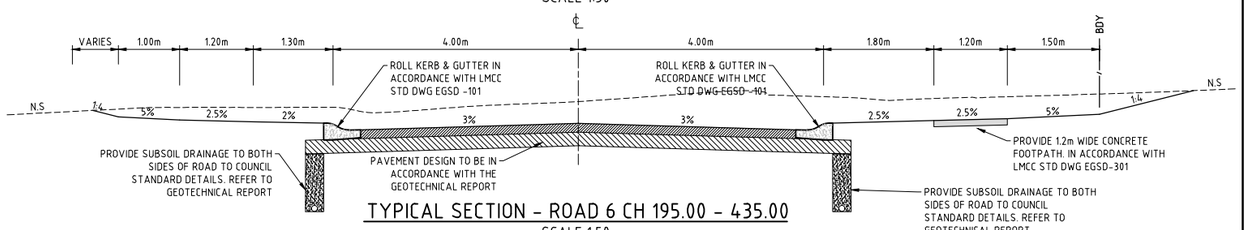
TYPICAL SECTION - COLLERY ROAD, ROAD 9, 10, 12 & 7
CH 800.00 - 1229.092
SCALE 1:50



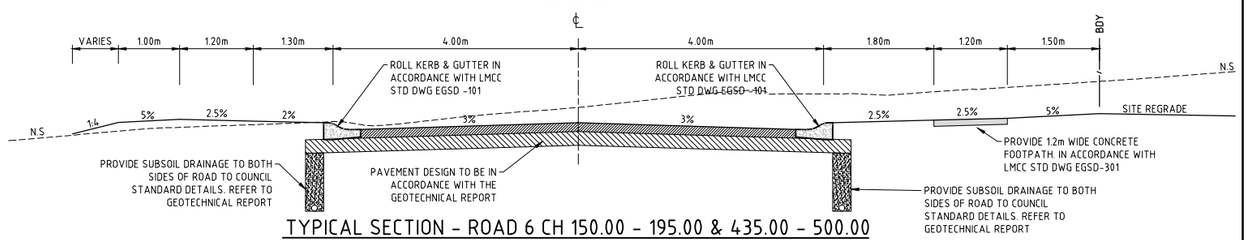
TYPICAL SECTION - ROAD 8
SCALE 1:50



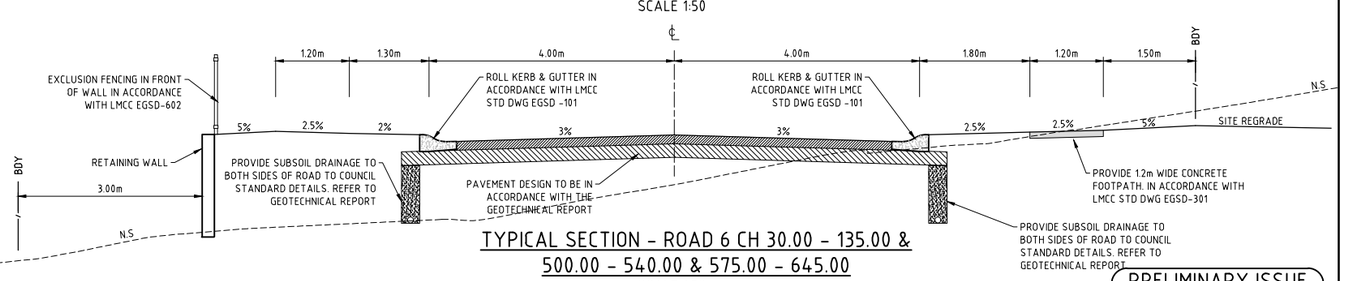
TYPICAL SECTION - ROAD 6 CH 540.00 - 575.00 & 645.00 - 750.00
SCALE 1:50



TYPICAL SECTION - ROAD 6 CH 195.00 - 435.00
SCALE 1:50



TYPICAL SECTION - ROAD 6 CH 150.00 - 195.00 & 435.00 - 500.00
SCALE 1:50



TYPICAL SECTION - ROAD 6 CH 30.00 - 135.00 & 500.00 - 540.00 & 575.00 - 645.00
SCALE 1:50

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
5	SWALE AMENDMENTS	DB	AS	31.10.22
4	MAGNUMSTONE TYPICAL SECTION ADDED	DB	AS	04.08.22
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	CLIENT COMMENTS	DB	AS	17.12.21
1	ORIGINAL ISSUE	D.B	A.S	02.11.21

North

Scale
0 1 2 3 4m
1:50 (A1) 1:100 (A3)

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Designed: A.M
Cad Reference: 19259C dC506 r5
Scale: 1:50
A1 SHEET
Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

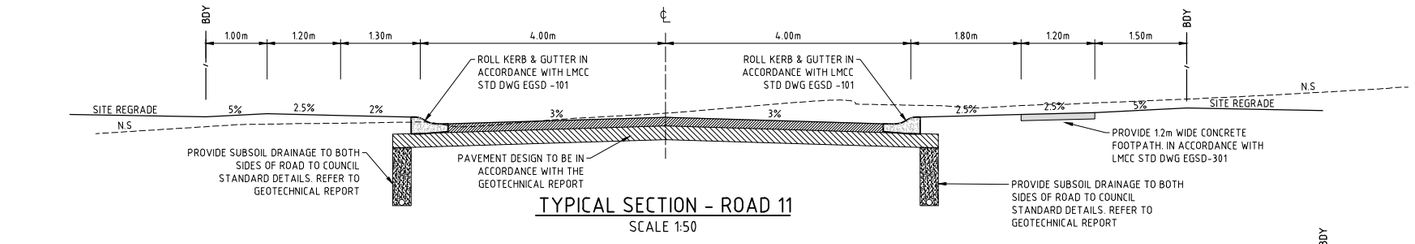
Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

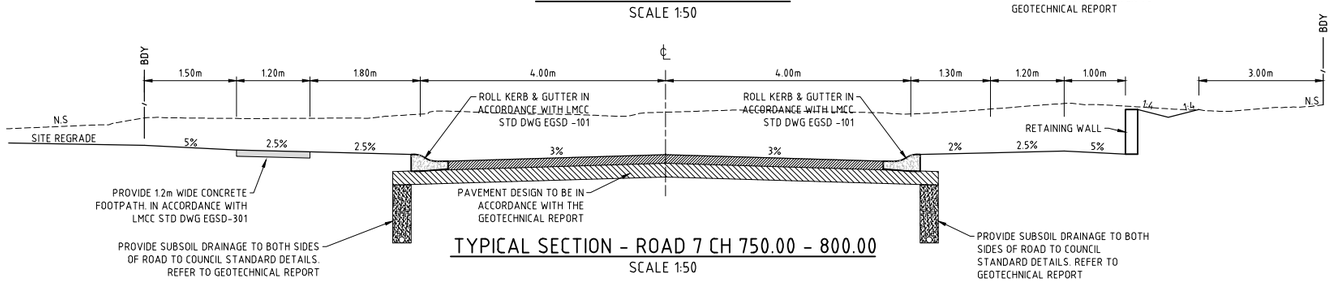
PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
TYPICAL SECTIONS AND NOTES (1 OF 2)

Project No: 19259C
Drawing No: C506
Revision: 5

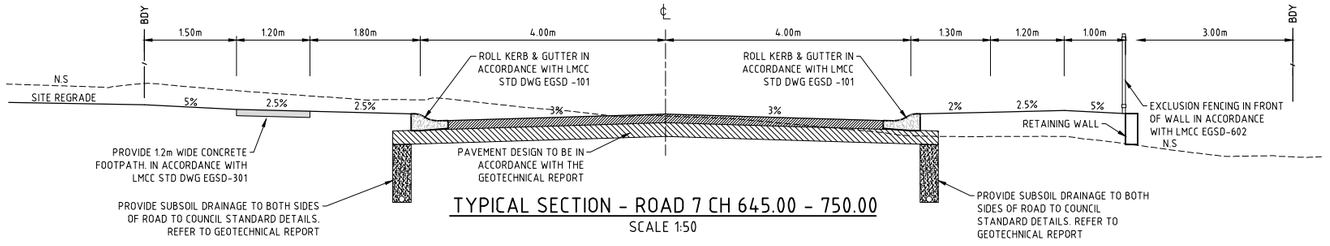
PLOT DATE: 1/11/2022 10:54:47 AM
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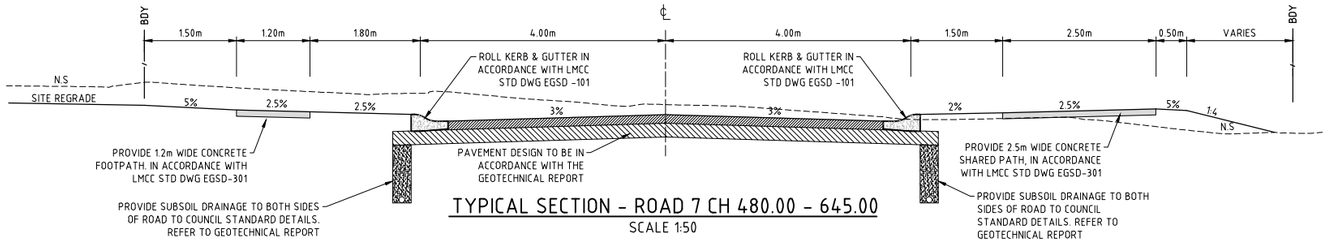
TYPICAL SECTION - ROAD 11
SCALE 1:50



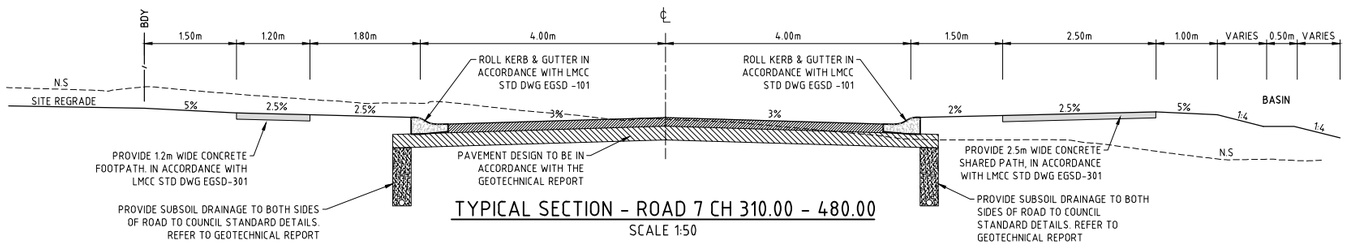
TYPICAL SECTION - ROAD 7 CH 750.00 - 800.00
SCALE 1:50



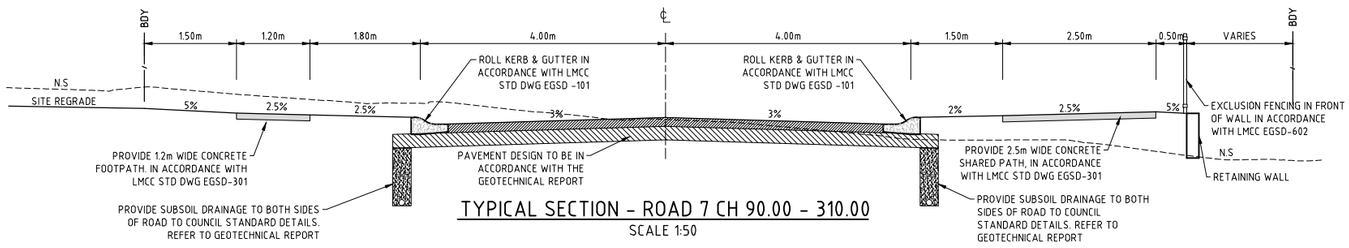
TYPICAL SECTION - ROAD 7 CH 645.00 - 750.00
SCALE 1:50



TYPICAL SECTION - ROAD 7 CH 480.00 - 645.00
SCALE 1:50



TYPICAL SECTION - ROAD 7 CH 310.00 - 480.00
SCALE 1:50



TYPICAL SECTION - ROAD 7 CH 90.00 - 310.00
SCALE 1:50

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
5	SWALE AMENDMENTS	DB	AS	31.10.22
4	NOT ISSUED			
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	CLIENT COMMENTS	DB	AS	17.12.21
1	NOT ISSUED			

North

Scale
0 1 2 3 4m
1:50 (A1) 1:100 (A3)

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Designed	A.M
Cad Reference	19259C dC507 r5
Scale	1:50
	A1 SHEET
Project Approval	IAN HILL (B.E) Consulting Civil Engineer

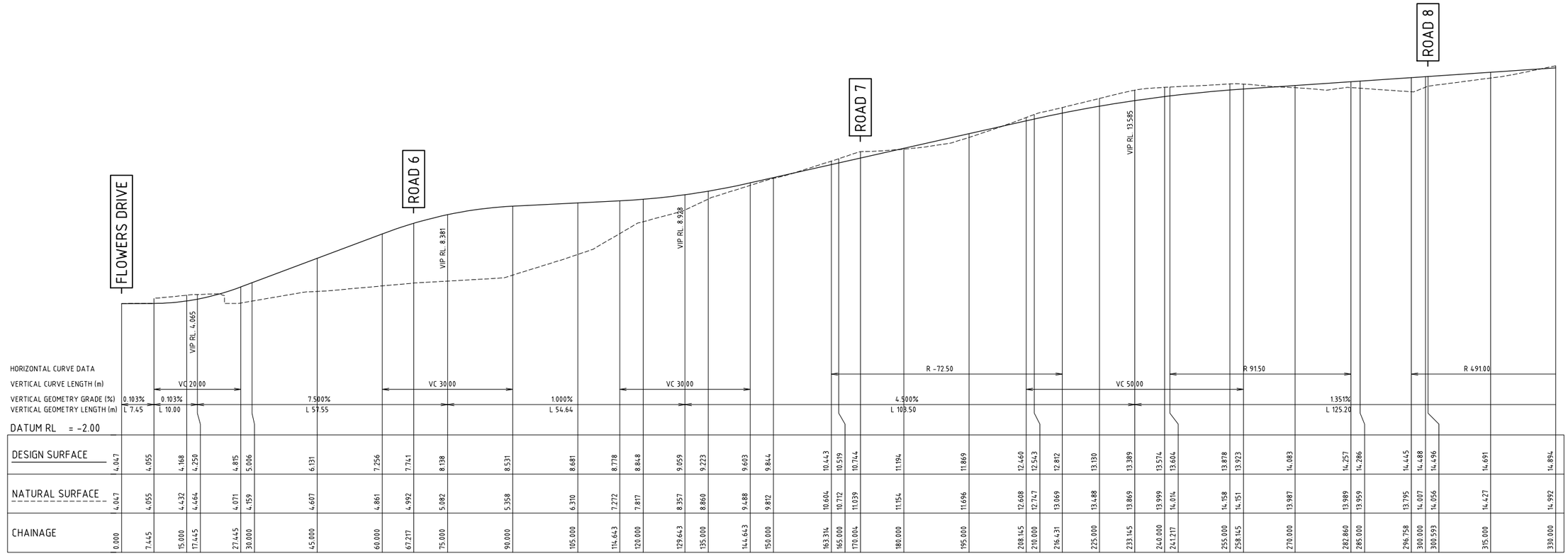
Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION 1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
TYPICAL SECTIONS AND NOTES (2 OF 2)

Project No	
19259C	
Drawing No	Revision
C507	5

PLOT DATE: 1/11/2022 10:54:50 AM CAD FILE: Q:\19\19259 1A Flowers Drive, Catherine Hill Bay\02_CAD\AutoCAD\Civil\500 Series - Hamlet B\19259C dC507 r5.dwg



A1 SCALE: HORIZONTAL 1:500, VERTICAL 1:100

LONGITUDINAL SECTION COLLERY ROAD

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale
0 2 4 6 8m
1:100 (A1) 1:200 (A3)
0 10 20 30 40m
1:500 (A1) 1:1000 (A3)

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Designed: A.M
Cad Reference: 19259C dC508 r3
Scale: AS SHOWN
A1 SHEET
Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

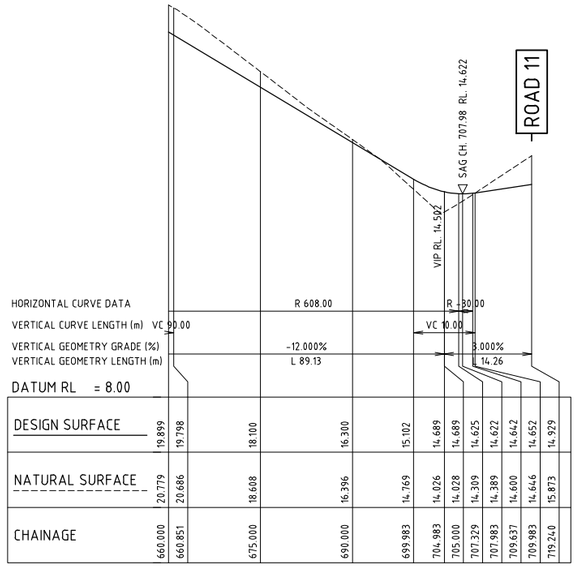
Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
COLLERY ROAD LONGITUDINAL SECTION (1 OF 2)

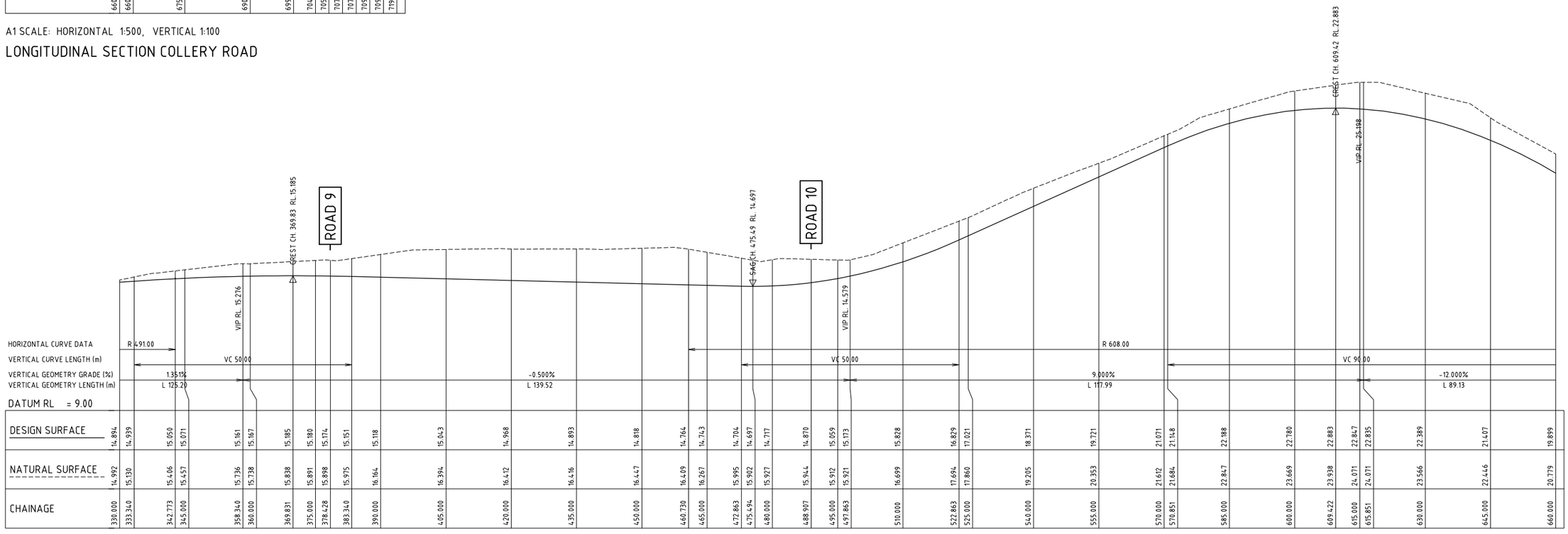
Project No: 19259C
Drawing No: C508
Revision: 3

PLOT DATE: 1/11/2022 10:54:57 AM
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A1 SCALE: HORIZONTAL 1:500, VERTICAL 1:100

LONGITUDINAL SECTION COLLERY ROAD



A1 SCALE: HORIZONTAL 1:500, VERTICAL 1:100

LONGITUDINAL SECTION COLLERY ROAD

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale
0 2 4 6 8m
1:100 (A1) 1:200 (A3)
0 10 20 30 40m
1:500 (A1) 1:1000 (A3)

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Designed A.M
Cad Reference 19259C dC509 r3
Scale AS SHOWN
A1 SHEET
Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

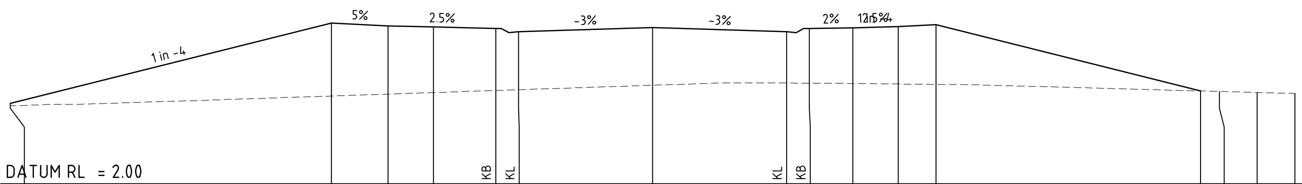
PROPOSED SUBDIVISION 1A FLOWERS DRIVE CATHERINE HILL BAY (HAMLET B)

COLLERY ROAD LONGITUDINAL SECTION (2 OF 2)

Project No 19259C
Drawing No C509
Revision 3

PLOT DATE: 1/11/2022 10:55:03 AM
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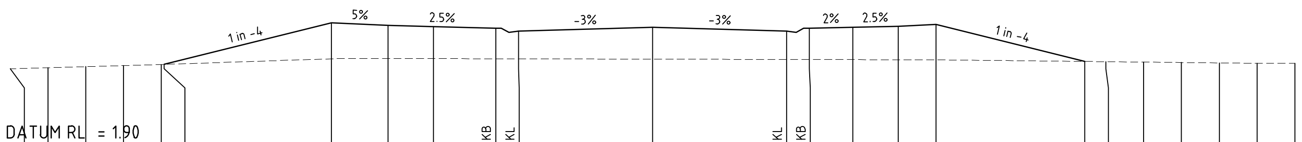
DATUM RL = 2.00



					KB	KL		KL	KB							
DESIGN SURFACE	4.126	6.251	6.176	6.146	6.105	6.025	6.131	6.025	6.105	6.128	6.158	6.208	4.457			
NATURAL SURFACE	4.063	4.322	4.372	4.412	4.468	4.488	4.607	4.665	4.663	4.654	4.641	4.630	4.457	4.443	4.416	4.389
OFFSET	-17.000	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	14.506	15.000	16.000	17.000

CH 45.000

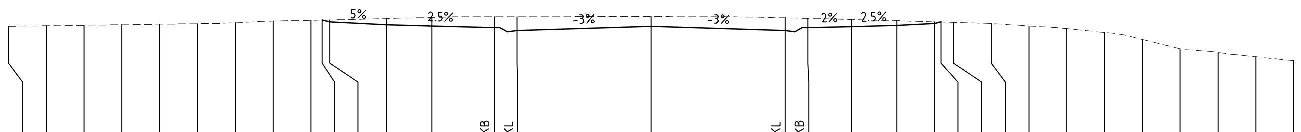
DATUM RL = 1.90



										KB	KL		KL	KB										
DESIGN SURFACE						4.019	5.126	5.051	5.021	4.980	4.900	5.006	4.900	4.980	5.003	5.033	5.083	4.098						
NATURAL SURFACE	3.904	3.932	3.960	3.989	4.017	4.019	4.167	4.176	4.173	4.169	4.167	4.159	4.150	4.149	4.146	4.143	4.141	4.098	4.092	4.081	4.070	4.059	4.051	4.046
OFFSET	-17.000	-16.000	-15.000	-14.000	-13.000	-12.929	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	11.442	12.000	13.000	14.000	15.000	16.000	17.000

CH 30.000

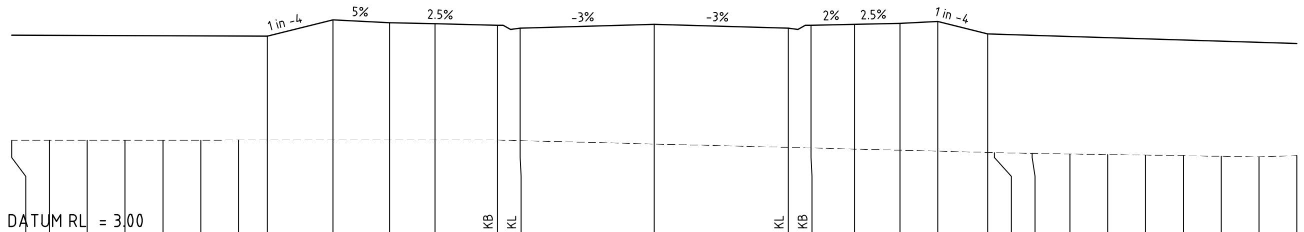
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DESIGN SURFACE										4.339	4.288	4.213	4.183	4.141	4.061	4.168	4.061	4.141	4.164	4.194	4.244	4.287										
NATURAL SURFACE	4.173	4.187	4.201	4.215	4.229	4.244	4.269	4.312	4.333	4.339	4.344	4.379	4.408	4.426	4.428	4.432	4.397	4.382	4.354	4.323	4.292	4.287	4.277	4.246	4.183	4.111	4.010	3.825	3.577	3.481	3.368	3.264
OFFSET	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.706	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	7.670	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000

CH 15.000

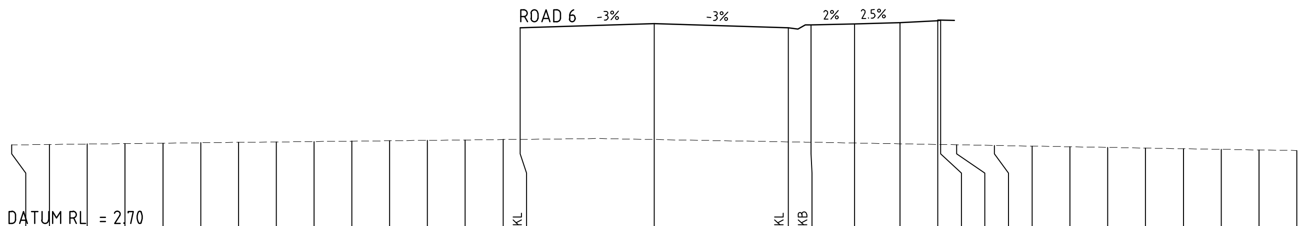
DATUM RL = 3.00



												KB	KL		KL	KB													
DESIGN SURFACE								8.217	8.651	8.576	8.546	8.505	8.425	8.531	8.425	8.505	8.528	8.558	8.608	8.277									
NATURAL SURFACE	5.455	5.456	5.457	5.458	5.460	5.461	5.462	5.463	5.465	5.467	5.468	5.462	5.447	5.358	5.268	5.253	5.224	5.194	5.169	5.136	5.131	5.110	5.094	5.078	5.063	5.047	5.032	5.020	5.050
OFFSET	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.237	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	8.824	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000

CH 90.000

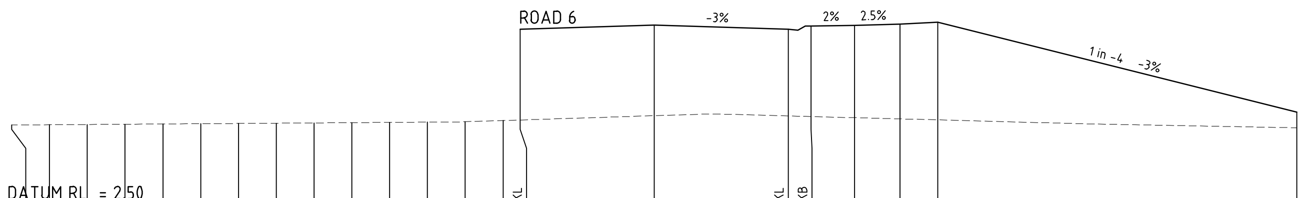
DATUM RL = 2.70



															KL		KL	KB														
DESIGN SURFACE															8.031	8.138	8.031	8.111	8.134	8.164	8.214	8.234										
NATURAL SURFACE	4.940	4.951	4.962	4.974	4.985	4.997	5.007	5.018	5.028	5.039	5.049	5.060	5.070	5.081	5.086	5.082	5.020	5.010	4.990	4.969	4.952	4.951	4.943	4.926	4.909	4.891	4.874	4.857	4.839	4.823	4.807	4.792
OFFSET	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.000	-7.000	-6.000	-5.000	-4.000	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	7.581	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000

CH 75.000

DATUM RL = 2.50



															KL		KL	KB				
DESIGN SURFACE															7.150	7.256	7.150	7.230	7.253	7.283	7.333	4.958
NATURAL SURFACE	4.615	4.622	4.628	4.635	4.642	4.649	4.656	4.663	4.670	4.677	4.684	4.691	4.701	4.733	4.748	4.861	4.855	4.840	4.809	4.777	4.751	4.542
OFFSET	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.000	-7.000	-6.000	-5.000	-4.000	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	17.000

CH 60.000

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale
0 2 4 6 8m
1:100 (A1) 1:200 (A3)

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Designed: A.M
Cad Reference: 19259C dC510 r3
Scale: 1:100
A1 SHEET
Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

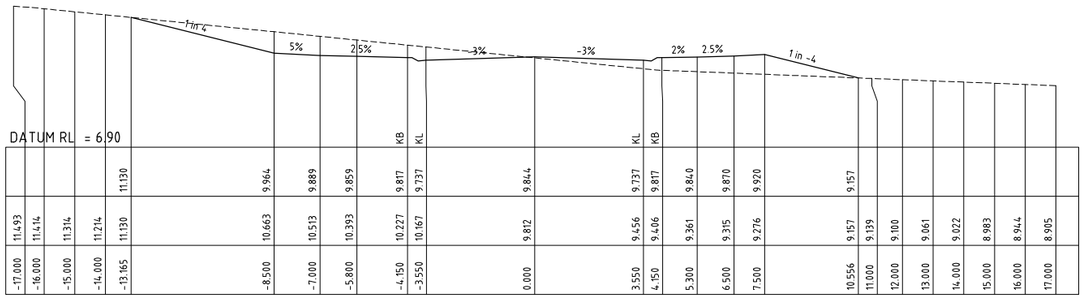
Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
COLLERY ROAD CROSS SECTIONS (1 OF 7)

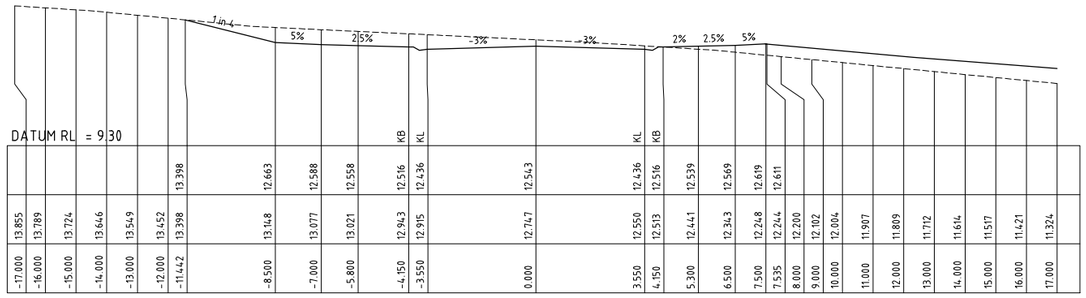
Project No: 19259C
Drawing No: C510
Revision: 3

PLOT DATE: 1/11/2022 10:55:16 AM CAD FILE: Q:\19\19259 1A Flowers Drive, Catherine Hill Bay\02__CAD\AutoCAD\Civil\500 Series - Hamlet B\19259C dC510 r3.dwg



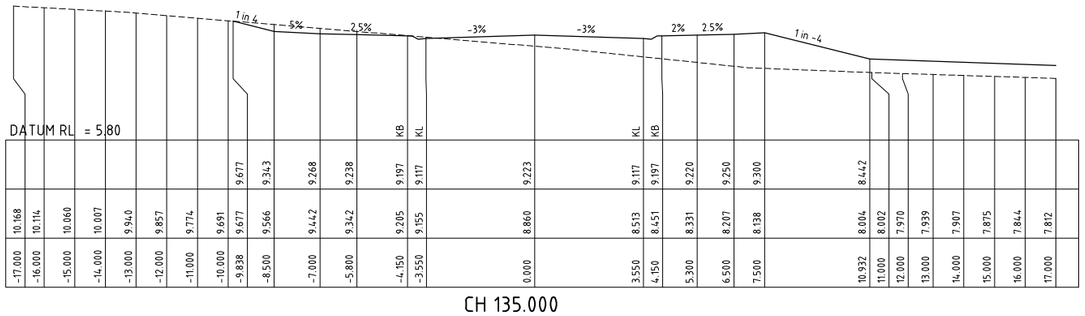
DATUM RL = 6.90																														
					11.130				9.964		9.889	9.859	9.817	9.737		9.844		9.737	9.817	9.840	9.870	9.920		9.157							
11.693	11.414	11.314	11.214	11.130		10.663		10.513	10.393	10.227	10.167		9.812		9.456	9.406	9.361	9.315	9.276	9.157	9.139	9.100	9.061	9.022	8.983	8.944	8.905		
-17.000	-16.000	-15.000	-14.000	-13.165		-8.500		-7.000	-5.800	-4.150	-3.550		0.000		3.550	4.150	5.300	6.500	7.500	10.556	11.000	12.000	13.000	14.000	15.000	16.000	17.000		

CH 150.000



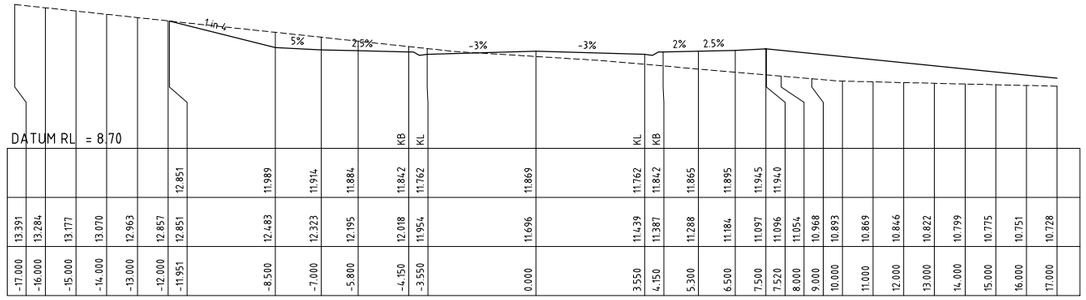
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						13.398			12.663		12.588	12.558	12.516	12.436		12.543		12.436	12.516	12.539	12.569	12.619	12.611							
13.855	13.789	13.724	13.646	13.549	13.452	13.398		13.148	13.077	13.021	12.943	12.915	12.747		12.747		12.550	12.513	12.441	12.343	12.248	12.244	12.200	12.102	12.004	11.907	11.809	11.712	11.614	11.517	11.421	11.324
-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.442		-8.500	-7.000	-5.800	-4.150	-3.550	0.000		3.550		4.150	5.300	6.500	7.500	7.535	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000

CH 210.000



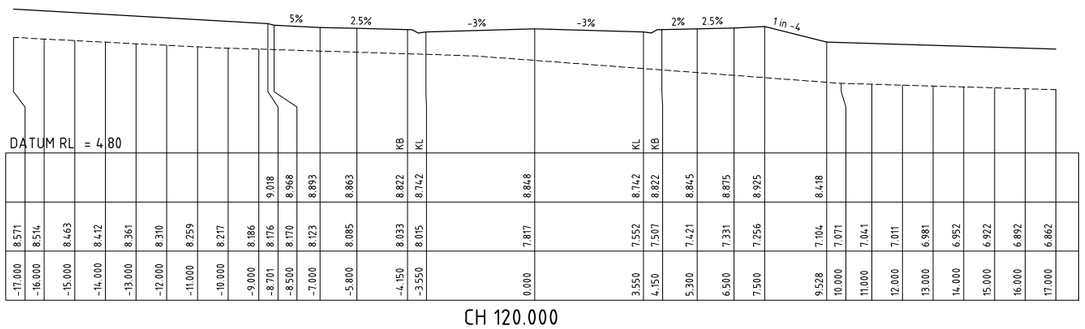
DATUM RL = 5.80																														
								9.677	9.343	9.268	9.238	9.197	9.117		9.223		9.117	9.197	9.220	9.250	9.300		8.442							
10.168	10.114	10.060	10.007	9.940	9.857	9.774	9.691	9.677	9.566	9.442	9.342	9.205	9.155		8.860		8.513	8.451	8.331	8.207	8.138		8.004	8.002	7.970	7.939	7.907	7.875	7.844	7.812
-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.838	-8.500	-7.000	-5.800	-4.150	-3.550		0.000		3.550	4.150	5.300	6.500	7.500		10.932	11.000	12.000	13.000	14.000	15.000	16.000	17.000

CH 135.000



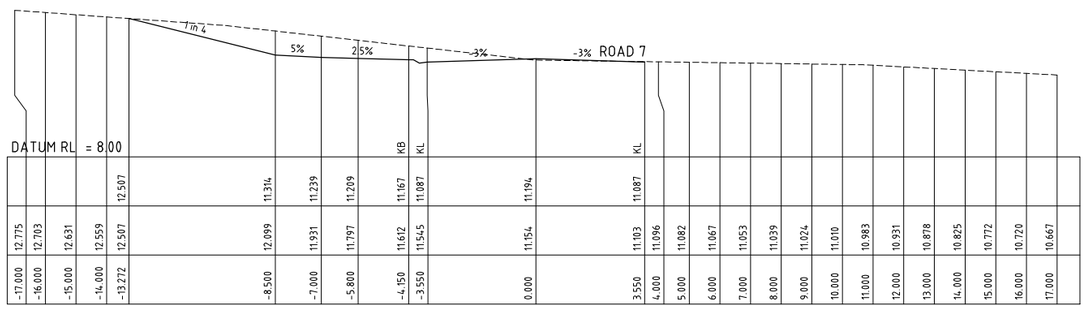
DATUM RL = 8.70																														
						12.851			11.989		11.914	11.884	11.842	11.762		11.869		11.762	11.842	11.865	11.895	11.945	11.940							
13.391	13.284	13.177	13.070	12.963	12.857	12.851		12.483	12.323	12.195	12.018	11.954	11.762		11.696		11.439	11.387	11.288	11.184	11.097	11.096	11.054	10.968	10.893	10.869	10.846	10.822	10.799	10.775	10.751	10.728
-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.951		-8.500	-7.000	-5.800	-4.150	-3.550	0.000		3.550		4.150	5.300	6.500	7.500	7.520	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000

CH 195.000



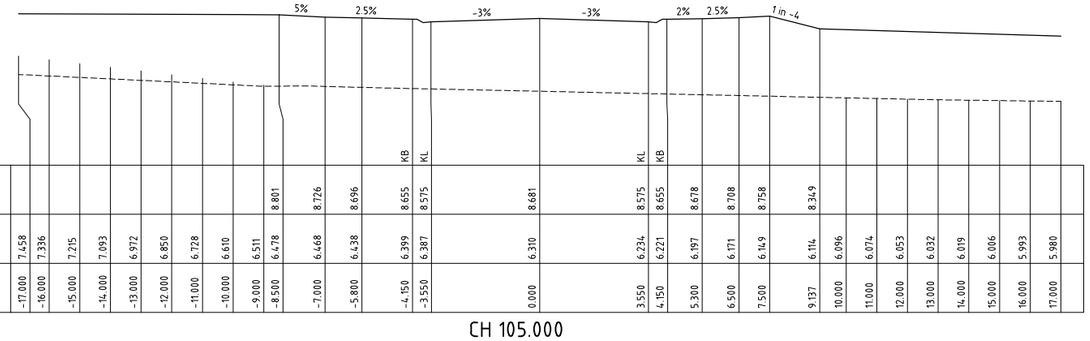
DATUM RL = 4.80																														
								9.018	8.968	8.893	8.863	8.822	8.742		8.848		8.742	8.822	8.845	8.875	8.925		8.418							
8.571	8.514	8.463	8.412	8.361	8.310	8.259	8.217	8.186	8.176	8.123	8.085	8.033	8.015		7.817		7.552	7.507	7.421	7.331	7.256		7.104	7.071	7.041	7.011	6.981	6.952	6.922	6.892	6.862
-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.701	-8.500	-7.000	-5.800	-4.150	-3.550	0.000		3.550	4.150	5.300	6.500	7.500		9.528	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000

CH 120.000



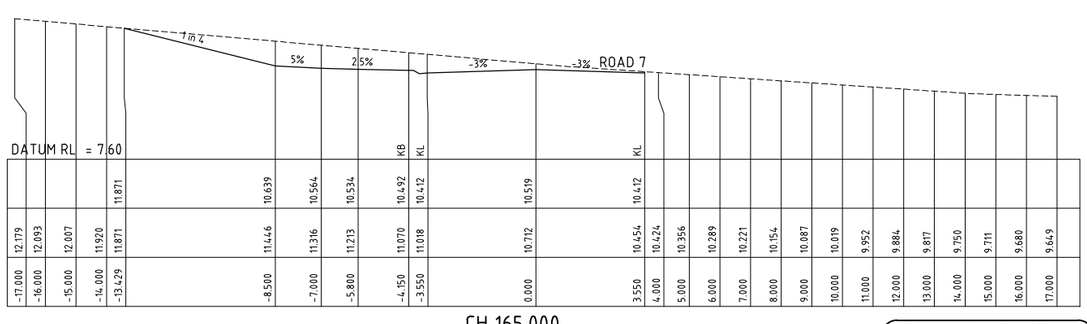
DATUM RL = 8.00																														
																	12.507		11.314	11.239	11.209	11.167	11.087		11.194		11.087				
12.775	12.703	12.631	12.559	12.507														12.099	11.931	11.797	11.612	11.545		11.554		11.103	11.096	11.082	11.067	11.053	11.039	11.024	11.010	10.983	10.931	10.878	10.825	10.772	10.720	10.667
-17.000	-16.000	-15.000	-14.000	-13.272														-8.500	-7.000	-5.800	-4.150	-3.550		0.000		3.550	4.000	5.000	6.000	7.000	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000

CH 180.000



DATUM RL = 3.90																														
DESIGN SURFACE								8.801		8.726	8.696	8.655	8.575		8.681		8.575	8.655	8.678	8.708	8.758		8.349							
NATURAL SURFACE	7.458	7.336	7.215	7.093	6.972	6.850	6.728	6.610	6.511	6.478	6.468	6.438	6.399	6.387		6.310		6.234	6.221	6.197	6.171	6.149		6.114	6.096	6.074	6.053	6.032	6.019	6.006	5.993	5.980
OFFSET	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.500	-7.000	-5.800	-4.150	-3.550		0.000		3.550	4.150	5.300	6.500	7.500		9.137	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000

CH 105.000



DATUM RL = 7.60																														
																	11.871		10.639	10.564	10.534	10.492	10.412		10.519		10.412				
12.179	12.093	12.007	11.920	11.871														11.446	11.316	11.213	11.070	11.018		10.712		10.454	10.424	10.356	10.289	10.221	10.154	10.087	10.019	9.952	9.884	9.817	9.750	9.711	9.680	9.649
-17.000	-16.000	-15.000	-14.000	-13.429														-8.500	-7.000	-5.800	-4.150	-3.550		0.000		3.550	4.000	5.000	6.000	7.000	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000

CH 165.000

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale
0 2 4 6 8m
1:100 (A1) 1:200 (A3)

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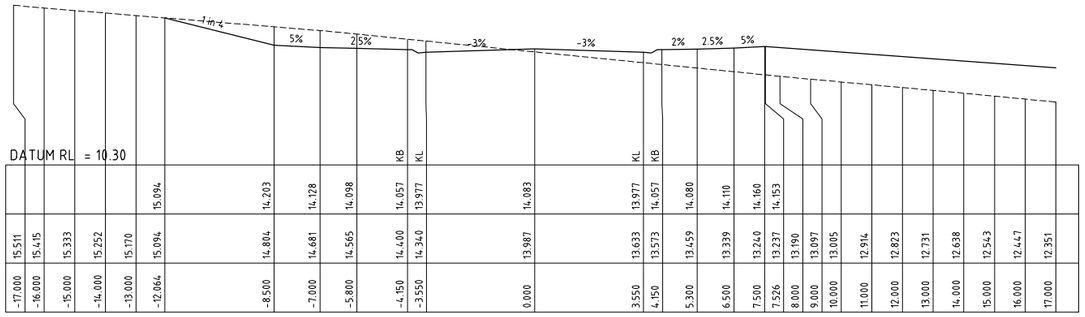
Designed: A.M
Cad Reference: 19259C dC511 r3
Scale: 1:100
A1 SHEET
Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

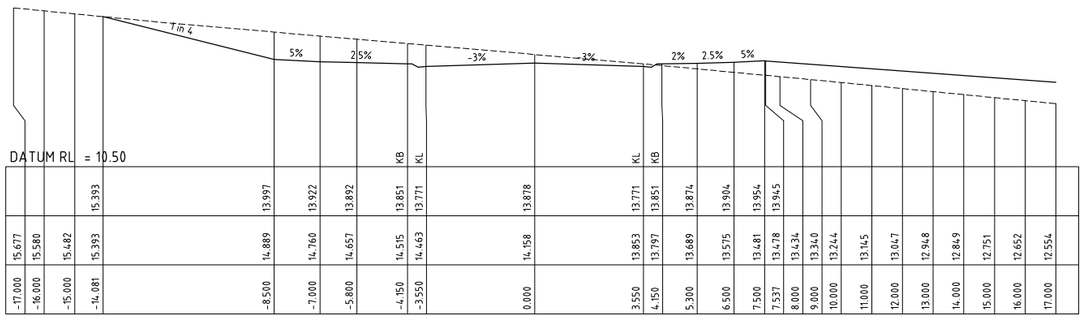
PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
COLLERY ROAD CROSS SECTIONS (2 OF 7)

Project No: 19259C
Drawing No: C511
Revision: 3



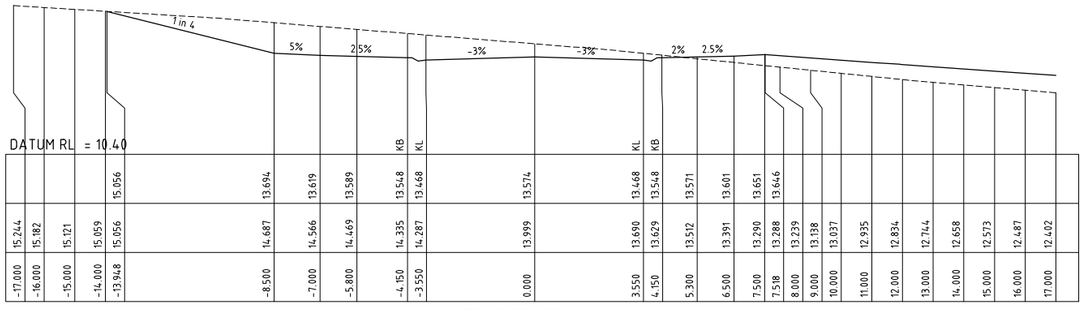
								14.203	14.128	14.098	14.057	13.977	14.083	13.977	14.057	14.080	14.110	14.160	14.153												
15.511	15.415	15.333	15.252	15.170	15.094		14.804	14.681	14.565	14.400	14.340	13.987	13.633	13.573	13.459	13.339	13.240	13.237	13.190	13.097	13.005	12.914	12.823	12.731	12.638	12.543	12.447	12.351		
-17.000	-16.000	-15.000	-14.000	-13.000	-12.064	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	7.526	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000				

CH 270.000



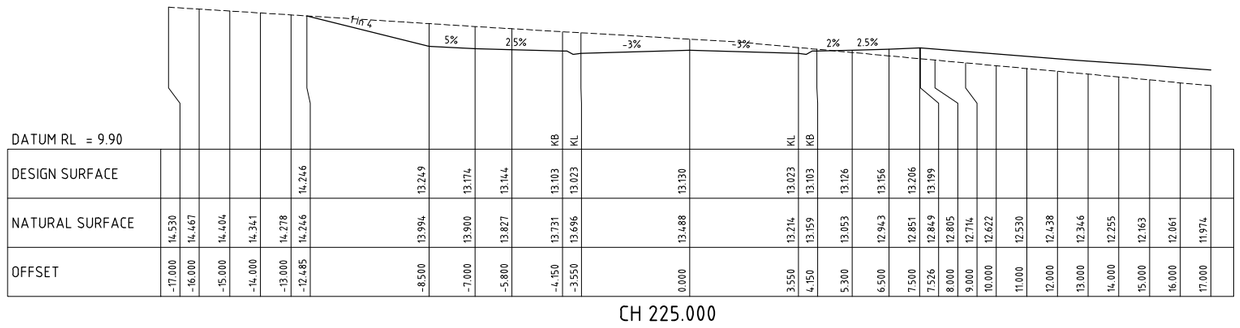
			15.393					13.997	13.922	13.892	13.851	13.771	13.878	13.771	13.851	13.874	13.904	13.954	13.945												
15.677	15.580	15.482	15.393				14.889	14.760	14.657	14.515	14.463	14.158	13.853	13.797	13.689	13.575	13.481	13.478	13.434	13.340	13.244	13.145	13.047	12.948	12.849	12.751	12.652	12.554		
-17.000	-16.000	-15.000	-14.081			-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	7.537	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000				

CH 255.000



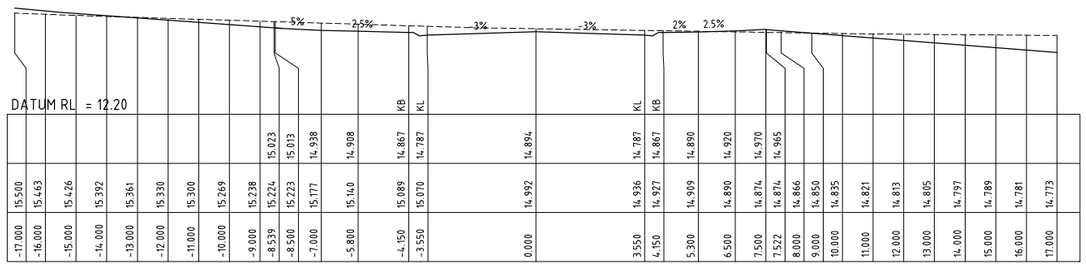
				15.056				13.694	13.619	13.589	13.548	13.468	13.574	13.468	13.548	13.571	13.601	13.651	13.646												
15.244	15.182	15.121	15.059	15.056			14.687	14.566	14.469	14.335	14.287	13.999	13.690	13.629	13.512	13.391	13.290	13.288	13.239	13.138	13.037	12.935	12.834	12.744	12.658	12.573	12.487	12.402		
-17.000	-16.000	-15.000	-14.000	-13.948		-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	7.518	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000				

CH 240.000



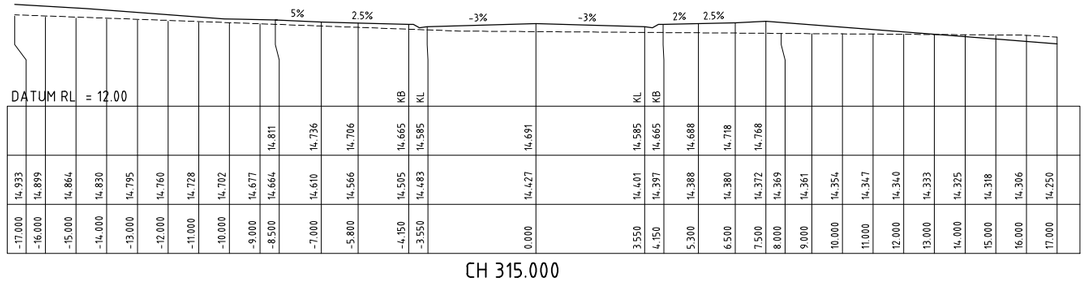
DESIGN SURFACE						14.246		13.249	13.174	13.144	13.103	13.023	13.130	13.023	13.103	13.126	13.156	13.206	13.199												
NATURAL SURFACE	14.530	14.467	14.404	14.341	14.278	14.246		13.994	13.900	13.827	13.731	13.696	13.488	13.274	13.159	13.053	12.943	12.851	12.849	12.805	12.714	12.622	12.530	12.438	12.346	12.255	12.163	12.061	11.974		
OFFSET	-17.000	-16.000	-15.000	-14.000	-13.000	-12.485	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	7.526	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000				

CH 225.000



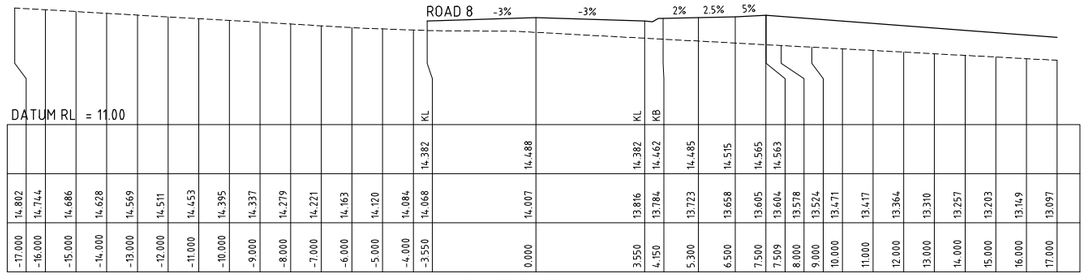
								15.023	15.013	14.938	14.908	14.867	14.787	14.894	14.787	14.867	14.890	14.920	14.970	14.965	14.866	14.850	14.835	14.821	14.813	14.805	14.797	14.789	14.781	14.773	
15.500	15.483	15.426	15.392	15.361	15.330	15.300	15.269	15.238	15.224	15.223	15.177	15.140	15.089	15.070	14.992	14.936	14.927	14.909	14.890	14.874	14.874	14.866	14.850	14.835	14.821	14.813	14.805	14.797	14.789	14.781	14.773
-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.539	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	7.522	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000

CH 330.000



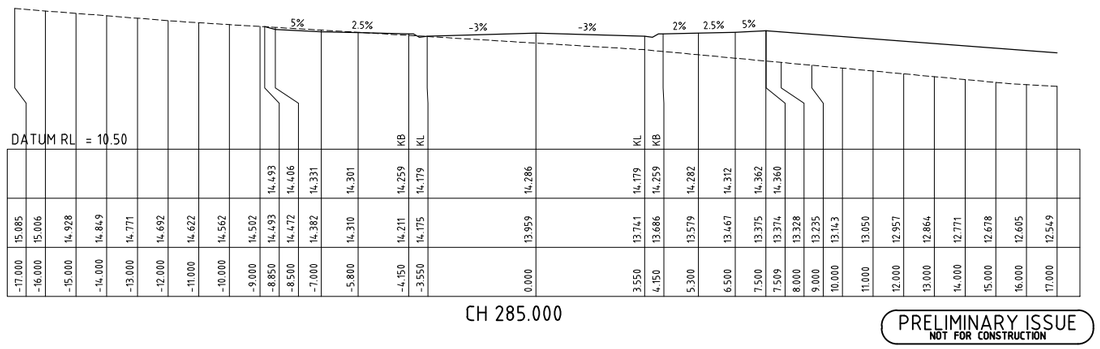
								14.811	14.736	14.706	14.665	14.585	14.691	14.585	14.665	14.688	14.718	14.768													
14.933	14.899	14.864	14.830	14.795	14.760	14.728	14.702	14.677	14.664	14.610	14.566	14.505	14.483	14.427	14.401	14.397	14.388	14.380	14.372	14.369	14.361	14.354	14.347	14.340	14.333	14.325	14.318	14.306	14.250
-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000		

CH 315.000



14.802	14.744	14.686	14.628	14.569	14.511	14.453	14.395	14.337	14.279	14.221	14.163	14.120	14.084	14.068	14.007	13.816	13.784	13.723	13.658	13.605	13.604	13.578	13.524	13.471	13.417	13.364	13.310	13.257	13.203	13.149	13.097
-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.000	-7.000	-6.000	-5.000	-4.000	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	7.509	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000

CH 300.000



								14.493	14.406	14.331	14.301	14.259	14.179	14.286	14.179	14.259	14.282	14.312	14.362	14.360	13.328	13.235	13.143	13.050	12.957	12.864	12.771	12.678	12.605	12.549	
15.085	15.006	14.928	14.849	14.771	14.692	14.622	14.562	14.502	14.493	14.472	14.382	14.310	14.211	14.175	13.959	13.741	13.686	13.579	13.467	13.375	13.374	13.328	13.235	13.143	13.050	12.957	12.864	12.771	12.678	12.605	12.549
-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.850	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	7.509	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000

CH 285.000

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale
0 2 4 6 8m
1:100 (A1) 1:200 (A3)

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Designed: A.M
Cad Reference: 19259C dC512 r3
Scale: 1:100
A1 SHEET
Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

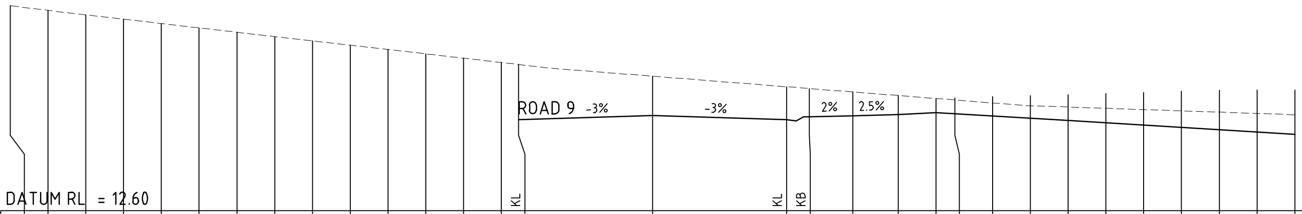
Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
COLLERY ROAD CROSS SECTIONS (3 OF 7)

Project No: 19259C
Drawing No: C512
Revision: 3

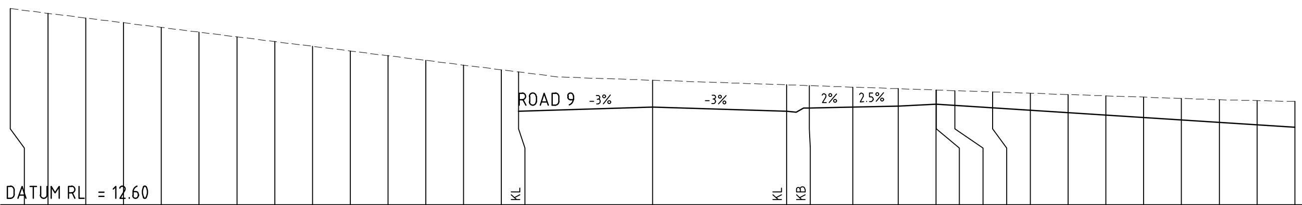
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DATUM RL = 12.60

														KL		KL	KB													
														15.012	15.118	15.012	15.092	15.115	15.145	15.195										
18.034	17.909	17.790	17.675	17.560	17.446	17.331	17.216	17.101	16.986	16.872	16.757	16.642	16.527	16.476	16.164	15.885	15.837	15.747	15.652	15.573	15.588	15.618	15.647	15.677	15.706	15.735	15.765	15.792	15.796	15.799
-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.000	-7.000	-6.000	-5.000	-4.000	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000

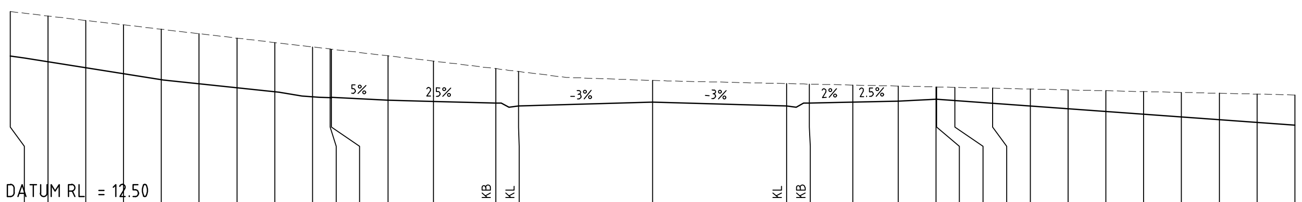
CH 390.000



DATUM RL = 12.60

														KL		KL	KB														
														15.074	15.180	15.074	15.154	15.177	15.207	15.257	15.253										
17.784	17.660	17.535	17.411	17.286	17.162	17.037	16.913	16.788	16.664	16.539	16.415	16.290	16.166	16.110	15.891	15.768	15.748	15.708	15.667	15.632	15.632	15.615	15.581	15.546	15.512	15.477	15.443	15.408	15.374	15.352	15.329
-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.000	-7.000	-6.000	-5.000	-4.000	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	7.513	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000

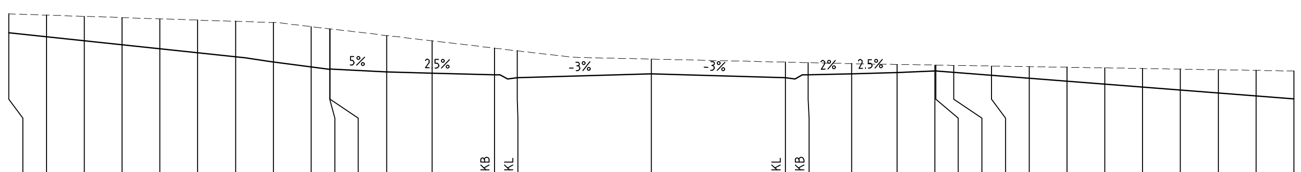
CH 375.000



DATUM RL = 12.50

													KB	KL		KL	KB														
									15.279	15.287	15.212	15.182	15.141	15.061	15.167	15.061	15.141	15.164	15.194	15.244	15.239										
17.559	17.442	17.325	17.208	17.091	16.974	16.857	16.740	16.623	16.568	16.565	16.389	16.249	16.049	15.975	15.738	15.654	15.641	15.615	15.588	15.566	15.566	15.555	15.532	15.510	15.488	15.465	15.443	15.421	15.398	15.376	15.354
-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.531	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	7.521	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000

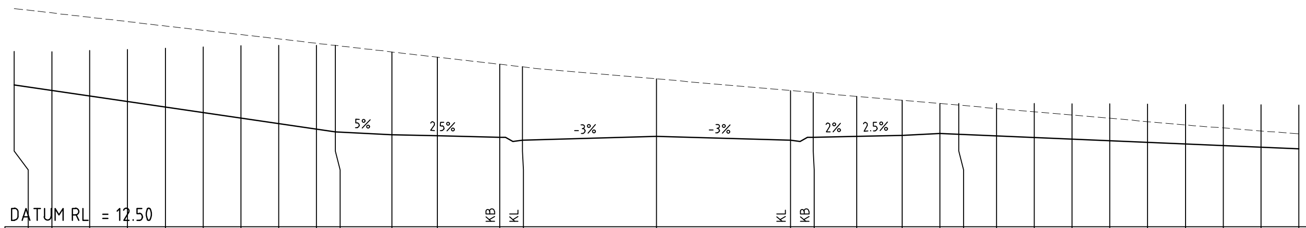
CH 360.000



DATUM RL = 12.40

														KB	KL		KL	KB														
DESIGN SURFACE										15.189	15.191	15.116	15.086	15.045	14.965	15.071	14.965	15.045	15.068	15.098	15.148	15.141										
NATURAL SURFACE	16.649	16.616	16.584	16.551	16.518	16.486	16.453	16.420	16.313	16.255	16.254	16.079	15.938	15.745	15.675	15.457	15.376	15.363	15.337	15.315	15.299	15.299	15.291	15.274	15.258	15.241	15.225	15.208	15.192	15.175	15.159	15.142
OFFSET	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.509	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	7.527	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000

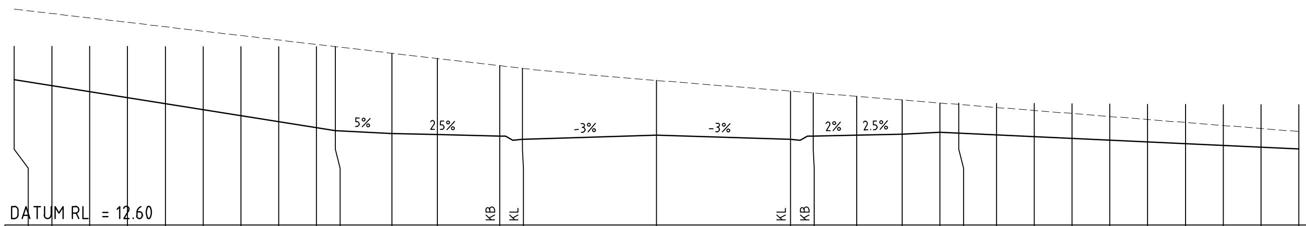
CH 345.000



DATUM RL = 12.50

												KB	KL		KL	KB													
									15.013	14.938	14.908	14.867	14.787	14.893	14.787	14.867	14.890	14.920	14.970										
17.141	17.133	17.165	17.198	17.231	17.264	17.297	17.305	17.303	17.302	17.130	16.992	16.803	16.734	16.416	16.107	16.054	15.954	15.850	15.763	15.763	15.765	15.766	15.760	15.753	15.747	15.740	15.734	15.728	15.721
-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000

