



PROP DEB S1- JOAL1-DEB 2
CATCHMENT AREA: 2829m²
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

PROP SRP S1-JOAL1-P1
CATCHMENT AREA: 30347m²
FOREBAY: 2.0m W X 12.0m L X 1.0m D
MAIN POND BASE: 6.0m W X 18.0m L X 1.5m D
EMERGENCY SPILLWAY: 2.0m L X 3.0m W X 0.3m D

PROP DEB S1- JOAL1-DEB 1
CATCHMENT AREA: 2753m²
MAIN DEB BASE: 4.0m W X 12.0m L X 1.0m D
EMERGENCY SPILLWAY: 0.5m W X 0.25m D

STAGE 1

STAGE 3

PROP DEB S1- JOAL1-DEB 5
CATCHMENT AREA: 2954m²
MAIN DEB BASE: 4.0m W X 12.0m L X 1.0m D
EMERGENCY SPILLWAY: 0.5m W X 0.25m D

PROP DEB S1- JOAL1-DEB 3
CATCHMENT AREA: 2801m²
MAIN DEB BASE: 4.0m W X 12.0m L X 1.0m D
EMERGENCY SPILLWAY: 0.5m W X 0.25m D

PROP DEB S1- JOAL1-DEB 4
CATCHMENT AREA: 2449m²
MAIN DEB BASE: 4.0m W X 12.0m L X 1.0m D
EMERGENCY SPILLWAY: 0.5m W X 0.25m D

HAUL ROAD

STABILISED ENTRY

OLD NORTH ROAD

OLD NORTH ROAD

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

B	S67		KH	09/2025
A	RESOURCE CONSENT		MA	03/2025
Rev	Description	By	Date	
Survey	LANDPRO		03/2023	
Design	HN		03/2025	
Drawn	MA		03/2025	
Checked	RW/KH		03/2025	

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

Title
**PROPOSED EROSION
SEDIMENT CONTROL
PLAN - STAGE 1**

Project no.	147007
Scale	1:2000 @ A3
Cad file	147007-M-C200 EARTHWORKS - STAGE 1.DWG
Drawing no.	C230-1-1
Rev	B

RESOURCE CONSENT

DATE: 9/25/23 FILE PATH: F:\Maven\PROJECTS\147007 RIVERHEAD FOREST\DWG\147007-M-C200 EARTHWORKS - STAGE 1.DWG



C300-1-1

STAGE 1

C300-1-2

OLD NORTH ROAD

STAGE 2

STAGE 5

STAGE 4

STAGE 3

STAGE 8

STAGE 7

STAGE 6

STAGE 10

STAGE 11

STAGE 12

STAGE 13

STAGE 14

FORESTRY ROAD

FORESTRY ROAD EXTENSION

PROPOSED
RETIREMENT
VILLAGE

10. PRAM CROSSINGS ARE TO BE FLUSH TO THE CHANNEL WITH NO LIP.
11. ALL KERB AND CHANNEL TO HAVE SAW CUTS AT MAX. 3M CENTRES. ALL SAW CUTS TO COINCIDE WITH FOOTPATH JOINTS.
12. ALL SIGNAGE AND PAVEMENT MARKINGS TO BE IN ACCORDANCE WITH NZTA MOTSAM STANDARDS AND THE ATCOP TDM.
13. ALL STREET NAME SIGNS SHALL FOLLOW ATCOP GUIDELINES IN TERMS OF LAYOUT, CLEARANCES, AND CONSTRUCTION DETAILS.
14. ALL LINE MARKINGS TO BE REFLECTORISED IN ACCORDANCE WITH MOTSAM STANDARDS.
15. THE MINIMUM VERTICAL AND LATERAL CLEARANCES FOR SIGNAGE SHALL BE IN ACCORDANCE WITH MOTSAM STANDARDS.
16. STREET LIGHTING SHALL BE DESIGNED IN ACCORDANCE WITH ALL APPLICABLE NEW ZEALAND STANDARDS INCLUDING BUT NOT RESTRICTED TO THE CURRENT VERSION OF AS/NZS 1158 LIGHTING FOR ROADS AND PUBLIC SPACES SERIES OF STANDARDS.
17. ALL NEW, MODIFIED OR UPGRADED PRAM CROSSINGS MUST BE IN ACCORDANCE WITH RTS 14 GUIDELINES FOR FACILITIES FOR BLIND AND VISION-IMPAIRED PEDESTRIANS AND NZS/AS 1428.4 AND MUST COMPLY WITH THE DETAILS PROVIDED IN AT'S STANDARD PLAN NO.FP006.

- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 2. CONTRACTOR IS TO AVOID USING GPS FOR SET OUT OF THE KERB LEVELS WHERE GRADIENTS ARE LESS THAN 1%.
 3. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
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 6. FINAL PAVEMENT DESIGN SUBJECT TO CBR/BEAM TESTS ON SUBGRADE MATERIAL.
 7. SETOUT SCHEDULE WITH COORDINATES OF CHAINAGE POINTS ALONG ROAD CENTRELINE TO BE SUPPLIED TO THE CONTRACTOR PRIOR TO CONSTRUCTION.
 8. REFER TO LONG SECTION FOR FINISHED CENTRELINE LEVELS. REFER TO TYPICAL CROSS SECTIONS TO OBTAIN LEVELS FOR OTHER LOCATIONS.
 9. ALL DUCTS SHALL HAVE LOCATIONS MARKED ON KERB LINES IN ACCORDANCE WITH SPECIFICATION.

- LEGEND:
- EX BDY
 - PR BDY
 - PR EXTENT WORK
 - PR ROAD CENTRELINE
 - PR PASSING BAY
 - PR VEHICLE CROSSING
 - PR BUILDING PLATFORM AREA
 - PR CARRIAGEWAY
 - PR SWALE
 - PR BERM
 - BOLLARD LIGHT
 - STAGE BOUNDARY
 - EXISTING STREAMS
 - 10m STREAM SETBACK
 - RIPARIAN YARD
 - 20m SETBACK
 - WETLAND AREA
 - 100m SETBACK

B	S67	HN	09/2025
A	RESOURCE CONSENT	MA	03/2025
Rev	Description	By	Date
		By	Date
Survey	LANDPRO		03/2023
Design	KH		03/2025
Drawn	MA		03/2025
Checked	RW/KH		03/2025



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

Title
**PROPOSED
ROADING
OVERVIEW - STAGE 1**

Project no.	147007
Scale	1:10,000 @ A3
Cad file	147007-M-C300 STAGE 1 - 5 ROADING.DWG
Drawing no.	C300-1-0
Rev	B

RESOURCE CONSENT



PROP CULVERT 1-1 TO BE FORMED AT THE SAME TIME AS JOAL CONSTRUCTION. REFER TO C484 FROM PROJECT NUMBER 147007 AND FLOOD ASSESSMENT REPORT FOR MORE DETAIL

10. PRAM CROSSINGS ARE TO BE FLUSH TO THE CHANNEL WITH NO LIP.
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 - 20m SETBACK
 - WETLAND AREA
 - 100m SETBACK

B	S67	HN	09/2025
A	RESOURCE CONSENT	MA	03/2025
Rev	Description	By	Date
Survey	LANDPRO	03/2023	
Design	KH	03/2025	
Drawn	MA	03/2025	
Checked	RW/KH	03/2025	

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

Title
**PROPOSED
ROADING
PLAN - STAGE 1**

Project no.	147007
Scale	1:1500 @ A3
Cad file	147007-M-C300 STAGE 1 - 5 ROADING.DWG
Drawing no.	C300-1-1
Rev	B

EXISTING NATURAL WETLAND

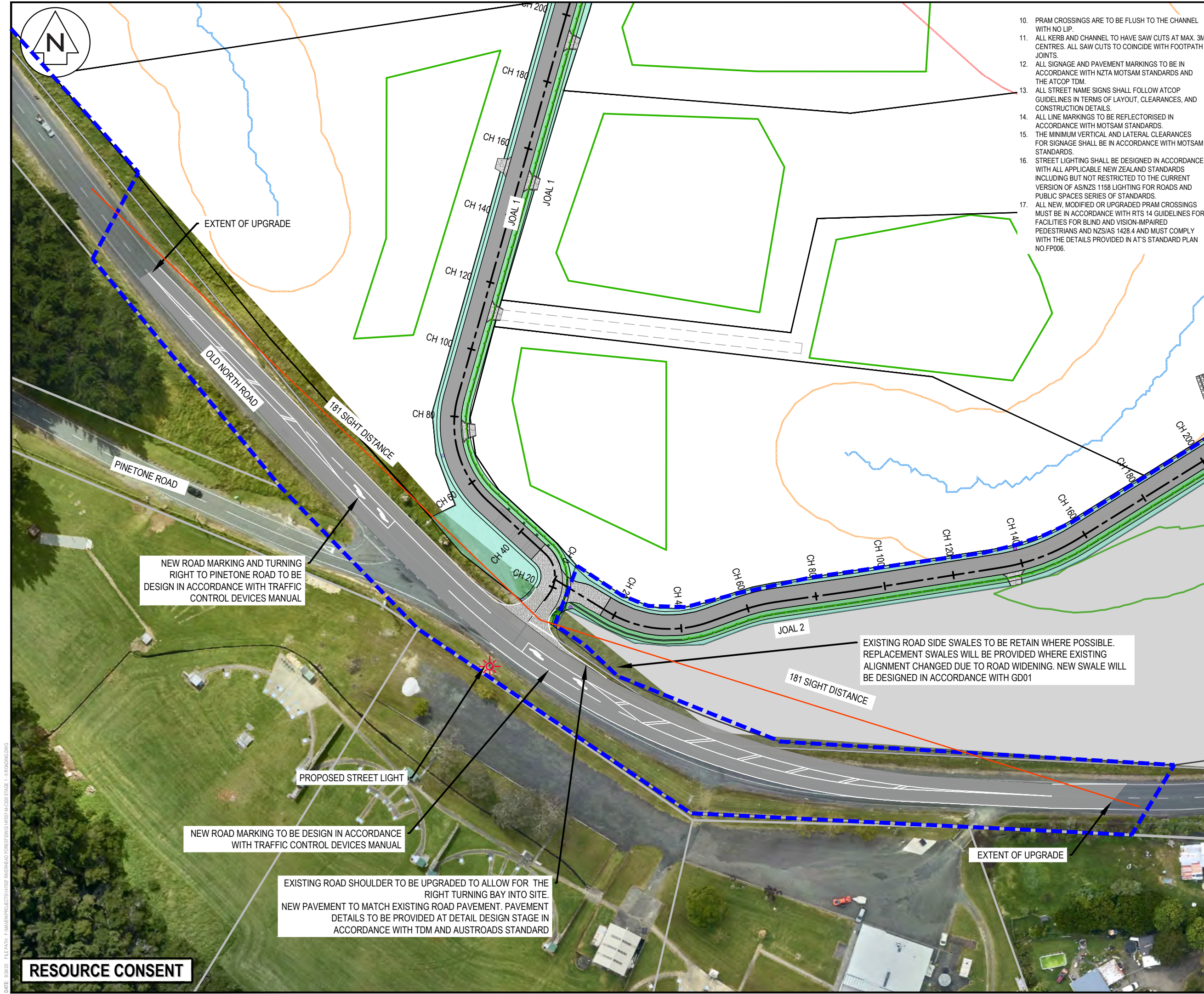
INDICATIVE PRIVATE DRIVEWAY (SHOWN AS DASH). THESE DRIVEWAY WILL BE FORMED AT FUTURE BUILDING CONSENT STAGE FOR THIS LOT. PASSING BAY TO BE PROVIDED AS PER E27 IF REQUIRED.

PRIVATE DRIVEWAY TO BE FORMED AT BUILDING CONSENT STAGE. PASSING BAY TO BE PROVIDED AS PER E27 IF REQUIRED

OLD NORTH ROAD

PINETONE ROAD

RESOURCE CONSENT



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B	S67	HN	09/2025
A	RESOURCE CONSENT	MA	03/2025
Rev	Description	By	Date
		By	Date
Survey	LANDPRO		03/2023
Design	KH		03/2025
Drawn	MA		03/2025
Checked	RW/KH		03/2025

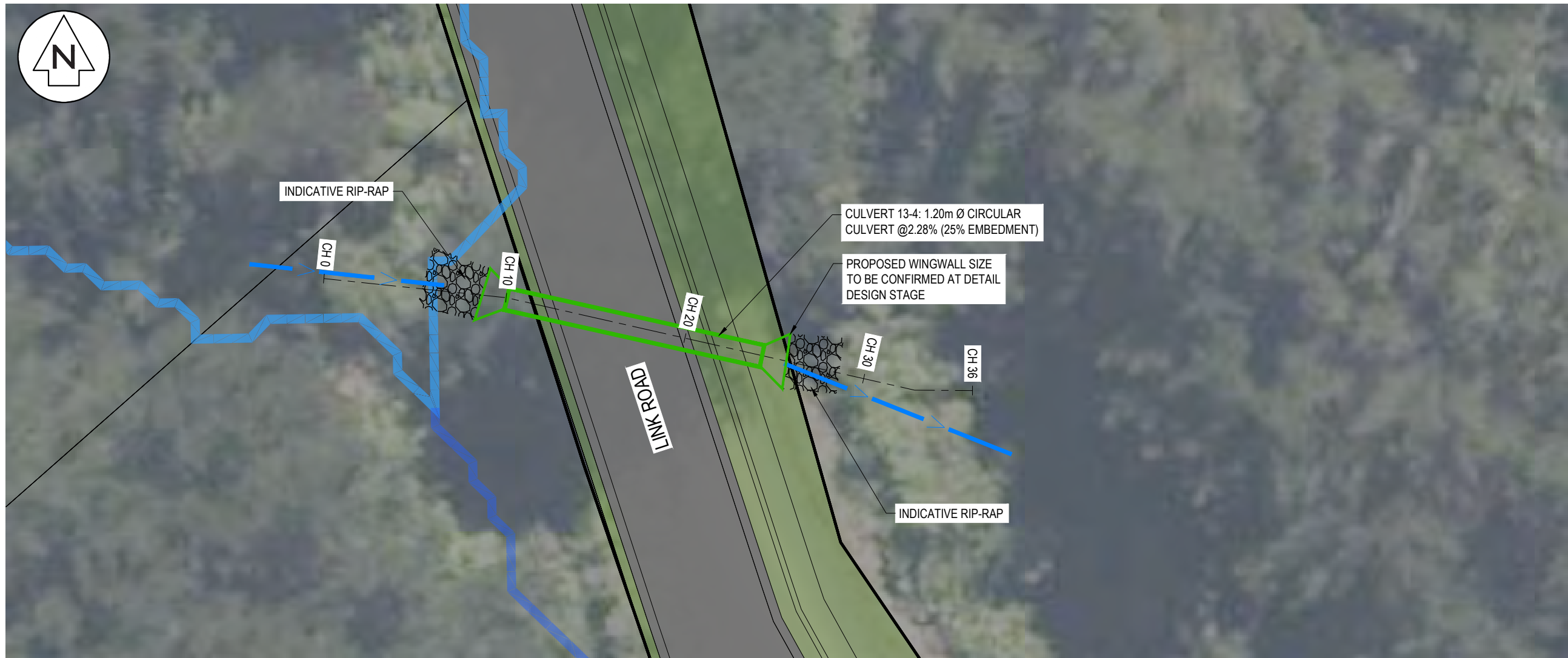
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Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

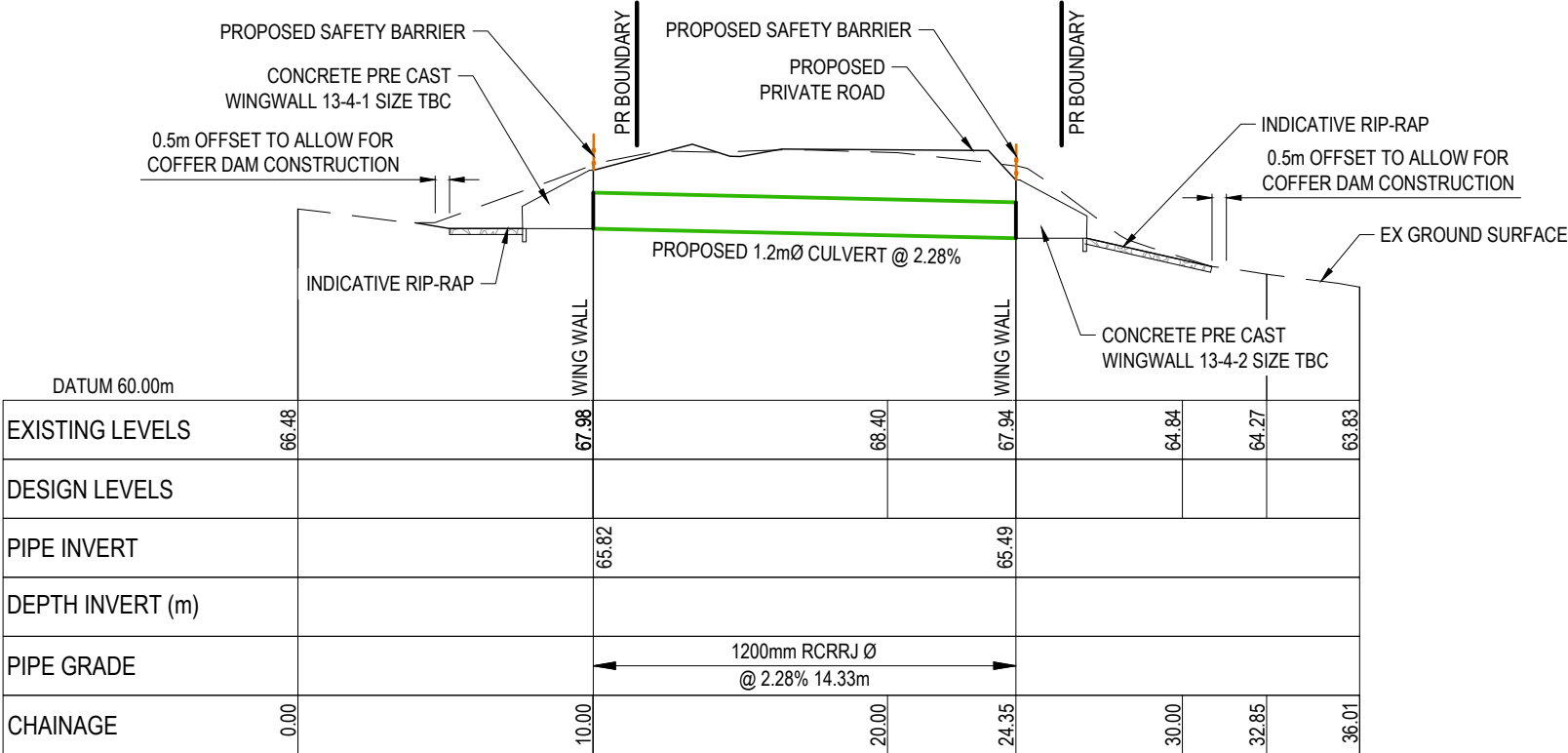
Title
**PROPOSED
ROADING
PLAN - STAGE 1**

