

- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 2. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
 3. THE CONTRACTOR SHALL COMPLY WITH ALL RELEVANT HEALTH AND SAFETY REQUIREMENTS.
 4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY APPROVAL FROM UTILITY OPERATORS BEFORE COMMENCING WORK UNDER OR NEAR THEIR SERVICES.
 5. SEDIMENT CONTROL SHALL BE INSTALLED AND OPERATIONAL BEFORE EARTHWORKS START ONSITE IN ACCORDANCE WITH COUNCIL STANDARDS.
 6. CONTRACTOR SHALL PROVIDE ASBUILT OF WORKING SEDIMENT CONTROL DEVICES AND CONFIRMATION OF POND/DECANT VOLUMES TO ENGINEER.
 7. SEDIMENT CONTROL TO COMPLY WITH GD05 STANDARDS.

LEGEND

	EX BDY
	PR BDY
	EX MAJOR CONTOUR
	EX MINOR CONTOUR
	PR MAJOR CONTOUR
	PR MINOR CONTOUR
	PR EXTENT WORK
	STAGE BOUNDARY

A	RESOURCE CONSENT	MA	03/2025
Rev	Description	By	Date
Survey	LIDAR		03/22
Design	IZ		05/22
Drawn	MA		03/2025
Checked	RW/KH		03/2025



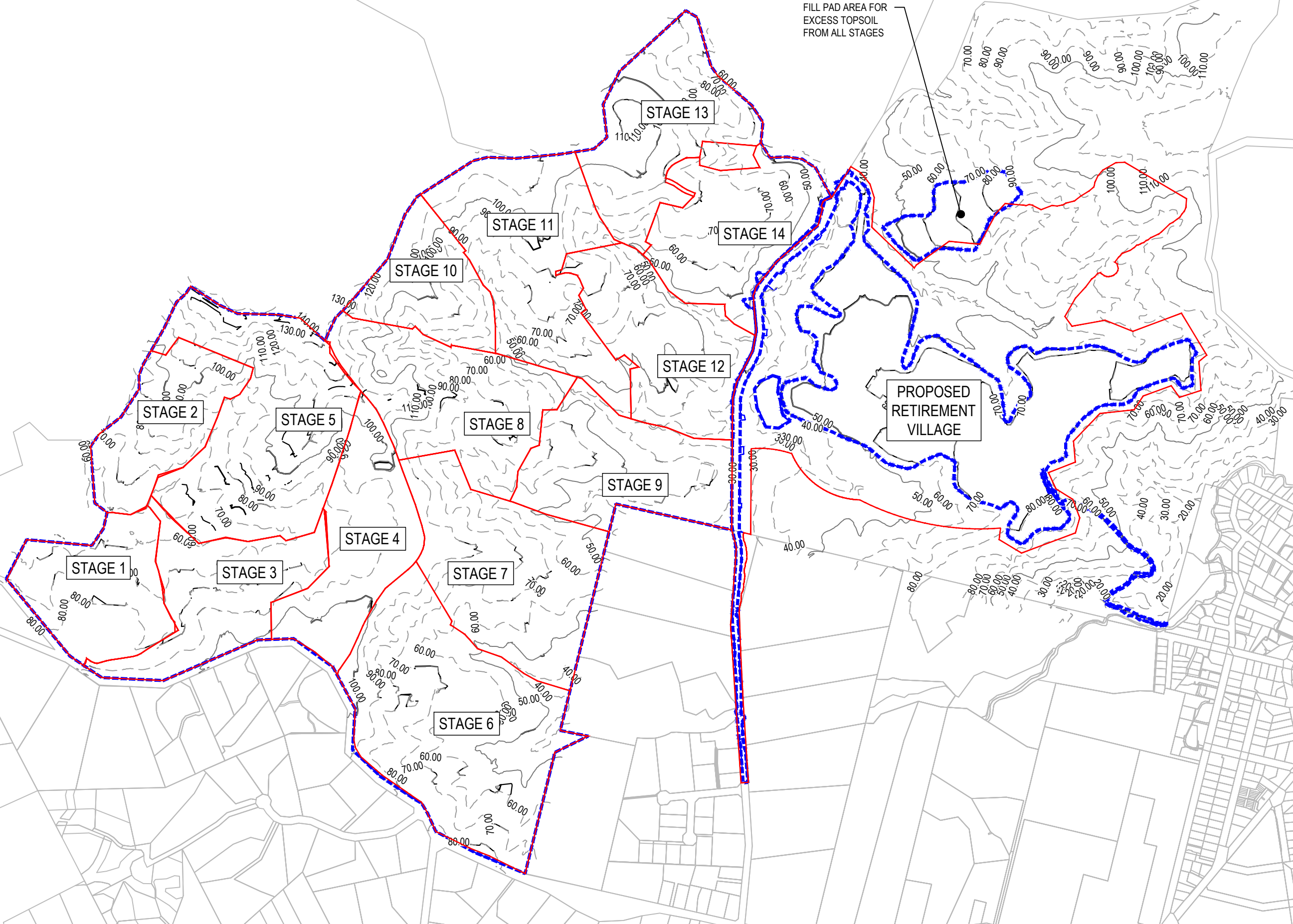
Maven Associates
09 571 0050
info@maven.co.nz
www.maven.co.nz
5 Owens Road, Epsom
Auckland 1023

Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**EXISTING EARTHWORKS
CONTOUR TOPSOIL STRIP
350mm - SITEWIDE**

Project no.	147016
Scale	1:10,000 @ A3
Cad file	147016-RV-C200 EW-SITEWIDE.DWG
Drawing no.	C200
Rev	A

RESOURCE CONSENT



- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 2. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
 3. THE CONTRACTOR SHALL COMPLY WITH ALL RELEVANT HEALTH AND SAFETY REQUIREMENTS.
 4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY APPROVAL FROM UTILITY OPERATORS BEFORE COMMENCING WORK UNDER OR NEAR THEIR SERVICES.
 5. SEDIMENT CONTROL SHALL BE INSTALLED AND OPERATIONAL BEFORE EARTHWORKS START ONSITE IN ACCORDANCE WITH COUNCIL STANDARDS.
 6. CONTRACTOR SHALL PROVIDE ASBUILT OF WORKING SEDIMENT CONTROL DEVICES AND CONFIRMATION OF POND/DECANT VOLUMES TO ENGINEER.
 7. SEDIMENT CONTROL TO COMPLY WITH GD05 STANDARDS.

LEGEND

	EX BDY
	PR BDY
	EX MAJOR CONTOUR
	EX MINOR CONTOUR
	PR MAJOR CONTOUR
	PR MINOR CONTOUR
	PR EXTENT WORK
	STAGE BOUNDARY

A	RESOURCE CONSENT	MA	03/2025
Rev	Description	By	Date
Survey	LIDAR		03/22
Design	IZ		05/22
Drawn	MA		03/2025
Checked	RW/KH		03/2025



Maven Associates
09 571 0050
info@maven.co.nz
www.maven.co.nz
5 Owens Road, Epsom
Auckland 1023

Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**PROPOSED EARTHWORKS
CONTOUR SUBGRADE
SITEWIDE**

Project no.	147016
Scale	1:10,000 @ A3
Cad file	147016-RV-C200 EW-SITEWIDE.DWG
Drawing no.	C200-1
Rev	A

RESOURCE CONSENT



Cut/Fill Table			
Number #	Minimum Elevation	Maximum Elevation	Color
1	-12.000	-10.000	
2	-10.000	-8.000	
3	-8.000	-6.000	
4	-6.000	-4.000	
5	-4.000	-2.000	
6	-2.000	0.000	
7	0.000	2.000	
8	2.000	4.000	
9	4.000	6.000	
10	6.000	8.000	
11	8.000	10.000	
12	10.000	12.000	
13	12.000	14.000	

EARTH WORKS (PROPOSED PGL SUBGRADE COMPARISON WITH SURFACE EGL -350mm STRIPPED)

CUT VOLUME 899,200 m³
CUT TO FILL VOLUME (INCLUDE FILL COMPACTION FACTOR OF 10%) 908,900 m³
NET FILL 9,700 m³

EARTHWORKS AREA = 1,006,600 m² / 110.6 Ha

TOPSOIL STRIPPED (350mm) = 352,310 m³
TOPSOIL RE-SPREAD (200mm) = 201,320 m³
TOPSOIL EXCESS = 150,990 m³

NOTE: NO ALLOWANCE FOR SERVICES TRENCHES, VOLUMES INCLUDE 10% COMPACTION FACTOR

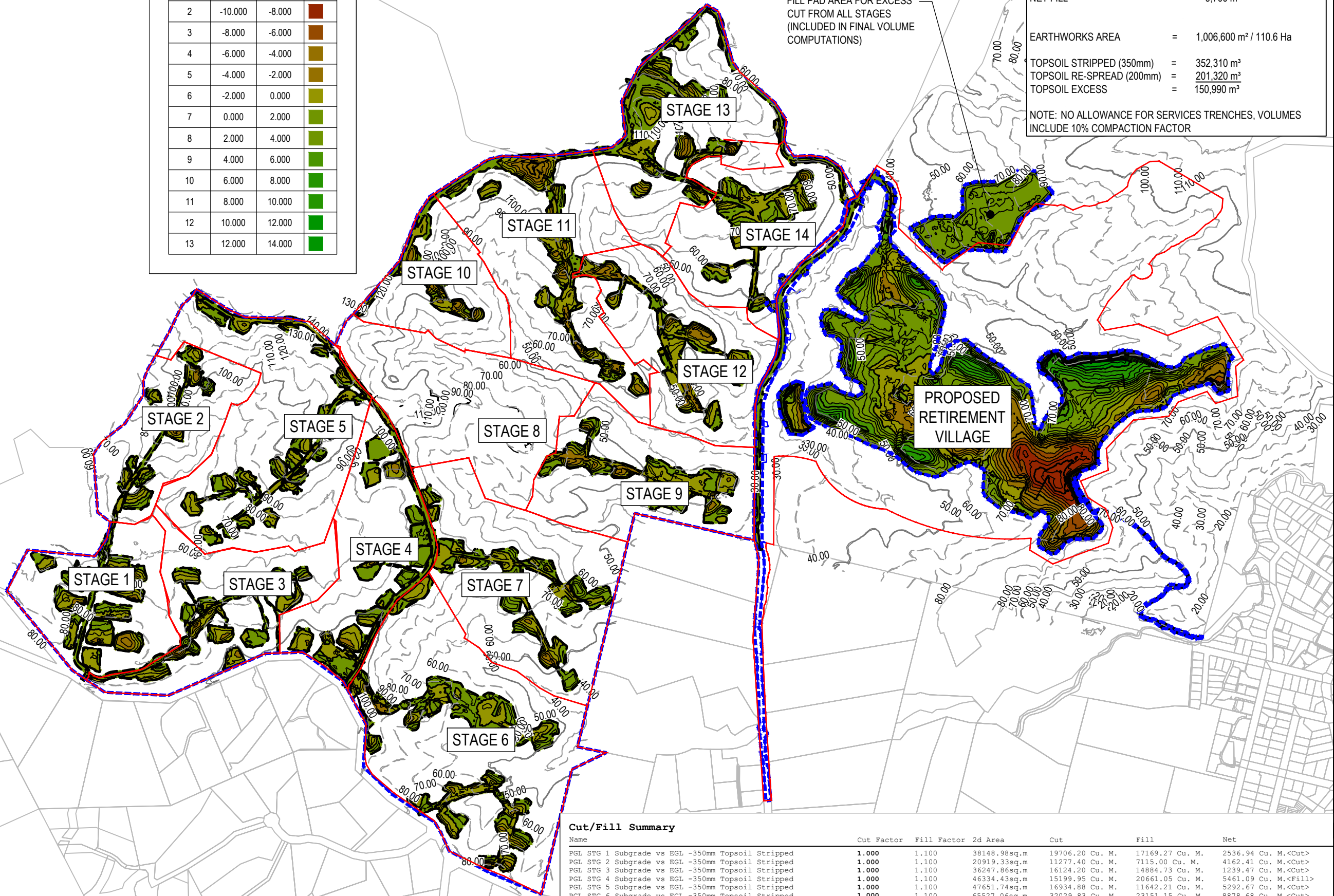
FILL PAD AREA FOR EXCESS CUT FROM ALL STAGES (INCLUDED IN FINAL VOLUME COMPUTATIONS)

NOTES

1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
2. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
3. THE CONTRACTOR SHALL COMPLY WITH ALL RELEVANT HEALTH AND SAFETY REQUIREMENTS.
4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY APPROVAL FROM UTILITY OPERATORS BEFORE COMMENCING WORK UNDER OR NEAR THEIR SERVICES.
5. SEDIMENT CONTROL SHALL BE INSTALLED AND OPERATIONAL BEFORE EARTHWORKS START ONSITE IN ACCORDANCE WITH COUNCIL STANDARDS.
6. CONTRACTOR SHALL PROVIDE ASBUILT OF WORKING SEDIMENT CONTROL DEVICES AND CONFIRMATION OF POND/DECANT VOLUMES TO ENGINEER.
7. SEDIMENT CONTROL TO COMPLY WITH GD05 STANDARDS.

LEGEND

- EX BDY
PR BDY
PR EXTENT WORK



Cut/Fill Summary

Name	Cut Factor	Fill Factor	2d Area	Cut	Fill	Net
PGL STG 1 Subgrade vs EGL -350mm Topsoil Stripped	1.000	1.100	38148.98sq.m	19706.20 Cu. M.	17169.27 Cu. M.	2536.94 Cu. M.<Cut>
PGL STG 2 Subgrade vs EGL -350mm Topsoil Stripped	1.000	1.100	20919.33sq.m	11277.40 Cu. M.	7115.00 Cu. M.	4162.41 Cu. M.<Cut>
PGL STG 3 Subgrade vs EGL -350mm Topsoil Stripped	1.000	1.100	36247.86sq.m	16124.20 Cu. M.	14884.73 Cu. M.	1239.47 Cu. M.<Cut>
PGL STG 4 Subgrade vs EGL -350mm Topsoil Stripped	1.000	1.100	46334.43sq.m	15199.95 Cu. M.	20661.05 Cu. M.	5461.09 Cu. M.<Fill>
PGL STG 5 Subgrade vs EGL -350mm Topsoil Stripped	1.000	1.100	47651.74sq.m	16934.88 Cu. M.	11642.21 Cu. M.	5292.67 Cu. M.<Cut>
PGL STG 6 Subgrade vs EGL -350mm Topsoil Stripped	1.000	1.100	65527.06sq.m	32029.83 Cu. M.	23151.15 Cu. M.	8878.68 Cu. M.<Cut>
PGL STG 7 Subgrade vs EGL -350mm Topsoil Stripped	1.000	1.100	40747.37sq.m	15978.23 Cu. M.	20390.09 Cu. M.	4411.86 Cu. M.<Fill>
PGL STG 8 Subgrade vs EGL -350mm Topsoil Stripped	1.000	1.100	34477.51sq.m	31106.67 Cu. M.	7528.43 Cu. M.	23578.24 Cu. M.<Cut>
PGL STG 9 Subgrade vs EGL -350mm Topsoil Stripped	1.000	1.100	36509.49sq.m	25623.56 Cu. M.	9011.51 Cu. M.	16612.05 Cu. M.<Cut>
PGL STG 10 Subgrade vs EGL -350mm Topsoil Stripped	1.000	1.100	17759.36sq.m	15548.20 Cu. M.	2052.92 Cu. M.	13495.28 Cu. M.<Cut>
PGL STG 11 Subgrade vs EGL -350mm Topsoil Stripped	1.000	1.100	83385.06sq.m	83746.18 Cu. M.	9981.27 Cu. M.	73764.91 Cu. M.<Cut>
PGL STG 12 Subgrade vs EGL -350mm Topsoil Stripped	1.000	1.100	33930.30sq.m	31582.75 Cu. M.	2421.94 Cu. M.	29160.81 Cu. M.<Cut>
PGL STG 13 Subgrade vs EGL -350mm Topsoil Stripped	1.000	1.100	57187.51sq.m	20381.97 Cu. M.	17765.83 Cu. M.	2616.14 Cu. M.<Cut>
PGL STG 14 Subgrade vs EGL -350mm Topsoil Stripped	1.000	1.100	44653.06sq.m	16510.56 Cu. M.	13223.79 Cu. M.	3286.78 Cu. M.<Cut>
PGL RV Subgrade vs EGL -350mm Topsoil Stripped	1.000	1.100	402637.97sq.m	547483.15 Cu. M.	731886.02 Cu. M.	184402.87 Cu. M.<Fill>
Totals			1006104.03sq.m	899233.73 Cu. M.	908885.21 Cu. M.	9651.48 Cu. M.<Fill>