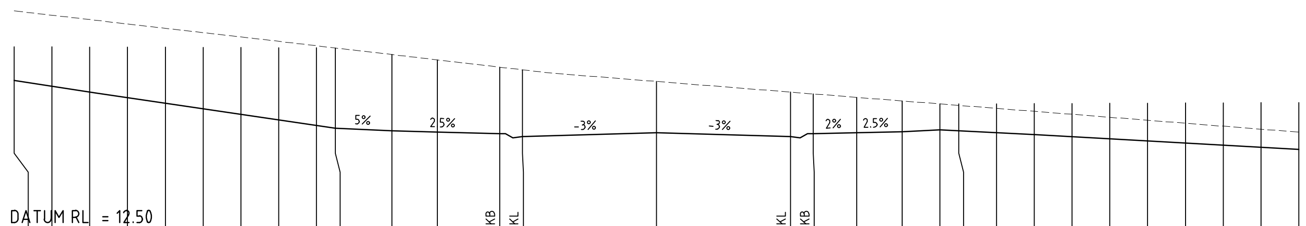
CH 435.000



DATUM RL = 12.60

												KB	KL		KL	KB													
									15.088	15.013	14.983	14.942	14.862	14.968	14.862	14.942	14.965	14.995	15.045										
17.315	17.313	17.311	17.310	17.308	17.307	17.306	17.306	17.306	17.306	17.131	16.991	16.802	16.733	16.412	16.131	16.083	15.992	15.897	15.818	15.815	15.809	15.802	15.796	15.790	15.784	15.778	15.771	15.769	15.771
-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000

CH 420.000



DATUM RL = 12.50

												KB	KL		KL	KB													
									15.163	15.088	15.058	15.017	14.937	15.043	14.937	15.017	15.040	15.070	15.120										
17.313	17.309	17.305	17.300	17.296	17.292	17.288	17.284	17.280	17.278	17.103	16.963	16.771	16.701	16.394	16.112	16.064	15.973	15.879	15.801	15.802	15.806	15.809	15.813	15.817	15.821	15.825	15.829	15.833	15.837
-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000

CH 405.000

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale
0 2 4 6 8m
1:100 (A1) 1:200 (A3)

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Designed: A.M
Cad Reference: 19259C dC513 r3
Scale: 1:100
A1 SHEET
Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

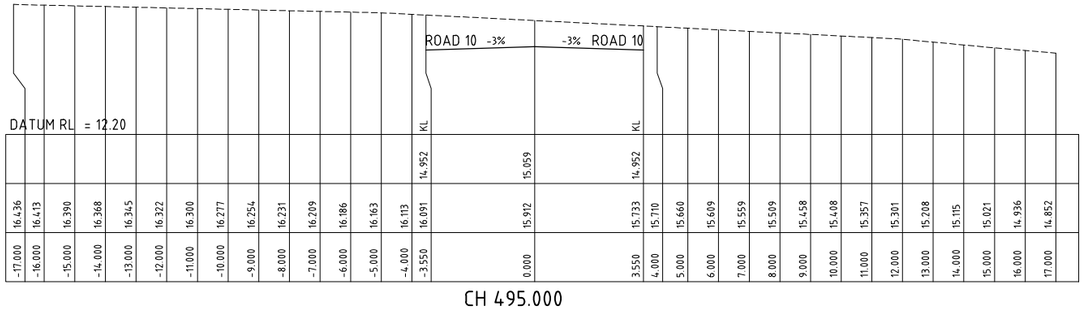
Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
COLLERY ROAD CROSS SECTIONS (4 OF 7)

Project No: 19259C
Drawing No: C513
Revision: 3

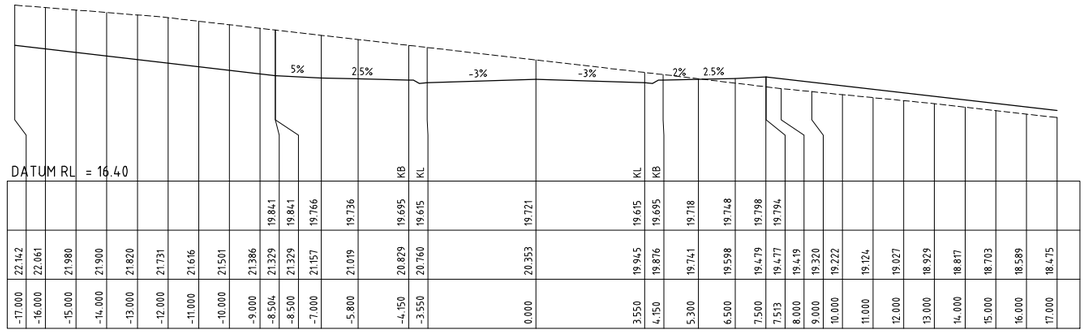
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DATUM RL = 12.20

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	16.436	16.413	16.390	16.368	16.345	16.322	16.300	16.277	16.254	16.231	16.209	16.186	16.163	16.113	16.091	15.912	15.733	15.710	15.660	15.609	15.559	15.509	15.458	15.408	15.357	15.301	15.208	15.115	15.021	14.936	14.852
															14.952	15.959	14.952														

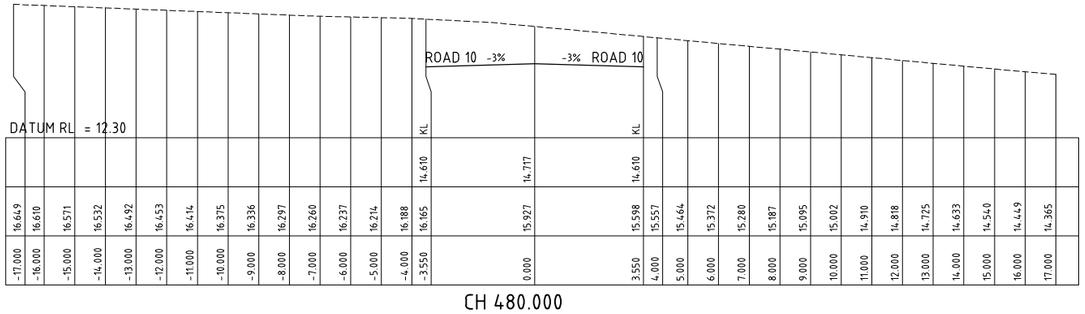
CH 495.000



DATUM RL = 16.40

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	22.142	22.061	21.980	21.900	21.820	21.731	21.616	21.501	21.386	21.329	19.841	21.329	21.157	21.019	20.829	20.760	20.353	19.721	19.615	19.695	19.718	19.748	19.798	19.794	19.419	19.320	19.222	19.124	19.027	18.929	18.817	18.703	18.589	18.475
											19.841	19.766	19.736	19.695	19.615				19.615	19.695													

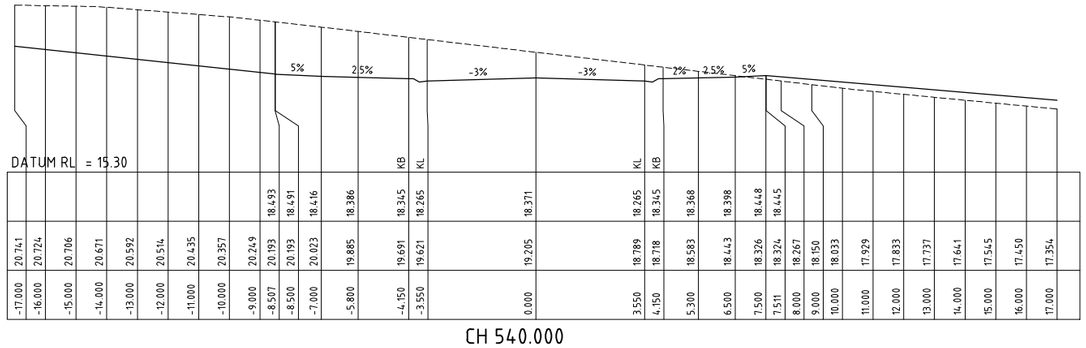
CH 555.000



DATUM RL = 12.30

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	16.649	16.610	16.571	16.532	16.492	16.453	16.414	16.375	16.336	16.297	16.260	16.237	16.214	16.188	16.165	15.927	15.598	15.557	15.464	15.372	15.280	15.187	15.095	15.002	14.910	14.818	14.725	14.633	14.540	14.449	14.365
															14.610	14.717	14.610														

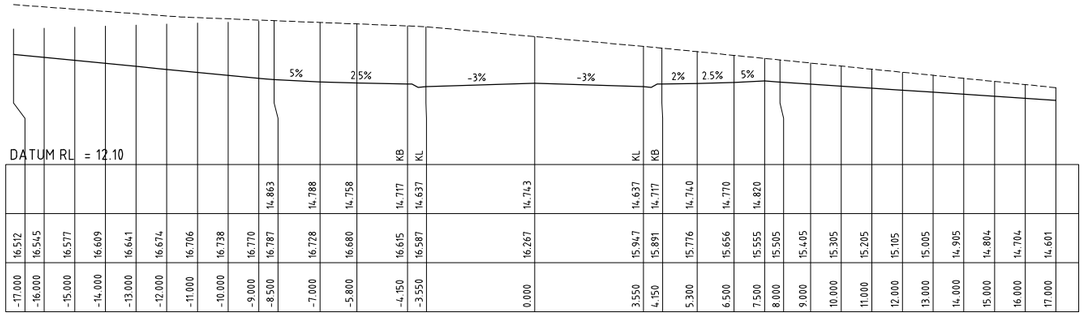
CH 480.000



DATUM RL = 15.30

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	20.741	20.724	20.706	20.671	20.592	20.514	20.435	20.357	20.249	20.193	18.491	20.023	19.885	19.691	19.621	19.205	18.789	18.718	18.583	18.443	18.326	18.324	18.267	18.150	18.033	17.929	17.833	17.737	17.641	17.545	17.450	17.354
										18.493	18.491	18.416	18.386	18.345	18.265	18.371	18.265	18.345	18.368	18.398	18.448	18.445										

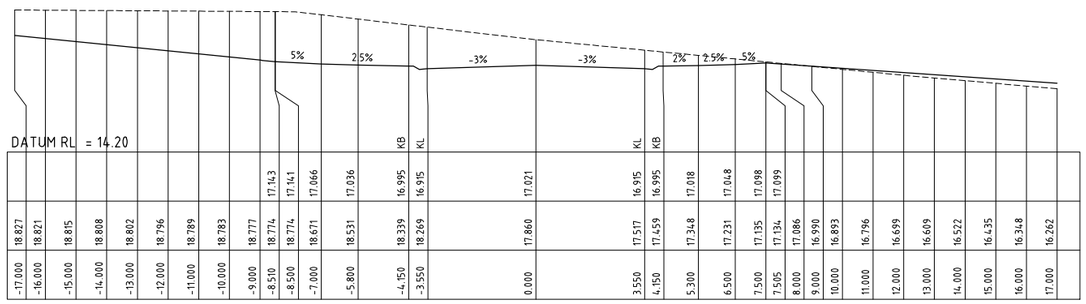
CH 540.000



DATUM RL = 12.10

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	16.512	16.545	16.577	16.609	16.641	16.674	16.706	16.738	16.770	16.787	16.728	16.680	16.615	16.587	16.267	15.947	15.891	15.776	15.656	15.555	15.505	15.405	15.305	15.205	15.105	15.005	14.905	14.804	14.704	14.601
										14.863	14.788	14.758	14.717	14.637	14.743	14.637	14.717	14.740	14.770	14.820										

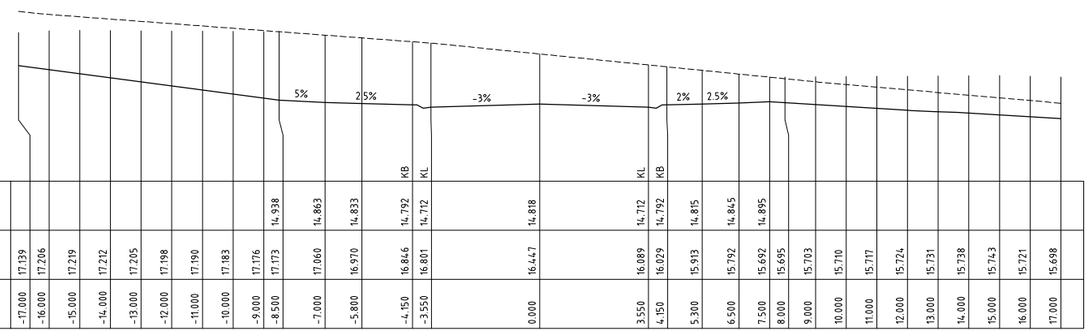
CH 465.000



DATUM RL = 14.20

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	18.827	18.821	18.815	18.808	18.802	18.796	18.789	18.783	18.777	18.774	18.774	18.671	18.531	18.339	18.269	17.860	17.517	17.459	17.348	17.231	17.135	17.134	17.086	16.990	16.893	16.796	16.699	16.609	16.522	16.435	16.348	16.262
										17.143	17.141	17.066	17.036	16.995	16.915	17.021	16.915	16.995	17.018	17.048	17.098	17.099										

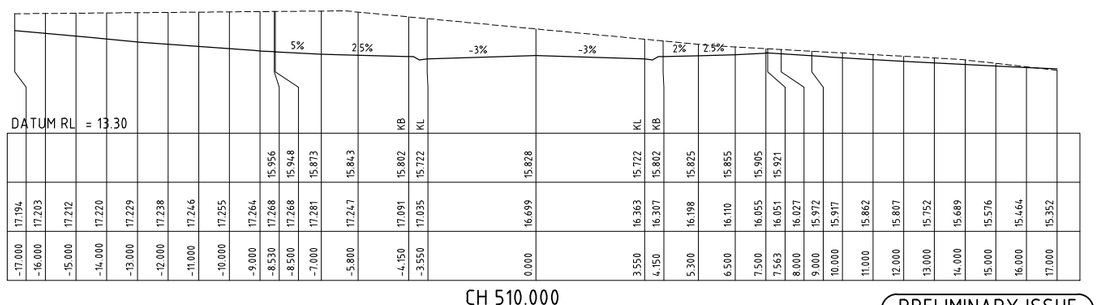
CH 525.000



DATUM RL = 12.30

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DESIGN SURFACE										14.938	14.863	14.833	14.792	14.712	14.818	14.712	14.792	14.815	14.845	14.895										
NATURAL SURFACE	17.139	17.206	17.219	17.212	17.205	17.198	17.190	17.183	17.176	17.173	17.060	16.970	16.846	16.801	16.447	16.089	16.029	15.913	15.792	15.692	15.695	15.703	15.710	15.717	15.724	15.731	15.738	15.743	15.721	15.698
OFFSET	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000

CH 450.000



DATUM RL = 13.30

	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.530	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	7.563	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000
	17.194	17.203	17.212	17.220	17.229	17.238	17.246	17.255	17.264	17.268	17.268	17.281	17.247	17.091	17.035	16.699	16.363	16.307	16.198	16.110	16.055	16.051	16.027	15.972	15.917	15.862	15.807	15.752	15.689	15.576	15.464	15.352
									15.956	15.948	15.873	15.843	15.802	15.722	15.828	15.722	15.802	15.825	15.855	15.905	15.921										

CH 510.000

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale
0 2 4 6 8m
1:100 (A1) 1:200 (A3)

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Designed A.M
Cad Reference 19259C dC514 r3
Scale 1:100
A1 SHEET
Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

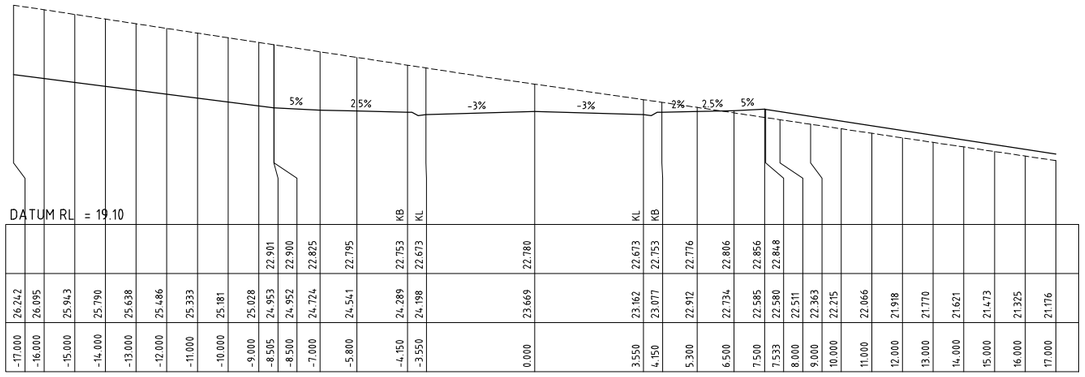
Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION 1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
COLLERY ROAD CROSS SECTIONS (5 OF 7)

Project No 19259C
Drawing No C514
Revision 3

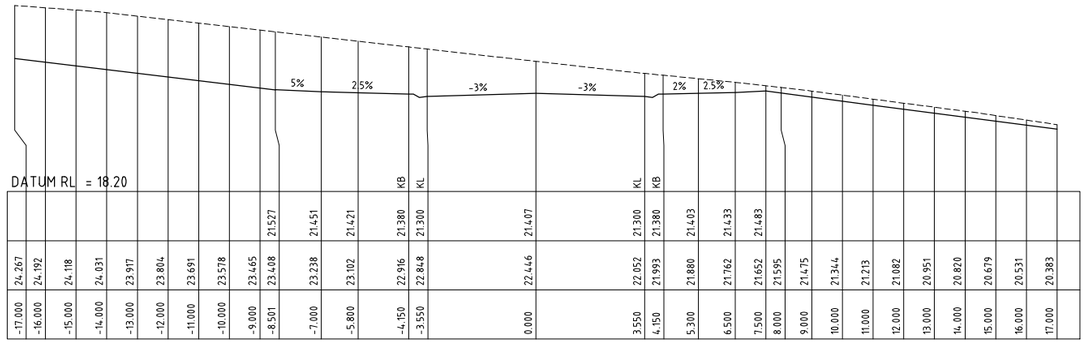
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DATUM RL = 19.10

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	26.242	26.095	25.943	25.790	25.638	25.486	25.333	25.181	25.028	24.953	24.952	24.724	24.541	24.289	24.198	23.669	23.162	23.077	22.912	22.734	22.585	22.580	22.511	22.363	22.215	22.066	21.918	21.770	21.621	21.473	21.325	21.176
	22.901	22.900	22.825	22.795	22.753	22.673	22.780	22.673	22.753	22.776	22.806	22.856	22.848																			

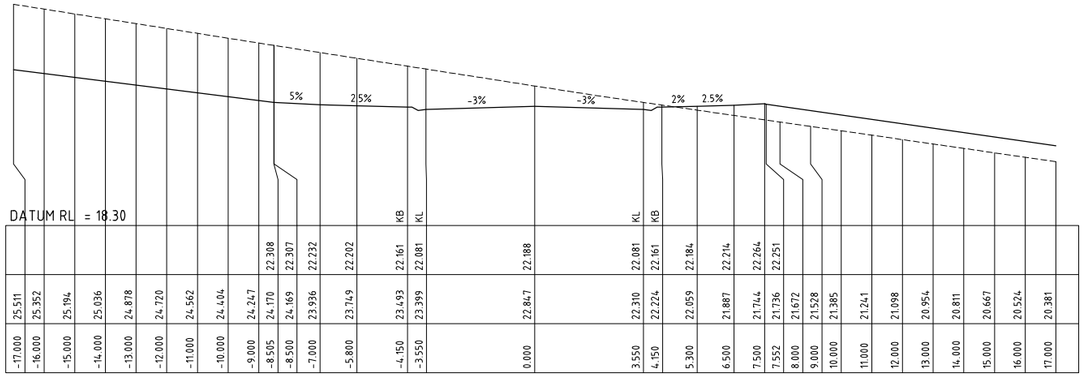
CH 600.000



DATUM RL = 18.20

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	24.267	24.192	24.118	24.031	23.917	23.804	23.691	23.578	23.465	23.408	23.238	23.102	22.916	22.848	22.446	22.052	21.993	21.880	21.762	21.652	21.595	21.475	21.344	21.213	21.082	20.951	20.820	20.679	20.531	20.383
	21.527	21.451	21.421	21.380	21.300	21.407	21.300	21.380	21.403	21.433	21.483																			

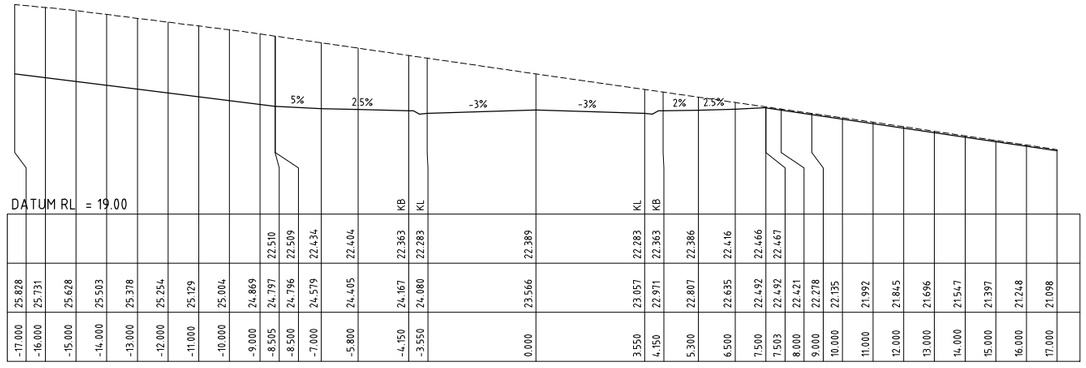
CH 645.000



DATUM RL = 18.30

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	25.511	25.352	25.194	25.036	24.878	24.720	24.562	24.404	24.247	24.170	24.169	23.936	23.749	23.493	23.399	22.847	22.310	22.224	22.059	21.887	21.744	21.736	21.672	21.528	21.385	21.241	21.098	20.954	20.811	20.667	20.524	20.381
	22.308	22.307	22.232	22.202	22.161	22.081	22.188	22.081	22.161	22.184	22.214	22.264	22.251																			

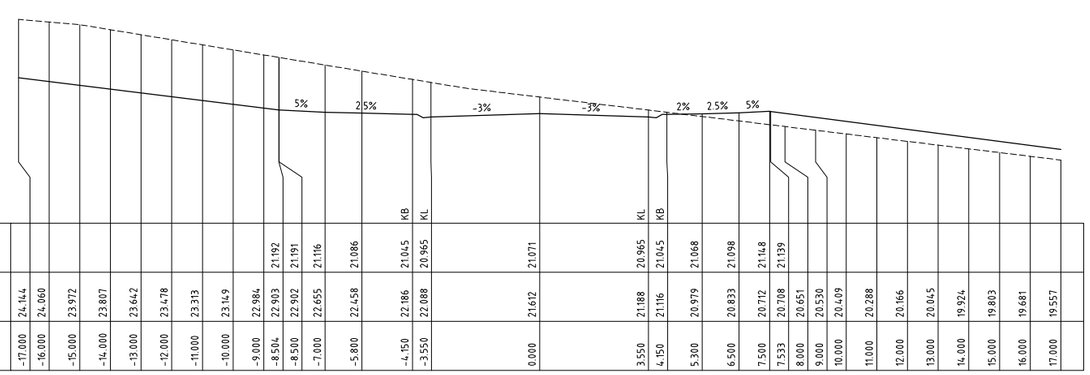
CH 585.000



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	25.828	25.731	25.628	25.503	25.378	25.254	25.129	25.004	24.869	24.797	24.796	24.579	24.405	24.167	24.080	23.566	23.057	22.971	22.807	22.635	22.492	22.492	22.421	22.278	22.135	21.992	21.845	21.696	21.547	21.397	21.248	21.098
	22.510	22.509	22.434	22.404	22.363	22.283	22.389																									

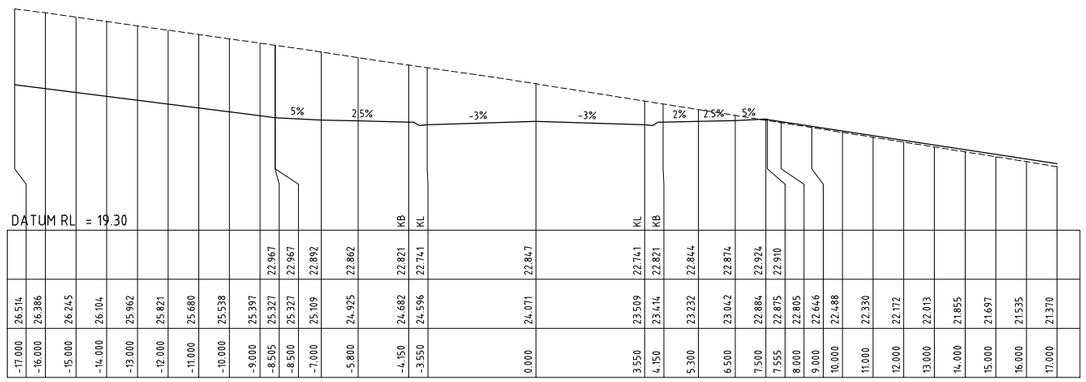
CH 630.000



DATUM RL = 17.50

	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.504	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	7.533	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000
DESIGN SURFACE										21.192	21.191	21.116	21.086	21.045	20.965	21.071	20.965	21.045	21.068	21.098	21.148	21.139										
NATURAL SURFACE	24.144	24.060	23.972	23.807	23.642	23.478	23.313	23.149	22.984	22.903	22.902	22.655	22.458	22.186	22.088	21.612	21.188	21.116	20.979	20.833	20.712	20.708	20.651	20.530	20.409	20.288	20.166	20.045	19.924	19.803	19.681	19.557
OFFSET	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.504	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	7.533	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000

CH 570.000



DATUM RL = 19.30

	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.505	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	7.555	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000
	26.514	26.386	26.245	26.104	25.962	25.821	25.680	25.538	25.397	25.327	25.327	25.109	24.925	24.682	24.596	24.071	23.599	23.414	23.232	23.042	22.884	22.875	22.805	22.646	22.488	22.330	22.172	22.013	21.855	21.697	21.535	21.370
	22.967	22.967	22.892	22.862	22.821	22.741	22.847																									

CH 615.000

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale

0 2 4 6 8m

1:100 (A1) 1:200 (A3)

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Designed: A.M

Cad Reference: 19259C dC515 r3

Scale: 1:100

A1 SHEET

Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

Client

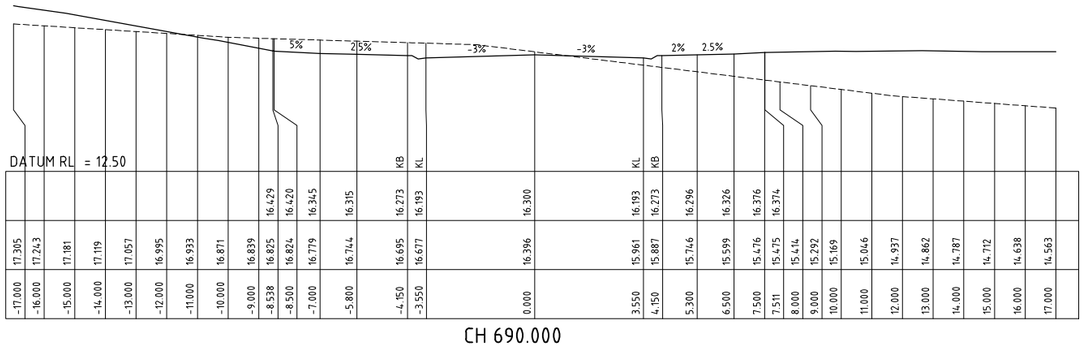
GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
COLLERY ROAD CROSS SECTIONS (6 OF 7)

Project No: 19259C

Drawing No: C515

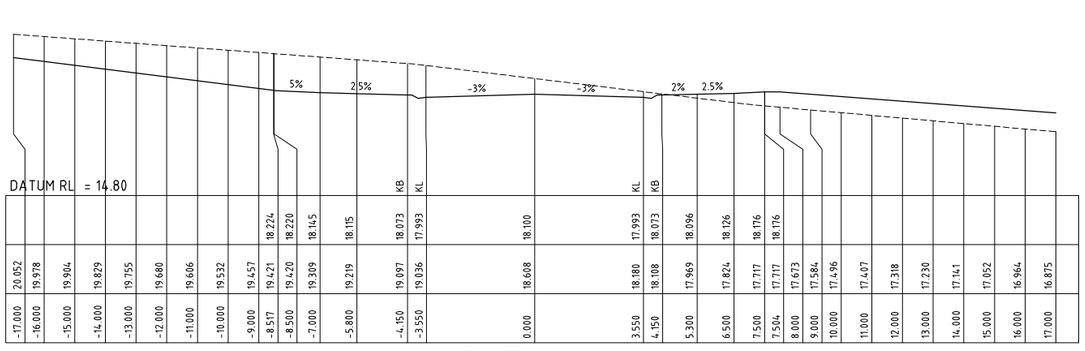
Revision: 3



DATUM RL = 12.50

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										16.429	16.420	16.345	16.315	16.273	16.193	16.300	16.193	16.273	16.296	16.326	16.376	16.374										
	17.305	17.243	17.181	17.119	17.057	16.995	16.933	16.871	16.839	16.825	16.824	16.779	16.744	16.695	16.677	16.396	15.961	15.887	15.746	15.599	15.476	15.475	15.414	15.292	15.169	15.046	14.937	14.862	14.787	14.712	14.638	14.563

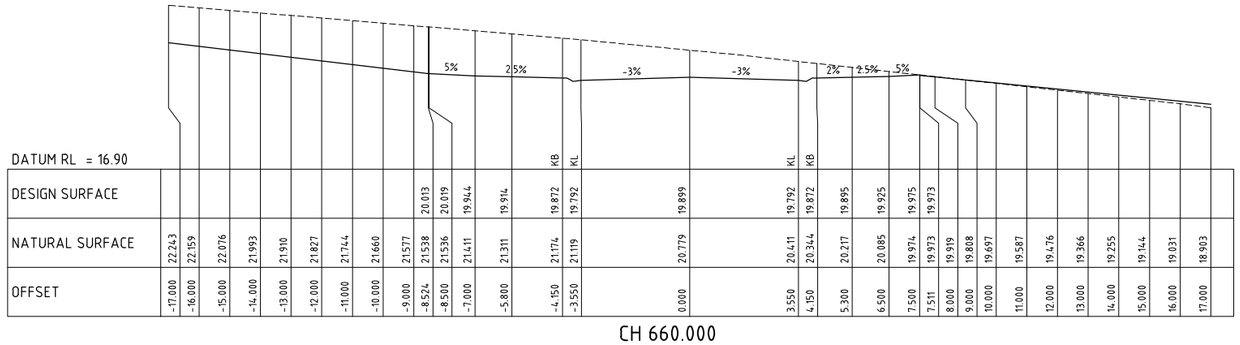
CH 690.000



DATUM RL = 14.80

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										18.224	18.220	18.145	18.115	18.073	17.993	18.100	17.993	18.073	18.096	18.126	18.176	18.176										
	20.052	19.978	19.904	19.829	19.755	19.680	19.606	19.532	19.457	19.421	19.420	19.309	19.219	19.097	19.036	18.608	18.180	18.108	17.969	17.824	17.717	17.717	17.673	17.584	17.496	17.407	17.318	17.230	17.141	17.052	16.964	16.875

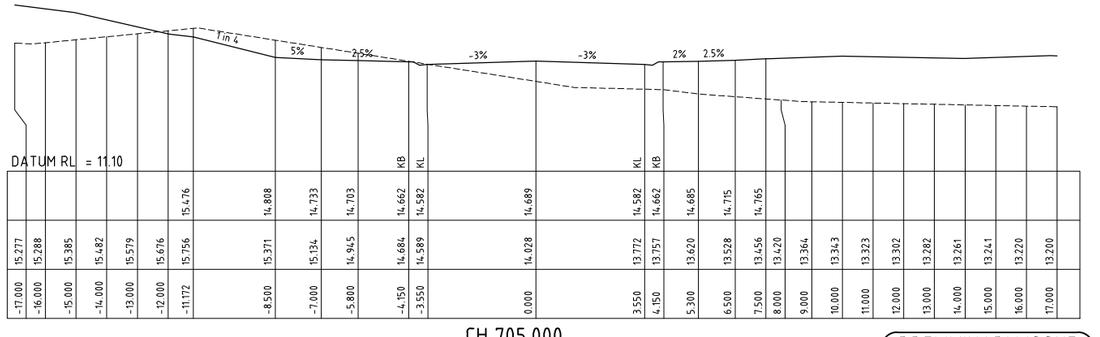
CH 675.000



DATUM RL = 16.90

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DESIGN SURFACE										20.013	20.019	19.944	19.914	19.872	19.792	19.899	19.792	19.872	19.895	19.925	19.975	19.973										
NATURAL SURFACE	22.243	22.159	22.076	21.993	21.910	21.827	21.744	21.660	21.577	21.538	21.536	21.411	21.311	21.174	21.119	20.779	20.411	20.344	20.217	20.085	19.974	19.973	19.919	19.808	19.697	19.587	19.476	19.366	19.255	19.144	19.031	18.903
OFFSET	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.524	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	7.511	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000

CH 660.000



DATUM RL = 11.10

	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.172	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000
							15.476																					
	15.277	15.288	15.385	15.482	15.579	15.676	15.756	15.371	15.134	14.945	14.684	14.589	14.028	13.772	13.757	13.620	13.528	13.456	13.420	13.364	13.343	13.323	13.302	13.282	13.261	13.241	13.220	13.200

CH 705.000

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale
0 2 4 6 8m
1:100 (A1) 1:200 (A3)

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Designed: A.M
Cad Reference: 19259C dC516 r3
Scale: 1:100
A1 SHEET
Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

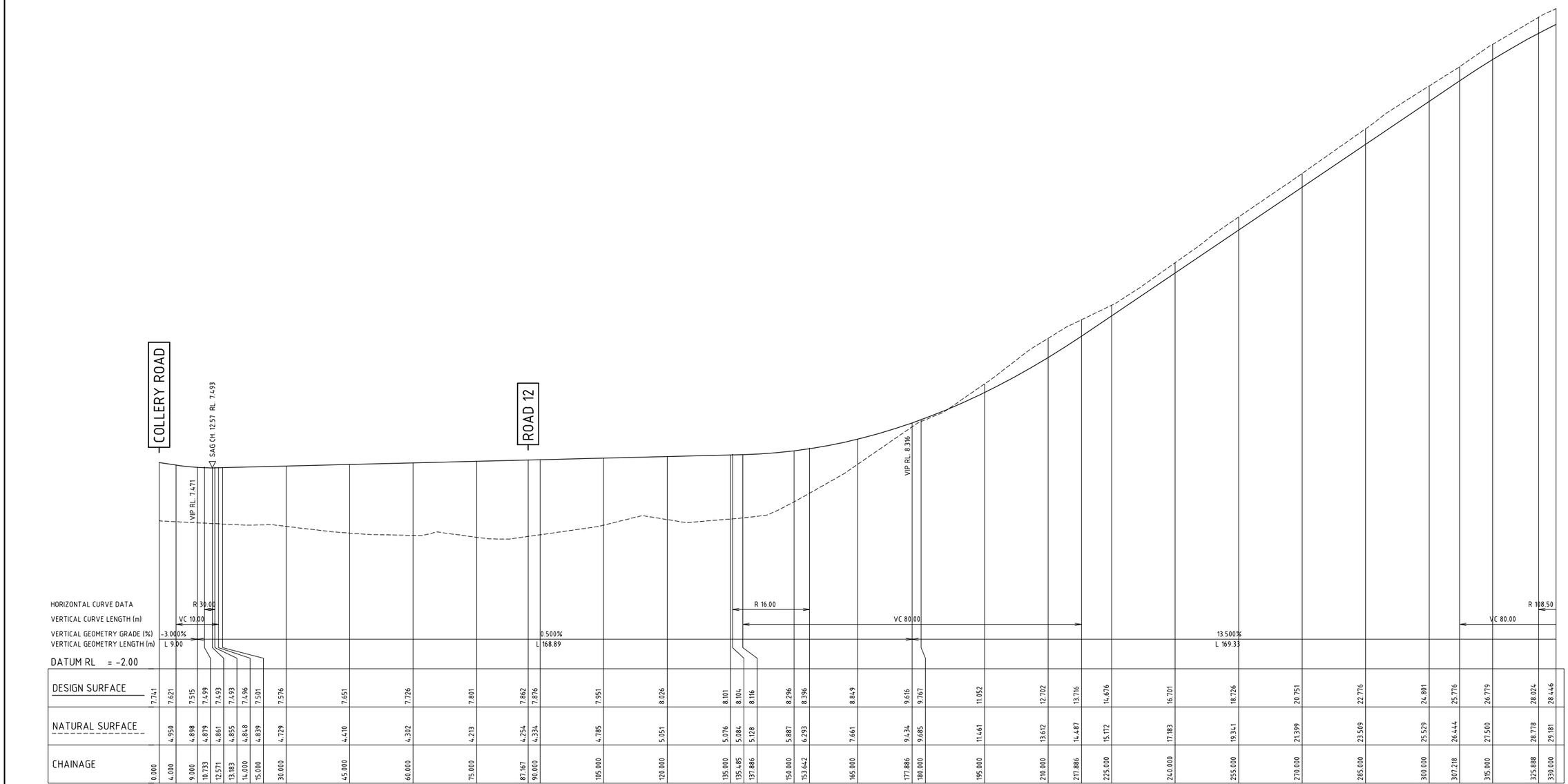
Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION 1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
COLLERY ROAD CROSS SECTIONS (7 OF 7)

Project No: 19259C
Drawing No: C516
Revision: 3

PLOT DATE: 1/11/2022 10:56:33 AM
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A1 SCALE: HORIZONTAL 1:500, VERTICAL 1:100

LONGITUDINAL SECTION ROAD 6

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale
1:100 (A1) 1:200 (A3)
1:500 (A1) 1:1000 (A3)

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Designed A.M
Cad Reference 19259C dC517 r3
Scale AS SHOWN
A1 SHEET
Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

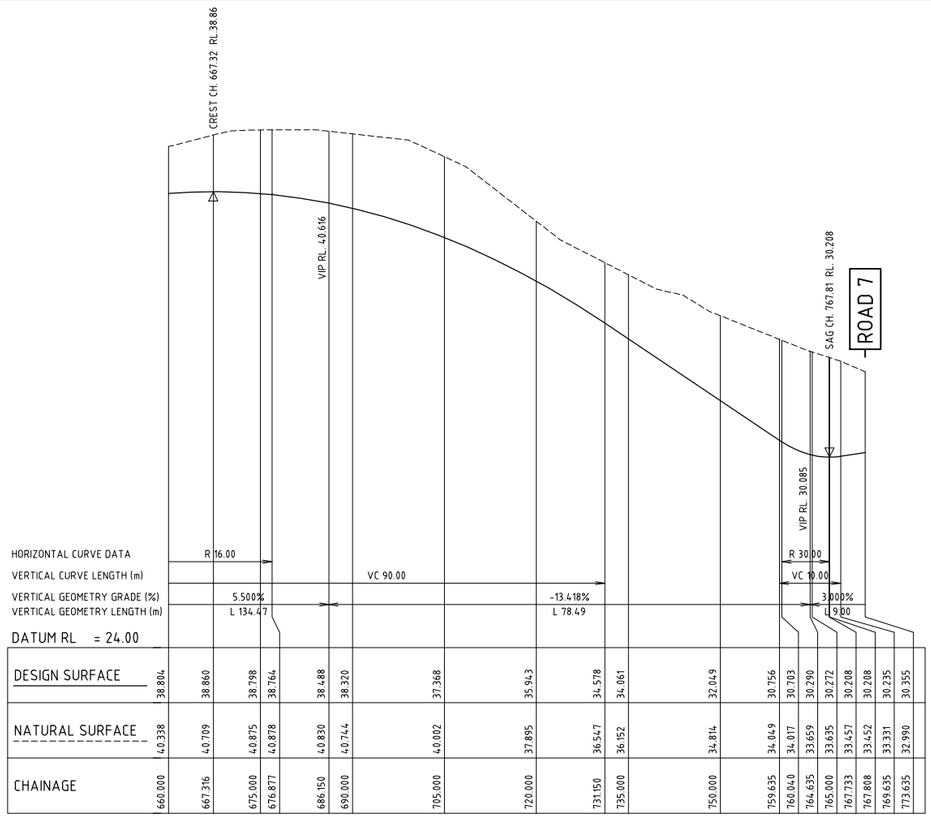
Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
ROAD 6 LONGITUDINAL SECTION (1 OF 2)

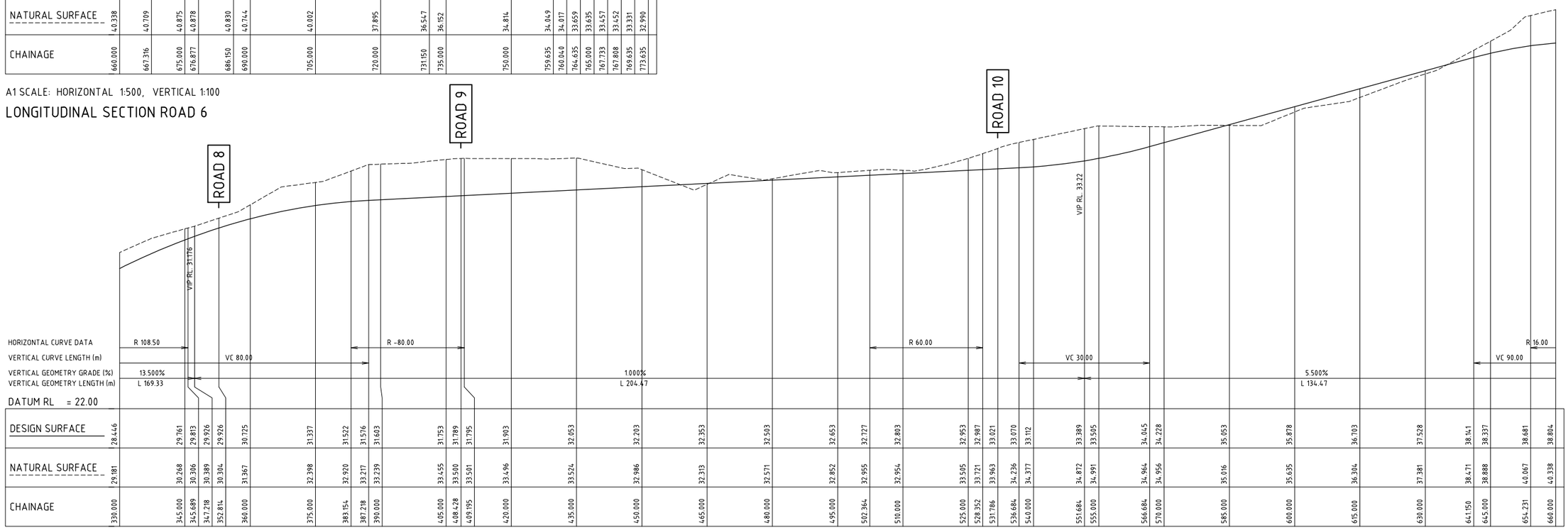
Project No 19259C
Drawing No C517
Revision 3

PLOT DATE: 1/11/2022 10:56:38 AM
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A1 SCALE: HORIZONTAL 1:500, VERTICAL 1:100

LONGITUDINAL SECTION ROAD 6



A1 SCALE: HORIZONTAL 1:500, VERTICAL 1:100

LONGITUDINAL SECTION ROAD 6

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale
1:100 (A1) 1:200 (A3)
1:500 (A1) 1:1000 (A3)

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Designed A.M
Cad Reference 19259C dC518 r3
Scale AS SHOWN
A1 SHEET
Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

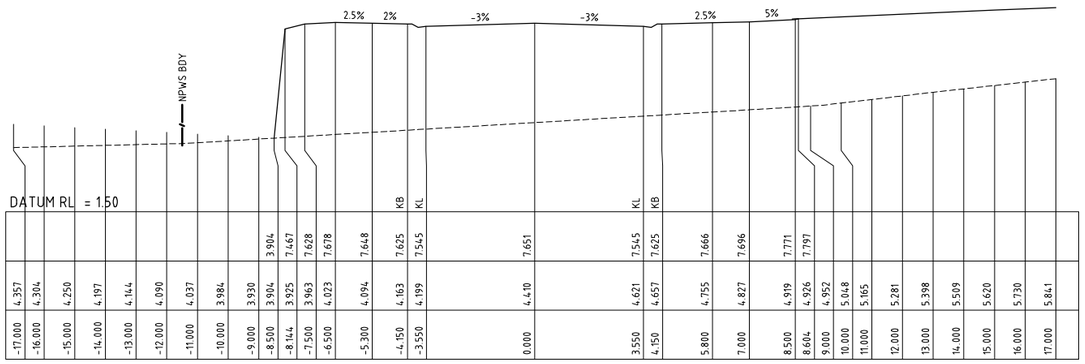
Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION 1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
ROAD 6 LONGITUDINAL SECTION (2 OF 2)

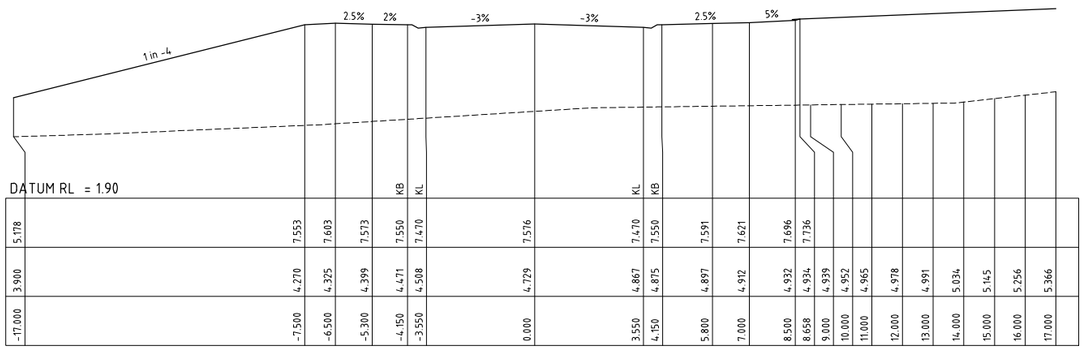
Project No 19259C
Drawing No C518
Revision 3

PLOT DATE: 1/11/2022 10:56:44 AM
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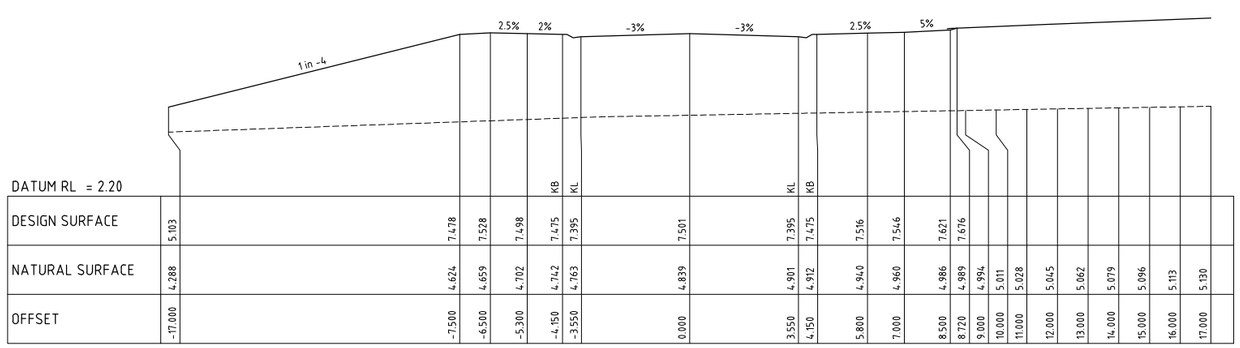
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	4.357	4.304	4.250	4.197	4.144	4.090	4.037	3.984	3.930	3.904	3.925	3.963	4.023	4.094	4.163	4.199	4.410	4.621	4.657	4.755	4.827	4.919	4.926	4.952	5.048	5.165	5.281	5.398	5.509	5.620	5.730	5.841
										3.904	7.467	7.628	7.678	7.648	7.625	7.545	7.651	7.545	7.625	7.666	7.696	7.771	7.797									

CH 45.000



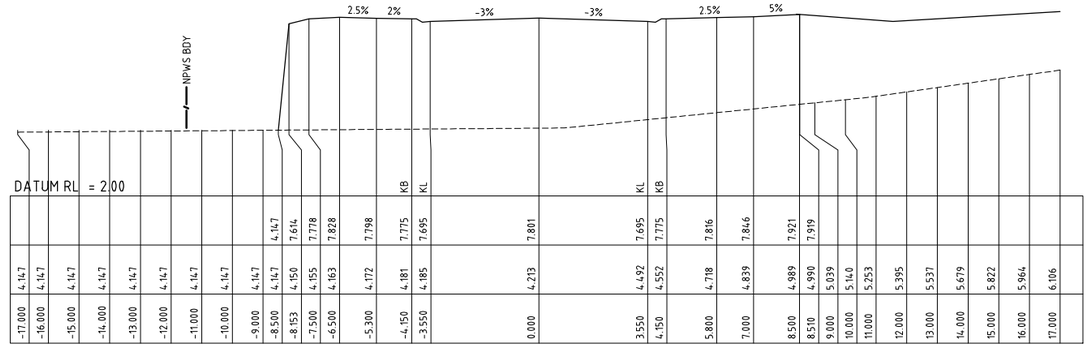
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	3.900	4.325	4.399	4.471	4.508	4.729	4.867	4.875	4.897	4.912	4.932	4.934	4.939	4.952	4.965	4.978	4.991	5.034	5.145	5.256	5.366
5.178		7.603	7.573	7.550	7.470	7.576	7.470	7.550	7.591	7.621	7.696	7.736									

CH 30.000



	-17.000	-16.500	-15.300	-14.150	-13.550	0.000	3.550	4.150	5.800	7.000	8.500	8.720	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000
DESIGN SURFACE	5.103	7.528	7.498	7.475	7.395	7.501	7.395	7.475	7.516	7.546	7.621	7.676									
NATURAL SURFACE	4.288	4.659	4.702	4.742	4.763	4.839	4.901	4.912	4.940	4.960	4.986	4.989	4.994	5.011	5.028	5.045	5.062	5.079	5.096	5.113	5.130
OFFSET	4.624																				

CH 15.000



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	4.147	4.147	4.147	4.147	4.147	4.147	4.147	4.147	4.147	4.147	4.150	4.155	4.163	4.172	4.181	4.185	4.213	4.492	4.552	4.718	4.839	4.989	4.990	5.039	5.140	5.253	5.395	5.537	5.679	5.822	5.964	6.106
										4.147	7.614	7.778	7.828	7.798	7.775	7.695	7.801	7.695	7.775	7.816	7.846	7.921	7.919									

CH 75.000

	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.500	-8.122	-7.500	-6.500	-5.300	-4.150	-3.550	0.000	3.550	4.150	5.800	7.000	8.500	8.511	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000
	4.289	4.228	4.166	4.105	4.043	3.982	3.920	3.859	3.797	3.767	3.767	3.786	3.817	3.879	3.957	4.032	4.071	4.302	4.534	4.573	4.715	4.856	5.031	5.032	5.089	5.206	5.332	5.459	5.586	5.713	5.840	5.967	6.094
											7.547	7.703	7.753	7.723	7.700	7.620	7.726	7.620	7.700	7.741	7.771	7.846	7.849										

CH 60.000

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
5	SWALE AMENDMENTS	DB	AS	31.10.22
4	NPWS BDY ADDED	DB	AS	04.08.22
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale
0 2 4 6 8m
1:100 (A1) 1:200 (A3)

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Designed: A.M
Cad Reference: 19259C dC519 r5
Scale: 1:100
A1 SHEET
Project Approval: IAN HILL (B.E) Consulting Civil Engineer

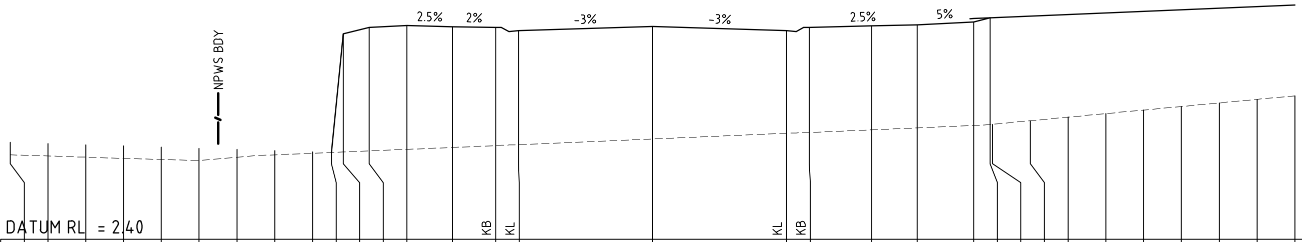
Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION 1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
ROAD 6 CROSS SECTIONS (1 OF 7)

Project No: 19259C
Drawing No: C519
Revision: 5

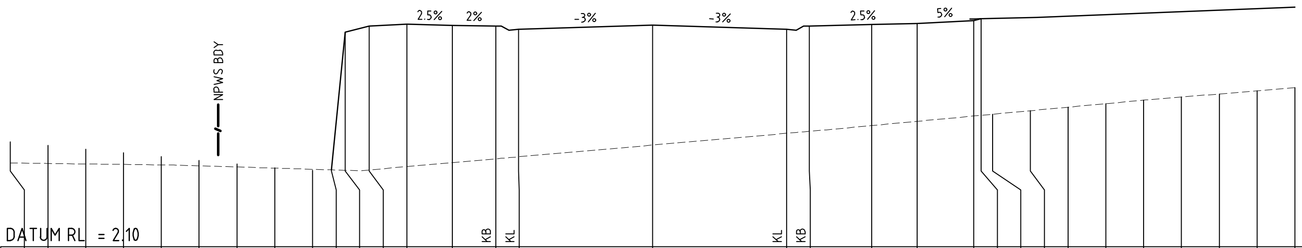
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DATUM RL = 2.40

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4.963	4.931	4.900	4.868	4.837	4.805	4.774	4.742	4.711	4.695	4.708	4.737	4.779	4.829	4.877	4.902	5.051	5.200	5.225	5.295	5.345	5.408	5.434	5.441	5.535	5.629	5.723	5.817	5.911	6.005	6.099	6.194
-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.500	-8.186	-7.500	-6.500	-5.300	-4.150	-3.550	0.000	3.550	4.150	5.800	7.000	8.500	8.933	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000

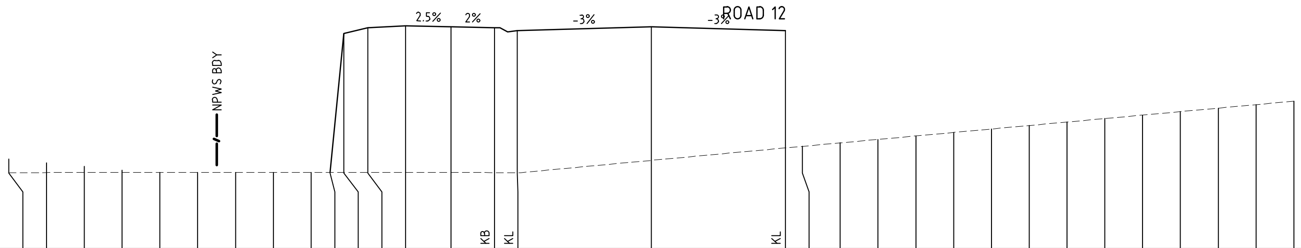
CH 120.000



DATUM RL = 2.10

									4.132	7.769	7.928	7.978	7.948	7.925	7.845	7.951	7.845	7.925	7.966	7.996	8.071	8.120									
4.873	4.775	4.678	4.580	4.482	4.384	4.287	4.189	4.119	4.132	4.121	4.130	4.217	4.322	4.423	4.475	4.785	5.096	5.148	5.300	5.412	5.553	5.571	5.600	5.693	5.787	5.879	5.971	6.053	6.135	6.217	6.299
-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.500	-8.136	-7.500	-6.500	-5.300	-4.150	-3.550	0.000	3.550	4.150	5.800	7.000	8.500	8.697	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000

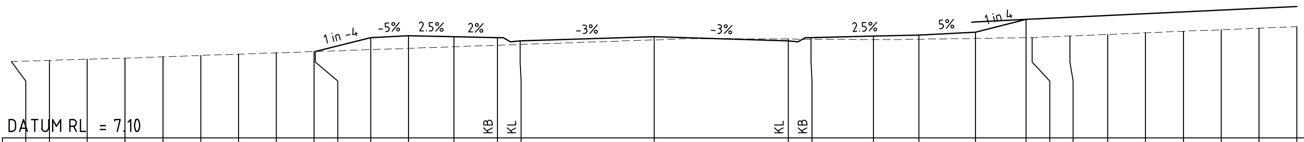
CH 105.000



DATUM RL = 2.00

DESIGN SURFACE										4.013	7.695	7.853	7.903	7.873	7.850	7.770	7.876	7.770														
NATURAL SURFACE	4.369	4.272	4.174	4.076	4.013	4.013	4.013	4.013	4.013	4.013	4.013	4.012	4.012	4.012	4.011	4.011	4.334	4.665	4.707	4.799	4.891	4.983	5.075	5.167	5.259	5.351	5.443	5.535	5.627	5.719	5.811	5.903
OFFSET	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.500	-8.132	-7.500	-6.500	-5.300	-4.150	-3.550	0.000	3.550	4.000	5.000	6.000	7.000	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000

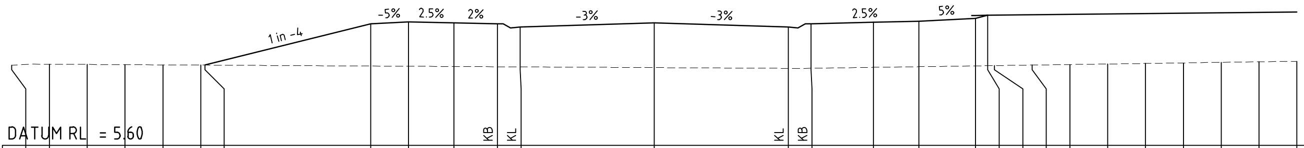
CH 90.000



DATUM RL = 7.10

									9.377	9.744	9.794	9.764	9.741	9.661	9.767	9.661	9.741	9.782	9.812	9.887	10.221								
9.114	9.144	9.174	9.205	9.239	9.273	9.308	9.342	9.376	9.377	9.428	9.462	9.503	9.542	9.563	9.685	9.705	9.702	9.693	9.702	9.723	9.743	9.746	9.787	9.828	9.870	9.911	9.952	9.993	10.034
-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.966	-7.500	-6.500	-5.300	-4.150	-3.550	0.000	3.550	4.150	5.800	7.000	8.500	9.836	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000

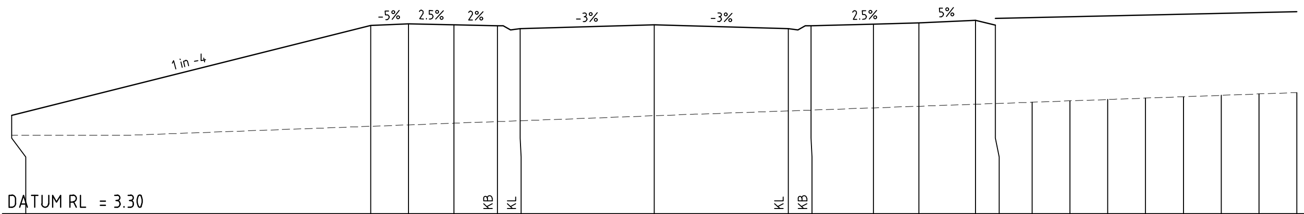
CH 180.000



DATUM RL = 5.60

						7.727	8.825	8.875	8.845	8.822	8.742	8.849	8.742	8.822	8.863	8.893	8.968	9.049									
7.723	7.750	7.745	7.739	7.734	7.728	7.727	7.703	7.697	7.690	7.684	7.681	7.661	7.641	7.644	7.668	7.685	7.706	7.711	7.714	7.728	7.742	7.757	7.771	7.785	7.800	7.814	7.828
-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.891	-7.500	-6.500	-5.300	-4.150	-3.550	0.000	3.550	4.150	5.800	7.000	8.500	8.824	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000

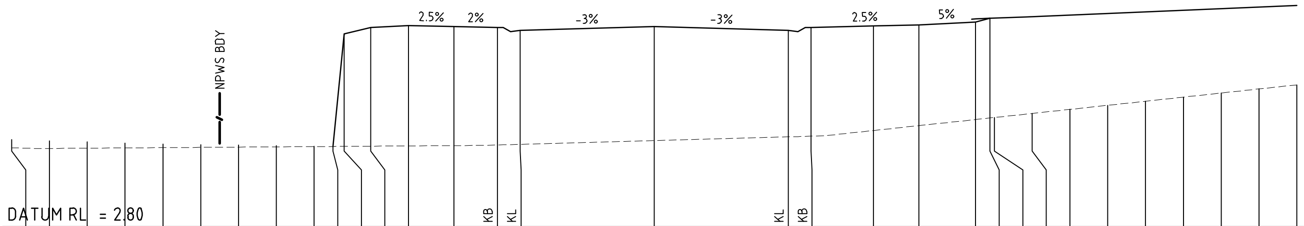
CH 165.000



DATUM RL = 3.30

5.897	8.272	8.322	8.292	8.269	8.189	8.296	8.189	8.269	8.310	8.340	8.415	8.284								
5.369	5.609	5.646	5.691	5.733	5.756	5.887	6.016	6.037	6.096	6.139	6.192	6.211	6.246	6.281	6.317	6.354	6.391	6.427	6.464	6.501
-17.000	-7.500	-6.500	-5.300	-4.150	-3.550	0.000	3.550	4.150	5.800	7.000	8.500	9.026	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000

CH 150.000



DATUM RL = 2.80

									4.921	7.902	8.078	8.128	8.098	8.075	7.995	8.101	7.995	8.075	8.116	8.146	8.221	8.317									
5.105	5.073	5.042	5.010	4.986	4.972	4.957	4.943	4.928	4.921	4.923	4.928	4.935	4.944	4.960	4.976	5.076	5.176	5.193	5.344	5.473	5.634	5.676	5.688	5.796	5.903	6.011	6.120	6.228	6.337	6.445	6.554
-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.500	-8.202	-7.500	-6.500	-5.300	-4.150	-3.550	0.000	3.550	4.150	5.800	7.000	8.500	8.883	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000

CH 135.000

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
5	SWALE AMENDMENTS	DB	AS	31.10.22
4	NPWS BDY ADDED	DB	AS	04.08.22
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale
0 2 4 6 8m
1:100 (A1) 1:200 (A3)

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Designed: A.M
Cad Reference: 19259C dC520 r5
Scale: 1:100
A1 SHEET
Project Approval: IAN HILL (B.E) Consulting Civil Engineer

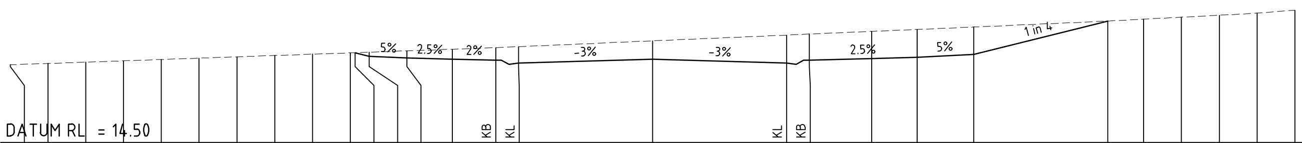
Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
ROAD 6 CROSS SECTIONS (2 OF 7)

Project No: 19259C
Drawing No: C520
Revision: 5

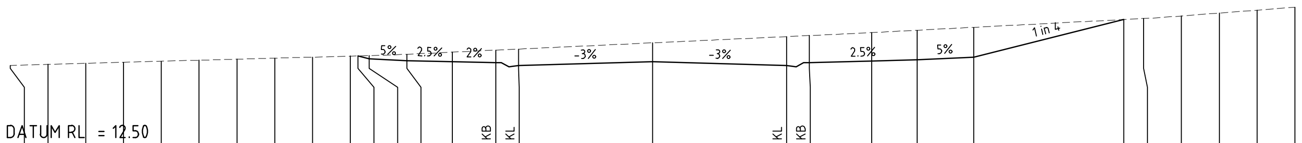
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DATUM RL = 14.50

OFFSET		DESIGN SURFACE	NATURAL SURFACE
-17.000			16.550
-16.000			16.584
-15.000			16.620
-14.000			16.655
-13.000			16.690
-12.000			16.725
-11.000			16.760
-10.000			16.795
-9.000			16.830
-8.000			16.866
-7.870		16.870	16.870
-7.500		16.778	16.883
-6.500		16.728	16.918
-5.300		16.698	16.961
-4.150	KB	16.675	17.004
-3.550	KL	16.595	17.030
0.000		16.701	17.183
3.550	KL	16.595	17.336
4.150	KB	16.675	17.362
5.800		16.716	17.433
7.000		16.746	17.485
8.500		16.821	17.550
12.047		17.708	17.708
13.000			17.757
14.000			17.809
15.000			17.860
16.000			17.918
17.000			17.995