Project no.	147007
Scale	1:1000 @ A3
Cad file	147007-M-C300 STAGE 1 - 5 ROADING.DWG
Drawing no.	C300-1-2
Rev	B

RESOURCE CONSENT



CULVERT 13-4 PLAN VIEW
SCALE: 1:250 @ A3



CULVERT 13-4 LONG SECTION
SCALE: HORI 1:1000 VERT 1:1000

- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 2. COORDINATES IN TERMS OF NZ GEODETIC DATUM MT EDEN 2000. LEVELS IN TERMS OF THE AUCKLAND VERTICAL DATUM 2016.
 3. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
 4. PIPE BEDDING: 0 - 10% GRANULAR BEDDING, 10 - 20% WEAK CONCRETE BEDDING, GREATER THAN 20% WEAK CONCRETE BEDDING (7MPa PLUS ANTI SCOUR BLOCKS AT 6m CRS).
 5. EACH CONNECTION SHALL BE MARKED BY A 50MMX50MM TREATED PINE STAKE EXTENDING 600MM ABOVE GROUND LEVEL WITH THE TOP PAINTED. THIS MARKER POST SHALL BE PLACED ALONGSIDE A TIMBER MARKER INSTALLED AT THE TIME OF PIPELAYING AND EXTENDING FROM THE CONNECTION TO 150mm BELOW FINISHED GROUND LEVEL. CONNECTIONS SHALL BE ACCURATELY INDICATED ON "AS BUILT" PLANS.
 6. APPROVED HARDFILL IS TO BE USED IN BACKFILLING OF ALL ROAD CROSSINGS AND VEHICLE CROSSINGS TO COUNCIL STANDARDS.
 7. HEAVY DUTY MANHOLE LIDS AND FRAMES TO BE USED IN TRAFFICKED AREAS.
 8. ALL MANHOLES ARE TO BE 1050mmØ PRECAST CONCRETE UNLESS SHOWN OTHERWISE.
 9. ALL CATCHPIT LEADS SHALL HAVE MIN COVER 1.0m.
 10. ALL LINES TO BE ABANDONED SHALL BE SEALED AT EACH END. TIMING OF ALL SEALING TO BE COORDINATED WITH COUNCIL STAFF.
 11. ALL LOT CONNECTION TO BE MIN 100mm uPVC SN16 UNLESS SHOWN OTHERWISE.

LEGEND

EX BDY	PR BDY	PR OLFP	EX STREAMS	EX CULVERT	EX WETLAND	PR BERM	PR ROAD
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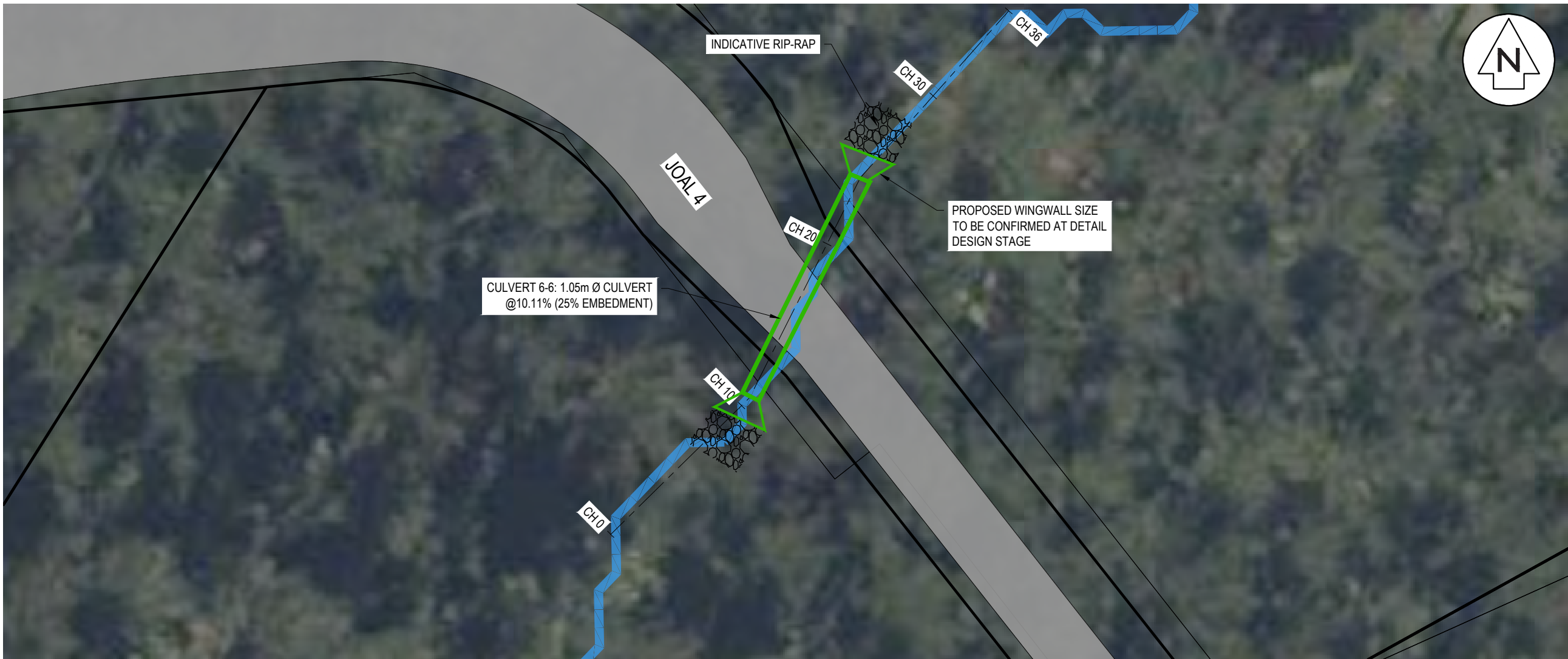
B	S67	SP	09/2025
A	RESOURCE CONSENT	EZ	02/2025
Rev	Description	By	Date
		By	Date
Survey			
Design	EZ		03/2025
Drawn	EZ		03/2025
Checked	RW/KH		03/2025



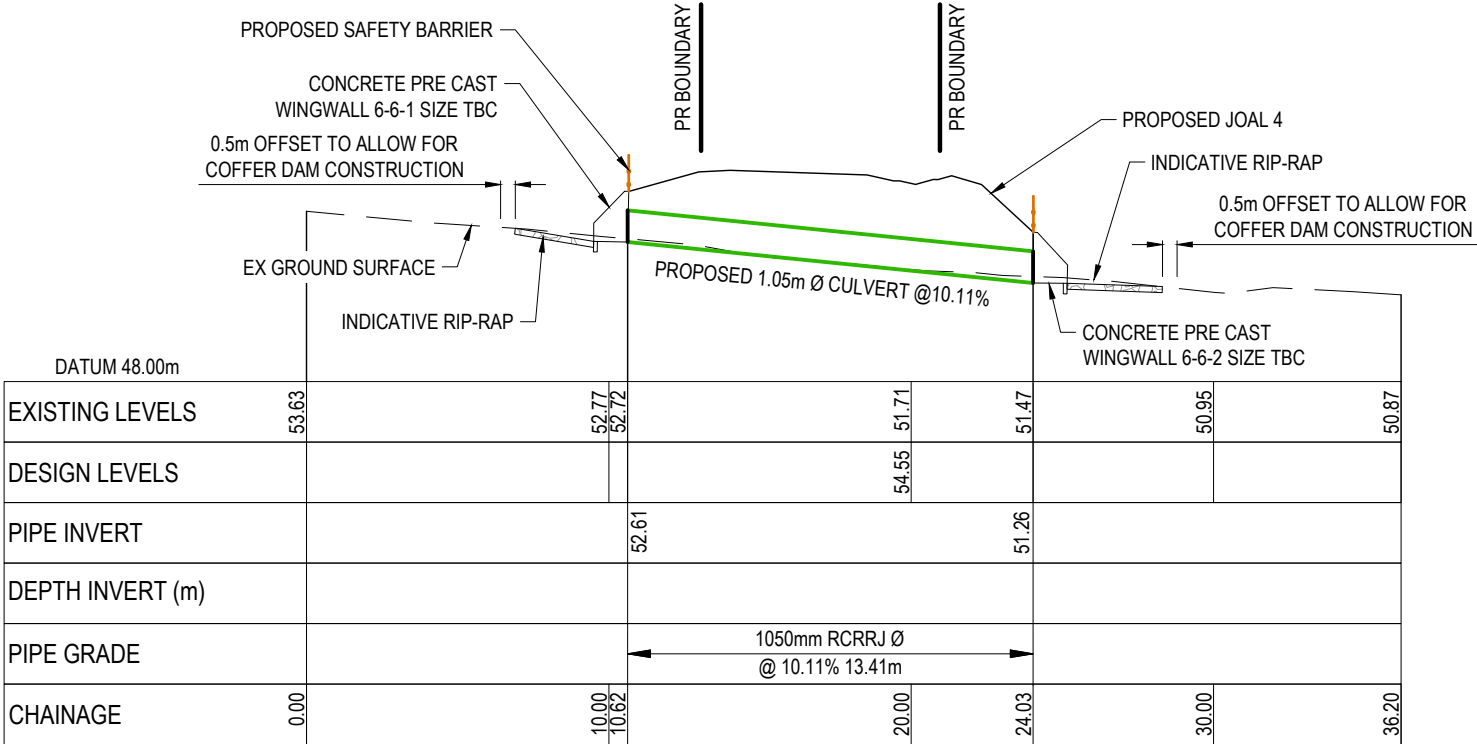
Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**CULVERT 13-4
PLAN AND LONGSECTION**

Project no.	147007		
Scale	1:250 @ A3		
Cad file	147007-M-C481 TYPICAL CULVERT CROSS SECTION.D		
Drawing no.	C481	Rev	B



CULVERT 6-6 PLAN VIEW
SCALE: 1:250 @ A3



CULVERT 6-6 LONG SECTION
SCALE: HORI 1:1000 VERT 1:1000

- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 2. COORDINATES IN TERMS OF NZ GEODETIC DATUM MT EDEN 2000. LEVELS IN TERMS OF THE AUCKLAND VERTICAL DATUM 2016.
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 5. EACH CONNECTION SHALL BE MARKED BY A 50MMX50MM TREATED PINE STAKE EXTENDING 600MM ABOVE GROUND LEVEL WITH THE TOP PAINTED. THIS MARKER POST SHALL BE PLACED ALONGSIDE A TIMBER MARKER INSTALLED AT THE TIME OF PIPELAYING AND EXTENDING FROM THE CONNECTION TO 150mm BELOW FINISHED GROUND LEVEL. CONNECTIONS SHALL BE ACCURATELY INDICATED ON "AS BUILT" PLANS.
 6. APPROVED HARDFILL IS TO BE USED IN BACKFILLING OF ALL ROAD CROSSINGS AND VEHICLE CROSSINGS TO COUNCIL STANDARDS.
 7. HEAVY DUTY MANHOLE LIDS AND FRAMES TO BE USED IN TRAFFICKED AREAS.
 8. ALL MANHOLES ARE TO BE 1050mmØ PRECAST CONCRETE UNLESS SHOWN OTHERWISE.
 9. ALL CATCHPIT LEADS SHALL HAVE MIN COVER 1.0m.
 10. ALL LINES TO BE ABANDONED SHALL BE SEALED AT EACH END. TIMING OF ALL SEALING TO BE COORDINATED WITH COUNCIL STAFF.
 11. ALL LOT CONNECTION TO BE MIN 100mm uPVC SN16 UNLESS SHOWN OTHERWISE.

LEGEND

	EX BDY
	PR BDY
	PR OLFP
	EX STREAMS
	EX CULVERT
	EX WETLAND
	PR BERM
	PR ROAD

B	S67	SP	09/2025
A	RESOURCE CONSENT	EZ	02/2025
Rev	Description	By	Date
		By	Date
Survey			
Design	EZ		03/2025
Drawn	EZ		03/2025
Checked	RW/KH		03/2025

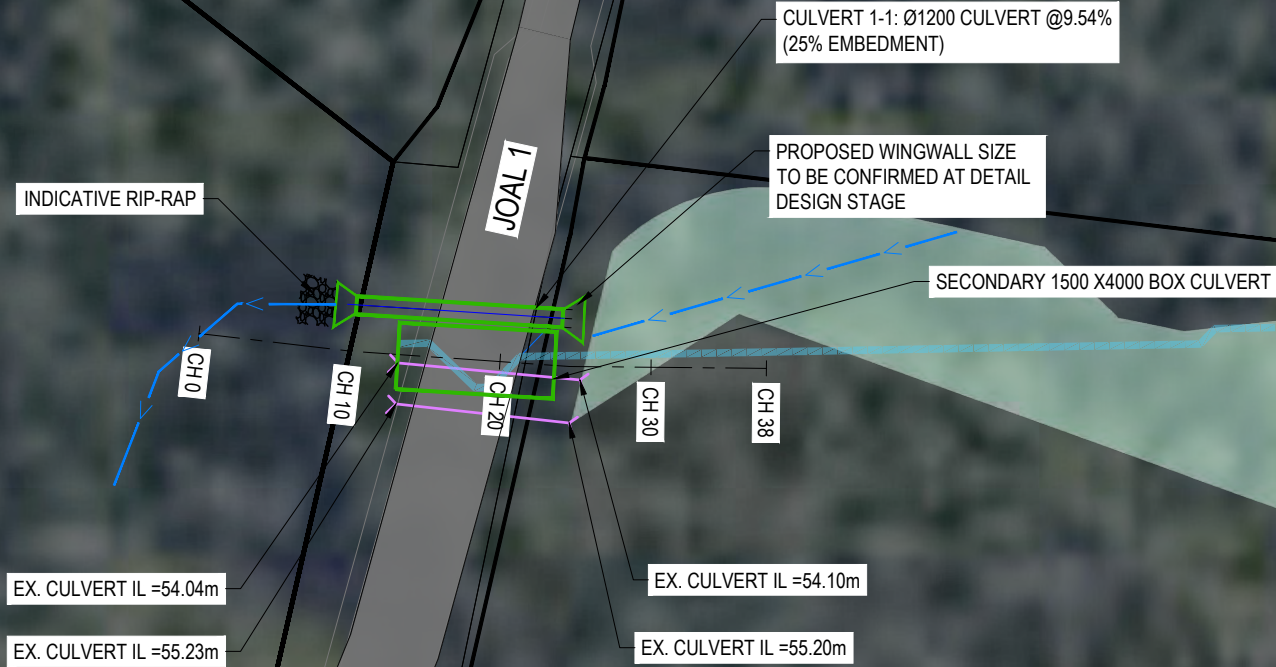


Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**CULVERT 6-6
PLAN AND LONGSECTION**

Project no.	147007		
Scale	1:250 @ A3		
Cad file	147007-M-C481 TYPICAL CULVERT CROSS SECTION.D		
Drawing no.	C483	Rev	B

RESOURCE CONSENT

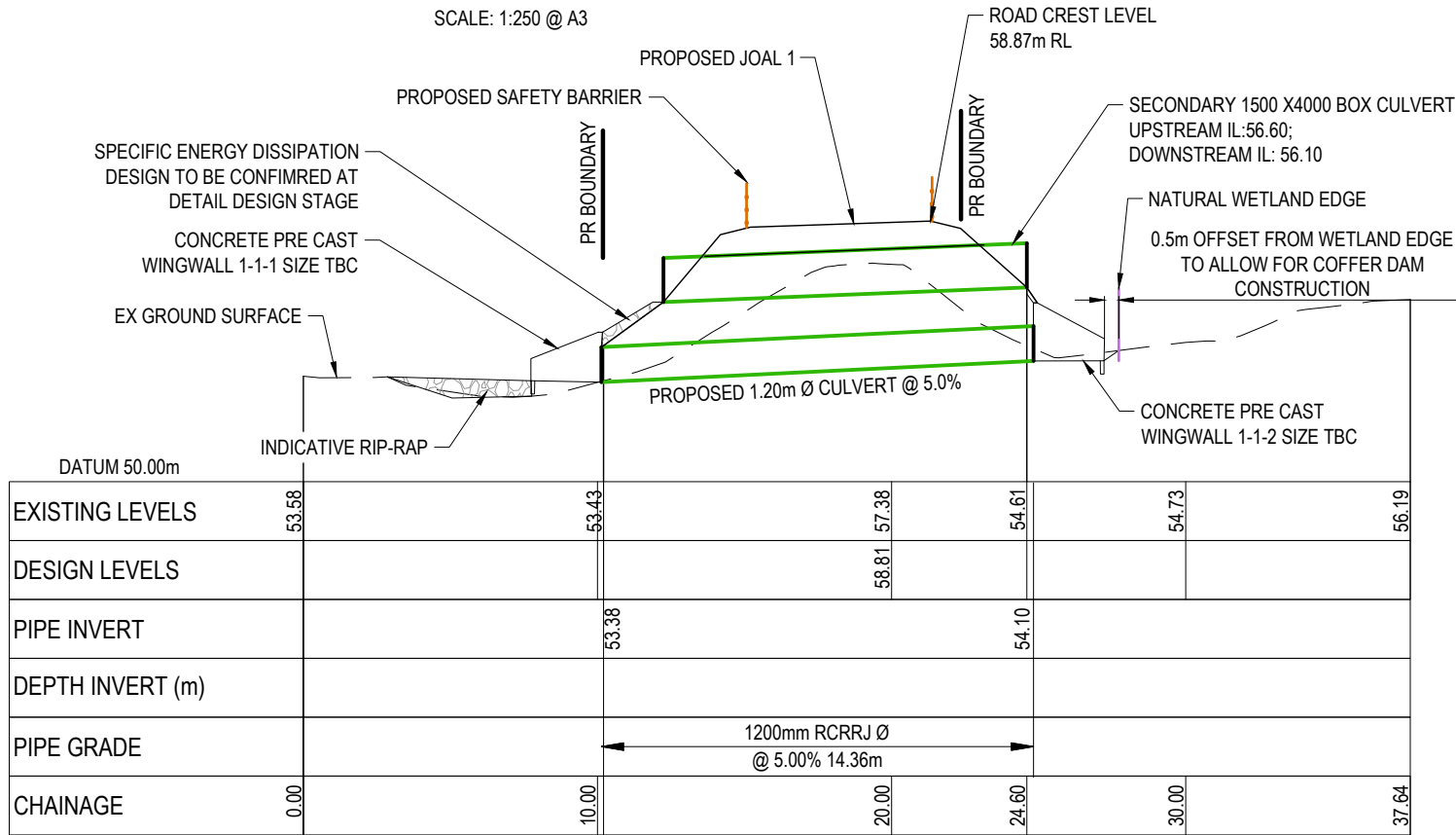


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 11. ALL LOT CONNECTION TO BE MIN 100mm uPVC SN16 UNLESS SHOWN OTHERWISE.