RESOURCE CONSENT



Project
DEVELOPMENT OF RIVERHEAD FOREST FOR RANGITOOPUNI DEVELOPMENTS LIMITED PARTNERSHIP

Title
PROPOSED CUT/FILL SITEWIDE

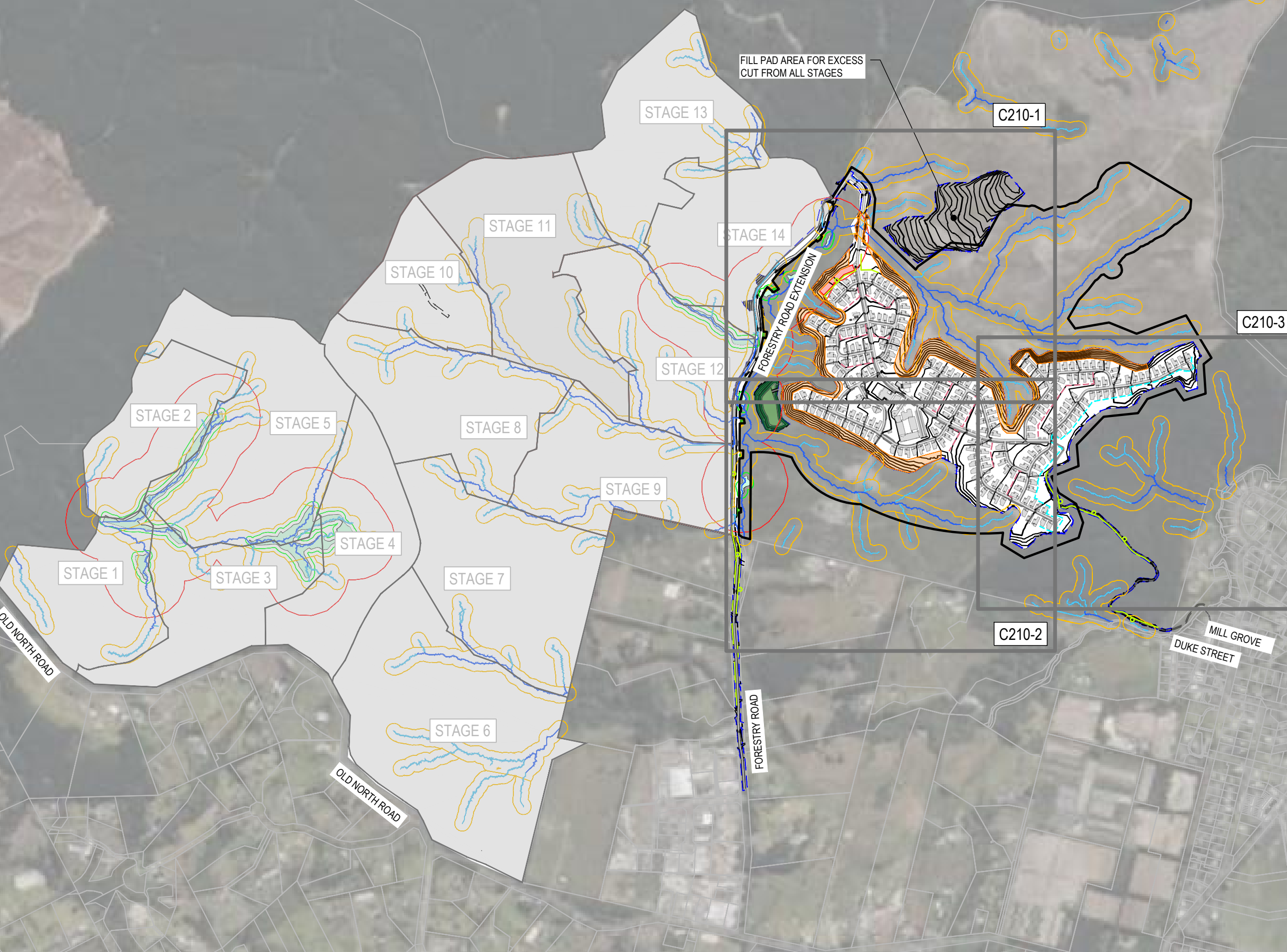
Project no. 147016

Scale 1:10,000 @ A3

Cad file 147016-RV-C200 EW-SITEWIDE.DWG

Drawing no. C205

Rev A



- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 2. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
 3. THE CONTRACTOR SHALL COMPLY WITH ALL RELEVANT HEALTH AND SAFETY REQUIREMENTS.
 4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY APPROVAL FROM UTILITY OPERATORS BEFORE COMMENCING WORK UNDER OR NEAR THEIR SERVICES.
 5. SEDIMENT CONTROL SHALL BE INSTALLED AND OPERATIONAL BEFORE EARTHWORKS START ONSITE IN ACCORDANCE WITH COUNCIL STANDARDS.
 6. CONTRACTOR SHALL PROVIDE AS-BUILT OF WORKING SEDIMENT CONTROL DEVICES AND CONFIRMATION OF POND/DECENT VOLUMES TO ENGINEER.
 7. SEDIMENT CONTROL TO COMPLY WITH GD05 STANDARDS.

LEGEND

	EX BDY
	PR BDY
	EX MAJOR CONTOUR
	EX MINOR CONTOUR
	PR MAJOR CONTOUR
	PR MINOR CONTOUR
	PR EXTENT WORK
	RIPARIAN YARD 20m SETBACK
	WETLAND AREA 100m SETBACK
	WETLAND AREA 10m SETBACK
	EX STREAMS
	PR RET. WALL > 1.0m
	PR LANDSCAPE RET. WALL < 1.0m
	PR IN-GROUND PALISADE WALL
	PR ENGINEERED EARTH WALL
	PR SW POND

A	RESOURCE CONSENT	SP	03/2025
Rev	Description	By	Date
		By	Date
Survey	LIDAR		03/2022
Design	MA		03/2025
Drawn	SP		03/2025
Checked	RW/KH		03/2025



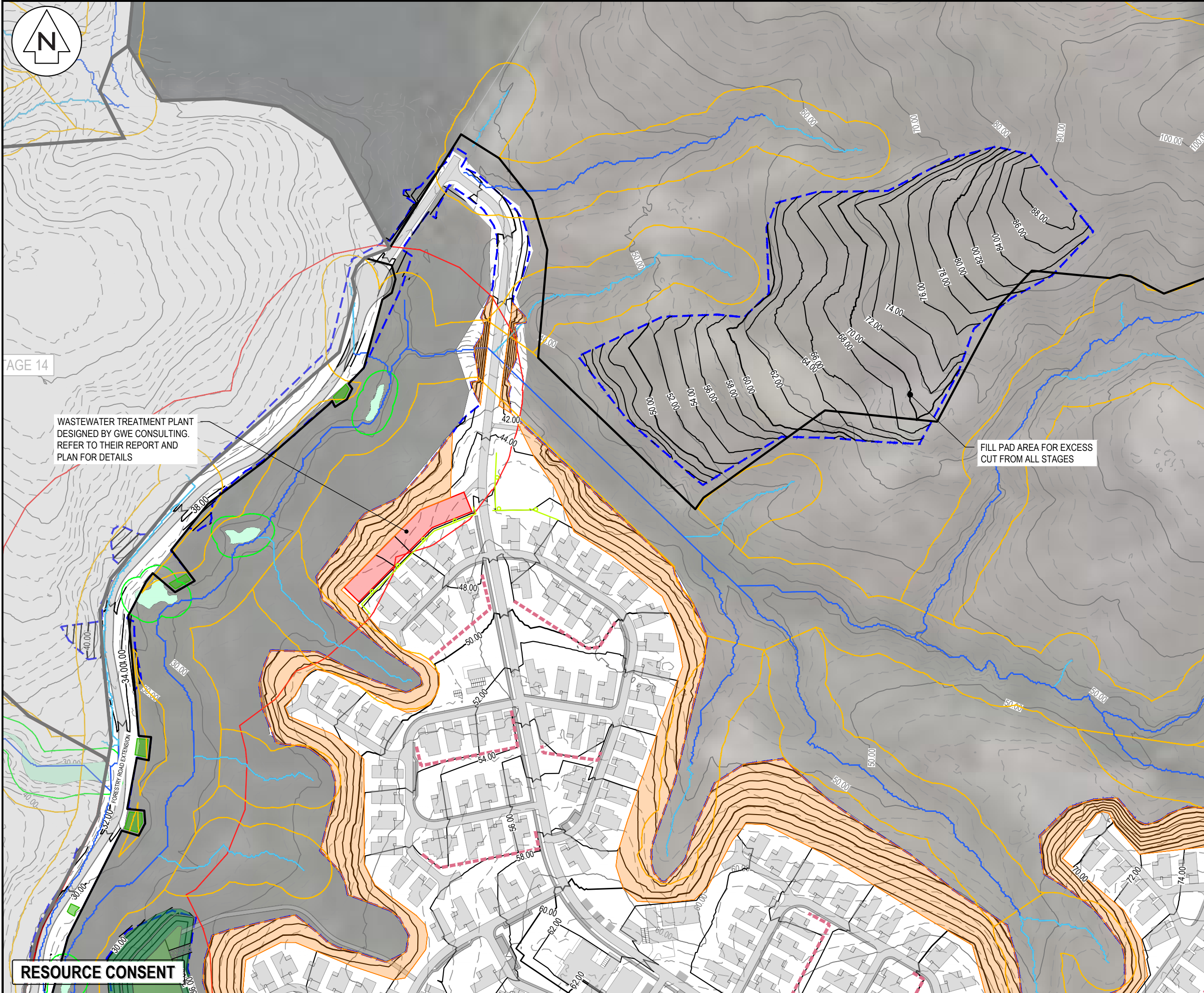
Maven Associates
09 571 0050
info@maven.co.nz
www.maven.co.nz
5 Owens Road, Epsom
Auckland 1023

Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**RETIREMENT VILLAGE
PROPOSED OVERVIEW
EARTHWORKS PLAN**

Project no.	147016
Scale	1:10,000 @ A3
Cad file	147016-RV-C210 EW BULK.DWG
Drawing no.	C210-0
Rev	A

RESOURCE CONSENT



PAGE 14

WASTEWATER TREATMENT PLANT
DESIGNED BY GWE CONSULTING.
REFER TO THEIR REPORT AND
PLAN FOR DETAILS

FILL PAD AREA FOR EXCESS
CUT FROM ALL STAGES

- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 2. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
 3. THE CONTRACTOR SHALL COMPLY WITH ALL RELEVANT HEALTH AND SAFETY REQUIREMENTS.
 4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY APPROVAL FROM UTILITY OPERATORS BEFORE COMMENCING WORK UNDER OR NEAR THEIR SERVICES.
 5. SEDIMENT CONTROL SHALL BE INSTALLED AND OPERATIONAL BEFORE EARTHWORKS START ONSITE IN ACCORDANCE WITH COUNCIL STANDARDS.
 6. CONTRACTOR SHALL PROVIDE AS-BUILT OF WORKING SEDIMENT CONTROL DEVICES AND CONFIRMATION OF POND/DECENT VOLUMES TO ENGINEER.
 7. SEDIMENT CONTROL TO COMPLY WITH GD05 STANDARDS.

LEGEND

EX BDY	PR BDY
EX MAJOR CONTOUR	EX MINOR CONTOUR
PR MAJOR CONTOUR	PR MINOR CONTOUR
PR EX TENT WORK	PR EX TENT WORK
RIPARIAN YARD 20m SETBACK	WETLAND AREA 100m SETBACK
WETLAND AREA 10m SETBACK	EX STREAMS
PR RET. WALL > 1.0m	PR LANDSCAPE RET. WALL < 1.0m
PR IN-GROUND PALISADE WALL	PR ENGINEERED EARTH WALL
PR SW POND	

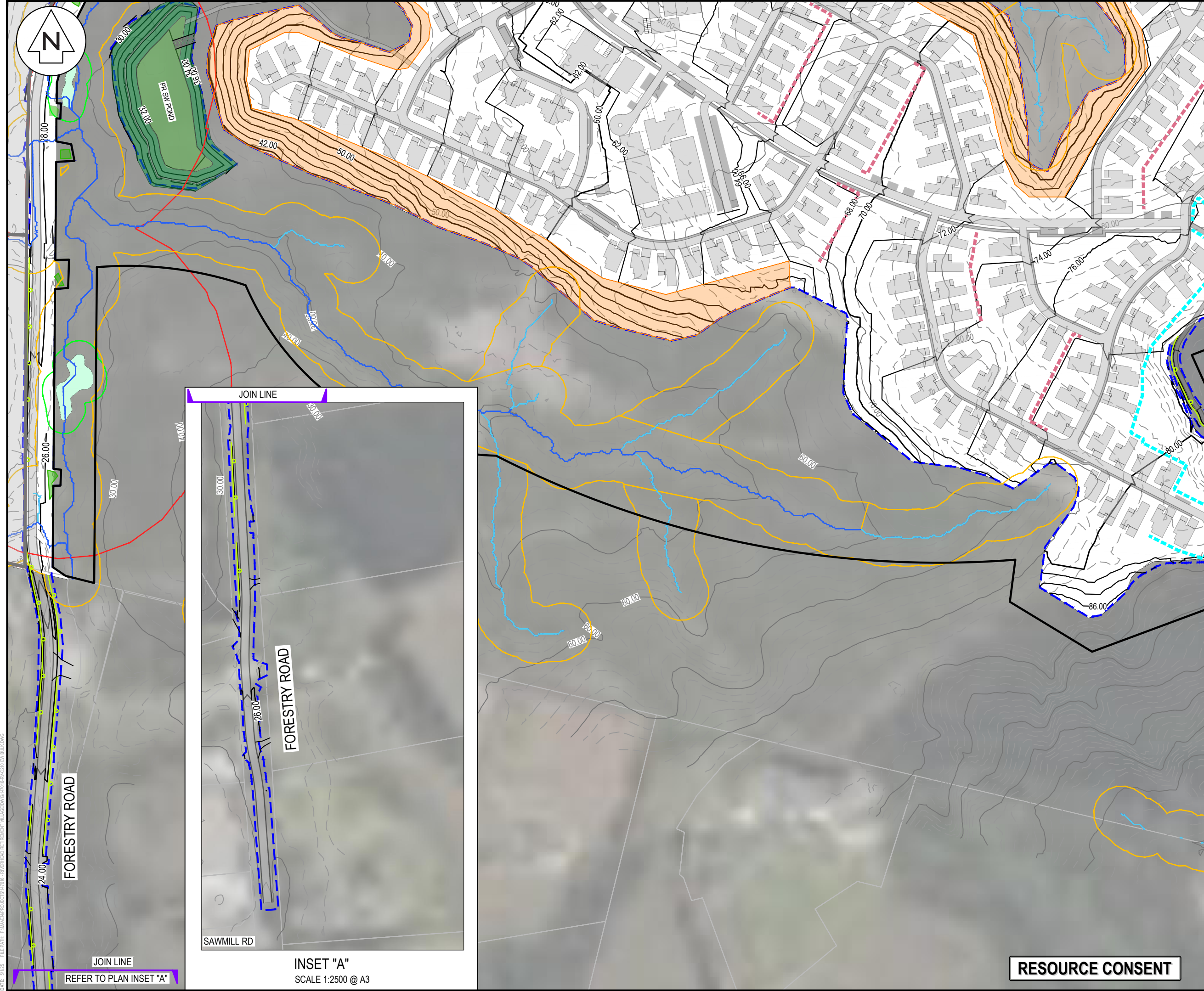
A	RESOURCE CONSENT	SP	03/2025
Rev	Description	By	Date
Survey	LIDAR		03/2022
Design	MA		03/2025
Drawn	SP		03/2025
Checked	RW/KH		03/2025

M Maven Associates
09 571 0050
info@maven.co.nz
www.maven.co.nz
5 Owens Road, Epsom
Auckland 1023

Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**RETIREMENT VILLAGE
PROPOSED
EARTHWORKS PLAN**

Project no.	147016
Scale	1:2500 @ A3
Cad file	147016-RV-C210 EW BULK.DWG
Drawing no.	C210-1
Rev	A



- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 2. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
 3. THE CONTRACTOR SHALL COMPLY WITH ALL RELEVANT HEALTH AND SAFETY REQUIREMENTS.
 4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY APPROVAL FROM UTILITY OPERATORS BEFORE COMMENCING WORK UNDER OR NEAR THEIR SERVICES.
 5. SEDIMENT CONTROL SHALL BE INSTALLED AND OPERATIONAL BEFORE EARTHWORKS START ONSITE IN ACCORDANCE WITH COUNCIL STANDARDS.
 6. CONTRACTOR SHALL PROVIDE AS-BUILT OF WORKING SEDIMENT CONTROL DEVICES AND CONFIRMATION OF POND/DECENT VOLUMES TO ENGINEER.
 7. SEDIMENT CONTROL TO COMPLY WITH GD05 STANDARDS.