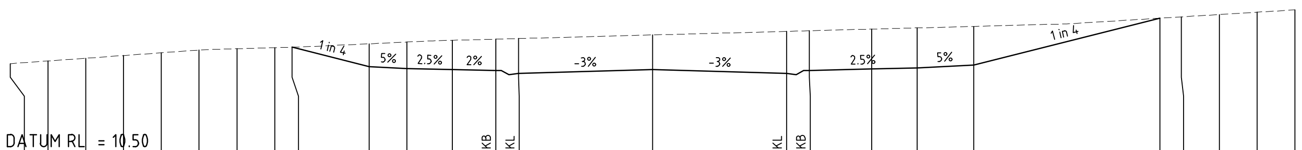
CH 240.000



DATUM RL = 12.50

OFFSET		DESIGN SURFACE	NATURAL SURFACE
-17.000			14.577
-16.000			14.604
-15.000			14.631
-14.000			14.658
-13.000			14.686
-12.000			14.713
-11.000			14.740
-10.000			14.768
-9.000			14.795
-8.000			14.822
-7.800		14.828	14.828
-7.500		14.753	14.836
-6.500		14.703	14.871
-5.300		14.673	14.927
-4.150	KB	14.650	14.980
-3.550	KL	14.570	15.008
0.000		14.676	15.172
3.550	KL	14.570	15.337
4.150	KB	14.650	15.365
5.800		14.691	15.444
7.000		14.721	15.506
8.500		14.796	15.584
12.471		15.789	15.789
13.000			15.816
14.000			15.884
15.000			15.960
16.000			16.037
17.000			16.113

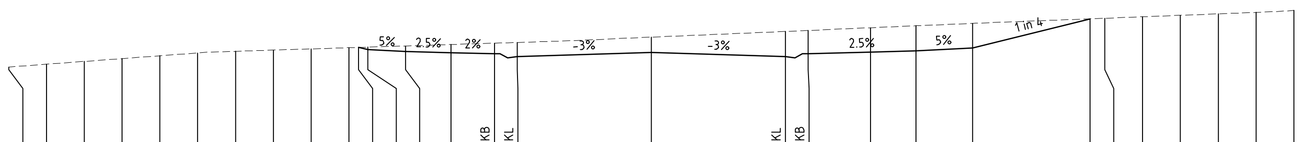
CH 225.000



DATUM RL = 10.50

OFFSET		DESIGN SURFACE	NATURAL SURFACE
-17.000			12.855
-16.000			12.926
-15.000			12.998
-14.000			13.070
-13.000			13.142
-12.000			13.214
-11.000			13.249
-10.000			13.277
-9.544		13.289	13.289
-7.500		12.778	13.379
-6.500		12.728	13.425
-5.300		12.698	13.471
-4.150	KB	12.675	13.502
-3.550	KL	12.595	13.518
0.000		12.702	13.612
3.550	KL	12.595	13.706
4.150	KB	12.675	13.722
5.800		12.716	13.766
7.000		12.746	13.798
8.500		12.821	13.838
13.432		14.055	14.055
14.000			14.089
15.000			14.150
16.000			14.212
17.000			14.273

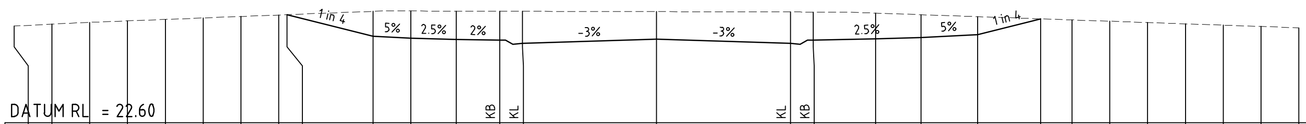
CH 210.000



DATUM RL = 8.60

OFFSET		DESIGN SURFACE	NATURAL SURFACE
-17.000			10.669
-16.000			10.744
-15.000			10.818
-14.000			10.892
-13.000			10.967
-12.000			11.041
-11.000			11.087
-10.000			11.118
-9.000			11.150
-8.000			11.181
-7.744		11.189	11.189
-7.500		11.128	11.197
-6.500		11.078	11.228
-5.300		11.048	11.266
-4.150	KB	11.025	11.302
-3.550	KL	10.945	11.321
0.000		11.052	11.461
3.550	KL	10.945	11.614
4.150	KB	11.025	11.640
5.800		11.066	11.711
7.000		11.096	11.763
8.500		11.171	11.827
11.607		11.948	11.948
12.000			11.963
13.000			12.002
14.000			12.041
15.000			12.080
16.000			12.119
17.000			12.170

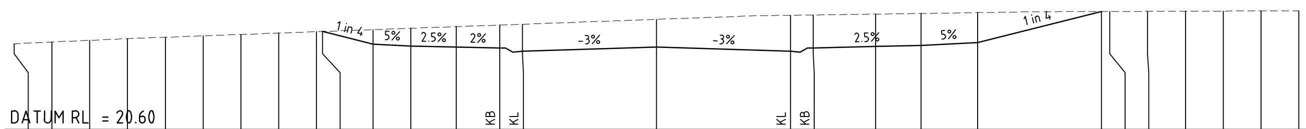
CH 195.000



DATUM RL = 22.60

OFFSET		DESIGN SURFACE	NATURAL SURFACE
-17.000			25.149
-16.000			25.199
-15.000			25.246
-14.000			25.285
-13.000			25.323
-12.000			25.362
-11.000			25.401
-10.000			25.440
-9.782		25.448	25.448
-7.500		24.878	25.537
-6.500		24.828	25.545
-5.300		24.798	25.542
-4.150	KB	24.775	25.539
-3.550	KL	24.695	25.538
0.000		24.801	25.529
3.550	KL	24.695	25.520
4.150	KB	24.775	25.518
5.800		24.816	25.489
7.000		24.846	25.448
8.500		24.921	25.396
10.171		25.339	25.339
11.000			25.310
12.000			25.276
13.000			25.241
14.000			25.207
15.000			25.172
16.000			25.138
17.000			25.104

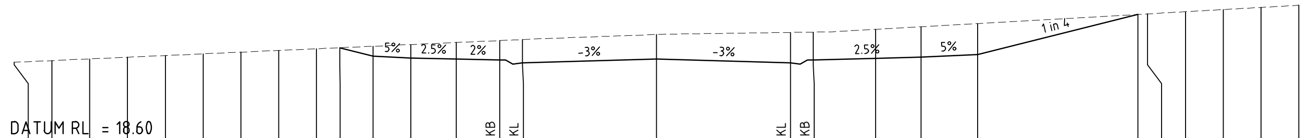
CH 300.000



DATUM RL = 20.60

OFFSET		DESIGN SURFACE	NATURAL SURFACE
-17.000			22.865
-16.000			22.909
-15.000			22.954
-14.000			22.999
-13.000			23.037
-12.000			23.073
-11.000			23.109
-10.000			23.146
-9.000			23.182
-8.840		23.188	23.188
-7.500		22.853	23.236
-6.500		22.803	23.273
-5.300		22.773	23.316
-4.150	KB	22.750	23.358
-3.550	KL	22.670	23.380
0.000		22.776	23.509
3.550	KL	22.670	23.617
4.150	KB	22.750	23.626
5.800		22.791	23.649
7.000		22.821	23.666
8.500		22.896	23.687
11.780		23.716	23.716
12.000			23.717
13.000			23.720
14.000			23.724
15.000			23.728
16.000			23.732
17.000			23.735

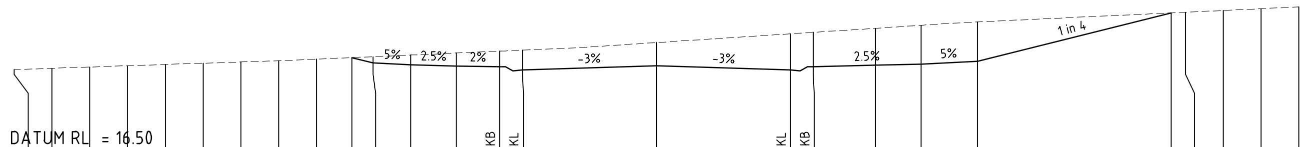
CH 285.000



DATUM RL = 18.60

OFFSET		DESIGN SURFACE	NATURAL SURFACE
-17.000			20.662
-16.000			20.707
-15.000			20.752
-14.000			20.796
-13.000			20.841
-12.000			20.886
-11.000			20.931
-10.000			20.976
-9.000			21.021
-8.382		21.048	21.048
-7.500		20.828	21.088
-6.500		20.778	21.133
-5.300		20.748	21.186
-4.150	KB	20.725	21.238
-3.550	KL	20.645	21.265
0.000		20.751	21.399
3.550	KL	20.645	21.455
4.150	KB	20.725	21.463
5.800		20.766	21.536
7.000		20.796	21.605
8.500		20.871	21.690
12.745		21.932	21.932
13.000			21.947
14.000			22.004
15.000			22.061
16.000			22.118
17.000			22.175

CH 270.000



DATUM RL = 16.50

OFFSET		DESIGN SURFACE	NATURAL SURFACE
-17.000			18.627
-16.000			18.661
-15.000			18.694
-14.000			18.728
-13.000			18.761
-12.000			18.795
-11.000			18.829
-10.000			18.862
-9.000			18.901
-8.059		18.942	18.942
-7.500		18.803	18.967
-6.500		18.753	19.011
-5.300		18.723	19.063
-4.150	KB	18.700	19.114
-3.550	KL	18.620	19.140
0.000		18.726	19.341
3.550	KL	18.620	19.573
4.150	KB	18.700	19.612
5.800		18.741	19.720
7.000		18.771	19.798
8.500		18.846	19.887
13.619		20.126	20.126
14.000			20.143
15.000			20.190
16.000			20.236
17.000			20.283

CH 255.000

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
5	SWALE AMENDMENTS	DB	AS	31.10.22
3	NOT ISSUED			
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale
0 2 4 6 8m
1:100 (A1) 1:200 (A3)

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Designed: A.M
Cad Reference: 19259C dC521 r5
Scale: 1:100
A1 SHEET
Project Approval: IAN HILL (B.E) Consulting Civil Engineer

Client

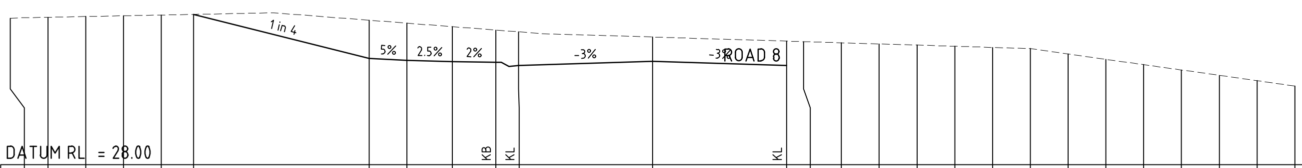
GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
ROAD 6 CROSS SECTIONS (3 OF 7)

Project No: 19259C
Drawing No: C521
Revision: 5

PLOT DATE: 1/11/2022 10:57:56 AM
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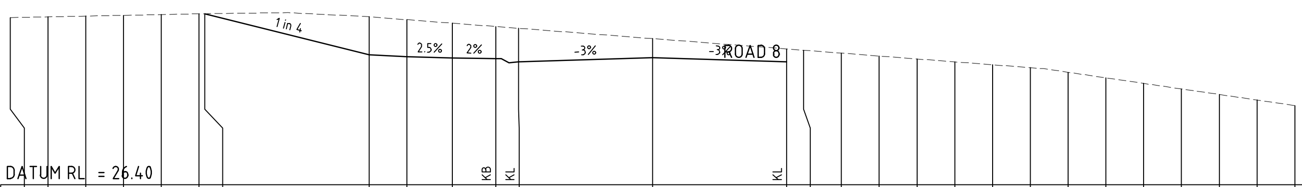
DATUM RL = 28.00



OFFSET	NATURAL SURFACE	DESIGN SURFACE
-17.000	31.858	
-16.000	31.888	
-15.000	31.908	
-14.000	31.928	
-13.000	31.947	
-12.152	31.964	31.964
-7.500	31.811	30.801
-6.500	31.733	30.751
-5.300	31.640	30.721
-4.150	31.551	30.698
-3.550	31.504	30.618
0.000	31.367	30.725
3.550	31.259	30.618
4.000	31.246	
5.000	31.215	
6.000	31.185	
7.000	31.154	
8.000	31.124	
9.000	31.093	
10.000	31.061	
11.000	30.920	
12.000	30.779	
13.000	30.639	
14.000	30.498	
15.000	30.357	
16.000	30.216	
17.000	30.075	

CH 360.000

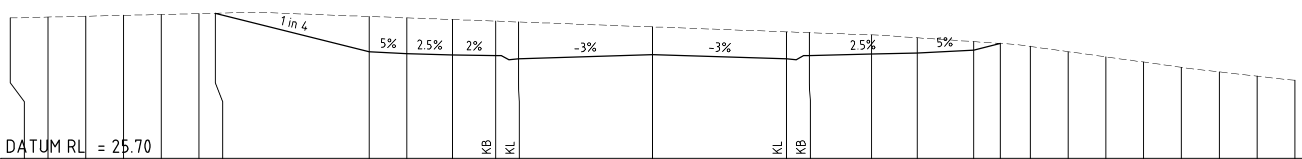
DATUM RL = 26.40



OFFSET	NATURAL SURFACE	DESIGN SURFACE
-17.000	30.823	
-16.000	30.843	
-15.000	30.863	
-14.000	30.883	
-13.000	30.903	
-12.000	30.923	
-11.855	30.926	30.926
-7.500	30.845	29.837
-6.500	30.768	29.787
-5.300	30.676	29.757
-4.150	30.587	29.734
-3.550	30.541	29.654
0.000	30.268	29.761
3.550	29.995	29.654
4.000	29.961	
5.000	29.884	
6.000	29.807	
7.000	29.730	
8.000	29.653	
9.000	29.576	
10.000	29.500	
11.000	29.377	
12.000	29.231	
13.000	29.084	
14.000	28.937	
15.000	28.790	
16.000	28.643	
17.000	28.496	

CH 345.000

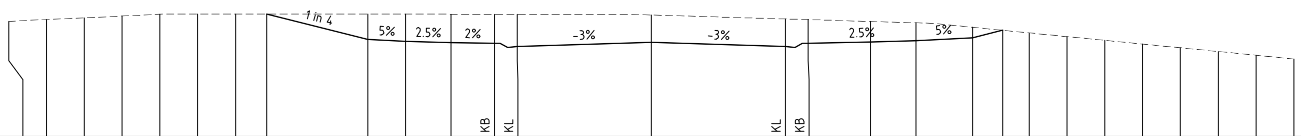
DATUM RL = 25.70



OFFSET	NATURAL SURFACE	DESIGN SURFACE
-17.000	29.417	
-16.000	29.440	
-15.000	29.463	
-14.000	29.486	
-13.000	29.508	
-12.000	29.531	
-11.575	29.541	29.541
-7.500	29.456	28.522
-6.500	29.420	28.472
-5.300	29.376	28.442
-4.150	29.333	28.419
-3.550	29.311	28.339
0.000	29.181	28.446
3.550	29.051	28.339
4.150	29.029	28.419
5.800	28.968	28.460
7.000	28.894	28.490
8.500	28.791	28.565
9.207	28.742	28.742
10.000	28.664	
11.000	28.526	
12.000	28.388	
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14.000	28.112	
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16.000	27.879	
17.000	27.766	

CH 330.000

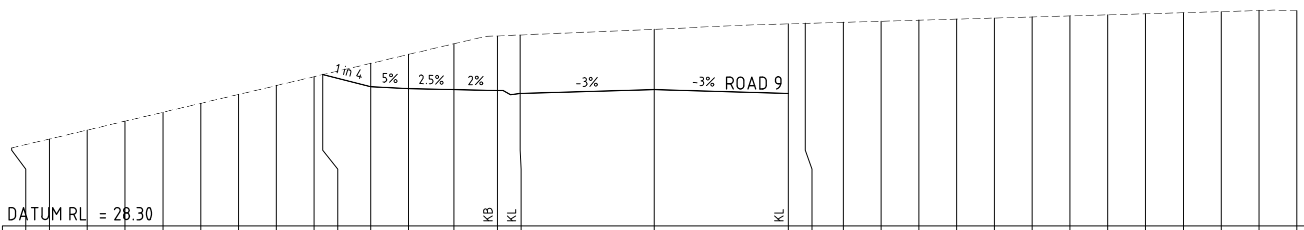
DATUM RL = 24.30



OFFSET	NATURAL SURFACE	DESIGN SURFACE
-17.000	27.335	
-16.000	27.381	
-15.000	27.427	
-14.000	27.474	
-13.000	27.520	
-12.000	27.526	
-11.000	27.526	
-10.179	27.525	27.525
-7.500	27.523	26.855
-6.500	27.523	26.805
-5.300	27.522	26.775
-4.150	27.521	26.752
-3.550	27.520	26.672
0.000	27.500	26.779
3.550	27.397	26.672
4.150	27.379	26.752
5.800	27.331	26.794
7.000	27.296	26.824
8.500	27.177	26.899
9.299	27.098	27.098
10.000	27.030	
11.000	26.932	
12.000	26.833	
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CH 315.000

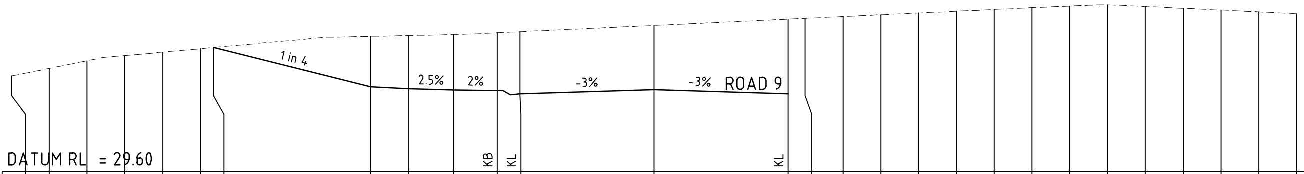
DATUM RL = 28.30



OFFSET	NATURAL SURFACE	DESIGN SURFACE
-17.000	30.364	
-16.000	30.598	
-15.000	30.833	
-14.000	31.068	
-13.000	31.303	
-12.000	31.538	
-11.000	31.773	
-10.000	32.008	
-9.000	32.243	
-8.769	32.297	32.297
-7.500	32.595	31.980
-6.500	32.830	31.930
-5.300	33.112	31.900
-4.150	33.318	31.877
-3.550	33.344	31.797
0.000	33.496	31.903
3.550	33.638	31.797
4.000	33.651	
5.000	33.679	
6.000	33.707	
7.000	33.736	
8.000	33.764	
9.000	33.792	
10.000	33.820	
11.000	33.848	
12.000	33.877	
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CH 420.000

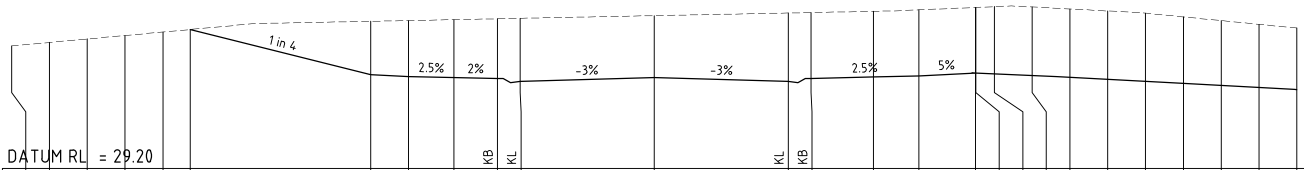
DATUM RL = 29.60



OFFSET	NATURAL SURFACE	DESIGN SURFACE
-17.000	32.118	
-16.000	32.320	
-15.000	32.521	
-14.000	32.657	
-13.000	32.748	
-12.000	32.839	
-11.661	32.870	32.870
-7.500	33.166	31.830
-6.500	33.187	31.780
-5.300	33.212	31.750
-4.150	33.260	31.727
-3.550	33.288	31.647
0.000	33.455	31.753
3.550	33.621	31.647
4.000	33.643	
5.000	33.690	
6.000	33.737	
7.000	33.784	
8.000	33.831	
9.000	33.877	
10.000	33.924	
11.000	33.967	
12.000	33.996	
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15.000	33.861	
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CH 405.000

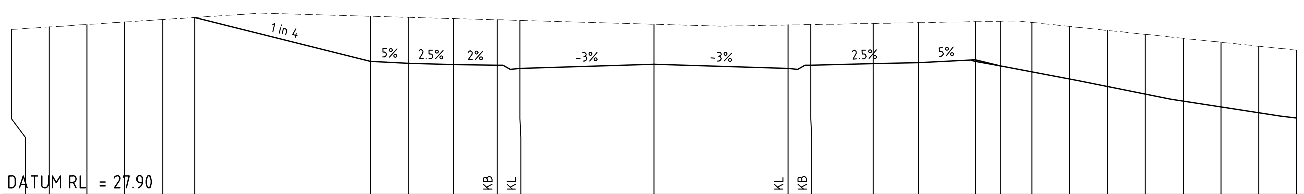
DATUM RL = 29.20



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-15.000	32.622	
-14.000	32.714	
-13.000	32.806	
-12.273	32.873	32.873
-7.500	33.090	31.680
-6.500	33.110	31.630
-5.300	33.134	31.600
-4.150	33.157	31.577
-3.550	33.169	31.497
0.000	33.239	31.603
3.550	33.310	31.497
4.150	33.321	31.577
5.800	33.354	31.618
7.000	33.393	31.648
8.500	33.457	31.723
8.505	33.457	31.724
9.000	33.478	
10.000	33.468	
11.000	33.416	
12.000	33.363	
13.000	33.305	
14.000	33.206	
15.000	33.108	
16.000	33.009	
17.000	32.910	

CH 390.000

DATUM RL = 27.90



OFFSET	NATURAL SURFACE	DESIGN SURFACE
-17.000	32.259	
-16.000	32.324	
-15.000	32.390	
-14.000	32.455	
-13.000	32.521	
-12.151	32.576	32.576
-7.500	32.609	31.413
-6.500	32.581	31.363
-5.300	32.547	31.333
-4.150	32.515	31.310
-3.550	32.498	31.230
0.000	32.398	31.337
3.550	32.377	31.230
4.150	32.387	31.310
5.800	32.416	31.352
7.000	32.437	31.382
8.500	32.464	31.457
9.158	32.475	31.292
10.000	32.442	
11.000	32.338	
12.000	32.233	
13.000	32.129	
14.000	32.024	
15.000	31.920	
16.000	31.815	
17.000	31.711	

CH 375.000

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
5	SWALE AMENDMENTS	DB	AS	31.10.22
4	NOT ISSUED			
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale
0 2 4 6 8m
1:100 (A1) 1:200 (A3)

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Designed: A.M
Cad Reference: 19259C dC522 r5
Scale: 1:100
A1 SHEET
Project Approval: IAN HILL (B.E) Consulting Civil Engineer

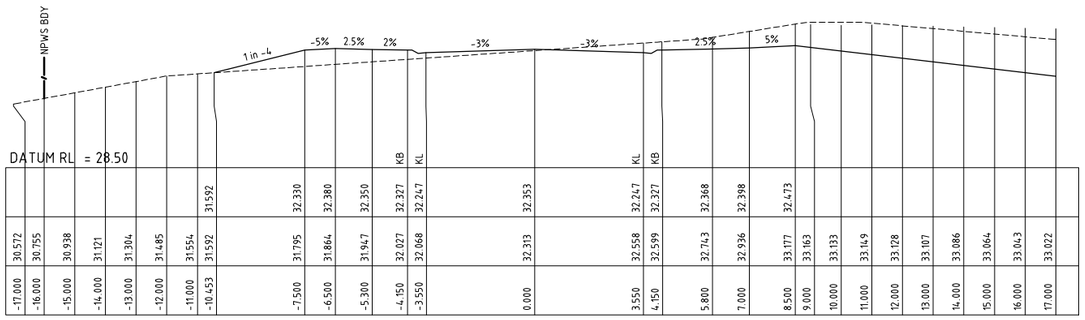
Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
ROAD 6 CROSS SECTIONS (4 OF 7)

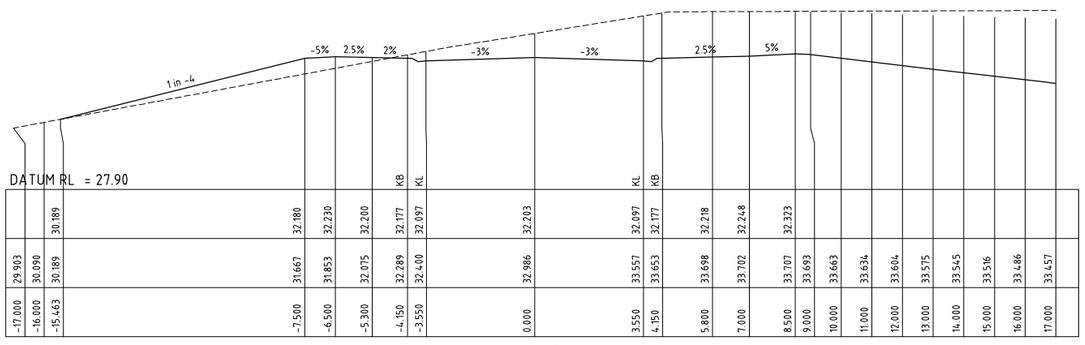
Project No: 19259C
Drawing No: C522
Revision: 5

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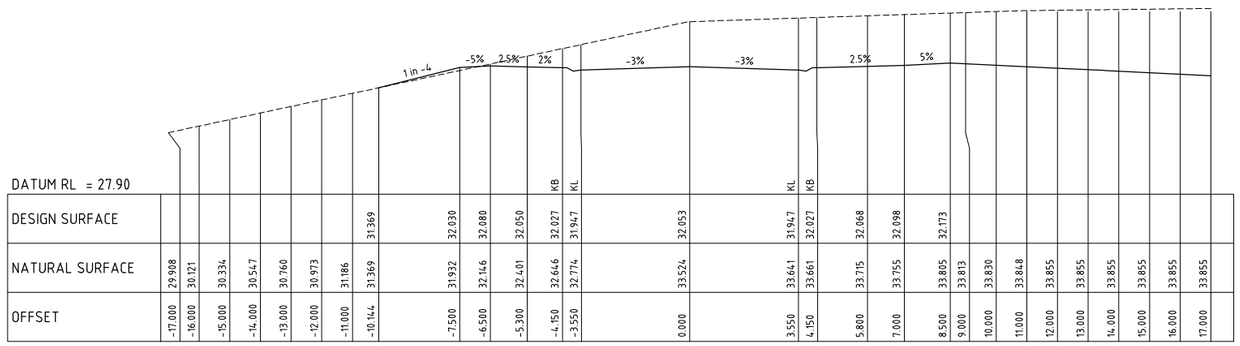
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								31.592	32.330	32.380	32.350	32.327	32.247	32.353	32.247	32.327	32.368	32.398	32.473									
	30.572	30.755	30.938	31.121	31.304	31.485	31.554	31.592	31.795	31.864	31.947	32.027	32.068	32.313	32.558	32.599	32.743	32.936	33.177	33.163	33.133	33.149	33.128	33.107	33.086	33.064	33.043	33.022

CH 465.000



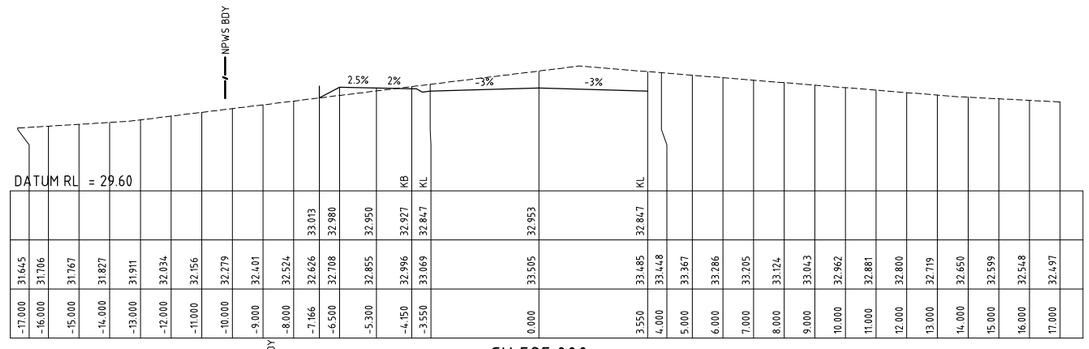
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				32.180	32.230	32.200	32.177	32.097	32.203	32.097	32.177	32.218	32.248	32.323									
	29.903	30.090	30.189	31.667	31.853	32.075	32.289	32.400	32.986	33.557	33.653	33.698	33.702	33.707	33.693	33.663	33.634	33.604	33.575	33.545	33.516	33.486	33.457

CH 450.000



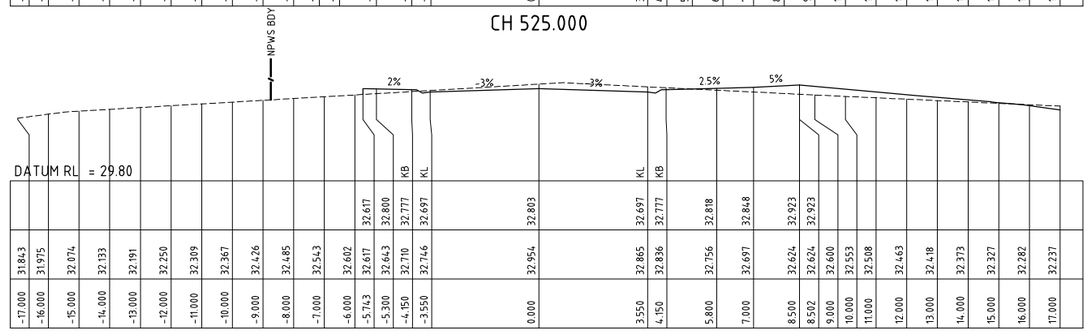
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DESIGN SURFACE								31.369	32.030	32.080	32.050	32.027	31.947	32.053	31.947	32.027	32.068	32.098	32.173									
NATURAL SURFACE	29.908	30.121	30.334	30.547	30.760	30.973	31.186	31.369	31.932	32.146	32.401	32.646	32.774	33.524	33.641	33.661	33.715	33.755	33.805	33.813	33.830	33.848	33.855	33.855	33.855	33.855	33.855	33.855
OFFSET	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.144	-7.500	-6.500	-5.300	-4.150	-3.550	0.000	3.550	4.150	5.800	7.000	8.500	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000

CH 435.000



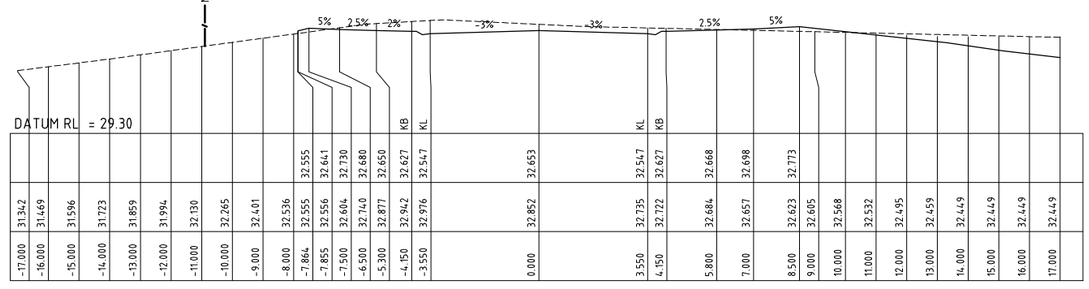
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											33.013	32.980	32.950	32.927	32.847	32.953	32.847														
	31.645	31.706	31.767	31.827	31.911	32.034	32.156	32.279	32.401	32.524	32.626	32.708	32.855	32.996	33.069	33.505	33.485	33.448	33.367	33.286	33.205	33.124	33.043	32.962	32.881	32.800	32.719	32.650	32.599	32.548	32.497

CH 525.000



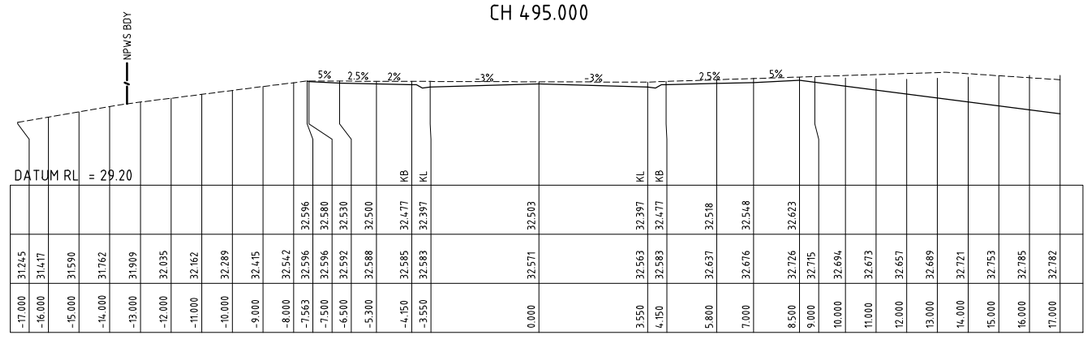
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													32.617	32.800	32.777	32.697	32.803	32.697	32.777	32.818	32.848	32.923	32.923								
	31.843	31.975	32.074	32.133	32.191	32.250	32.309	32.367	32.426	32.485	32.543	32.602	32.617	32.643	32.710	32.746	32.954	32.865	32.836	32.756	32.697	32.624	32.624	32.600	32.553	32.508	32.463	32.418	32.373	32.327	32.282	32.237

CH 510.000



	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.000	-7.864	-7.855	-7.500	-6.500	-5.300	-4.150	-3.550	0.000	3.550	4.150	5.800	7.000	8.500	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000
											32.555	32.556	32.604	32.740	32.877	32.942	32.976	32.852	32.735	32.722	32.684	32.657	32.623	32.605	32.568	32.532	32.495	32.459	32.449	32.449	32.449	32.449
	31.342	31.469	31.596	31.723	31.859	31.994	32.130	32.265	32.401	32.536	32.555	32.641	32.730	32.680	32.650	32.627	32.547	32.653	32.547	32.627	32.668	32.698	32.773									

CH 495.000



	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.000	-7.563	-7.500	-6.500	-5.300	-4.150	-3.550	0.000	3.550	4.150	5.800	7.000	8.500	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000
											32.596	32.580	32.530	32.500	32.477	32.397	32.503	32.397	32.477	32.518	32.548	32.623								
	31.245	31.417	31.590	31.762	31.909	32.035	32.162	32.289	32.415	32.542	32.596	32.596	32.592	32.588	32.585	32.583	32.571	32.563	32.583	32.637	32.676	32.726	32.715	32.694	32.673	32.657	32.689	32.721	32.753	32.785	32.782

CH 480.000

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
5	SWALE AMENDMENTS	DB	AS	31.10.22
4	NPWS BDY ADDED	DB	AS	04.08.22
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale
0 2 4 6 8m
1:100 (A1) 1:200 (A3)

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Cad Reference: 19259C dC523 r5
Scale: 1:100
A1 SHEET
Project Approval: IAN HILL (B.E) Consulting Civil Engineer

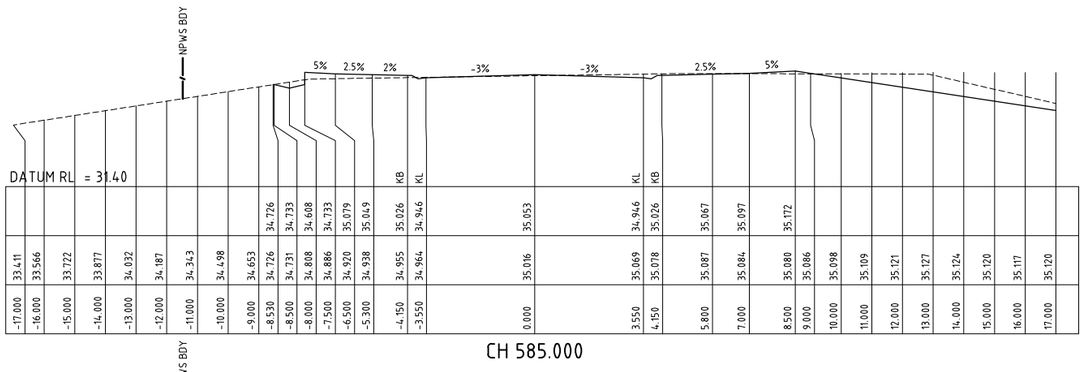
Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION 1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
ROAD 6 CROSS SECTIONS (5 OF 7)

Project No: 19259C
Drawing No: C523
Revision: 5

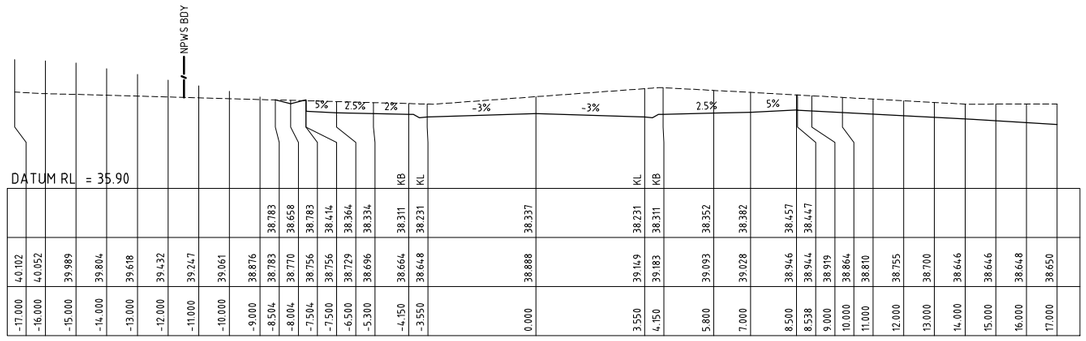
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										34.726	34.733	34.608	34.733	35.079	35.049	35.026	34.946	35.053	34.946	35.026	35.067	35.097	35.172									
	33.411	33.566	33.722	33.877	34.032	34.187	34.343	34.498	34.653	34.726	34.731	34.808	34.886	34.920	34.938	34.955	34.964	35.016	35.069	35.078	35.087	35.084	35.080	35.086	35.098	35.109	35.121	35.127	35.124	35.120	35.117	35.120

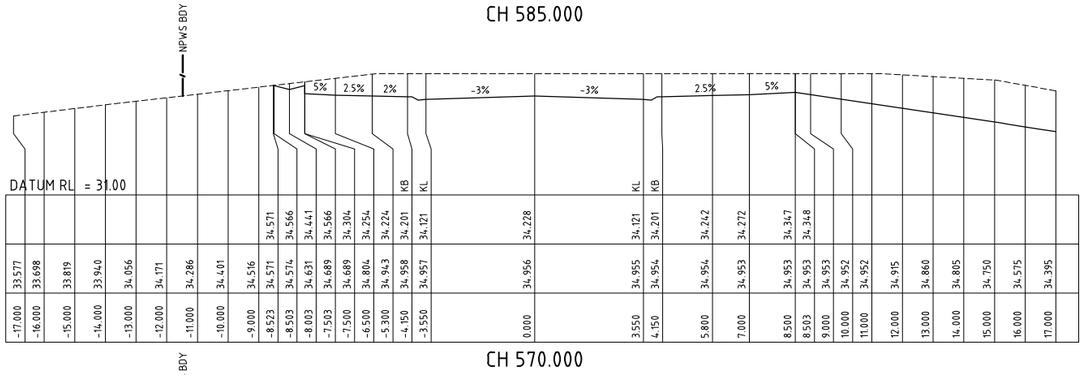
CH 585.000



DATUM RL = 35.90

	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.504	-8.004	-7.504	-7.501	-6.500	-5.300	-4.150	-3.550	0.000	3.550	4.150	5.800	7.000	8.500	8.538	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000
										38.783	38.658	38.783	38.756	38.414	38.364	38.334	38.311	38.231	38.337	38.231	38.311	38.352	38.382	38.657	38.447								
	40.102	40.052	39.989	39.804	39.618	39.432	39.247	39.061	38.876	38.783	38.770	38.756	38.756	38.729	38.696	38.664	38.648	38.888	39.149	39.183	39.093	39.028	38.946	38.944	38.919	38.864	38.810	38.755	38.700	38.646	38.646	38.648	38.650

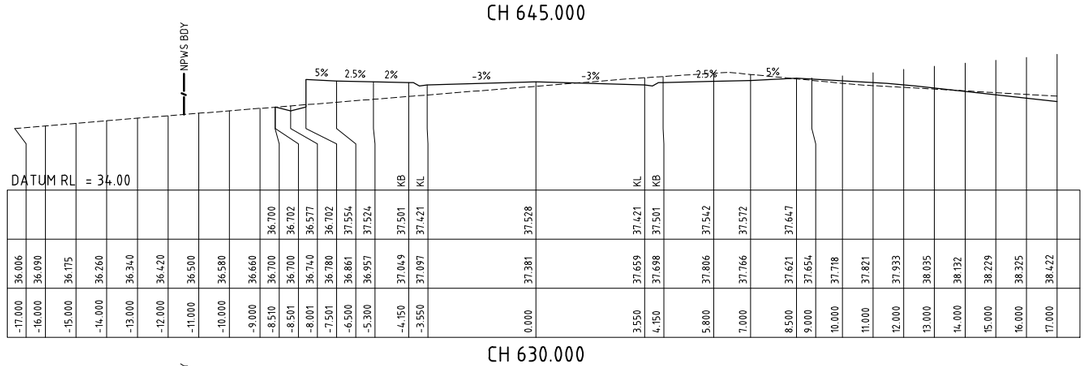
CH 645.000



DATUM RL = 31.00

	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.523	-8.503	-8.003	-7.503	-7.500	-6.500	-5.300	-4.150	-3.550	0.000	3.550	4.150	5.800	7.000	8.500	8.503	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000
										34.571	34.574	34.441	34.566	34.689	34.254	34.224	34.201	34.121	34.228	34.201	34.242	34.272	34.347	34.348										
	33.577	33.698	33.819	33.940	34.056	34.171	34.286	34.401	34.516	34.571	34.574	34.631	34.689	34.689	34.804	34.943	34.958	34.957	34.956	34.955	34.954	34.954	34.953	34.953	34.953	34.953	34.952	34.952	34.915	34.860	34.805	34.750	34.575	34.395

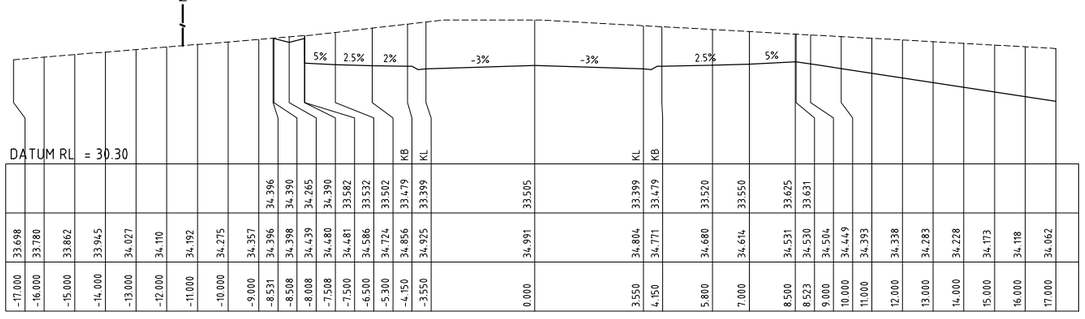
CH 570.000



DATUM RL = 34.00

	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.510	-8.501	-8.001	-7.501	-6.500	-5.300	-4.150	-3.550	0.000	3.550	4.150	5.800	7.000	8.500	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000
										36.700	36.702	36.577	36.702	37.554	37.524	37.501	37.421	37.528	37.421	37.501	37.542	37.572	37.647								
	36.086	36.090	36.175	36.260	36.340	36.420	36.500	36.588	36.660	36.700	36.703	36.740	36.780	36.861	36.957	37.049	37.097	37.381	37.659	37.698	37.806	37.766	37.621	37.654	37.718	37.821	37.933	38.035	38.132	38.229	38.325	38.422

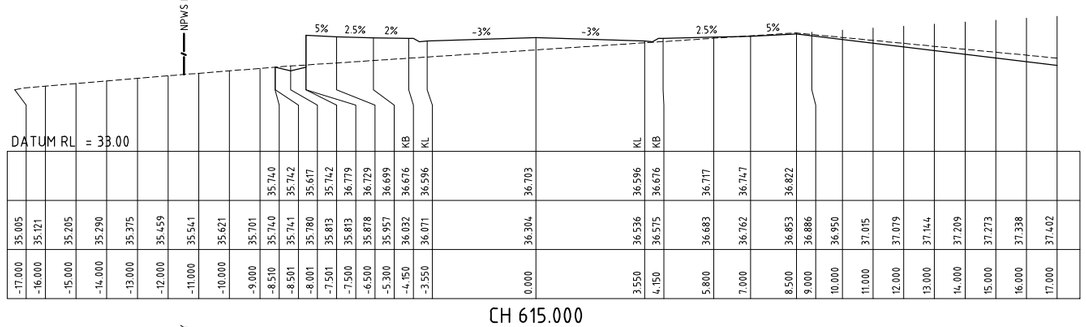
CH 630.000



DATUM RL = 30.30

	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.531	-8.508	-8.008	-7.508	-7.500	-6.500	-5.300	-4.150	-3.550	0.000	3.550	4.150	5.800	7.000	8.500	8.523	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000
										34.396	34.398	34.265	34.390	34.481	33.582	33.532	33.502	33.479	33.505	33.399	33.479	33.520	33.550	33.625	33.631									
	33.698	33.780	33.862	33.945	34.027	34.110	34.192	34.275	34.357	34.396	34.398	34.439	34.480	34.481	34.586	34.724	34.856	34.925	34.991	34.804	34.771	34.680	34.614	34.531	34.530	34.504	34.449	34.393	34.338	34.283	34.228	34.173	34.118	34.062

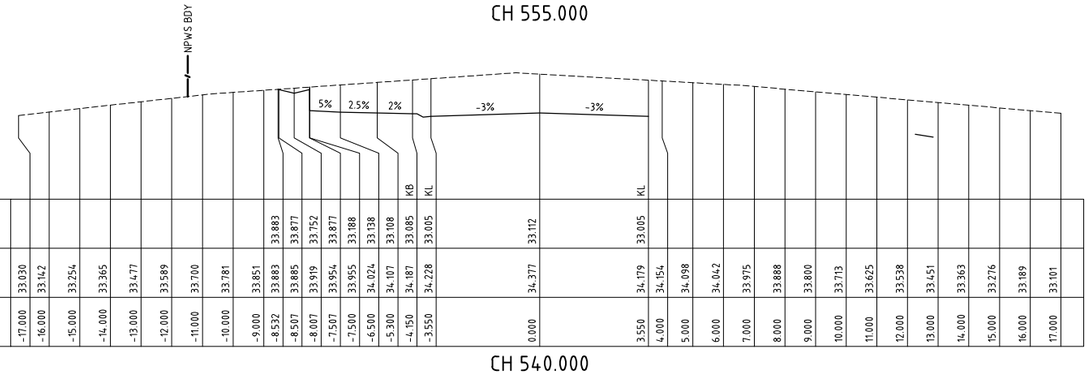
CH 555.000



DATUM RL = 33.00

	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.510	-8.501	-8.001	-7.501	-7.500	-6.500	-5.300	-4.150	-3.550	0.000	3.550	4.150	5.800	7.000	8.500	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000
										35.740	35.742	35.617	35.742	36.779	36.729	36.699	36.676	36.596	36.703	36.596	36.676	36.717	36.747	36.822								
	35.005	35.121	35.205	35.290	35.375	35.459	35.541	35.621	35.701	35.740	35.741	35.780	35.813	35.813	35.878	35.957	36.032	36.071	36.304	36.536	36.575	36.683	36.762	36.853	36.886	36.950	37.015	37.079	37.144	37.209	37.273	37.338	37.402

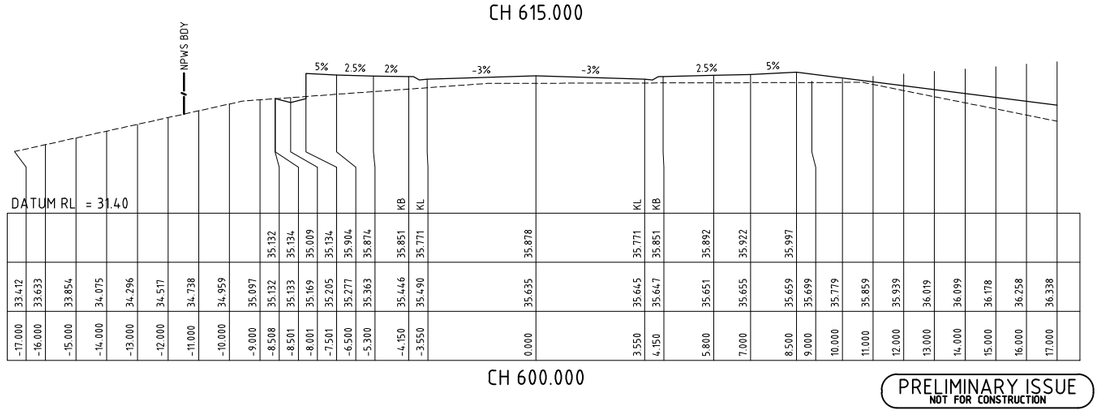
CH 615.000



DATUM RL = 30.30

	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.532	-8.507	-8.007	-7.507	-7.500	-6.500	-5.300	-4.150	-3.550	0.000	3.550	4.000	5.000	6.000	7.000	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000
DESIGN SURFACE										33.883	33.885	33.752	33.877	33.955	33.838	33.138	33.108	33.085	33.112	33.005	34.154	34.098	34.042	33.975	33.888	33.800	33.713	33.625	33.538	33.451	33.363	33.276	33.189	33.101
NATURAL SURFACE	33.030	33.142	33.254	33.365	33.477	33.589	33.700	33.781	33.851	33.883	33.885	33.919	33.954	33.955	34.024	34.107	34.187	34.228	34.377	34.179	34.154	34.098	34.042	33.975	33.888	33.800	33.713	33.625	33.538	33.451	33.363	33.276	33.189	33.101
OFFSET																																		

CH 540.000



DATUM RL = 31.40

	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.508	-8.501	-8.001	-7.501	-6.500	-5.300	-4.150	-3.550	0.000	3.550	4.150	5.800	7.000	8.500	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000
										35.132	35.134	35.009	35.134	35.904	35.874	35.851	35.771	35.878	35.771	35.851	35.892	35.922	35.997								
	33.412	33.633	33.854	34.075	34.296	34.517	34.738	34.959	35.097	35.132	35.133	35.169	35.205	35.277	35.363	35.446	35.490	35.635	35.645	35.647	35.651	35.655	35.659	35.699	35.779	35.859	35.939	36.019	36.099	36.178	36.258	36.338

CH 600.000

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
5	SWALE AMENDMENTS	DB	AS	31.10.22
4	NPWS BDY ADDED	DB	AS	04.08.22
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale
0 2 4 6 8m
1:100 (A1) 1:200 (A3)

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Designed A.M
Cad Reference 19259C dC524 r5
Scale 1:100
A1 SHEET
Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

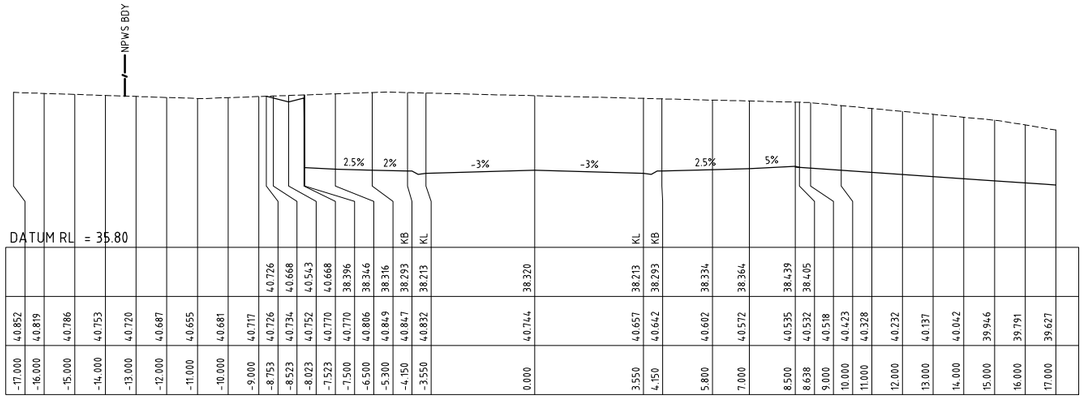
Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
ROAD 6 CROSS SECTIONS (6 OF 7)

Project No 19259C
Drawing No C524
Revision 5

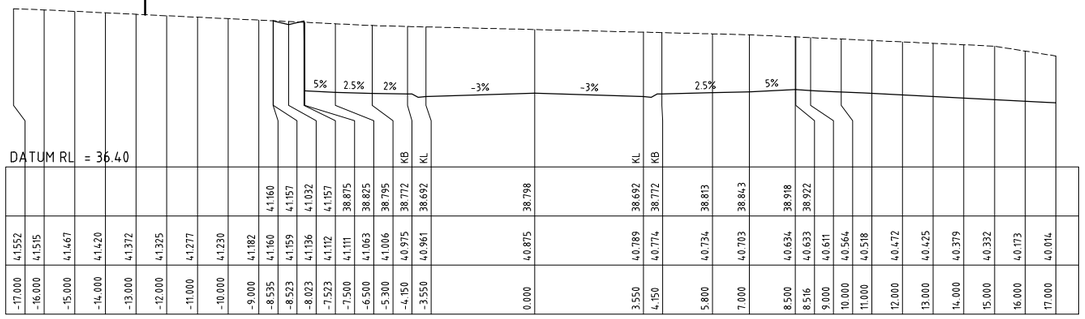
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CAD FILE: Q:\19\19259 1A Flowers Drive, Catherine Hill Bay\02_CAD\AutoCAD\Civil\500 Series - Hamlet B\19259C dC524 r5.dwg



DATUM RL = 35.80

	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.753	-8.523	-8.023	-7.523	-7.500	-6.500	-5.300	-4.150	-3.550	0.000	3.550	4.150	5.800	7.000	8.500	8.638	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000
	40.852	40.819	40.786	40.753	40.720	40.687	40.655	40.681	40.717	40.726	40.734	40.752	40.770	40.770	40.806	40.849	40.847	40.832	40.744	40.657	40.642	40.602	40.572	40.535	40.532	40.518	40.423	40.328	40.232	40.137	40.042	39.946	39.791	39.627
	34.137	34.233	34.361	34.545	34.729	34.912	35.096	35.280	35.464	35.465	35.554	35.646	35.738	35.740	35.924	36.144	36.297	36.276	36.152	34.061	33.955	34.035	34.076	34.106	34.181	34.774								
	34.115	34.210	34.306	34.401	34.496	37.592	37.687	37.782	37.878	37.887	37.922	37.939	37.956	37.957	37.991	38.032	38.043	38.021	35.943	35.837	35.917	35.837	35.958	35.988	36.063	36.026								
	39.966	40.000	40.034	40.069	40.103	40.138	40.172	40.206	40.241	40.250	40.257	40.274	40.291	40.292	40.327	40.368	40.368	40.340	40.002	37.368	37.262	37.342	37.383	37.413	37.488	37.446								

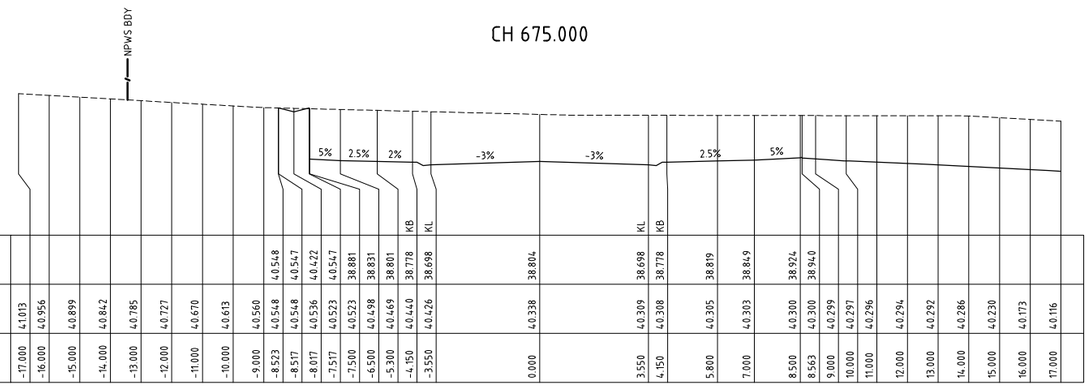
CH 690.000



DATUM RL = 36.40

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	41.552	41.515	41.467	41.420	41.372	41.325	41.277	41.230	41.182	41.160	41.159	41.136	41.112	41.111	41.063	41.006	40.975	40.961	40.875	40.789	40.774	40.734	40.703	40.634	40.633	40.611	40.564	40.518	40.472	40.425	40.379	40.332	40.173	40.014
	41.160	41.157	41.032	41.157	38.875	38.825	38.795	38.772	38.772	38.798	38.692	38.772	38.813	38.843	38.918	38.922																				
	38.692																																	

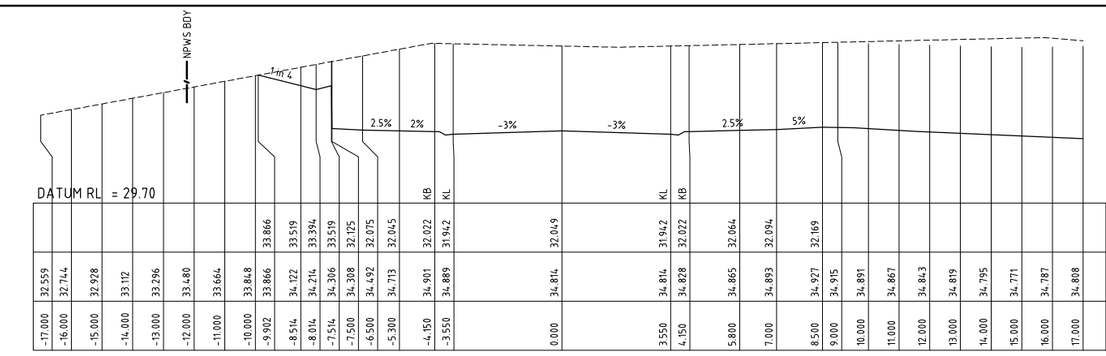
CH 675.000



DATUM RL = 36.40

		-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.523	-8.517	-8.017	-7.517	-7.500	-6.500	-5.300	-4.150	-3.550	0.000	3.550	4.150	5.800	7.000	8.500	8.563	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000
DESIGN SURFACE										40.548	40.547	40.422	40.547																						
NATURAL SURFACE	41.013	40.956	40.899	40.842	40.785	40.727	40.670	40.613	40.560	40.548	40.548	40.536	40.523	40.523	40.498	40.469	40.440	40.426	40.338	40.309	40.308	40.305	40.303	40.300	40.300	40.299	40.297	40.296	40.294	40.292	40.286	40.230	40.173	40.116
OFFSET														38.881	38.831	38.801	38.778	38.698	38.804	38.698	38.778	38.819	38.849	38.924	38.940										

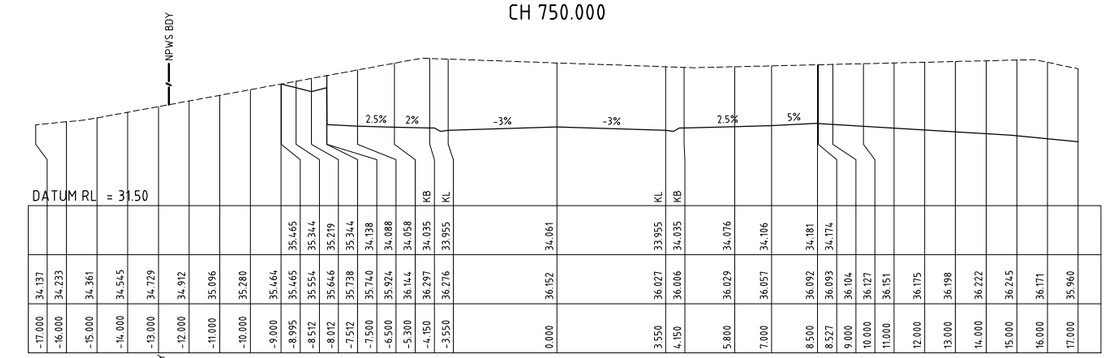
CH 660.000



DATUM RL = 29.70

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	32.559	32.744	32.928	33.112	33.296	33.480	33.664	33.848	33.866	33.519	33.394	33.519	32.125	32.075	32.045	32.022	31.942	32.049	31.942	32.022	32.064	32.094	32.169									
	32.559	32.744	32.928	33.112	33.296	33.480	33.664	33.848	33.866	34.122	34.214	34.306	34.308	34.492	34.713	34.901	34.889	34.814	34.814	34.828	34.865	34.893	34.927	34.915	34.891	34.867	34.843	34.819	34.795	34.771	34.787	34.808

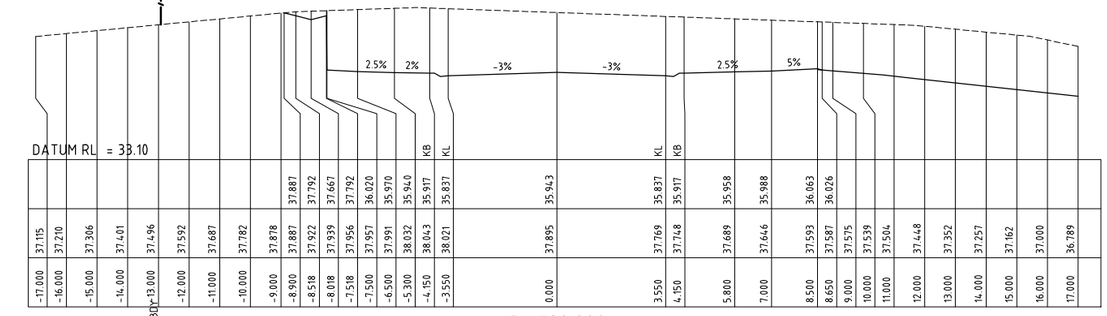
CH 750.000



DATUM RL = 31.50

	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.995	-8.512	-8.012	-7.512	-7.500	-6.500	-5.300	-4.150	-3.550	0.000	3.550	4.150	5.800	7.000	8.500	8.527	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000
	34.137	34.233	34.361	34.545	34.729	34.912	35.096	35.280	35.464	35.465	35.554	35.646	35.738	35.740	35.924	36.144	36.297	36.276	36.152	34.061	33.955	34.035	34.076	34.106	34.181	34.774								
	34.115	34.210	34.306	34.401	34.496	37.592	37.687	37.782	37.878	37.887	37.922	37.939	37.956	37.957	37.991	38.032	38.043	38.021	35.943	35.837	35.917	35.837	35.958	35.988	36.063	36.026								
	39.966	40.000	40.034	40.069	40.103	40.138	40.172	40.206	40.241	40.250	40.257	40.274	40.291	40.292	40.327	40.368	40.368	40.340	40.002	37.368	37.262	37.342	37.383	37.413	37.488	37.446								

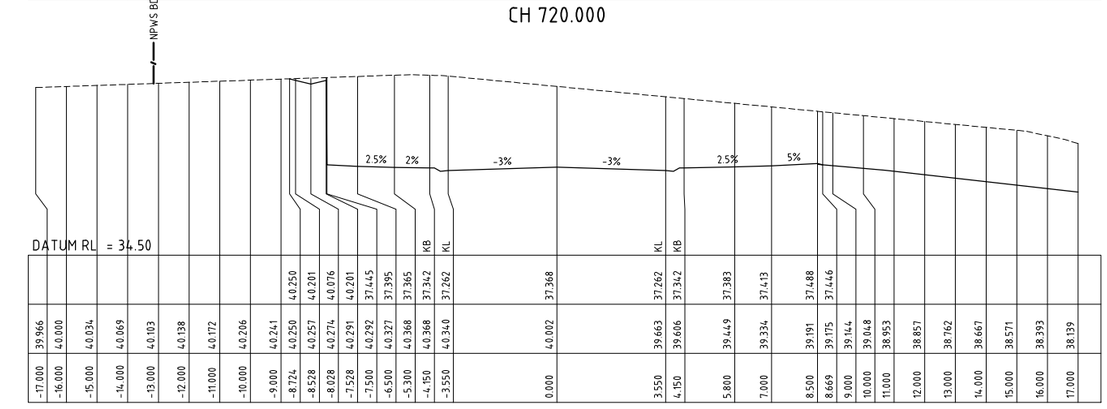
CH 735.000



DATUM RL = 33.10

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	37.115	37.210	37.306	37.401	37.496	37.592	37.687	37.782	37.878	37.887	37.922	37.939	37.956	37.957	37.991	38.032	38.043	38.021	35.943	35.837	35.917	35.837	35.958	35.988	36.063	36.026								
	37.115	37.210	37.306	37.401	37.496	37.592	37.687	37.782	37.878	37.887	37.922	37.939	37.956	37.957	37.991	38.032	38.043	38.021	37.895	37.769	37.748	37.689	37.646	37.593	37.587	37.575	37.539	37.504	37.448	37.352	37.257	37.162	37.000	36.789

CH 720.000



DATUM RL = 34.50

	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.724	-8.528	-8.028	-7.528	-7.500	-6.500	-5.300	-4.150	-3.550	0.000	3.550	4.150	5.800	7.000	8.500	8.669	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000
	39.966	40.000	40.034	40.069	40.103	40.138	40.172	40.206	40.241	40.250	40.257	40.274	40.291	40.292	40.327	40.368	40.368	40.340	40.002	37.368	37.262	37.342	37.383	37.413	37.488	37.446								
	39.966	40.000	40.034	40.069	40.103	40.138	40.172	40.206	40.241	40.250	40.257	40.274	40.291	40.292	40.327	40.368	40.368	40.340	40.002	39.663	39.606	39.449	39.334	39.191	39.175	39.144	39.048	38.953	38.857	38.762	38.667	38.571	38.393	38.139