LEGEND

	EX BDY
	PR BDY
	PR OLFP
	EX STREAMS
	EX CULVERT
	EX WETLAND
	PR BERM
	PR ROAD

CULVERT 1-1 PLAN VIEW
SCALE: 1:250 @ A3



CULVERT 1-1 LONG SECTION
SCALE: HORI 1:1000 VERT 1:1000

RESOURCE CONSENT

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Project
**DEVELOPMENT OF
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Title
**CULVERT 1-1
PLAN AND LONGSECTION**

Project no.	147007
Scale	1:250 @ A3
Cad file	147007-M-C481 TYPICAL CULVERT CROSS SECTION.DWG
Drawing no.	C484
Rev	C



LOT 12

LOT 24

LOT 27

LOT 26

LOT 25

LOT 47

LOT 48

LOT 10

LOT 11

LOT 4

FLOOD VOLUME (WATER STORAGE) = 17,067 m³
AT CULVERT 1-1 UPSTREAM WITH 100-YEAR FLOOD
LEVEL OF 58.87m RL (ROAD CREST LEVEL)

CULVERT 1-1: Ø1200 CULVERT @9.54%
(25% EMBEDMENT)

SECONDARY 1500 X4000 BOX CULVERT

JOAL 1

RESOURCE CONSENT

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 2. COORDINATES IN TERMS OF NZ GEODETIC DATUM MT EDEN 2000. LEVELS IN TERMS OF THE AUCKLAND VERTICAL DATUM 2016.
 3. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
 4. PIPE BEDDING: 0 - 10% GRANULAR BEDDING, 10 - 20% WEAK CONCRETE BEDDING. GREATER THAN 20% WEAK CONCRETE BEDDING (7MPa PLUS ANTI SCOUR BLOCKS AT 6m CRS).
 5. EACH CONNECTION SHALL BE MARKED BY A 50MMX50MM TREATED PINE STAKE EXTENDING 600MM ABOVE GROUND LEVEL WITH THE TOP PAINTED. THIS MARKER POST SHALL BE PLACED ALONGSIDE A TIMBER MARKER INSTALLED AT THE TIME OF PIPELAYING AND EXTENDING FROM THE CONNECTION TO 150mm BELOW FINISHED GROUND LEVEL. CONNECTIONS SHALL BE ACCURATELY INDICATED ON "AS BUILT" PLANS.
 6. APPROVED HARDFILL IS TO BE USED IN BACKFILLING OF ALL ROAD CROSSINGS AND VEHICLE CROSSINGS TO COUNCIL STANDARDS.
 7. HEAVY DUTY MANHOLE LIDS AND FRAMES TO BE USED IN TRAFFICKED AREAS.
 8. ALL MANHOLES ARE TO BE 1050mmØ PRECAST CONCRETE UNLESS SHOWN OTHERWISE.
 9. ALL CATCHPIT LEADS SHALL HAVE MIN COVER 1.0m.
 10. ALL LINES TO BE ABANDONED SHALL BE SEALED AT EACH END. TIMING OF ALL SEALING TO BE COORDINATED WITH COUNCIL STAFF.
 11. ALL LOT CONNECTION TO BE MIN 100mm uPVC SN16 UNLESS SHOWN OTHERWISE.

LEGEND	
	EX BDY
	PR BDY
	PR OLFP
	EX STREAMS
	EX CULVERT
	EX WETLAND
	PR BERM
	PR ROAD
	100-YEAR FLOOD EXTENT AT CULVERT 7 UPSTREAM

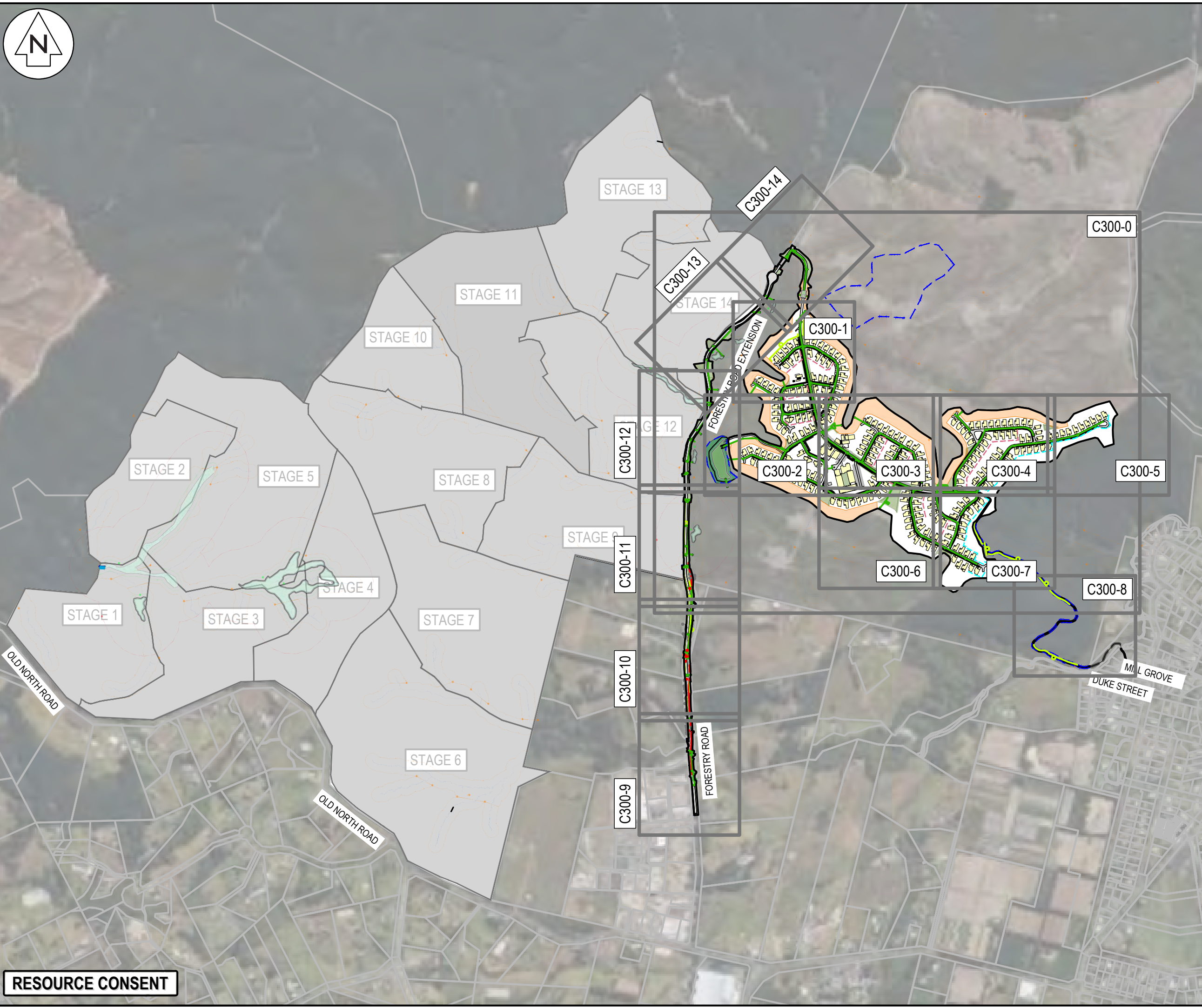
A	S67	AYC	09/2025
Rev	Description	By	Date
Survey			
Design	EZ		03/2025
Drawn	EZ		03/2025
Checked	RW/KH		03/2025

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

Title
**CULVERT 1-1
100 YR FLOOD STORAGE
PLAN**

Project no.	147007
Scale	1:1000 @ A3
Cad file	147007-M-C481 TYPICAL CULVERT CROSS SECTION.DWG
Drawing no.	C485
Rev	A



- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 2. FINAL PAVEMENT DESIGN SUBJECT TO CBR/BEM TESTS ON SUBGRADE MATERIAL.
 3. SETOUT SCHEDULE WITH COORDINATES OF CHAINAGE POINTS ALONG ROAD CENTRELINE TO BE SUPPLIED TO THE CONTRACTOR PRIOR TO CONSTRUCTION.
 4. ALL DUCTS SHALL HAVE LOCATIONS MARKED ON KERB LINES IN ACCORDANCE WITH SPECIFICATION.
 5. PRAM CROSSINGS ARE TO BE FLUSH TO THE CHANNEL WITH NO LIP.
 6. ALL KERB AND CHANNEL TO HAVE SAW CUTS AT MAX 3m CENTRES. ALL SAW CUTS TO COINCIDE WITH FOOTPATH JOINTS.
 7. ALL STREET NAME SIGNS SHALL FOLLOW ATCOP GUIDELINES IN TERMS OF LAYOUT, CLEARANCES, AND CONSTRUCTION DETAILS.
 8. THE MINIMUM VERTICAL AND LATERAL CLEARANCES FOR SIGNAGE SHALL BE IN ACCORDANCE WITH MOTSAM STANDARDS.
 9. STREET LIGHTING SHALL BE DESIGNED IN ACCORDANCE WITH ALL APPLICABLE NEW ZEALAND STANDARDS INCLUDING BUT NOT RESTRICTED TO THE CURRENT VERSION OF AS/NZS 1158 LIGHTING FOR ROADS AND PUBLIC SPACES SERIES OF STANDARDS.
 10. ALL NEW, MODIFIED OR UPGRADED PRAM CROSSINGS MUST BE IN ACCORDANCE WITH RTS 14 GUIDELINES FOR FACILITIES FOR BLIND AND VISION-IMPAIRED PEDESTRIANS AND NZS/AS 1428.4 AND MUST COMPLY WITH THE DETAILS PROVIDED IN AT'S STANDARD PLAN No.FP006.

LEGEND

	EXTENT OF WORK
	EX BDY
	PR BDY
	PR SWCP DOUBLE/SINGLE
	PR CARRIAGEWAY
	PR BERM/LANDSCAPE
	PR RET. WALL > 1.0m
	PR LANDSCAPE RET. WALL < 1.0m
	PR IN-GROUND PALISADE WALL
	PR ENG. EARTH WALL
	PR SW POND
	PR BUILDING
	EX TREE/ EX TREE TO BE REMOVED

B	S67	HN	09/2025
A	RESOURCE CONSENT	SP	03/2025
Rev	Description	By	Date
	By	Date	
Survey	LIDAR	03/2022	
Design	IZ	03/2025	
Drawn	SP	03/2025	
Checked	RW/KH	03/2025	



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Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOO PUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**RETIREMENT VILLAGE
PROPOSED ROADING
OVERVIEW PLAN**

Project no.	147016		
Scale	1:10,000 @ A3		
Cad file	147016-RV-C300 ROADING.DWG		
Drawing no.	C300	Rev	B

RESOURCE CONSENT



SAWMILL ROAD

63 FORESTRY ROAD
LOT 1 DP 329465,
LOT 3 DP 64224

EX ROAD CENTRELINE

EX VEHICLE CROSSING TO BE
UPGRADED TO TIE INTO NEW
ROAD ALIGNMENT

RETAINED HEIGHT

EX TREES

EX TREE TO BE REMOVED

EX VEHICLE CROSSING TO BE
UPGRADED TO TIE INTO NEW
ROAD ALIGNMENT

EX POWER POLE TO BE
UNDER GROUND AS
REQUIRED

EX TREE DRIP LINE

50 FORESTRY ROAD
LOT 6 DP 60666

64 FORESTRY ROAD
LOT 7 DP 60666

44 FORESTRY ROAD
LOT 5 DP 60666

FORESTRY ROAD

PROP ROAD UPGRADE TIE INTO
EXISTING ROAD FORMATION

FORESTRY ROAD

EDGE OF PROP ROAD
EDGE OF EXISTING ROAD

EX VEHICLE CROSSING TO BE
UPGRADED TO TIE INTO NEW
ROAD ALIGNMENT

- NOTES
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LEGEND

	EXTENT OF WORK
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	PR SWCP DOUBLE/SINGLE
	PR CARRIAGEWAY
	PR BERM/LANDSCAPE
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	PR LANDSCAPE RET. WALL < 1.0m
	PR IN-GROUND PALISADE WALL
	PR ENG. EARTH WALL
	PR SW POND
	PR BUILDING
	EX TREE/ EX TREE TO BE REMOVED

B	S67	HN	09/2025
A	RESOURCE CONSENT	SP	03/2025
Rev	Description	By	Date
		By	Date
Survey	LIDAR		03/2022
Design	IZ		03/2025
Drawn	SP		03/2025
Checked	RW/KH		03/2025

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

Title
**RETIREMENT VILLAGE
FORESTRY ROAD
EXTENSION PLAN**

Project no.	147016
Scale	1:1000 @ A3
Cad file	147016-RV-C300 ROADING.DWG
Drawing no.	C300-9
Rev	B

RESOURCE CONSENT



63 FORESTRY ROAD
LOT 1 DP 329465, LOT
3 DP 64224

85 FORESTRY ROAD
LOT 2 DP 64224

93 FORESTRY ROAD
LOT 1 DP 64224

100 FORESTRY ROAD
LOT 8 DP 60666

EX ROAD CENTRELINE

EDGE OF PROPOSED ROAD

RETAINED HEIGHT

EX VEHICLE CROSSING TO BE
UPGRADED TO TIE INTO NEW
ROAD ALIGNMENT
EX TREES TO BE REMOVED

EX VEHICLE CROSSING TO BE
UPGRADED TO TIE INTO NEW
ROAD ALIGNMENT

EX TREES

EX TREES

EX TREES

EDGE OF EXISTING ROAD

PROP RETAINING WALL

EX TREE TO BE REMOVED

EX EDGE OF METAL ROAD

EX POWER POLES
TO BE
UNDERGROUNDED
AS REQUIRED

EX POWER POLE TO BE
UNDER GROUNDED AS
REQUIRED

EX POWER POLE TO BE
UNDER GROUNDED AS
REQUIRED

EX POWER POLE TO BE
UNDER GROUNDED AS
REQUIRED

EX VEHICLE CROSSING TO BE
UPGRADED TO TIE INTO NEW
ROAD ALIGNMENT

NOTES

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	PR ENG. EARTH WALL
	PR SW POND
	PR BUILDING
	EX TREE/ EX TREE TO BE REMOVED

B	S67	HN	09/2025
A	RESOURCE CONSENT	SP	03/2025
Rev	Description	By	Date
		By	Date
Survey	LIDAR		03/2022
Design	IZ		03/2025
Drawn	SP		03/2025
Checked	RW/KH		03/2025

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

Title
**RETIREMENT VILLAGE
FORESTRY ROAD
EXTENSION PLAN**

Project no.	147016
Scale	1:1000 @ A3
Cad file	147016-RV-C300 ROADING.DWG
Drawing no.	C300-10
Rev	B

RESOURCE CONSENT



EXTENT OF EXISTING LEGAL ROAD AND TIE INTO PROPOSED FORESTRY ROAD EXTENSION TO BE VESTED AS PUBLIC

RETAINED HEIGHT

FORESTRY ROAD

FORESTRY ROAD EXTENSION

EX ROAD CENTRELINE

EX TREE DRIP LINE

EX TREE TO BE REMOVED

EX EDGE OF EX ROAD

EX TREES

NOTES

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LEGEND

- EXTENT OF WORK
- EX BDY
- PR BDY
- PR SWCP DOUBLE/SINGLE
- PR CARRIAGEWAY
- PR BERM/LANDSCAPE
- PR RET. WALL > 1.0m
- PR LANDSCAPE RET. WALL < 1.0m
- PR IN-GROUND PALISADE WALL
- PR ENG. EARTH WALL
- PR SW POND
- PR BUILDING
- EX TREE/ EX TREE TO BE REMOVED

B	S67	HN	09/2025
A	RESOURCE CONSENT	SP	03/2025
Rev	Description	By	Date
		By	Date
Survey	LIDAR		03/2022
Design	IZ		03/2025
Drawn	SP		03/2025
Checked	RW/KH		03/2025



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

Title
**RETIREMENT VILLAGE
FORESTRY ROAD
EXTENSION PLAN**

Project no.	147016
Scale	1:1000 @ A3
Cad file	147016-RV-C300 ROADING.DWG
Drawing no.	C300-11
Rev	B