LEGEND

EX BDY	PR BDY
EX MAJOR CONTOUR	EX MINOR CONTOUR
PR MAJOR CONTOUR	PR MINOR CONTOUR
PR EXTENT WORK	PR RIPARIAN YARD 20m SETBACK
WETLAND AREA 100m SETBACK	WETLAND AREA 10m SETBACK
EX STREAMS	PR RET. WALL > 1.0m
PR LANDSCAPE RET. WALL < 1.0m	PR IN-GROUND PALISADE WALL
PR ENGINEERED EARTH WALL	PR SW POND

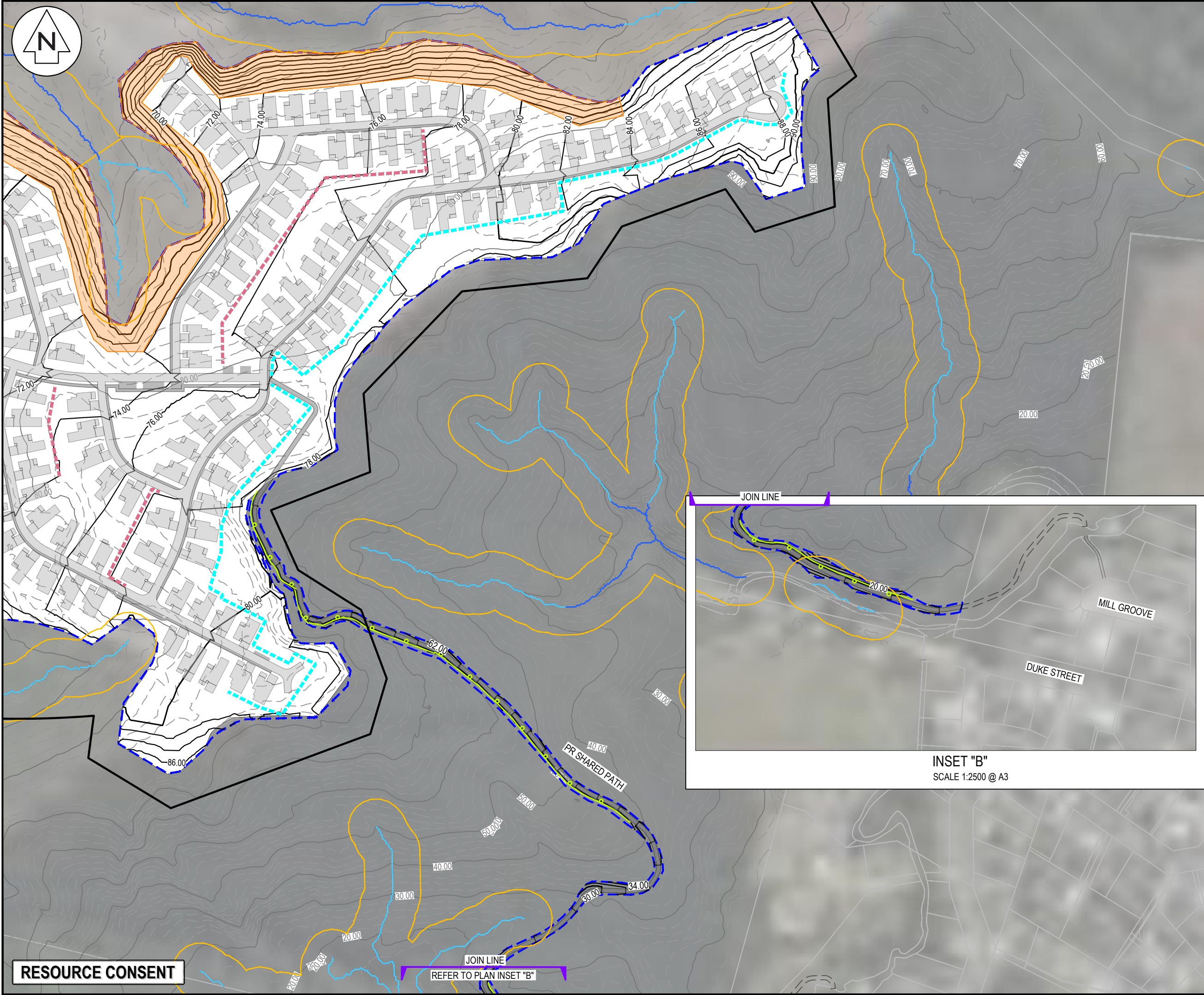
A	RESOURCE CONSENT	SP	03/2025
Rev	Description	By	Date
Survey	LIDAR	03/2022	
Design	MA	03/2025	
Drawn	SP	03/2025	
Checked	RW/KH	03/2025	

M **Maven Associates**
09 571 0050
info@maven.co.nz
www.maven.co.nz
5 Owens Road, Epsom
Auckland 1023

Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**RETIREMENT VILLAGE
PROPOSED
EARTHWORKS PLAN**

Project no.	147016
Scale	1:2500 @ A3
Cad file	147016-RV-C210 EW BULK.DWG
Drawing no.	C210-2
Rev	A



- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 2. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
 3. THE CONTRACTOR SHALL COMPLY WITH ALL RELEVANT HEALTH AND SAFETY REQUIREMENTS.
 4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY APPROVAL FROM UTILITY OPERATORS BEFORE COMMENCING WORK UNDER OR NEAR THEIR SERVICES.
 5. SEDIMENT CONTROL SHALL BE INSTALLED AND OPERATIONAL BEFORE EARTHWORKS START ONSITE IN ACCORDANCE WITH COUNCIL STANDARDS.
 6. CONTRACTOR SHALL PROVIDE AS-BUILT OF WORKING SEDIMENT CONTROL DEVICES AND CONFIRMATION OF POND/DECENT VOLUMES TO ENGINEER.
 7. SEDIMENT CONTROL TO COMPLY WITH GD05 STANDARDS.

LEGEND

EX BDY	PR BDY
EX MAJOR CONTOUR	EX MINOR CONTOUR
PR MAJOR CONTOUR	PR MINOR CONTOUR
PR EXTENT WORK	RIPARIAN YARD 20m SETBACK
WETLAND AREA 100m SETBACK	WETLAND AREA 10m SETBACK
EX STREAMS	PR RET. WALL > 1.0m
PR LANDSCAPE RET. WALL < 1.0m	PR IN-GROUND PALISADE WALL
PR ENGINEERED EARTH WALL	PR SW POND

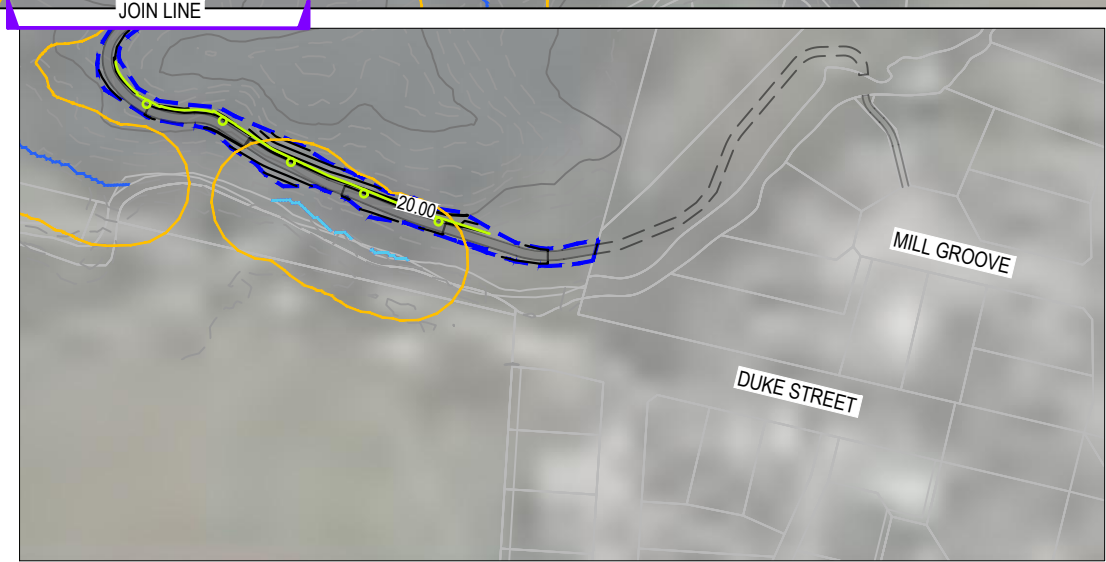
A	RESOURCE CONSENT	SP	03/2025
Rev	Description	By	Date
Survey	LIDAR	03/2022	
Design	MA	03/2025	
Drawn	SP	03/2025	
Checked	RW/KH	03/2025	

M **Maven Associates**
09 571 0050
info@maven.co.nz
www.maven.co.nz
5 Owens Road, Epsom
Auckland 1023

Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**RETIREMENT VILLAGE
PROPOSED
EARTHWORKS PLAN**

Project no.	147016
Scale	1:2500 @ A3
Cad file	147016-RV-C210 EW BULK.DWG
Drawing no.	C210-3
Rev	A



INSET "B"
SCALE 1:2500 @ A3

DATE: 5/05 FILE PATH: F:\MVEN\PROJECTS\147016 - RIVERHEAD RETIREMENT VILLAGE\DWG\147016-RV-C210 EW BULK.DWG



BULK EARTH WORKS (SURFACE PGL RV COMPARISON WITH SURFACE EGL)

CUT VOLUME	547,480 m³
FILL VOLUME	731,880 m³
NET FILL	184,400 m³
TOPSOIL STRIPPED (350mm)	140,920 m³
EARTHWORKS AREA	402,630m²

NOTE: NO ALLOWANCE FOR SERVICES TRENCHES, VOLUMES ARE INCLUDE 10% AND IN SITU

CUT/FILL			
No.	ELEVATION (min.)	ELEVATION (max.)	COLOUR
1	-14.000	-12.000	Dark Red
2	-12.000	-10.000	Red
3	-10.000	-8.000	Brown
4	-8.000	-6.000	Dark Brown
5	-6.000	-4.000	Dark Olive
6	-4.000	-2.000	Olive
7	-2.000	0.000	Light Olive
8	0.000	2.000	Light Green
9	2.000	4.000	Green
10	4.000	6.000	Dark Green
11	6.000	8.000	Very Dark Green
12	8.000	10.000	Black

- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 2. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
 3. THE CONTRACTOR SHALL COMPLY WITH ALL RELEVANT HEALTH AND SAFETY REQUIREMENTS.
 4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY APPROVAL FROM UTILITY OPERATORS BEFORE COMMENCING WORK UNDER OR NEAR THEIR SERVICES.
 5. SEDIMENT CONTROL SHALL BE INSTALLED AND OPERATIONAL BEFORE EARTHWORKS START ONSITE IN ACCORDANCE WITH COUNCIL STANDARDS.
 6. CONTRACTOR SHALL PROVIDE ASBUILT OF WORKING SEDIMENT CONTROL DEVICES AND CONFIRMATION OF POND/DECENT VOLUMES TO ENGINEER.
 7. SEDIMENT CONTROL TO COMPLY WITH GD05 STANDARDS.

- LEGEND
- EX BDY
 - PR BDY
 - EX MAJOR CONTOUR
 - EX MINOR CONTOUR
 - PR MAJOR CONTOUR
 - PR MINOR CONTOUR
 - PR EXTENT WORK
 - RIPARIAN YARD 20m SETBACK
 - WETLAND AREA 100m SETBACK
 - WETLAND AREA 10m SETBACK
 - EX STREAMS
 - PR RET. WALL > 1.0m
 - PR LANDSCAPE RET. WALL < 1.0m
 - PR IN-GROUND PALISADE WALL
 - PR ENGINEERED EARTH WALL
 - PR SW POND

FILL PAD AREA FOR EXCESS CUT FROM ALL STAGES (INCLUDED IN FINAL VOLUME COMPUTATIONS - SEE DWG 147007-M-C220-W-1)

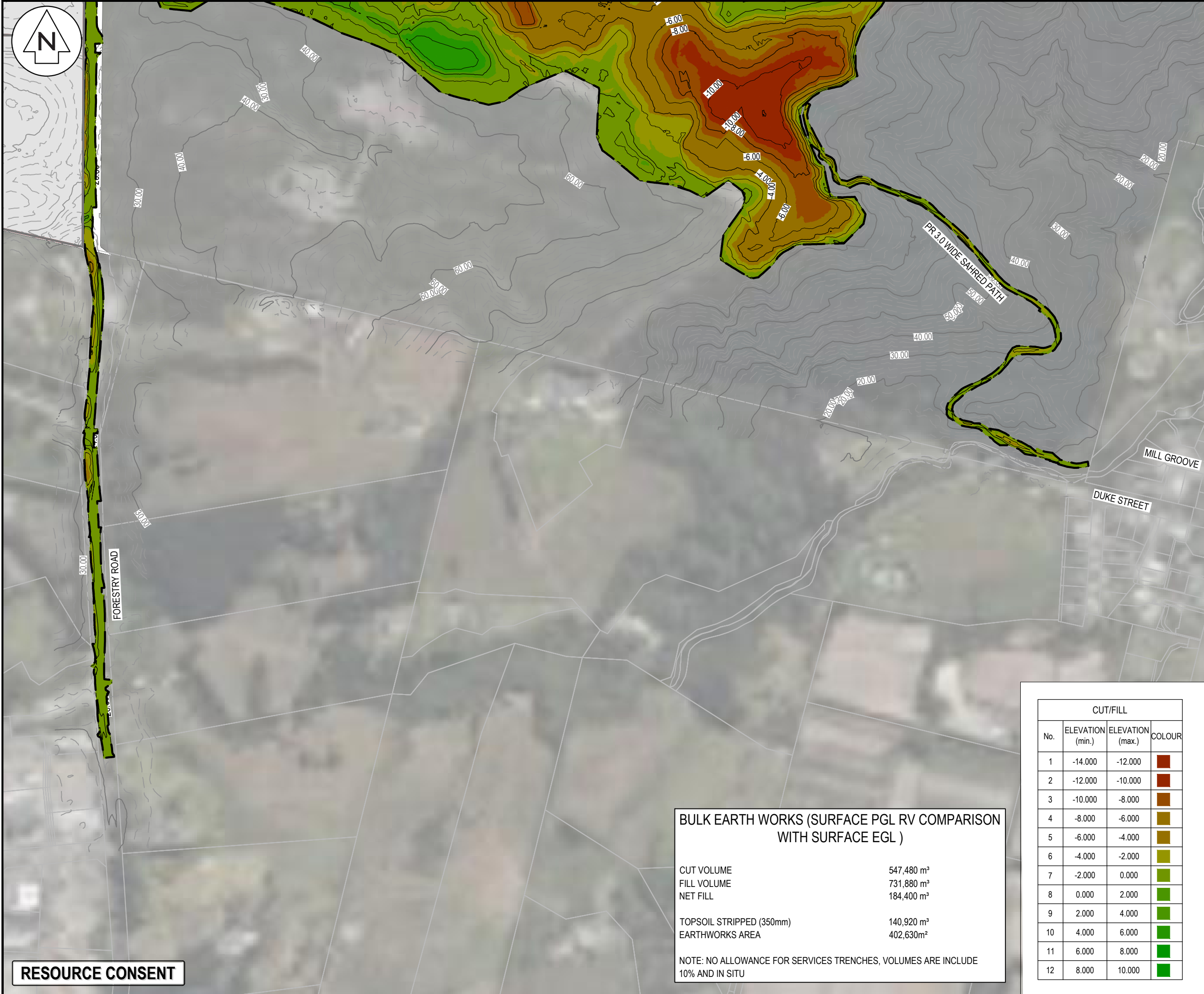
STAGE 14

FORESTRY ROAD EXTENSION

RESOURCE CONSENT

A	RESOURCE CONSENT	SP	03/2025
Rev	Description	By	Date
Survey	LIDAR		03/2022
Design	MA		03/2025
Drawn	SP		03/2025
Checked	RW/KH		03/2025
<div><div>M</div><div>Maven Associates</div><div>09 571 0050</div><div>info@maven.co.nz</div><div>www.maven.co.nz</div><div>5 Owens Road, Epsom</div><div>Auckland 1023</div></div>			
Project			
DEVELOPMENT OF RIVERHEAD FOREST FOR RANGITOOPUNI DEVELOPMENTS LIMITED PARTNERSHIP			
Title			
RETIREMENT VILLAGE PROPOSED CUT/FILL PLAN			
Project no.	147016		
Scale	1:4000 @ A3		
Cad file	147016-RV-C210 EW BULK.DWG		
Drawing no.	C220-1	Rev	A

DATE: 5/05/25 FILE PATH: F:\Maven\PROJECTS\147016 - RIVERHEAD RETIREMENT VILLAGE\DWG\147016-RV-C210 EW BULK.DWG



- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 2. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
 3. THE CONTRACTOR SHALL COMPLY WITH ALL RELEVANT HEALTH AND SAFETY REQUIREMENTS.
 4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY APPROVAL FROM UTILITY OPERATORS BEFORE COMMENCING WORK UNDER OR NEAR THEIR SERVICES.
 5. SEDIMENT CONTROL SHALL BE INSTALLED AND OPERATIONAL BEFORE EARTHWORKS START ONSITE IN ACCORDANCE WITH COUNCIL STANDARDS.
 6. CONTRACTOR SHALL PROVIDE ASBUILT OF WORKING SEDIMENT CONTROL DEVICES AND CONFIRMATION OF POND/DECENT VOLUMES TO ENGINEER.
 7. SEDIMENT CONTROL TO COMPLY WITH GD05 STANDARDS.