CH 705.000

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
5	SWALE AMENDMENTS	DB	AS	31.10.22
4	NPWS BDY ADDED	DB	AS	04.08.22
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale

0 2 4 6 8m

1:100 (A1) 1:200 (A3)

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Designed: A.M

Cad Reference: 19259C dC525 r5

Scale: 1:100

A1 SHEET

Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
ROAD 6 CROSS SECTIONS (7 OF 7)

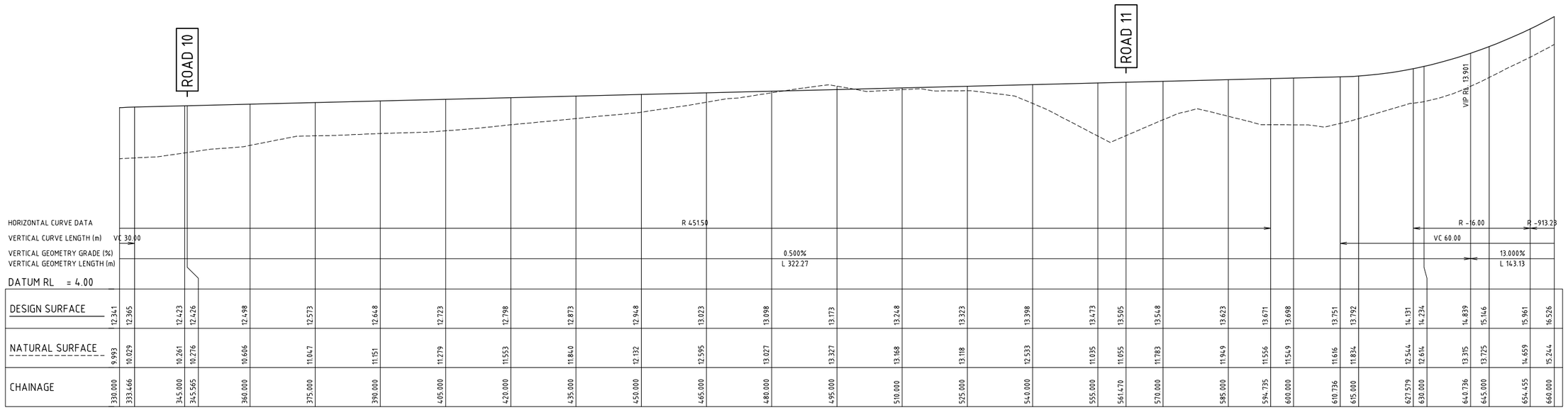
Project No: 19259C

Drawing No: C525

Revision: 5

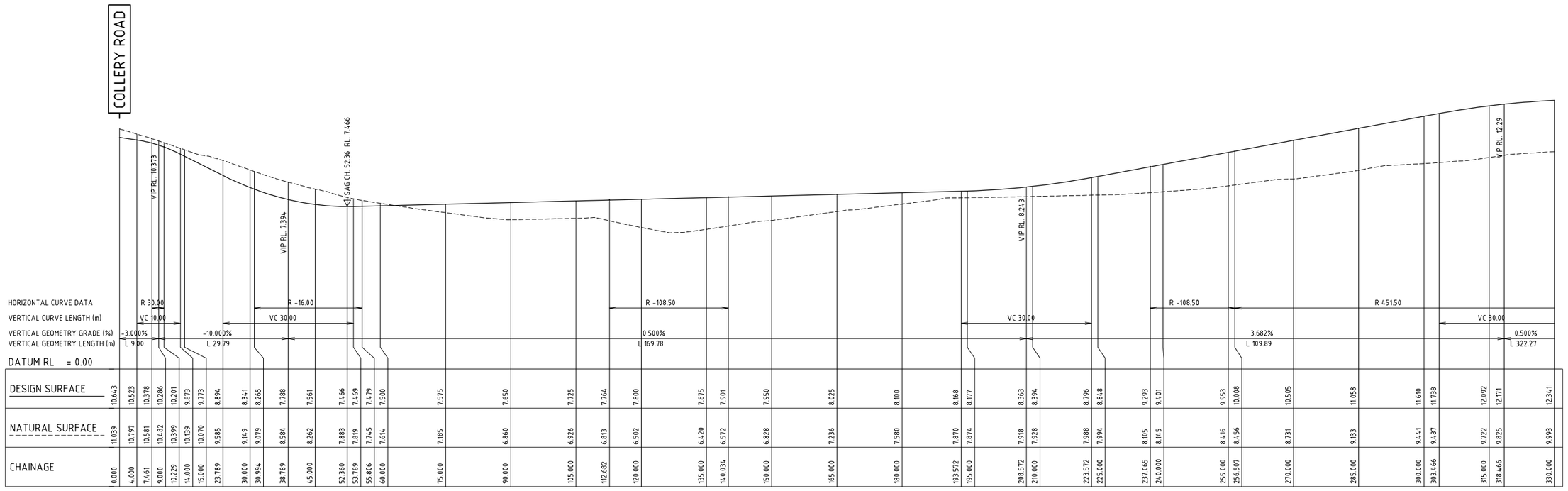
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A1 SCALE: HORIZONTAL 1:500, VERTICAL 1:100

LONGITUDINAL SECTION ROAD 7



A1 SCALE: HORIZONTAL 1:500, VERTICAL 1:100

LONGITUDINAL SECTION ROAD 7

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale
0 2 4 6 8m
1:100 (A1) 1:200 (A3)
0 10 20 30 40m
1:500 (A1) 1:1000 (A3)

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Designed A.M
Cad Reference 19259C dC526 r3
Scale AS SHOWN
A1 SHEET
Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

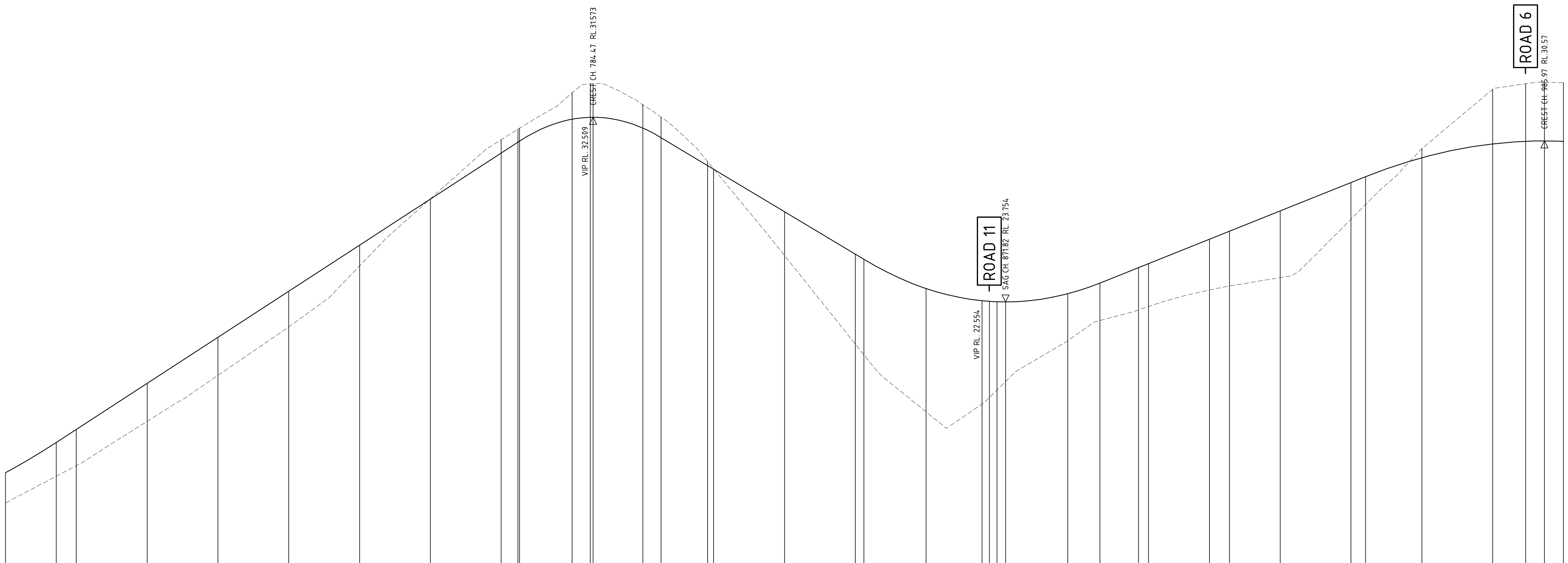
Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
ROAD 7 LONGITUDINAL SECTION (1 OF 3)

Project No 19259C
Drawing No C526
Revision 3

PLOT DATE: 1/11/2022 10:59:43 AM
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HORIZONTAL CURVE DATA: R -913.23; R -30.00; R -60.00

VERTICAL CURVE LENGTH (m): VC 60.00; VC 30.00; VC 50.00; VC 90.00

VERTICAL GEOMETRY GRADE (%) / VERTICAL GEOMETRY LENGTH (m): 13.000% L 143.13; -12.000% L 82.95; 8.000% L 126.25

DATUM RL = 9.00

CHAINAGE	DESIGN SURFACE	NATURAL SURFACE
660.000	16.526	15.244
670.736	17.801	16.372
675.000	18.356	16.820
690.000	20.306	18.698
705.000	22.256	20.644
720.000	24.206	22.697
735.000	26.156	25.278
750.000	28.106	28.119
765.000	30.056	30.620
768.551	30.517	31.067
768.870	30.559	31.107
780.000	31.490	32.611
783.870	31.571	32.992
784.470	31.573	33.000
795.000	31.111	32.107
798.870	30.709	31.580
808.715	29.528	29.696
810.000	29.373	29.385
825.000	27.573	25.721
840.000	25.773	21.971
841.824	25.554	21.515
855.000	24.320	19.100
866.824	23.804	19.430
868.388	23.781	19.703
870.000	23.761	20.023
871.824	23.754	20.385
885.000	24.102	22.112
891.824	24.554	22.964
900.000	25.208	23.416
902.089	25.376	23.562
915.000	26.408	24.265
919.267	26.750	24.429
930.000	27.608	24.780
945.000	28.808	27.254
948.077	29.055	27.873
960.000	29.858	30.244
975.000	30.443	32.754
981.966	30.548	32.990
985.972	30.570	33.054
990.000	30.553	33.036

A1 SCALE: HORIZONTAL 1:500, VERTICAL 1:100

LONGITUDINAL SECTION ROAD 7

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale
0 2 4 6 8m — 1:100 (A1) 1:200 (A3)
0 10 20 30 40m — 1:500 (A1) 1:1000 (A3)

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Designed: A.M
Cad Reference: 19259C dC527 r3
Scale: AS SHOWN
A1 SHEET
Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

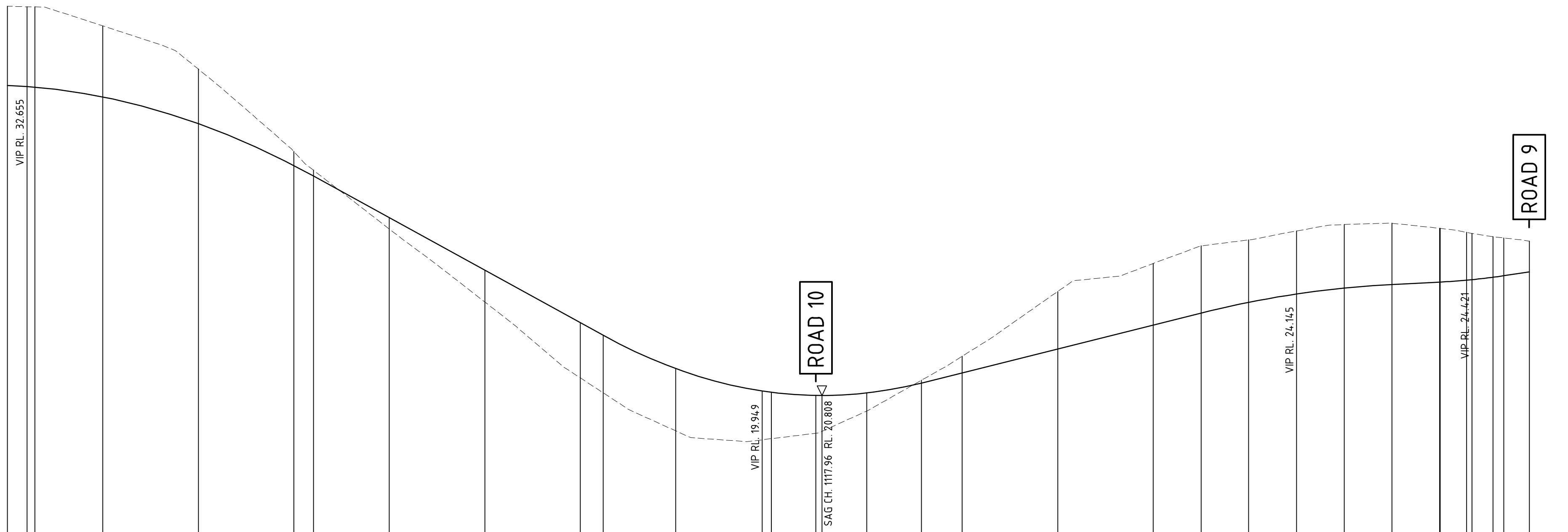
Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
ROAD 7 LONGITUDINAL SECTION (2 OF 3)

Project No: 19259C
Drawing No: C527
Revision: 3

PLOT DATE: 1/11/2022 10:59:50 AM   CAD FILE: Q:\19\19259 1A Flowers Drive, Catherine Hill Bay\02__CAD\AutoCAD\Civil\500 Series - Hamlet B\19259C dC527 r3.dwg



HORIZONTAL CURVE DATA: R -638.50; R 30.00

VERTICAL CURVE LENGTH (m): VC 90.00; VC 50.00; VC 30.00; VC 10.00

VERTICAL GEOMETRY GRADE (%): 8.000%; -11.000%; 5.000%; 1.000%; 3.000%

VERTICAL GEOMETRY LENGTH (m): L 126.25; L 115.51; L 83.94; L 27.57; L 9.00

DATUM RL = 13.00

DESIGN SURFACE	30.553	30.517	30.496	30.188	29.348	28.033	27.705	26.393	24.743	23.093	22.698
NATURAL SURFACE	33.036	33.023	33.018	32.423	31.062	28.476	27.886	26.038	23.746	21.361	20.892
CHAINAGE	990.000	993.077	994.342	1005.000	1020.000	1035.000	1038.077	1050.000	1065.000	1080.000	1083.587

DESIGN SURFACE	21.652	20.948	20.909	20.812	20.808	20.887	21.198	21.519	22.269	23.019	23.395
NATURAL SURFACE	19.695	19.416	19.450	19.619	19.681	20.319	21.287	22.042	24.077	24.956	25.508
CHAINAGE	1095.000	1108.587	1110.000	1117.003	1117.963	1125.000	1133.587	1140.000	1155.000	1170.000	1177.525

DESIGN SURFACE	23.732	23.995	24.182	24.295	24.370	24.371	24.429	24.446	24.523	24.571	24.691
NATURAL SURFACE	25.697	25.979	26.180	26.219	26.062	26.060	25.934	25.898	25.796	25.757	25.659
CHAINAGE	1185.000	1192.525	1200.000	1207.525	1215.000	1215.092	1219.223	1220.092	1223.389	1225.092	1229.092

A1 SCALE: HORIZONTAL 1:500, VERTICAL 1:100

LONGITUDINAL SECTION ROAD 7

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale: 0 2 4 6 8m — 1:100 (A1) / 1:200 (A3); 0 10 20 30 40m — 1:500 (A1) / 1:1000 (A3)

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Designed: A.M
Cad Reference: 19259C dC528 r3
Scale: AS SHOWN
A1 SHEET
Project Approval: IAN HILL (B.E) Consulting Civil Engineer

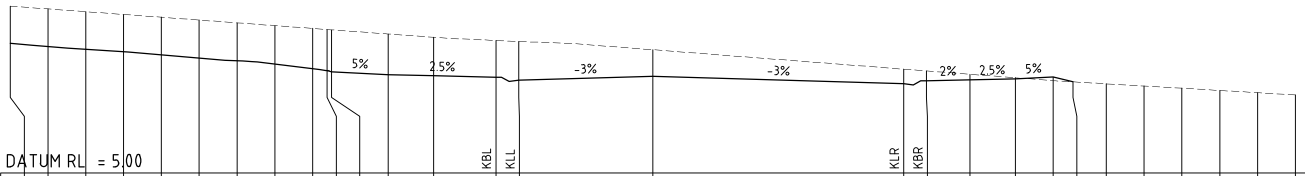
Client

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A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
ROAD 7 LONGITUDINAL SECTION (3 OF 3)

Project No: 19259C
Drawing No: C528
Revision: 3

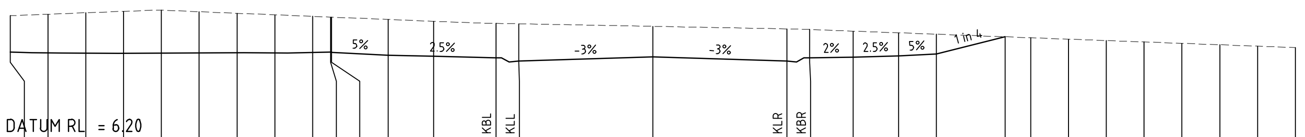
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DATUM RL = 5.00

Offset	Point	Design Surface	Natural Surface
-17.000			9.416
-16.000			9.343
-15.000			9.269
-14.000			9.195
-13.000			9.122
-12.000			9.048
-11.000			8.974
-10.000			8.901
-9.000			8.827
-8.619		7.710	8.799
-8.500		7.680	8.790
-7.000		7.605	8.680
-5.800		7.575	8.591
-4.150	KBL	7.534	8.508
-3.550	KLL	7.454	8.482
0.000		7.561	8.262
6.642	KLR	7.361	7.749
7.242	KBR	7.441	7.703
8.392		7.464	7.614
9.592		7.494	7.522
10.592		7.544	7.445
11.119		7.413	7.413
12.000			7.361
13.000			7.303
14.000			7.244
15.000			7.186
16.000			7.127
17.000			7.069

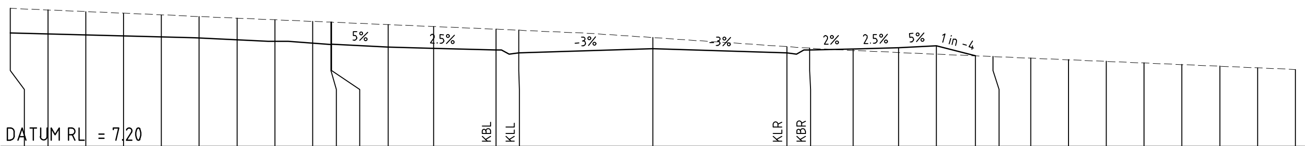
CH 45.000



DATUM RL = 6.20

Offset	Point	Design Surface	Natural Surface
-17.000			9.431
-16.000			9.469
-15.000			9.507
-14.000			9.545
-13.000			9.576
-12.000			9.535
-11.000			9.494
-10.000			9.454
-9.000			9.413
-8.522		8.466	9.394
-8.500		8.461	9.393
-7.000		8.386	9.332
-5.800		8.356	9.283
-4.150	KBL	8.314	9.229
-3.550	KLL	8.234	9.217
0.000		8.341	9.149
3.550	KLR	8.234	9.081
4.150	KBR	8.314	9.065
5.300		8.337	9.023
6.500		8.367	8.978
7.500		8.417	8.941
9.322		8.873	8.873
10.000			8.848
11.000			8.810
12.000			8.773
13.000			8.736
14.000			8.699
15.000			8.661
16.000			8.624
17.000			8.588

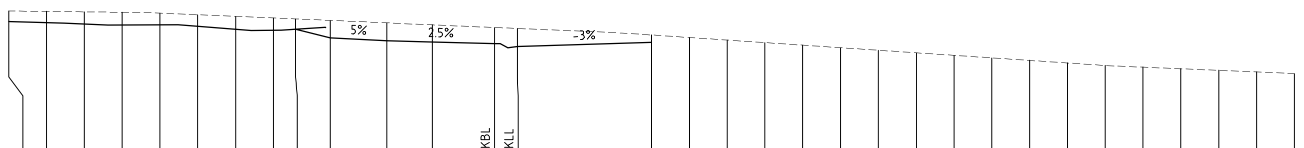
CH 30.000



DATUM RL = 7.20

Offset	Point	Design Surface	Natural Surface
-17.000			10.841
-16.000			10.798
-15.000			10.755
-14.000			10.712
-13.000			10.669
-12.000			10.627
-11.000			10.584
-10.000			10.541
-9.000			10.498
-8.513		9.890	10.477
-8.500		9.893	10.477
-7.000		9.818	10.412
-5.800		9.788	10.361
-4.150	KBL	9.747	10.290
-3.550	KLL	9.667	10.265
0.000		9.773	10.070
3.550	KLR	9.667	9.832
4.150	KBR	9.747	9.792
5.300		9.770	9.729
6.500		9.800	9.678
7.500		9.850	9.635
8.535		9.591	9.591
9.000			9.571
10.000			9.529
11.000			9.486
12.000			9.444
13.000			9.401
14.000			9.359
15.000			9.316
16.000			9.274
17.000			9.231

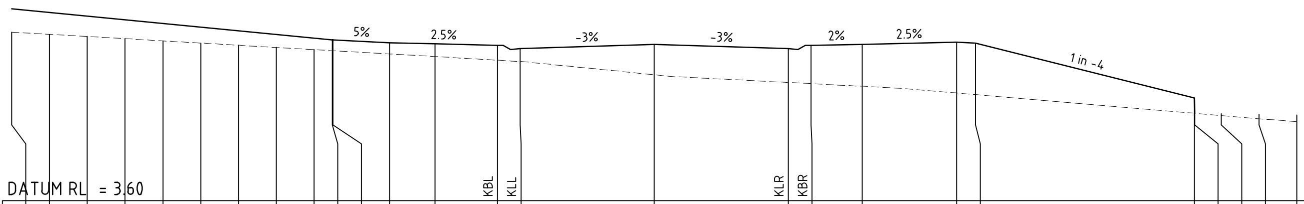
CH 15.000



DATUM RL = 7.30

OFFSET	Point	DESIGN SURFACE	NATURAL SURFACE
-17.000			11.043
-16.000			11.032
-15.000			11.020
-14.000			11.008
-13.000			10.986
-12.000			10.943
-11.000			10.900
-10.000			10.857
-9.415		10.558	10.832
-8.500		10.329	10.792
-7.000		10.254	10.728
-5.800		10.224	10.676
-4.150	KBL	10.183	10.605
-3.550	KLL	10.103	10.579
0.000		10.209	10.407
1.000			10.340
2.000			10.273
3.000			10.205
4.000			10.138
5.000			10.071
6.000			10.004
7.000			9.937
8.000			9.869
9.000			9.802
10.000			9.735
11.000			9.668
12.000			9.600
13.000			9.558
14.000			9.515
15.000			9.472
16.000			9.430
17.000			9.387

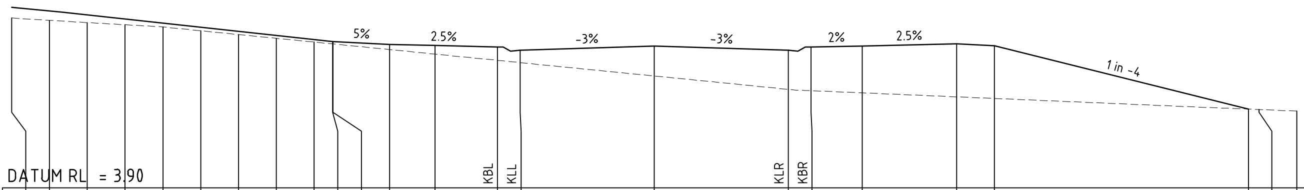
CH 10.112



DATUM RL = 3.60

Offset	Point	Design Surface	Natural Surface
-17.000			8.049
-16.000			7.992
-15.000			7.934
-14.000			7.877
-13.000			7.819
-12.000			7.762
-11.000			7.704
-10.000			7.647
-9.000			7.589
-8.514		7.849	7.561
-8.500		7.845	7.560
-7.000		7.770	7.474
-5.800		7.740	7.405
-4.150	KBL	7.699	7.310
-3.550	KLL	7.619	7.276
0.000		7.725	6.926
3.550	KLR	7.619	6.722
4.150	KBR	7.699	6.691
5.500		7.726	6.622
8.000		7.788	6.446
8.500		7.763	6.403
14.293		6.315	5.912
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15.000			5.899
16.000			5.881
17.000			5.862

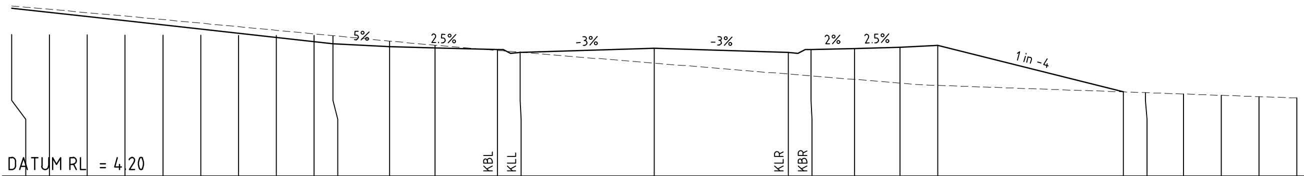
CH 105.000



DATUM RL = 3.90

Offset	Point	Design Surface	Natural Surface
-17.000			8.396
-16.000			8.331
-15.000			8.273
-14.000			8.216
-13.000			8.157
-12.000			8.057
-11.000			7.957
-10.000			7.858
-9.000			7.758
-8.507		7.772	7.709
-8.500		7.770	7.708
-7.000		7.695	7.558
-5.800		7.665	7.439
-4.150	KBL	7.624	7.274
-3.550	KLL	7.544	7.214
0.000		7.650	6.860
3.550	KLR	7.544	6.506
4.150	KBR	7.624	6.470
5.500		7.651	6.413
8.000		7.713	6.308
9.000		7.663	6.266
15.719		5.984	5.984
16.000			5.972
17.000			5.930

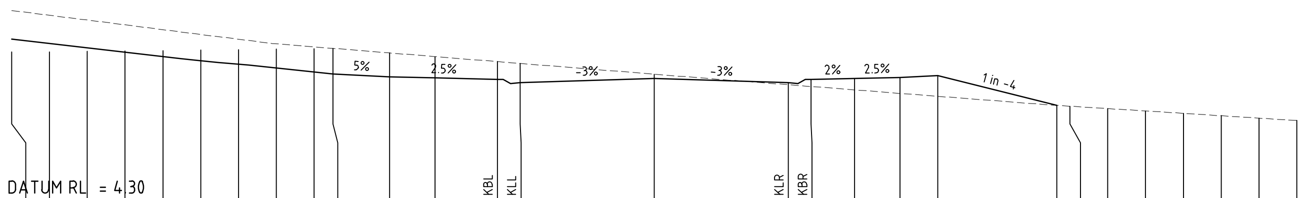
CH 90.000



DATUM RL = 4.20

Offset	Point	Design Surface	Natural Surface
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-16.000			7.936
-15.000			7.933
-14.000			7.930
-13.000			7.926
-12.000			7.923
-11.000			7.920
-10.000			7.916
-9.000			7.913
-8.500		7.695	7.911
-7.000		7.620	7.769
-5.800		7.590	7.656
-4.150	KBL	7.549	7.522
-3.550	KLL	7.469	7.473
0.000		7.575	7.185
3.550	KLR	7.469	6.896
4.150	KBR	7.549	6.848
5.300		7.572	6.754
6.500		7.602	6.657
7.500		7.652	6.596
12.411		6.424	6.424
13.000			6.404
14.000			6.369
15.000			6.334
16.000			6.299
17.000			6.264

CH 75.000



DATUM RL = 4.30

Offset	Point	Design Surface	Natural Surface
-17.000			8.202
-16.000			8.207
-15.000			8.216
-14.000			8.228
-13.000			8.241
-12.000			8.253
-11.000			8.265
-10.000			8.278
-9.000			8.290
-8.500		7.620	8.296
-7.000		7.545	8.176
-5.800		7.515	8.079
-4.150	KBL	7.474	7.947
-3.550	KLL	7.394	7.899
0.000		7.500	7.614
3.550	KLR	7.394	7.335
4.150	KBR	7.474	7.289
5.300		7.497	7.200
6.500		7.527	7.107
7.500		7.577	7.029
10.649		6.790	6.790
11.000			6.767
12.000			6.704
13.000			6.641
14.000			6.578
15.000			6.515
16.000			6.451
17.000			6.388

CH 60.000

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
5	SWALE AMENDMENTS	DB	AS	31.10.22
4	NOT ISSUED			
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale
0 2 4 6 8m
1:100 (A1) 1:200 (A3)

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Designed: A.M
Cad Reference: 19259C dC529 r5
Scale: 1:100
A1 SHEET
Project Approval: IAN HILL (B.E) Consulting Civil Engineer

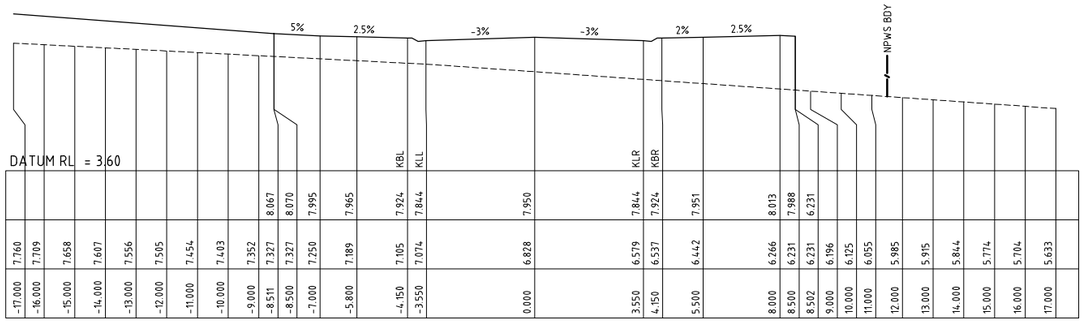
Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
ROAD 7 CROSS SECTIONS (1 OF 12)

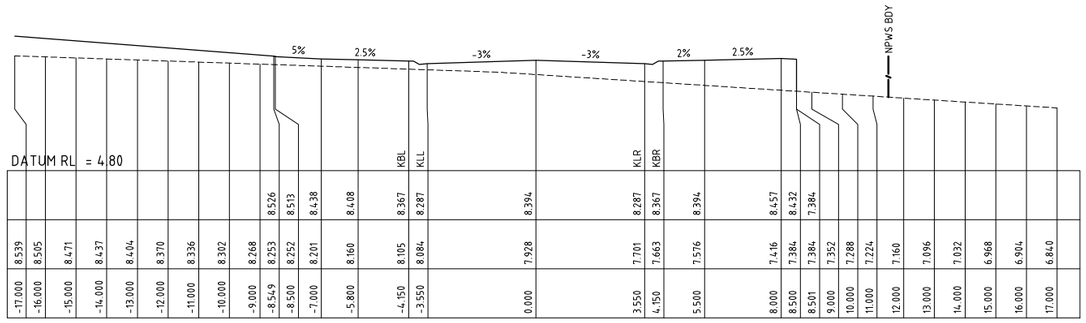
Project No: 19259C
Drawing No: C529
Revision: 5

PLOT DATE: 1/11/2022 11:00:34 AM
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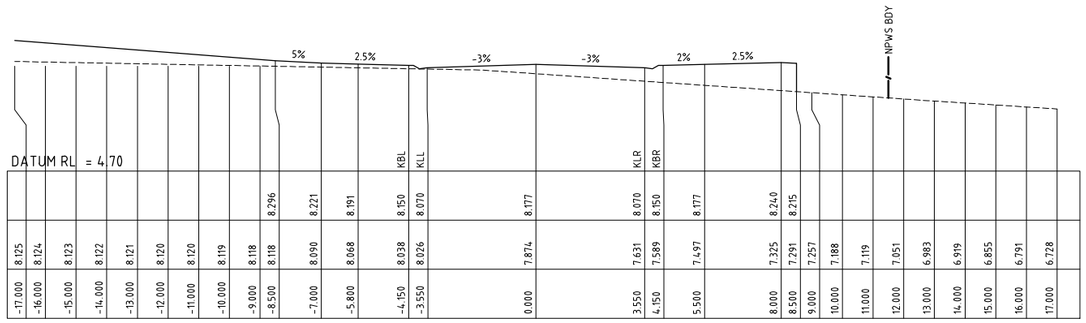
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										8.067	8.070	7.995	7.965	7.924	7.844	7.950	7.844	7.924	7.951	8.013	7.988	6.231									
	7.760	7.709	7.658	7.607	7.556	7.505	7.454	7.403	7.352	7.327	7.327	7.250	7.189	7.105	7.074	6.828	6.579	6.537	6.442	6.266	6.231	6.231	6.196	6.125	6.055	5.985	5.915	5.844	5.774	5.704	5.633

CH 150.000



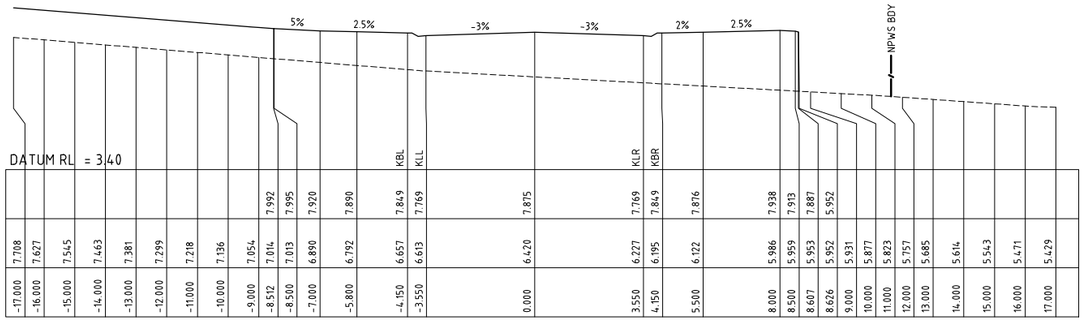
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										8.526	8.513	8.438	8.408	8.367	8.287	8.394	8.287	8.367	8.394	8.457	8.432	7.384									
	8.539	8.505	8.471	8.437	8.404	8.370	8.336	8.302	8.268	8.253	8.252	8.201	8.160	8.105	8.084	7.928	7.701	7.663	7.576	7.416	7.384	7.384	7.352	7.288	7.224	7.160	7.096	7.032	6.968	6.904	6.840

CH 210.000



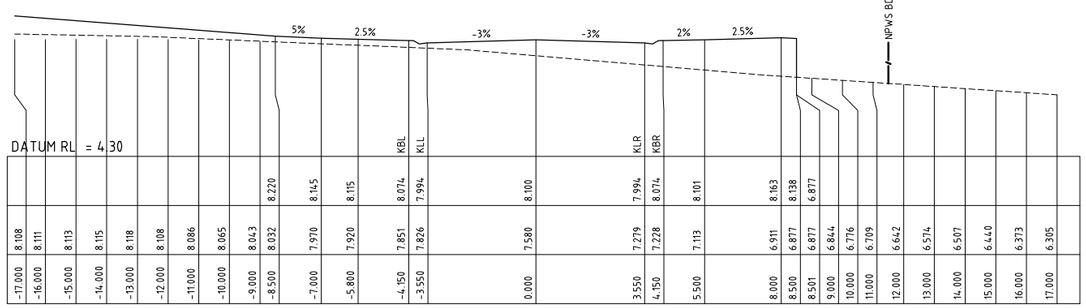
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											8.221	8.191	8.150	8.070	8.177	8.070	8.150	8.177	8.240	8.215									
	8.125	8.124	8.123	8.122	8.121	8.120	8.120	8.119	8.118	8.118	8.090	8.068	8.038	8.026	7.874	7.631	7.589	7.497	7.325	7.291	7.257	7.188	7.119	7.051	6.983	6.919	6.855	6.791	6.728

CH 195.000



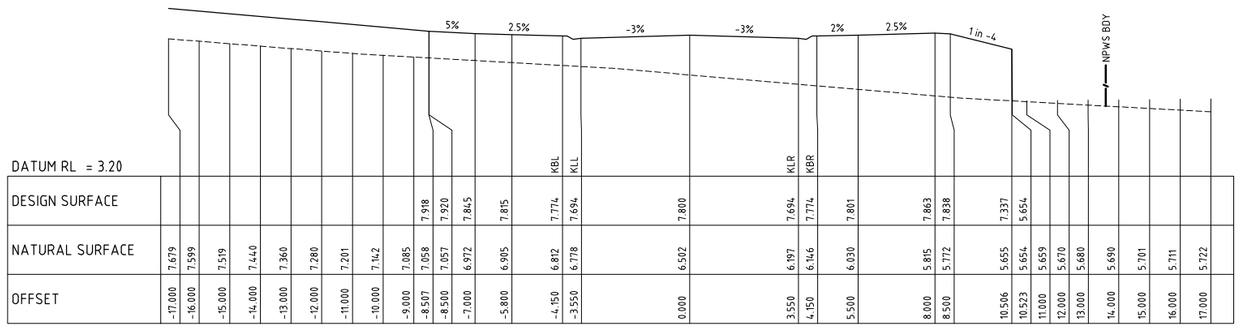
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										7.992	7.995	7.920	7.890	7.849	7.769	7.875	7.769	7.849	7.876	7.938	7.913	7.887	5.952									
	7.708	7.627	7.545	7.463	7.381	7.299	7.218	7.136	7.054	7.014	7.013	6.890	6.792	6.657	6.613	6.420	6.227	6.195	6.122	5.986	5.959	5.953	5.931	5.877	5.823	5.757	5.685	5.614	5.543	5.471	5.429

CH 135.000



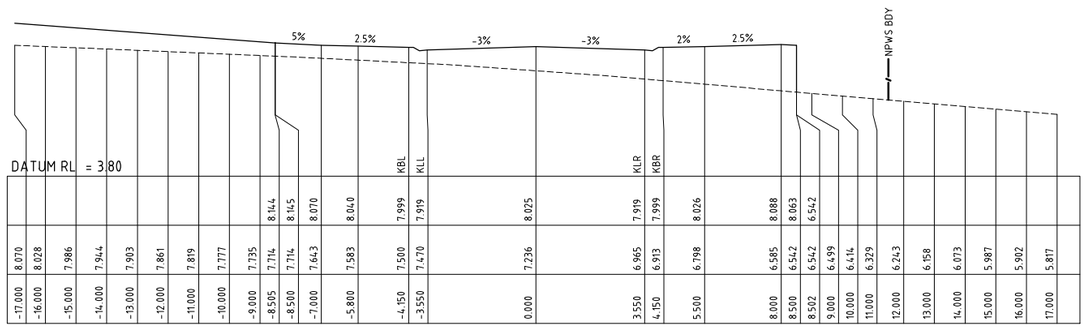
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										8.220	8.145	8.115	8.074	7.994	8.100	7.994	8.074	8.101	8.163	8.138	6.877									
	8.108	8.111	8.113	8.115	8.118	8.108	8.086	8.065	8.043	8.032	7.970	7.920	7.851	7.826	7.580	7.279	7.228	7.113	6.911	6.877	6.877	6.844	6.776	6.709	6.642	6.574	6.507	6.440	6.373	6.305

CH 180.000



	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.507	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.500	8.000	8.500	10.506	10.523	11.000	12.000	13.000	14.000	15.000	16.000	17.000
DESIGN SURFACE										7.918	7.920	7.845	7.815	7.774	7.694	7.800	7.694	7.774	7.801	7.863	7.838	7.337	5.654							
NATURAL SURFACE	7.679	7.599	7.519	7.440	7.360	7.280	7.201	7.142	7.085	7.058	7.057	6.972	6.905	6.812	6.778	6.502	6.197	6.146	6.030	5.815	5.772	5.655	5.654	5.659	5.670	5.680	5.690	5.701	5.711	5.722
OFFSET	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.507	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.500	8.000	8.500			11.000	12.000	13.000	14.000	15.000	16.000	17.000

CH 120.000



	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.505	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.500	8.000	8.500	8.502	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000
										8.144	8.145	8.070	8.040	7.999	7.919	8.025	7.919	7.999	8.026	8.088	8.063	6.542									
	8.070	8.028	7.986	7.944	7.903	7.861	7.819	7.777	7.735	7.714	7.714	7.643	7.583	7.500	7.470	7.236	6.965	6.913	6.798	6.585	6.542	6.542	6.499	6.414	6.329	6.243	6.158	6.073	5.987	5.902	5.817

CH 165.000

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
5	SWALE AMENDMENTS	DB	AS	31.10.22
4	NPWS BDY ADDED	DB	AS	04.08.22
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale

0 2 4 6 8m

1:100 (A1) 1:200 (A3)

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Designed: A.M

Cad Reference: 19259C dC530 r5

Scale: 1:100

A1 SHEET

Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

Client

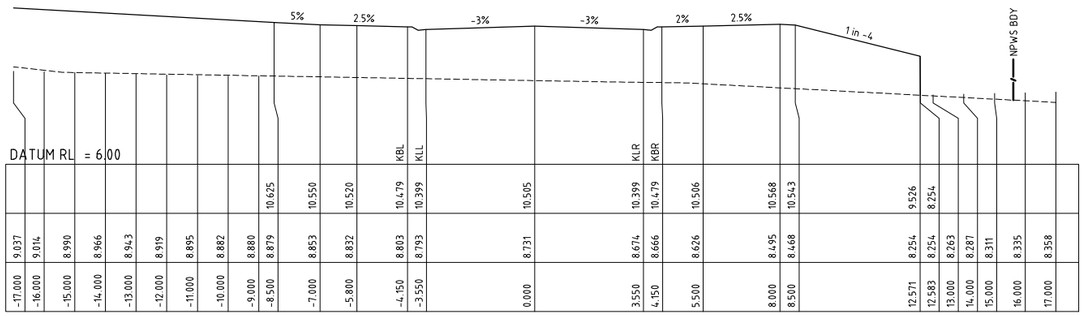
GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
ROAD 7 CROSS SECTIONS (2 OF 12)

Project No: 19259C

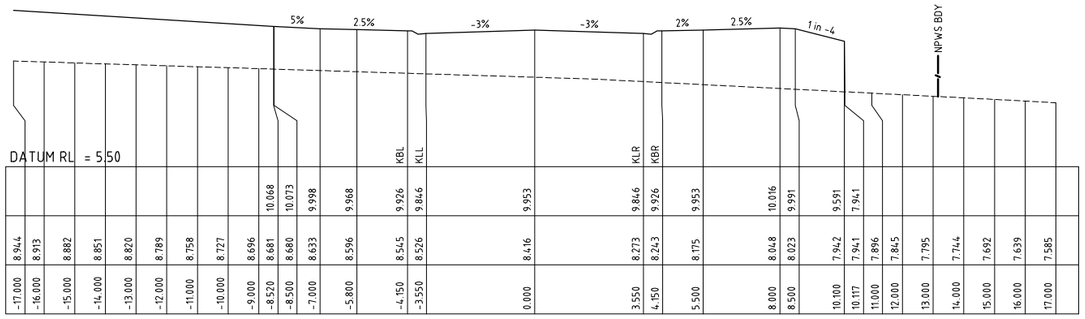
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Revision: 5



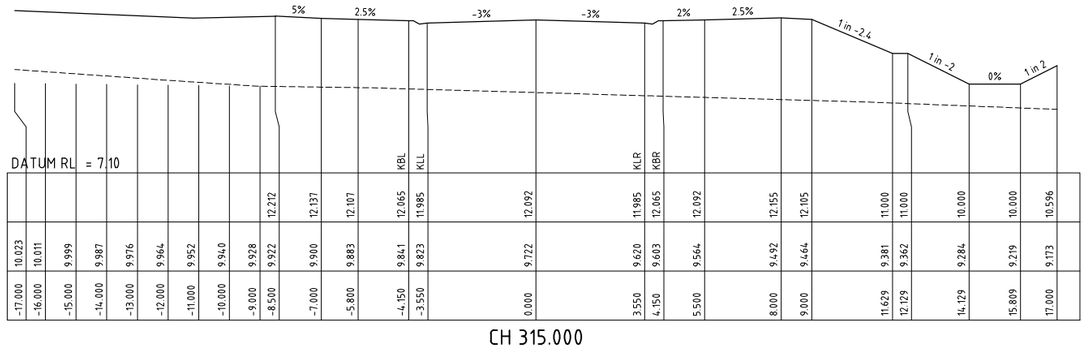
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9.037	9.014	8.990	8.966	8.943	8.919	8.895	8.882	8.880	8.879	8.853	8.832	8.803	8.793	8.731	8.674	8.666	8.626	8.495	8.468	8.254	8.254	8.263	8.287	8.311	8.335	8.358
									10.625	10.550	10.520	10.479	10.399	10.505	10.399	10.479	10.506	10.568	10.543	9.526	8.254					

CH 270.000



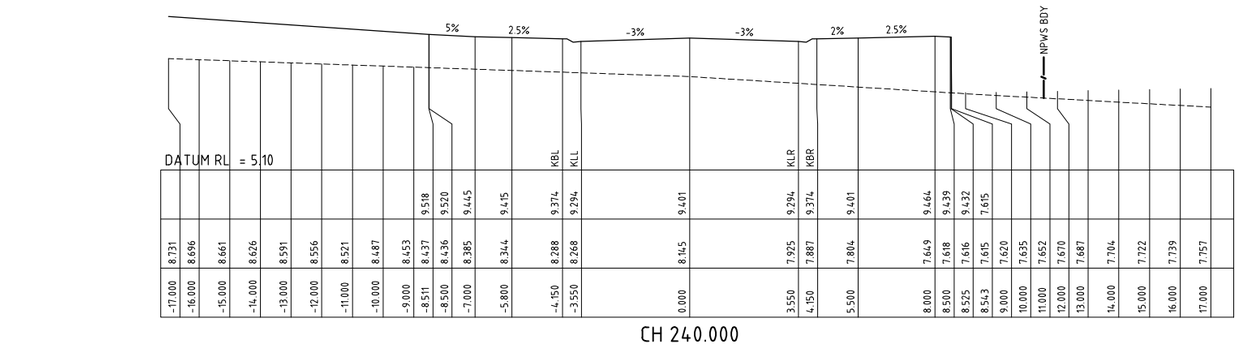
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8.944	8.913	8.882	8.851	8.820	8.789	8.758	8.727	8.696	8.681	8.680	8.633	8.596	8.545	8.526	8.416	8.273	8.243	8.175	8.048	8.023	7.942	7.941	7.896	7.845	7.795	7.744	7.692	7.639	7.585
									10.068	10.073	9.998	9.968	9.926	9.846	9.953	9.846	9.926	9.953	10.016	9.991	9.591	7.941							

CH 255.000



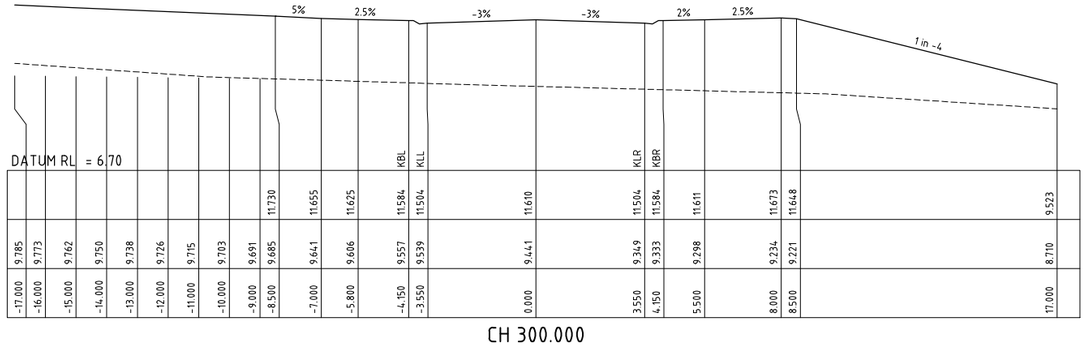
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10.023	10.011	9.999	9.987	9.976	9.964	9.952	9.940	9.928	9.922	9.900	9.883	9.841	9.823	9.722	9.620	9.603	9.564	9.492	9.464	9.381	9.362	9.284	9.219	9.173
									12.212	12.137	12.107	12.065	11.985	12.092	11.985	12.065	12.092	12.155	12.105	11.000	11.000	10.000	10.000	10.596

CH 315.000



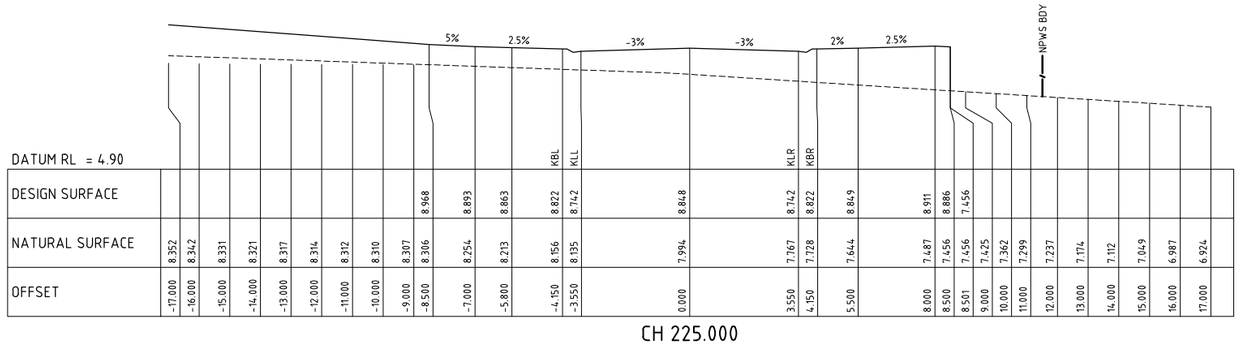
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8.731	8.696	8.661	8.626	8.591	8.556	8.521	8.487	8.453	8.437	8.436	8.385	8.344	8.288	8.268	8.145	7.925	7.887	7.804	7.649	7.618	7.616	7.615	7.620	7.635	7.652	7.670	7.687	7.704	7.722	7.739	7.757
									9.518	9.520	9.445	9.415	9.374	9.294	9.401	9.294	9.374	9.401	9.464	9.439	9.432	7.615									

CH 240.000



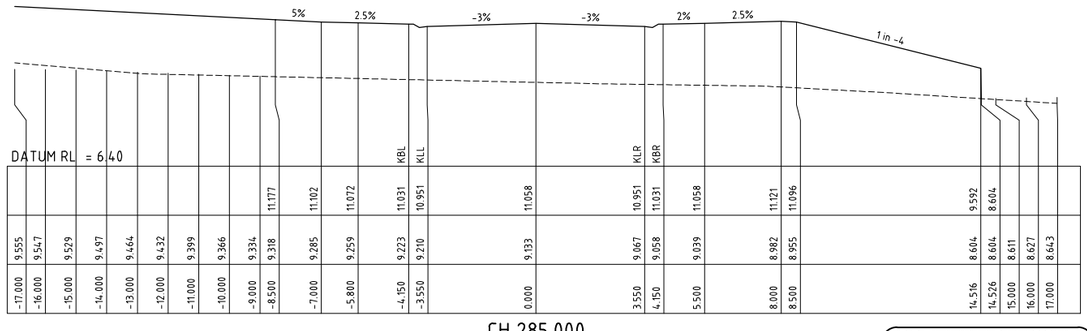
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9.785	9.773	9.762	9.750	9.738	9.726	9.715	9.703	9.691	9.685	9.641	9.606	9.557	9.539	9.441	9.349	9.333	9.298	9.234	9.221	8.710				
									11.730	11.655	11.625	11.584	11.504	11.610	11.504	11.584	11.611	11.673	11.648	9.523				

CH 300.000



-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.500	8.000	8.501	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000
8.352	8.342	8.331	8.321	8.317	8.314	8.312	8.310	8.307	8.306	8.254	8.213	8.156	8.135	7.994	7.767	7.728	7.644	7.487	7.456	7.456	7.425	7.362	7.299	7.237	7.174	7.112	7.049	6.987	6.924
									8.968	8.893	8.863	8.822	8.742	8.848	8.742	8.822	8.849	8.911	8.886	7.456									

CH 225.000



-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.500	8.000	8.500	14.516	14.526	15.000	16.000	17.000
9.555	9.547	9.529	9.497	9.464	9.432	9.399	9.366	9.334	9.318	9.285	9.259	9.223	9.210	9.133	9.067	9.058	9.039	8.982	8.955	8.604	8.604	8.611	8.627	8.643
									11.777	11.102	11.072	11.031	10.951	11.058	10.951	11.031	11.058	11.121	11.096	9.592	8.604			

CH 285.000

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
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4	NPWS BDY ADDED	DB	AS	04.08.22
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale
0 2 4 6 8m
1:100 (A1) 1:200 (A3)

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Cad Reference: 19259C dC531 r5
Scale: 1:100
A1 SHEET
Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

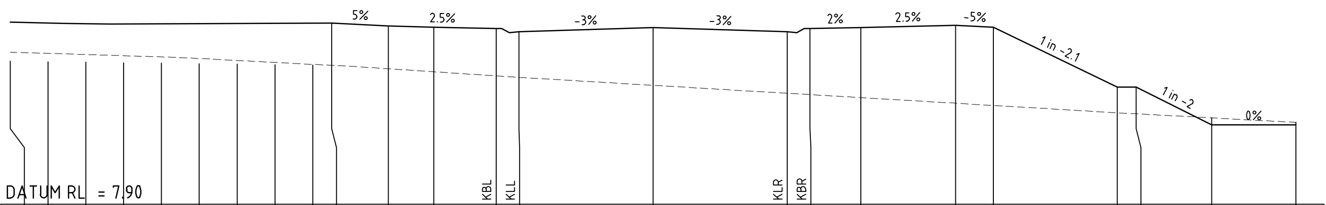
Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
ROAD 7 CROSS SECTIONS (3 OF 12)

Project No: 19259C
Drawing No: C531
Revision: 5

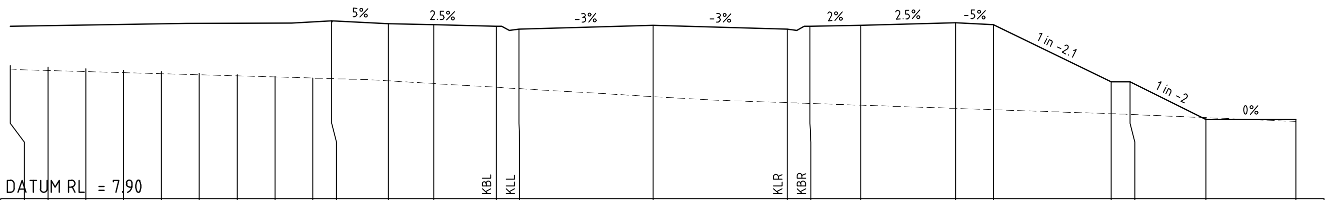
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DATUM RL = 7.90

OFFSET	NATURAL SURFACE	DESIGN SURFACE	
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-16.000	11.672		
-15.000	11.659		
-14.000	11.646		
-13.000	11.634		
-12.000	11.621		
-11.000	11.608		
-10.000	11.595		
-9.000	11.582		
-8.500	11.576	12.693	
-7.000	11.484	12.618	
-5.800	11.405	12.588	
-4.150	11.296	12.546	KBL
-3.550	11.258	12.466	KLL
0.000	11.047	12.573	
3.550	10.837	12.466	KLR
4.150	10.802	12.546	KBR
5.500	10.722	12.573	
8.000	10.573	12.636	
9.000	10.514	12.586	
12.277	10.321	11.000	
12.777	10.294	11.000	
14.777	10.186	10.000	
17.000	10.066	10.000	

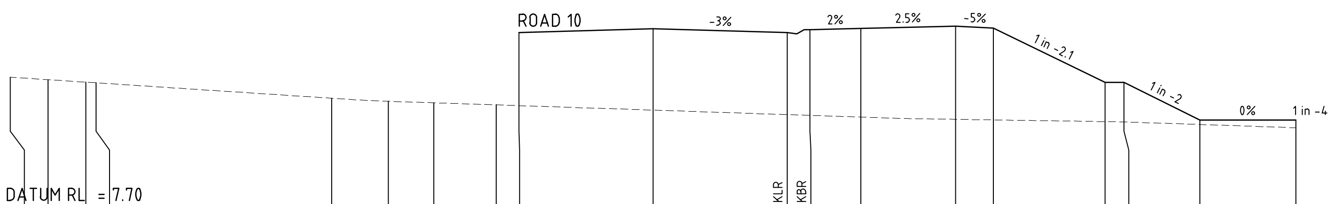
CH 375.000



DATUM RL = 7.90

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-15.000	11.346		
-14.000	11.306		
-13.000	11.265		
-12.000	11.225		
-11.000	11.184		
-10.000	11.143		
-9.000	11.103		
-8.500	11.082	12.618	
-7.000	11.023	12.543	
-5.800	10.952	12.513	
-4.150	10.854	12.471	KBL
-3.550	10.818	12.391	KLL
0.000	10.606	12.498	
3.550	10.445	12.391	KLR
4.150	10.425	12.471	KBR
5.500	10.378	12.498	
8.000	10.293	12.561	
9.000	10.259	12.511	
12.120	10.152	11.000	
12.620	10.134	11.000	
14.620	10.048	10.000	
17.000	9.947	10.000	

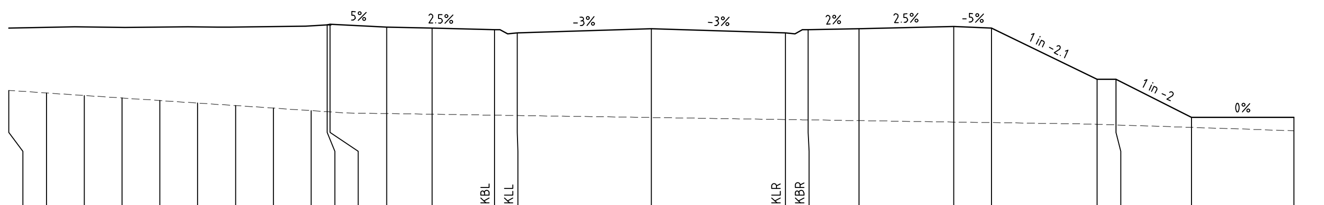
CH 360.000



DATUM RL = 7.70

OFFSET	NATURAL SURFACE	DESIGN SURFACE	
-17.000	11.133		
-16.000	11.067		
-15.000	11.002		
-14.733	10.984	10.984	
-8.500	10.576		
-7.000	10.495		
-5.800	10.455		
-4.150	10.400		
-3.550	10.380	12.316	
0.000	10.261	12.423	
3.550	10.142	12.316	KLR
4.150	10.122	12.396	KBR
5.500	10.077	12.423	
8.000	10.017	12.486	
9.000	10.002	12.436	
11.959	9.956	11.000	
12.459	9.948	11.000	
14.459	9.880	10.000	
17.000	9.793	10.000	

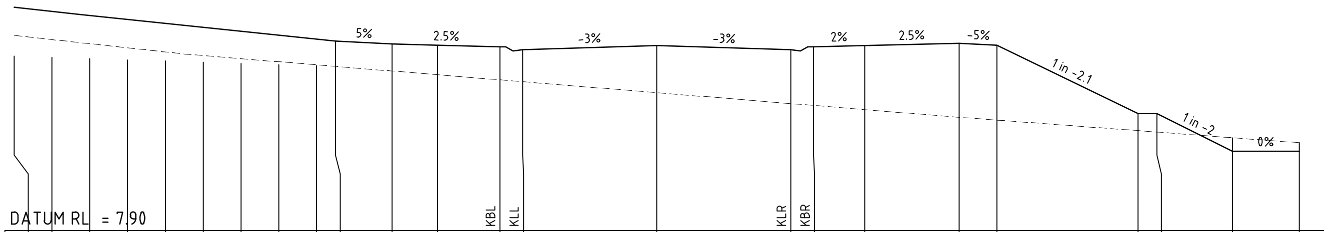
CH 345.000



DATUM RL = 7.60

OFFSET	NATURAL SURFACE	DESIGN SURFACE	
-17.000	10.709		
-16.000	10.642		
-15.000	10.575		
-14.000	10.509		
-13.000	10.442		
-12.000	10.375		
-11.000	10.308		
-10.000	10.242		
-9.000	10.175		
-8.579	10.147	12.441	
-8.500	10.141	12.461	
-7.000	10.097	12.386	
-5.800	10.079	12.356	
-4.150	10.055	12.315	KBL
-3.550	10.046	12.235	KLL
0.000	9.993	12.341	
3.550	9.939	12.235	KLR
4.150	9.930	12.315	KBR
5.500	9.910	12.342	
8.000	9.873	12.404	
9.000	9.858	12.354	
11.795	9.814	11.000	
12.295	9.796	11.000	
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17.000	9.643	10.000	

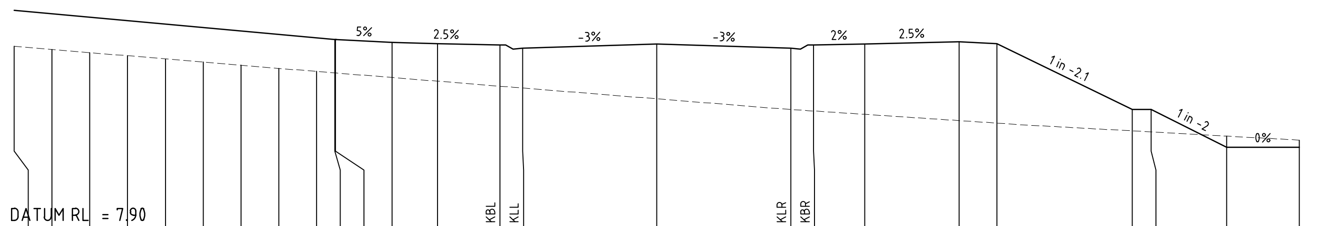
CH 330.000



DATUM RL = 7.90

OFFSET	NATURAL SURFACE	DESIGN SURFACE	
-17.000	12.519		
-16.000	12.487		
-15.000	12.455		
-14.000	12.423		
-13.000	12.392		
-12.000	12.360		
-11.000	12.328		
-10.000	12.297		
-9.000	12.265		
-8.500	12.249	12.918	
-7.000	12.126	12.843	
-5.800	12.028	12.813	
-4.150	11.893	12.771	KBL
-3.550	11.843	12.691	KLL
0.000	11.553	12.798	
3.550	11.263	12.691	KLR
4.150	11.213	12.771	KBR
5.500	11.103	12.798	
8.000	10.901	12.861	
9.000	10.826	12.811	
12.730	10.546	11.000	
13.230	10.508	11.000	
15.230	10.358	10.000	
17.000	10.226	10.000	

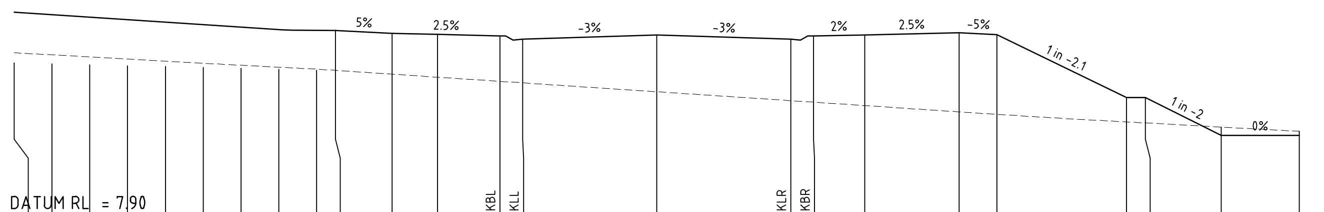
CH 420.000



DATUM RL = 7.90

OFFSET	NATURAL SURFACE	DESIGN SURFACE	
-17.000	12.667		
-16.000	12.583		
-15.000	12.499		
-14.000	12.415		
-13.000	12.332		
-12.000	12.248		
-11.000	12.164		
-10.000	12.082		
-9.000	12.002		
-8.515	11.963	12.846	
-8.500	11.962	12.843	
-7.000	11.841	12.768	
-5.800	11.745	12.738	
-4.150	11.612	12.696	KBL
-3.550	11.564	12.616	KLL
0.000	11.279	12.723	
3.550	10.999	12.616	KLR
4.150	10.959	12.696	KBR
5.500	10.869	12.723	
8.000	10.703	12.786	
9.000	10.637	12.736	
12.583	10.432	11.000	
13.083	10.405	11.000	
15.083	10.295	10.000	
17.000	10.189	10.000	

CH 405.000



DATUM RL = 7.90

OFFSET	NATURAL SURFACE	DESIGN SURFACE	
-17.000	11.914		
-16.000	11.889		
-15.000	11.865		
-14.000	11.840		
-13.000	11.816		
-12.000	11.791		
-11.000	11.767		
-10.000	11.743		
-9.000	11.721		
-8.500	11.715	12.768	
-7.000	11.615	12.693	
-5.800	11.536	12.663	
-4.150	11.426	12.621	KBL
-3.550	11.387	12.541	KLL
0.000	11.151	12.648	
3.550	10.916	12.541	KLR
4.150	10.876	12.621	KBR
5.500	10.787	12.648	
8.000	10.621	12.711	
9.000	10.555	12.661	
12.432	10.356	11.000	
12.932	10.328	11.000	
14.932	10.220	10.000	
17.000	10.107	10.000	

CH 390.000

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
5	SWALE AMENDMENTS	DB	AS	31.10.22
4	NOT ISSUED			
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale
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1:100 (A1) 1:200 (A3)