RESOURCE CONSENT



- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
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B	S67	HN	09/2025
A	RESOURCE CONSENT	SP	03/2025
Rev	Description	By	Date
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Survey	LIDAR		03/2022
Design	IZ		03/2025
Drawn	SP		03/2025
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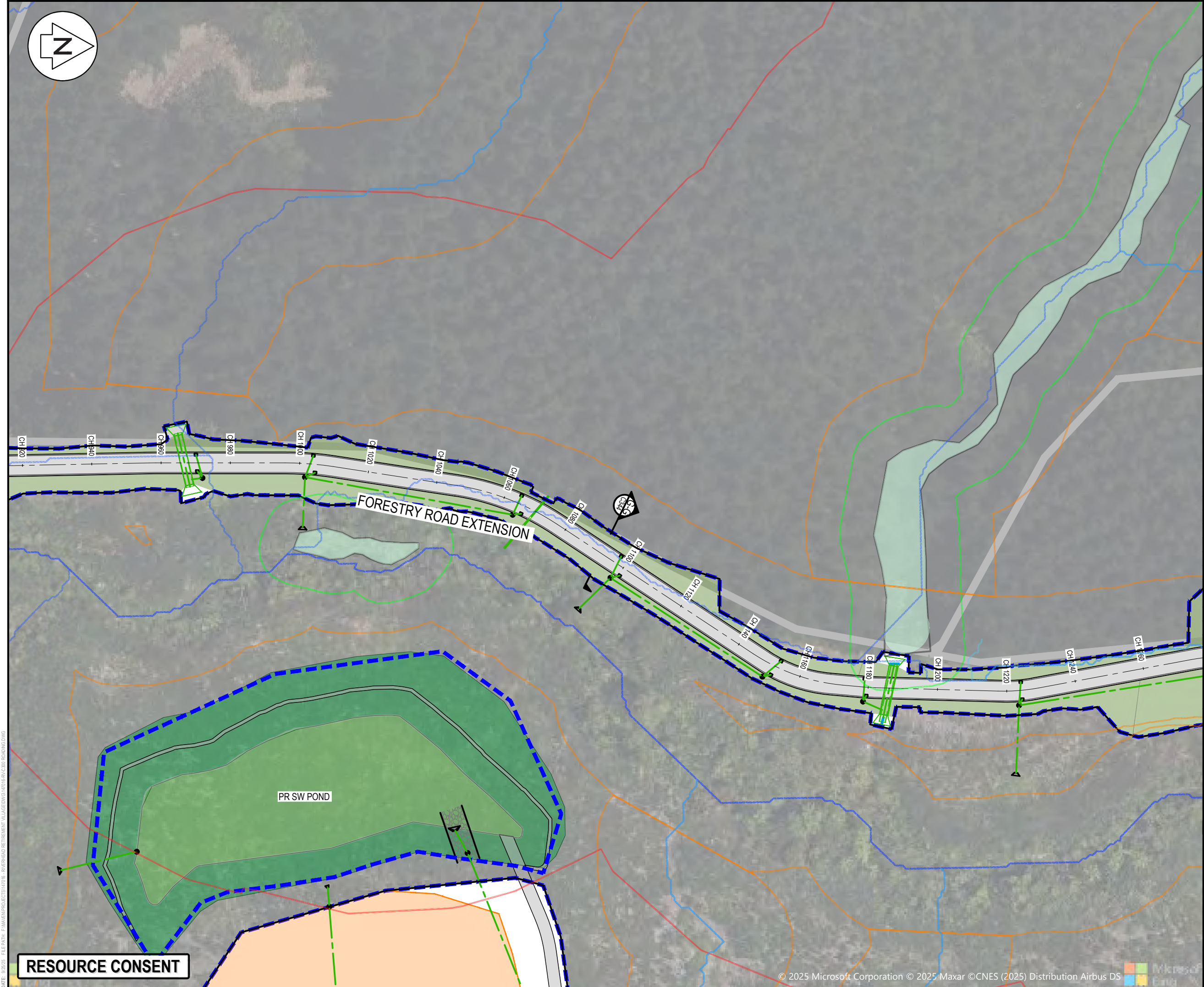


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Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**RETIREMENT VILLAGE
FORESTRY ROAD
EXTENSION PLAN**

Project no.	147016
Scale	1:1000 @ A3
Cad file	147016-RV-C300 ROADING.DWG
Drawing no.	C300-12
Rev	B



RESOURCE CONSENT

DATE: 9/25/25 FILE PATH: F:\MVEN\PROJECTS\147016 - RIVERHEAD RETIREMENT VILLAGE\DWG\147016-RV-C300 ROADING.DWG



- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 2. FINAL PAVEMENT DESIGN SUBJECT TO CBR/B EAM TESTS ON SUBGRADE MATERIAL.
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LEGEND

	EXTENT OF WORK
	EX BDY
	PR BDY
	PR SWCP DOUBLE/SINGLE
	PR CARRIAGEWAY
	PR BERM/LANDSCAPE
	PR RET. WALL > 1.0m
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	PR IN-GROUND PALISADE WALL
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	EX TREE/ EX TREE TO BE REMOVED

B	S67	HN	09/2025
A	RESOURCE CONSENT	SP	03/2025
Rev	Description	By	Date
		By	Date
Survey	LIDAR		03/2022
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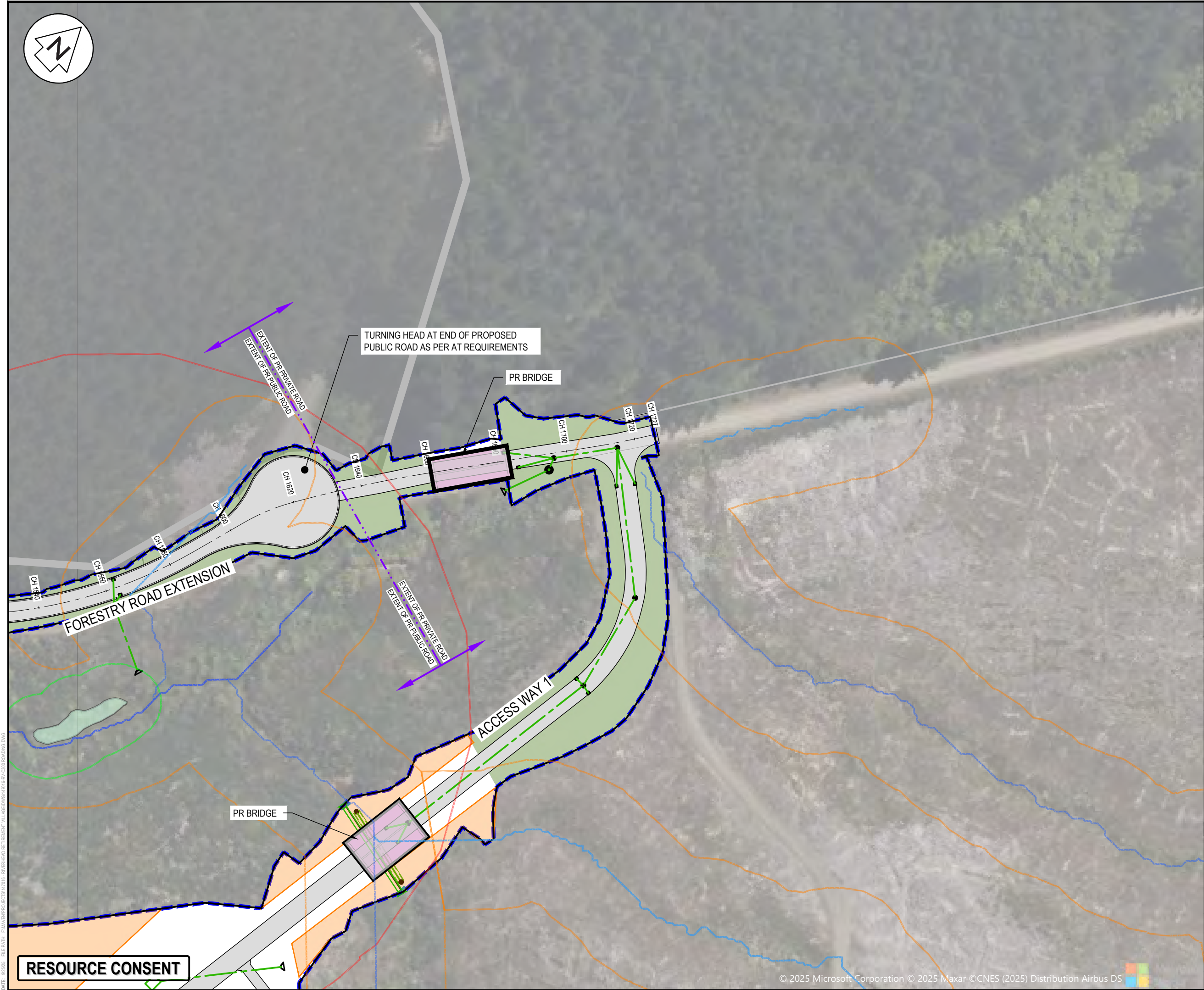
Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**RETIREMENT VILLAGE
FORESTRY ROAD
EXTENSION PLAN**

Project no.	147016		
Scale	1:1000 @ A3		
Cad file	147016-RV-C300 ROADING.DWG		
Drawing no.	C300-13	Rev	B



DATE: 9/25/25 FILE PATH: F:\Maven\PROJECTS\147016 - RIVERHEAD RETIREMENT VILLAGE\DWG\147016-RV-C300 ROADING.DWG



- NOTES
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LEGEND	
	EXTENT OF WORK
	EX BDY
	PR BDY
	PR SWCP DOUBLE/SINGLE
	PR CARRIAGEWAY
	PR BERM/LANDSCAPE
	PR RET. WALL > 1.0m
	PR LANDSCAPE RET. WALL < 1.0m
	PR IN-GROUND PALISADE WALL
	PR ENG. EARTH WALL
	PR SW POND
	PR BUILDING
	EX TREE/ EX TREE TO BE REMOVED

B	S67	HN	09/2025
A	RESOURCE CONSENT	SP	03/2025
Rev	Description	By	Date
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Survey	LIDAR		03/2022
Design	IZ		03/2025
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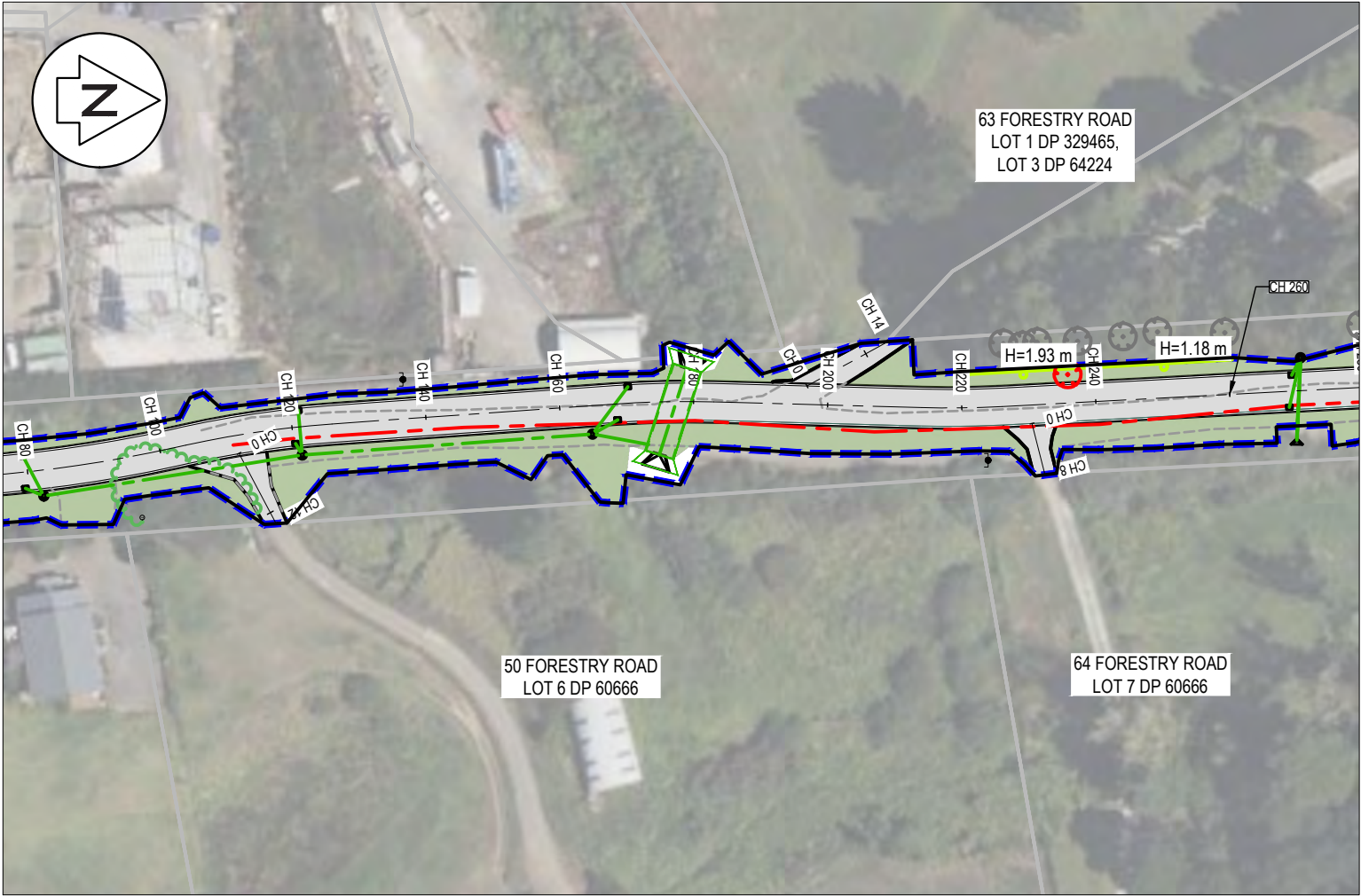


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Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**RETIREMENT VILLAGE
FORESTRY ROAD
EXTENSION PLAN**

Project no.	147016		
Scale	1:1000 @ A3		
Cad file	147016-RV-C300 ROADING.DWG		
Drawing no.	C300-14	Rev	B



- NOTES
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 9. STREET LIGHTING SHALL BE DESIGNED IN ACCORDANCE WITH ALL APPLICABLE NEW ZEALAND STANDARDS INCLUDING BUT NOT RESTRICTED TO THE CURRENT VERSION OF AS/NZS 1158 LIGHTING FOR ROADS AND PUBLIC SPACES SERIES OF STANDARDS.
 10. ALL NEW, MODIFIED OR UPGRADED PRAM CROSSINGS MUST BE IN ACCORDANCE WITH RTS 14 GUIDELINES FOR FACILITIES FOR BLIND AND VISION-IMPAIRED PEDESTRIANS AND NZS/AS 1428.4 AND MUST COMPLY WITH THE DETAILS PROVIDED IN AT'S STANDARD PLAN No.FP006.

LEGEND

---	EX GROUND LEVEL
---	PR FORESTRY ROAD LEVEL
---	PR VEHICLE CROSSING TIE IN

B	S67	HN	09/2025
A	RESOURCE CONSENT	SP	03/2025
Rev	Description	By	Date
	By	Date	
Survey	LIDAR	03/2022	
Design	IZ	03/2025	
Drawn	SP	03/2025	
Checked	RW/KH	03/2025	

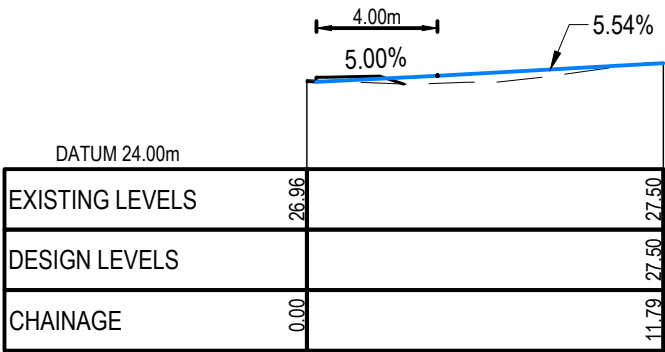


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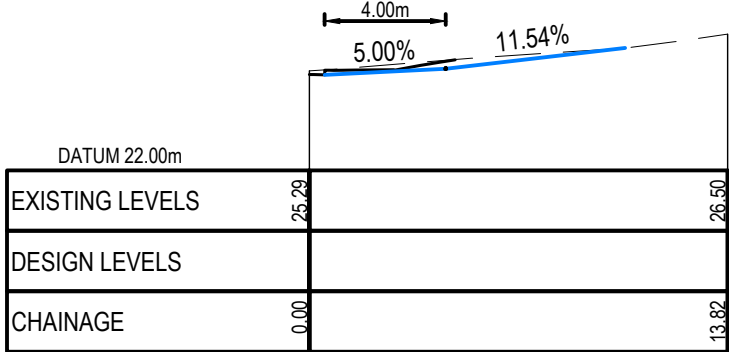
Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**RETIREMENT VILLAGE
FORESTRY ROAD
VEHICLE CROSSINGS**

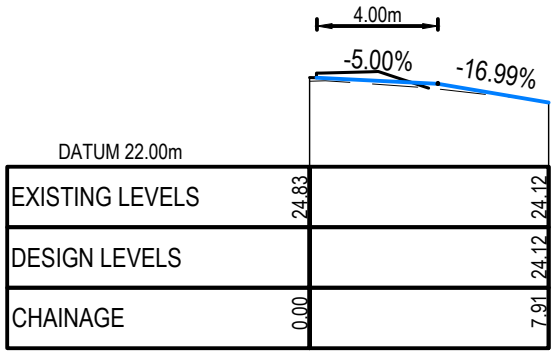
Project no.	147016		
Scale	1:1000 @ A3		
Cad file	147016-RV-C300 ROADING.DWG		
Drawing no.	C300-15	Rev	B