LEGEND

---	EX BDY
---	PR BDY
---	EX MAJOR CONTOUR
---	EX MINOR CONTOUR
---	PR MAJOR CONTOUR
---	PR MINOR CONTOUR
---	PR EXTENT WORK
---	RIPARIAN YARD 20m SETBACK
---	WETLAND AREA 100m SETBACK
---	WETLAND AREA 10m SETBACK
---	EX STREAMS
---	PR RET. WALL > 1.0m
---	PR LANDSCAPE RET. WALL < 1.0m
---	PR IN-GROUND PALISADE WALL
---	PR ENGINEERED EARTH WALL
---	PR SW POND

A	RESOURCE CONSENT	SP	03/2025
Rev	Description	By	Date
		By	Date
Survey	LIDAR		03/2022
Design	MA		03/2025
Drawn	SP		03/2025
Checked	RW/KH		03/2025

M **Maven Associates**
09 571 0050
info@maven.co.nz
www.maven.co.nz
5 Owens Road, Epsom
Auckland 1023

Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

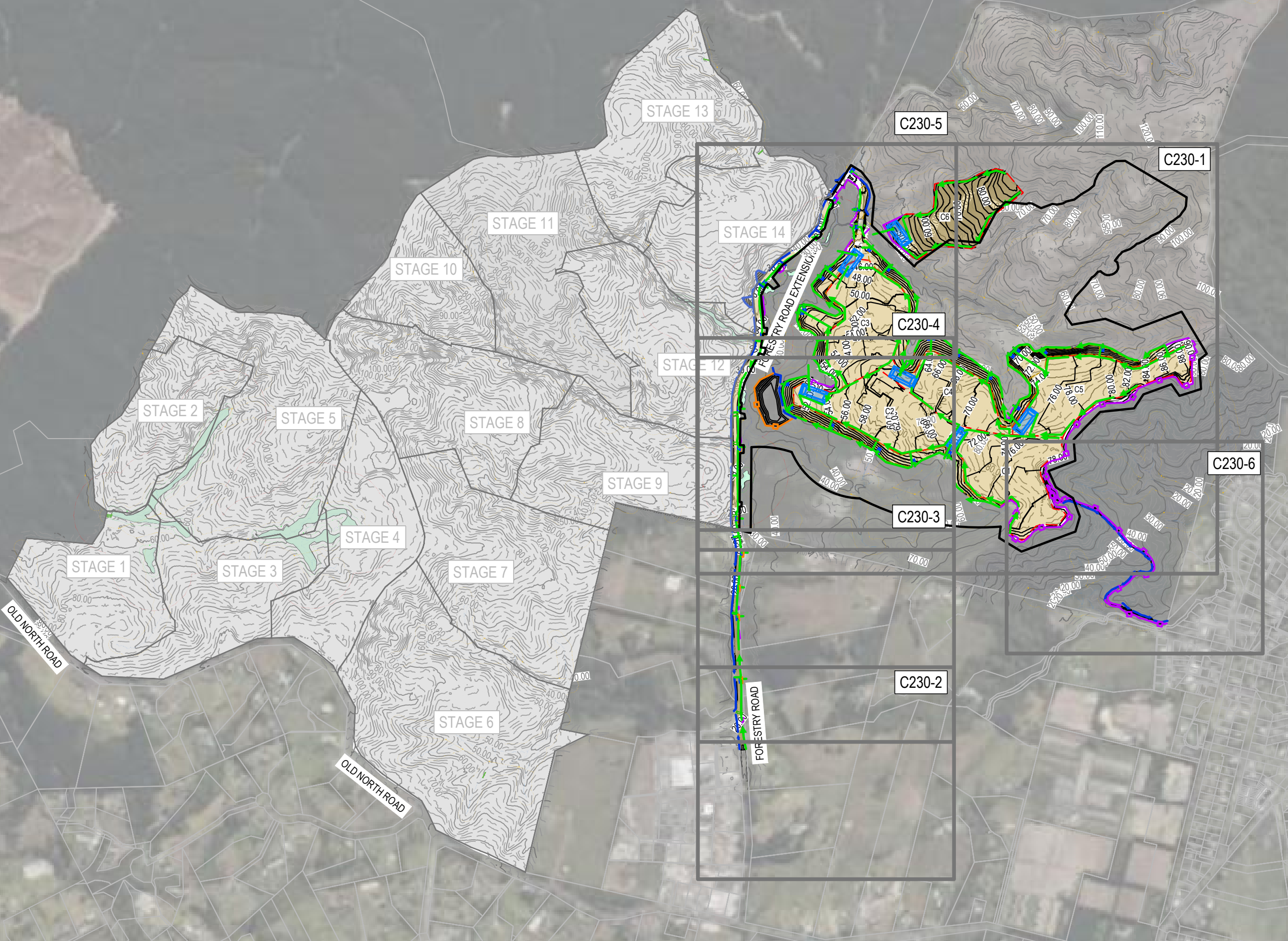
Title
**RETIREMENT VILLAGE
PROPOSED
CUT/FILL PLAN**

Project no.	147016
Scale	1:4000 @ A3
Cad file	147016-RV-C210 EW BULK.DWG
Drawing no.	C220-2
Rev	A

BULK EARTH WORKS (SURFACE PGL RV COMPARISON WITH SURFACE EGL)			
CUT VOLUME	547,480 m³		
FILL VOLUME	731,880 m³		
NET FILL	184,400 m³		
TOPSOIL STRIPPED (350mm)	140,920 m³		
EARTHWORKS AREA	402,630m²		
NOTE: NO ALLOWANCE FOR SERVICES TRENCHES, VOLUMES ARE INCLUDE 10% AND IN SITU			

CUT/FILL			
No.	ELEVATION (min.)	ELEVATION (max.)	COLOUR
1	-14.000	-12.000	
2	-12.000	-10.000	
3	-10.000	-8.000	
4	-8.000	-6.000	
5	-6.000	-4.000	
6	-4.000	-2.000	
7	-2.000	0.000	
8	0.000	2.000	
9	2.000	4.000	
10	4.000	6.000	
11	6.000	8.000	
12	8.000	10.000	

RESOURCE CONSENT



- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 2. COORDINATES IN TERMS OF NZ GEODETIC DATUM MT EDEN 2000.
 3. LEVELS IN TERMS OF THE AUCKLAND VERTICAL DATUM 1946.
 4. ORIGIN OF LEVELS = SM XXXX SO XXXX(XXXX)
PUBLISHED RL=XX.XX, SOURCED FROM THE LINZ DIGITAL GEODETIC DATABASE.
 5. BOUNDARIES ARE SUBJECT TO FINAL SURVEY.

- LEGEND
- EX BDY
 - PR BDY
 - EX MAJOR CONTOUR
 - EX MINOR CONTOUR
 - PR MAJOR CONTOUR
 - PR MINOR CONTOUR
 - PR EXTENT WORK
 - PR CLEANWATER
 - PR DIRTYWATER
 - PR SILT FENCE
 - PR SUPER SILT FENCE
 - PR STOCKPILE
 - PR SRP POND
 - PR DEB POND
 - PR DECANT BAR
 - STAGE BOUNDARY
 - EX STREAM
 - EX WETLAND
 - RIPARIAN YARD 20m SETBACK
 - WETLAND AREA 100m SETBACK
 - WETLAND AREA 10m SETBACK
 - EARTHWORKS CATCHMENT AREA

A	RESOURCE CONSENT	HN	03/2025
Rev	Description	By	Date
		By	Date
Survey	LIDAR		03/2022
Design	HN		05/2022
Drawn	HN		03/2025
Checked	RW/KH		03/2025



Maven Associates
09 571 0050
info@maven.co.nz
www.maven.co.nz
5 Owens Road, Epsom
Auckland 1023

Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**RETIREMENT VILLAGE
PROP. EROSION & SEDIMENT
CONTROL OVERVIEW PLAN**

Project no.	147016		
Scale	1:4000 @ A3		
Cad file	147016-RV-C230 ESC.DWG		
Drawing no.	C230	Rev	A



PR DEB RV-DEB 11
CATCHMENT AREA: 1600m²
MAIN DEB BASE: 4.0m W X 12.0m L X 1.0m D
EMERGENCY SPILLWAY: 0.5m W X 0.25m D

PR DEB RV-DEB 11
CATCHMENT AREA: 1600m²
MAIN DEB BASE: 4.0m W X 12.0m L X 1.0m D
EMERGENCY SPILLWAY: 0.5m W X 0.25m D

PR SRP RV-P3
CATCHMENT AREA: 48,900m²
FOREBAY: 2.0m W X 23.0m L X 1.0m D
MAIN POND BASE: 17.0m W X 51.0m L X 1.5m D
EMERGENCY SPILLWAY: 4.0m L X 3.0m W X 0.3m D

PR DEB RV-DEB 10
CATCHMENT AREA: 2650m²
MAIN DEB BASE: 4.0m W X 12.0m L X 1.0m D
EMERGENCY SPILLWAY: 0.5m W X 0.25m D

PR DEB RV-DEB 10
CATCHMENT AREA: 3000m²
MAIN DEB BASE: 4.0m W X 12.0m L X 1.0m D
EMERGENCY SPILLWAY: 0.5m W X 0.25m D

PR DEB RV-DEB 9
CATCHMENT AREA: 2800m²
MAIN DEB BASE: 4.0m W X 12.0m L X 1.0m D
EMERGENCY SPILLWAY: 0.5m W X 0.25m D

PR DEB RV-DEB 8
CATCHMENT AREA: 2450m²
MAIN DEB BASE: 4.0m W X 12.0m L X 1.0m D
EMERGENCY SPILLWAY: 0.5m W X 0.25m D

PR DEB RV-DEB 7
CATCHMENT AREA: 2450m²
MAIN DEB BASE: 4.0m W X 12.0m L X 1.0m D
EMERGENCY SPILLWAY: 0.5m W X 0.25m D

PR SRP RV-P2
CATCHMENT AREA: 50,000m²
FOREBAY: 2.0m W X 23.0m L X 1.0m D
MAIN POND BASE: 17.0m W X 51.0m L X 1.5m D
EMERGENCY SPILLWAY: 4.0m L X 3.0m W X 0.3m D

PR DEB RV-DEB 6
CATCHMENT AREA: 2500m²
MAIN DEB BASE: 4.0m W X 12.0m L X 1.0m D
EMERGENCY SPILLWAY: 0.5m W X 0.25m D

PR DEB RV-DEB 5
CATCHMENT AREA: 3000m²
MAIN DEB BASE: 4.0m W X 12.0m L X 1.0m D
EMERGENCY SPILLWAY: 0.5m W X 0.25m D

PR SRP RV-P4
CATCHMENT AREA: 35,100m²
FOREBAY: 2.0m W X 23.0m L X 1.0m D
MAIN POND BASE: 17.0m W X 51.0m L X 1.5m D
EMERGENCY SPILLWAY: 4.0m L X 3.0m W X 0.3m D

PR DEB RV-DEB 4
CATCHMENT AREA: 3000m²
MAIN DEB BASE: 4.0m W X 12.0m L X 1.0m D
EMERGENCY SPILLWAY: 0.5m W X 0.25m D

PR DEB RV-DEB 3
CATCHMENT AREA: 2850m²
MAIN DEB BASE: 4.0m W X 12.0m L X 1.0m D
EMERGENCY SPILLWAY: 0.5m W X 0.25m D

PR DEB RV-DEB 2
CATCHMENT AREA: 1700m²
MAIN DEB BASE: 4.0m W X 12.0m L X 1.0m D
EMERGENCY SPILLWAY: 0.5m W X 0.25m D

PR SRP RV-P1
CATCHMENT AREA: 50,000m²
FOREBAY: 2.0m W X 23.0m L X 1.0m D
MAIN POND BASE: 17.0m W X 51.0m L X 1.5m D
EMERGENCY SPILLWAY: 4.0m L X 3.0m W X 0.3m D

PR DEB RV-DEB 1
CATCHMENT AREA: 3000m²
MAIN DEB BASE: 4.0m W X 12.0m L X 1.0m D
EMERGENCY SPILLWAY: 0.5m W X 0.25m D

FILL PAD AREA FOR
EXCESS CUT FROM ALL
STAGES

CULVERT CONSTRUCTION
METHODOLOGY REFER TO
C245 FOR DETAILS

PR SRP RV-P6
CATCHMENT AREA: 44,100m²
FOREBAY: 2.0m W X 23.0m L X 1.0m D
MAIN POND BASE: 17.0m W X 51.0m L X 1.5m D
EMERGENCY SPILLWAY: 4.0m L X 3.0m W X 0.3m D

PR DEB RV-DEB 13
CATCHMENT AREA: 1850m²
MAIN DEB BASE: 4.0m W X 12.0m L X 1.0m D
EMERGENCY SPILLWAY: 0.5m W X 0.25m D

PR DEB RV-DEB 14
CATCHMENT AREA: 2450m²
MAIN DEB BASE: 4.0m W X 12.0m L X 1.0m D
EMERGENCY SPILLWAY: 0.5m W X 0.25m D

PR DEB RV-DEB 15
CATCHMENT AREA: 2350m²
MAIN DEB BASE: 4.0m W X 12.0m L X 1.0m D
EMERGENCY SPILLWAY: 0.5m W X 0.25m D

PR DEB RV-DEB 16
CATCHMENT AREA: 2650m²
MAIN DEB BASE: 4.0m W X 12.0m L X 1.0m D
EMERGENCY SPILLWAY: 0.5m W X 0.25m D

PR DEB RV-DEB 17
CATCHMENT AREA: 2820m²
MAIN DEB BASE: 4.0m W X 12.0m L X 1.0m D
EMERGENCY SPILLWAY: 0.5m W X 0.25m D

PR DEB RV-DEB 18
CATCHMENT AREA: 2830m²
MAIN DEB BASE: 4.0m W X 12.0m L X 1.0m D
EMERGENCY SPILLWAY: 0.5m W X 0.25m D

PR DEB RV-DEB 19
CATCHMENT AREA: 2580m²
MAIN DEB BASE: 4.0m W X 12.0m L X 1.0m D
EMERGENCY SPILLWAY: 0.5m W X 0.25m D

PR DEB RV-DEB 23
CATCHMENT AREA: 3000m²
MAIN DEB BASE: 4.0m W X 12.0m L X 1.0m D
EMERGENCY SPILLWAY: 0.5m W X 0.25m D

PR DEB RV-DEB 22
CATCHMENT AREA: 3000m²
MAIN DEB BASE: 4.0m W X 12.0m L X 1.0m D
EMERGENCY SPILLWAY: 0.5m W X 0.25m D

PR DEB RV-DEB 21
CATCHMENT AREA: 2660m²
MAIN DEB BASE: 4.0m W X 12.0m L X 1.0m D
EMERGENCY SPILLWAY: 0.5m W X 0.25m D

PR DEB RV-DEB 20
CATCHMENT AREA: 3000m²
MAIN DEB BASE: 4.0m W X 12.0m L X 1.0m D
EMERGENCY SPILLWAY: 0.5m W X 0.25m D

PR DEB RV-DEB 19
CATCHMENT AREA: 2780m²
MAIN DEB BASE: 4.0m W X 12.0m L X 1.0m D
EMERGENCY SPILLWAY: 0.5m W X 0.25m D

PR SRP RV-P5
CATCHMENT AREA: 50,000m²
FOREBAY: 2.0m W X 23.0m L X 1.0m D
MAIN POND BASE: 17.0m W X 51.0m L X 1.5m D
EMERGENCY SPILLWAY: 4.0m L X 3.0m W X 0.3m D

SUPER SILT FENCE & CWD
ALONG THE PR SHARED PATH

NOTES

1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
2. COORDINATES IN TERMS OF NZ GEODETIC DATUM MT EDEN 2000.
3. LEVELS IN TERMS OF THE AUCKLAND VERTICAL DATUM 1946.
4. ORIGIN OF LEVELS = SM XXXX SO XXXX(XXXX) PUBLISHED RL=XX.XX, SOURCED FROM THE LINZ DIGITAL GEODETIC DATABASE.
5. BOUNDARIES ARE SUBJECT TO FINAL SURVEY.

LEGEND

	EX BDY
	PR BDY
	EX MAJOR CONTOUR
	EX MINOR CONTOUR
	PR MAJOR CONTOUR
	PR MINOR CONTOUR
	PR EXTENT WORK
	PR CLEANWATER
	PR DIRTYWATER
	PR SILT FENCE
	PR SUPER SILT FENCE
	PR STOCKPILE
	PR SRP POND
	PR DEB POND
	PR DECANT BAR
	STAGE BOUNDARY
	EX STREAM
	EX WETLAND
	RIPARIAN YARD 20m SETBACK
	WETLAND AREA 100m SETBACK
	WETLAND AREA 10m SETBACK
	EARTHWORKS CATCHMENT AREA

A	RESOURCE CONSENT	HN	03/2025
---	------------------	----	---------

Rev	Description	By	Date
-----	-------------	----	------

	By	Date
--	----	------

Survey	LIDAR	03/2022
--------	-------	---------

Design	HN	05/2022
--------	----	---------

Drawn	HN	03/2025
-------	----	---------

Checked	RW/KH	03/2025
---------	-------	---------

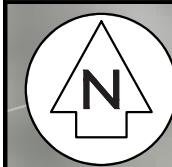


DEVELOPMENT OF RIVERHEAD FOREST FOR RANGITOOPUNI DEVELOPMENTS LIMITED PARTNERSHIP

RETIREMENT VILLAGE PROPOSED EROSION & SEDIMENT CONTROL PLAN

Project no.	147016
Scale	1:4000 @ A3
Cad file	147016-RV-C230 ESC.DWG
Drawing no.	C230-1
Rev	A

RESOURCE CONSENT



STABILISED VEHICLE
ENTRANCE

PR DEB FR-DEB 1
CATCHMENT AREA: 2,200m²
MAIN DEB BASE: 4.0m W X 12.0m L X 1.0m D
EMERGENCY SPILLWAY: 0.5m W X 0.25m D

CULVERT CONSTRUCTION
METHODOLOGY REFER TO
C245 FOR DETAILS

FORESTRY ROAD

26.00%

RESOURCE CONSENT

- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 2. COORDINATES IN TERMS OF NZ GEODETIC DATUM MT EDEN 2000.
 3. LEVELS IN TERMS OF THE AUCKLAND VERTICAL DATUM 1946.
 4. ORIGIN OF LEVELS = SM XXXX SO XXXX(XXXX)
PUBLISHED RL=XX.XX, SOURCED FROM THE LINZ DIGITAL GEODETIC DATABASE.
 5. BOUNDARIES ARE SUBJECT TO FINAL SURVEY.