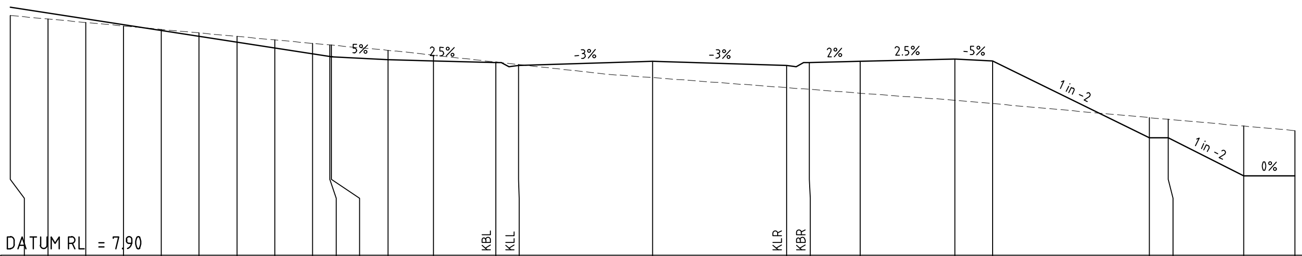
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Designed: A.M
Cad Reference: 19259C dC532 r5
Scale: 1:100
A1 SHEET
Project Approval: IAN HILL (B.E) Consulting Civil Engineer
Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
ROAD 7 CROSS SECTIONS (4 OF 12)

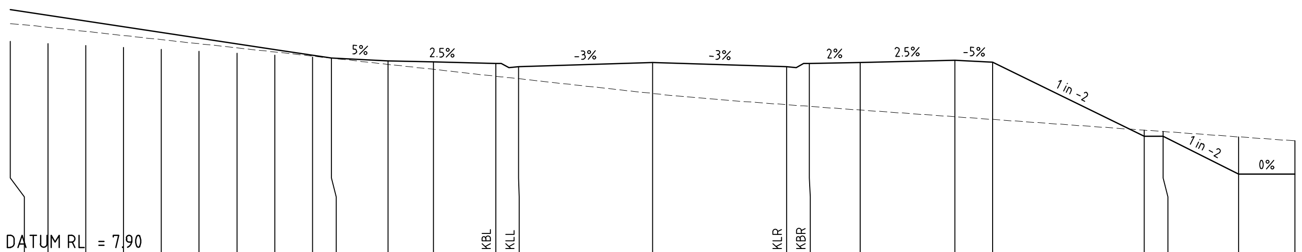
Project No: 19259C
Drawing No: C532
Revision: 5



DATUM RL = 7.90

OFFSET	DESIGN SURFACE	NATURAL SURFACE	
-17.000		14.237	
-16.000		14.145	
-15.000		14.053	
-14.000		13.961	
-13.000		13.869	
-12.000		13.776	
-11.000		13.684	
-10.000		13.592	
-9.000		13.500	
-8.543	13.153	13.458	
-8.500	13.143	13.454	
-7.000	13.068	13.316	
-5.800	13.038	13.188	
-4.150	12.996	13.007	KBL
-3.550	12.916	12.942	KLL
0.000	13.023	12.595	
3.550	12.916	12.329	KLR
4.150	12.996	12.284	KBR
5.500	13.023	12.183	
8.000	13.086	11.996	
9.000	13.036	11.908	
13.151	11.000	11.536	
13.651	11.000	11.492	
15.651	10.000	11.313	
17.000	10.000	11.192	

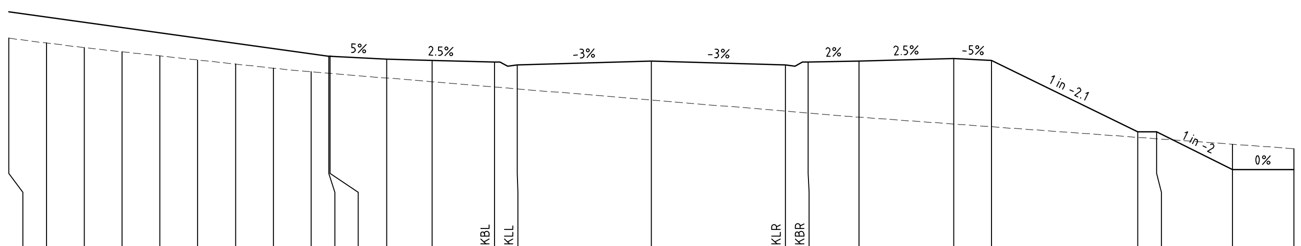
CH 465.000



DATUM RL = 7.90

OFFSET	DESIGN SURFACE	NATURAL SURFACE	
-17.000		13.503	
-16.000		13.452	
-15.000		13.400	
-14.000		13.348	
-13.000		13.296	
-12.000		13.245	
-11.000		13.193	
-10.000		13.141	
-9.000		13.089	
-8.500	13.068	13.064	
-7.000	12.993	12.900	
-5.800	12.963	12.768	
-4.150	12.921	12.587	KBL
-3.550	12.841	12.521	KLL
0.000	12.948	12.132	
3.550	12.841	11.835	KLR
4.150	12.921	11.791	KBR
5.500	12.948	11.694	
8.000	13.011	11.517	
9.000	12.961	11.446	
13.014	11.000	11.162	
13.514	11.000	11.127	
15.514	10.000	10.986	
17.000	10.000	10.881	

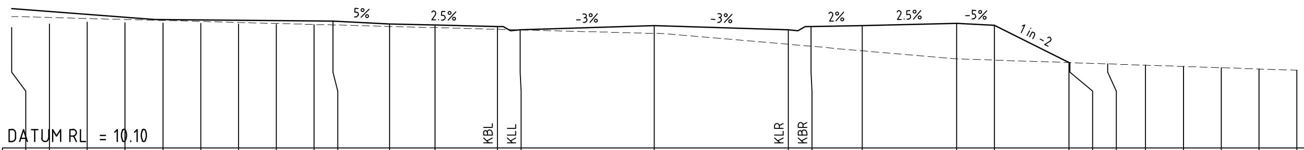
CH 450.000



DATUM RL = 7.90

OFFSET	DESIGN SURFACE	NATURAL SURFACE	
-17.000		13.475	
-16.000		13.349	
-15.000		13.224	
-14.000		13.116	
-13.000		13.007	
-12.000		12.899	
-11.000		12.790	
-10.000		12.682	
-9.000		12.588	
-8.529	13.000	12.549	
-8.500	12.993	12.547	
-7.000	12.918	12.422	
-5.800	12.888	12.322	
-4.150	12.846	12.185	KBL
-3.550	12.766	12.135	KLL
0.000	12.873	11.840	
3.550	12.766	11.545	KLR
4.150	12.846	11.496	KBR
5.500	12.873	11.386	
8.000	12.936	11.205	
9.000	12.886	11.133	
12.874	11.000	10.852	
13.374	11.000	10.816	
15.374	10.000	10.671	
17.000	10.000	10.554	

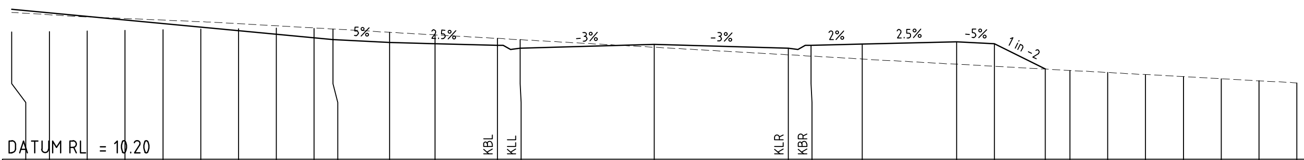
CH 435.000



DATUM RL = 10.10

OFFSET	DESIGN SURFACE	NATURAL SURFACE	
-17.000		13.277	
-16.000		13.362	
-15.000		13.413	
-14.000		13.402	
-13.000		13.391	
-12.000		13.380	
-11.000		13.369	
-10.000		13.358	
-9.000		13.347	
-8.500	13.443	13.341	
-7.000	13.368	13.302	
-5.800	13.338	13.270	
-4.150	13.296	13.227	KBL
-3.550	13.216	13.211	KLL
0.000	13.323	13.118	
3.550	13.216	12.831	KLR
4.150	13.296	12.778	KBR
5.500	13.323	12.661	
8.000	13.386	12.447	
9.000	13.336	12.414	
10.975	12.348	12.348	
11.000		12.347	
12.000		12.314	
13.000		12.280	
14.000		12.247	
15.000		12.213	
16.000		12.180	
17.000		12.147	

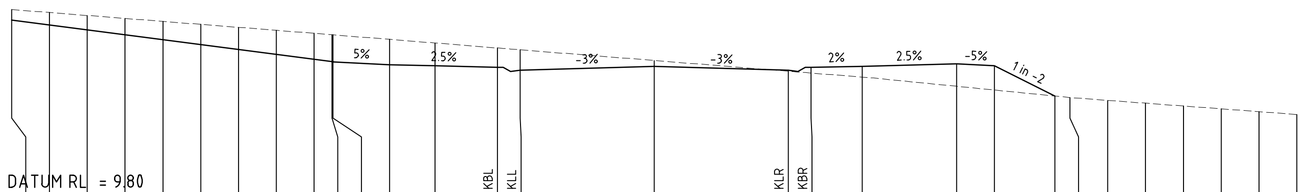
CH 525.000



DATUM RL = 10.20

OFFSET	DESIGN SURFACE	NATURAL SURFACE	
-17.000		13.571	
-16.000		13.586	
-15.000		13.601	
-14.000		13.616	
-13.000		13.631	
-12.000		13.646	
-11.000		13.662	
-10.000		13.677	
-9.000		13.664	
-8.500	13.368	13.650	
-7.000	13.293	13.565	
-5.800	13.263	13.497	
-4.150	13.221	13.403	KBL
-3.550	13.141	13.369	KLL
0.000	13.248	13.168	
3.550	13.141	12.966	KLR
4.150	13.221	12.932	KBR
5.500	13.248	12.855	
8.000	13.311	12.717	
9.000	13.261	12.662	
10.344	12.589	12.589	
11.000		12.553	
12.000		12.498	
13.000		12.443	
14.000		12.388	
15.000		12.333	
16.000		12.278	
17.000		12.222	

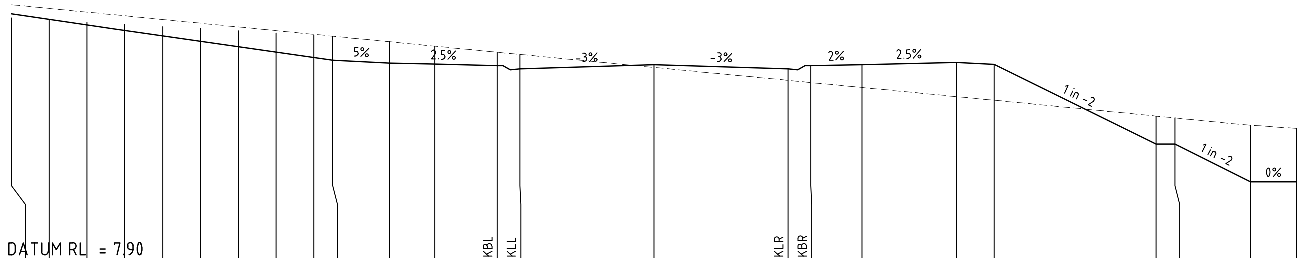
CH 510.000



DATUM RL = 9.80

OFFSET	DESIGN SURFACE	NATURAL SURFACE	
-17.000		14.679	
-16.000		14.600	
-15.000		14.521	
-14.000		14.443	
-13.000		14.364	
-12.000		14.286	
-11.000		14.207	
-10.000		14.129	
-9.000		14.049	
-8.527	13.299	14.011	
-8.500	13.293	14.008	
-7.000	13.218	13.888	
-5.800	13.188	13.792	
-4.150	13.146	13.660	KBL
-3.550	13.066	13.612	KLL
0.000	13.173	13.327	
3.550	13.066	13.043	KLR
4.150	13.146	12.995	KBR
5.500	13.173	12.887	
8.000	13.236	12.644	
9.000	13.186	12.545	
10.600	12.386	12.386	
11.000		12.346	
12.000		12.270	
13.000		12.195	
14.000		12.121	
15.000		12.046	
16.000		11.971	
17.000		11.897	

CH 495.000



DATUM RL = 7.90

OFFSET	DESIGN SURFACE	NATURAL SURFACE	
-17.000		14.333	
-16.000		14.277	
-15.000		14.220	
-14.000		14.164	
-13.000		14.107	
-12.000		14.051	
-11.000		13.994	
-10.000		13.937	
-9.000		13.881	
-8.500	13.218	13.853	
-7.000	13.143	13.706	
-5.800	13.113	13.588	
-4.150	13.071	13.428	KBL
-3.550	12.991	13.370	KLL
0.000	13.098	13.027	
3.550	12.991	12.684	KLR
4.150	13.071	12.626	KBR
5.500	13.098	12.496	
8.000	13.161	12.254	
9.000	13.111	12.158	
13.283	11.000	11.739	
13.783	11.000	11.690	
15.783	10.000	11.500	
17.000	10.000	11.410	

CH 480.000

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
5	SWALE AMENDMENTS	DB	AS	31.10.22
4	NOT ISSUED			
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale
0 2 4 6 8m
1:100 (A1) 1:200 (A3)

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Designed: A.M
Cad Reference: 19259C dC533 r5
Scale: 1:100
A1 SHEET
Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

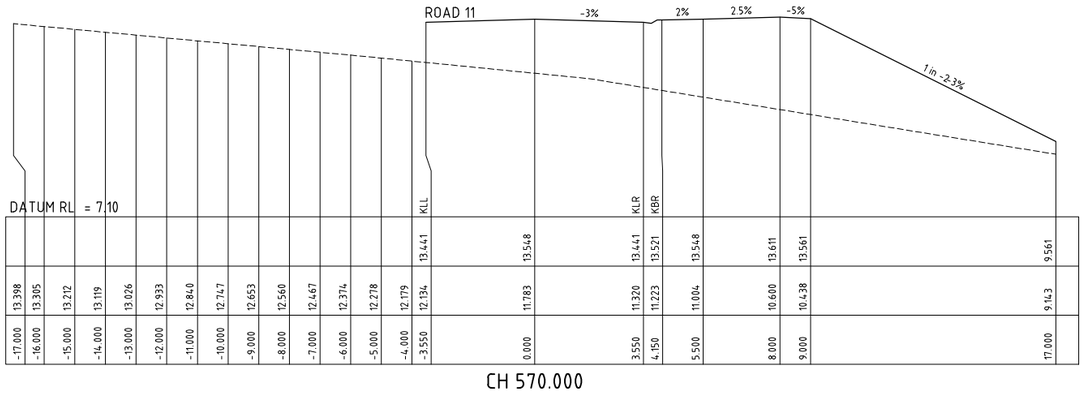
Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
ROAD 7 CROSS SECTIONS (5 OF 12)

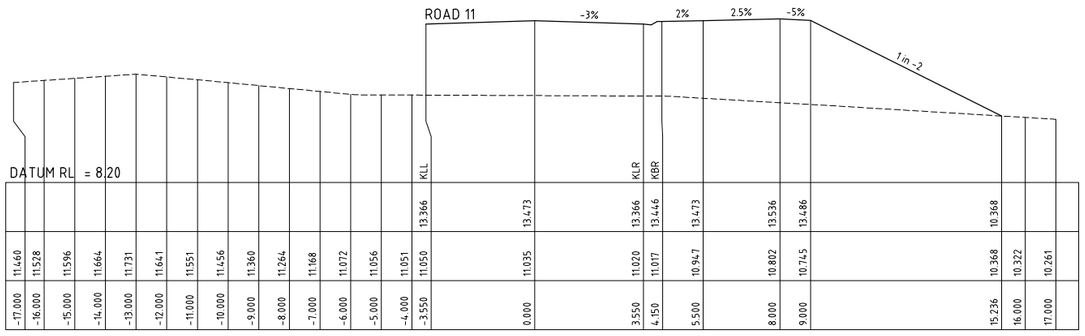
Project No: 19259C
Drawing No: C533
Revision: 5

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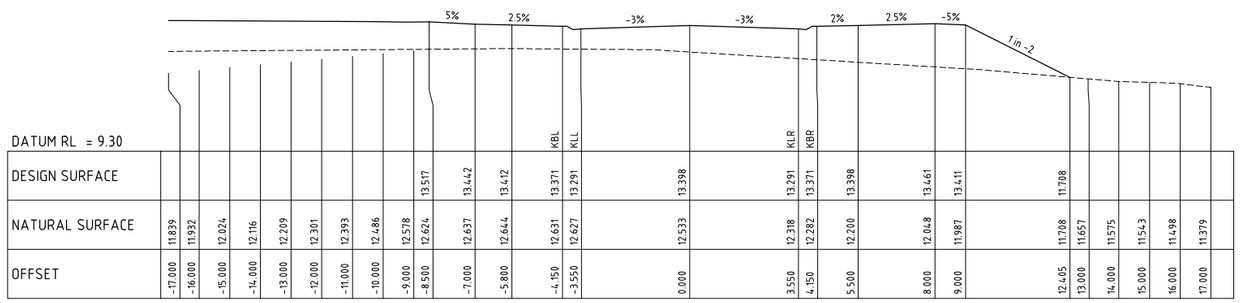
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															13.441	13.548		13.441	13.521	13.548		13.611	13.561		9.561
	13.398	13.305	13.212	13.119	13.026	12.933	12.840	12.747	12.653	12.560	12.467	12.374	12.278	12.179	12.134	11.783		11.320	11.223	11.004		10.600	10.438		9.143

CH 570.000



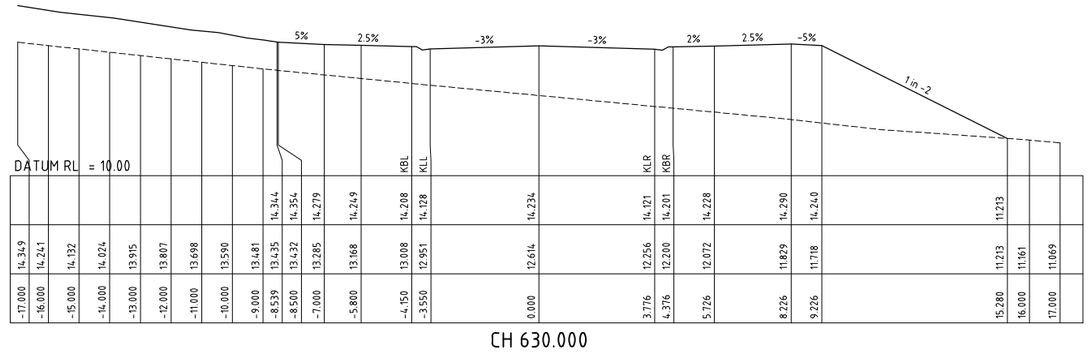
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															13.366	13.473		13.366	13.446	13.473		13.536	13.486		10.368		
	11.460	11.528	11.596	11.664	11.731	11.641	11.551	11.456	11.360	11.264	11.168	11.072	11.056	11.051	11.050	11.035		11.020	11.017	10.947		10.802	10.745		10.368	10.322	10.261

CH 555.000



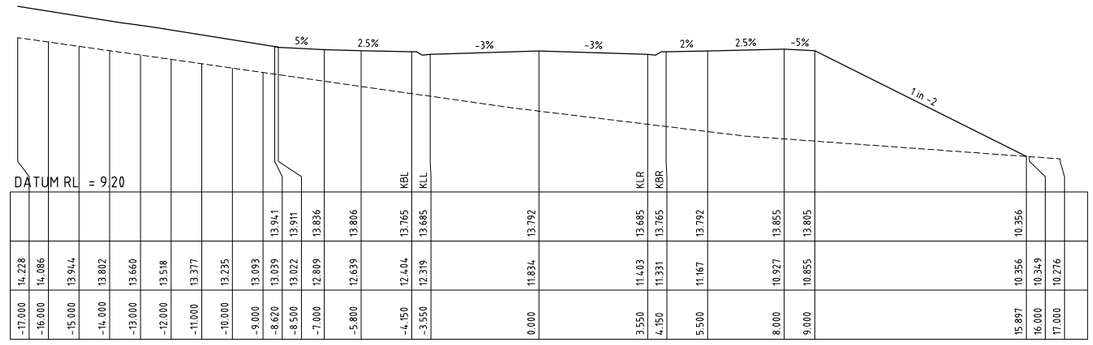
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DESIGN SURFACE										13.517	13.442	13.412	13.371	13.291		13.398		13.291	13.371	13.398		13.461	13.411		11.708					
NATURAL SURFACE	11.839	11.932	12.024	12.116	12.209	12.301	12.393	12.486	12.578	12.624	12.637	12.644	12.631	12.627		12.533		12.318	12.282	12.200		12.048	11.987		11.708	11.657	11.575	11.543	11.498	11.379
OFFSET																														

CH 540.000



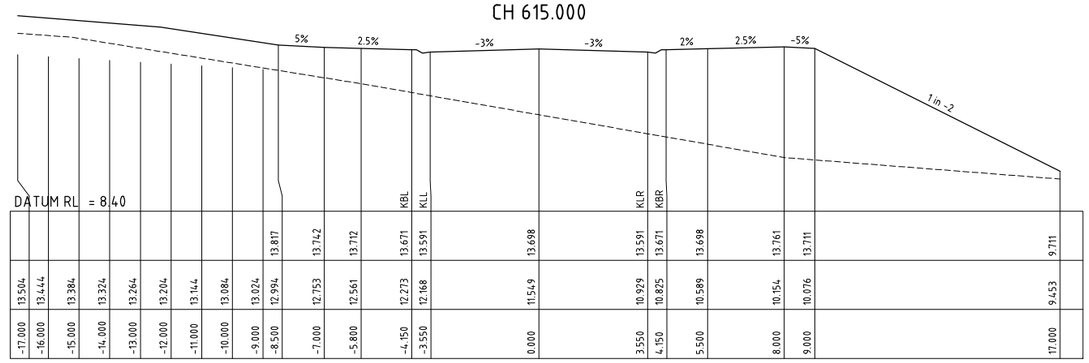
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										14.344	14.354	14.279	14.249	14.208	14.128	14.234		14.121	14.201	14.228		14.290	14.240		11.213		
	14.349	14.241	14.132	14.024	13.915	13.807	13.698	13.590	13.481	13.435	13.432	13.285	13.168	13.088	12.951	12.614		12.256	12.200	12.072		11.829	11.718		11.213	11.161	11.069

CH 630.000



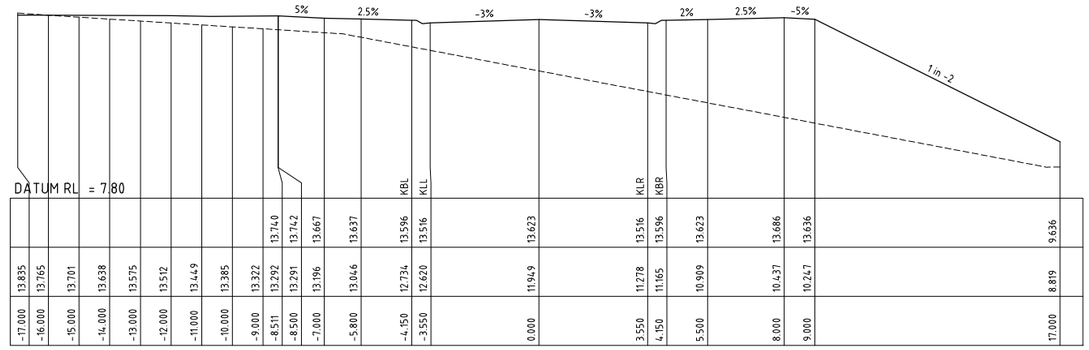
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										13.941	13.911	13.836	13.806	13.765	13.685	13.792		13.685	13.765	13.792		13.855	13.805		10.356		
	14.228	14.086	13.944	13.802	13.660	13.518	13.377	13.235	13.093	13.039	13.022	12.809	12.639	12.404	12.319	11.834		11.433	11.331	11.167		10.927	10.855		10.356	10.349	10.276

CH 615.000



	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.500	-7.000	-5.800	-4.150	-3.550		0.000		3.550	4.150	5.500		8.000	9.000		17.000
										13.817	13.742	13.712	13.671	13.591		13.698		13.591	13.671	13.698		13.761	13.711		9.711
	13.504	13.444	13.384	13.324	13.264	13.204	13.144	13.084	13.024	12.994	12.753	12.561	12.273	12.168		11.549		10.929	10.825	10.589		10.154	10.076		9.453

CH 600.000



	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.511	-8.500	-7.000	-5.800	-4.150	-3.550		0.000		3.550	4.150	5.500		8.000	9.000		17.000
										13.740	13.742	13.667	13.637	13.596	13.516	13.623		13.516	13.596	13.623		13.686	13.636		9.636
	13.835	13.765	13.701	13.638	13.575	13.512	13.449	13.385	13.322	13.292	13.291	13.196	13.046	12.734	12.620	11.949		11.278	11.165	10.909		10.437	10.247		8.819

CH 585.000

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
5	SWALE AMENDMENTS	DB	AS	31.10.22
4	NOT ISSUED			
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale

0 2 4 6 8m

1:100 (A1) 1:200 (A3)

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Designed: A.M

Cad Reference: 19259C dC534 r5

Scale: 1:100

A1 SHEET

Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
ROAD 7 CROSS SECTIONS (6 OF 12)

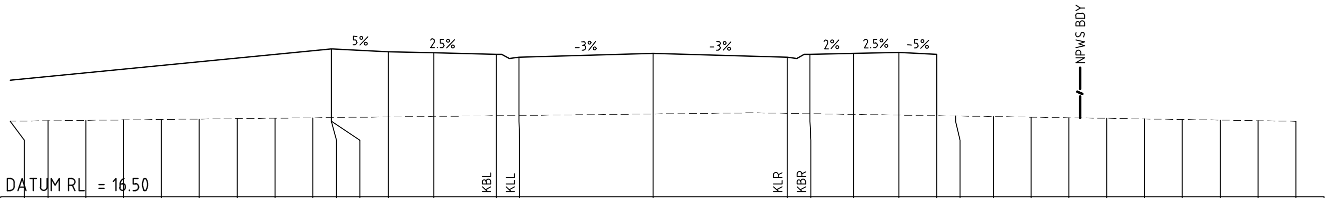
Project No: 19259C

Drawing No: C534

Revision: 5

PLOT DATE: 1/11/2022 11:03:53 AM

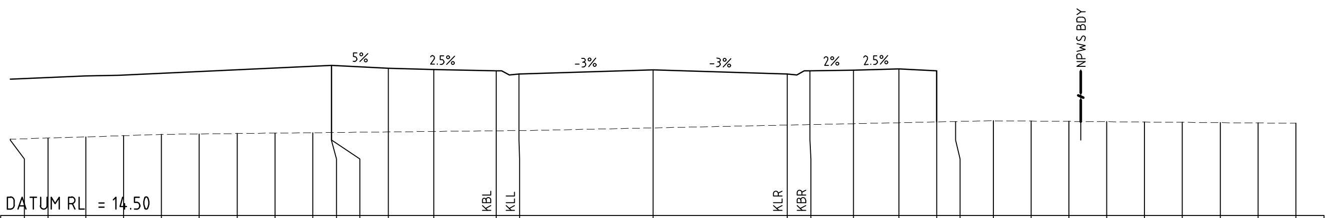
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DATUM RL = 16.50

OFFSET	DESIGN SURFACE	NATURAL SURFACE
-17.000		18.507
-16.000		18.518
-15.000		18.530
-14.000		18.541
-13.000		18.552
-12.000		18.563
-11.000		18.575
-10.000		18.586
-9.000		18.597
-8.503	20.425	18.603
-8.500	20.425	18.603
-7.000	20.350	18.620
-5.800	20.320	18.633
-4.150	20.279	18.652
-3.550	20.199	18.659
0.000	20.306	18.698
3.550	20.199	18.715
4.150	20.279	18.705
5.300	20.302	18.687
6.500	20.332	18.669
7.500	20.282	18.653
8.000		18.645
9.000		18.630
10.000		18.614
11.000		18.598
12.000		18.583
13.000		18.567
14.000		18.551
15.000		18.536
16.000		18.520
17.000		18.505

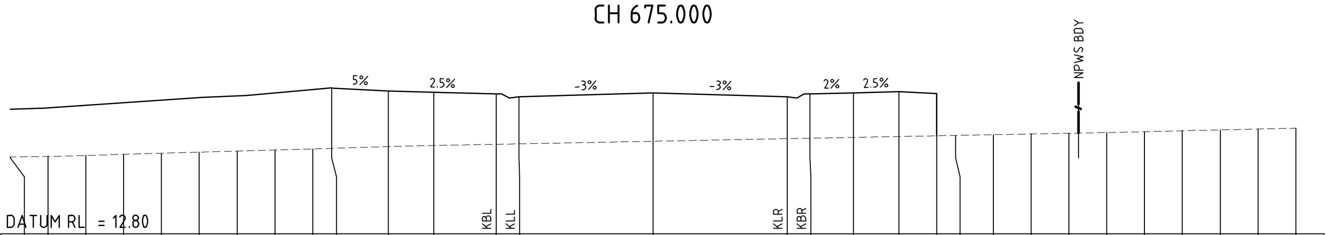
CH 690.000



DATUM RL = 14.50

OFFSET	DESIGN SURFACE	NATURAL SURFACE
-17.000		16.519
-16.000		16.551
-15.000		16.582
-14.000		16.613
-13.000		16.644
-12.000		16.659
-11.000		16.670
-10.000		16.681
-9.000		16.691
-8.508	18.473	16.697
-8.500	18.475	16.697
-7.000	18.400	16.713
-5.800	18.370	16.726
-4.150	18.329	16.743
-3.550	18.249	16.750
0.000	18.356	16.820
3.550	18.249	16.895
4.150	18.329	16.907
5.300	18.352	16.932
6.500	18.382	16.957
7.500	18.332	16.978
8.000		16.988
9.000		17.008
10.000		17.000
11.000		16.992
12.000		16.983
13.000		16.975
14.000		16.967
15.000		16.959
16.000		16.950
17.000		16.942

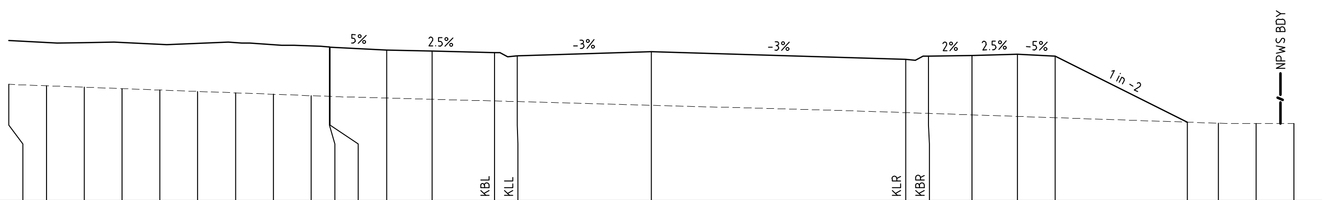
CH 675.000



DATUM RL = 12.80

OFFSET	DESIGN SURFACE	NATURAL SURFACE
-17.000		14.826
-16.000		14.842
-15.000		14.867
-14.000		14.897
-13.000		14.926
-12.000		14.955
-11.000		14.984
-10.000		15.013
-9.000		15.043
-8.501	16.645	15.057
-7.000	16.570	15.101
-5.800	16.540	15.131
-4.150	16.499	15.163
-3.550	16.419	15.175
0.000	16.526	15.244
3.550	16.419	15.312
4.150	16.499	15.323
5.300	16.522	15.345
6.500	16.552	15.368
7.500	16.502	15.388
8.000		15.397
9.000		15.416
10.000		15.436
11.000		15.455
12.000		15.474
13.000		15.496
14.000		15.519
15.000		15.543
16.000		15.566
17.000		15.590

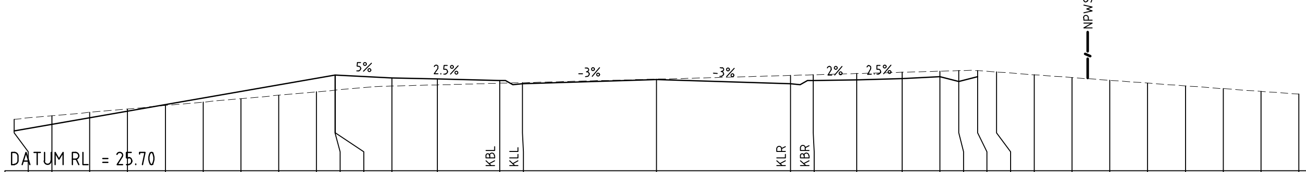
CH 660.000



DATUM RL = 11.20

OFFSET	DESIGN SURFACE	NATURAL SURFACE
-17.000		14.278
-16.000		14.241
-15.000		14.203
-14.000		14.166
-13.000		14.128
-12.000		14.091
-11.000		14.053
-10.000		14.016
-9.000		13.978
-8.517	15.261	13.960
-8.500	15.265	13.960
-7.000	15.190	13.916
-5.800	15.160	13.883
-4.150	15.119	13.838
-3.550	15.039	13.822
0.000	15.146	13.725
6.736	14.944	13.529
7.336	15.024	13.509
8.486	15.047	13.470
9.686	15.077	13.430
10.686	15.027	13.396
14.184	13.277	13.277
15.000		13.250
16.000		13.239
17.000		13.238

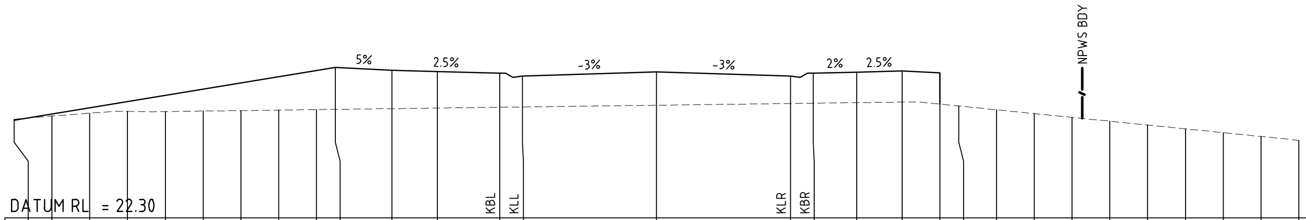
CH 645.000



DATUM RL = 25.70

OFFSET	DESIGN SURFACE	NATURAL SURFACE
-17.000		27.062
-16.000		27.152
-15.000		27.242
-14.000		27.333
-13.000		27.423
-12.000		27.513
-11.000		27.603
-10.000		27.693
-9.000		27.783
-8.507	28.224	27.828
-8.500	28.225	27.828
-7.000	28.150	27.936
-5.800	28.120	27.967
-4.150	28.079	28.010
-3.550	27.999	28.026
0.000	28.106	28.119
3.550	27.999	28.216
4.150	28.079	28.233
5.300	28.102	28.265
6.500	28.132	28.299
7.500	28.182	28.327
8.000	28.057	28.341
8.500	28.182	28.343
9.000		28.307
10.000		28.234
11.000		28.161
12.000		28.088
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14.000		27.942
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16.000		27.796
17.000		27.722

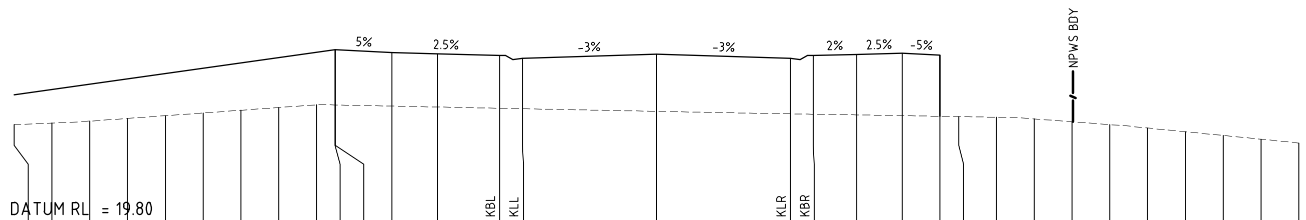
CH 750.000



DATUM RL = 22.30

OFFSET	DESIGN SURFACE	NATURAL SURFACE
-17.000		24.906
-16.000		24.991
-15.000		25.067
-14.000		25.116
-13.000		25.110
-12.000		25.123
-11.000		25.136
-10.000		25.149
-9.000		25.162
-8.501	26.275	25.168
-7.000	26.200	25.187
-5.800	26.170	25.203
-4.150	26.129	25.224
-3.550	26.049	25.232
0.000	26.156	25.278
3.550	26.049	25.324
4.150	26.129	25.331
5.300	26.152	25.346
6.500	26.182	25.362
7.500	26.132	25.309
8.000		25.258
9.000		25.157
10.000		25.057
11.000		24.956
12.000		24.855
13.000		24.754
14.000		24.653
15.000		24.553
16.000		24.452
17.000		24.351

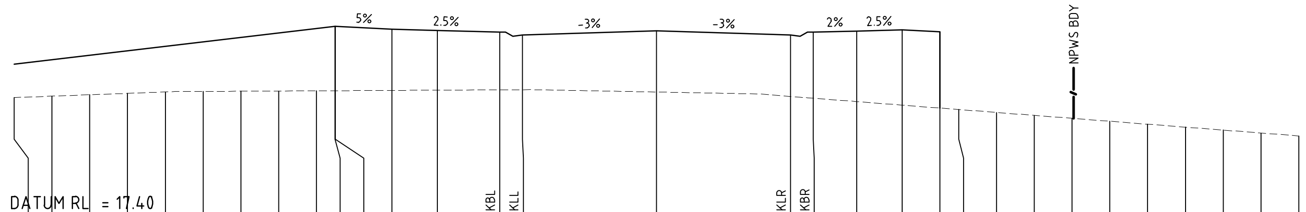
CH 735.000



DATUM RL = 19.80

OFFSET	DESIGN SURFACE	NATURAL SURFACE
-17.000		22.344
-16.000		22.388
-15.000		22.438
-14.000		22.510
-13.000		22.582
-12.000		22.654
-11.000		22.726
-10.000		22.798
-9.000		22.870
-8.506	24.324	22.865
-8.500	24.325	22.865
-7.000	24.250	22.836
-5.800	24.220	22.812
-4.150	24.179	22.779
-3.550	24.099	22.767
0.000	24.206	22.697
3.550	24.099	22.633
4.150	24.179	22.623
5.300	24.202	22.603
6.500	24.232	22.583
7.500	24.182	22.566
8.000		22.558
9.000		22.541
10.000		22.496
11.000		22.422
12.000		22.347
13.000		22.257
14.000		22.158
15.000		22.059
16.000		21.960
17.000		21.861

CH 720.000



DATUM RL = 17.40

OFFSET	DESIGN SURFACE	NATURAL SURFACE
-17.000		20.498
-16.000		20.535
-15.000		20.572
-14.000		20.609
-13.000		20.647
-12.000		20.660
-11.000		20.666
-10.000		20.671
-9.000		20.676
-8.510	22.373	20.679
-8.500	22.375	20.679
-7.000	22.300	20.687
-5.800	22.270	20.693
-4.150	22.229	20.702
-3.550	22.149	20.705
0.000	22.256	20.644
3.550	22.149	20.528
4.150	22.229	20.481
5.300	22.252	20.392
6.500	22.282	20.299
7.500	22.232	20.222
8.000		20.183
9.000		20.105
10.000		20.028
11.000		19.950
12.000		19.873
13.000		19.795
14.000		19.718
15.000		19.640
16.000		19.563
17.000		19.486

CH 705.000

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
5	SWALE AMENDMENTS	DB	AS	31.10.22
4	NPWS BDY ADDED	DB	AS	04.08.22
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale
0 2 4 6 8m
1:100 (A1) 1:200 (A3)

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Cad Reference: 19259C dC535 r5
Scale: 1:100
A1 SHEET
Project Approval: IAN HILL (B.E) Consulting Civil Engineer

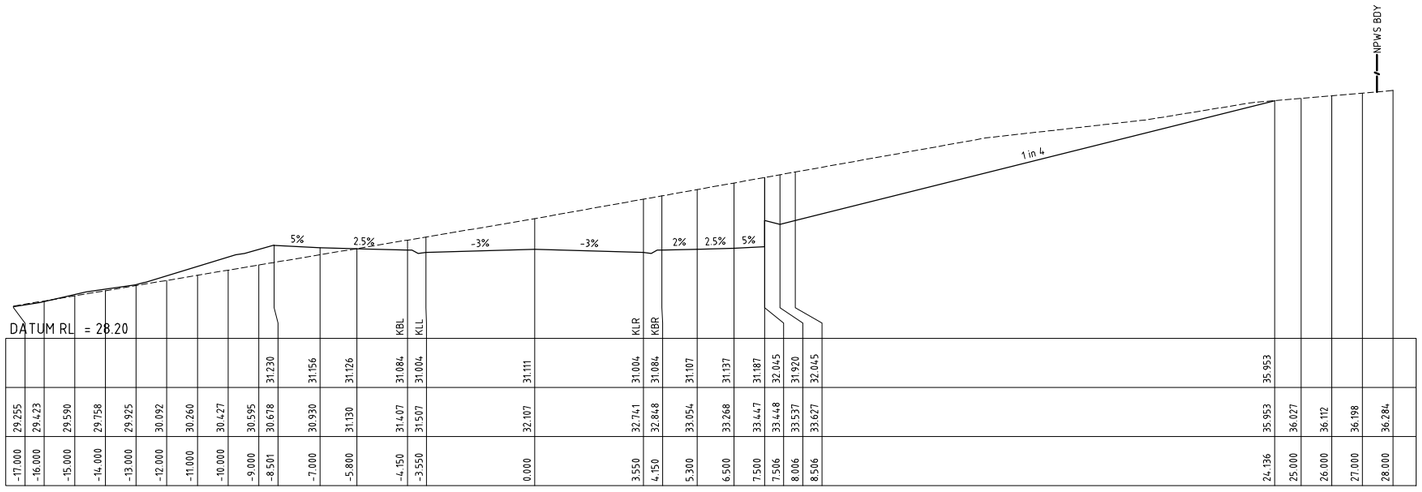
Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
ROAD 7 CROSS SECTIONS (7 OF 12

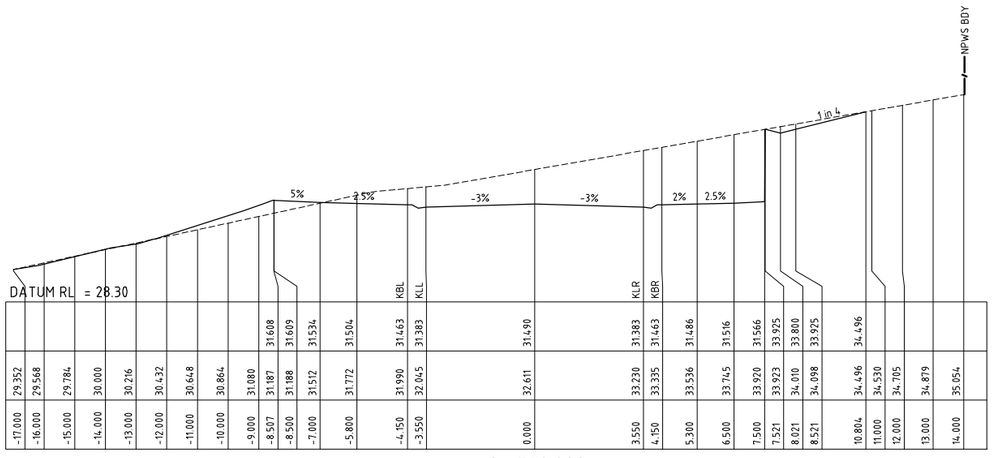
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Drawing No: C535
Revision: 5

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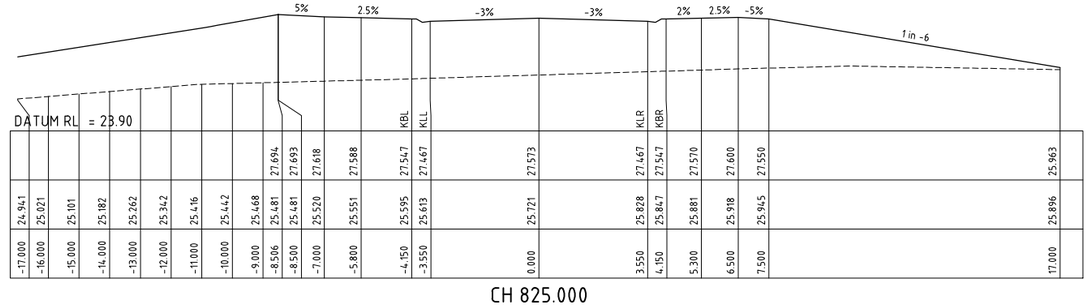
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	29.255	29.423	29.590	29.758	29.925	30.092	30.260	30.427	30.595	30.678	31.230	30.930	31.126	31.407	31.507	32.107	32.741	32.848	33.054	33.268	33.447	33.448	33.537	33.627	35.953	36.027	36.112	36.198	36.284
											31.230	31.156	31.126	31.084	31.004	31.111	31.004	31.084	31.107	31.137	31.187	32.045	31.920	32.045	35.953				

CH 795.000



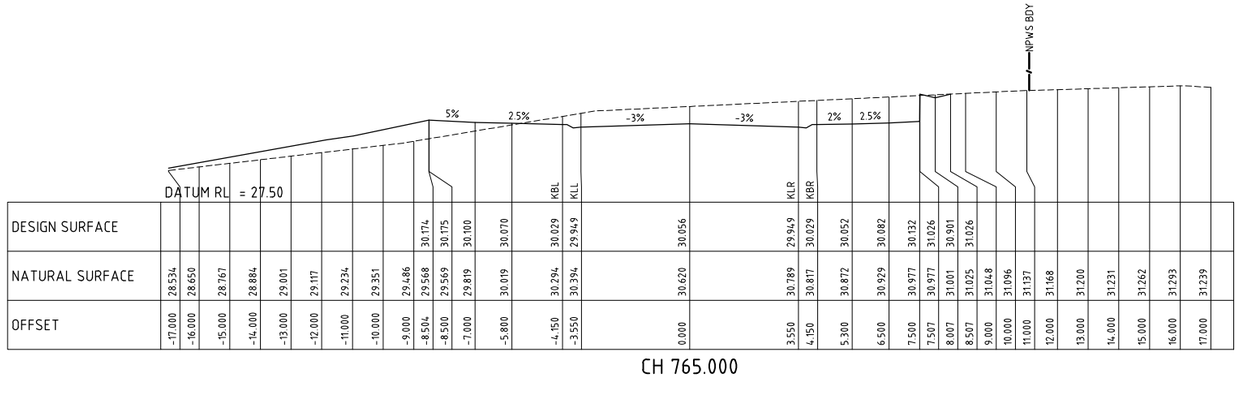
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	29.352	29.568	29.784	30.000	30.216	30.432	30.648	30.864	31.080	31.187	31.608	31.512	31.772	31.990	32.045	32.611	33.230	33.335	33.536	33.745	33.920	33.923	34.010	34.098	34.496	34.530	34.705	34.879	35.054
										31.187	31.609	31.534	31.504	31.463	31.383	31.490	31.383	31.463	31.486	31.516	31.566	33.925	33.800	33.925	34.496				

CH 780.000



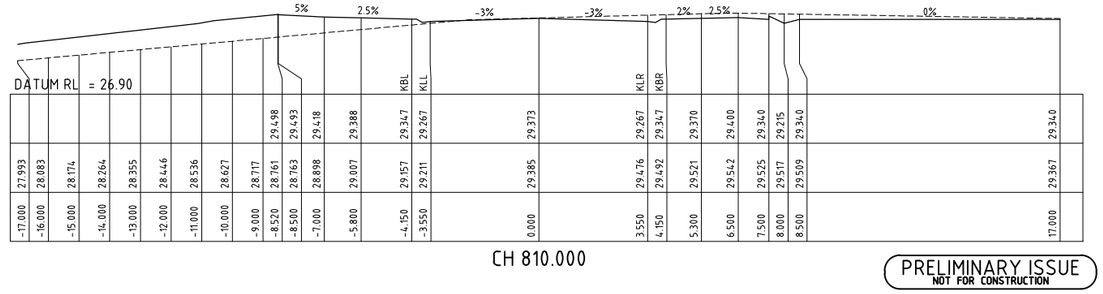
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	24.941	25.021	25.101	25.182	25.262	25.342	25.416	25.442	25.468	25.481	25.481	25.520	25.551	25.595	25.613	25.721	25.828	25.847	25.881	25.918	25.945	25.896
									27.694	27.693	27.618	27.588	27.547	27.467	27.573	27.467	27.547	27.570	27.600	27.550	25.963	

CH 825.000



	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.504	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	7.507	8.007	8.507	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000
DESIGN SURFACE										30.174	30.175	30.100	30.070	30.029	29.949	30.056	29.949	30.029	30.052	30.082	30.132	31.026	30.901	31.026									
NATURAL SURFACE	28.534	28.650	28.767	28.884	29.001	29.117	29.234	29.351	29.486	29.568	29.569	29.819	30.019	30.294	30.394	30.620	30.789	30.817	30.872	30.929	30.977	30.977	31.001	31.025	31.048	31.096	31.137	31.168	31.200	31.231	31.262	31.293	31.239
OFFSET	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.504	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	7.507	8.007	8.507	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000

CH 765.000



	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.520	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	8.000	8.500	17.000
	27.993	28.083	28.174	28.264	28.355	28.446	28.536	28.627	28.717	28.761	28.763	28.898	29.007	29.157	29.211	29.385	29.476	29.492	29.521	29.542	29.525	29.517	29.509	29.367
									29.498	29.493	29.418	29.388	29.347	29.267	29.373	29.267	29.347	29.370	29.400	29.340	29.215	29.340	29.340	

CH 810.000

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
5	SWALE AMENDMENTS	DB	AS	31.10.22
4	NPWS BDY ADDED	DB	AS	04.08.22
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale
0 2 4 6 8m
1:100 (A1) 1:200 (A3)

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Designed: A.M
Cad Reference: 19259C dC536 r5
Scale: 1:100
A1 SHEET
Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

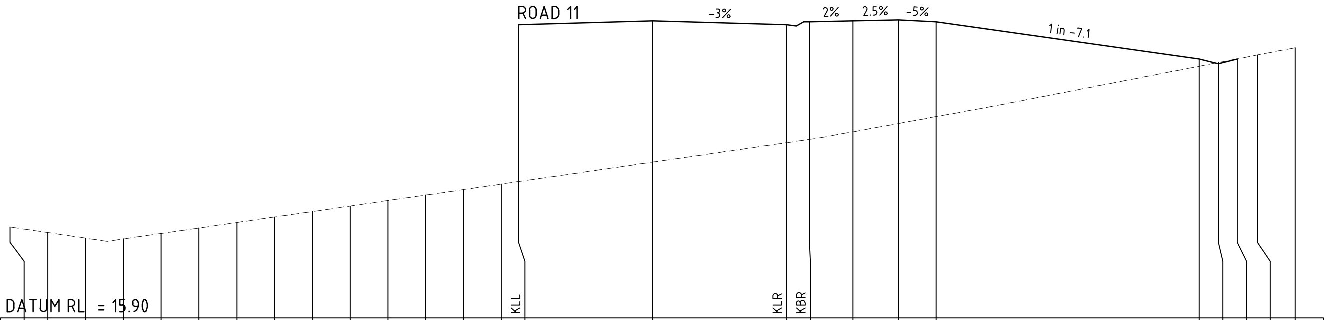
Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
ROAD 7 CROSS SECTIONS (8 OF 12

Project No: 19259C
Drawing No: C536
Revision: 5

PLOT DATE: 1/11/2022 11:05:14 AM
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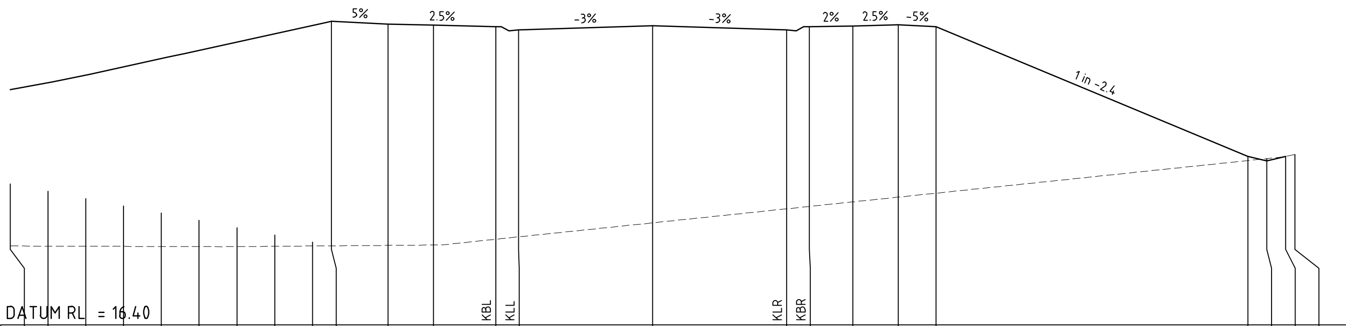


DATUM RL = 15.90

DESIGN SURFACE														23.655	23.761	23.655	23.735	23.758	23.788	23.738	22.754	22.629	22.754		
NATURAL SURFACE	18.306	18.160	18.013	17.991	18.137	18.282	18.427	18.572	18.717	18.862	19.007	19.152	19.298	19.443	19.508	20.023	20.538	20.625	20.826	21.044	21.226	22.560	22.657	22.754	22.857	23.051
OFFSET	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.000	-7.000	-6.000	-5.000	-4.000	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	14.466	14.966	15.466	16.000	17.000

Note: in the DESIGN SURFACE row, 23.655 (the first value) sits in the -3.550 column, one column to the right of the -4.000 natural-surface value.

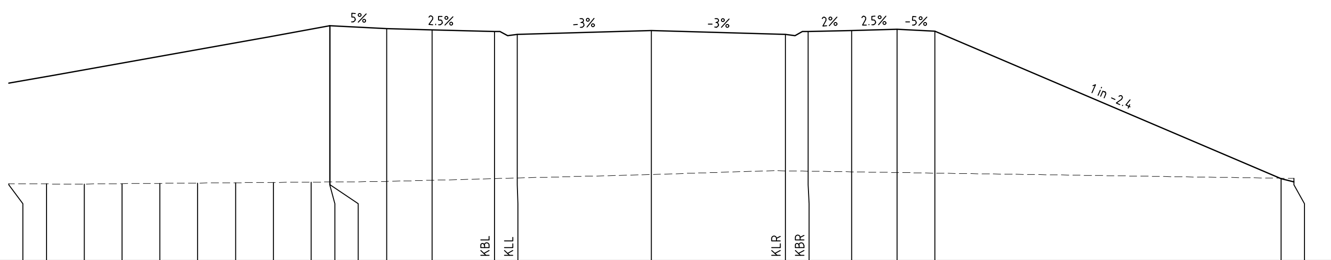
CH 870.000



DATUM RL = 16.40

DESIGN SURFACE									24.440	24.365	24.335	24.294	24.214	24.320	24.214	24.294	24.317	24.347	24.297	20.863	20.738	20.863	
NATURAL SURFACE	20.128	19.935	19.743	19.550	19.358	19.165	18.972	18.780	18.587	18.491	18.503	18.513	18.665	18.728	19.100	19.471	19.534	19.655	19.780	19.885	20.750	20.802	20.863	20.907
OFFSET	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	15.758	16.258	16.758	17.000

CH 855.000

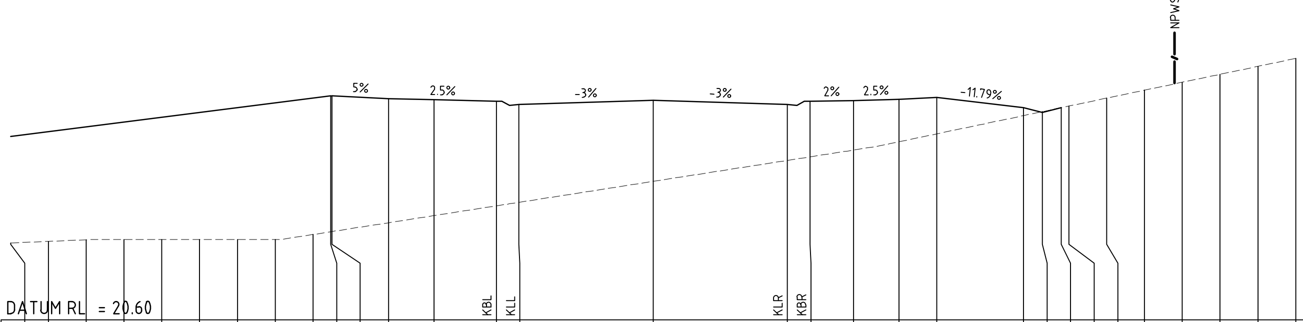


DATUM RL = 19.70

DESIGN SURFACE									25.894	25.893	25.818	25.788	25.747	25.667	25.773	25.667	25.747	25.770	25.800	25.750	21.856	21.771
NATURAL SURFACE	21.723	21.720	21.719	21.727	21.735	21.744	21.752	21.760	21.768	21.772	21.772	21.787	21.818	21.861	21.876	21.971	22.065	22.056	22.039	22.021	22.007	21.871	21.866
OFFSET	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.506	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	16.660	17.000

Note: the DESIGN SURFACE row has one fewer value than the other two rows. The first design value, 25.894, sits under offset -8.506, and the last two, 21.856 and 21.771, sit under offsets 16.660 and 17.000.

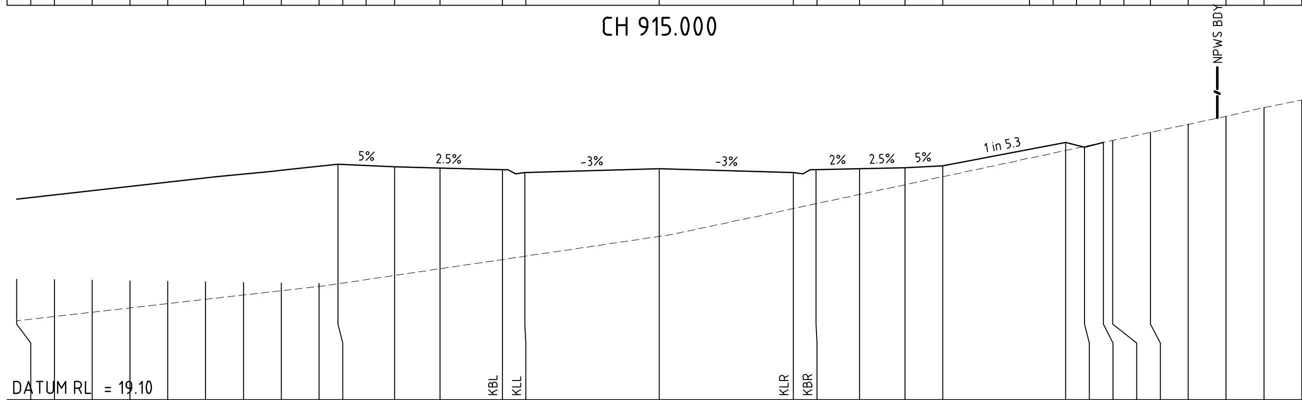
CH 840.000



DATUM RL = 20.60

DESIGN SURFACE										26.519	26.528	26.453	26.423	26.382	26.302	26.408	26.302	26.382	26.405	26.435	26.485	26.214	26.089	26.214						
NATURAL SURFACE	22.635	22.678	22.721	22.730	22.729	22.728	22.727	22.726	22.859	22.932	22.937	23.171	23.359	23.617	23.710	24.265	24.820	24.913	25.093	25.312	25.522	26.004	26.109	26.214	26.257	26.467	26.677	26.887	27.097	27.307	27.517
OFFSET	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.535	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	9.795	10.295	10.795	11.000	12.000	13.000	14.000	15.000	16.000	17.000

CH 915.000

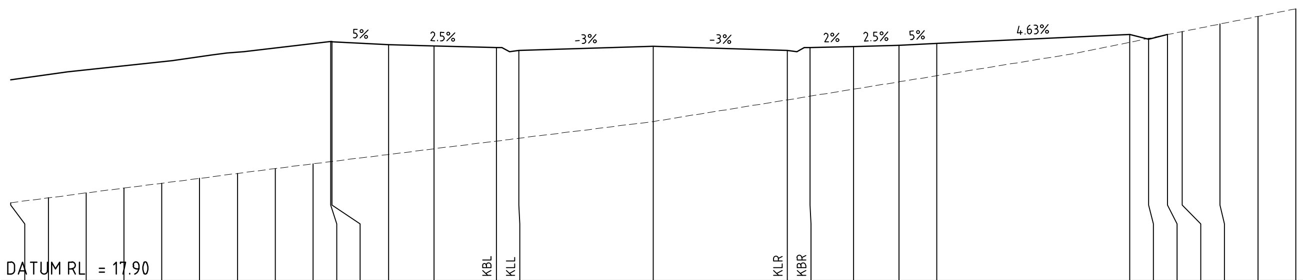


DATUM RL = 19.10

DESIGN SURFACE									25.328	25.253	25.223	25.182	25.102	25.208	25.102	25.182	25.205	25.235	25.285	25.900	25.775	25.900						
NATURAL SURFACE	22.289	22.274	22.260	22.245	22.231	22.216	22.202	22.187	22.173	22.166	22.386	22.563	22.805	22.894	23.416	24.152	24.280	24.525	24.781	24.994	25.687	25.794	25.900	25.952	26.165	26.378	26.588	26.819	27.019
OFFSET	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	10.757	11.257	11.757	12.000	13.000	14.000	15.000	16.000	17.000

Note: in the DESIGN SURFACE row, the first value, 25.328, sits under offset -8.500.