50 FORESTRY ROAD
SCALE: HORI 1:1000 VERT 1:1000

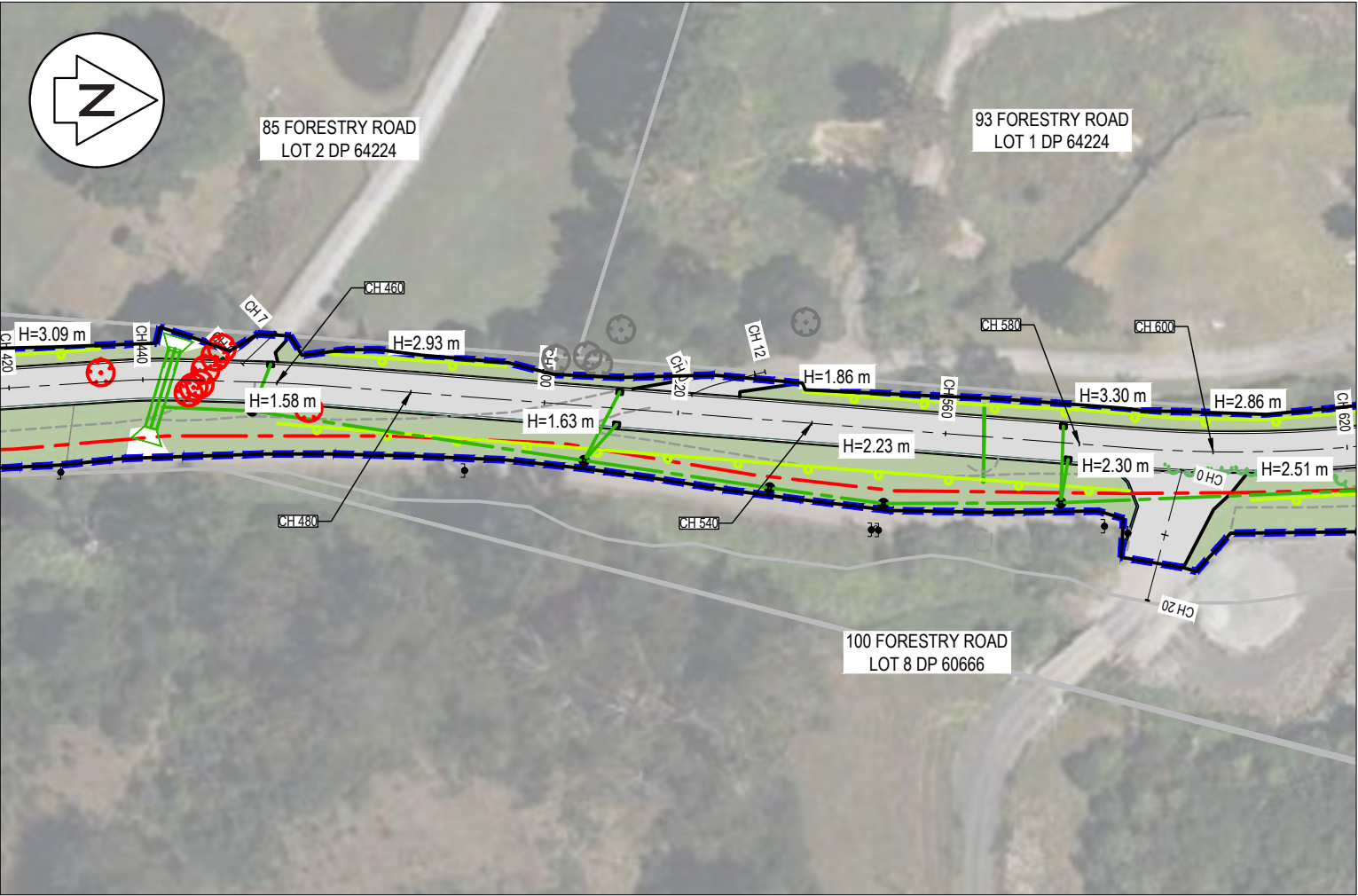


63 FORESTRY ROAD
SCALE: HORI 1:1000 VERT 1:1000



64 FORESTRY ROAD
SCALE: HORI 1:1000 VERT 1:1000

RESOURCE CONSENT



- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 2. FINAL PAVEMENT DESIGN SUBJECT TO CBR/BEAM TESTS ON SUBGRADE MATERIAL.
 3. SETOUT SCHEDULE WITH COORDINATES OF CHAINAGE POINTS ALONG ROAD CENTRELINE TO BE SUPPLIED TO THE CONTRACTOR PRIOR TO CONSTRUCTION.
 4. ALL DUCTS SHALL HAVE LOCATIONS MARKED ON KERB LINES IN ACCORDANCE WITH SPECIFICATION.
 5. PRAM CROSSINGS ARE TO BE FLUSH TO THE CHANNEL WITH NO LIP.
 6. ALL KERB AND CHANNEL TO HAVE SAW CUTS AT MAX 3m CENTRES. ALL SAW CUTS TO COINCIDE WITH FOOTPATH JOINTS.
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LEGEND

---	EX GROUND LEVEL
---	PR FORESTRY ROAD LEVEL
---	PR VEHICLE CROSSING TIE IN

B	S67	HN	09/2025
A	RESOURCE CONSENT	SP	03/2025
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		By	Date
Survey	LIDAR		03/2022
Design	IZ		03/2025
Drawn	SP		03/2025
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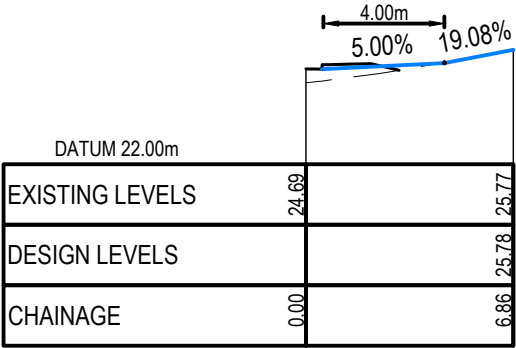


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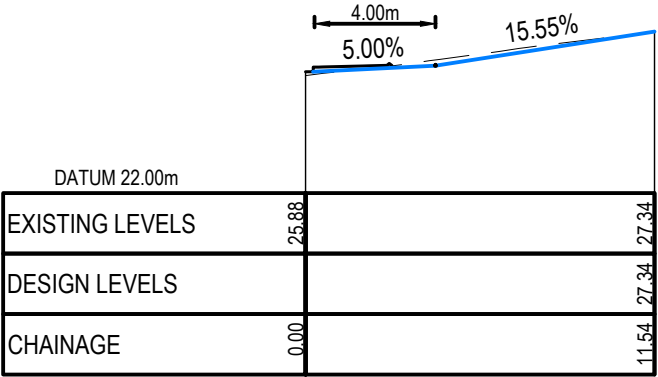
Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**RETIREMENT VILLAGE
FORESTRY ROAD
VEHICLE CROSSINGS**

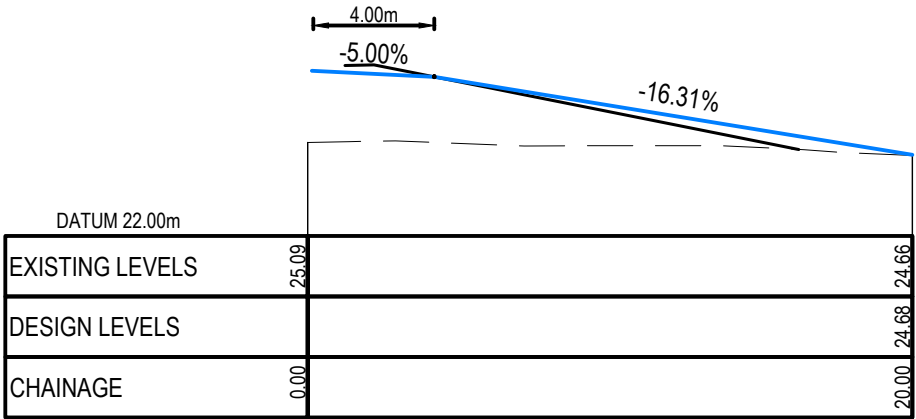
Project no.	147016
Scale	1:1000 @ A3
Cad file	147016-RV-C300 ROADING.DWG
Drawing no.	C300-16
Rev	B



85 FORESTRY ROAD
SCALE: HORI 1:1000 VERT 1:1000

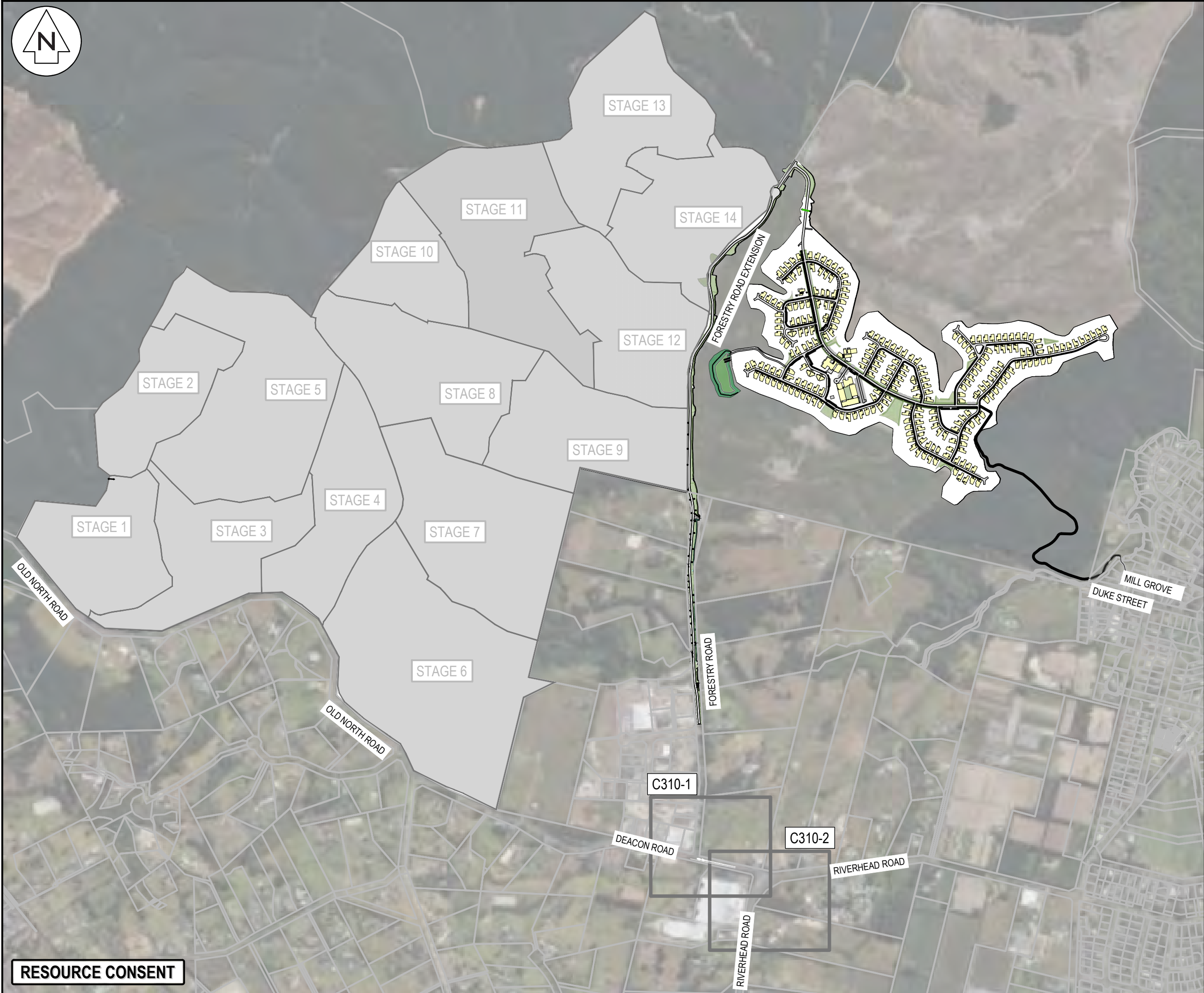


93 FORESTRY ROAD
SCALE: HORI 1:1000 VERT 1:1000



100 FORESTRY ROAD
SCALE: HORI 1:1000 VERT 1:1000

RESOURCE CONSENT



NOTES

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A	S67	HN	09/2025
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Checked	RW/KH	09/2025	



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Project

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

Title

**PROPOSED INTERSECTION
IMPROVEMENT PLAN**

Project no.	147016		
Scale	1:10,000 @ A3		
Cad file	147016-RV-C310 INTERSEC.DWG		
Drawing no.	C310	Rev	A



FORESTRY ROAD

DEACON ROAD

NEW ROAD MARKING AND TURNING RIGHT TO FORESTRY ROAD TO BE DESIGN IN ACCORDANCE WITH TRAFFIC CONTROL DEVICES MANUAL SUBJECT TO DETAIL DESIGN

RESOURCE CONSENT

- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 2. FINAL PAVEMENT DESIGN SUBJECT TO CBR/BEAM TESTS ON SUBGRADE MATERIAL.
 3. SETOUT SCHEDULE WITH COORDINATES OF CHAINAGE POINTS ALONG ROAD CENTRELINE TO BE SUPPLIED TO THE CONTRACTOR PRIOR TO CONSTRUCTION.
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A	S67	HN	09/2025
Rev	Description	By	Date
	By	Date	
Survey	LiDAR	03/2022	
Design	IZ	03/2025	
Drawn	HN	09/2025	
Checked	RW/KH	09/2025	

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Project
DEVELOPMENT OF RIVERHEAD FOREST FOR RANGITOOPUNI DEVELOPMENTS LIMITED PARTNERSHIP

Title
PROPOSED INTERSECTION IMPROVEMENT PLAN

Project no.	147016		
Scale	1500 @ A3		
Cad file	147016-RV-C310 INTERSEC.DWG		
Drawing no.	C310-1	Rev	A



DEACON ROAD

RIVERHEAD ROAD

CONSTRAINED
VISIBILITY SPLAY

ADVISORY SPEED SIGNS OR SPEED
ACTIVE SIGN ON THE WESTERN
APPROACH SUBJECT TO DETAIL DESIGN

RESOURCE CONSENT

RIVERHEAD ROAD

- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 2. FINAL PAVEMENT DESIGN SUBJECT TO CBR/BEM TESTS ON SUBGRADE MATERIAL.
 3. SETOUT SCHEDULE WITH COORDINATES OF CHAINAGE POINTS ALONG ROAD CENTRELINE TO BE SUPPLIED TO THE CONTRACTOR PRIOR TO CONSTRUCTION.
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A	S67	HN	09/2025
Rev	Description	By	Date
	By	Date	
Survey	LiDAR	03/2022	
Design	IZ	03/2025	
Drawn	HN	09/2025	
Checked	RW/KH	09/2025	



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

Title
**PROPOSED INTERSECTION
IMPROVEMENT PLAN**

Project no.	147016		
Scale	1:500 @ A3		
Cad file	147016-RV-C310 INTERSEC.DWG		
Drawing no.	C310-2	Rev	A



PROPOSED WATER QUALITY TREATMENT FOR ROADS

Outfall/ RG	Catchment	Proposed Raingarden Footprint area m²	Treatment Type	Number of Cartridges Required	StormFilter Drawing	
					Online	Peak Diversion
1-0	1+50	113.0	Storm Filter	12	Storm Filter Vault	2800W X 3650L X 2150 D
2-0	2	34.0	Storm Filter	4	SF-MH-69-1500-T-20	SF-MH-PD-69-1800-T-20
3-0	3	11.0			no treatment proposed, less than 10 lots.	
4-0	7	7.0			no treatment proposed, less than 10 lots.	
5-0	6	100.0			Communal RG	
6-0	5	89.0	JELLYFISH	3	JF-MH-54-1200-T-OFF-20	
7-0	4	13.0			no treatment proposed, less than 10 lots.	
8-0	8	54.0			Communal RG	
9-0	9	140.0			Communal RG	
10-0	10+51	17.0			no treatment proposed, serving less than 10 carparks, if required stormfilter	

- NOTES
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 - PIPE BEDDING: 0 - 10% GRANULAR BEDDING, 10 - 20% WEAK CONCRETE BEDDING GREATER THAN 20% WEAK CONCRETE BEDDING (7MPa PLUS ANTI SCOUR BLOCKS AT 6m CRS).
 - EACH CONNECTION SHALL BE MARKED BY A 50mmX50mm TREATED PINE STAKE EXTENDING 600mm ABOVE GROUND LEVEL WITH THE TOP PAINTED. THIS MARKER POST SHALL BE PLACED ALONGSIDE A TIMBER MARKER INSTALLED AT THE TIME OF PIPELAYING AND EXTENDING FROM THE CONNECTION TO 150mm BELOW FINISHED GROUND LEVEL. CONNECTIONS SHALL BE ACCURATELY INDICATED ON "AS BUILT" PLANS.
 - APPROVED HARDFILL IS TO BE USED IN BACKFILLING OF ALL ROAD CROSSINGS AND VEHICLE CROSSINGS TO COUNCIL STANDARDS.
 - HEAVY DUTY MANHOLE LIDS AND FRAMES TO BE USED IN TRAFFICKED AREAS.
 - ALL MANHOLES ARE TO BE 1050mmØ PRECAST CONCRETE UNLESS SHOWN OTHERWISE.
 - ALL CATCHPIT LEADS ARE 225mm DIAMETER AND SHALL HAVE MIN COVER 1.0m
 - ALL LINES TO BE ABANDONED SHALL BE SEALED AT EACH END. TIMING OF ALL SEALING TO BE COORDINATED WITH COUNCIL STAFF.
 - ALL LOT CONNECTION TO BE MIN 100mm uPVC SN16 UNLESS SHOWN OTHERWISE.
 - ALL ROOF WATER RUNOFF PIPE TO BE 150mm uPVC SN16 UNLESS SHOWN OTHERWISE.