LEGEND	
	EX BDY
	PR BDY
	EX MAJOR CONTOUR
	EX MINOR CONTOUR
	PR MAJOR CONTOUR
	PR MINOR CONTOUR
	PR EXTENT WORK
	PR CLEANWATER
	PR DIRTYWATER
	PR SILT FENCE
	PR SUPER SILT FENCE
	PR STOCKPILE
	PR SRP POND
	PR DEB POND
	PR DECANT BAR
	STAGE BOUNDARY
	EX STREAM
	EX WETLAND
	RIPARIAN YARD 20m SETBACK
	WETLAND AREA 100m SETBACK
	WETLAND AREA 10m SETBACK
	EARTHWORKS CATCHMENT AREA

A	RESOURCE CONSENT	HN	03/2025
Rev	Description	By	Date
	By	Date	
Survey	LIDAR	03/2022	
Design	HN	05/2022	
Drawn	HN	03/2025	
Checked	RW/KH	03/2025	



Maven Associates
09 571 0050
info@maven.co.nz
www.maven.co.nz
5 Owens Road, Epsom
Auckland 1023

Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**RETIREMENT VILLAGE
PROPOSED EROSION &
SEDIMENT CONTROL PLAN**

Project no.	147016		
Scale	1:4000 @ A3		
Cad file	147016-RV-C230 ESC.DWG		
Drawing no.	C230-2	Rev	A



PR DEB FR-DEB 4
CATCHMENT AREA: 1,070m²
MAIN DEB BASE: 4.0m W X 12.0m L X 1.0m D
EMERGENCY SPILLWAY: 0.5m W X 0.25m D

PR DEB FR-DEB 3
CATCHMENT AREA: 1,260m²
MAIN DEB BASE: 4.0m W X 12.0m L X 1.0m D
EMERGENCY SPILLWAY: 0.5m W X 0.25m D

CULVERT CONSTRUCTION
METHODOLOGY REFER TO
C245 FOR DETAILS

PR DEB FR-DEB 2
CATCHMENT AREA: 2,180m²
MAIN DEB BASE: 4.0m W X 12.0m L X 1.0m D
EMERGENCY SPILLWAY: 0.5m W X 0.25m D

PR DEB FR-DEB 1
CATCHMENT AREA: 2,200m²
MAIN DEB BASE: 4.0m W X 12.0m L X 1.0m D
EMERGENCY SPILLWAY: 0.5m W X 0.25m D

CULVERT CONSTRUCTION
METHODOLOGY REFER TO
C245 FOR DETAILS

RESOURCE CONSENT

- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 2. COORDINATES IN TERMS OF NZ GEODETIC DATUM MT EDEN 2000.
 3. LEVELS IN TERMS OF THE AUCKLAND VERTICAL DATUM 1946.
 4. ORIGIN OF LEVELS = SM XXXX SO XXXX(XXXX)
PUBLISHED RL=XX.XX, SOURCED FROM THE LINZ DIGITAL GEODETIC DATABASE.
 5. BOUNDARIES ARE SUBJECT TO FINAL SURVEY.

- LEGEND
- EX BDY
 - PR BDY
 - EX MAJOR CONTOUR
 - EX MINOR CONTOUR
 - PR MAJOR CONTOUR
 - PR MINOR CONTOUR
 - PR EXTENT WORK
 - PR CLEANWATER
 - PR DIRTYWATER
 - PR SILT FENCE
 - PR SUPER SILT FENCE
 - PR STOCKPILE
 - PR SRP POND
 - PR DEB POND
 - PR DECANT BAR
 - STAGE BOUNDARY
 - EX STREAM
 - EX WETLAND
 - RIPARIAN YARD 20m SETBACK
 - WETLAND AREA 100m SETBACK
 - WETLAND AREA 10m SETBACK
 - EARTHWORKS CATCHMENT AREA

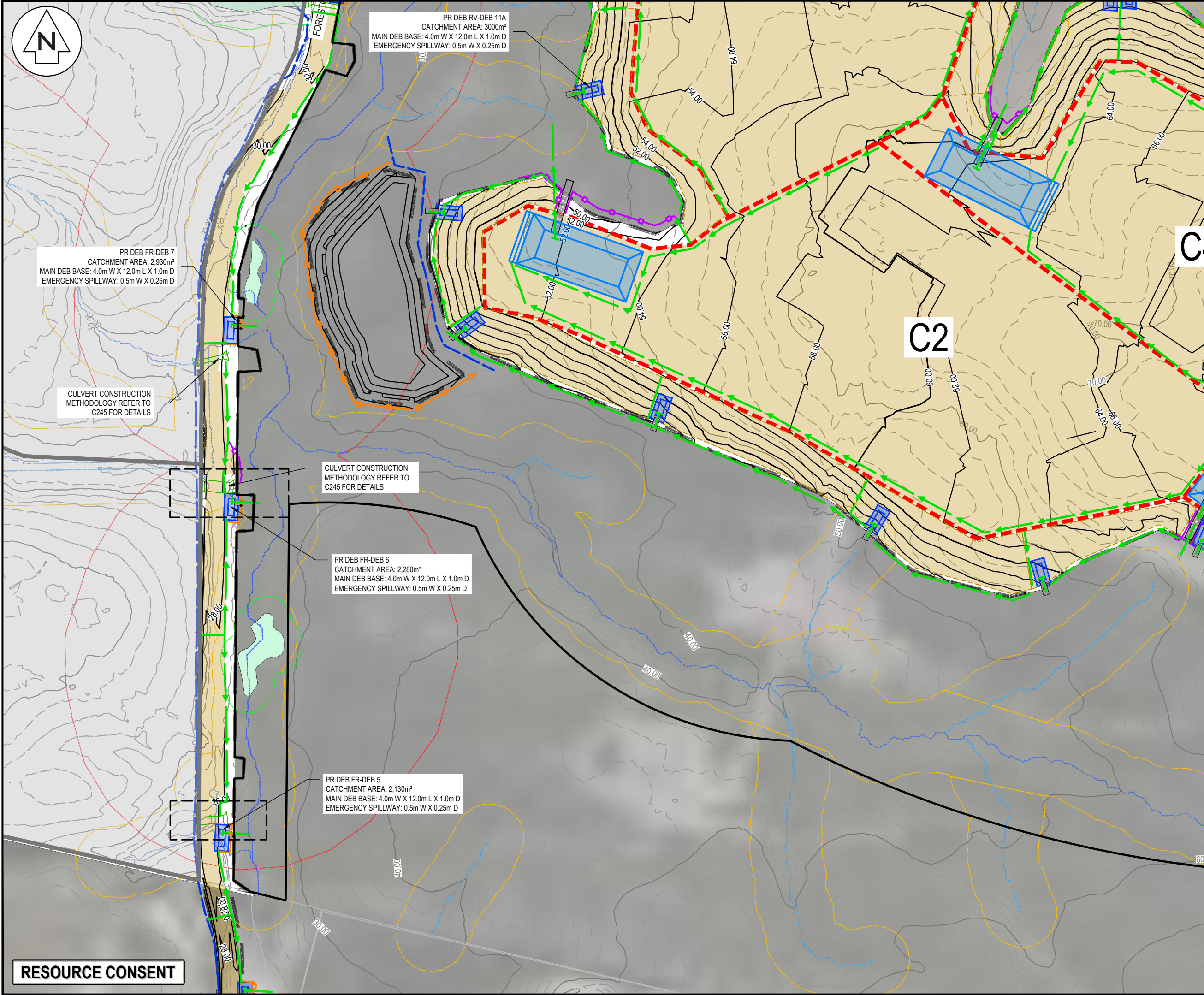
A	RESOURCE CONSENT	HN	03/2025
Rev	Description	By	Date
		By	Date
Survey	LIDAR		03/2022
Design	HN		05/2022
Drawn	HN		03/2025
Checked	RW/KH		03/2025



Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**RETIREMENT VILLAGE
PROPOSED EROSION &
SEDIMENT CONTROL PLAN**

Project no.	147016		
Scale	1:4000 @ A3		
Cad file	147016-RV-C230 ESC.DWG		
Drawing no.	C230-3	Rev	A



NOTES

1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
2. COORDINATES IN TERMS OF NZ GEODETIC DATUM MT EDEN 2000.
3. LEVELS IN TERMS OF THE AUCKLAND VERTICAL DATUM 1946.
4. ORIGIN OF LEVELS = SM XXXX SO XXXX(XXXX) PUBLISHED RL=XX.XX, SOURCED FROM THE LINZ DIGITAL GEODETIC DATABASE.
5. BOUNDARIES ARE SUBJECT TO FINAL SURVEY.

LEGEND

EX BDY	PR BDY
EX MAJOR CONTOUR	PR MAJOR CONTOUR
EX MINOR CONTOUR	PR MINOR CONTOUR
PR EXTENT WORK	PR CLEANWATER
PR DIRTYWATER	PR SILT FENCE
PR SUPER SILT FENCE	PR STOCKPILE
PR SRP POND	PR DEB POND
PR DECANT BAR	STAGE BOUNDARY
EX STREAM	EX WETLAND
RIPARIAN YARD 20m SETBACK	WETLAND AREA 100m SETBACK
WETLAND AREA 10m SETBACK	EARTHWORKS CATCHMENT AREA

Rev	Description	By	Date
A	RESOURCE CONSENT	HN	03/2025
Survey	LIDAR		03/2022
Design	HN		05/2022
Drawn	HN		03/2025
Checked	RW/KH		03/2025

M **Maven Associates**
09 571 0050
info@maven.co.nz
www.maven.co.nz
5 Owens Road, Epsom
Auckland 1023

Project

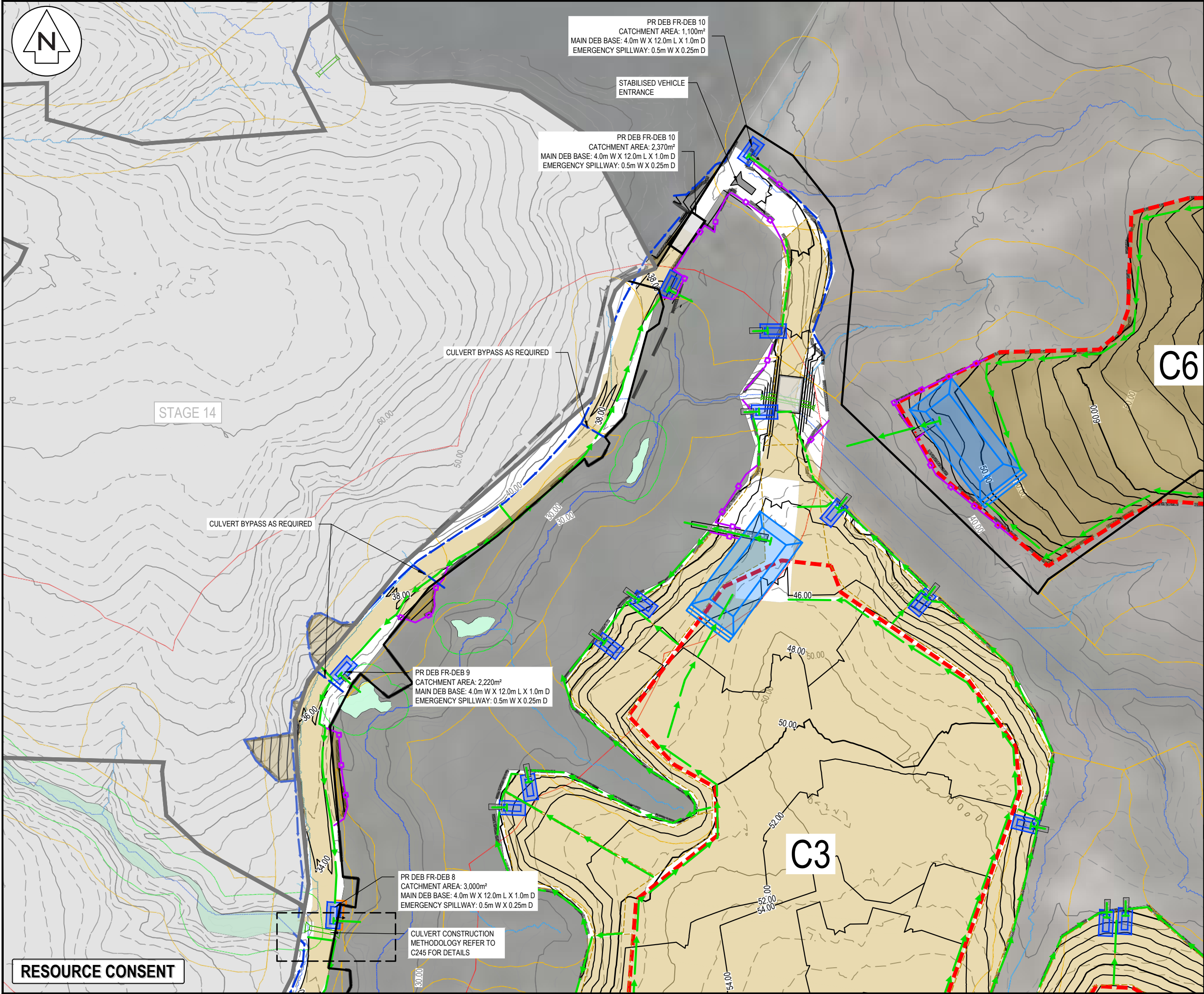
DEVELOPMENT OF RIVERHEAD FOREST FOR RANGITOOPUNI DEVELOPMENTS LIMITED PARTNERSHIP

Title

RETIREMENT VILLAGE PROPOSED EROSION & SEDIMENT CONTROL PLAN

Project no.	147016		
Scale	1:4000 @ A3		
Cad file	147016-RV-C230 ESC.DWG		
Drawing no.	C230-4	Rev	A

RESOURCE CONSENT



NOTES

1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
2. COORDINATES IN TERMS OF NZ GEODETIC DATUM MT EDEN 2000.
3. LEVELS IN TERMS OF THE AUCKLAND VERTICAL DATUM 1946.
4. ORIGIN OF LEVELS = SM XXXX SO XXXX(XXXX) PUBLISHED RL=XX.XX, SOURCED FROM THE LINZ DIGITAL GEODETIC DATABASE.
5. BOUNDARIES ARE SUBJECT TO FINAL SURVEY.

LEGEND

---	EX BDY
---	PR BDY
---	EX MAJOR CONTOUR
---	EX MINOR CONTOUR
---	PR MAJOR CONTOUR
---	PR MINOR CONTOUR
---	PR EXTENT WORK
---	PR CLEANWATER
---	PR DIRTYWATER
---	PR SILT FENCE
---	PR SUPER SILT FENCE
---	PR STOCKPILE
---	PR SRP POND
---	PR DEB POND
---	PR DECANT BAR
---	STAGE BOUNDARY
---	EX STREAM
---	EX WETLAND
---	RIPARIAN YARD 20m SETBACK
---	WETLAND AREA 100m SETBACK
---	WETLAND AREA 10m SETBACK
---	EARTHWORKS CATCHMENT AREA

Rev	Description	By	Date
A	RESOURCE CONSENT	HN	03/2025
Survey	LIDAR		03/2022
Design	HN		05/2022
Drawn	HN		03/2025
Checked	RW/KH		03/2025

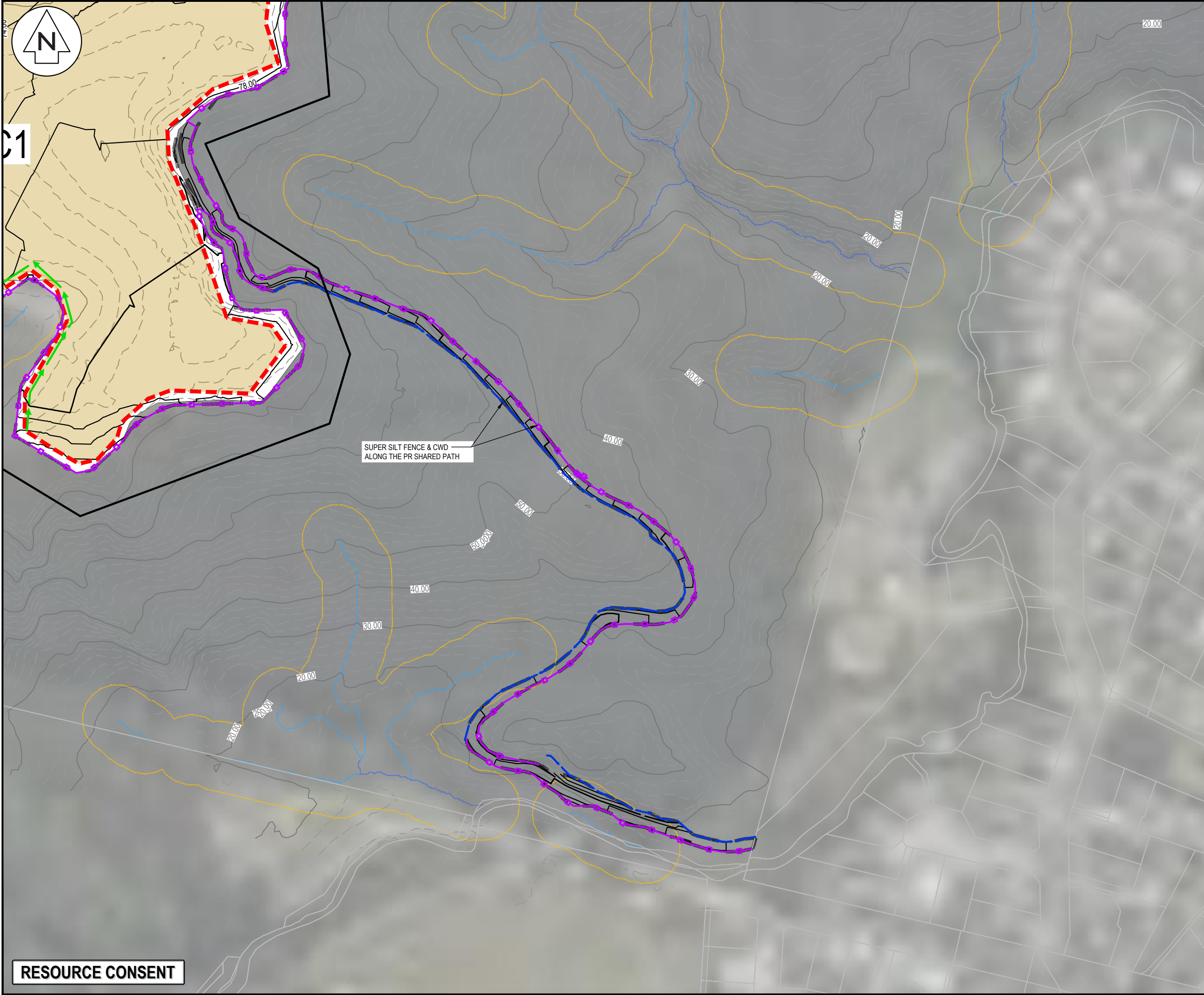
M **Maven Associates**
09 571 0050
info@maven.co.nz
www.maven.co.nz
5 Owens Road, Epsom
Auckland 1023