CH 900.000



DATUM RL = 17.90

DESIGN SURFACE										24.230	24.221	24.146	24.116	24.075	23.995	24.102	23.995	24.075	24.098	24.128	24.178	24.415	24.290	24.415			
NATURAL SURFACE	19.960	20.089	20.219	20.348	20.477	20.606	20.735	20.864	20.991	21.048	21.053	21.239	21.389	21.594	21.668	22.112	22.685	22.782	22.968	23.162	23.323	24.213	24.314	24.415	24.493	24.695	24.897	25.099
OFFSET	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.535	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	12.611	13.111	13.611	14.000	15.000	16.000	17.000

CH 885.000

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
5	SWALE AMENDMENTS	DB	AS	31.10.22
4	NPWS BDY ADDED	DB	AS	04.08.22
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale
0 2 4 6 8m
1:100 (A1) 1:200 (A3)

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Designed: A.M
Cad Reference: 19259C dC537 r5
Scale: 1:100
A1 SHEET
Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

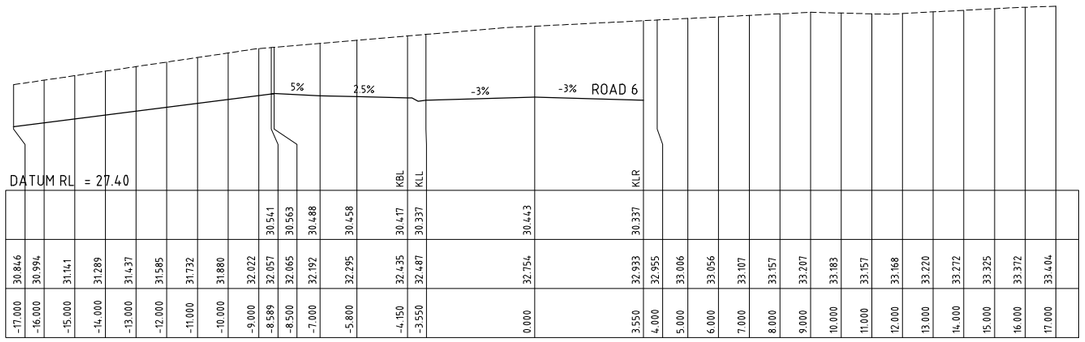
Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
ROAD 7 CROSS SECTIONS (9 OF 12

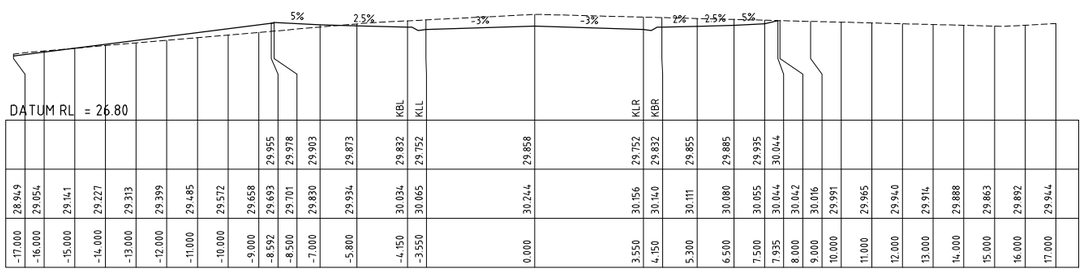
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Drawing No: C537
Revision: 5

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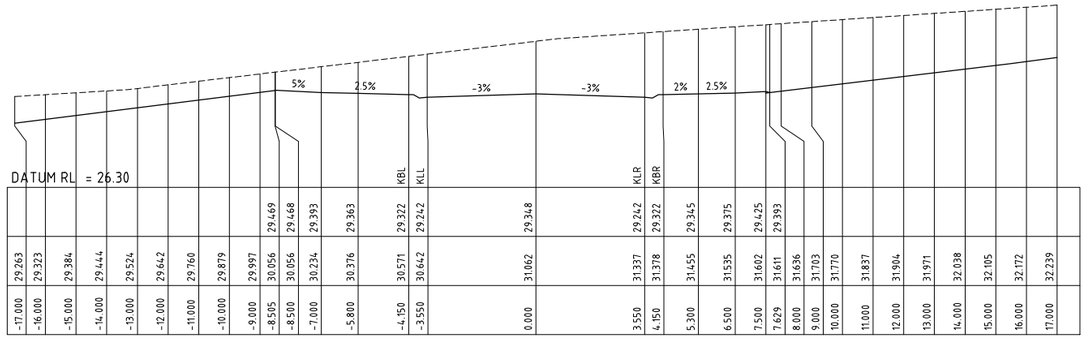
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										30.541	30.563	30.488	30.458	30.417	30.337	30.443	30.337														
	30.846	30.994	31.141	31.289	31.437	31.585	31.732	31.880	32.022	32.057	32.065	32.192	32.295	32.435	32.487	32.754	32.933	32.955	33.006	33.056	33.107	33.157	33.207	33.183	33.157	33.168	33.220	33.272	33.325	33.372	33.404

CH 975.000



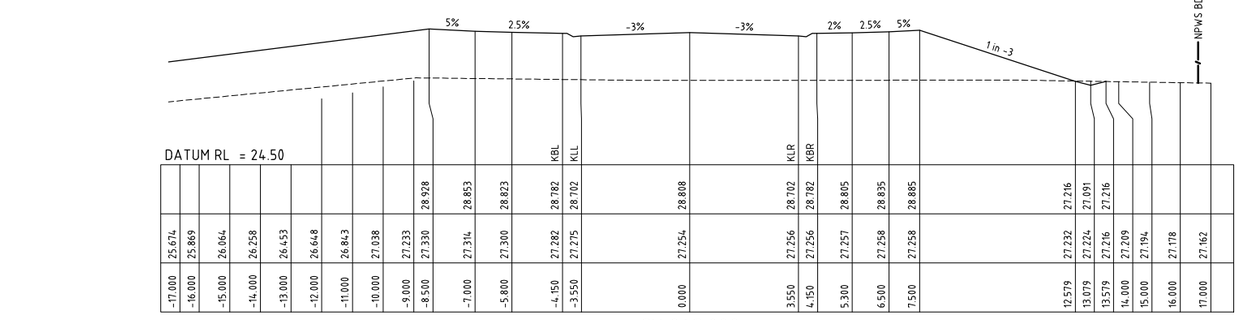
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										29.955	29.978	29.903	29.873	29.832	29.752	29.858	29.752	29.832	29.855	29.885	29.935	30.044									
	28.949	29.054	29.141	29.227	29.313	29.399	29.485	29.572	29.658	29.693	29.701	29.830	29.934	30.034	30.065	30.244	30.156	30.140	30.111	30.080	30.055	30.044	30.042	30.016	29.991	29.965	29.940	29.914	29.888	29.863	29.892	29.944

CH 960.000



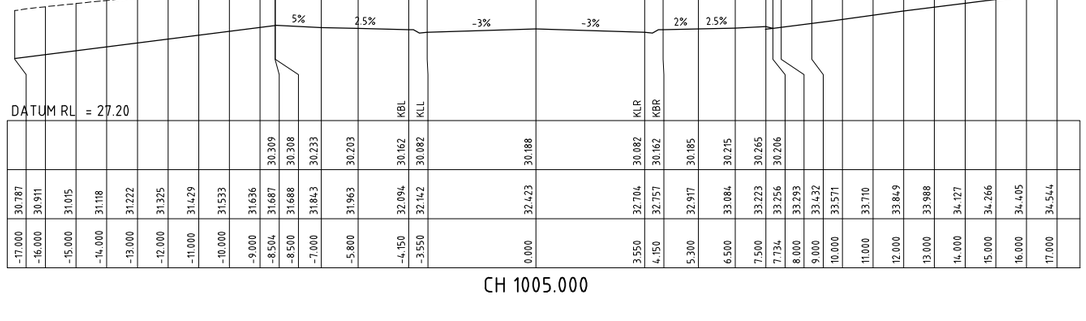
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										29.469	29.488	29.393	29.363	29.322	29.242	29.348	29.242	29.322	29.365	29.375	29.425	29.393									
	29.263	29.323	29.384	29.444	29.524	29.642	29.760	29.879	29.997	30.056	30.056	30.234	30.376	30.571	30.642	31.062	31.337	31.378	31.455	31.535	31.602	31.611	31.636	31.703	31.770	31.837	31.904	31.971	32.038	32.105	32.172	32.239

CH 1020.000



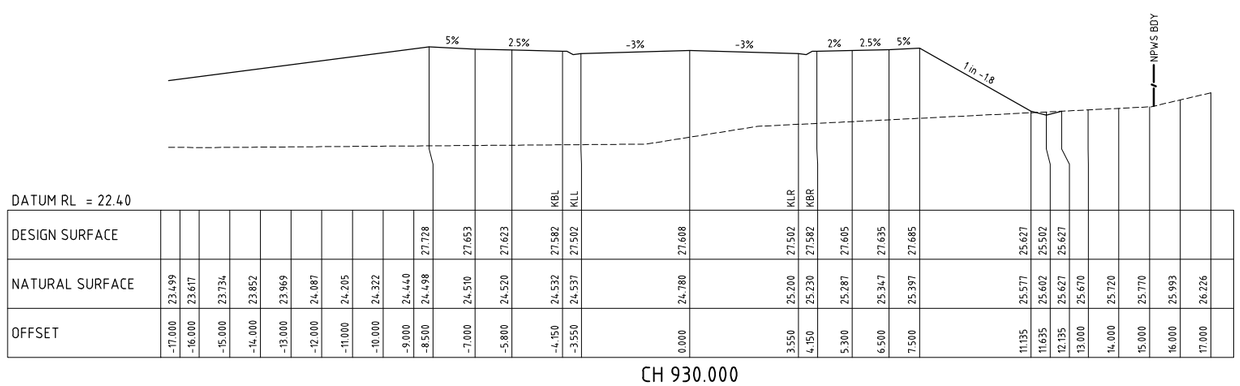
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										28.928	28.853	28.823	28.782	28.702	28.808	28.702	28.782	28.805	28.835	28.885	27.216	27.091	27.216				
	25.674	25.869	26.064	26.258	26.453	26.648	26.843	27.038	27.233	27.330	27.314	27.300	27.282	27.275	27.254	27.256	27.256	27.257	27.258	27.258	27.232	27.224	27.246	27.209	27.194	27.178	27.162

CH 945.000



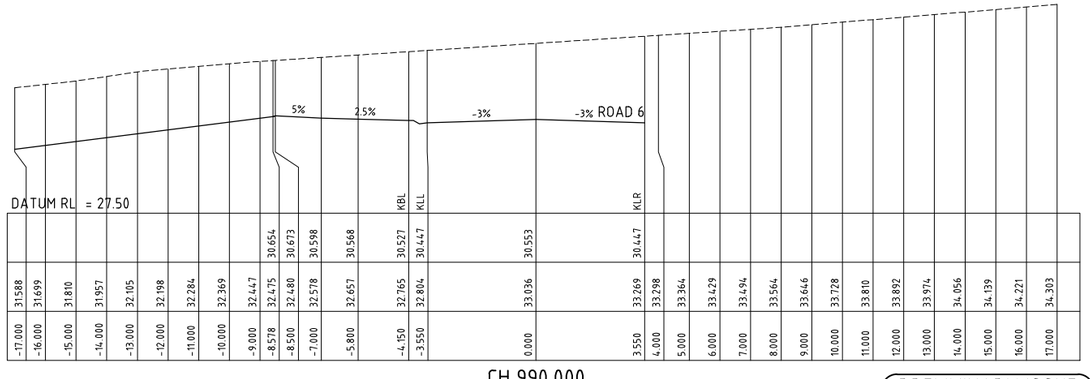
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										30.309	30.308	30.233	30.203	30.162	30.082	30.188	30.082	30.162	30.185	30.215	30.265	30.206									
	30.787	30.911	31.015	31.118	31.222	31.325	31.429	31.533	31.636	31.687	31.688	31.843	31.963	32.094	32.142	32.423	32.704	32.757	32.917	33.084	33.223	33.256	33.293	33.432	33.571	33.710	33.849	33.988	34.127	34.266	34.405	34.544

CH 1005.000



	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	11.135	11.635	12.135	13.000	14.000	15.000	16.000	17.000
DESIGN SURFACE										27.728	27.653	27.623	27.582	27.502	27.608	27.502	27.582	27.605	27.635	27.685	25.627	25.592	25.627					
NATURAL SURFACE	23.499	23.617	23.734	23.852	23.969	24.087	24.205	24.322	24.440	24.498	24.510	24.520	24.532	24.537	24.780	25.200	25.230	25.287	25.347	25.397	25.577	25.602	25.627	25.670	25.720	25.770	25.993	26.226
OFFSET	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	11.135	11.635	12.135	13.000	14.000	15.000	16.000	17.000

CH 930.000



	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.578	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.000	5.000	6.000	7.000	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000
										30.654	30.613	30.598	30.568	30.527	30.447	30.553	30.447														
	31.588	31.699	31.810	31.957	32.105	32.198	32.284	32.369	32.447	32.475	32.480	32.578	32.657	32.765	32.804	33.036	33.269	33.298	33.364	33.429	33.494	33.564	33.646	33.728	33.810	33.892	33.974	34.056	34.139	34.221	34.303

CH 990.000

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
5	SWALE AMENDMENTS	DB	AS	31.10.22
4	NPWS BDY ADDED	DB	AS	04.08.22
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale
0 2 4 6 8m
1:100 (A1) 1:200 (A3)

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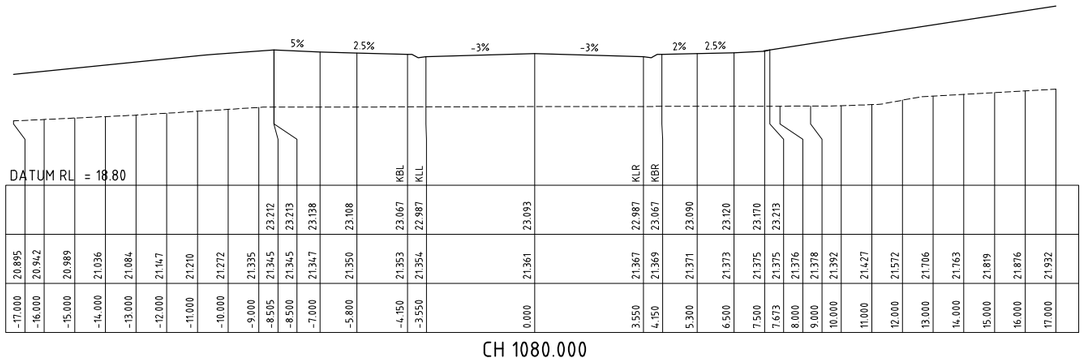
Designed A.M
Cad Reference 19259C dC538 r5
Scale 1:100
A1 SHEET
Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

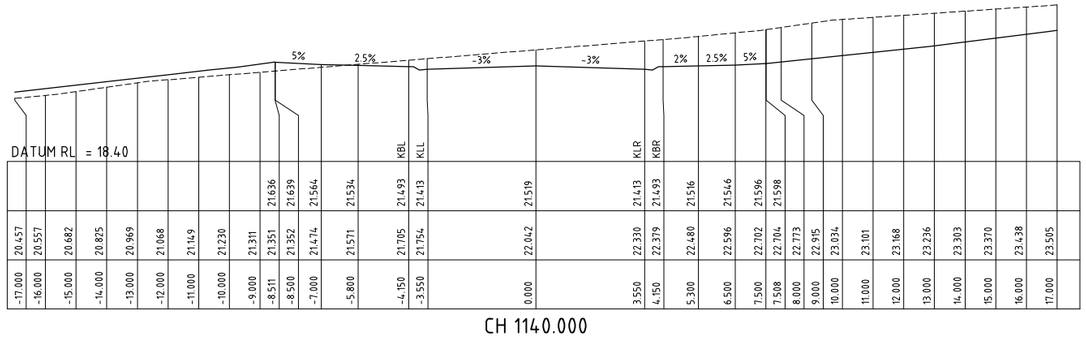
PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
ROAD 7 CROSS SECTIONS (10 OF 12

Project No 19259C
Drawing No C538
Revision 5



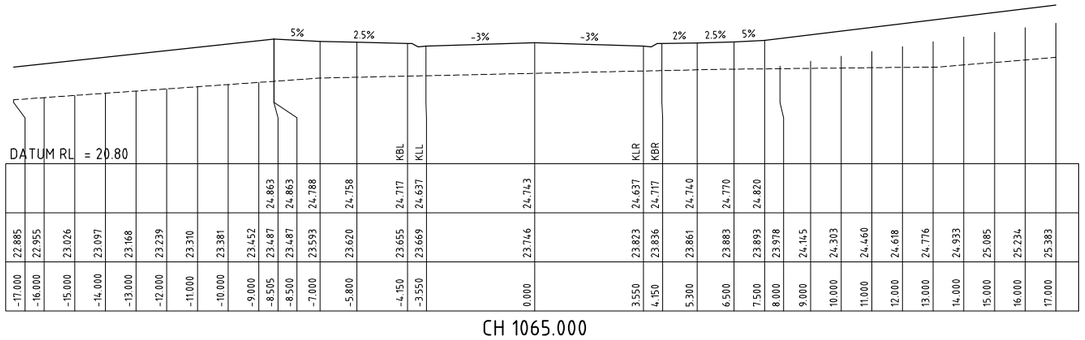
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	20.895	20.942	20.989	21.036	21.084	21.147	21.210	21.272	21.335	23.212	23.213	23.138	23.108	23.067	22.987	23.093	22.987	23.067	23.090	23.120	23.170	23.213										
	25.045	25.120	25.194	25.268	25.342	25.417	25.491	25.565	25.639	25.677	25.788	25.877	25.963	25.974	26.038	26.107	26.122	26.149	26.178	26.202	26.277	26.426	26.515	26.723	26.876	27.032	27.188	27.344	27.501	27.657		

CH 1080.000



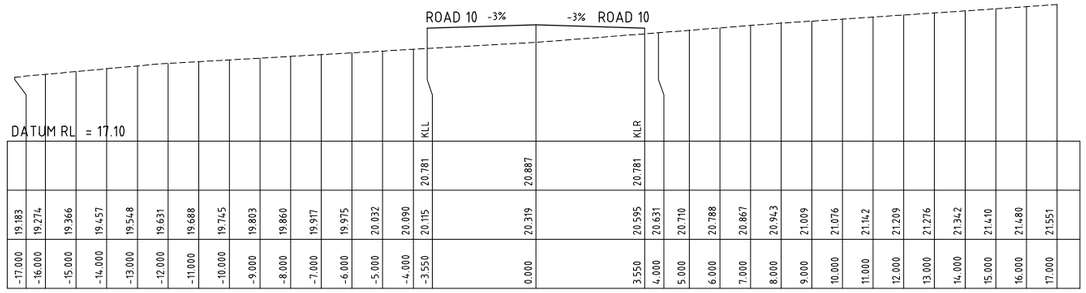
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	20.457	20.557	20.682	20.825	20.969	21.068	21.149	21.230	21.311	21.351	21.352	21.474	21.534	21.493	21.413	21.519	22.042	22.330	22.379	22.480	22.596	22.702	22.704	22.773	22.915	23.034	23.101	23.168	23.236	23.303	23.370	23.438	23.505

CH 1140.000



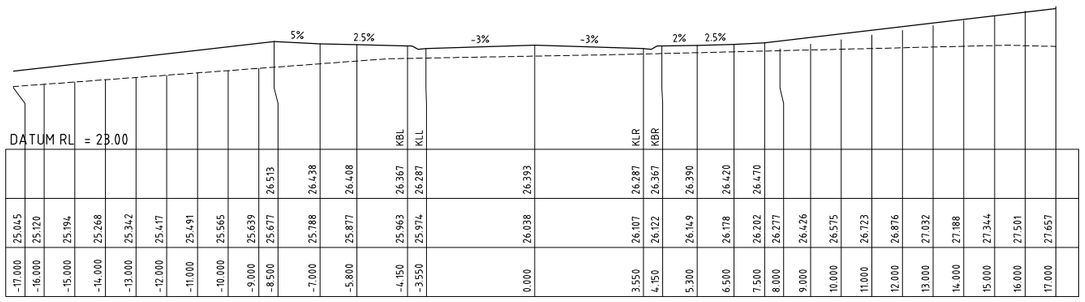
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	22.885	22.955	23.026	23.097	23.168	23.239	23.310	23.381	23.452	23.487	23.487	23.593	23.620	23.655	23.669	23.746	23.823	23.836	23.861	23.883	23.893	23.978	24.145	24.303	24.460	24.618	24.776	24.933	25.085	25.234	25.383
	24.863	24.863	24.788	24.758	24.717	24.637	24.637	24.717	24.740	24.770	24.820																				

CH 1065.000



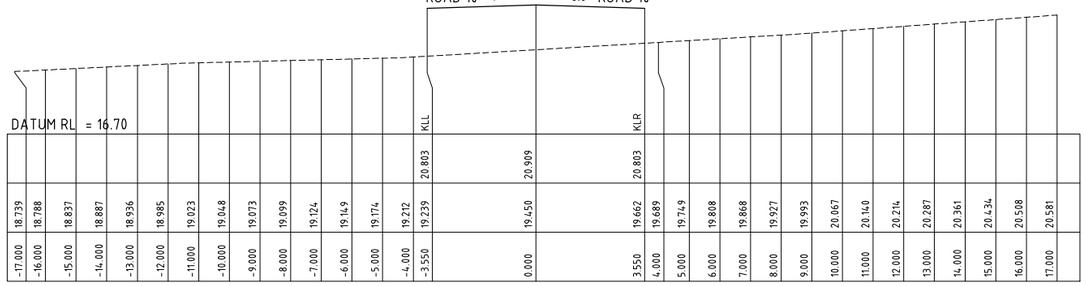
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	19.183	19.274	19.366	19.457	19.548	19.631	19.688	19.745	19.803	19.860	19.917	19.975	20.032	20.090	20.115	20.319	20.595	20.631	20.710	20.788	20.867	20.943	21.009	21.076	21.142	21.209	21.276	21.342	21.410	21.480	21.551
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CH 1125.000



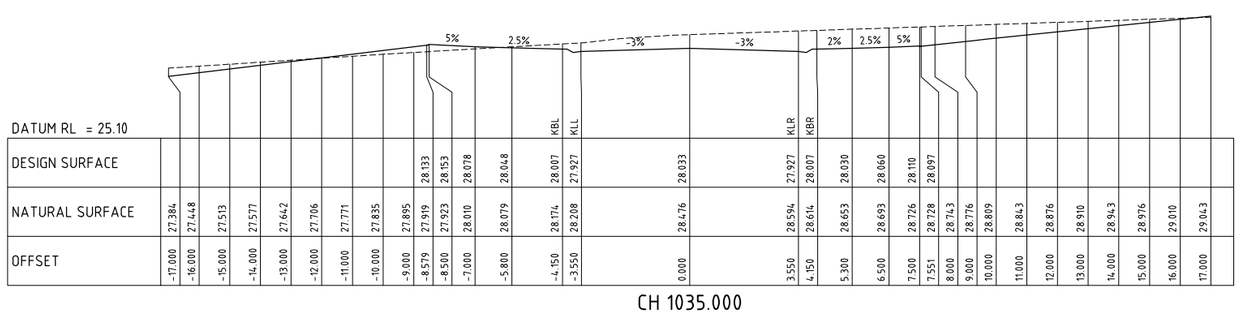
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	25.045	25.120	25.194	25.268	25.342	25.417	25.491	25.565	25.639	25.677	25.788	25.877	25.963	25.974	26.038	26.107	26.122	26.149	26.178	26.202	26.277	26.426	26.575	26.723	26.876	27.032	27.188	27.344	27.501	27.657
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CH 1050.000



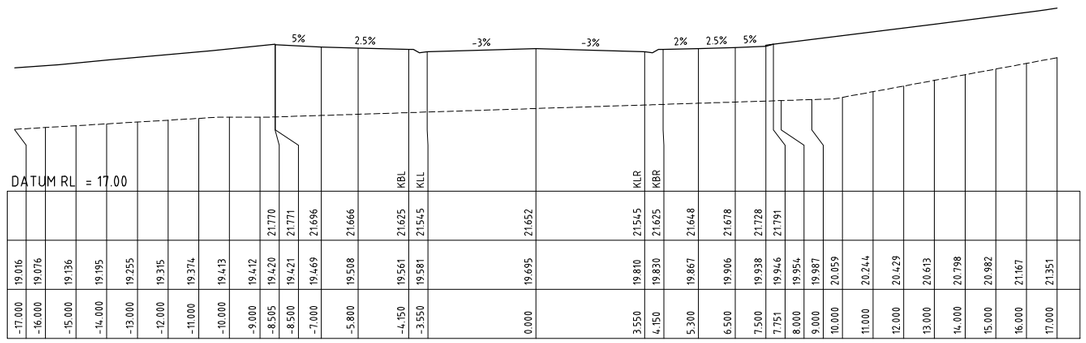
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	18.739	18.788	18.837	18.887	18.936	18.985	19.023	19.048	19.073	19.099	19.124	19.149	19.174	19.212	19.239	19.450	19.662	19.689	19.749	19.808	19.868	19.927	19.993	20.067	20.140	20.214	20.287	20.361	20.434	20.508	20.581
	20.803	20.909	20.803																												

CH 1110.000



	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.579	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	7.551	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000
	27.384	27.448	27.513	27.577	27.642	27.706	27.771	27.835	27.895	27.919	27.923	28.010	28.079	28.174	28.208	28.476	28.594	28.614	28.653	28.693	28.726	28.728	28.743	28.776	28.809	28.843	28.876	28.910	28.943	28.976	29.010	29.043
	28.133	28.153	28.078	28.048	28.007	27.927	28.033	27.927	28.007	28.030	28.060	28.110	28.097																			

CH 1035.000



	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.595	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	7.751	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000
	19.016	19.076	19.136	19.195	19.255	19.315	19.374	19.413	19.412	19.420	19.421	19.469	19.508	19.561	19.581	19.695	19.810	19.830	19.867	19.906	19.938	19.946	19.954	19.987	20.059	20.244	20.429	20.613	20.798	20.982	21.167	21.351
	21.770	21.771	21.696	21.666	21.625	21.545	21.652	21.545	21.625	21.648	21.678	21.728	21.791																			

CH 1095.000

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
4	SWALE AMENDMENTS	DB	AS	31.10.22
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale

0 2 4 6 8m
1:100 (A1) 1:200 (A3)

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Designed: A.M
Cad Reference: 19259C dC539 r5
Scale: 1:100
A1 SHEET
Project Approval: IAN HILL (B.E) Consulting Civil Engineer

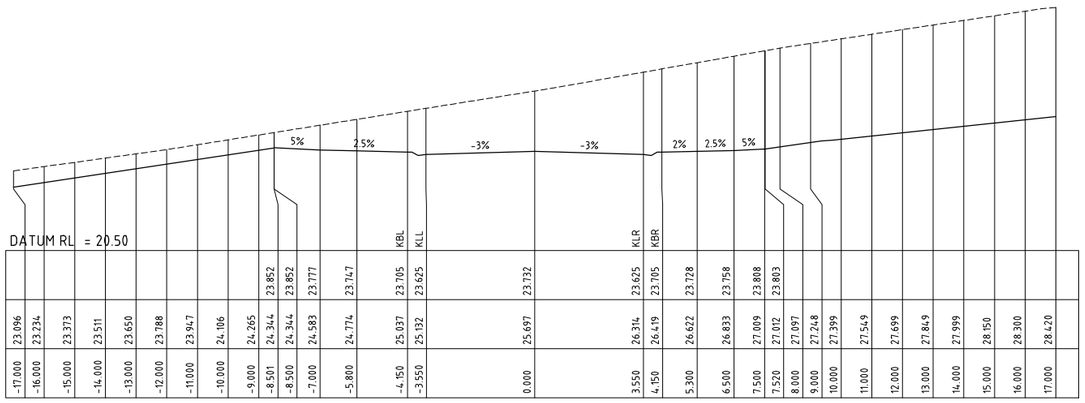
Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION 1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
ROAD 7 CROSS SECTIONS (11 OF 12

Project No: 19259C
Drawing No: C539
Revision: 4

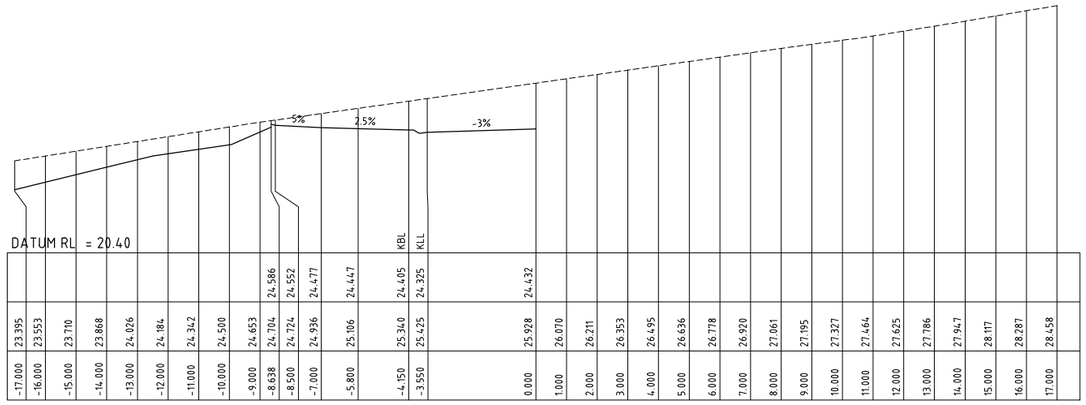
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	23.096	23.234	23.373	23.511	23.650	23.788	23.947	24.106	24.265	24.344	24.344	24.583	24.774	25.037	25.132	25.697	26.314	26.419	26.622	26.833	27.009	27.012	27.097	27.248	27.399	27.549	27.699	27.849	27.999	28.150	28.300	28.420
										23.852	23.852	23.777	23.747	23.705	23.625	23.732	23.625	23.705	23.728	23.758	23.808	23.803										

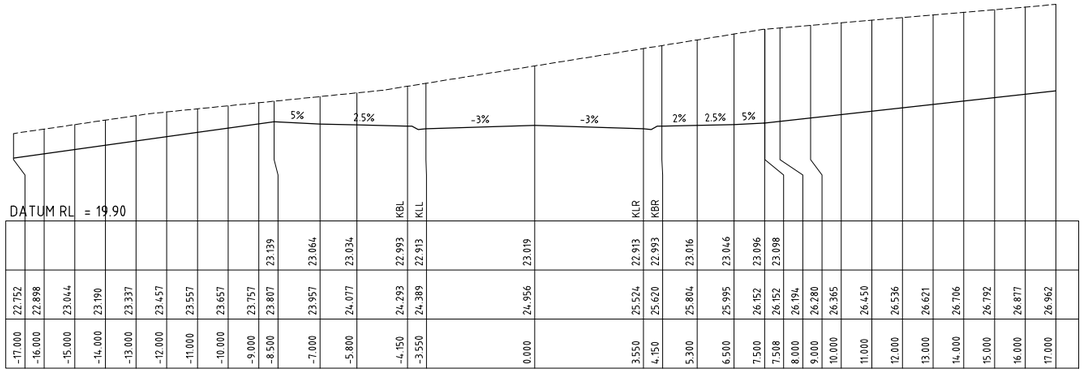
CH 1185.000



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	23.395	23.553	23.710	23.868	24.026	24.184	24.342	24.500	24.653	24.704	24.724	24.936	25.106	25.340	25.425	25.928	26.070	26.211	26.353	26.495	26.636	26.778	26.920	27.061	27.195	27.327	27.464	27.625	27.786	27.947	28.117	28.287	28.458
										24.586	24.552	24.477	24.447	24.405	24.325	24.432																		

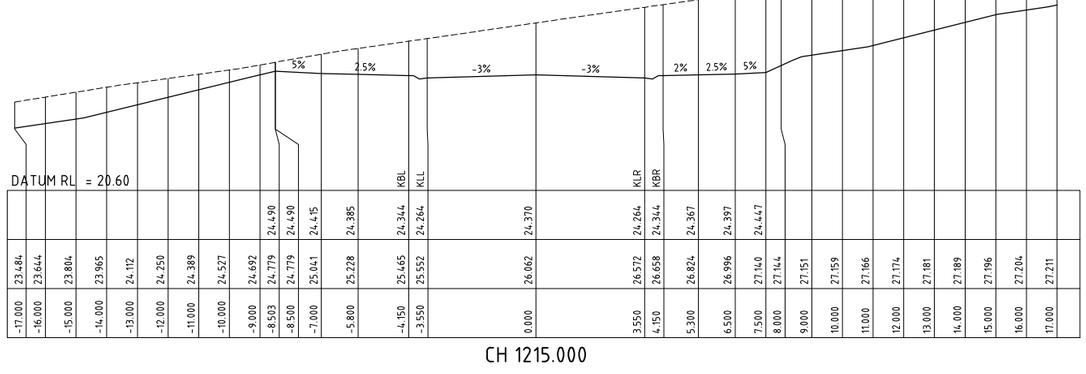
CH 1219.356



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	22.752	22.898	23.044	23.190	23.337	23.457	23.557	23.657	23.757	23.807	23.957	24.077	24.293	24.389	24.956	25.524	25.620	25.804	25.995	26.152	26.152	26.194	26.280	26.365	26.450	26.536	26.621	26.706	26.792	26.877	26.962
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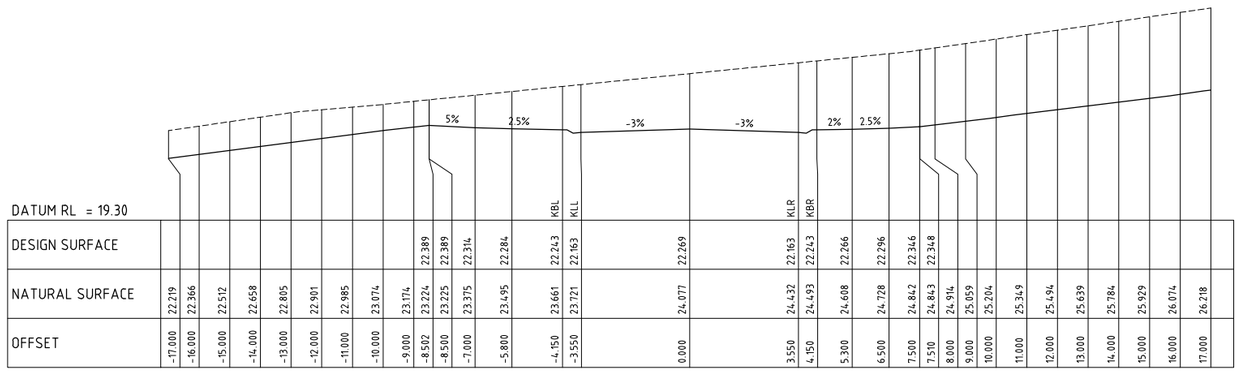
CH 1170.000



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	23.684	23.844	23.804	23.965	24.112	24.250	24.389	24.527	24.692	24.779	24.779	25.041	25.228	25.465	25.552	26.062	26.372	26.658	26.824	26.996	27.140	27.144	27.151	27.159	27.166	27.174	27.181	27.189	27.196	27.204	27.211
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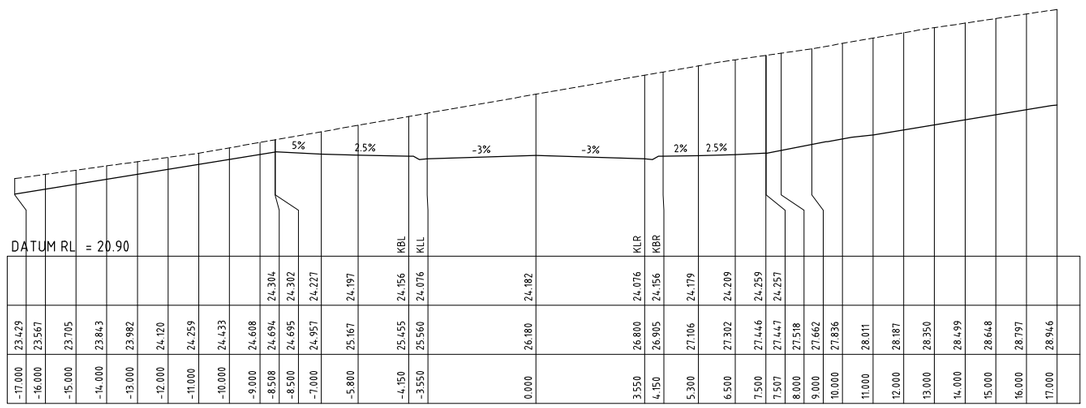
CH 1215.000



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DESIGN SURFACE										22.389	22.389	22.314	22.284	22.243	22.163	22.269	22.163	22.243	22.266	22.296	22.346	22.348										
NATURAL SURFACE	22.219	22.366	22.512	22.658	22.805	22.901	22.985	23.074	23.174	23.224	23.225	23.375	23.495	23.661	23.721	24.077	24.432	24.493	24.608	24.728	24.842	24.843	24.914	25.059	25.204	25.349	25.494	25.639	25.784	25.929	26.074	26.218
OFFSET	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.502	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	7.510	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000

CH 1155.000



DATUM RL = 20.90

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	23.429	23.567	23.705	23.843	23.982	24.120	24.259	24.433	24.608	24.694	24.695	24.957	25.167	25.455	25.560	26.180	26.800	26.905	27.106	27.302	27.446	27.447	27.518	27.662	27.836	28.011	28.187	28.350	28.499	28.648	28.797	28.946
										24.304	24.302	24.227	24.197	24.156	24.076	24.182	24.076	24.156	24.179	24.209	24.259	24.257										

CH 1200.000

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
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4	NOT ISSUED			
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale

0 2 4 6 8m

1:100 (A1) 1:200 (A3)

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Designed: A.M

Cad Reference: 19259C dC540 r5

Scale: 1:100

A1 SHEET

Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
ROAD 7 CROSS SECTIONS (12 OF 12

Project No: 19259C

Drawing No: C540

Revision: 5

PLOT DATE: 1/11/2022 11:07:45 AM
CAD FILE: Q:\19\19259 1A Flowers Drive, Catherine Hill Bay\02_CAD\AutoCAD\Civil\500 Series - Hamlet B\19259C dC540 r5.dwg



A1 SCALE: HORIZONTAL 1:500, VERTICAL 1:100

LONGITUDINAL SECTION ROAD 8

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
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1	NOT ISSUED			

North

Scale
1:100 (A1) 1:200 (A3)
1:500 (A1) 1:1000 (A3)

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Designed: A.M
Cad Reference: 19259C dC541 r3
Scale: AS SHOWN
A1 SHEET
Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

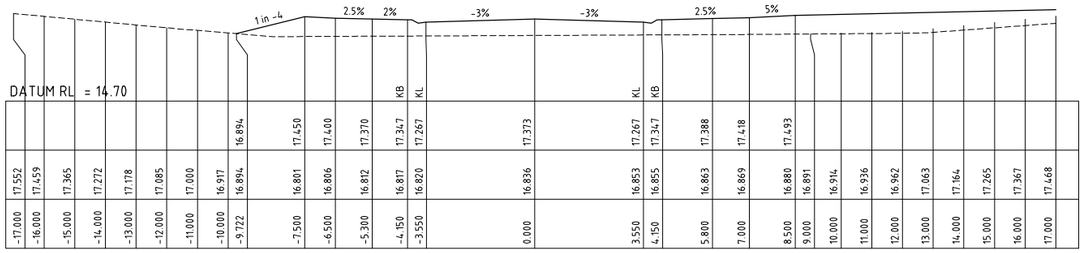
Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
ROAD 8 LONGITUDINAL SECTION

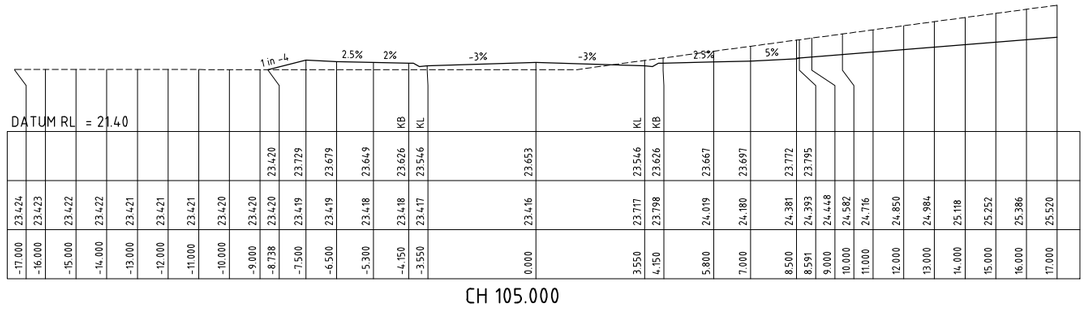
Project No: 19259C
Drawing No: C541
Revision: 3

PLOT DATE: 1/11/2022 11:07:50 AM
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	17.552	17.459	17.365	17.272	17.178	17.085	17.000	16.917	16.894	17.450	17.400	17.370	17.347	17.267	17.373	17.267	17.347	17.388	17.418	17.493									
	17.459	17.365	17.272	17.178	17.085	17.000	16.917	16.894	16.801	16.806	16.812	16.817	16.820	16.836	16.853	16.855	16.863	16.869	16.880	16.891	16.914	16.936	16.962	17.063	17.164	17.265	17.367	17.468	

CH 45.000

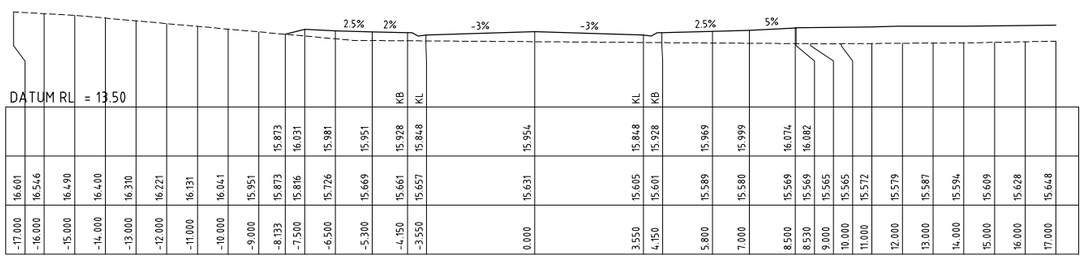


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	23.424	23.423	23.422	23.422	23.421	23.421	23.421	23.420	23.420	23.420	23.419	23.419	23.418	23.418	23.417	23.416	23.717	23.798	24.019	24.180	24.381	24.393	24.448	24.582	24.716	24.850	24.984	25.118	25.252	25.386	25.520
	23.423	23.422	23.422	23.421	23.421	23.421	23.420	23.420	23.420	23.420	23.419	23.419	23.418	23.418	23.417	23.653	23.546	23.626	23.667	23.697	23.772	23.795									

CH 105.000

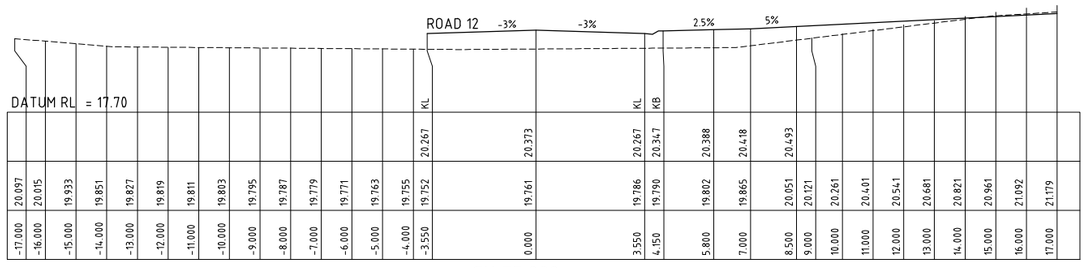
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	21.510	21.472	21.460	21.449	21.438	21.426	21.415	21.404	21.400	21.953	21.903	21.873	21.850	21.770	21.876	21.770	21.850	21.891	21.921	21.996	22.004									
	21.472	21.460	21.449	21.438	21.426	21.415	21.404	21.400	21.375	21.364	21.350	21.337	21.331	21.322	21.338	21.367	21.556	21.693	21.865	21.869	21.922	22.037	22.152	22.266	22.381	22.495	22.610	22.725	22.839	

CH 90.000



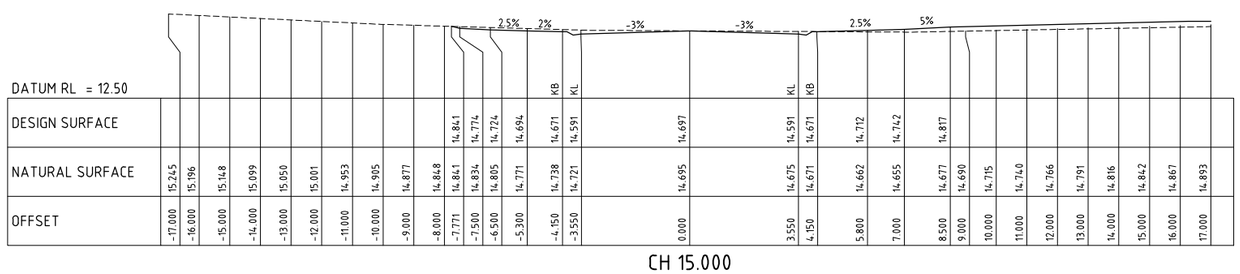
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	16.601	16.546	16.490	16.400	16.310	16.221	16.131	16.041	15.951	15.873	15.816	15.726	15.669	15.661	15.657	15.631	15.605	15.601	15.589	15.580	15.569	15.569	15.565	15.565	15.572	15.579	15.587	15.594	15.609	15.628	15.648
	16.546	16.490	16.400	16.310	16.221	16.131	16.041	15.951	15.873	16.031	15.981	15.951	15.928	15.848	15.954	15.848	15.928	15.969	15.999	16.074	16.082	15.565	15.565	15.572	15.579	15.587	15.594	15.609	15.628	15.648	

CH 30.000



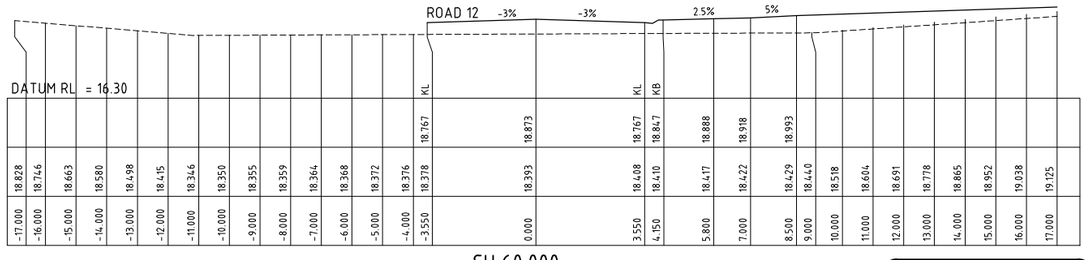
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	20.097	20.015	19.933	19.851	19.827	19.819	19.811	19.803	19.795	19.787	19.779	19.771	19.763	19.755	19.752	19.761	19.786	19.790	19.802	19.865	20.051	20.721	20.261	20.401	20.541	20.681	20.821	20.961	21.092	21.179
	20.015	19.933	19.851	19.827	19.819	19.811	19.803	19.795	19.787	19.779	19.771	19.763	19.755	19.752	20.267	20.373	20.267	20.347	20.388	20.418	20.493									

CH 75.000



	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.000	-7.771	-7.500	-6.500	-5.300	-4.150	-3.550	0.000	3.550	4.150	5.800	7.000	8.500	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000
DESIGN SURFACE										14.841	14.774	14.724	14.694	14.671	14.591	14.697	14.591	14.671	14.712	14.742	14.817									
NATURAL SURFACE	15.245	15.196	15.148	15.099	15.050	15.001	14.953	14.905	14.877	14.848	14.841	14.834	14.805	14.771	14.738	14.721	14.695	14.675	14.671	14.662	14.655	14.677	14.690	14.715	14.740	14.766	14.791	14.816	14.842	14.867	14.893
OFFSET	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.000	-7.771	-7.500	-6.500	-5.300	-4.150	-3.550	0.000	3.550	4.150	5.800	7.000	8.500	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000

CH 15.000



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	18.828	18.746	18.663	18.580	18.498	18.415	18.346	18.350	18.355	18.359	18.364	18.368	18.372	18.376	18.378	18.393	18.408	18.410	18.417	18.422	18.429	18.440	18.518	18.604	18.691	18.778	18.865	18.952	19.038	19.125
	18.746	18.663	18.580	18.498	18.415	18.346	18.350	18.355	18.359	18.364	18.368	18.372	18.376	18.378	18.767	18.873	18.767	18.847	18.888	18.918	18.993									

CH 60.000

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale
0 2 4 6 8m
1:100 (A1) 1:200 (A3)

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Designed: A.M
Cad Reference: 19259C dC542 r3
Scale: 1:100
A1 SHEET
Project Approval: IAN HILL (B.E) Consulting Civil Engineer

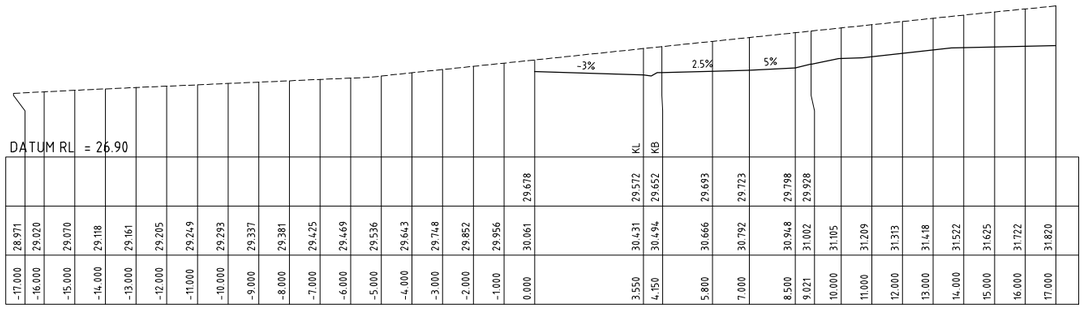
Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION 1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
ROAD 8 CROSS SECTIONS (1 OF 2)

Project No: 19259C
Drawing No: C542
Revision: 3

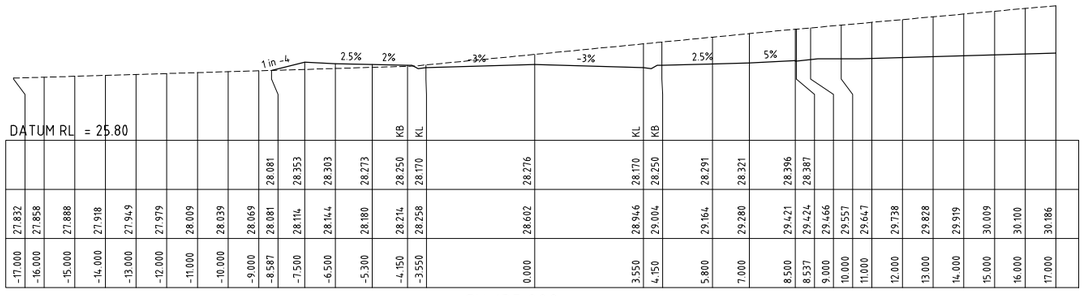
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																		29.678	29.572	29.652	29.693	29.723	29.798	29.928								
	28.971	29.020	29.070	29.118	29.161	29.205	29.249	29.293	29.337	29.381	29.425	29.469	29.536	29.643	29.748	29.852	29.956	30.061	30.431	30.494	30.666	30.792	30.948	31.002	31.105	31.209	31.313	31.418	31.522	31.625	31.722	31.820

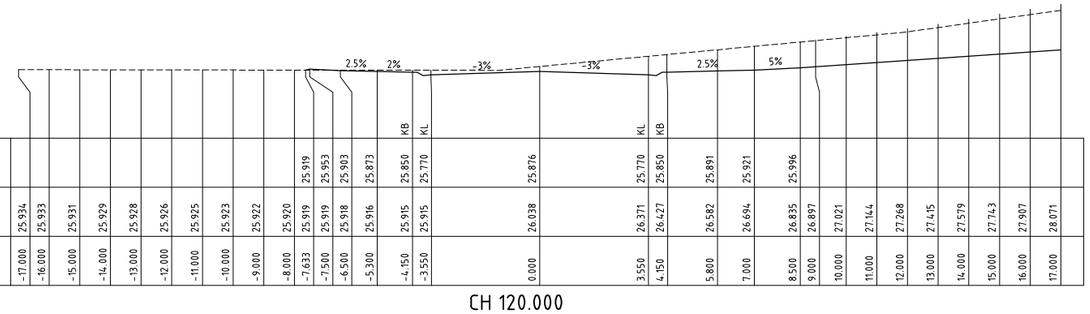
CH 144.122



DATUM RL = 25.80

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										28.081	28.353	28.303	28.273	28.250	28.170	28.276	28.170	28.250	28.291	28.321	28.396	28.387									
	27.832	27.858	27.888	27.918	27.949	27.979	28.009	28.039	28.069	28.081	28.114	28.144	28.180	28.214	28.258	28.602	28.946	29.004	29.164	29.280	29.421	29.424	29.466	29.557	29.647	29.738	29.828	29.919	30.009	30.100	30.186

CH 135.000



DATUM RL = 23.70

	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.000	-7.633	-7.500	-6.500	-5.300	-4.150	-3.550	0.000	3.550	4.150	5.800	7.000	8.500	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000
DESIGN SURFACE										25.919	25.953	25.903	25.873	25.850	25.770	25.876	25.770	25.850	25.891	25.921	25.996										
NATURAL SURFACE	25.934	25.933	25.931	25.929	25.928	25.926	25.925	25.923	25.922	25.920	25.919	25.919	25.918	25.916	25.915	25.915	26.038	26.371	26.427	26.582	26.694	26.835	26.897	27.021	27.144	27.268	27.415	27.579	27.743	27.907	28.071
OFFSET	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.000	-7.633	-7.500	-6.500	-5.300	-4.150	-3.550	0.000	3.550	4.150	5.800	7.000	8.500	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000

CH 120.000

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
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2	NOT ISSUED			
1	NOT ISSUED			

North

Scale
0 2 4 6 8m
1:100 (A1) 1:200 (A3)

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Designed: A.M
Cad Reference: 19259C dC543 r3
Scale: 1:100
A1 SHEET
Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

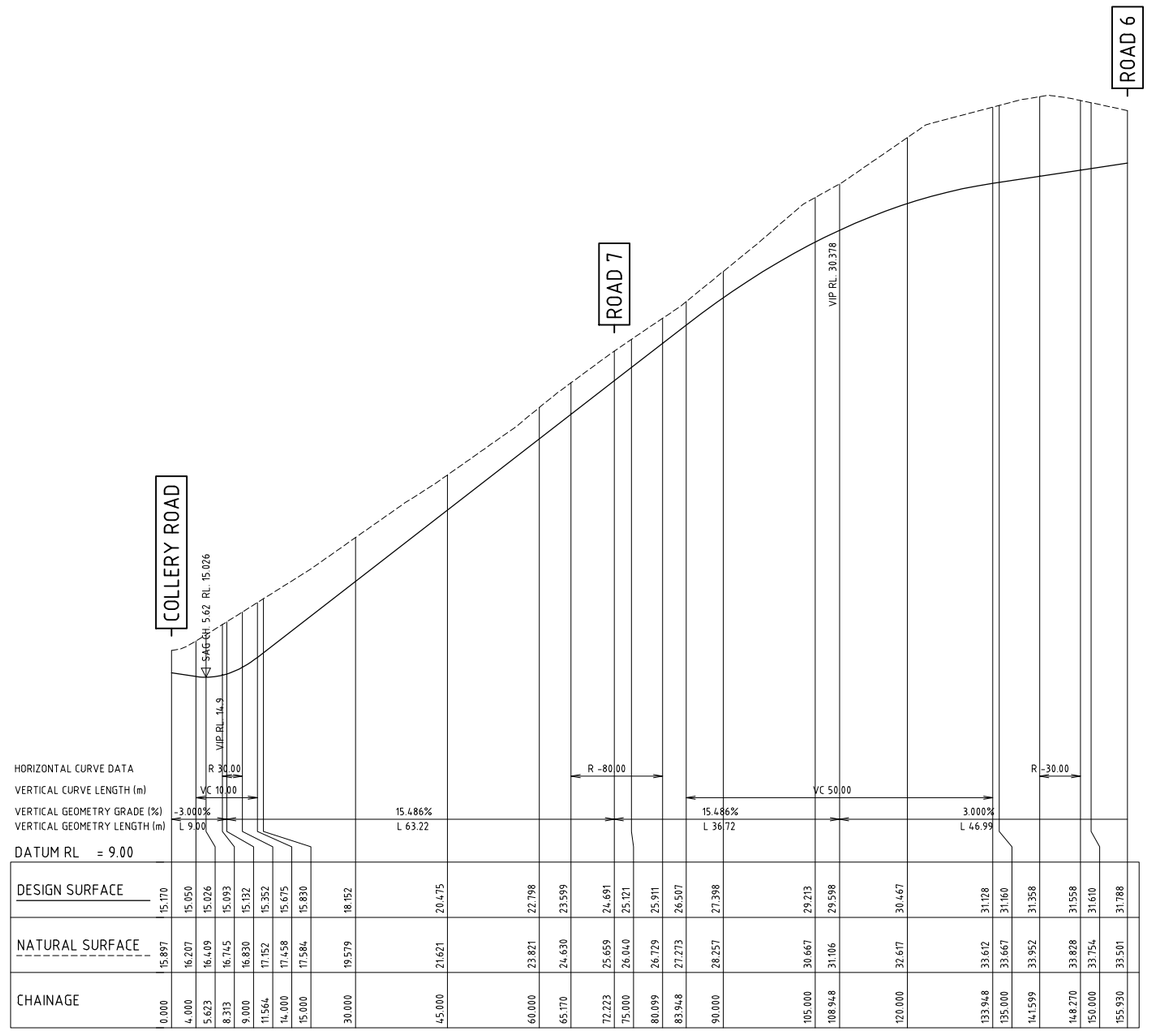
Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
ROAD 8 CROSS SECTIONS (2 OF 2)

Project No: 19259C
Drawing No: C543
Revision: 3

PLOT DATE: 1/11/2022 11:08:01 AM
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A1 SCALE: HORIZONTAL 1:500, VERTICAL 1:100

LONGITUDINAL SECTION ROAD 9

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
3	CLIENT AMENDMENTS	DB	AS	14.01.22
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1	NOT ISSUED			

North

Scale
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1:100 (A1) 1:200 (A3)
0 10 20 30 40m
1:500 (A1) 1:1000 (A3)

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Designed: A.M
Cad Reference: 19259C dC544 r3
Scale: AS SHOWN
A1 SHEET
Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

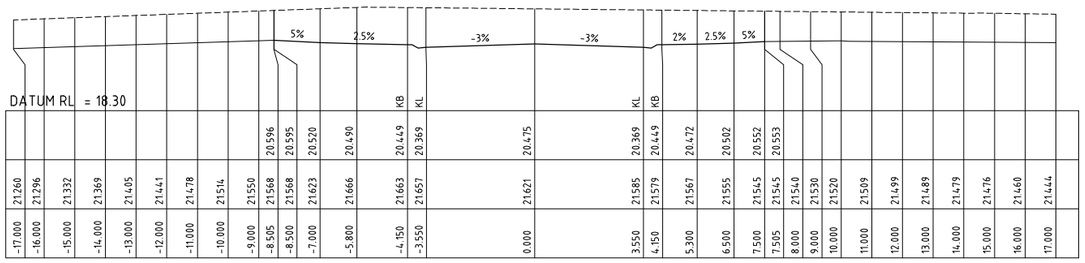
Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
ROAD 9 LONGITUDINAL SECTION

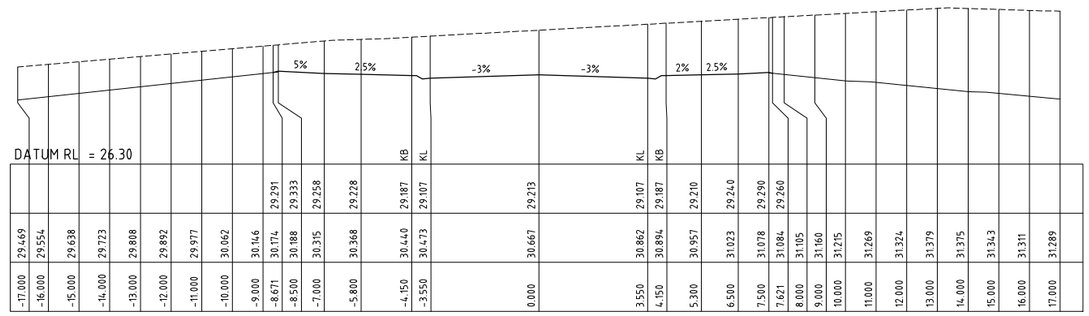
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Drawing No: C544
Revision: 3

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	21.260	21.296	21.332	21.369	21.405	21.441	21.478	21.514	21.550	21.568	21.568	21.623	21.666	21.663	21.657	21.621	21.585	21.579	21.567	21.555	21.545	21.545	21.540	21.530	21.520	21.509	21.499	21.489	21.479	21.476	21.460	21.444
										20.596	20.595	20.520	20.490	20.449	20.369	20.475	20.369	20.449	20.472	20.502	20.552	20.553											

CH 45.000

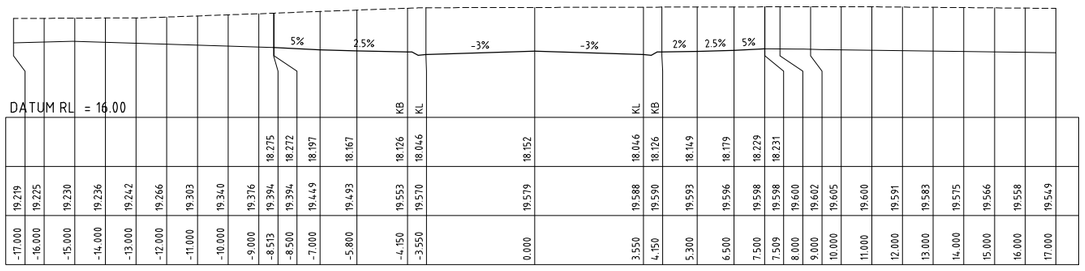


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	29.469	29.554	29.638	29.723	29.808	29.892	29.977	30.062	30.146	30.174	30.188	30.315	30.368	30.440	30.473	30.667	30.862	30.894	30.957	31.023	31.078	31.084	31.105	31.160	31.215	31.269	31.324	31.379	31.375	31.343	31.311	31.289
										29.291	29.333	29.258	29.228	29.187	29.107	29.213	29.107	29.187	29.210	29.240	29.290	29.260										

CH 105.000

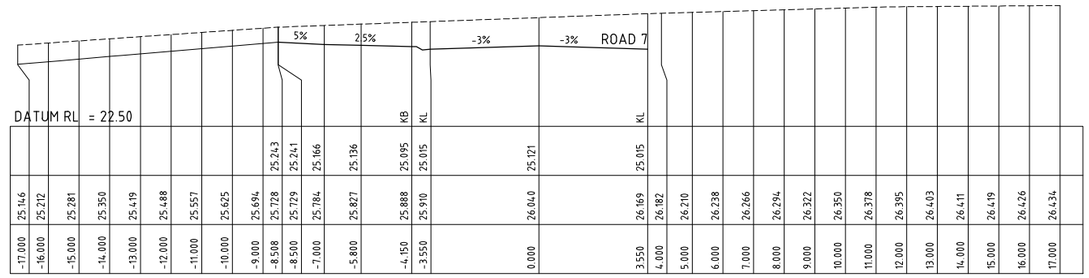
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	27.134	27.207	27.280	27.353	27.437	27.523	27.610	27.696	27.782	27.818	27.825	27.927	27.984	28.061	28.090	28.257	28.424	28.452	28.510	28.581	28.640	28.675	28.728	28.786	28.845	28.904	28.937	28.956	28.975	28.994	29.013
										27.497	27.518	27.443	27.413	27.372	27.292	27.398	27.292	27.312	27.395	27.425	27.475	27.323									

CH 90.000



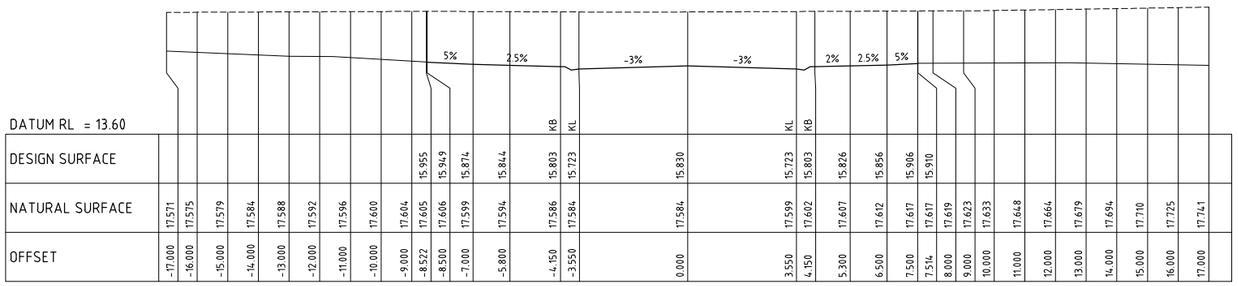
	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.513	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	7.509	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000
	19.219	19.225	19.230	19.236	19.242	19.266	19.303	19.340	19.316	19.394	19.394	19.449	19.493	19.553	19.570	19.579	19.588	19.590	19.593	19.596	19.598	19.598	19.600	19.602	19.605	19.600	19.591	19.583	19.575	19.566	19.558	19.549
										18.275	18.272	18.197	18.167	18.126	18.046	18.152	18.046	18.126	18.149	18.179	18.229	18.231										

CH 30.000



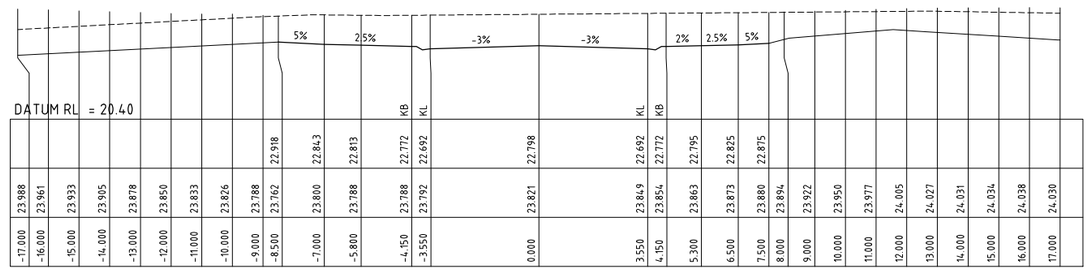
	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.518	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.000	5.000	6.000	7.000	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000
	25.146	25.212	25.281	25.350	25.419	25.488	25.557	25.625	25.694	25.728	25.729	25.784	25.827	25.888	25.910	26.040	26.169	26.182	26.210	26.238	26.266	26.294	26.322	26.350	26.378	26.395	26.403	26.411	26.419	26.426	26.434
										25.243	25.241	25.166	25.136	25.095	25.015	25.121	25.015															

CH 75.000



	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.522	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	7.514	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000
DESIGN SURFACE										15.955	15.949	15.874	15.844	15.803	15.723	15.830	15.723	15.803	15.826	15.856	15.906	15.910										
NATURAL SURFACE	17.571	17.575	17.579	17.584	17.588	17.592	17.596	17.600	17.604	17.605	17.606	17.599	17.594	17.586	17.584	17.584	17.599	17.602	17.607	17.612	17.617	17.617	17.619	17.623	17.633	17.648	17.664	17.679	17.694	17.710	17.725	17.741
OFFSET																																

CH 15.000



	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000
	23.988	23.961	23.933	23.905	23.878	23.850	23.833	23.826	23.788	23.762	23.800	23.788	23.788	23.792	23.821	23.849	23.854	23.863	23.873	23.880	23.894	23.922	23.950	23.977	24.005	24.027	24.031	24.034	24.038	24.030
									22.918	22.843	22.813	22.772	22.692	22.798	22.692	22.795	22.825	22.875												

CH 60.000

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale
0 2 4 6 8m
1:100 (A1) 1:200 (A3)

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Designed: A.M
Cad Reference: 19259C dC545 r3
Scale: 1:100
A1 SHEET
Project Approval: IAN HILL (B.E) Consulting Civil Engineer

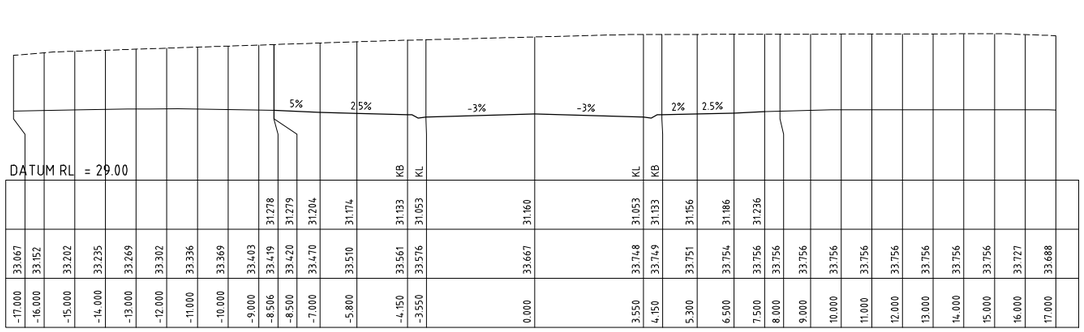
Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
ROAD 9 CROSS SECTIONS (1 OF 2)