- LEGEND
- EX BDY
 - PR BDY
 - EX STORMWATER
 - PR STORMWATER ROAD
 - PR STORMWATER ROOF
 - PR EXTENT WORK
 - EX/PR SWMH (ROAD/ROOF)
 - PR DOUBLE/ SINGLE SWCP
 - PR SW RAINGARDEN
 - RIPARIAN YARD 20m SETBACK
 - WETLAND AREA 100m SETBACK
 - WETLAND AREA 10m SETBACK
 - EX STREAMS

TREATMENT IS NOT PROVIDED FOR THESE ACCESSWAYS WHICH SERVE LESS THAN 10 LOTS

B	RESOURCE CONSENT	AYC	09/2025
A	RESOURCE CONSENT	AYC	03/2025
Rev	Description	By	Date
Survey	LIDAR		03/2022
Design	AO/AYC		03/2025
Drawn	AYC		03/2025
Checked	RW		03/2025

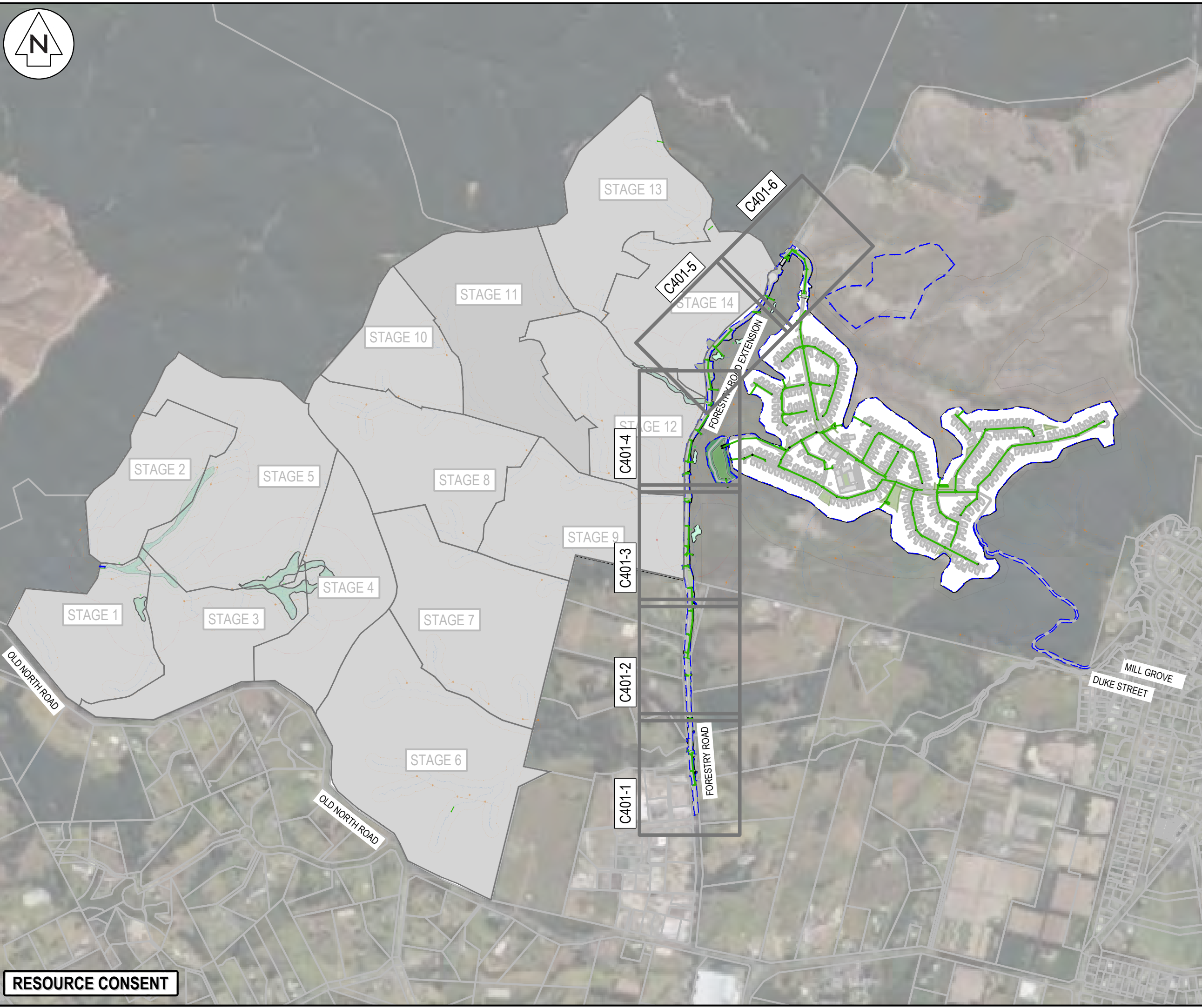
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Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**RETIREMENT VILLAGE
PROPOSED
STORMWATER PLAN**

Project no.	147016
Scale	1:4000 @ A3
Cad file	147016-RV-C400 STORMWATER.DWG
Drawing no.	C400-0
Rev	B

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. PIPE BEDDING: 0 - 10% GRANULAR BEDDING; 10 - 20% WEAK CONCRETE BEDDING. GREATER THAN 20% WEAK CONCRETE BEDDING (7MPa PLUS ANTI SCOUR BLOCKS AT 6m crs).
 4. EACH CONNECTION SHALL BE MARKED BY A 50mmx50mm TREATED PINE STAKE EXTENDING 600mm ABOVE GROUND LEVEL WITH THE TOP PAINTED. THIS MARKER POST SHALL BE PLACED ALONGSIDE A TIMBER MARKER INSTALLED AT THE TIME OF PIPELAYING AND EXTENDING FROM THE CONNECTION TO 150mm BELOW FINISHED GROUND LEVEL. CONNECTIONS SHALL BE ACCURATELY INDICATED ON "AS BUILT" PLANS.
 5. HEAVY DUTY MANHOLE LIDS AND FRAMES TO BE USED IN TRAFFICKED AREAS.
 6. ALL MANHOLES ARE TO BE 1050mmØ PRECAST CONCRETE UNLESS SHOWN OTHERWISE.
 7. ALL CATCHPIT LEADS ARE 225mm DIAMETER AND SHALL HAVE MIN COVER 1.0m
 8. ALL LINES TO BE ABANDONED SHALL BE SEALED AT EACH END. TIMING OF ALL SEALING TO BE COORDINATED WITH COUNCIL STAFF.
 9. ALL LOT CONNECTION TO BE MIN 100mm uPVC SN16 UNLESS SHOWN OTHERWISE.

LEGEND

- EX STORMWATER
- PR STORMWATER ROAD
- PR STORMWATER ROOF
- PR EXTENT WORK
- EX/PR SWMH (ROAD/ROOF)
- PR SINGLE/DOUBLE SWCP
- RIPARIAN YARD 20m SETBACK
- WETLAND AREA 100m SETBACK
- WETLAND AREA 10m SETBACK
- EX STREAMS
- PR RET. WALL > 1.0m
- PR SW RAINGARDEN
- WETLAND

B	S67	HN	09/2025
A	RESOURCE CONSENT	SP	03/2025
Rev	Description	By	Date
		By	Date
Survey	LIDAR		03/2022
Design	AO		03/2025
Drawn	SP		03/2025
Checked	RW/KH		03/2025

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Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOO PUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**RETIREMENT VILLAGE
PROPOSED STORMWATER
OVERVIEW PLAN**

Project no.	147016
Scale	1:10,000 @ A3
Cad file	147016-RV-C401 SW EXTENSION.DWG
Drawing no.	C401
Rev	B



SAMMILL ROAD

FORESTRY ROAD

FORESTRY ROAD

DCP 12-1B

MH 12-1

EXISTING DN300 CULVERT

DCP 12-1A

EX OUTFALL 12-0

CP 11-1B

CP 11-1A

CP 11-2B

CP 11-2A

MH 11-1

MH 11-2

MH 11-3

CP 11-3B

CP 11-3A

PR 300mm RCRRJ @ 11.75%
TO CONNECT TO PROP CULVERT 1

PR CULVERT 1
TO REPLACE EXISTING CULVERT
5,000 X 2,000 MM CONC BOX CULVERT @ 1.40%

300mm RCRRJ @ 1.46%

300mm RCRRJ @ 2.50%

NOTES:

1. REFER TO 147016-C490 DRAWINGS FOR CULVERT DETAILS
2. PROPOSED PUBLIC RAINGARDENS HAVE BEEN LOCATED OUTSIDE STREAM 10 YEAR EXTENTS.
3. WINGWALL AND RIPRAP DETAILS REFER TO DWG-C802-7

NOTES

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B	S67	HN	09/2025
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Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**RETIREMENT VILLAGE
PROPOSED STORMWATER
EXTENSION PLAN**

Project no.	147016
Scale	1:1000 @ A3
Cad file	147016-RV-C401 SW EXTENSION.DWG
Drawing no.	C401-1
Rev	B

RESOURCE CONSENT



- NOTES:
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 - PROPOSED PUBLIC RAINGARDENS HAVE BEEN LOCATED OUTSIDE STREAM 10 YEAR EXTENTS.
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 - PR SW RAINGARDEN
 - WETLAND

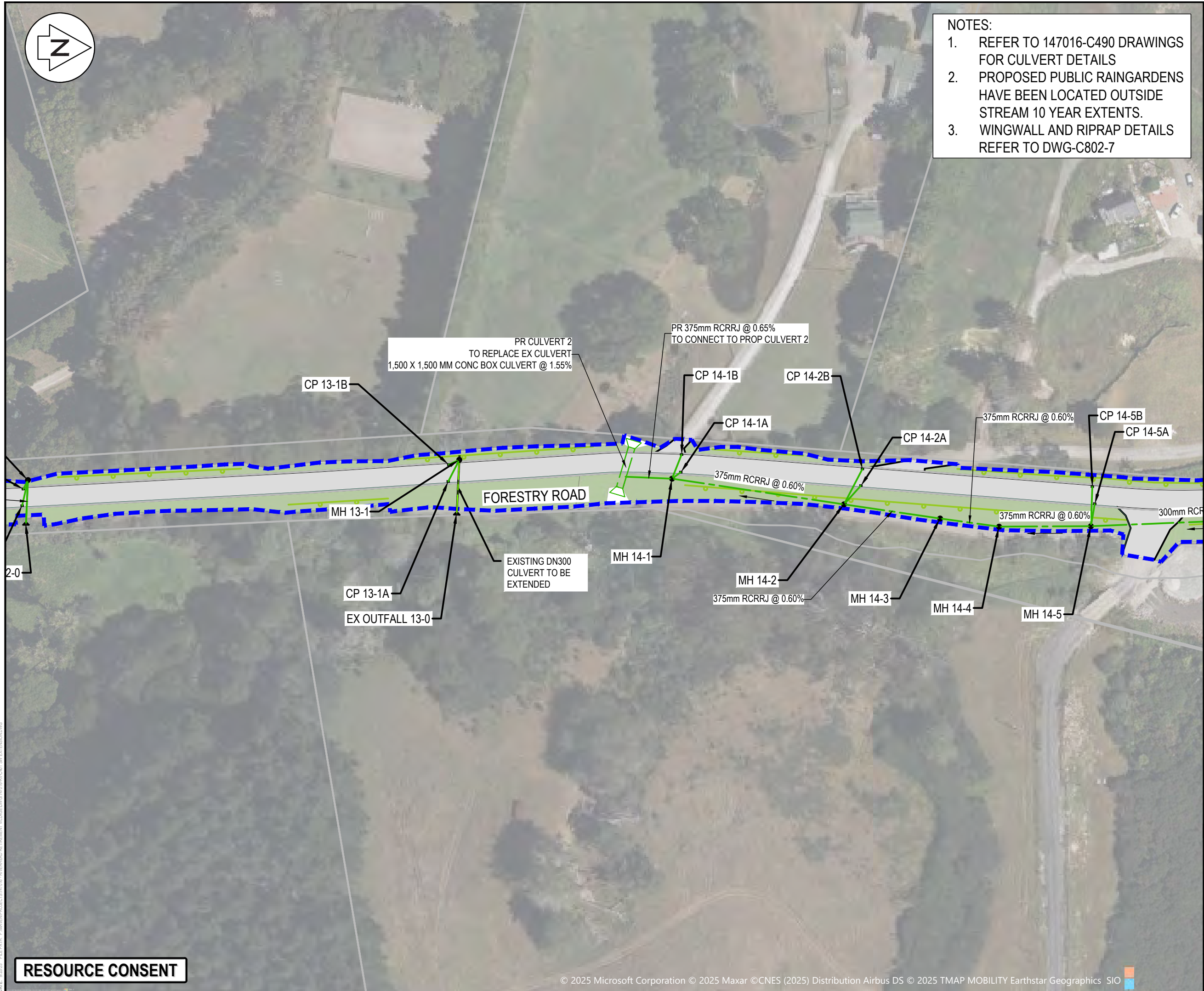
B	S67	HN	09/2025
A	RESOURCE CONSENT	SP	03/2025
Rev	Description	By	Date
		By	Date
Survey	LIDAR		03/2022
Design	AO		03/2025
Drawn	SP		03/2025
Checked	RW/KH		03/2025



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

Title
**RETIREMENT VILLAGE
PROPOSED STORMWATER
EXTENSION PLAN**

Project no.	147016
Scale	1:1000 @ A3
Cad file	147016-RV-C401 SW EXTENSION.DWG
Drawing no.	C401-2
Rev	B





- NOTES:
- REFER TO 147016-C490 DRAWINGS FOR CULVERT DETAILS
 - PROPOSED PUBLIC RAINGARDENS HAVE BEEN LOCATED OUTSIDE STREAM 10 YEAR EXTENTS.
 - WINGWALL AND RIPRAP DETAILS REFER TO DWG-C802-7

- NOTES
- ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 - IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
 - PIPE BEDDING: 0 - 10% GRANULAR BEDDING, 10 - 20% WEAK CONCRETE BEDDING, GREATER THAN 20% WEAK CONCRETE BEDDING (7MPa PLUS ANTI SCOUR BLOCKS AT 6m crs).
 - EACH CONNECTION SHALL BE MARKED BY A 50mmx50mm TREATED PINE STAKE EXTENDING 600mm ABOVE GROUND LEVEL WITH THE TOP PAINTED. THIS MARKER POST SHALL BE PLACED ALONGSIDE A TIMBER MARKER INSTALLED AT THE TIME OF PIPELAYING AND EXTENDING FROM THE CONNECTION TO 150mm BELOW FINISHED GROUND LEVEL. CONNECTIONS SHALL BE ACCURATELY INDICATED ON 'AS BUILT' PLANS.
 - HEAVY DUTY MANHOLE LIDS AND FRAMES TO BE USED IN TRAFFICKED AREAS.
 - ALL MANHOLES ARE TO BE 1050mmØ PRECAST CONCRETE UNLESS SHOWN OTHERWISE.
 - ALL CATCHPIT LEADS ARE 225mm DIAMETER AND SHALL HAVE MIN COVER 1.0m
 - ALL LINES TO BE ABANDONED SHALL BE SEALED AT EACH END. TIMING OF ALL SEALING TO BE COORDINATED WITH COUNCIL STAFF.
 - ALL LOT CONNECTION TO BE MIN 100mm uPVC SN16 UNLESS SHOWN OTHERWISE.

- LEGEND
- EX STORMWATER
 - PR STORMWATER ROAD
 - PR STORMWATER ROOF
 - PR EXTENT WORK
 - EX/PR SWMH (ROAD/ROOF)
 - PR SINGLE/DOUBLE SWCP
 - PR RIPARIAN YARD 20m SETBACK
 - WETLAND AREA 100m SETBACK
 - WETLAND AREA 10m SETBACK
 - EX STREAMS
 - PR RET. WALL > 1.0m
 - PR SW RAINGARDEN
 - WETLAND

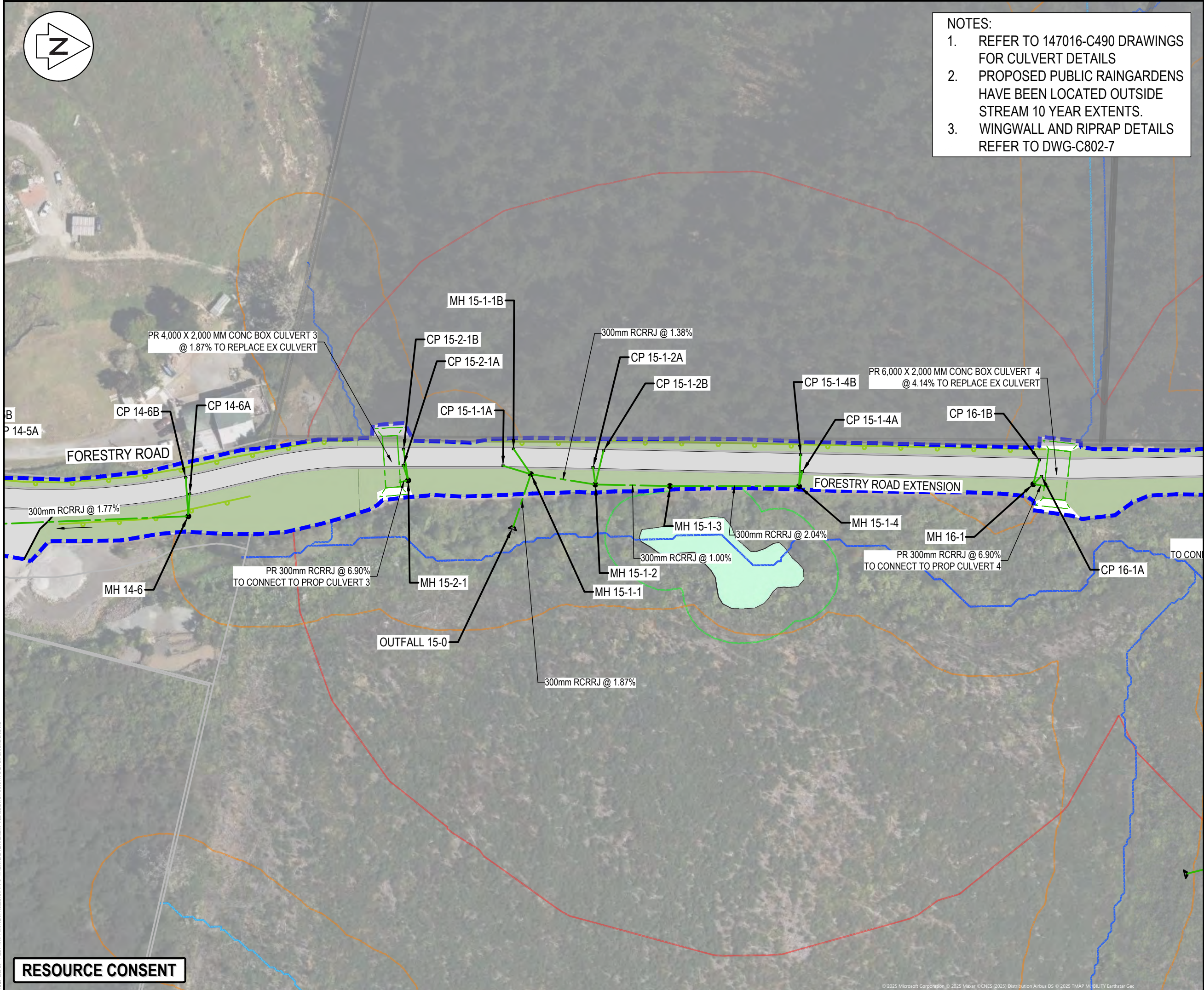
B	S67	HN	09/2025
A	RESOURCE CONSENT	SP	03/2025
Rev	Description	By	Date
Survey	LIDAR		03/2022
Design	AO		03/2025
Drawn	SP		03/2025
Checked	RW/KH		03/2025