Project
DEVELOPMENT OF RIVERHEAD FOREST FOR RANGITOOPUNI DEVELOPMENTS LIMITED PARTNERSHIP

Title
RETIREMENT VILLAGE PROPOSED EROSION & SEDIMENT CONTROL PLAN

Project no.	147016
Scale	1:4000 @ A3
Cad file	147016-RV-C230 ESC.DWG
Drawing no.	C230-5
Rev	A

DATE: 5/12/25 FILE PATH: F:\Maven\PROJECTS\147016 - RIVERHEAD RETIREMENT VILLAGE\DWG\147016-RV-C230 ESC.DWG




NOTES

1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
2. COORDINATES IN TERMS OF NZ GEODETIC DATUM MT EDEN 2000.
3. LEVELS IN TERMS OF THE AUCKLAND VERTICAL DATUM 1946.
4. ORIGIN OF LEVELS = SM XXXX SO XXXX(XXXX) PUBLISHED RL=XX.XX, SOURCED FROM THE LINZ DIGITAL GEODETIC DATABASE.
5. BOUNDARIES ARE SUBJECT TO FINAL SURVEY.

LEGEND

---	EX BDY
---	PR BDY
---	EX MAJOR CONTOUR
---	EX MINOR CONTOUR
---	PR MAJOR CONTOUR
---	PR MINOR CONTOUR
---	PR EXTENT WORK
---	PR CLEANWATER
---	PR DIRTYWATER
---	PR SILT FENCE
---	PR SUPER SILT FENCE
---	PR STOCKPILE
---	PR SRP POND
---	PR DEB POND
---	PR DECANT BAR
---	STAGE BOUNDARY
---	EX STREAM
---	EX WETLAND
---	RIPARIAN YARD 20m SETBACK
---	WETLAND AREA 100m SETBACK
---	WETLAND AREA 10m SETBACK
---	EARTHWORKS CATCHMENT AREA

A	RESOURCE CONSENT	HN	03/2025
Rev	Description	By	Date
		By	Date
Survey	LIDAR		03/2022
Design	HN		05/2022
Drawn	HN		03/2025
Checked	RW/KH		03/2025



Maven Associates
09 571 0050
info@maven.co.nz
www.maven.co.nz
5 Owens Road, Epsom
Auckland 1023

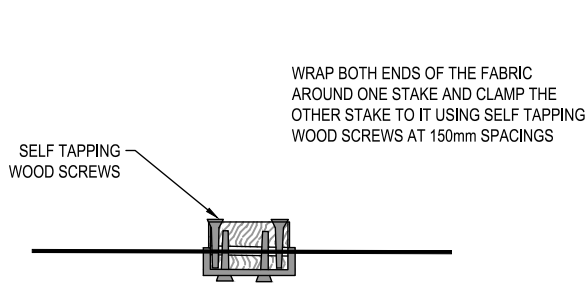
Project

**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

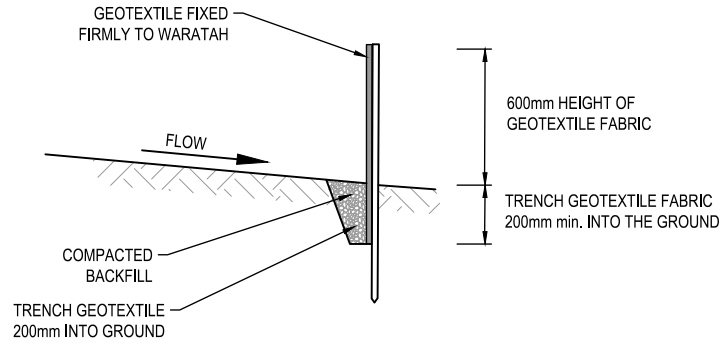
Title

**RETIREMENT VILLAGE
PROPOSED EROSION &
SEDIMENT CONTROL PLAN**

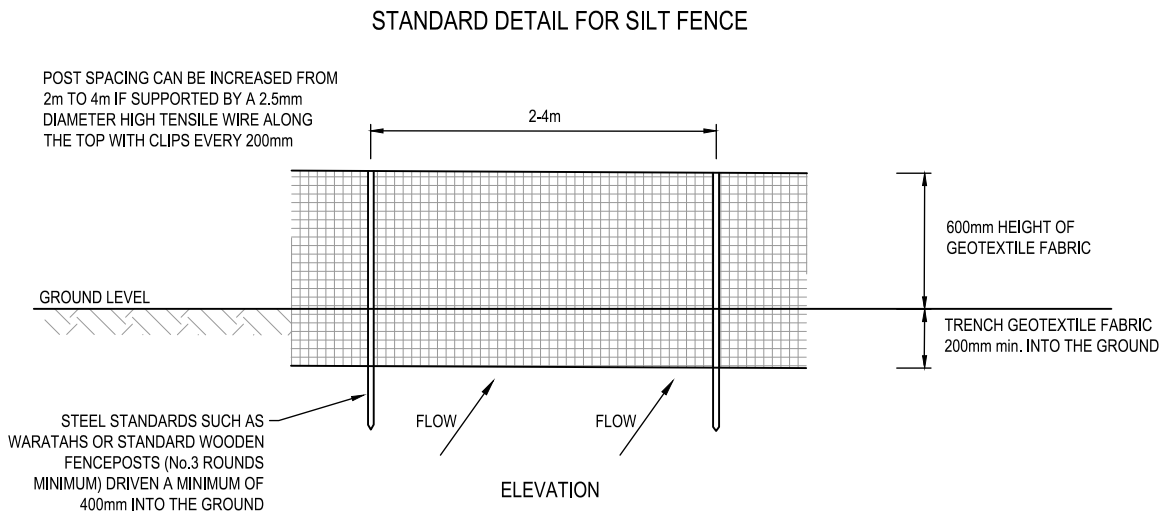
Project no.	147016		
Scale	1:4000 @ A3		
Cad file	147016-RV-C230 ESC.DWG		
Drawing no.	C230-6	Rev	A



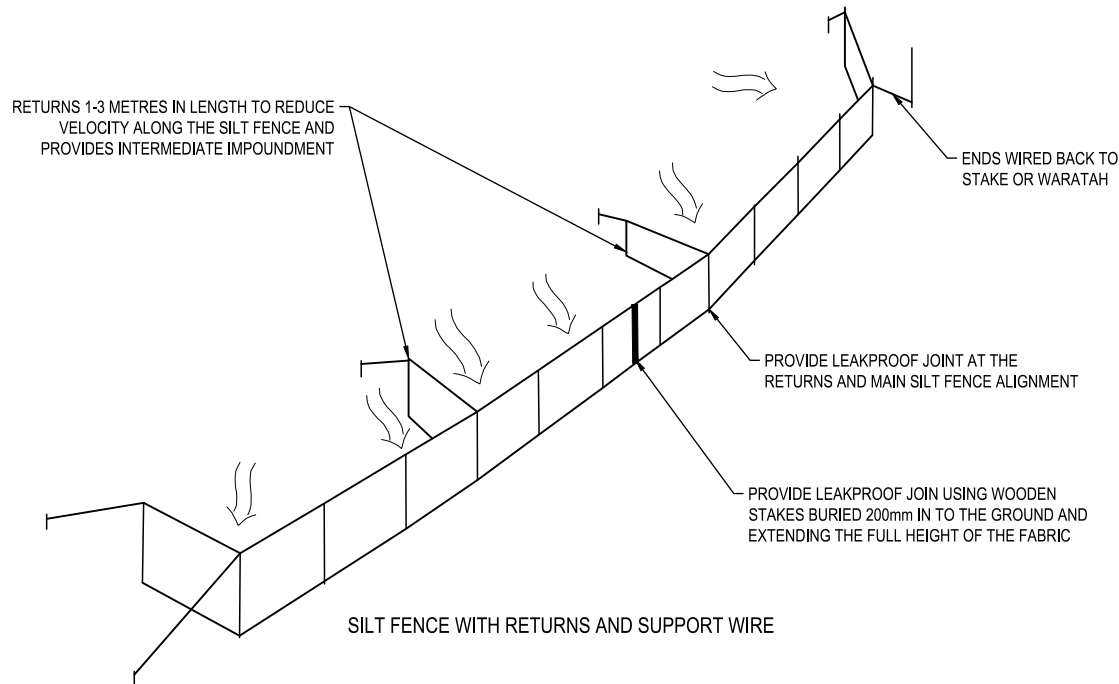
STANDARD DETAIL FOR FABRIC JOIN



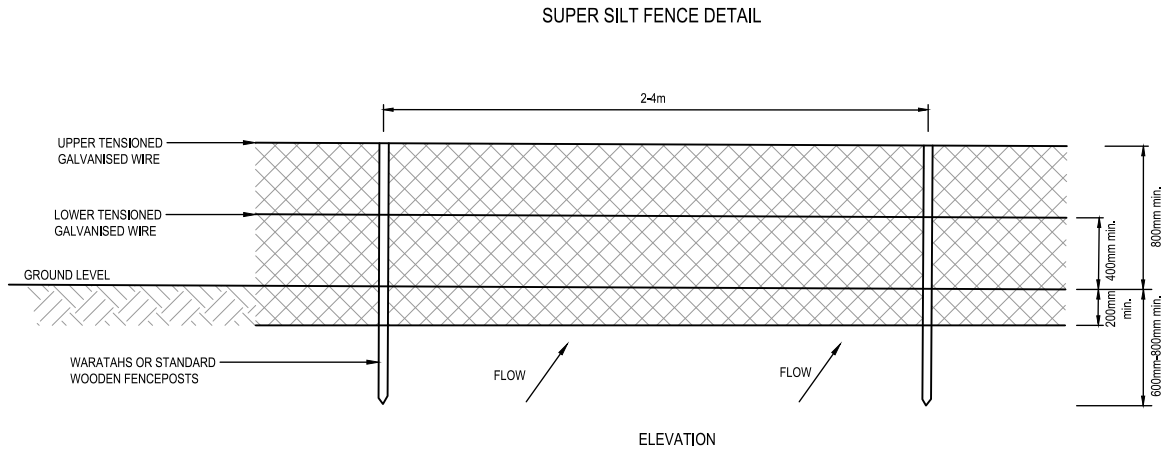
CROSS SECTION



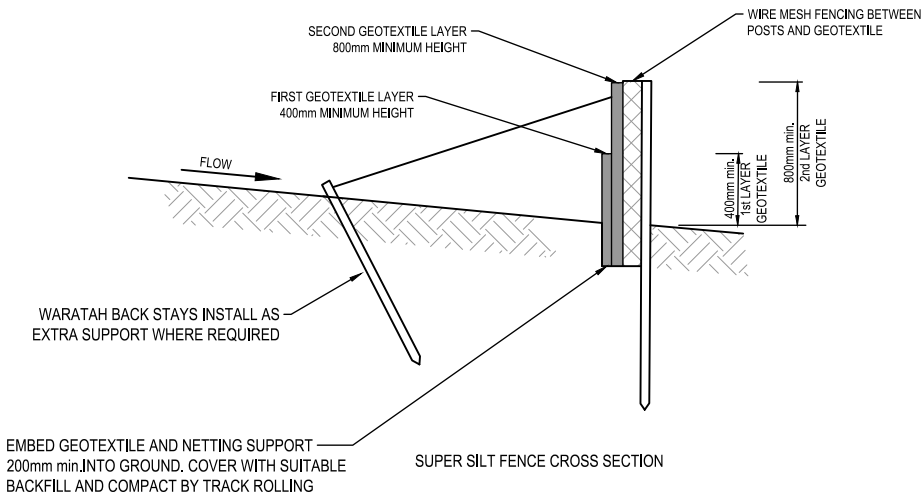
ELEVATION



SILT FENCE WITH RETURNS AND SUPPORT WIRE



ELEVATION



SUPER SILT FENCE CROSS SECTION

- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 2. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
 3. THE CONTRACTOR SHALL COMPLY WITH ALL RELEVANT HEALTH AND SAFETY REQUIREMENTS.
 4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY APPROVAL FROM UTILITY OPERATORS BEFORE COMMENCING WORK UNDER OR NEAR THEIR SERVICES.
 5. SEDIMENT CONTROL SHALL BE INSTALLED AND OPERATIONAL BEFORE EARTHWORKS START ONSITE IN ACCORDANCE WITH COUNCIL STANDARDS.
 6. CONTRACTOR SHALL PROVIDE ASBUILT OF WORKING SEDIMENT CONTROL DEVICES AND CONFIRMATION OF POND/DECENT VOLUMES TO ENGINEER.
 7. SEDIMENT CONTROL TO COMPLY WITH GD05 STANDARDS.

A	RESOURCE CONSENT	SP	03/2025
Rev	Description	By	Date
Survey	--	--	----
Design	--	--	--
Drawn	SP		03/2025
Checked	RW/KH		03/2025

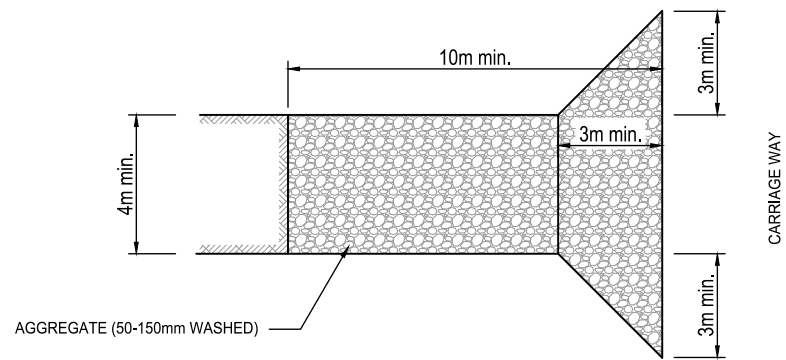
M **Maven Associates**
09 571 0050
info@maven.co.nz
www.maven.co.nz
5 Owens Road, Epsom
Auckland 1023

Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

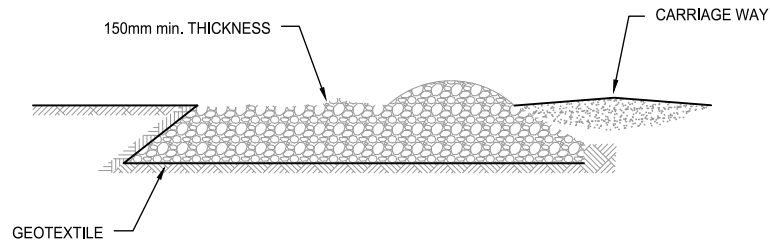
Title
**RETIREMENT VILLAGE
EROSION AND SEDIMENT
CONTROL DETAILS**

Project no.	147016
Scale	N.T.S
Cad file	147016-RV-C240 ESC STD DETAILS.DWG
Drawing no.	C240
Rev	A