Project No: 19259C
Drawing No: C545
Revision: 3

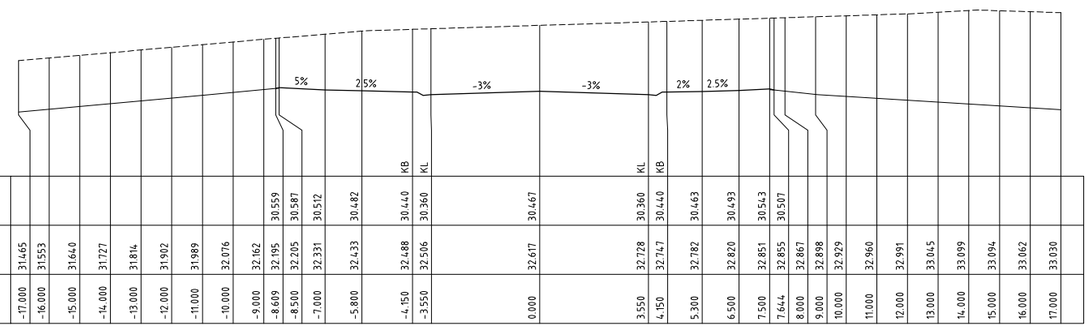
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DATUM RL = 29.00

	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.506	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000
										31.278	31.279	31.204	31.174	31.133	31.053	31.160	31.053	31.133	31.156	31.186	31.236										
	33.067	33.152	33.202	33.235	33.269	33.302	33.336	33.369	33.403	33.419	33.420	33.470	33.510	33.561	33.576	33.667	33.748	33.749	33.751	33.754	33.756	33.756	33.756	33.756	33.756	33.756	33.756	33.756	33.756	33.727	33.688

CH 135.000



DATUM RL = 27.70

	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.609	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	7.644	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000
DESIGN SURFACE										30.559	30.587	30.512	30.482	30.440	30.360	30.467	30.360	30.440	30.463	30.493	30.543	30.597										
NATURAL SURFACE	31.465	31.553	31.640	31.727	31.814	31.902	31.989	32.076	32.162	32.195	32.205	32.331	32.433	32.488	32.506	32.617	32.728	32.747	32.782	32.820	32.851	32.855	32.867	32.898	32.929	32.960	32.991	33.045	33.099	33.094	33.062	33.030
OFFSET	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.609	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	7.644	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000

CH 120.000

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale
0 2 4 6 8m
1:100 (A1) 1:200 (A3)

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Designed: A.M
Cad Reference: 19259C dC546 r3
Scale: 1:100
A1 SHEET
Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

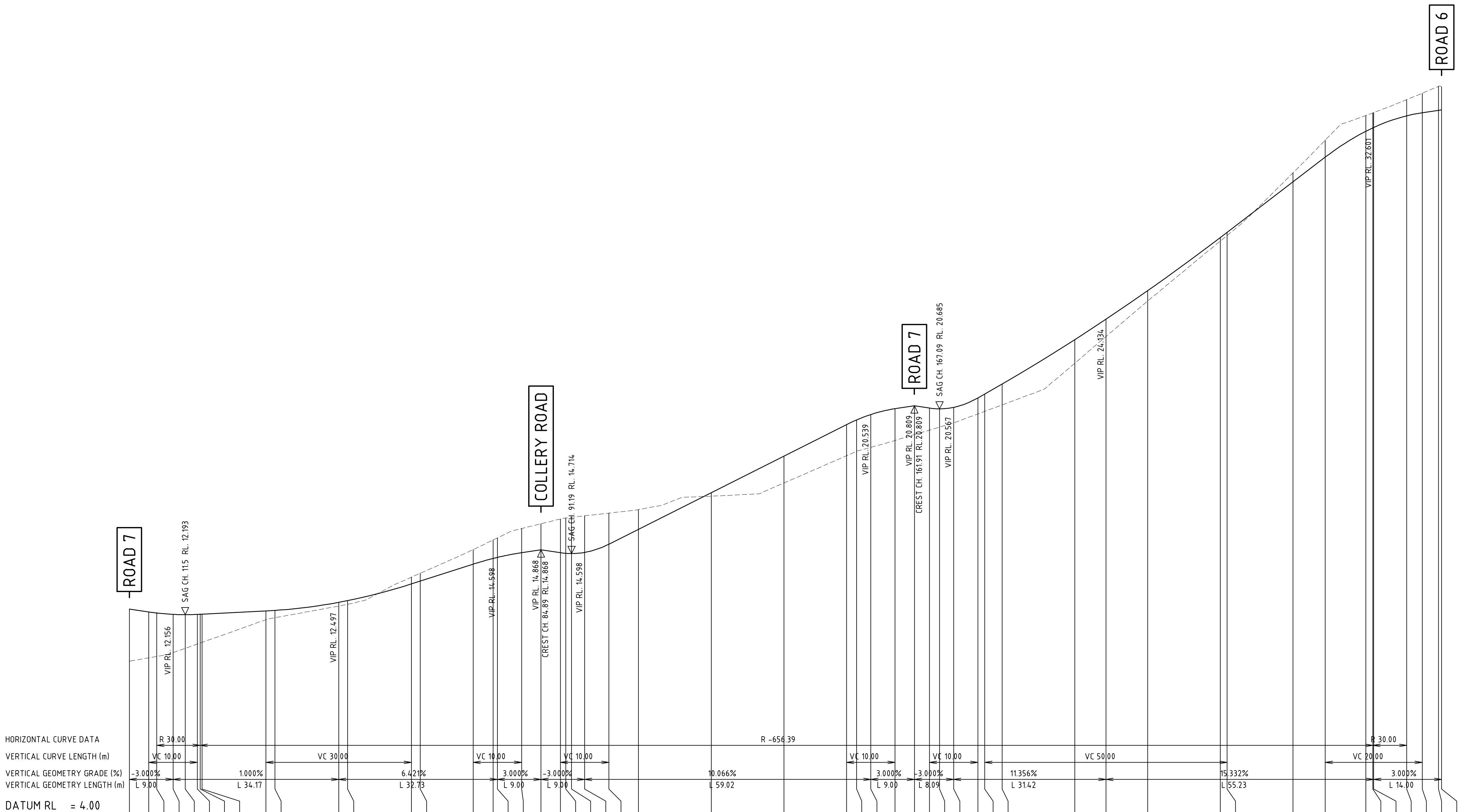
Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION 1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
ROAD 9 CROSS SECTIONS (2 OF 2)

Project No: 19259C
Drawing No: C546
Revision: 3

PLOT DATE: 1/11/2022 11:08:15 AM
CAD FILE: Q:\19\19259 1A Flowers Drive, Catherine Hill Bay\02_CAD\AutoCAD\Civil\500 Series - Hamlet B\19259C dC546 r3.dwg



DATUM RL = 4.00

CHAINAGE	DESIGN SURFACE	NATURAL SURFACE
0.000	12.426	10.277
4.000	12.306	10.411
5.653	12.261	10.466
9.000	12.206	10.630
11.500	12.193	10.803
14.000	12.206	10.979
14.597	12.212	11.022
15.000	12.216	11.050
28.166	12.347	11.985
30.000	12.369	12.067
43.166	12.701	12.550
45.000	12.772	12.617
58.166	13.460	13.741
60.000	13.578	13.903
70.892	14.277	14.876
75.000	14.512	15.272
75.892	14.556	15.358
80.892	14.748	15.746
84.892	14.868	15.944
88.892	14.748	16.142
90.000	14.723	16.185
91.188	14.714	16.211
93.892	14.762	16.271
98.892	15.102	16.383
105.000	15.717	16.528
120.000	17.226	17.081
135.000	18.736	17.627
147.910	20.036	18.751
150.000	20.231	18.936
152.910	20.451	19.095
157.910	20.689	19.381
161.910	20.809	19.620
165.000	20.717	19.805
167.090	20.685	19.931
170.000	20.746	20.106
175.000	21.134	20.476
176.415	21.295	20.581
180.000	21.707	20.847
195.000	23.543	22.571
201.415	24.383	23.669
210.000	25.557	25.131
225.000	27.751	27.607
226.415	27.967	27.840
240.000	30.050	30.421
246.643	31.068	31.771
255.000	32.134	32.789
256.459	32.276	32.895
256.643	32.293	32.908
263.449	32.774	33.441
266.643	32.901	33.707
270.000	33.002	33.989
270.643	33.021	33.963

A1 SCALE: HORIZONTAL 1:500, VERTICAL 1:100

LONGITUDINAL SECTION ROAD 10

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale
0 2 4 6 8m — 1:100 (A1) 1:200 (A3)
0 10 20 30 40m — 1:500 (A1) 1:1000 (A3)

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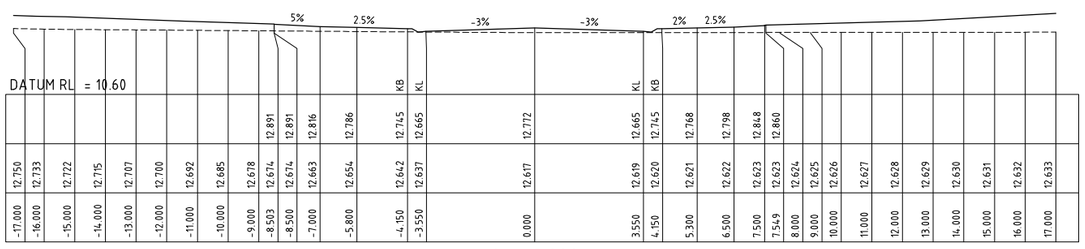
Designed: A.M
Cad Reference: 19259C dC547 r3
Scale: AS SHOWN
A1 SHEET
Project Approval: IAN HILL (B.E) Consulting Civil Engineer

Client

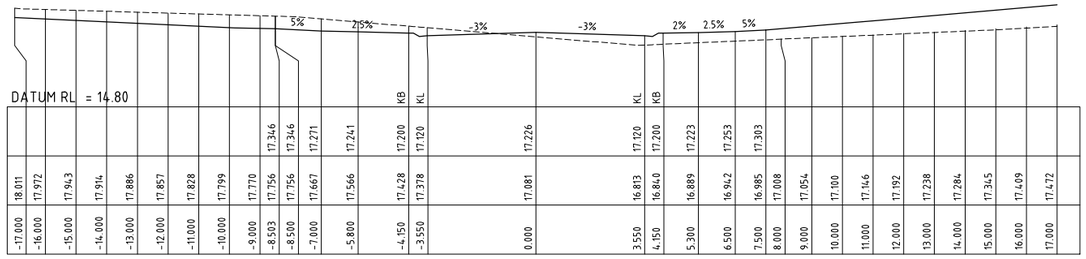
GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
ROAD 10 LONGITUDINAL SECTION

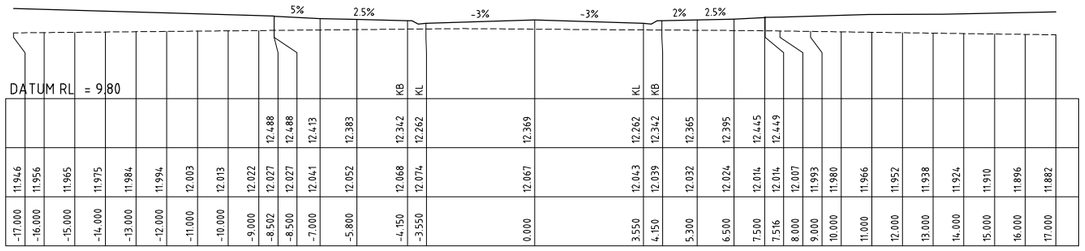
Project No: 19259C
Drawing No: C547
Revision: 3



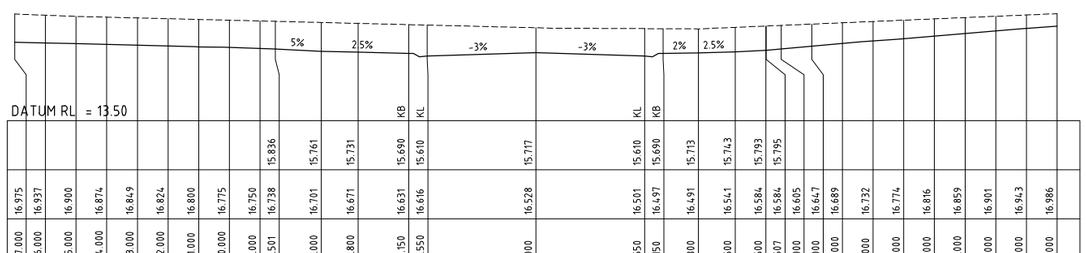
CH 45.000



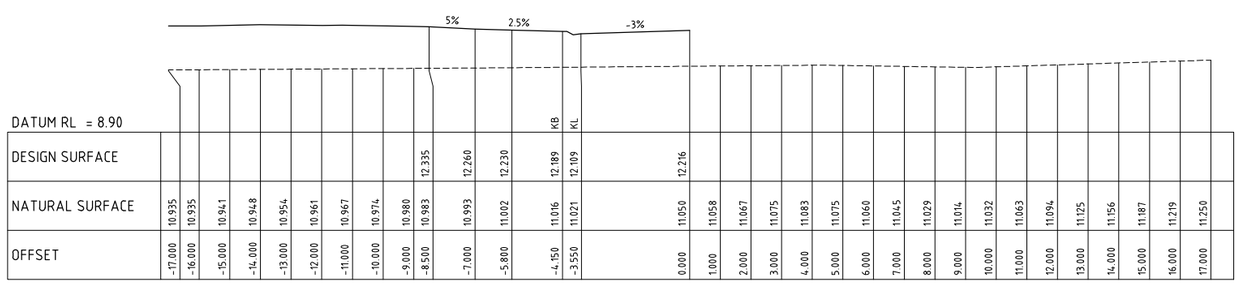
CH 120.000



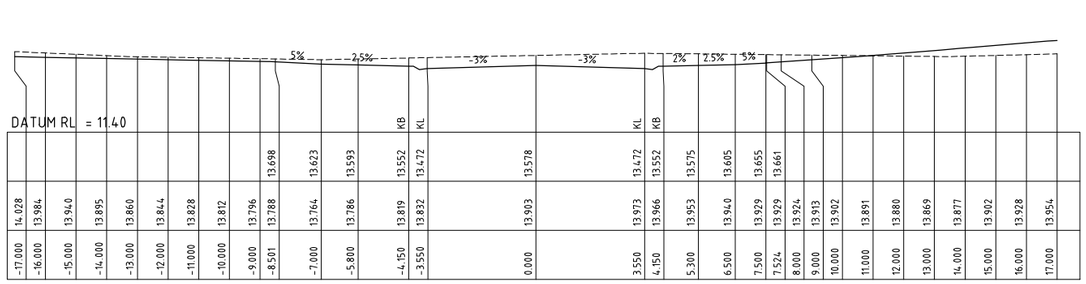
CH 30.000



CH 105.000



CH 15.000



CH 60.000

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale
0 2 4 6 8m
1:100 (A1) 1:200 (A3)

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Designed A.M
Cad Reference 19259C dC548 r3
Scale 1:100
A1 SHEET
Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

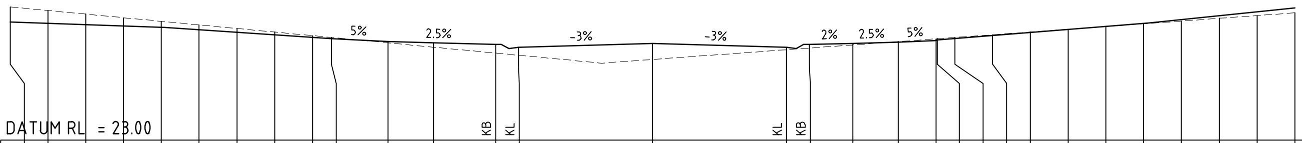
Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
ROAD 10 CROSS SECTIONS (1 OF 2)

Project No 19259C
Drawing No C548
Revision 3

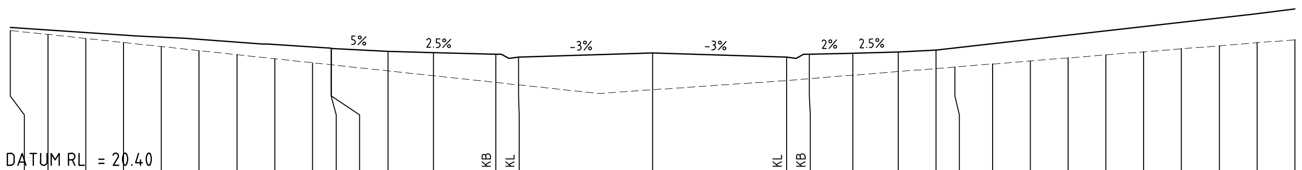
PLOT DATE: 1/11/2022 11:08:25 AM
CAD FILE: Q:\19\19259 1A Flowers Drive, Catherine Hill Bay\02_CAD\AutoCAD\Civil\500 Series - Hamlet B\19259C dC548 r3.dwg



DATUM RL = 23.00

OFFSET	DESIGN SURFACE	NATURAL SURFACE	
-17.000		26.520	
-16.000		26.425	
-15.000		26.330	
-14.000		26.235	
-13.000		26.140	
-12.000		26.045	
-11.000		25.950	
-10.000		25.855	
-9.000		25.760	
-8.500	25.677	25.713	
-7.000	25.602	25.570	
-5.800	25.572	25.456	
-4.150	25.531	25.300	KB
-3.550	25.451	25.243	KL
0.000	25.557	25.131	
3.550	25.451	25.388	KL
4.150	25.531	25.432	KB
5.300	25.554	25.515	
6.500	25.584	25.603	
7.500	25.634	25.675	
7.538	25.643	25.678	
8.000		25.711	
9.000		25.784	
10.000		25.856	
11.000		25.929	
12.000		26.002	
13.000		26.074	
14.000		26.147	
15.000		26.219	
16.000		26.292	
17.000		26.364	

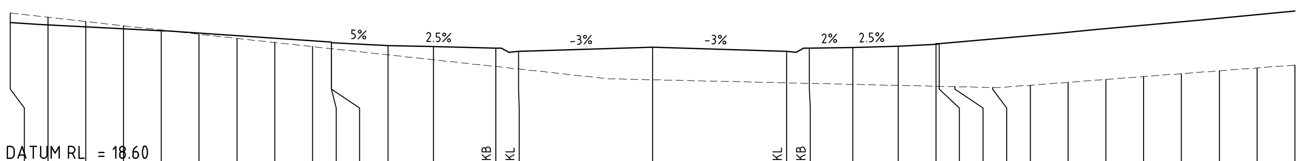
CH 210.000



DATUM RL = 20.40

OFFSET	DESIGN SURFACE	NATURAL SURFACE	
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-16.000		24.038	
-15.000		23.931	
-14.000		23.823	
-13.000		23.716	
-12.000		23.608	
-11.000		23.501	
-10.000		23.394	
-9.000		23.286	
-8.508	23.661	23.233	
-8.500	23.663	23.232	
-7.000	23.588	23.071	
-5.800	23.558	22.942	
-4.150	23.516	22.765	KB
-3.550	23.436	22.700	KL
0.000	23.543	22.571	
3.550	23.436	22.815	KL
4.150	23.516	22.864	KB
5.300	23.539	22.956	
6.500	23.569	23.053	
7.500	23.619	23.133	
8.000		23.174	
9.000		23.255	
10.000		23.336	
11.000		23.418	
12.000		23.499	
13.000		23.580	
14.000		23.662	
15.000		23.743	
16.000		23.824	
17.000		23.906	

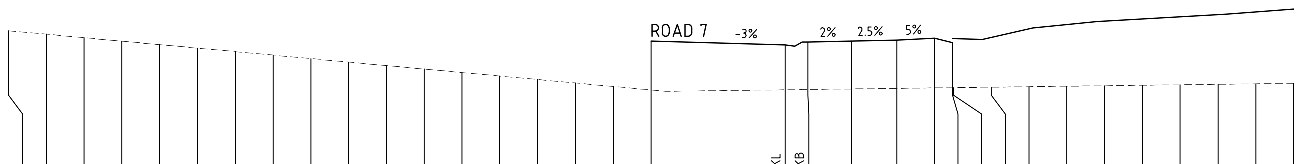
CH 195.000



DATUM RL = 18.60

OFFSET	DESIGN SURFACE	NATURAL SURFACE	
-17.000		22.613	
-16.000		22.501	
-15.000		22.388	
-14.000		22.276	
-13.000		22.164	
-12.000		22.052	
-11.000		21.941	
-10.000		21.832	
-9.000		21.724	
-8.503	21.826	21.670	
-8.500	21.827	21.670	
-7.000	21.752	21.507	
-5.800	21.722	21.376	
-4.150	21.681	21.197	KB
-3.550	21.601	21.132	KL
0.000	21.707	20.847	
3.550	21.601	20.766	KL
4.150	21.681	20.752	KB
5.300	21.704	20.726	
6.500	21.734	20.699	
7.500	21.784	20.676	
7.585	21.805	20.674	
8.000		20.665	
9.000		20.642	
10.000		20.703	
11.000		20.779	
12.000		20.856	
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17.000		21.237	

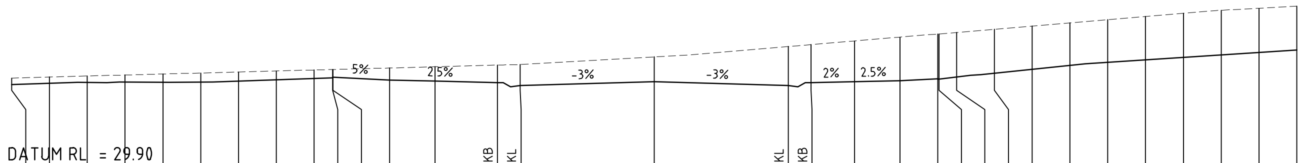
CH 180.000



DATUM RL = 16.80

OFFSET	DESIGN SURFACE	NATURAL SURFACE	
-17.000		20.503	
-16.000		20.411	
-15.000		20.319	
-14.000		20.227	
-13.000		20.134	
-12.000		20.042	
-11.000		19.950	
-10.000		19.858	
-9.000		19.766	
-8.000		19.673	
-7.000		19.581	
-6.000		19.489	
-5.000		19.397	
-4.000		19.305	
-3.000		19.212	
-2.000		19.120	
-1.000		19.028	
0.000	20.231	18.936	
3.550	20.124	18.941	KL
4.150	20.204	18.949	KB
5.300	20.227	18.963	
6.500	20.257	18.978	
7.500	20.307	18.991	
7.978	20.188	18.997	
8.000		18.997	
9.000		19.010	
10.000		19.022	
11.000		19.035	
12.000		19.048	
13.000		19.060	
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15.000		19.085	
16.000		19.098	
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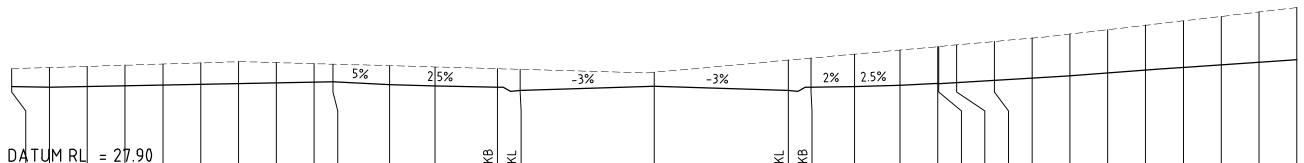
CH 150.000



DATUM RL = 29.90

OFFSET	DESIGN SURFACE	NATURAL SURFACE	
-17.000		32.229	
-16.000		32.256	
-15.000		32.283	
-14.000		32.309	
-13.000		32.336	
-12.000		32.362	
-11.000		32.389	
-10.000		32.415	
-9.000		32.442	
-8.505	32.255	32.455	
-8.500	32.254	32.455	
-7.000	32.179	32.495	
-5.800	32.149	32.527	
-4.150	32.108	32.571	KB
-3.550	32.028	32.589	KL
0.000	32.134	32.789	
3.550	32.028	33.062	KL
4.150	32.108	33.112	KB
5.300	32.131	33.209	
6.500	32.161	33.310	
7.500	32.211	33.394	
7.536	32.202	33.397	
8.000		33.436	
9.000		33.520	
10.000		33.604	
11.000		33.689	
12.000		33.773	
13.000		33.857	
14.000		33.941	
15.000		34.021	
16.000		34.075	
17.000		34.129	

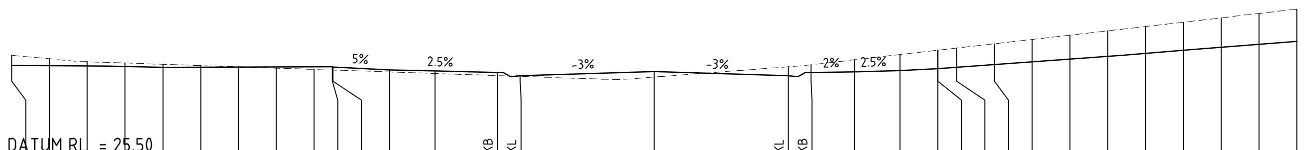
CH 255.000



DATUM RL = 27.90

OFFSET	DESIGN SURFACE	NATURAL SURFACE	
-17.000		30.515	
-16.000		30.546	
-15.000		30.577	
-14.000		30.608	
-13.000		30.640	
-12.000		30.671	
-11.000		30.702	
-10.000		30.678	
-9.000		30.651	
-8.501	30.169	30.637	
-7.000	30.094	30.595	
-5.800	30.064	30.562	
-4.150	30.023	30.517	KB
-3.550	29.943	30.501	KL
0.000	30.050	30.421	
3.550	29.943	30.742	KL
4.150	30.023	30.797	KB
5.300	30.046	30.901	
6.500	30.076	31.009	
7.500	30.126	31.100	
7.525	30.120	31.102	
8.000		31.145	
9.000		31.235	
10.000		31.326	
11.000		31.431	
12.000		31.548	
13.000		31.665	
14.000		31.782	
15.000		31.899	
16.000		32.016	
17.000		32.133	

CH 240.000



DATUM RL = 25.50

OFFSET	DESIGN SURFACE	NATURAL SURFACE	
-17.000		28.182	
-16.000		28.088	
-15.000		28.011	
-14.000		27.977	
-13.000		27.944	
-12.000		27.910	
-11.000		27.876	
-10.000		27.843	
-9.000		27.809	
-8.516	27.867	27.793	
-8.500	27.870	27.792	
-7.000	27.795	27.742	
-5.800	27.765	27.701	
-4.150	27.724	27.646	KB
-3.550	27.644	27.625	KL
0.000	27.751	27.607	
3.550	27.644	27.878	KL
4.150	27.724	27.930	KB
5.300	27.747	28.062	
6.500	27.777	28.199	
7.500	27.827	28.313	
7.506	27.829	28.314	
8.000		28.370	
9.000		28.484	
10.000		28.599	
11.000		28.713	
12.000		28.827	
13.000		28.941	
14.000		29.055	
15.000		29.170	
16.000		29.284	
17.000		29.398	

CH 225.000

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale
0 2 4 6 8m
1:100 (A1) 1:200 (A3)

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Designed: A.M
Cad Reference: 19259C dC549 r3
Scale: 1:100
A1 SHEET
Project Approval: IAN HILL (B.E) Consulting Civil Engineer

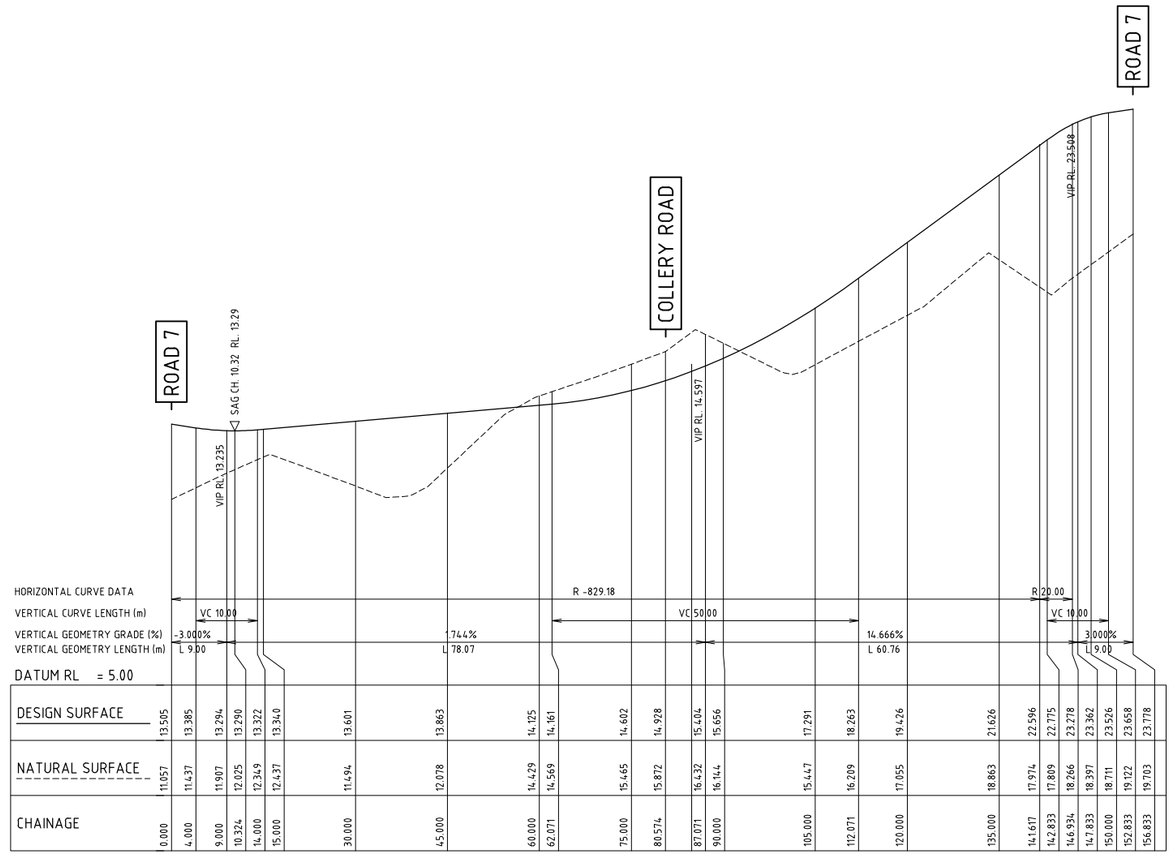
Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
ROAD 10 CROSS SECTIONS (2 OF 2)

Project No: 19259C
Drawing No: C549
Revision: 3

PLOT DATE: 1/11/2022 11:08:31 AM
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A1 SCALE: HORIZONTAL 1:500, VERTICAL 1:100

LONGITUDINAL SECTION ROAD 11

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
3	CLIENT AMENDMENTS	DB	AS	14.01.22
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1	NOT ISSUED			

North

Scale
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1:100 (A1) 1:200 (A3)
0 10 20 30 40m
1:500 (A1) 1:1000 (A3)

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Designed A.M
Cad Reference 19259C dC550 r3
Scale AS SHOWN
A1 SHEET
Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

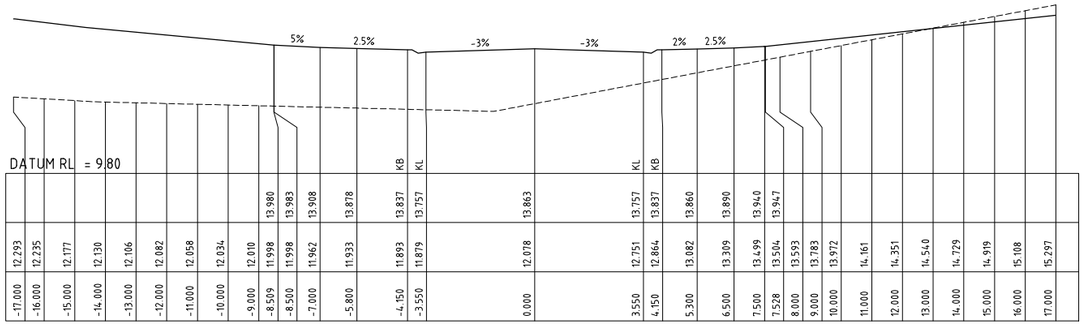
Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
ROAD 11 LONGITUDINAL SECTION

Project No 19259C
Drawing No C550
Revision 3

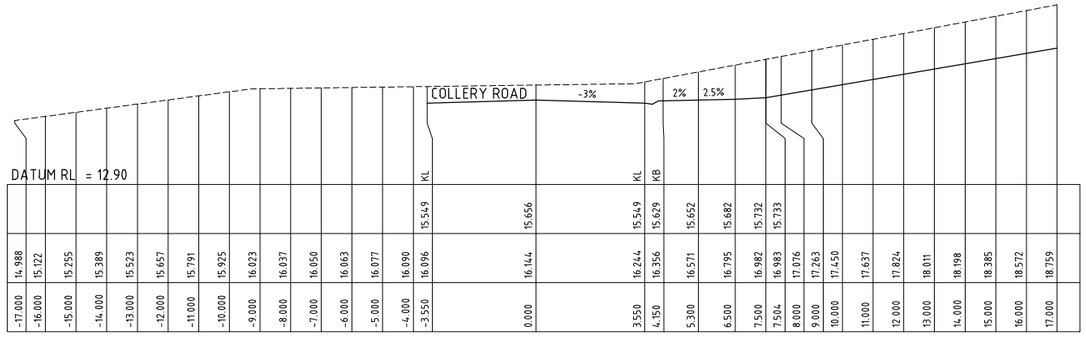
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DATUM RL = 9.80

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										13.980	13.983	13.908	13.878	13.837	13.757	13.863	13.757	13.837	13.860	13.890	13.940	13.947										
	12.293	12.235	12.177	12.130	12.106	12.082	12.058	12.034	12.010	11.998	11.998	11.962	11.933	11.893	11.879	12.078	12.751	12.864	13.082	13.309	13.499	13.504	13.593	13.783	13.972	14.161	14.351	14.540	14.729	14.919	15.108	15.297

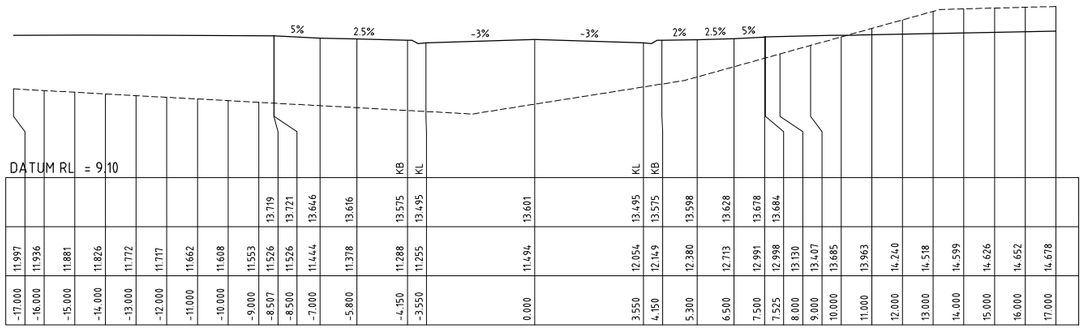
CH 45.000



DATUM RL = 12.90

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															15.549	15.656	15.549	15.629	15.652	15.682	15.732	15.733										
	14.988	15.122	15.255	15.389	15.523	15.657	15.791	15.925	16.023	16.037	16.050	16.063	16.077	16.090	16.096	16.144	16.244	16.356	16.571	16.795	16.982	16.983	17.076	17.263	17.450	17.637	17.824	18.011	18.198	18.385	18.572	18.759

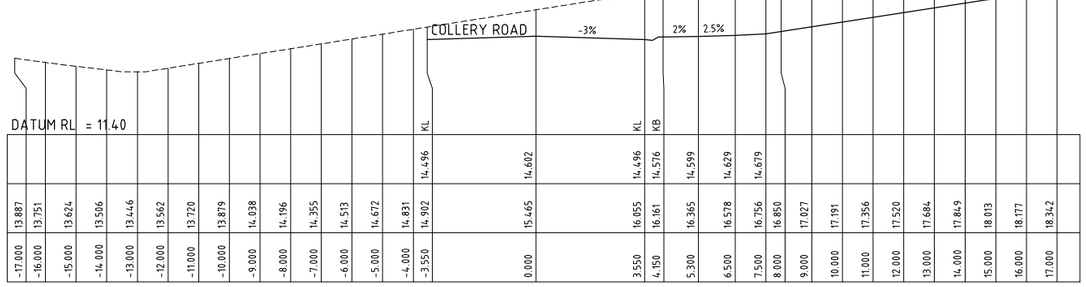
CH 90.000



DATUM RL = 9.10

	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.507	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	7.525	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000
										13.719	13.721	13.644	13.616	13.575	13.495	13.601	13.495	13.575	13.598	13.628	13.678	13.684										
	11.997	11.936	11.881	11.826	11.772	11.717	11.662	11.608	11.553	11.526	11.526	11.444	11.378	11.288	11.255	11.494	12.054	12.149	12.380	12.713	12.991	12.998	13.130	13.407	13.685	13.963	14.240	14.518	14.599	14.626	14.652	14.678

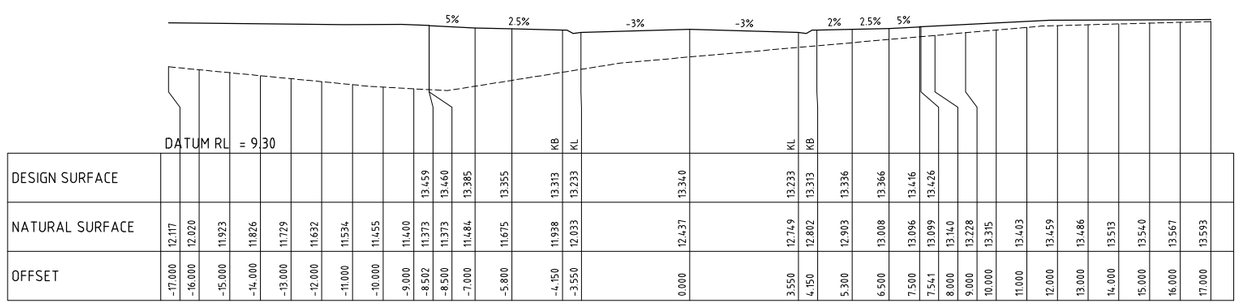
CH 30.000



DATUM RL = 11.40

	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.000	-7.000	-6.000	-5.000	-4.000	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000
															14.496	14.602	14.496	14.576	14.599	14.629	14.679										
	13.887	13.751	13.624	13.506	13.446	13.562	13.720	13.879	14.038	14.196	14.355	14.513	14.672	14.831	14.902	15.465	16.055	16.161	16.365	16.578	16.756	16.850	17.027	17.191	17.356	17.520	17.684	17.849	18.013	18.177	18.342

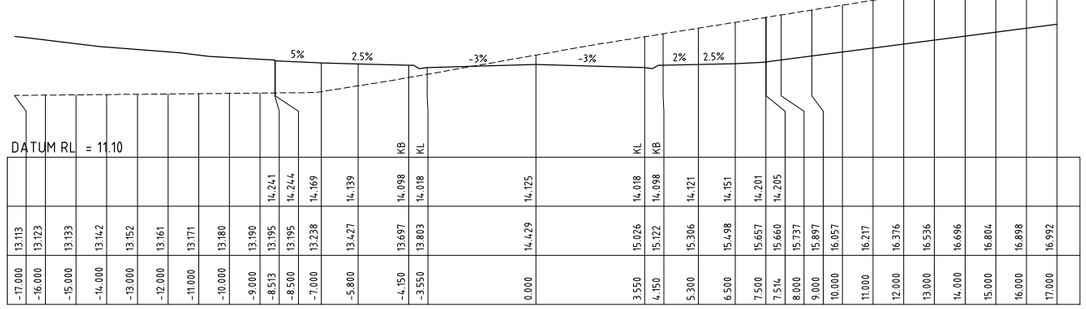
CH 75.000



DATUM RL = 9.30

	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.502	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	7.541	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000
DESIGN SURFACE										13.459	13.460	13.385	13.355	13.313	13.233	13.340	13.233	13.313	13.336	13.366	13.416	13.426										
NATURAL SURFACE	12.117	12.020	11.923	11.826	11.729	11.632	11.534	11.455	11.400	11.373	11.373	11.184	11.675	11.938	12.033	12.437	12.749	12.802	12.903	13.008	13.096	13.099	13.140	13.228	13.315	13.403	13.459	13.486	13.513	13.540	13.567	13.593
OFFSET																																

CH 15.000



DATUM RL = 11.10

	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.513	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	7.514	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000
																14.125																
	13.113	13.123	13.133	13.142	13.152	13.161	13.171	13.180	13.190	13.195	13.195	13.238	13.427	13.697	13.803	14.429	15.026	15.122	15.306	15.498	15.657	15.660	15.737	15.897	16.057	16.217	16.376	16.536	16.696	16.804	16.898	16.992

CH 60.000

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale
0 2 4 6 8m
1:100 (A1) 1:200 (A3)

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Designed: A.M
Cad Reference: 19259C dC551 r3
Scale: 1:100
A1 SHEET
Project Approval: IAN HILL (B.E) Consulting Civil Engineer

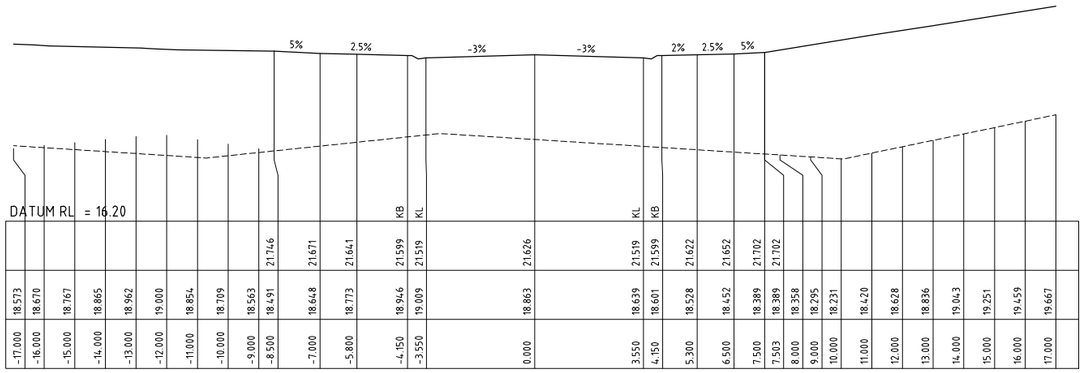
Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION 1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
ROAD 11 CROSS SECTIONS (1 OF 2)

Project No: 19259C
Drawing No: C551
Revision: 3

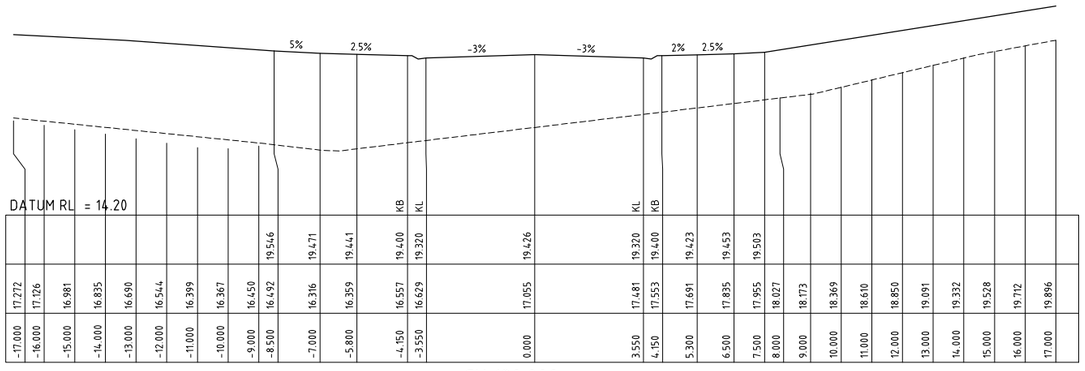
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DATUM RL = 16.20

	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	7.503	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000
										21.746	21.671	21.641	21.599	21.519	21.626	21.519	21.599	21.622	21.652	21.702	21.702										
	18.573	18.670	18.767	18.865	18.962	19.000	18.854	18.709	18.563	18.491	18.648	18.773	18.946	19.009	18.863	18.639	18.601	18.528	18.452	18.389	18.389	18.358	18.295	18.231	18.420	18.628	18.836	19.043	19.251	19.459	19.667

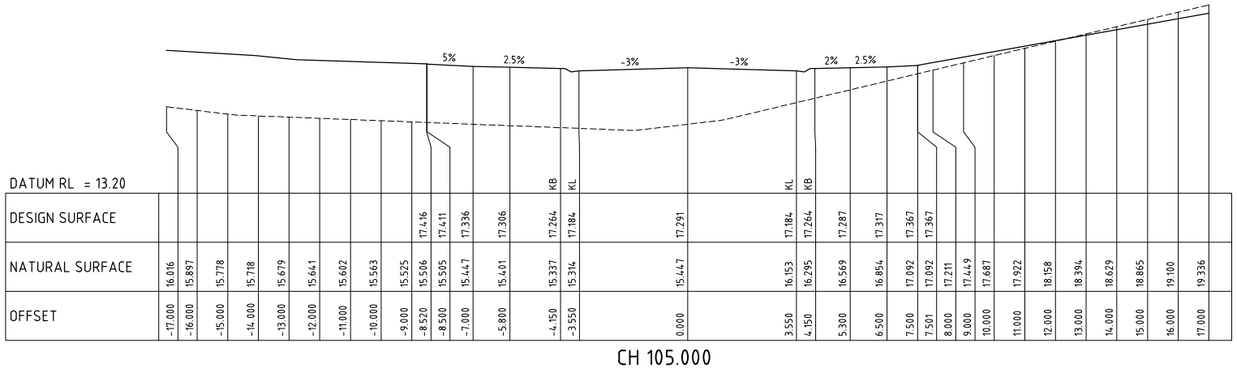
CH 135.000



DATUM RL = 14.20

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										19.546	19.471	19.441	19.400	19.320	19.426	19.320	19.400	19.423	19.453	19.503										
	17.272	17.726	16.981	16.835	16.690	16.544	16.399	16.367	16.450	16.492	16.316	16.359	16.557	16.629	17.055	17.481	17.553	17.691	17.835	17.955	18.027	18.173	18.369	18.610	18.850	19.091	19.332	19.528	19.712	19.896

CH 120.000



DATUM RL = 13.20

	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.520	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	7.501	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000
DESIGN SURFACE										17.416	17.411	17.336	17.306	17.264	17.184	17.291	17.184	17.264	17.287	17.317	17.367	17.367										
NATURAL SURFACE	16.016	15.897	15.778	15.718	15.679	15.641	15.602	15.563	15.525	15.506	15.505	15.447	15.401	15.337	15.314	15.447	16.153	16.295	16.569	16.854	17.092	17.092	17.211	17.449	17.687	17.922	18.158	18.394	18.629	18.865	19.100	19.336
OFFSET	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.520	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	7.501	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000

CH 105.000

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale
0 2 4 6 8m
1:100 (A1) 1:200 (A3)

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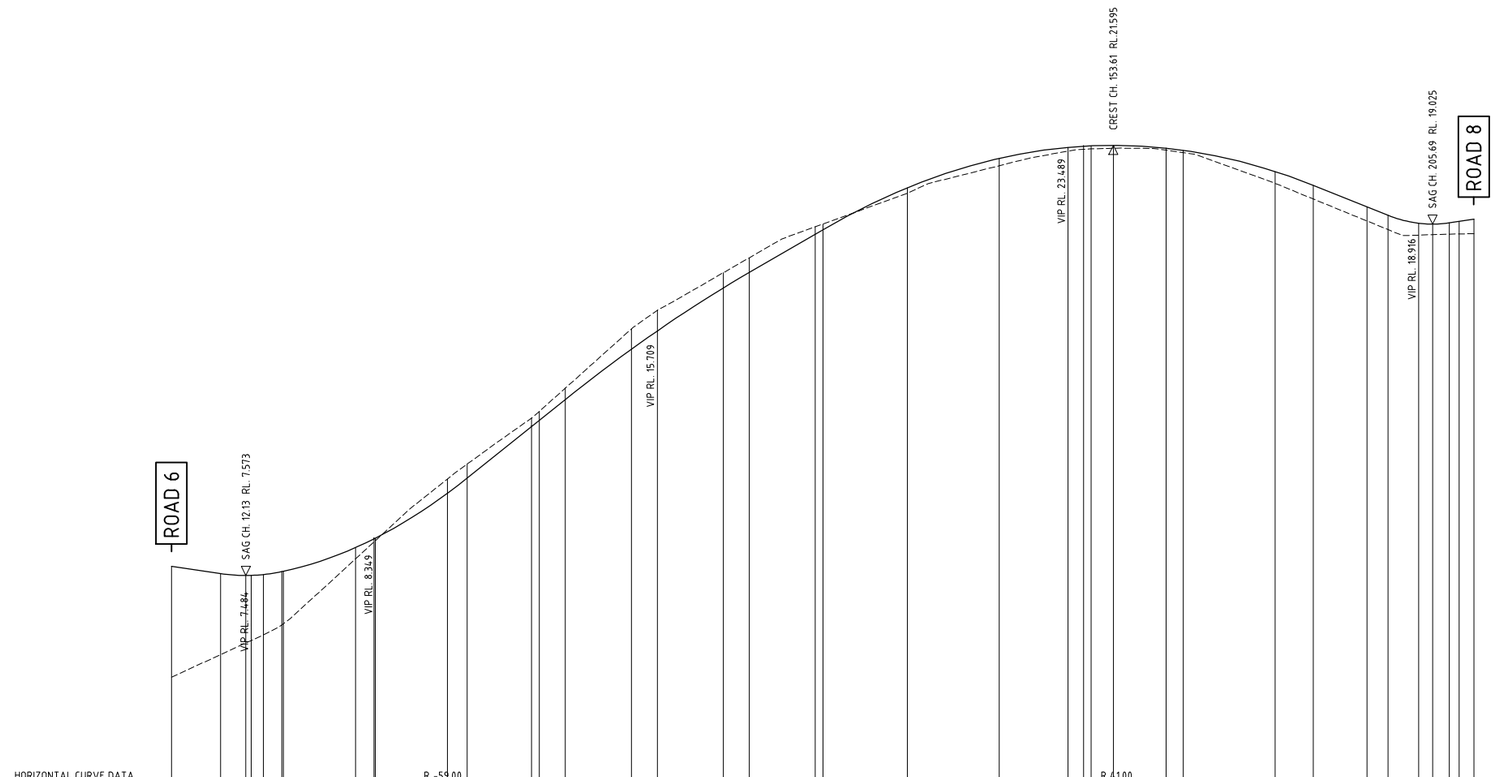
Designed: A.M
Cad Reference: 19259C dC552 r3
Scale: 1:100
A1 SHEET
Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION 1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
ROAD 11 CROSS SECTIONS (2 OF 2)

Project No: 19259C
Drawing No: C552
Revision: 3



A1 SCALE: HORIZONTAL 1:500, VERTICAL 1:100

LONGITUDINAL SECTION ROAD 12

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale
0 2 4 6 8m
1:100 (A1) 1:200 (A3)
0 10 20 30 40m
1:500 (A1) 1:1000 (A3)

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Designed	A.M
Cad Reference	19259C dC553 r3
Scale	AS SHOWN
	A1 SHEET
Project Approval	IAN HILL (B.E) Consulting Civil Engineer

Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

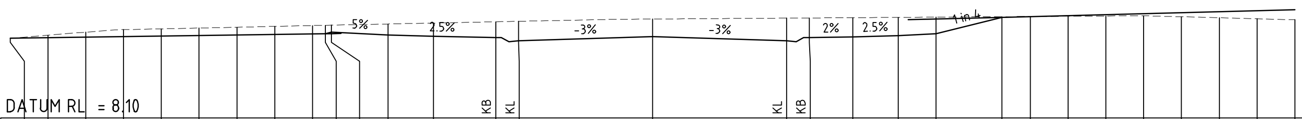
PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
ROAD 12 LONGITUDINAL SECTION

Project No	
19259C	
Drawing No	Revision
C553	3

PLOT DATE: 1/11/2022 11:08:49 AM CAD FILE: Q:\19\19259 1A Flowers Drive, Catherine Hill Bay\02_CAD\AutoCAD\Civil\500 Series - Hamlet B\19259C dC553 r3.dwg

CH 45.000

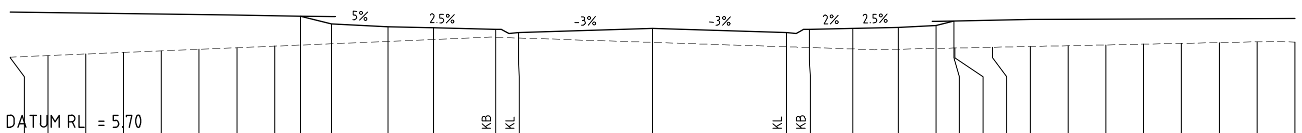
DATUM RL = 8.10



OFFSET		DESIGN SURFACE	NATURAL SURFACE
-17.000			10.211
-16.000			10.291
-15.000			10.372
-14.000			10.439
-13.000			10.460
-12.000			10.482
-11.000			10.503
-10.000			10.524
-9.000			10.546
-8.663		10.331	10.553
-8.500		10.371	10.556
-7.000		10.296	10.588
-5.800		10.266	10.613
-4.150	KB	10.225	10.647
-3.550	KL	10.145	10.659
0.000		10.252	10.719
3.550	KL	10.145	10.743
4.150	KB	10.225	10.747
5.300		10.248	10.755
6.500		10.278	10.763
7.500		10.328	10.769
9.248		10.765	10.781
10.000			10.786
11.000			10.793
12.000			10.800
13.000			10.806
14.000			10.779
15.000			10.753
16.000			10.726
17.000			10.700

CH 30.000

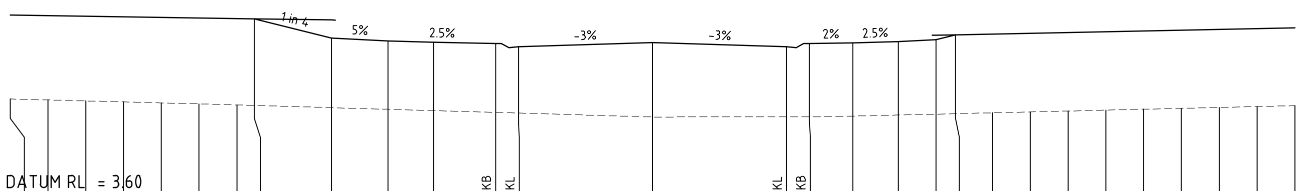
DATUM RL = 5.70



OFFSET		DESIGN SURFACE	NATURAL SURFACE
-17.000			7.719
-16.000			7.761
-15.000			7.803
-14.000			7.845
-13.000			7.887
-12.000			7.929
-11.000			7.971
-10.000			8.013
-9.317		8.805	8.042
-8.500		8.601	8.076
-7.000		8.526	8.139
-5.800		8.496	8.189
-4.150	KB	8.455	8.248
-3.550	KL	8.375	8.228
0.000		8.481	8.111
3.550	KL	8.375	7.995
4.150	KB	8.455	7.975
5.300		8.478	7.937
6.500		8.508	7.931
7.500		8.558	7.952
7.980		8.678	7.961
8.000			7.962
9.000			7.982
10.000			8.003
11.000			8.023
12.000			8.043
13.000			8.064
14.000			8.084
15.000			8.105
16.000			8.125
17.000			8.118

CH 15.000

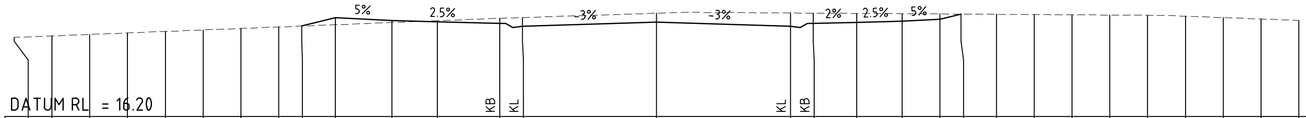
DATUM RL = 3.60



OFFSET		DESIGN SURFACE	NATURAL SURFACE
-17.000			6.113
-16.000			6.087
-15.000			6.061
-14.000			6.035
-13.000			6.009
-12.000			5.983
-11.000			5.956
-10.543		8.233	5.943
-8.500		7.722	5.884
-7.000		7.647	5.840
-5.800		7.617	5.805
-4.150	KB	7.576	5.757
-3.550	KL	7.496	5.739
0.000		7.603	5.636
3.550	KL	7.496	5.638
4.150	KB	7.576	5.638
5.300		7.599	5.659
6.500		7.629	5.688
7.500		7.679	5.711
8.023		7.810	5.724
9.000			5.747
10.000			5.770
11.000			5.794
12.000			5.818
13.000			5.841
14.000			5.865
15.000			5.888
16.000			5.912
17.000			5.936

CH 105.000

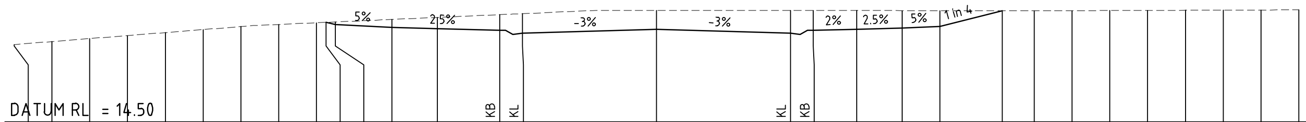
DATUM RL = 16.20



OFFSET		DESIGN SURFACE	NATURAL SURFACE
-17.000			18.297
-16.000			18.337
-15.000			18.376
-14.000			18.416
-13.000			18.455
-12.000			18.495
-11.000			18.534
-10.000			18.574
-9.388		18.598	18.598
-8.500		18.820	18.633
-7.000		18.745	18.693
-5.800		18.715	18.740
-4.150	KB	18.674	18.805
-3.550	KL	18.594	18.825
0.000		18.701	18.939
3.550	KL	18.594	18.947
4.150	KB	18.674	18.943
5.300		18.697	18.935
6.500		18.727	18.928
7.500		18.777	18.921
8.062		18.917	18.917
9.000			18.911
10.000			18.905
11.000			18.899
12.000			18.892
13.000			18.886
14.000			18.860
15.000			18.823
16.000			18.786
17.000			18.749

CH 90.000

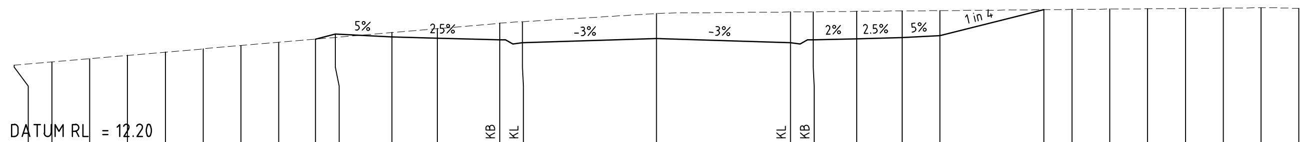
DATUM RL = 14.50



OFFSET		DESIGN SURFACE	NATURAL SURFACE
-17.000			16.539
-16.000			16.618
-15.000			16.698
-14.000			16.777
-13.000			16.856
-12.000			16.936
-11.000			17.015
-10.000			17.071
-9.000			17.115
-8.744		17.126	17.126
-8.500		17.065	17.137
-7.000		16.990	17.204
-5.800		16.960	17.257
-4.150	KB	16.919	17.330
-3.550	KL	16.839	17.357
0.000		16.946	17.442
3.550	KL	16.839	17.439
4.150	KB	16.919	17.439
5.300		16.942	17.438
6.500		16.972	17.437
7.500		17.022	17.437
9.154		17.436	17.436
10.000			17.435
11.000			17.435
12.000			17.439
13.000			17.442
14.000			17.446
15.000			17.450
16.000			17.454
17.000			17.457

CH 75.000

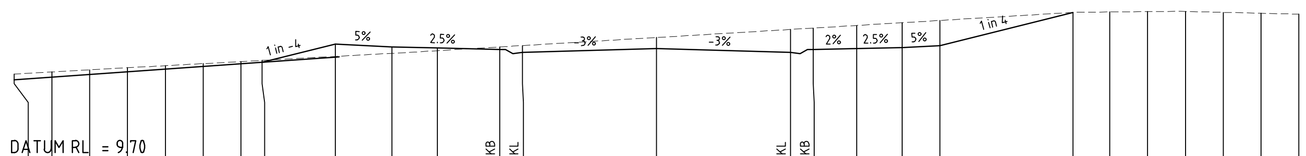
DATUM RL = 12.20



OFFSET		DESIGN SURFACE	NATURAL SURFACE
-17.000			14.249
-16.000			14.335
-15.000			14.421
-14.000			14.507
-13.000			14.593
-12.000			14.679
-11.000			14.765
-10.000			14.851
-9.027		14.934	14.934
-8.500		15.066	14.980
-7.000		14.991	15.109
-5.800		14.961	15.212
-4.150	KB	14.920	15.354
-3.550	KL	14.840	15.394
0.000		14.947	15.608
3.550	KL	14.840	15.651
4.150	KB	14.920	15.656
5.300		14.943	15.666
6.500		14.973	15.677
7.500		15.023	15.686
10.250		15.710	15.710
11.000			15.717
12.000			15.726
13.000			15.735
14.000			15.744
15.000			15.753
16.000			15.762
17.000			15.746

CH 60.000

DATUM RL = 9.70



OFFSET		DESIGN SURFACE	NATURAL SURFACE
-17.000			11.955
-16.000			12.010
-15.000			12.065
-14.000			12.120
-13.000			12.175
-12.000			12.229
-11.000			12.284
-10.438		12.266	12.315
-8.500		12.751	12.421
-7.000		12.676	12.503
-5.800		12.646	12.573
-4.150	KB	12.605	12.672
-3.550	KL	12.525	12.708
0.000		12.631	12.923
3.550	KL	12.525	13.137
4.150	KB	12.605	13.173
5.300		12.628	13.242
6.500		12.658	13.315
7.500		12.708	13.375
11.020		13.588	13.588
12.000			13.600
13.000			13.609
14.000			13.614
15.000			13.590
16.000			13.566
17.000			13.542

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale: 0 2 4 6 8m — 1:100 (A1) / 1:200 (A3)

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Designed: A.M
Cad Reference: 19259C dC554 r3
Scale: 1:100
A1 SHEET
Project Approval: IAN HILL (B.E) Consulting Civil Engineer

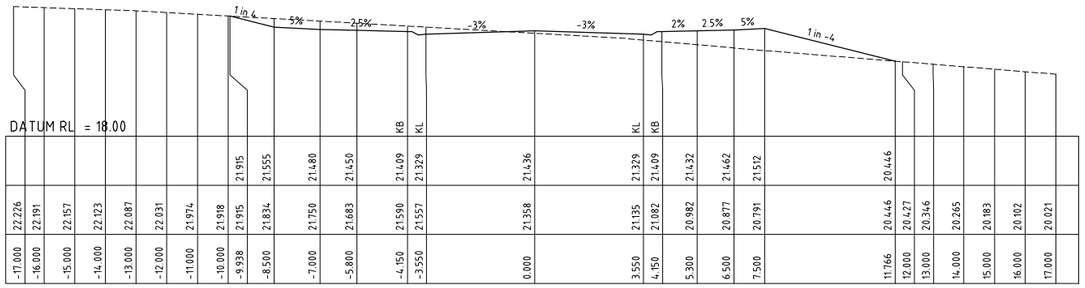
Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
(HAMLET B)
ROAD 12 CROSS SECTIONS (1 OF 2)

Project No: 19259C
Drawing No: C554
Revision: 3

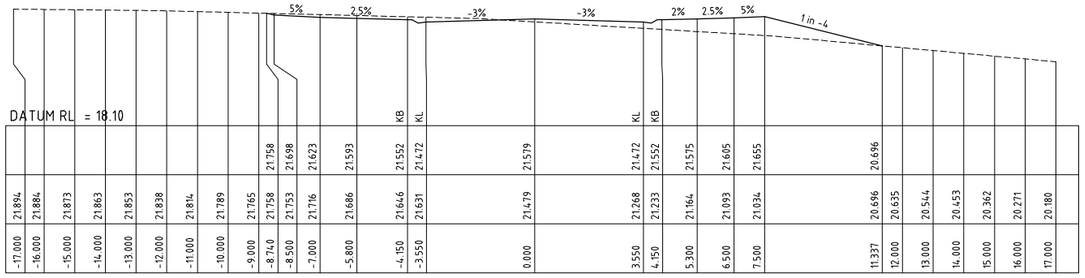
PLOT DATE: 1/11/2022 11:08:55 AM
CAD FILE: Q:\19\19259 1A Flowers Drive, Catherine Hill Bay\02__CAD\AutoCAD\Civil\500 Series - Hamlet B\19259C dC554 r3.dwg



DATUM RL = 18.00

22.226	22.191	22.157	22.123	22.087	22.031	21.974	21.918	21.915	21.555	21.480	21.450	21.409	21.329	21.436	21.329	21.409	21.432	21.462	21.512	20.446									
22.226	22.191	22.157	22.123	22.087	22.031	21.974	21.918	21.915	21.834	21.750	21.683	21.590	21.557	21.358	21.135	21.082	20.982	20.877	20.791	20.446	20.427	20.346	20.265	20.183	20.102	20.021			
-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.938	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	11.766	12.000	13.000	14.000	15.000	16.000	17.000			

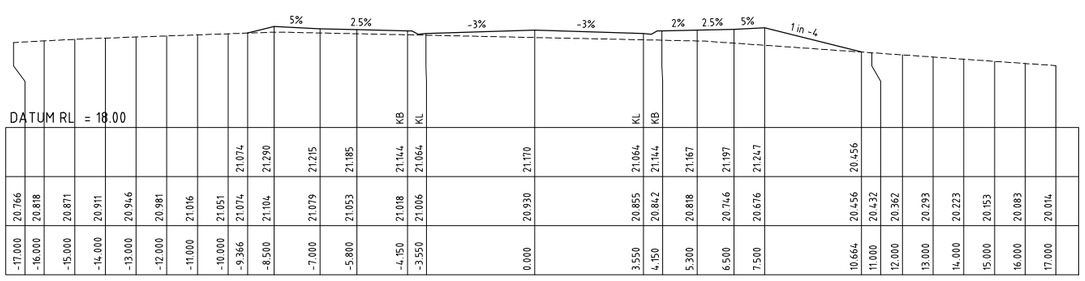
CH 165.000



DATUM RL = 18.10

21.894	21.884	21.873	21.863	21.853	21.838	21.814	21.789	21.765	21.758	21.753	21.716	21.686	21.646	21.631	21.479	21.268	21.233	21.164	21.093	21.034	20.696	20.635	20.544	20.453	20.362	20.271	20.180		
-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.000	-8.740	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	11.337	12.000	13.000	14.000	15.000	16.000	17.000				

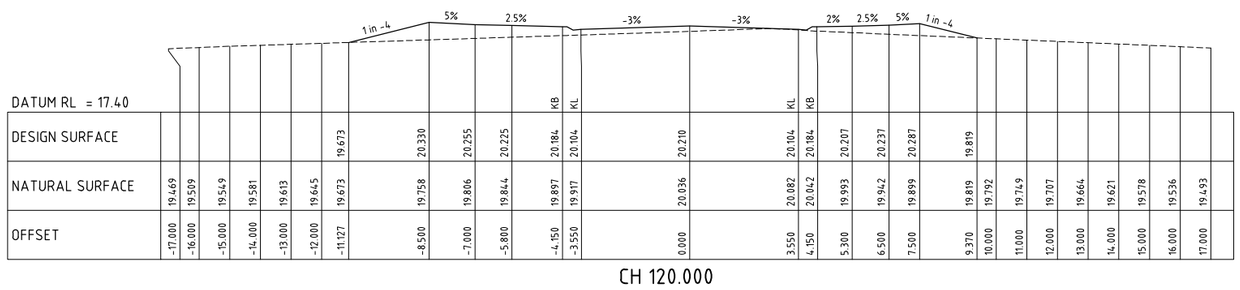
CH 150.000



DATUM RL = 18.00

20.766	20.818	20.871	20.911	20.946	20.981	21.016	21.051	21.074	21.290	21.215	21.185	21.144	21.064	21.170	21.064	21.144	21.167	21.197	21.247	20.456									
20.766	20.818	20.871	20.911	20.946	20.981	21.016	21.051	21.074	21.104	21.079	21.053	21.018	21.006	20.930	20.855	20.842	20.818	20.746	20.676	20.456	20.432	20.362	20.293	20.223	20.153	20.083	20.014		
-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.366	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	10.664	11.000	12.000	13.000	14.000	15.000	16.000	17.000				

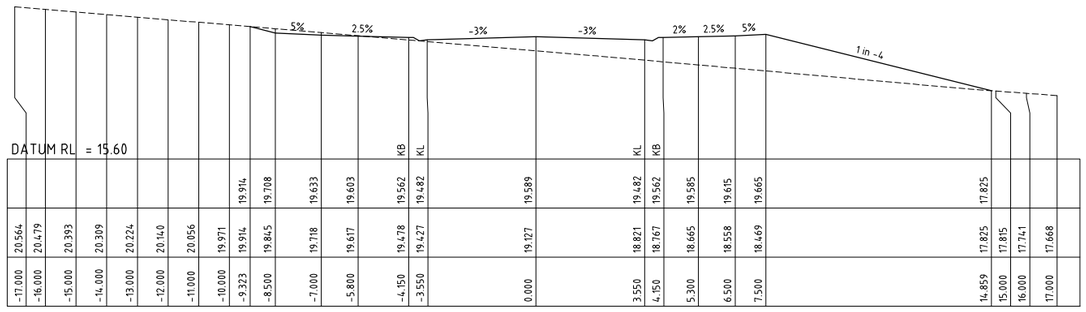
CH 135.000



DATUM RL = 17.40

DESIGN SURFACE							19.673		20.330	20.255	20.225	20.184	20.104	20.210	20.104	20.184	20.207	20.237	20.287	19.819									
NATURAL SURFACE	19.469	19.569	19.549	19.581	19.613	19.645	19.673		19.758	19.806	19.844	19.897	19.917	20.036	20.082	20.042	19.993	19.942	19.899	19.819	19.792	19.749	19.707	19.664	19.621	19.578	19.536	19.493		
OFFSET	-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.127		-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	9.370	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000				

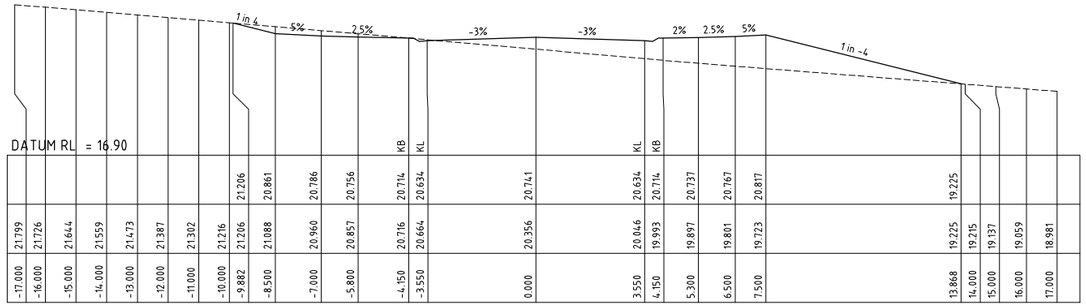
CH 120.000



DATUM RL = 15.60

20.564	20.479	20.393	20.309	20.224	20.140	20.056	19.971	19.914		19.708	19.633	19.603	19.562	19.482	19.589	19.482	19.562	19.585	19.615	19.665	17.825								
20.564	20.479	20.393	20.309	20.224	20.140	20.056	19.971	19.914	19.845	19.708	19.718	19.617	19.478	19.427	19.127	18.821	18.767	18.665	18.558	18.469	17.825	17.815	17.741	17.668					
-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.323	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	14.859	15.000	16.000	17.000						

CH 195.000



DATUM RL = 16.90

21.799	21.726	21.644	21.559	21.473	21.387	21.302	21.216	21.206	20.861	20.786	20.756	20.714	20.634	20.741	20.634	20.714	20.737	20.767	20.817	19.225									
21.799	21.726	21.644	21.559	21.473	21.387	21.302	21.206	21.206	21.088	20.960	20.857	20.716	20.664	20.356	20.046	19.993	19.897	19.801	19.723	19.225	19.215	19.137	19.059	18.981					
-17.000	-16.000	-15.000	-14.000	-13.000	-12.000	-11.000	-10.000	-9.882	-8.500	-7.000	-5.800	-4.150	-3.550	0.000	3.550	4.150	5.300	6.500	7.500	13.868	14.000	15.000	16.000	17.000					

CH 180.000

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	NOT ISSUED			
1	NOT ISSUED			

North

Scale

0 2 4 6 8m

1:100 (A1) 1:200 (A3)

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Designed: A.M

Cad Reference: 19259C dC555 r3

Scale: 1:100

A1 SHEET

Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION 1A FLOWERS DRIVE CATHERINE HILL BAY

(HAMLET B)

ROAD 12 CROSS SECTIONS (2 OF 2)

Project No: 19259C

Drawing No: C555

Revision: 3

PLOT DATE: 1/11/2022 11:09:00 AM

CAD FILE: Q:\19\19259 1A Flowers Drive, Catherine Hill Bay\02_CAD\AutoCAD\Civil\500 Series - Hamlet B\19259C dC555 r3.dwg

NOTE
THIS PLAN SHOWS CUT / FILL DEPTH CONTOURS FROM THE CONCEPT FINISHED SURFACE TO EXISTING NATURAL SURFACE.