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

Title
**RETIREMENT VILLAGE
PROPOSED STORMWATER
EXTENSION PLAN**

Project no.	147016
Scale	1:1000 @ A3
Cad file	147016-RV-C401 SW EXTENSION.DWG
Drawing no.	C401-3
Rev	B



RESOURCE CONSENT

DATE: 9/25/25 FILE PATH: F:\Maven\PROJECTS\147016 - RIVERHEAD RETIREMENT VILLAGE\DWG\147016-RV-C401 SW EXTENSION.DWG



- NOTES:
- REFER TO 147016-C490 DRAWINGS FOR CULVERT DETAILS
 - PROPOSED PUBLIC RAINGARDENS HAVE BEEN LOCATED OUTSIDE STREAM 10 YEAR EXTENTS.
 - WINGWALL AND RIPRAP DETAILS REFER TO DWG-C802-7

- NOTES
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- LEGEND
- EX STORMWATER
 - PR STORMWATER ROAD
 - PR STORMWATER ROOF
 - PR EXTENT WORK
 - EX/PR SWMH (ROAD/ROOF)
 - PR SINGLE/DOUBLE SWCP
 - RIPARIAN YARD 20m SETBACK
 - WETLAND AREA 100m SETBACK
 - WETLAND AREA 10m SETBACK
 - EX STREAMS
 - PR RET. WALL > 1.0m
 - PR SW RAINGARDEN
 - WETLAND

B	S67	HN	09/2025
A	RESOURCE CONSENT	SP	03/2025
Rev	Description	By	Date
Survey	LIDAR		03/2022
Design	AO		03/2025
Drawn	SP		03/2025
Checked	RW/KH		03/2025



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

Title
**RETIREMENT VILLAGE
PROPOSED STORMWATER
EXTENSION PLAN**

Project no.	147016
Scale	1:1000 @ A3
Cad file	147016-RV-C401 SW EXTENSION.DWG
Drawing no.	C401-4
Rev	B

PR CULVERT 5
2,000 X 1,000 MM CONCRETE BOX CULVERT @ 0.80%

CP 17-1B

CP 17-1A

CP 18-1B

CP 18-1A

CP 18-2A

CP 18-2B

EX CULVERT 450mm RCRRJ @ 5.67%

CP 19-1B

CP 19-1A

300mm RCRRJ @ 3.90%

PR CULVERT 6
2,000 X 1,500 MM CONC BOX CULVERT
@ 4.99% TO REPLACE EX CULVERT

CP 19-2B

CP 20-1B

CP 21-2B

CP 21-1B

300mm RCRRJ @ 1.00%

CP 21-1A

MH 21-2

MH 21-1

OUTFALL 21-0

300mm RCRRJ @ 3.54%

PR 300mm RCRRJ @ 6.90%
TO CONNECT TO PROP CULVERT 6

MH 20-1

CP 20-1A

MH 19-2

MH 19-1

OUTFALL 19-0
300mm RCRRJ @ 6.88%

300mm RCRRJ @ 6.90%

MH 18-2

MH 18-1

OUTFALL 18-0

MH 17-1

PR 300mm RCRRJ @ 1.69%
TO CONNECT TO PROP CULVERT 5

FORESTRY ROAD EXTENSION

300mm RCRRJ @ 1.81%

PR SW POND

RESOURCE CONSENT

DATE: 9/25/25 FILE PATH: F:\Maven\PROJECTS\147016 - RIVERHEAD RETIREMENT VILLAGE\DWG\147016-RV-C401 SW EXTENSION.DWG

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- NOTES:
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 - PR RET. WALL > 1.0m
 - PR SW RAINGARDEN
 - WETLAND

B		S67	HN	09/2025
A		RESOURCE CONSENT	SP	03/2025
Rev	Description	By	Date	
	Survey	LIDAR	03/2022	
	Design	AO	03/2025	
	Drawn	SP	03/2025	
	Checked	RW/KH	03/2025	

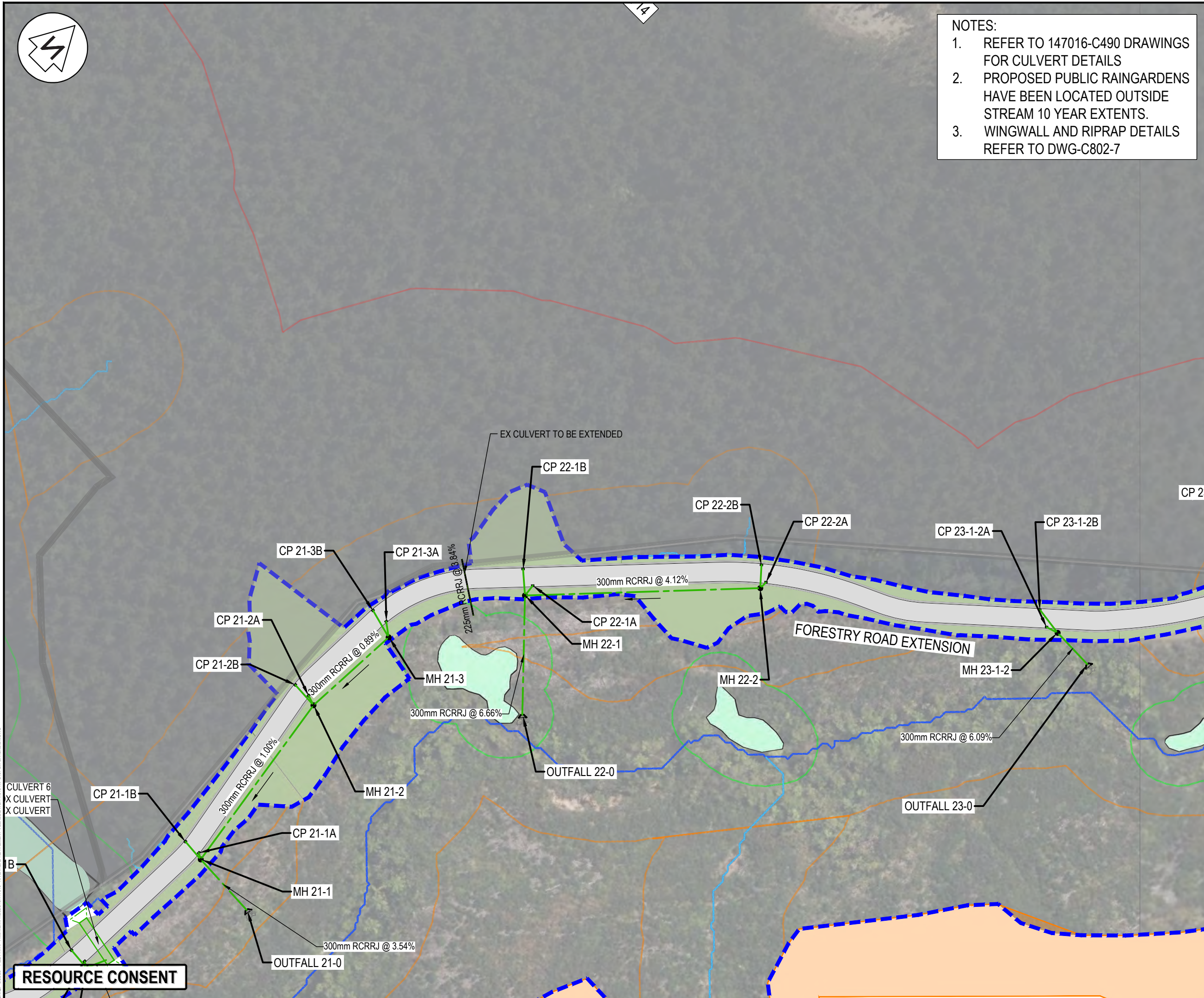


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Auckland 1023

Project
DEVELOPMENT OF RIVERHEAD FOREST FOR RANGITOOPUNI DEVELOPMENTS LIMITED PARTNERSHIP

Title
RETIREMENT VILLAGE PROPOSED STORMWATER EXTENSION PLAN

Project no.	147016		
Scale	1:1000 @ A3		
Cad file	147016-RV-C401 SW EXTENSION.DWG		
Drawing no.	C401-5	Rev	B



DATE: 9/25/25 FILE PATH: E:\Maven\PROJECTS\147016 - RIVERHEAD RETIREMENT VILLAGE\DWG\147016-RV-C401 SW EXTENSION.DWG



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 - EX/PR SWMH (ROAD/ROOF)
 - PR SINGLE/DOUBLE SWCP
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 - WETLAND AREA 100m SETBACK
 - WETLAND AREA 10m SETBACK
 - EX STREAMS
 - PR RET. WALL > 1.0m
 - PR SW RAINGARDEN
 - WETLAND

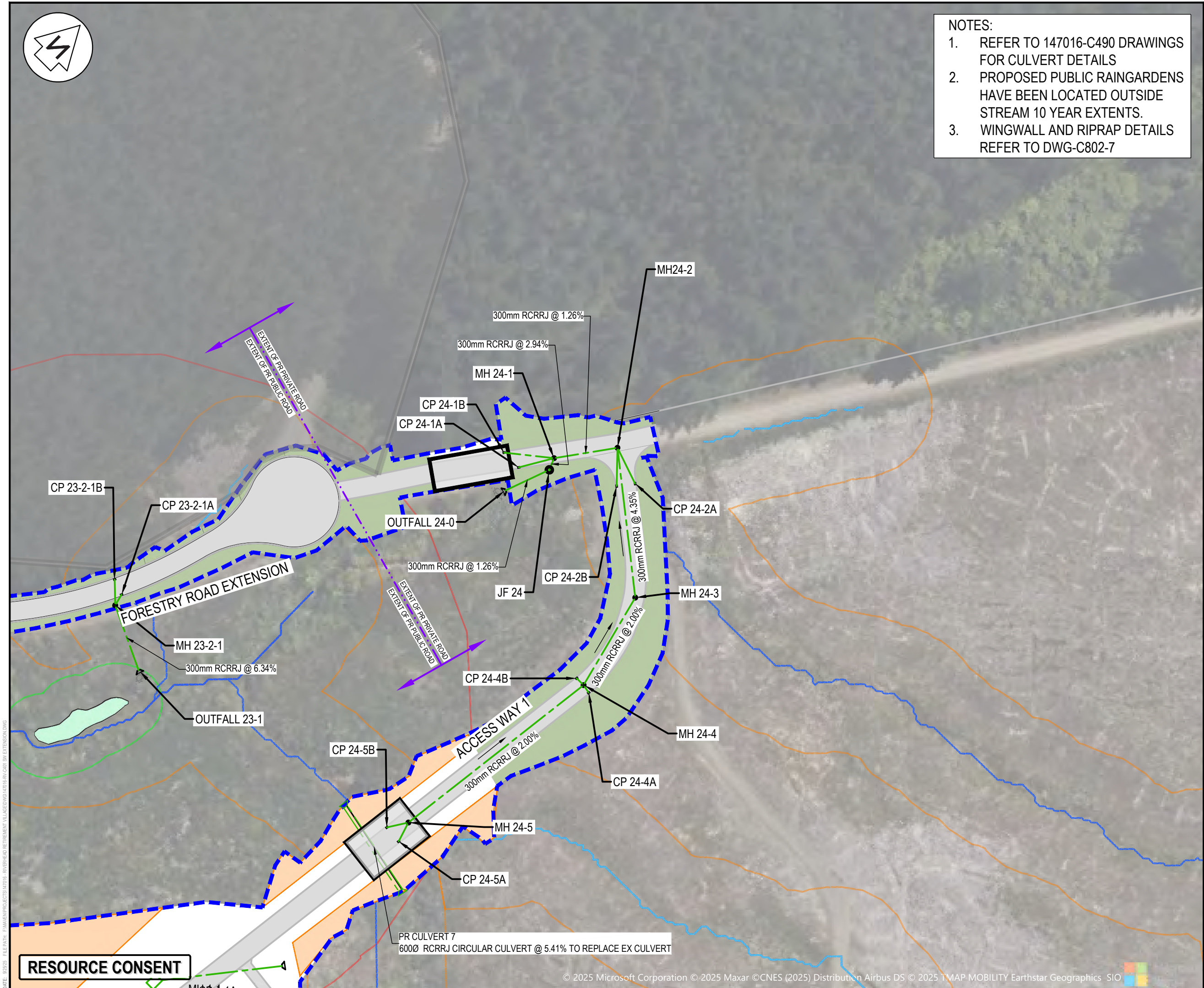
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A	RESOURCE CONSENT	SP	03/2025
Rev	Description	By	Date
		By	Date
Survey	LIDAR		03/2022
Design	AO		03/2025
Drawn	SP		03/2025
Checked	RW/KH		03/2025



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

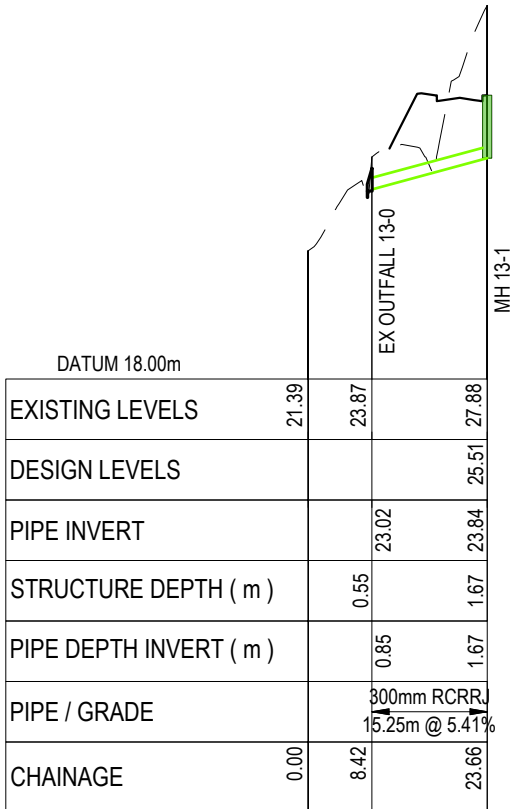
Title
**RETIREMENT VILLAGE
PROPOSED STORMWATER
EXTENSION PLAN**

Project no.	147016
Scale	1:1000 @ A3
Cad file	147016-RV-C401 SW EXTENSION.DWG
Drawing no.	C401-6
Rev	B

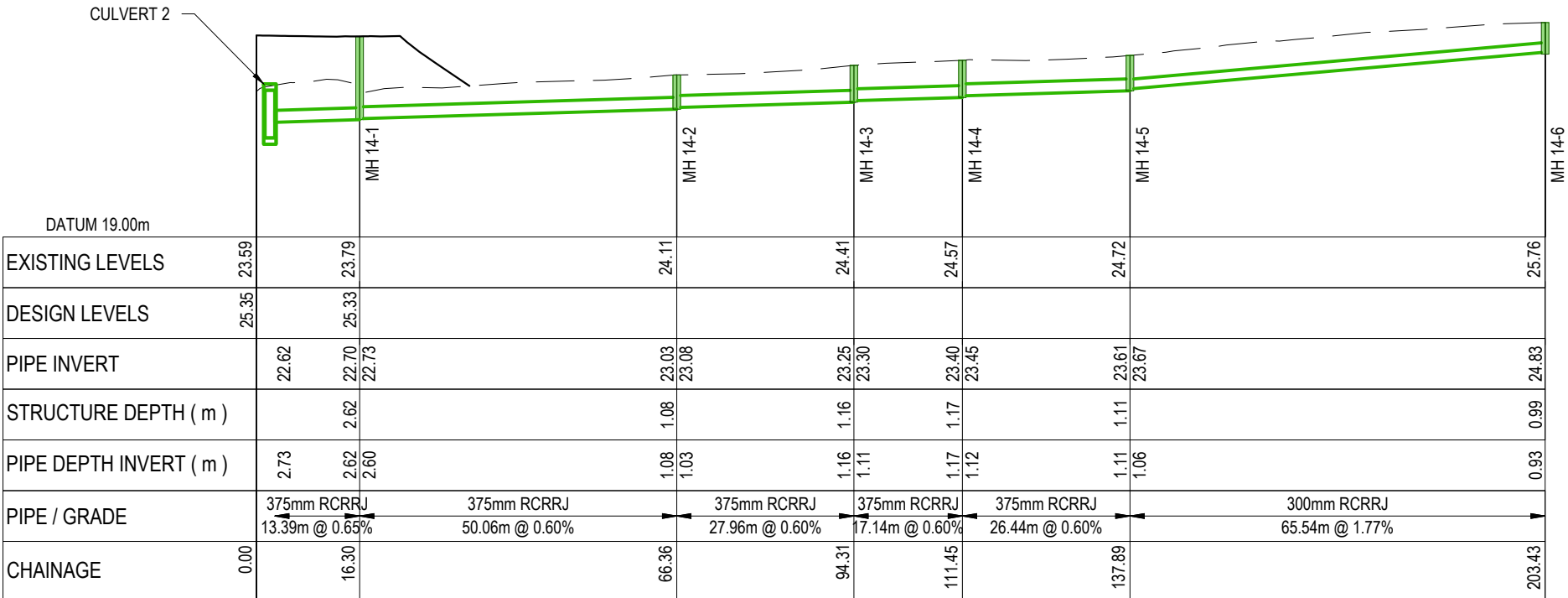


RESOURCE CONSENT

DATE: 9/25/25 FILE PATH: F:\Maven\PROJECTS\147016 - RIVERHEAD RETIREMENT VILLAGE\DWG\147016-RV-C420 SW LS ROAD.DWG



ROAD RUNOFF LINE 13
SCALE: HORI 1:1000 VERT 1:200



ROAD RUNOFF LINE 14
SCALE: HORI 1:1000 VERT 1:200

LEGEND:
--- EX GROUND SURFACE
--- PR DESIGN SURFACE
--- INDICATIVE LOCALISED
GROUND LEVELS FOR
SW DEVICE AND OUTLET
IMPLEMENTATION. TO
BE CONFIRMED IN
DETAILED DESIGN