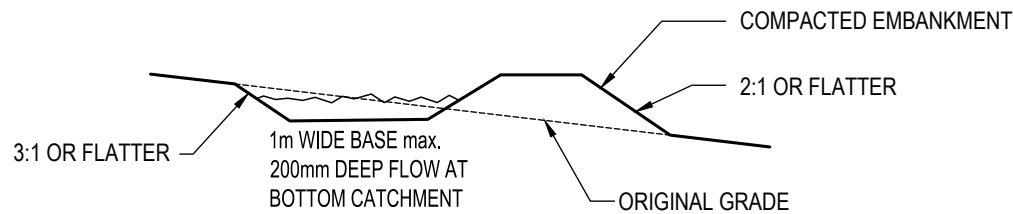
RESOURCE CONSENT



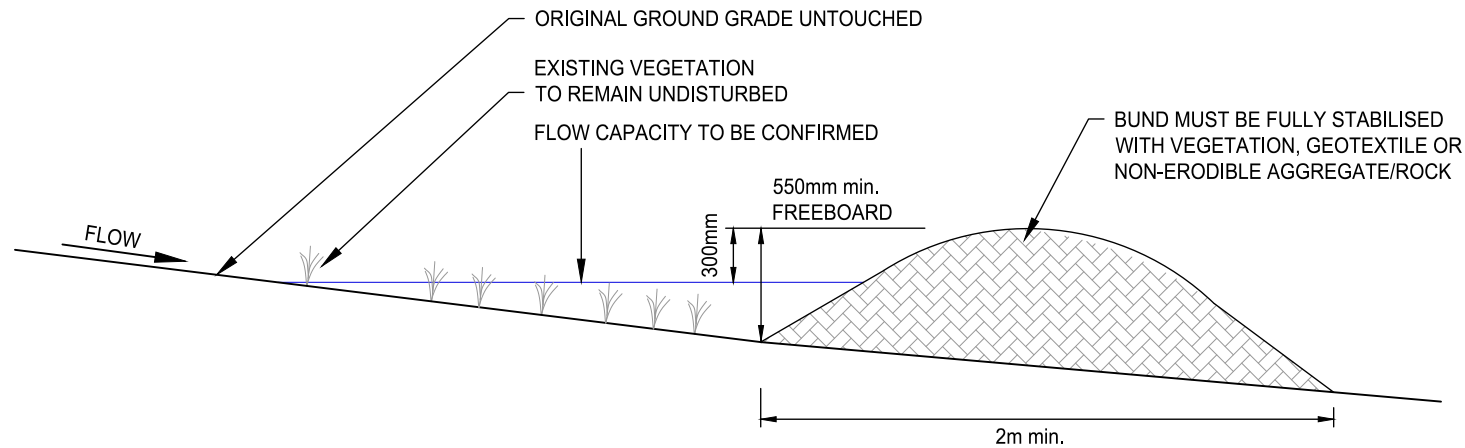
STABALISED VEHICLE ENTRANCE
PLAN VIEW



STABALISED VEHICLE ENTRANCE DETAIL
SIDE ELEVATION



TYPICAL CROSS SECTION OF A RUNOFF DIVERSION
TYPICAL DIMENSIONS UNLESS OTHERWISE NOTED



CLEAN WATER DIVERSION BUND DETAIL

- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 2. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
 3. THE CONTRACTOR SHALL COMPLY WITH ALL RELEVANT HEALTH AND SAFETY REQUIREMENTS.
 4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY APPROVAL FROM UTILITY OPERATORS BEFORE COMMENCING WORK UNDER OR NEAR THEIR SERVICES.
 5. SEDIMENT CONTROL SHALL BE INSTALLED AND OPERATIONAL BEFORE EARTHWORKS START ONSITE IN ACCORDANCE WITH COUNCIL STANDARDS.
 6. CONTRACTOR SHALL PROVIDE ASBUILT OF WORKING SEDIMENT CONTROL DEVICES AND CONFIRMATION OF POND/DECENT VOLUMES TO ENGINEER.
 7. SEDIMENT CONTROL TO COMPLY WITH GD05 STANDARDS.

A	RESOURCE CONSENT	SP	03/2025
Rev	Description	By	Date
		By	Date
Survey	--	--	----
Design	--	-	
Drawn	SP		03/2025
Checked	RW/KH		03/2025

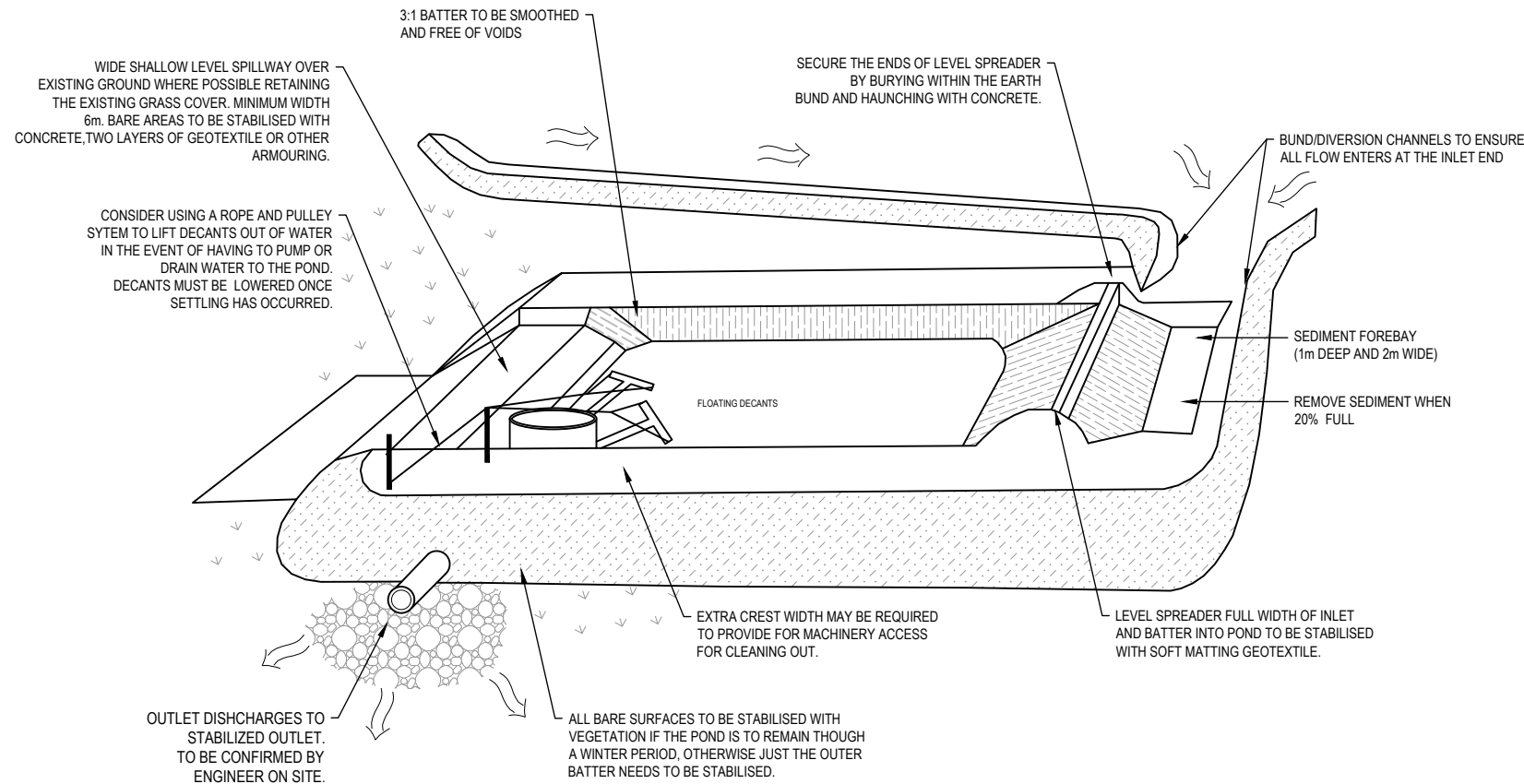
M **Maven Associates**
09 571 0050
info@maven.co.nz
www.maven.co.nz
5 Owens Road, Epsom
Auckland 1023

Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

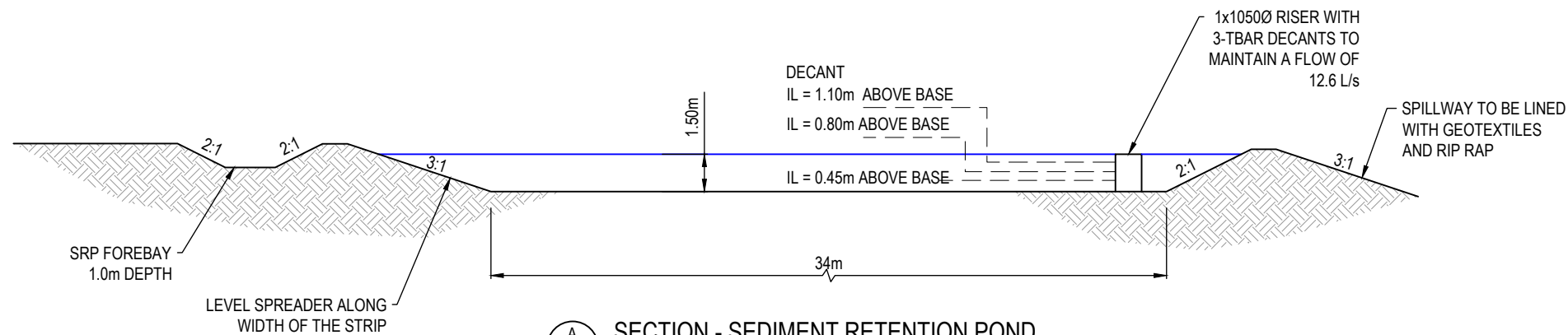
Title
**RETIREMENT VILLAGE
EROSION AND SEDIMENT
CONTROL DETAILS**

Project no.	147016
Scale	N.T.S
Cad file	147016-RV-C240 ESC STD DETAILS.DWG
Drawing no.	C241
Rev	A

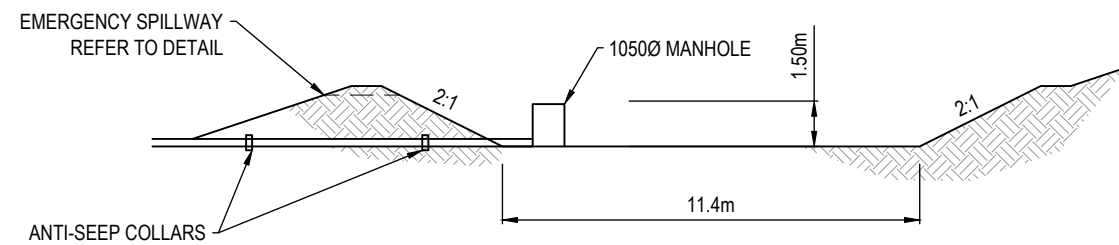
RESOURCE CONSENT



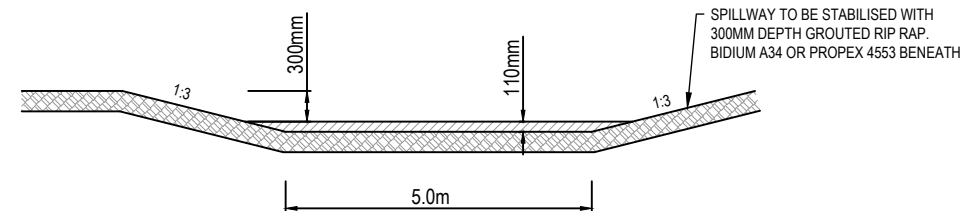
SEDIMENT POND DETAILS
(NTS)



A SECTION - SEDIMENT RETENTION POND
SCALE: N.T.S



B SECTION - SEDIMENT RETENTION POND
SCALE: N.T.S



DETAIL I
EMERGENCY SPILLWAY

- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 2. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
 3. THE CONTRACTOR SHALL COMPLY WITH ALL RELEVANT HEALTH AND SAFETY REQUIREMENTS.
 4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY APPROVAL FROM UTILITY OPERATORS BEFORE COMMENCING WORK UNDER OR NEAR THEIR SERVICES.
 5. SEDIMENT CONTROL SHALL BE INSTALLED AND OPERATIONAL BEFORE EARTHWORKS START ONSITE IN ACCORDANCE WITH COUNCIL STANDARDS.
 6. CONTRACTOR SHALL PROVIDE ASBUILT OF WORKING SEDIMENT CONTROL DEVICES AND CONFIRMATION OF POND/DECENT VOLUMES TO ENGINEER.
 7. SEDIMENT CONTROL TO COMPLY WITH GD05 STANDARDS.

A	RESOURCE CONSENT	SP	03/2025
Rev	Description	By	Date
Survey	--		--/--
Design	--		-
Drawn	SP		03/2025
Checked	RW/KH		03/2025

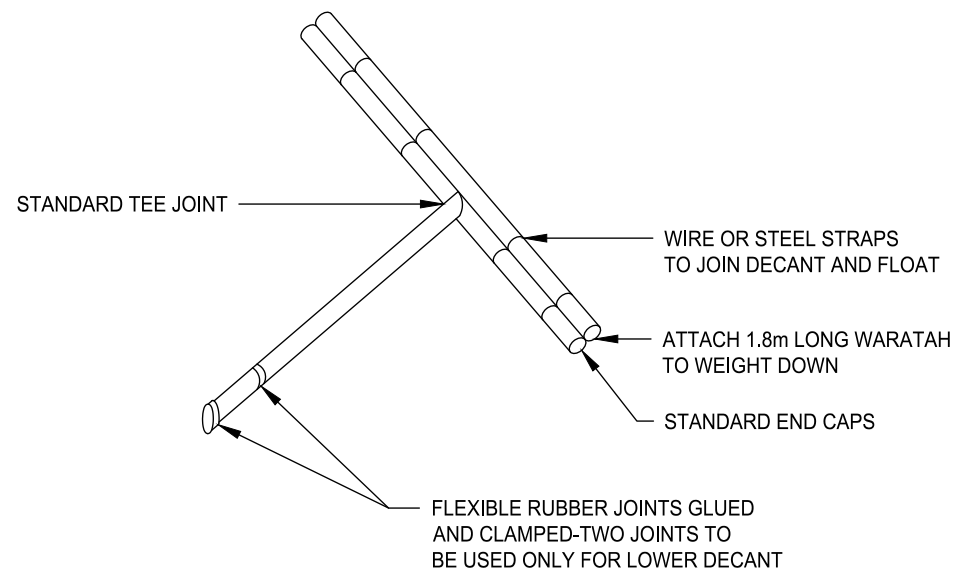
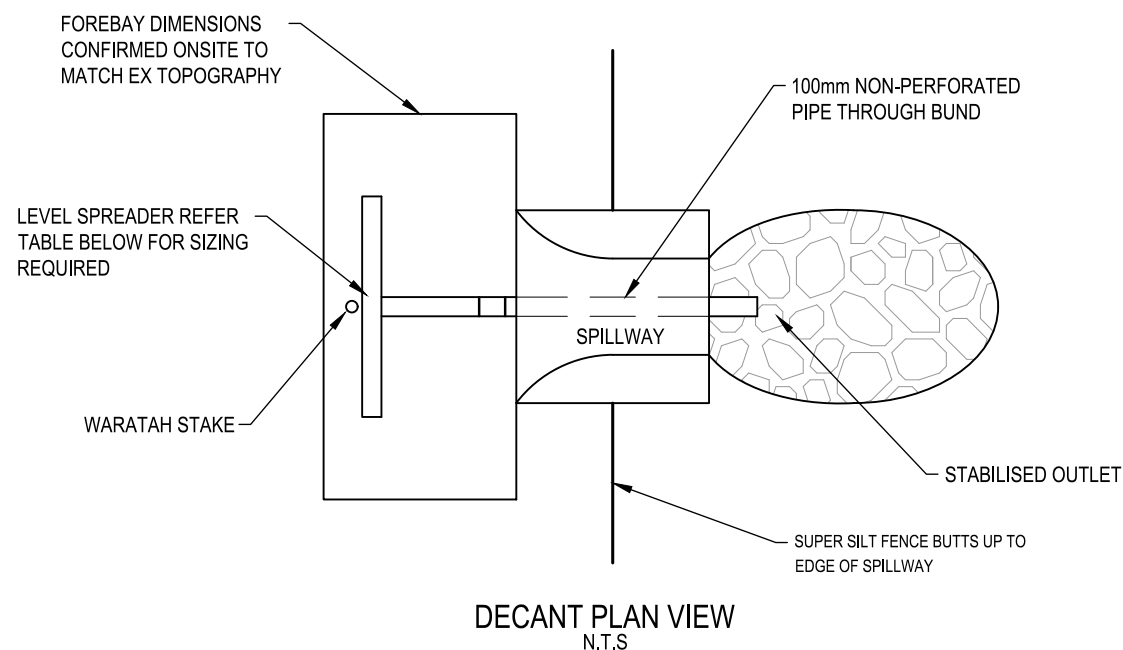
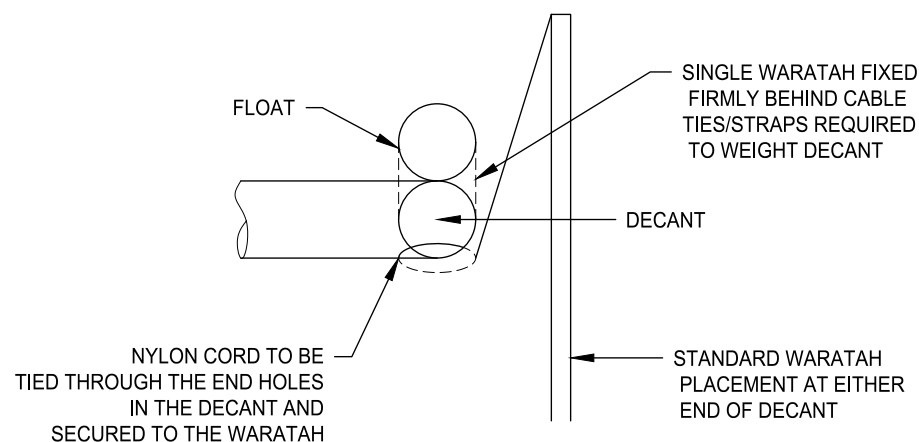
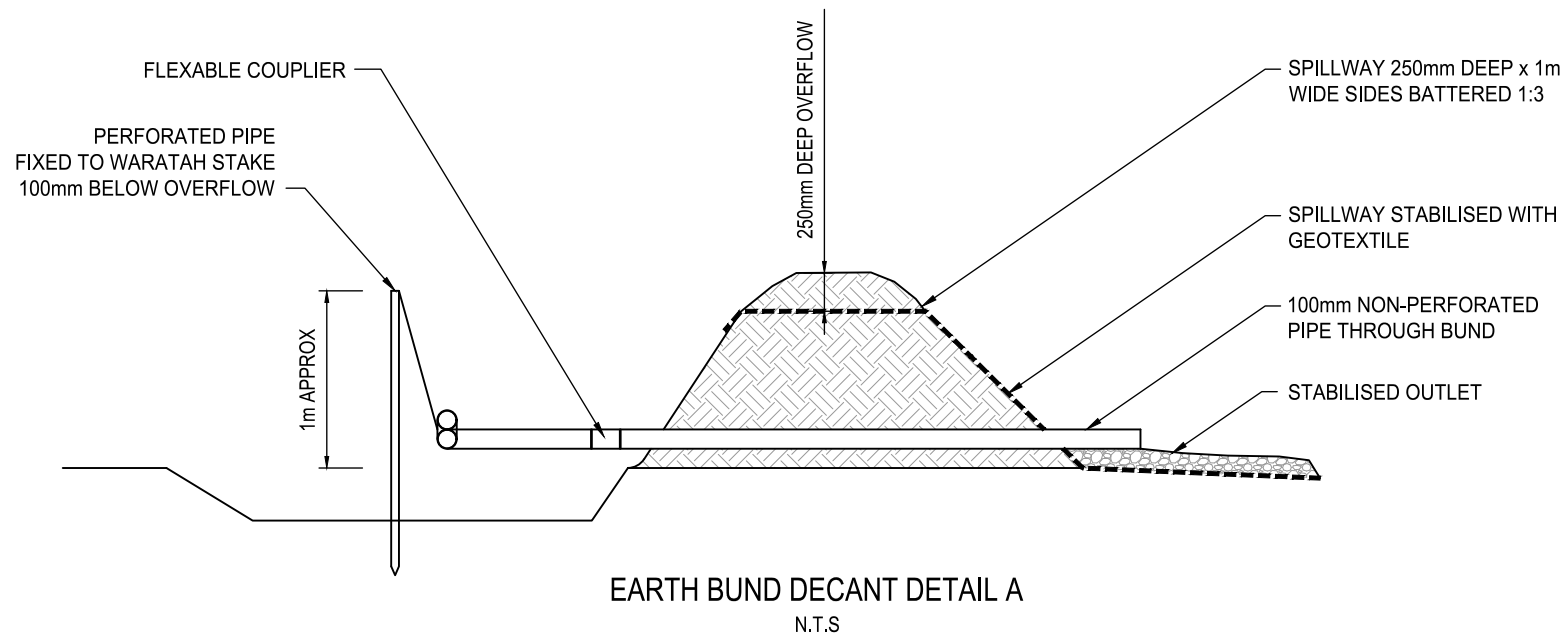
M Maven Associates
09 571 0050
info@maven.co.nz
www.maven.co.nz
5 Owens Road, Epsom
Auckland 1023

Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**RETIREMENT VILLAGE
EROSION AND SEDIMENT
CONTROL DETAILS**

Project no.	147016
Scale	N.T.S
Cad file	147016-RV-C240 ESC STD DETAILS.DWG
Drawing no.	C242
Rev	A

RESOURCE CONSENT



LEVEL SPREADER DESIGN CRITERIA (20 YEAR STORM EVENT)				
DESIGN FLOW (m ³ /sec)	INLET WIDTH (m)	DEPTH (m)	END WIDTH (m)	LENGTH (mm)
0-0.3	3	150	1	3
0.3-0.6	5	180	1	7
0.6-0.9	7	220	1	10

- NOTES**
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 2. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
 3. THE CONTRACTOR SHALL COMPLY WITH ALL RELEVANT HEALTH AND SAFETY REQUIREMENTS.
 4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY APPROVAL FROM UTILITY OPERATORS BEFORE COMMENCING WORK UNDER OR NEAR THEIR SERVICES.
 5. SEDIMENT CONTROL SHALL BE INSTALLED AND OPERATIONAL BEFORE EARTHWORKS START ONSITE IN ACCORDANCE WITH COUNCIL STANDARDS.
 6. CONTRACTOR SHALL PROVIDE ASBUILT OF WORKING SEDIMENT CONTROL DEVICES AND CONFIRMATION OF POND/DECANT VOLUMES TO ENGINEER.
 7. SEDIMENT CONTROL TO COMPLY WITH GD05 STANDARDS.

A	RESOURCE CONSENT	SP	03/2025
Rev	Description	By	Date
Survey	--		--/--
Design	--		-
Drawn	SP		03/2025
Checked	RW/KH		03/2025



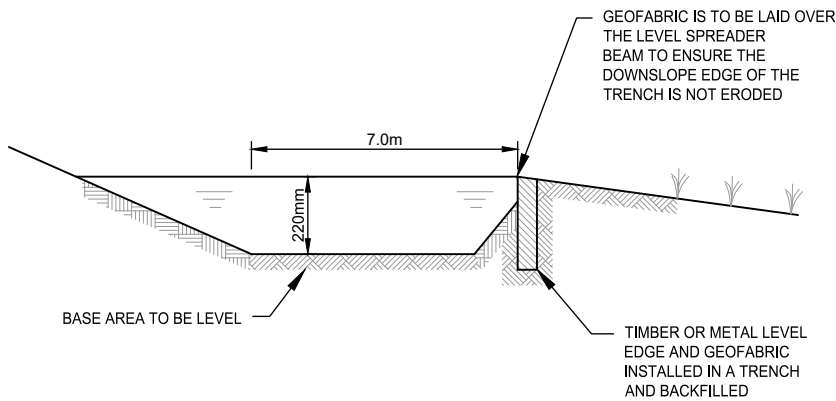
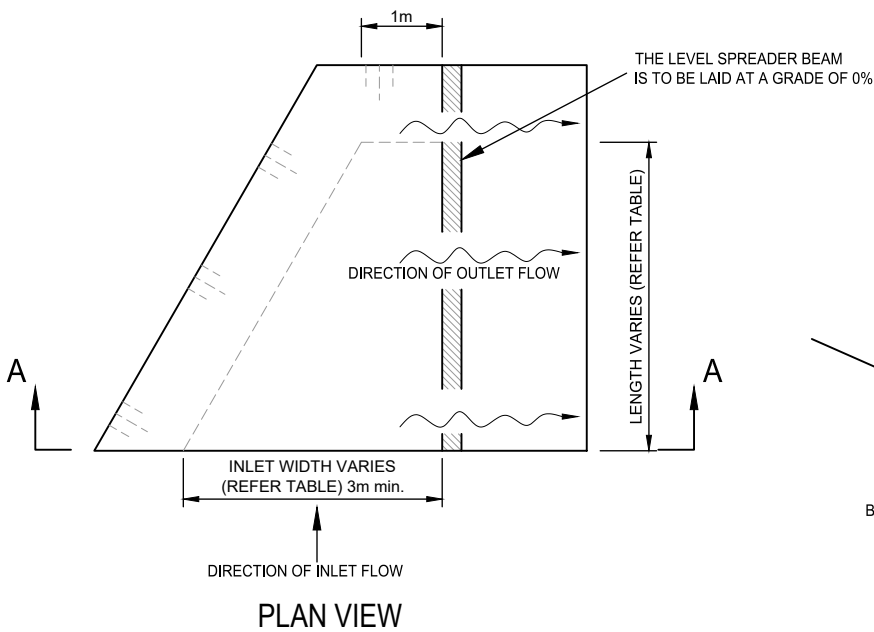
Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**RETIREMENT VILLAGE
EROSION AND SEDIMENT
CONTROL DETAILS**

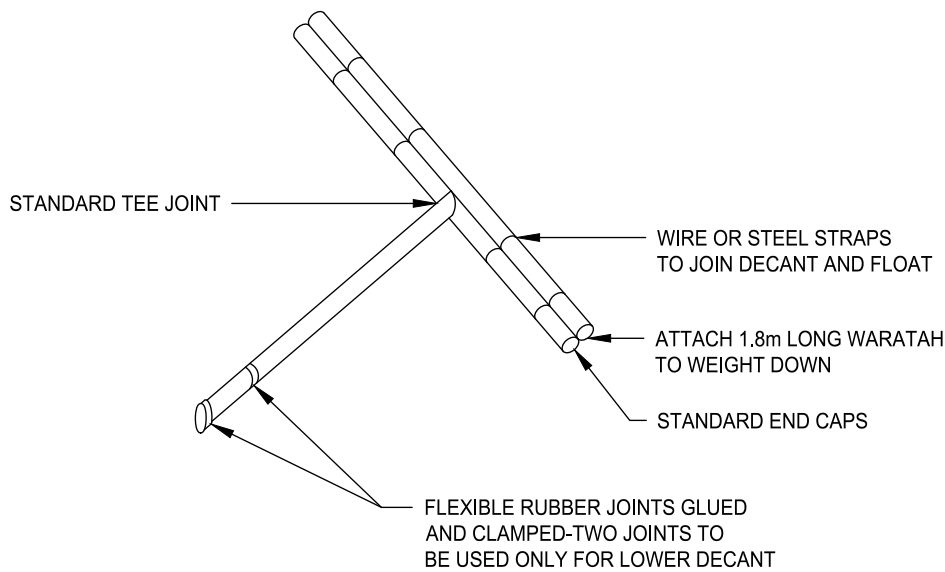
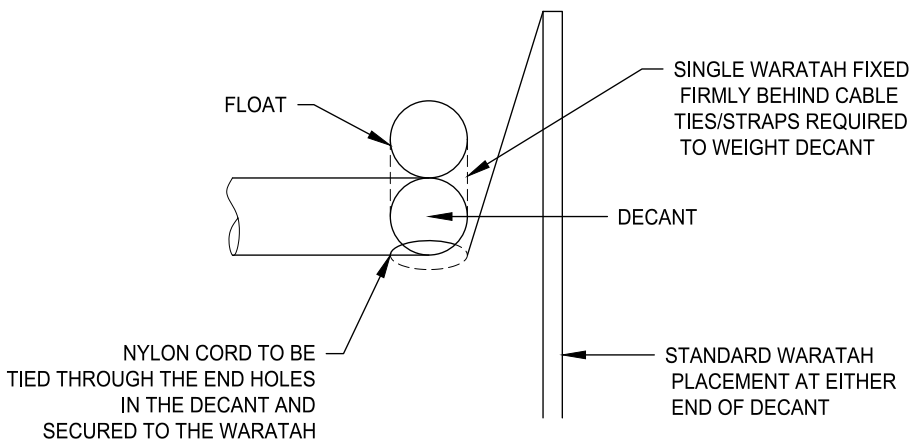
Project no.	147016
Scale	N.T.S
Cad file	147016-RV-C240 ESC STD DETAILS.DWG
Drawing no.	C243
Rev	A

RESOURCE CONSENT

DATE: 4/2025 FILE PATH: F:\Maven\PROJECTS\147016 - RIVERHEAD RETIREMENT VILLAGE\DWG\147016-RV-C240-ESC STD DETAILS.DWG



LEVEL SPREADER DESIGN CRITERIA (20 YEAR STORM EVENT)				
DESIGN FLOW (m ³ /sec)	INLET WIDTH (m)	DEPTH (m)	END WIDTH (m)	LENGTH (mm)
0-0.3	3	150	1	3
0.3-0.6	5	180	1	7
0.6-0.9	7	220	1	10



- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 2. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
 3. THE CONTRACTOR SHALL COMPLY WITH ALL RELEVANT HEALTH AND SAFETY REQUIREMENTS.
 4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY APPROVAL FROM UTILITY OPERATORS BEFORE COMMENCING WORK UNDER OR NEAR THEIR SERVICES.
 5. SEDIMENT CONTROL SHALL BE INSTALLED AND OPERATIONAL BEFORE EARTHWORKS START ONSITE IN ACCORDANCE WITH COUNCIL STANDARDS.
 6. CONTRACTOR SHALL PROVIDE ASBUILT OF WORKING SEDIMENT CONTROL DEVICES AND CONFIRMATION OF POND/DECENT VOLUMES TO ENGINEER.
 7. SEDIMENT CONTROL TO COMPLY WITH GD05 STANDARDS.

A	RESOURCE CONSENT	SP	03/2025
Rev	Description	By	Date
		By	Date
Survey	--	--	----
Design	--	-	
Drawn	SP		03/2025
Checked	RW/KH		03/2025

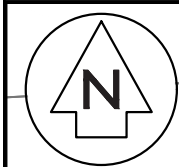
M **Maven Associates**
09 571 0050
info@maven.co.nz
www.maven.co.nz
5 Owens Road, Epsom
Auckland 1023

Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**RETIREMENT VILLAGE
EROSION AND SEDIMENT
CONTROL DETAILS**

Project no.	147016		
Scale	N.T.S		
Cad file	147016-RV-C240 ESC STD DETAILS.DWG		
Drawing no.	C244	Rev	A

RESOURCE CONSENT



PUMP1 DISCHARGE CLEAN WATER TO DOWN STREAM
3mm SCREEN ON INLET

FISH EXCLUSION NET

UPSTREAM DAM - STEEL ROAD
PLATES DRIVEN INTO STREAM BED.
OVERLAP 300-400mm WIDTH TO
EXTEND 1m EITHER SIDE OF
CURRENT WATER LEVEL

PUMP2 DEWATER TO DEB

FISH EXCLUSION NET

DOWN STREAM DAM
STEEL ROAD PLATES DRIVEN INTO
STREAM BED 300-400mm OVERLAP
AS REQUIRED TO ACHIEVE WIDTH 1m
BEYOND CURRENT WATER LEVEL

UPGRADE EXISTING CULVERT
INDICATIVE

FORESTRY ROAD EXTENSION

PROPOSED STREAM WORKS METHODOLOGY PLAN

EARTHWORKS OF UPGRADING EXISTING CULVERT1 TO BOX CULVERT TO BE CARRIED OUT DURING DRY WEATHER SEASON

PUMP UPSTREAM WATER AND DEWATER UNDER SUPERVISION OF THE PROJECT ECOLOGIST INCLUDING ANY FISH RELOCATION NEEDED.

REMOVE EXISTING CULVERT, UNDERCUT THE STREAMBED AND BACKFILL WITH GAP 65 AS DIRECTED, PREP STREAMBED FOR PLACEMENT OF NEW CULVERT, INSTALL RIPRAP. CLOTH ANY SIDES OF THE STREAM WHICH ARE EARTHWORKED, AS TO ENSURE NO SEDIMENT RISK

IN 2-YR OR ABOVE RAINFALL EVENT, DAMS TO BE REMOVED. STREAM STABILISED AND WORKS TO COMMENCE AFTER EVENT HAS PASSED. ALL STREAMWORKS TO BE DONE IN ACCORDANCE WITH THE MAVEN ASSOCIATES STREAM WORKS MANAGEMENT PLAN, AND UNDER ENGINEER'S SUPERVISION

COFFERDAM TO BE REMOVED AFTER CULVERT REPLACED. AND REINSTATE NORMAL FLOWS TO THE STREAM

FINAL METHODOLOGY SUBJECT TO CONTRACTOR INPUT AND FINAL STREAM WORK MANAGEMENT AS PER CONDITION OF CONSENT GRANTED

- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 2. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
 3. THE CONTRACTOR SHALL COMPLY WITH ALL RELEVANT HEALTH AND SAFETY REQUIREMENTS.
 4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY APPROVAL FROM UTILITY OPERATORS BEFORE COMMENCING WORK UNDER OR NEAR THEIR SERVICES.
 5. SEDIMENT CONTROL SHALL BE INSTALLED AND OPERATIONAL BEFORE EARTHWORKS START ONSITE IN ACCORDANCE WITH COUNCIL STANDARDS.
 6. CONTRACTOR SHALL PROVIDE ASBUILT OF WORKING SEDIMENT CONTROL DEVICES AND CONFIRMATION OF POND/DECENT VOLUMES TO ENGINEER.
 7. SEDIMENT CONTROL TO COMPLY WITH GD05 STANDARDS.

- LEGEND
- EX BDY
 - PR BDY
 - EX MAJOR CONTOUR
 - EX MINOR CONTOUR
 - PR MAJOR CONTOUR
 - PR MINOR CONTOUR
 - PR EXTENT WORK
 - PR CLEANWATER
 - PR DIRTYWATER
 - PR SILT FENCE
 - PR SUPER SILT FENCE
 - PR STOCKPILE
 - PR DECANT
 - PR DECANT BAR
 - STAGE BOUNDARY
 - EX STREAM
 - EX WETLAND
 - RIPARIAN YARD 20m SETBACK
 - WETLAND AREA 100m SETBACK
 - WETLAND AREA 10m SETBACK
 - EARTHWORKS CATCHMENT AREA

A	RESOURCE CONSENT	HN	03/2025
Rev	Description	By	Date
		By	Date
Survey	--	--	----
Design	HN		03/2025
Drawn	SP		03/2025
Checked	RW/KH		03/2025



Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**RETIREMENT VILLAGE
EROSION AND SEDIMENT
CONTROL DETAILS**

Project no.	147016
Scale	1:500 @ A3
Cad file	147016-RV-C245 ESC FOR CULVERT.DWG
Drawing no.	C245
Rev	A

RESOURCE CONSENT