CUT/FILL DEPTH

	to -2.90 m	0.00	to	0.10 m	
-2.90	to -2.80 m	0.10	to	0.20 m	
-2.80	to -2.70 m	0.20	to	0.30 m	
-2.70	to -2.60 m	0.30	to	0.40 m	
-2.60	to -2.50 m	0.40	to	0.50 m	
-2.50	to -2.40 m	0.50	to	0.60 m	
-2.40	to -2.30 m	0.60	to	0.70 m	
-2.30	to -2.20 m	0.70	to	0.80 m	
-2.20	to -2.10 m	0.80	to	0.90 m	
-2.10	to -2.00 m	0.90	to	1.00 m	
-2.00	to -1.90 m	1.00	to	1.10 m	
-1.90	to -1.80 m	1.10	to	1.20 m	
-1.80	to -1.70 m	1.20	to	1.30 m	
-1.70	to -1.60 m	1.30	to	1.40 m	
-1.60	to -1.50 m	1.40	to	1.50 m	
-1.50	to -1.40 m	1.50	to	1.60 m	
-1.40	to -1.30 m	1.60	to	1.70 m	
-1.30	to -1.20 m	1.70	to	1.80 m	
-1.20	to -1.10 m	1.80	to	1.90 m	
-1.10	to -1.00 m	1.90	to	2.00 m	
-1.00	to -0.90 m	2.00	to	2.10 m	
-0.90	to -0.80 m	2.10	to	2.20 m	
-0.80	to -0.70 m	2.20	to	2.30 m	
-0.70	to -0.60 m	2.30	to	2.40 m	
-0.60	to -0.50 m	2.40	to	2.50 m	
-0.50	to -0.40 m	2.50	to	2.60 m	
-0.40	to -0.30 m	2.60	to	2.70 m	
-0.30	to -0.20 m	2.70	to	2.80 m	
-0.20	to -0.10 m	2.80	to	2.90 m	
-0.10	to 0.00 m	2.90	to		

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	CLIENT COMMENTS	DB	AS	17.12.21
1	ORIGINAL ISSUE	D.B	A.S	02.11.21

North

Scale
0 20 40 60 80m
1:1000 (A1) 1:2000 (A3)

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Designed: A.M
Cad Reference: 19259C dC556 r3
Scale: 1:1000
A1 SHEET
Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
HAMLET B
CUT/FILL PLAN

Project No: 19259C
Drawing No: C556
Revision: 3

PLOT DATE: 1/11/2022 11:11:26 AM
CAD FILE: Q:\19\19259 1A Flowers Drive, Catherine Hill Bay\02_CAD\AutoCAD\Civil\500 Series - Hamlet B\19259C dC556 r3.dwg

LEGEND:

- STOCKPILE
- MULCH BERM
- STABILISED SITE ACCESS
- EARTH BANK / LIP DRAIN
- SEDIMENT FENCE

517 242 231 208 518 243 223 519 244 230 224 209 520 245 229 225 210 228 227 211 226

ROAD 12 ROAD 6 ROAD 7 COLLERY ROAD FLOWERS DRIVE

PROVIDE EARTH BANK IN ACCORDANCE TO DIRECT FLOW TO SEDIMENT BASIN IN ACCORDANCE WITH THE LANDCOM PUBLICATION "MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION VOLUME 1 - 2004" STANDARD DRAWING SD5-5 (TYP).

BASIN TO REMAIN AS TEMPORARY SEDIMENT BASIN DURING CONSTRUCTION

PROPOSED BIORETENTION SWALE

PROVIDE SEDIMENT FENCE TO LOW SIDE OF DISTURBED AREA IN ACCORDANCE WITH THE LANDCOM PUBLICATION "MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION VOLUME 1 - 2004" STANDARD DRAWING SD6-8 (TYP).

RESERVE

PROVIDE SEDIMENT FENCE TO LOW SIDE OF DISTURBED AREA IN ACCORDANCE WITH THE LANDCOM PUBLICATION "MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION VOLUME 1 - 2004" STANDARD DRAWING SD6-8 (TYP).

BASIN TO REMAIN AS TEMPORARY SEDIMENT BASIN DURING CONSTRUCTION

PROPOSED BIORETENTION SWALE

DETENTION BASIN TO BE UTILISED AS SEDIMENT BASIN DURING CONSTRUCTION IN ACCORDANCE WITH THE LANDCOM PUBLICATION "MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION VOLUME 1 - 2004" STANDARD DRAWING SD6-4

DETENTION BASIN TO BE UTILISED AS SEDIMENT BASIN DURING CONSTRUCTION IN ACCORDANCE WITH THE LANDCOM PUBLICATION "MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION VOLUME 1 - 2004" STANDARD DRAWING SD6-4

STABILISED SITE ACCESS IN ACCORDANCE WITH THE LANDCOM PUBLICATION "MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION VOLUME 1 - 2004" STANDARD DRAWING SD6-14 OR SHAKER GRID.

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
4	GENERAL REVISION	DB	AS	27.07.22
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	CLIENT COMMENTS	\DB	AS	17.12.21
1	NOT ISSUED			

North

Scale 0 20 40 60 80m — 1:1000 (A1) 1:2000 (A3)

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Designed: A.M
Cad Reference: 19259C dC557 r4
Scale: 1:1000
A1 SHEET
Project Approval: IAN HILL (B.E) Consulting Civil Engineer
Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION 1A FLOWERS DRIVE CATHERINE HILL BAY

HAMLET B
SOIL AND WATER MANAGEMENT PLAN (1 OF 4)

Project No: 19259C
Drawing No: C557
Revision: 4

PLOT DATE: 1/11/2022 11:11:34 AM
CAD FILE: Q:\19\19259 1A Flowers Drive, Catherine Hill Bay\02_CAD\AutoCAD\Civil\500 Series - Hamlet B\19259C dC557 r4.dwg

LEGEND:

STOCKPILE

MULCH BERM

STABILISED SITE ACCESS

EARTH BANK / LIP DRAIN

SEDIMENT FENCE

TOPSOIL STOCKPILE TO BE IN ACCORDANCE WITH THE LANDCOM PUBLICATION "MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION VOLUME 1 - 2004" STANDARD DRAWING SD4-1.

PROVIDE SEDIMENT FENCE TO LOW SIDE OF DISTURBED AREA IN ACCORDANCE WITH THE LANDCOM PUBLICATION "MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION VOLUME 1 - 2004" STANDARD DRAWING SD6-8 (TYP).

PROVIDE EARTH BANK IN ACCORDANCE TO DIRECT FLOW TO SEDIMENT BASIN IN ACCORDANCE WITH THE LANDCOM PUBLICATION "MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION VOLUME 1 - 2004" STANDARD DRAWING SD5-5 (TYP).

PROVIDE MULCH BERM SEDIMENT TRAP (TYP)

CONSTRUCT LIP DRAIN TO DIVERT EXTERNAL FLOW AROUND DISTURBED AREA. REFER DETAIL ON DWG C513 (TYP)

PROVIDE SEDIMENT FENCE TO LOW SIDE OF DISTURBED AREA IN ACCORDANCE WITH THE LANDCOM PUBLICATION "MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION VOLUME 1 - 2004" STANDARD DRAWING SD6-8 (TYP).

PROVIDE EARTH BANK IN ACCORDANCE TO DIRECT FLOW TO SEDIMENT BASIN IN ACCORDANCE WITH THE LANDCOM PUBLICATION "MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION VOLUME 1 - 2004" STANDARD DRAWING SD5-5 (TYP).

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
4	GENERAL REVISION	DB	AS	27.07.22
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	CLIENT COMMENTS	DB	AS	17.12.21
1	NOT ISSUED			

North

Scale
0 20 40 60 80m
1:1000 (A1) 1:2000 (A3)

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Designed: A.M
Cad Reference: 19259C dC558 r4
Scale: 1:1000
A1 SHEET
Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION 1A FLOWERS DRIVE
CATHERINE HILL BAY
HAMLET B
SOIL AND WATER MANAGEMENT PLAN (2 OF 4)

Project No: 19259C
Drawing No: C558
Revision: 4

PLOT DATE: 1/11/2022 11:11:38 AM
CAD FILE: Q:\19\19259 1A Flowers Drive, Catherine Hill Bay\02_CAD\AutoCAD\Civil\500 Series - Hamlet B\19259C dC558 r4.dwg

LEGEND:

- STOCKPILE
- MULCH BERM
- STABILISED SITE ACCESS
- EARTH BANK / LIP DRAIN
- SEDIMENT FENCE

DRAWING SD4-1.

CONSTRUCT LIP DRAIN TO DIVERT EXTERNAL FLOW AROUND DISTURBED AREA. REFER DETAIL ON DWG C513 (TYP)

PROVIDE EARTH BANK IN ACCORDANCE TO DIRECT FLOW TO SEDIMENT BASIN IN ACCORDANCE WITH THE LANDCOM PUBLICATION "MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION VOLUME 1 - 2004" STANDARD DRAWING SD5-5 (TYP).

BASIN TO REMAIN AS TEMPORARY SEDIMENT BASIN DURING CONSTRUCTION

PROVIDE SEDIMENT FENCE TO LOW SIDE OF DISTURBED AREA IN ACCORDANCE WITH THE LANDCOM PUBLICATION "MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION VOLUME 1 - 2004" STANDARD DRAWING SD6-8 (TYP).

DETENTION BASIN TO BE UTILISED AS SEDIMENT BASIN DURING CONSTRUCTION IN ACCORDANCE WITH THE LANDCOM PUBLICATION "MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION VOLUME 1 - 2004" STANDARD DRAWING SD6-4

PROVIDE EARTH BANK IN ACCORDANCE TO DIRECT FLOW TO SEDIMENT BASIN IN ACCORDANCE WITH THE LANDCOM PUBLICATION "MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION VOLUME 1 - 2004" STANDARD DRAWING SD5-5 (TYP).

PROPOSED BIORETENTION SWALE

ROAD 6
ROAD 7
ROAD 10
COLLERY ROAD

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
4	GENERAL REVISION	DB	AS	27.07.22
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	CLIENT COMMENTS	DB	AS	17.12.21
1	NOT ISSUED			

North

Scale
0 20 40 60 80m
1:1000 (A1) 1:2000 (A3)

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Designed: A.M
Cad Reference: 19259C dC559 r4
Scale: 1:1000
A1 SHEET
Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION 1A FLOWERS DRIVE
CATHERINE HILL BAY
HAMLET B
SOIL AND WATER MANAGEMENT PLAN (3 OF 4)

Project No: 19259C
Drawing No: C559
Revision: 4

PLOT DATE: 1/11/2022 11:11:41 AM
CAD FILE: Q:\19\19259 1A Flowers Drive, Catherine Hill Bay\02_CAD\AutoCAD\Civil\500 Series - Hamlet B\19259C dC559 r4.dwg

LEGEND:

- STOCKPILE
- MULCH BERM
- STABILISED SITE ACCESS
- EARTH BANK / LIP DRAIN
- SEDIMENT FENCE

TOPSOIL STOCKPILE TO BE IN ACCORDANCE WITH THE LANDCOM PUBLICATION "MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION VOLUME 1 - 2004" STANDARD DRAWING SD4-1.

CONSTRUCT LIP DRAIN TO DIVERT EXTERNAL FLOW AROUND DISTURBED AREA. REFER DETAIL ON DWG C513 (TYP)

PROVIDE MULCH BERM SEDIMENT TRAP (TYP)

PROVIDE MULCH BERM SEDIMENT TRAP (TYP)

CONSTRUCT LIP DRAIN TO DIVERT EXTERNAL FLOW AROUND DISTURBED AREA. REFER DETAIL ON DWG C513 (TYP)

PROVIDE SEDIMENT FENCE TO LOW SIDE OF DISTURBED AREA IN ACCORDANCE WITH THE LANDCOM PUBLICATION "MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION VOLUME 1 - 2004" STANDARD DRAWING SD6-8 (TYP).

PROVIDE EARTH BANK IN ACCORDANCE TO DIRECT FLOW TO SEDIMENT BASIN IN ACCORDANCE WITH THE LANDCOM PUBLICATION "MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION VOLUME 1 - 2004" STANDARD DRAWING SD5-5 (TYP).

ROAD 1
ROAD 6
ROAD 7
ROAD 11
COLLERY ROAD

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
4	GENERAL REVISION	DB	AS	27.07.22
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	CLIENT COMMENTS	DB	AS	17.12.21
1	NOT ISSUED			

North

Scale
0 20 40 60 80m
1:1000 (A1) 1:2000 (A3)

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Designed: A.M
Cad Reference: 19259C dC560 r4
Scale: 1:1000
A1 SHEET
Project Approval: IAN HILL (B.E) Consulting Civil Engineer
Client:

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION 1A FLOWERS DRIVE
CATHERINE HILL BAY
HAMLET B
SOIL AND WATER MANAGEMENT PLAN (4 OF 4)

Project No: 19259C
Drawing No: C560
Revision: 4

PLOT DATE: 1/11/2022 11:11:45 AM
CAD FILE: Q:\19\19259 1A Flowers Drive, Catherine Hill Bay\02_CAD\AutoCAD\Civil\500 Series - Hamlet B\19259C dC560 r4.dwg



SIGN SPECIFICATIONS

FULL-COLOUR DIGITAL PRINT APPLIED TO 900(T)1200MM ALUPANEL SHEET.

HOLES DRILLED TO CORNERS FOR FIXING WITH CABLE TIES TO FENCING.

BOTTOM SECTION CAN BE FILLED IN WITH WHITEBOARD OR PERMANENT MARKER BY PROJECT COMPANY.

COUNCIL STANDARD EROSION CONTROL SIGN DETAIL
N.T.S

EROSION AND SEDIMENT CONTROL NOTES:

THE FOLLOWING NOTES MAY NOT BE RELEVANT TO EACH DEVELOPMENT.

GENERAL

1. ESCP REFERS TO EROSION AND SEDIMENT CONTROL PLAN AND SWMP REFERS TO SOIL AND WATER MANAGEMENT PLAN.
2. ESC REFERS TO EROSION AND SEDIMENT CONTROL.
3. SEDIMENT,INCLUDES,BUT IS NOT LIMITED TO, CLAY,SILT, SAND,GRAVEL,SOIL,MUD, CEMENT, AND CERAMIC WASTE.
4. ANY REFERENCE TO THE BLUE BOOK REFERS TO MANAGING URBAN STORMWATER- SOILS AND CONSTRUCTION. LANDCOM, 2004.
5. ANY REFERENCE TO THE IECA WHITE BOOKS(2008) REFERS TO IECA2008,BEST PRACTICE EROSION AND SEDIMENT CONTROL,BOOKS 1-6. INTERNATIONAL EROSION CONTROL ASSOCIATION (AUSTRALASIA); PICTON NSW.
6. ANY MATERIAL DEPOSITED IN ANY CONSERVATION AREA FROM WORKS ASSOCIATED WITH THE DEVELOPMENT SHALL BE REMOVED IMMEDIATELY BY MEASURES INVOLVING MINIMAL GROUND AND/OR VEGETATION DISTURBANCE AND NO MACHINERY,OR FOLLOWING DIRECTIONS BY COUNCIL AND/OR WITHIN A TIMEFRAME ADVISED BY COUNCIL.

THE ESCP

7. THE ESCP AND ITS ASSOCIATED ESC MEASURES SHALL BE CONSTANTLY MONITORED, REVIEWED, AND MODIFIED AS REQUIRED TO CORRECT DEFICIENCIES. COUNCIL HAS THE RIGHT TO DIRECT CHANGES IF, IN ITS OPINION,THE MEASURES THAT ARE PROPOSED OR HAVE BEEN INSTALLED ARE INADEQUATE TO PREVENT POLLUTION.
8. PRIORTO ANY ACTIVITIES ONSITE,THE RESPONSIBLE PERSON(S) IS TO BE NOMINATED. THE RESPONSIBLE PERSON(S)SHALL BE RESPONSIBLE FOR THE ESC MEASURES ONSITE. THE NAME,ADDRESS AND 24 HOUR CONTACT DETAILS OF THE PERSON(S) SHALL BE PROVIDED TO COUNCIL IN WRITING. COUNCIL SHALL BE ADVISED WITHIN 48 HOURS OF ANY CHANGES TO THE RESPONSIBLE PERSON(S),OR THEIR CONTACT DETAILS, IN WRITING.
9. AT LEAST14 DAYS BEFORE THE NATURAL SURFACE IS DISTURBED IN ANY NEW STAGE, THE CONTRACTOR SHALL SUBMIT TO THE CERTIFIER,A PLAN SHOWING ESC MEASURES FOR THAT STAGE. THE DEGREE OF DESIGN DETAIL SHALL BE BASED ON THE DISTURBED AREA.
10. AT ANY TIME,THE ESC MEASURES ONSITE SHALL BE APPROPRIATE FOR THE AREA OF DISTURBANCE AND ITS CHARACTERISTICS INCLUDING SOILS (IN ACCORDANCE WITH THOSE REQUIRED FOR THE SITE AS PER DCP).
11. THE IMPLEMENTATION OF THE ESCP SHALL BE SUPERVISED BY PERSONNEL WITH APPROPRIATE QUALIFICATIONS AND/OR EXPERIENCE IN ESC ON CONSTRUCTION SITES.
12. THE APPROVED ESCP SHALL BE AVAILABLE ON-SITE FOR INSPECTION BY COUNCIL OFFICERS WHILE WORK ACTIVITIES ARE OCCURRING.
13. THE APPROVED ESCP SHALL BE UP TO DATE AND SHOW A TIMELINE OF INSTALLATION, MAINTENANCE AND REMOVAL OF ESC MEASURES.
14. ALL ESC MEASURES SHALL BE APPROPRIATE FOR THE SEDIMENT TYPE(S) OF THE SOILS ONSITE,IN ACCORDANCE WITH THE BLUE BOOK, IECA WHITE BOOKS OR OTHER CURRENT RECOGNISED INDUSTRY STANDARD FOR ESC FOR AUSTRALIAN CONDITIONS.
15. ADEQUATE SITE DATA,INCLUDING SOIL DATA FROM A NATA APPROVED LABORATORY, SHALL BE OBTAINED TO ALLOW THE PREPARATION OF AN APPROPRIATE ESCP,AND ALLOW THE SELECTION, DESIGN AND SPECIFICATION OF REQUIRED ESC MEASURES.
16. ALL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE APPROVED ESCP(AS AMENDED FROM TIME TO TIME) UNLESS CIRCUMSTANCES ARISE WHERE:
    A) COMPLIANCE WITH THE ESCP WOULD INCREASE THE POTENTIAL FOR ENVIRONMENTAL HARM; OR
    B) CIRCUMSTANCES CHANGE DURING CONSTRUCTION AND THOSE CIRCUMSTANCES COULD NOT HAVE BEEN FORESEEN; OR
    C) COUNCIL DETERMINES THAT UNACCEPTABLE OFF-SITE SEDIMENTATION IS OCCURRING AS A RESULT OF A LAND-DISTURBING ACTIVITY. IN EITHER CASE, THE PERSON(S)RESPONSIBLE MAY BE REQUIRED TO TAKE ADDITIONAL,OR ALTERNATIVE PROTECTIVE ACTION,AND/OR UNDERTAKE REASONABLE RESTORATION WORKS WITHIN THE TIMEFRAME SPECIFIED BY THE COUNCIL.
17. ADDITIONAL ESC MEASURES SHALL BE IMPLEMENTED,AND A REVISED ESCP SUBMITTED FOR APPROVAL TO THE CERTIFIER(WITHIN FIVE BUSINESS DAYS OF ANY SUCH AMENDMENTS) IN THE EVENT THAT:
    A) THERE IS A HIGH PROBABILITY THAT SERIOUS OR MATERIAL ENVIRONMENTAL HARM MAY OCCUR AS A RESULT OF SEDIMENT LEAVING THE SITE; OR
    B) THE IMPLEMENTED WORKS FAIL TO ACHIEVE COUNCIL'S WATER QUALITY OBJECTIVES SPECIFIED IN THESE CONDITIONS; OR
    C) SITE CONDITIONS SIGNIFICANTLY CHANGE; OR
    D) SITE INSPECTIONS INDICATE THAT THE IMPLEMENTED WORKS ARE FAILING TO ACHIEVE THE "OBJECTIVE" OF THE ESCP.
18. A COPY OF ANY AMENDED ESCP SHALL BE FORWARDED TO AN APPROPRIATE COUNCIL OFFICER, WITHIN FIVE BUSINESS DAYS OF ANY SUCH AMENDMENETS.

SITE ESTABLISHMENT INCLUDING CLEARING AND MULCHING

19. NO LAND CLEARING SHALL BE UNDERTAKEN UNLESS PRECEDED BY THE INSTALLATION OF ADEQUATE DRAINAGE AND SEDIMENT CONTROL MEASURES,UNLESS SUCH CLEARINGIS REQUIRED FOR THE PURPOSE OF INSTALLING SUCH MEASURES,IN WHICH CASE,ONLY THE MINIMUM CLEARING REQUIRED TO INSTALL SUCH MEASURES SHALL OCCUR.
20. BULK TREE CLEARING AND GRUBBING OF THE SITE SHALL BE IMMEDIATELY FOLLOWED BY SPECIFIED TEMPORARY EROSION CONTROL MEASURES (E.G.TEMPORARY GRASSING OR MULCHING) PRIOR TO COMMENCEMENT OF EACH STAGE OF CONSTRUCTION WORKS.
21. TREES AND VEGETATION CLEARED FROM THE SITE SHALL BE MULCHED ONSITE WITHIN 7 DAYS OF CLEARING.
22. APPROPRIATE MEASURES SHALL BE UNDERTAKEN TO CONTROL ANY DUST ORIGINATING DUE TO THE MULCHING OF VEGETATION ONSITE.
23. ALL OFFICE FACILITIES AND OPERATIONAL ACTIVITIES SHALL BE LOCATED SUCH THAT ANY EFFLUENT,INCLUDING WASH-DOWN WATER,CAN BE TOTALLY CONTAINED AND TREATED WITHIN THE SITE.
24. ALL REASONABLE AND PRACTICABLE MEASURES SHALL BE TAKEN TO ENSURE STORMWATER RUNOFF FROM ACCESS ROADS AND STABILISED ENTRY/EXIT SYSTEMS, DRAINS TO AN APPROPRIATE SEDIMENT CONTROL DEVICE.
25. SITE EXIT POINTS SHALL BE APPROPRIATELY MANAGED TO MINIMISE THE RISK OF SEDIMENT BEING TRACKED ONTO SEALED, PUBLIC ROADWAYS.
26. STORMWATER RUNOFF FROM ACCESS ROADS AND STABILISED ENTRY/EXIT POINTS SHALL DRAIN TO AN APPROPRIATE SEDIMENT CONTROL DEVICE.
27. THE APPLICANT SHALL ENSURE AN ADEQUATE SUPPLY OF ESC,AND APPROPRIATE POLLUTION CLEAN-UP MATERIALS ARE AVAILABLE ON-SITE AT ALL TIMES.
28. ALL TEMPORARY EARTH BANKS,FLOW DIVERSION SYSTEMS,AND SEDIMENT BASIN EMBANKMENTS SHALL BE MACHINE-COMPACTED,SEEDED AND MULCHED WITHIN TEN (10) DAYS OF FORMATION FOR THE PURPOSE OF ESTABLISHING A VEGETATIVE COVER, OR LINED APPROPRIATELY.
29. SEDIMENT DEPOSITED OFF SITE AS A RESULT OF ON-SITE ACTIVITIES SHALL BE COLLECTED AND THE AREA CLEANED/REHABILITATE DAS SOON AS REASONABLE AND PRACTICABLE.
30. CONCRETE WASTE AND CHEMICAL PRODUCTS, INCLUDING PETROLEUM AND OIL-BASED PRODUCTS,SHALL BE PREVENTED FROM ENTERING ANY INTERNAL OR EXTERNAL WATER BODY, OR ANY EXTERNAL DRAINAGE SYSTEM, EXCLUDING THOSE ON-SITE WATER BODIES SPECIFICALLY DESIGNED TO CONTAIN AND/OR TREAT SUCH MATERIAL. APPROPRIATE MEASURES SHALL BE INSTALLED TO TRAP THESE MATERIALS ONSITE.
31. BRICK, TILE OR MASONRY CUTTING SHALL BE CARRIED OUT ON A PERVIOUS SURFACE (E.G. GRASS OR OPEN SOIL) AND IN SUCH A MANNER THAT ANY RESULTING SEDIMENT-LADEN RUNOFF IS PREVENTED FROM DISCHARGING INTO A GUTTER,DRAIN OR WATER. APPROPRIATE MEASURES SHALL BE INSTALLED TO TRAP THESE MATERIALS ONSITE.
32. NEWLY SEALED HARD-STAND AREAS (E.G.ROADS, DRIVEWAYS AND CAR PARKS)SHALL BE SWEPT THOROUGHLY AS SOON AS PRACTICABLE AFTER SEALING/SURFACING TO MINIMISE THE RISK OF COMPONENTS OF THE SURFACING COMPOUND ENTERING STORMWATER DRAINS.
33. STOCKPILES OF ERODIBLE MATERIAL SHALL BE PROVIDED WITH AN APPROPRIATE PROTECTIVE COVER (SYNTHETIC OR ORGANIC)IF THE MATERIALS ARE LIKELY TO BE STOCKPILED FOR MORE THAN 10 DAYS.
34. STOCKPILES,TEMPORARY OR PERMANENT,SHALL NOT BE LOCATED IN AREAS IDENTIFIED AS NO-GO ZONES (INCLUDING,BUT NOT LIMITED TO, RESTRICTED ACCESS AREAS, BUFFER ZONES, OR AREAS OF NON-DISTURBANCE) ON THE ESCP.
35. NO MORE THAN 150MOF A STORMWATER,SEWER LINE OR OTHER SERVICE TRENCH SHALL TO BE OPEN AT ANY ONE TIME.
36. SITE SPOIL SHALL BE LAWFULLY DISPOSED OF IN A MANNER THAT DOES NOT RESULT IN ONGOING SOIL EROSION OR ENVIRONMENTAL HARM.
37. WHEREVER REASONABLE AND PRACTICABLE, STORMWATER RUNOFF ENTERING THE SITE FROM EXTERNAL AREAS, AND NON-SEDIMENT LADEN (CLEAN) STORMWATER RUNOFF ENTERING A WORK AREA OR AREA OF SOIL DISTURBANCE, SHALL BE DIVERTED AROUND OR THROUGH THAT AREA IN A MANNER THAT MINIMISES SOIL EROSION AND THE CONTAMINATION OF THAT WATER FOR ALL DISCHARGES UP TO THE SPECIFIED DESIGN STORM DISCHARGE

SITE MANAGEMENT INCLUDING DUST

38. PRIORITY SHALL BE GIVEN TO THE PREVENTION,OR AT LEAST THE MINIMISATION,OF SOIL EROSION, RATHER THAN THE TRAPPING OF DISPLACED SEDIMENT. SUCH A CLAUSE SHALL NOT REDUCE THE RESPONSIBILITY TO APPLY AND MAINTAIN,AT ALL TIMES,ALL NECESSARY ESC MEASURES.
39. MEASURES USED TO CONTROL WIND EROSION SHALL BE APPROPRIATE FOR THE LOCATION AND PREVENT SOIL EROSION AND EMISSIONS FROM SITE AT ALL TIMES, INCLUDING WORKING HOURS,OUT OF HOURS,WEEKENDS,PUBLIC HOLIDAYS,AND DURING ANY OTHER SHUTDOWN PERIODS.
40. THE APPLICATION OF LIQUID OR CHEMICAL-BASED DUST SUPPRESSION MEASURES SHALL ENSURE THAT SEDIMENT-LADEN RUNOFF RESULTING FROM SUCH MEASURES DOES NOT CREATE A TRAFFIC OR ENVIRONMENTAL HAZARD.
41. ALL CUT AND FILL EARTH BATTERS LESS THAN 3M IN ELEVATION SHALL BE TOPSOILED, AND GRASS SEEDED/HYDROMULCHED WITHIN 10 DAYS OF COMPLETION OF GRADING IN CONSULTATION WITH COUNCIL.
42. ALL DISTURBED AREAS SHALL BE STABILISED IN ACCORDANCE WITH TIMELINES IN THE BLUE BOOK.
43. ALL REASONABLE AND PRACTICABLE MEASURES SHALL BE TAKEN TO PREVENT,OR AT LEAST MINIMISE, THE RELEASE OF SEDIMENT FROM THE SITE.
44. SUITABLE ALL-WEATHER MAINTENANCE ACCESS SHALL BE PROVIDED TO ALL SEDIMENT CONTROL DEVICES.
45. SEDIMENT CONTROL DEVICES,OTHER THAN SEDIMENT BASINS,SHALL BE DE-SILTED AND MADE FULLY OPERATIONAL AS SOON AS REASONABLE AND PRACTICABLE AFTER A SEDIMENT-PRODUCING EVENT, WHETHER NATURAL OR ARTIFICIAL, IF THE DEVICE'S SEDIMENT RETENTION CAPACITY FALLS BELOW 75% OF ITS DESIGN RETENTION CAPACITY.
46. ALL EROSION AND SEDIMENT CONTROL MEASURES, INCLUDING DRAINAGE CONTROL MEASURES,SHALL BE MAINTAINED IN PROPER WORKING ORDER AT ALL TIMES DURING THEIR OPERATIONAL LIVES.
47. WASHING/FLUSHING OF SEALED ROADWAYS SHALL ONLY OCCUR WHERE SWEEPING HAS FAILED TO REMOVE SUFFICIENT SEDIMENT AND THERE IS A COMPELLING NEED TO REMOVE THE REMAINING SEDIMENT (E.G. FOR SAFETY REASONS). IN SUCH CIRCUMSTANCES,ALL REASONABLE AND PRACTICABLE SEDIMENT CONTROL MEASURES SHALL BE USED TO PREVENT,OR AT LEAST MINIMISE,THE RELEASE OF SEDIMENT INTO RECEIVING WATERS. ONLY THOSE MEASURES THAT WILL NOT CAUSE SAFETY AND PROPERTY FLOODING ISSUES SHALL BE EMPLOYED. SEDIMENT REMOVED FROM ROADWAYS SHALL BE DISPOSED OF IN A LAWFUL MANNER THAT DOES NOT CAUSE ONGOING SOIL EROSION OR ENVIRONMENTAL HARM.
48. SEDIMENT REMOVED FROM SEDIMENT TRAPS AND PLACES OF SEDIMENT DEPOSITION SHALL BE DISPOSED OF IN A LAWFUL MANNER THAT DOES NOT CAUSE ONGOING SOIL EROSION OR ENVIRONMENTAL HA

SEDIMENT BASINS - INSTALLATION, MAINTENANCE AND REMOVAL INCLUDING SEDIMENT TRAPS

49. AS-CONSTRUCTED PLANS SHALL BE PREPARED FOR ALL CONSTRUCTED SEDIMENT BASINS AND ASSOCIATED EMERGENCY SPILLWAYS. SUCH PLANS SHALL VERIFY THE BASIN'S DIMENSIONS, LEVELS AND VOLUMES COMPLY WITH THE APPROVED DESIGN DRAWINGS. THESE PLANS MAY BE REQUESTED BY THE CERTIFIER OR COUNCIL.
50. SEDIMENT BASINS SHALL BE CONSTRUCTED AND FULLY OPERATIONAL PRIOR TO ANY OTHER SOIL DISTURBANCE IN THEIR CATCHMENT.
51. INSTALL AN INTERNAL GATED VALVE, OR SIMILAR,IN ANY OUTLET PIPE ONCE PIPES INSTALLED,OR INSTALL A SACRIFICIAL PIPE FROM BASIN THROUGH WALL TO EXTERNAL OUTLET POINT. THE VALVE SHALL BE CONNECTED TO A RISER MADE FROM SLOTTED PIPE IN THE BASIN. THE VALVE MAY BE OPENED ONCE CAPTURED WATER MEETS WATER QUALITY REQUIREMENTS.THE FINAL SETUP FOR TEMPORARY INTERNAL OUTLET STRUCTURES TO BE CONFIRMED PRIOR TO CONSTRUCTION WITH COUNCIL. THIS SETUP WILL ENABLE DISCHARGE OF TREATED WATER FROM SITE WITHOUT NEED FOR PUMPING.
52. A SEDIMENT STORAGE LEVEL MARKER POST SHALL BE WITH A CROSS MEMBER SET JUST BELOW THE TOP OF THE SEDIMENT STORAGE ZONE (AS SPECIFIED ON THE APPROVED ESCP). AT LEAST A 75mm WIDE POST SHALL BE FIRMLY SET INTO THE BASIN FLOOR.
53. THE SITE MANAGER SHALL OBTAIN THE RELEVANT APPROVALS FROM THE RELEVANT ORGANISATIONS TO DISCHARGE TREATED WATER FROM ANY EXISTING BASINS. ORGANISATIONS MAY INCLUDE, BUT NOT BE LIMITED TO, HUNTER WATER, AND COUNCIL.
54. WHERE MORE THAN ONE STAGE IS TO BE DEVELOPED AT ONETIME,OR BEFORE THE PRECEDING STAGE IS COMPLETE,THE SEDIMENT BASIN(S) FOR THESE STAGES SHALL HAVE SUFFICIENT CAPACITY TO CATER FOR ALL AREA DIRECTED TO THE BASIN(S).
55. PRIOR TO ANY FORECAST WEATHER EVENT LIKELY TO RESULT IN RUNOFF, ANY BASINS/TRAPS SHALL BE DEWATERED TO PROVIDE SUFFICIENT CAPACITY TO CAPTURE SEDIMENT LADEN WATER FROM THE SITE.
56. SUFFICIENT QUANTITIES OF CHEMICALS/AGENTS TO TREAT CAPTURED WATER SHALL BE PLACED SUCH THAT WATER ENTERING THE BASIN MIXES WITH THE CHEMICAL/AGENTS AND IS CARRIED INTO THE BASIN TO SPEED UP CLARIFICATION.
57. ANY BASIN SHALL BE DEWATERED WITHIN THE X-DAY RAINFALL DEPTH USED TO CALCULATE THE CAPACITY OF THE BASIN, AFTER A RAINFALL EVENT.
58. SUFFICIENT QUANTITIES OF CHEMICALS/AGENTS TO TREAT TURBID WATER SHALL BE SECURELY STORED ON-SITE TO PROVIDE FOR AT LEAST THREE COMPLETE TREATMENTS OF ALL BASINS REQUIRING CHEMICALLY TREATMENT ONSITE.
59. PRIOR TO THE CONTROLLED DISCHARGE(E.G. DE-WATERING ACTIVITIES)FROM SITE INCLUDING EXCAVATIONS AND/OR SEDIMENT BASINS,THE FOLLOWING WATER QUALITY OBJECTIVES SHALL BE ACHIEVED:
    A) TOTAL SUSPENDED SOLIDS (TSS) TO A MAXIMUM 50 MILLIGRAMS/L;
    B) WATER PH BETWEEN 6.5 AND 8.5, UNLESS OTHERWISE REQUIRED BY THE COUNCIL;
    C) TURBIDITY (MEASURED IN NTUS) TO A MAXIMUM OF 60 NTU); AND
    D) EC LEVELS NO GREATER THAN BACKGROUND LEVELS.
60. THE DEVELOPMENT APPROVAL MAY REQUIRE TESTING OF ADDITIONAL WATER QUALITY ELEMENTS PRIOR TO DISCHARGE,E.G. INCLUDING BUT NOT LIMITED TO METALS, ORGANIC SUBSTANCES, CHEMICALS OR BACTERIOLOGICAL INDICATORS. 61.
61. A SAMPLE OF THE RELEASED TREATED WATER SHALL BE KEPT ONSITE IN A CLEAR CONTAINER WITH THE SAMPLE DATE RECORDED ON IT.
62. WATER QUALITY SAMPLES SHALL BE TAKEN AT A DEPTH NO LESS THAN 200MM BELOW THE WATER SURFACE OF THE BASIN.
63. NO ALUMINIUM BASED PRODUCTS MAY BE USED TREAT CAPTURED WATER ONSITE WITHOUT THE PRIOR WRITTEN PERMISSION FROM AN APPROPRIATE COUNCIL OFFICER. THE APPLICANT SHALL HAVE A DEMONSTRATED ABILITY TO USE SUCH PRODUCTS CORRECTLY AND WITHOUT ENVIRONMENTAL HARM PRIOR TO ANY APPROVAL.
64. THE CHEMICAL/AGENT USED IN TYPE D AND TYPE F BASINS TO TREAT CAPTURED WATER CAPTURED IN THE BASIN SHALL BE APPLIED IN CONCENTRATIONS SUFFICIENT TO ACHIEVE COUNCIL'S WATER QUALITY OBJECTIVES WITHIN THE X-DAY RAINFALL DEPTH USED TO CALCULATE THE CAPACITY OF THE BASIN, AFTER A RAINFALL EVENT.
65. ALL MANUFACTURERS' INSTRUCTIONS SHALL BE FOLLOWED FOR ANY CHEMICALS/AGENTS USED ONSITE, EXCEPT WHERE APPROVED BY THE RESPONSIBLE PERSON OR AN APPROPRIATE COUNCIL OFFICER.
66. THE APPLICANT SHALL ENSURE THAT ON EACH OCCASION A TYPE F OR TYPE D BASIN WAS NOT DE-WATERED PRIOR TO BEING SURCHARGED BY A FOLLOWING RAINFALL EVENT,A REPORT IS PRESENTED TO AN APPROPRIATE COUNCIL OFFICER WITHIN 5 DAYS IDENTIFYING THE CIRCUMSTANCES AND PROPOSED AMENDMENTS, IF ANY, TO THE BASIN'S OPERATING PROCEDURES.
67. SETTLED SEDIMENT SHALL BE REMOVED AS SOON AS REASONABLE AND PRACTICABLE FROM ANY SEDIMENT BASIN IF:
    A) IT IS ANTICIPATED THAT THE NEXT STORM EVENT IS LIKELY TO CAUSE SEDIMENT TO SETTLE ABOVE THE BASIN'S SEDIMENT STORAGE ZONE; OR
    B) THE ELEVATION OF SETTLED SEDIMENT IS ABOVE THE TOP OF THE BASIN'S SEDIMENT STORAGE ZONE; OR
    C) THE ELEVATION OF SETTLED SEDIMENT IS ABOVE THE BASINS SEDIMENT MARKER LINE.
68. SCOUR PROTECTION MEASURES PLACED ON SEDIMENT BASIN EMERGENCY SPILLWAYS SHALL APPROPRIATELY PROTECT THE SPILLWAY CHUTE AND ITS SIDE BATTERS FROM SCOUR,AND SHALL EXTEND A MINIMUM OF 3m BEYOND THE DOWNSTREAM TOE OF THE BASIN'S EMBANKMENT.
69. SUITABLE ALL-WEATHER MAINTENANCE ACCESS SHALL BE PROVIDED TO ALL SEDIMENT CONTROL DEVICES.
70. MATERIALS,WHETHER LIQUID OR SOLID, REMOVED FROM ANY ESC MEASURE OR EXCAVATION DURING MAINTENANCE OR DECOMMISSIONING,SHALL BE DISPOSED OF IN A MANNER THAT DOES NOT CAUSE ONGOING SOIL EROSION,WATER POLLUTION OR ENVIRONMENTAL HARM.
71. ALL SEDIMENT BASINS SHALL REMAIN FULLY OPERATIONAL AT ALL TIMES UNTIL THE BASIN'S DESIGN CATCHMENT ACHIEVES 70% GROUND COVER OR SURFACE STABILISATION ACCEPTABLE TO COUNCIL.
72. THE ESC MEASURES INSTALLED DURING THE DECOMMISSIONING AND REHABILITATION OF A SEDIMENT BASIN SHALL COMPLY WITH SAME STANDARDS SPECIFIED FOR THE NORMAL CONSTRUCTION WORKS.
73. A SEDIMENT BASIN SHALL NOT BE DECOMMISSIONED UNTIL ALL UP-SLOPE SITE STABILISATION MEASURES HAVE BEEN IMPLEMENTED AND ARE APPROPRIATELY WORKING TO CONTROL SOIL EROSION AND SEDIMENT RUN
74. IMMEDIATELY PRIOR TO THE CONSTRUCTION OF THE PERMANENT STORMWATER TREATMENT DEVICE, APPROPRIATE FLOW BYPASS CONDITIONS SHALL BE ESTABLISHED TO PREVENT SEDIMENT-LADEN WATER ENTERING THE DEVICE

REVEGETATION/STABILISATION

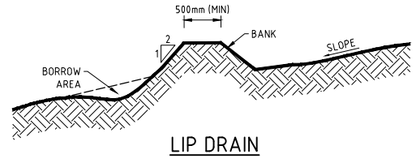
75. TEMPORARY STABILISATION MAY BE ATTAINED USING VEGETATION,NON REWETTABLE SOIL POLYMERS, OR PNEUMATICALLY APPLIED EROSION CONTROLS.
76. ALL CUT AND FILL EARTH BATTERS LESS THAN 3M IN ELEVATION SHALL BE TOPSOILED, AND GRASS SEEDED/HYDROMULCHED WITHIN 10 DAYS OF COMPLETION OF GRADING IN CONSULTATION WITH COUNCIL.
77. AT THE COMPLETION OF FORMATION IN ANY SECTION,ALL DISTURBED AREAS SHALL BE STABILISED IN ACCORDANCE WITH TIME LINES IN THE BLUE BOOK.
78. THE LMCC SEED MIX SHALL BE USED UNLESS STATED ON THE ESCP/SWMP.
79. THE PH LEVEL OF TOPSOIL SHALL BE APPROPRIATE TO ENABLE ESTABLISHMENT AND GROWTH OF SPECIFIED VEGETATION PRIOR TO INITIATING THE ESTABLISHMENT OF VEGETATION.
80. NON REWETTABLE BINDER SHALL BE USED IN ALL HYDROMULCH/HYDROSEED/POLYMER MIXES ON SLOPES OR WORKS ADJACENT TO A WATER COURSE.
81. SOIL AMELIORANTS SHALL BE ADDED TO THE SOIL IN ACCORDANCE WITHAN APPROVED LANDSCAPE PLAN, VEGETATION MANAGEMENT PLAN, AND/OR SOIL ANALYSIS.
82. SURFACE SOIL DENSITY, COMPACTION AND SURFACE ROUGHNESS SHALLBE ADJUSTED PRIOR TO SEEDING/PLANTING IN ACCORDANCE WITH AN APPROVED LANDSCAPE PLAN, VEGETATION MANAGEMENT PLAN, AND/OR SOIL ANALYSIS.
83. PROCEDURES FOR INITIATING A SITE SHUTDOWN, WHETHER PROGRAMMED OR UN-PROGRAMMED,SHALL INCORPORATE REVEGETATION OF ALL SOIL DISTURBANCES UNLESS OTHERWISE APPROVEDBY COUNCIL. THE STABILISATION WORKS SHALL NOT RELY UPON THE LONGEVITY OF NON-VEGETATEDEROSION CONTROL BLANKETS,OR TEMPORARY SOIL BINDERS

SITE MONITORING AND MAINTENANCE

84. THE APPLICANT SHALL ENSURE THAT APPROPRIATE PROCEDURES AND SUITABLY QUALIFIED PERSONNEL ARE ENGAGED TO PLAN AND CONDUCT SITE INSPECTIONS AND WATER QUALITY MONITORING THROUGHOUT THE CONSTRUCTION AND MAINTENANCE PHASE.
85. 85. ALL ESC MEASURES SHALL BE INSPECTED AND ANY MAINTENANCE UNDERTAKEN IMMEDIATELY:
    A) AT LEAST DAILY (WHEN WORK IS OCCURRING ON-SITE); AND
    B) AT LEAST WEEKLY (WHEN WORK IS NOT OCCURRING ON-SITE); AND
    C) WITHIN 24HRS OF EXPECTED RAINFALL; AND
    D) WITHIN 18HRS OF A RAINFALL EVENT THAT CAUSES RUNOFF ON THE SITE.
86. WRITTEN RECORDS SHALL BE KEPT ONSITE OF ESC MONITORING AND MAINTENANCE ACTIVITIES CONDUCTED DURING THE CONSTRUCTION AND MAINTENANCE PERIODS,AND BE AVAILABLE TO COUNCIL OFFICERS ON REQUEST.
87. ALL ENVIRONMENTALLY RELEVANT INCIDENTS SHALL BE RECORDED IN A FIELD LOG THAT SHALL REMAIN ACCESSIBLE TO ALL RELEVANT REGULATORY AUTHORITIES.
88. ALL WATER QUALITY DATA, INCLUDING DATES OF RAINFALL, DATES OF TESTING,TESTING RESULTS AND DATES OF WATER RELEASE, SHALL BE KEPT IN AN ON-SITE REGISTER. THE REGISTER IS TO BE MAINTAINED UP TO DATE FOR THE DURATION OF THE APPROVED WORKS AND BE AVAILABLE ON-SITE FOR INSPECTION BY ALL RELEVANT REGULATORY AUTHORITIES ON REQUEST.
89. AT NOMINATED INSTREAM WATER MONITORING SITES, A MINIMUM OF 3 WATER SAMPLES SHALL BE TAKEN AND ANALYSED, AND THE AVERAGE RESULT USED TO DETERMINE QUALITY.

INSTREAM WORKS

90. ALL INSTREAM WORKS (INCLUDING IN OR ADJACENT TO WATERCOURSES NATURAL OR MANMADE, FLOWING OR NOT) SHALL BE CARRIED OUT IN ACCORDANCE WITH THE IECA WHITE BOOKS.



LIP DRAIN
N.T.S

NOTE
REFER TO DWG SK215-SK216 FOR LANDCOM BLUE BOOK EROSION AND SEDIMENT STANDARD DRAWINGS

TYPICAL CONSTRUCTION SCHEDULE

	WEEK							
	1	2	3	4	5	6	7	8
CONSTRUCT ALL TEMPORARY SEDIMENT BASINS	▨							
PLACE SILT FENCE ALONG ROAD BOUNDARIES AS SHOWN	▨							
PLACE SILT FENCE BELOW AREAS TO BE REGRADED	▨							
CONSTRUCT ALL DIVERSION BANKS CATCHING CLEAN WATER	▨							
ROAD CONSTRUCTION AND REGRADING		▨	▨	▨	▨	▨	▨	
PLACE SILT FENCE AROUND TOPSOIL STOCKPILES		▨						
PLACE SEDIMENT BARRIERS AROUND STORMWATER PITS AT COMPLETION OF DRAINAGE			▨	▨				
PLACE STRIP TURF PARALLEL TO DESIGN CONTOURS ALONG ROAD AS SHOWN							▨	

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
3	CLIENT AMENDMENTS	DB	AS	14.01.22
2	CLIENT COMMENTS	DB	AS	17.12.21
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Cad Reference: 19259C dC561 r3
Scale: -
A1 SHEET
Project Approval: IAN HILL (B.E) Consulting Civil Engineer

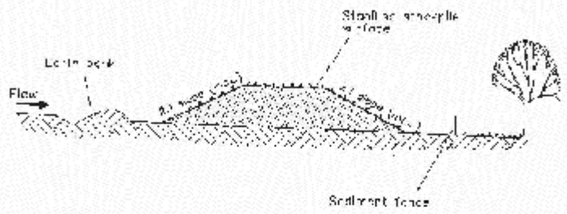
Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
HAMLET B
SOIL AND WATER MANAGEMENT DETAILS

Project No: 19259C
Drawing No: C561
Revision: 3

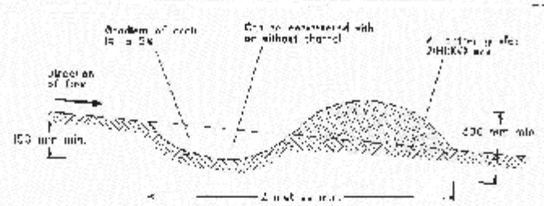
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Construction Notes

1. Place stockpiles more than 2 (preferably 5) metres from existing vegetation, concentrated water flow, roads and hazard areas.
2. Construct on the contour as low, flat, elongated mounds.
3. Where there is sufficient area, topsoil stockpiles shall be less than 2 metres in height.
4. Where they are to be in place for more than 10 days, sow the following grass approved by Council or PWCMP to reduce the C-factor to less than 0.10
5. Construct earth banks (Standard Drawing D-3) on the uphill side to divert water around stockpiles, and sediment fences (Standard Drawing D-8), 1 to 2 metres downslope.

STOCKPILES **SD 4-1**

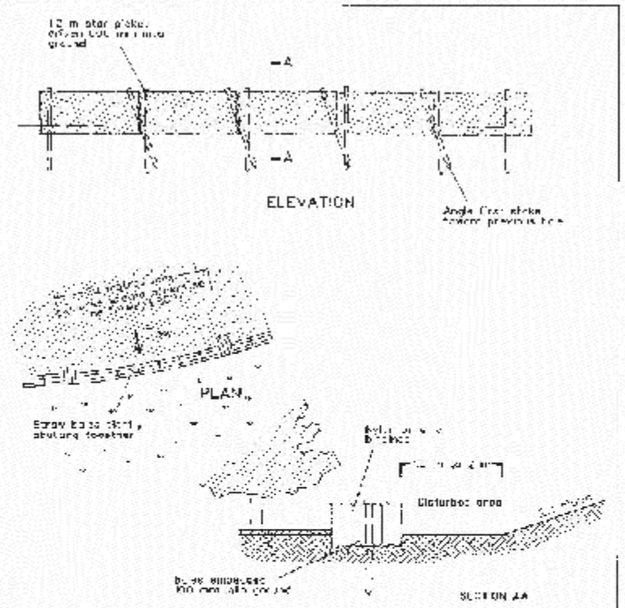


NOTE: Only to be used for temporary bank where maximum catchment length is 80 metres

Construction Notes

1. Build with gradients between 1 percent and 5 percent.
2. Avoid removing trees and shrubs if possible. Work around them.
3. Ensure the structure is free of projections or other irregularities that could impede water flow.
4. Bank may be built with circular, parabolic or trapezoidal cross sections, not V shaped.
5. Ensure the banks are properly compacted to prevent failure.
6. Complete permanent or temporary stabilisation within 10 days of construction.

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



Construction Notes

1. Construct the structure as close as possible to being parallel to the contours of the site.
2. Place bales lengthwise in a row with ends tightly abutting. Use straw to fill any gaps between bales. Arrows are to be placed parallel to ground.
3. Ensure that the maximum height of the filter is one bale.
4. Embed each bale in the ground 75 mm to 100 mm, and anchor with two 1.2 metre star pickets or similar. Angle the first star picket in each bale towards the previously laid bale. Drive them 600 mm into the ground and press the bale firmly into the side of the bale. Where star pickets are used and they protrude above the bales, ensure they are fitted with safety caps.
5. Where a straw bale filter is constructed downslope from a disturbed batter, ensure the bales are placed 1 to 2 metres downslope from the toe.
6. Establish a maintenance program to ensure the integrity of the bales is maintained - they could require replacement after two to four months.

STRAW BALE FILTER **SD 6-7**

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Scale	A1 SHEET
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Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

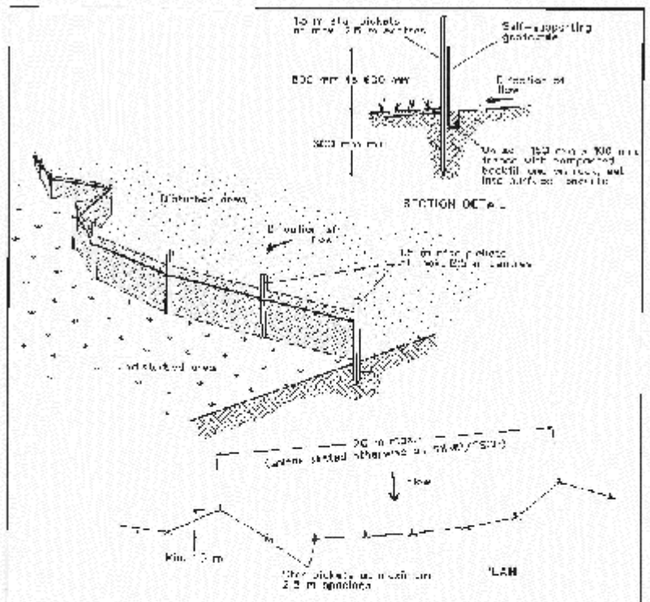
Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION
1A FLOWERS DRIVE
CATHERINE HILL BAY
HAMLET B
LANDCOM BLUE BOOK FIGURES (1 OF 2)

Project No	
19259C	
Drawing No	Revision
C562	3

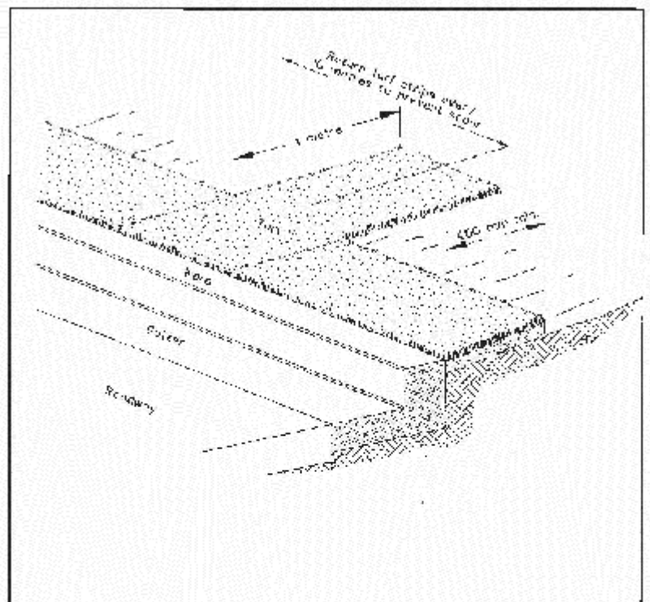
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Construction Notes

1. Construct sediment fences as close as possible to, running parallel to, the contours of the site, but with short returns as shown in the drawing to limit the catchment area of any one section. The catchment areas should be small enough to limit water flow rates to that which can be adequately controlled by the design storm event, usually the 10-year event.
2. Cut a 150mm deep trench along the uphill side of the fence for the bottom of the fabric to be entrenched.
3. Drive 1.5 metre long steel angle pickets into ground at 2.5 metre intervals (max) at the downslope edge of the trench. Ensure any star pickets are fitted with safety caps.
4. For self-supporting geotextile fences, the side of the posts on which the geotextile is attached should face the trench. Use of the geotextile specified by the manufacturer is recommended as the minimum. Only the geotextile specifically produced for sediment fencing. The use of shade cloth for this purpose is not satisfactory.
5. Join sections of fabric at a support post with a 150 mm overlap.
6. Backfill the trench over the base of the fabric and compact thoroughly over the geotextile.

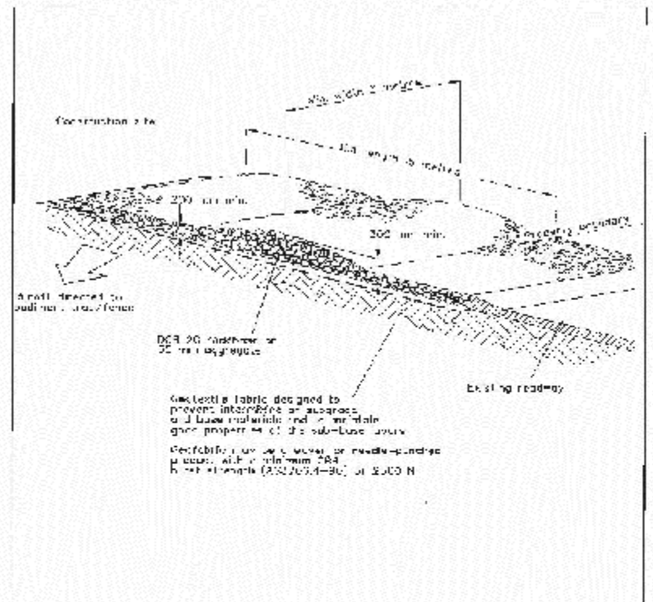
SEDIMENT FENCE — SD 6-8



Construction Notes

1. Place a 400-mm minimum wide roll of turf on the footpath and berm level with the top of the kerb.
2. Lay 1.4 metre long turf strips parallel to the kerb every 1.0 metres.
3. Rehabilitate disturbed ground behind the

KERBSIDE TURF STRIP — SD 6-13



Construction Notes

1. Strip the topsoil over the site and compact the subgrade.
2. Cover the area with needle-punched geotextile.
3. Construct a 200-mm thick pad over the geotextile using road base or 30-mm aggregate.
4. Ensure the stabilised pad is at least 15 metres long or to building alignment and at least 3 metres wide.
5. Where a sediment fence forms into the stabilised access to divert water to the south, form a hump in the stabilised access to divert water to the south.

STABILISED SITE ACCESS — SD 6-14

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Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

Client

GCA ENGINEERING SOLUTIONS
A.B.N. 92 086 017 745
1 HARTLEY DRIVE, THORNTON NSW 2322
PO BOX 3337, THORNTON NSW 2322
PHONE: (02) 4964 1811

PROPOSED SUBDIVISION 1A FLOWERS DRIVE CATHERINE HILL BAY

HAMLET B
LANDCOM BLUE BOOK FIGURES (2 OF 2)

Project No	
19259C	
Drawing No	Revision
C563	3

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