B	S67	HN	09/2025
A	RESOURCE CONSENT	AYC	03/2025
Rev	Description	By	Date
	By	Date	
Survey	LIDAR	03/2022	
Design	AYC	03/2025	
Drawn	AYC	03/2025	
Checked	RW	03/2025	



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

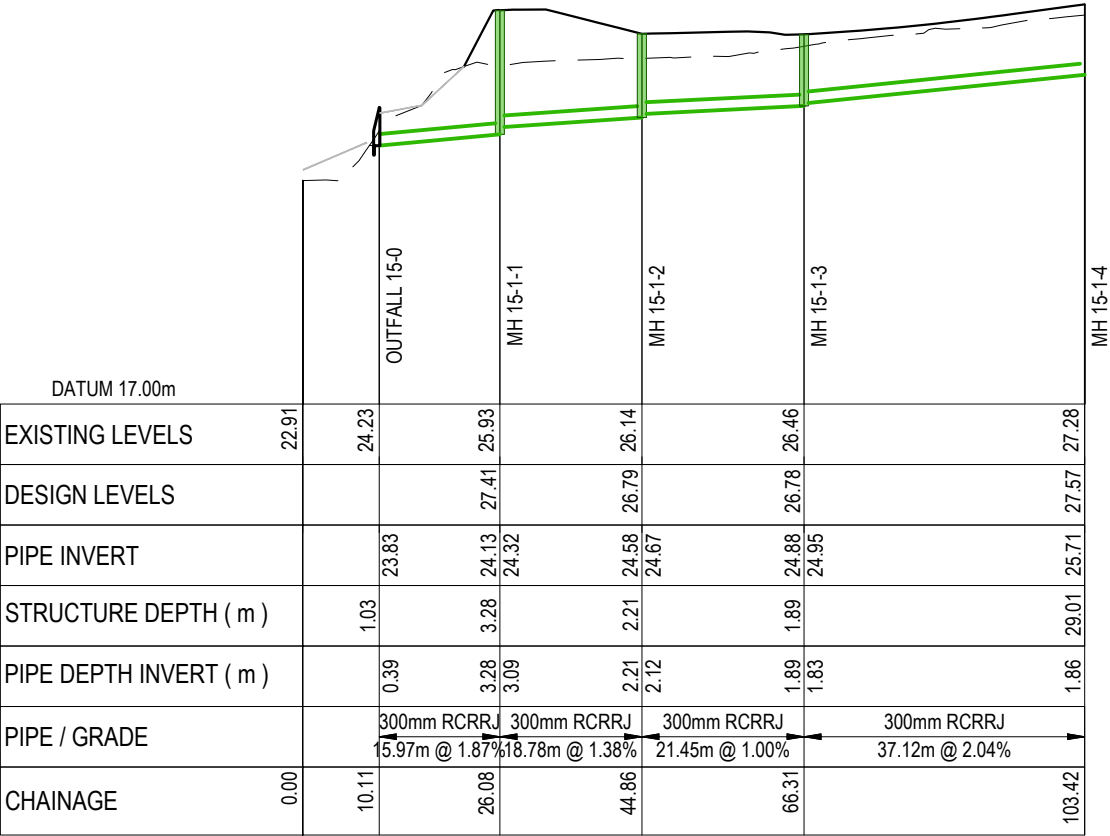
Title
**RETIREMENT VILLAGE
STORMWATER LONG
SECTIONS - ROAD RUN OFF**

Project no.	147016		
Scale	1:1000 @ A3		
Cad file	147016-RV-C420 SW LS_ROAD.DWG		
Drawing no.	C420-26	Rev	B

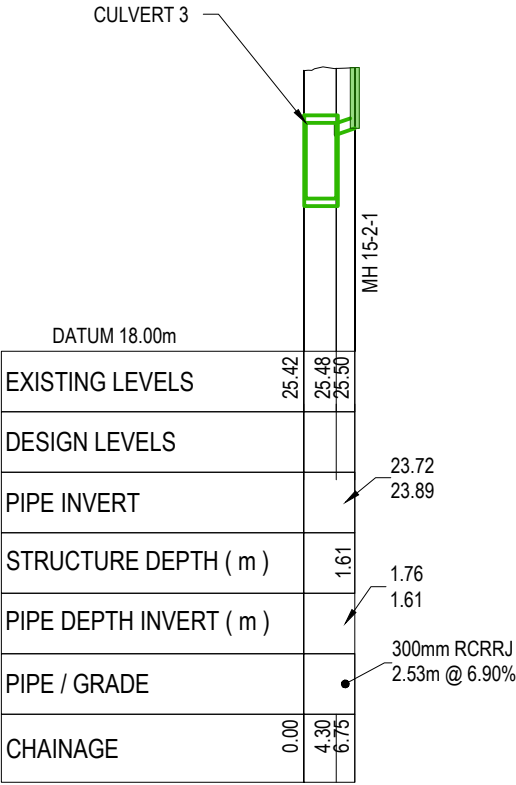
RESOURCE CONSENT

DATE: 9/25/25 FILE PATH: F:\Maven\PROJECTS\147016 - RIVERHEAD RETIREMENT VILLAGE\DWG\147016-RV-C420 SW LS ROAD.DWG

RESOURCE CONSENT



ROAD RUNOFF LINE 15-1
SCALE: HORI 1:1000 VERT 1:200



ROAD RUNOFF LINE 15-2
SCALE: HORI 1:1000 VERT 1:200

LEGEND:
--- EX GROUND SURFACE
--- PR DESIGN SURFACE
--- INDICATIVE LOCALISED GROUND LEVELS FOR SW DEVICE AND OUTLET IMPLEMENTATION. TO BE CONFIRMED IN DETAILED DESIGN

B	S67	HN	09/2025
A	RESOURCE CONSENT	AYC	03/2025
Rev	Description	By	Date
	By	Date	
Survey	LIDAR	03/2022	
Design	AYC	03/2025	
Drawn	AYC	03/2025	
Checked	RW	03/2025	

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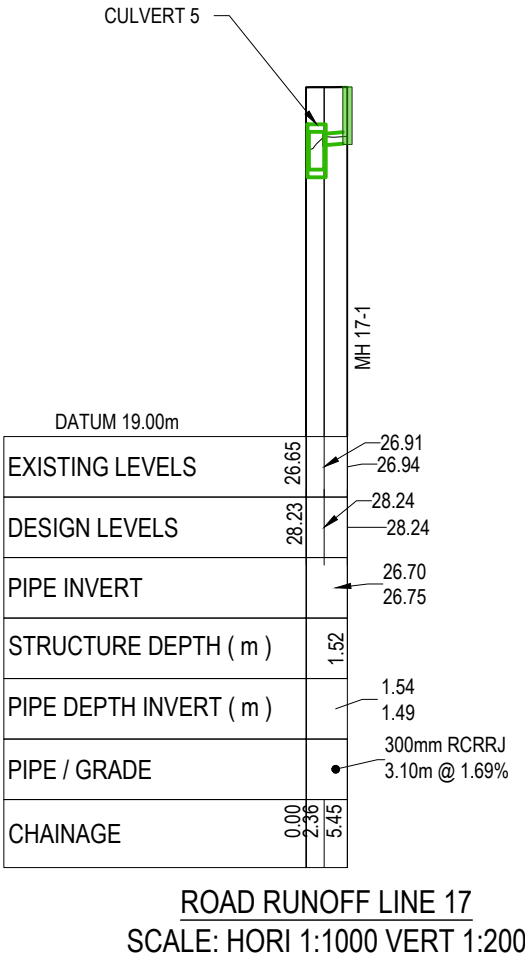
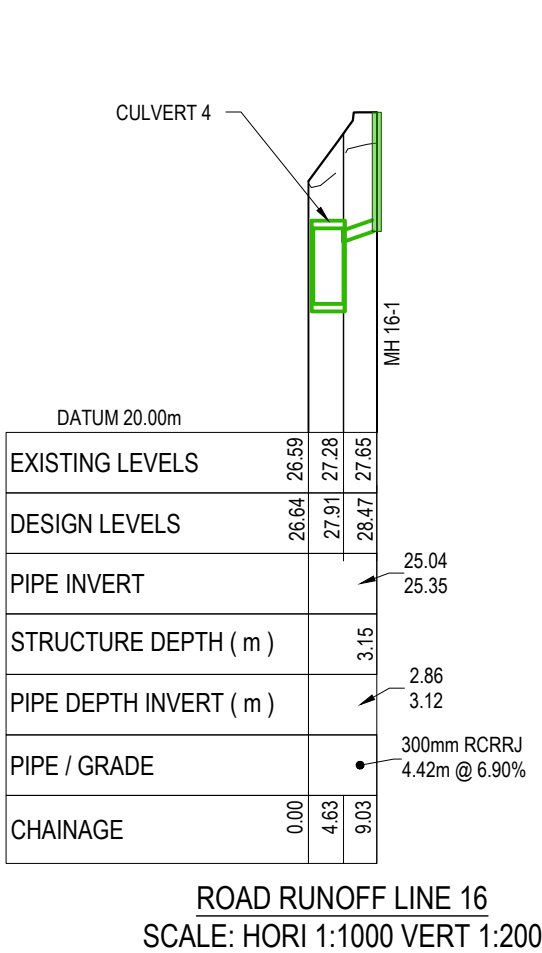
Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**RETIREMENT VILLAGE
STORMWATER LONG
SECTIONS - ROAD RUN OFF**

Project no.	147016		
Scale	1:1000 @ A3		
Cad file	147016-RV-C420 SW LS_ROAD.DWG		
Drawing no.	C420-27	Rev	B

DATE: 9/25/25 FILE PATH: F:\MVEN\PROJECTS\147016 - RIVERHEAD RETIREMENT VILLAGE\DWG\147016-RV-C420 SW LS ROAD.DWG

RESOURCE CONSENT



LEGEND:

--- EX GROUND SURFACE

— PR DESIGN SURFACE

— INDICATIVE LOCALISED GROUND LEVELS FOR SW DEVICE AND OUTLET IMPLEMENTATION. TO BE CONFIRMED IN DETAILED DESIGN

B	S67	HN	09/2025
A	RESOURCE CONSENT	AYC	03/2025
Rev	Description	By	Date
	By	Date	
Survey	LIDAR	03/2022	
Design	AYC	03/2025	
Drawn	AYC	03/2025	
Checked	RW	03/2025	

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Project

DEVELOPMENT OF RIVERHEAD FOREST FOR RANGITOOPUNI DEVELOPMENTS LIMITED PARTNERSHIP

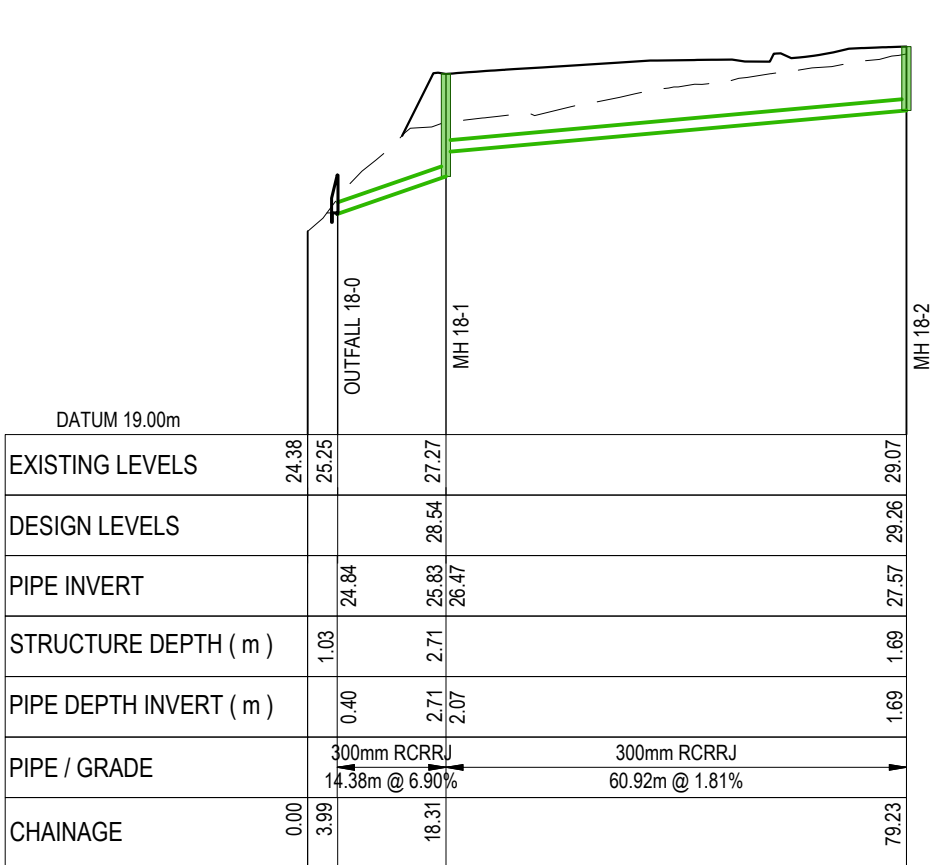
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RETIREMENT VILLAGE STORMWATER LONG SECTIONS - ROAD RUN OFF

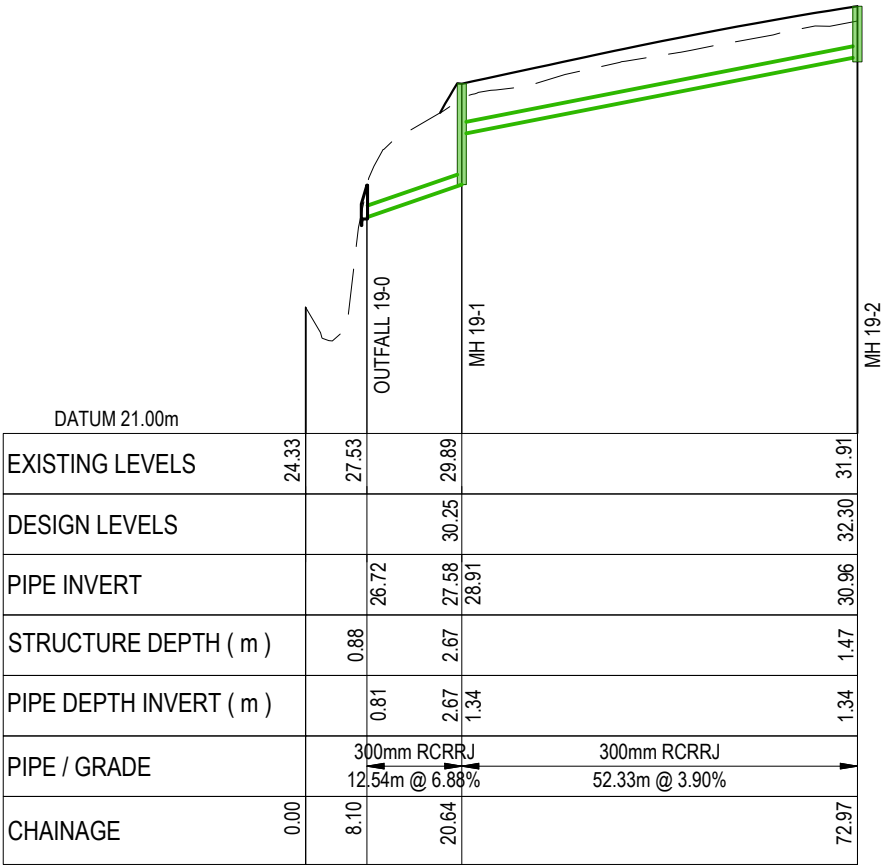
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Scale	1:1000 @ A3		
Cad file	147016-RV-C420 SW LS_ROAD.DWG		
Drawing no.	C420-28	Rev	B

DATE: 9/25/25 FILE PATH: F:\Maven\PROJECTS\147016 - RIVERHEAD RETIREMENT VILLAGE\DWG\147016-RV-C420 SW LS ROAD.DWG

RESOURCE CONSENT



ROAD RUNOFF LINE 18
SCALE: HORI 1:1000 VERT 1:200



ROAD RUNOFF LINE 19
SCALE: HORI 1:1000 VERT 1:200

LEGEND:
--- EX GROUND SURFACE
--- PR DESIGN SURFACE
--- INDICATIVE LOCALISED GROUND LEVELS FOR SW DEVICE AND OUTLET IMPLEMENTATION. TO BE CONFIRMED IN DETAILED DESIGN

B	S67	HN	09/2025
A	RESOURCE CONSENT	AYC	03/2025
Rev	Description	By	Date
	By	Date	
Survey	LIDAR	03/2022	
Design	AYC	03/2025	
Drawn	AYC	03/2025	
Checked	RW	03/2025	

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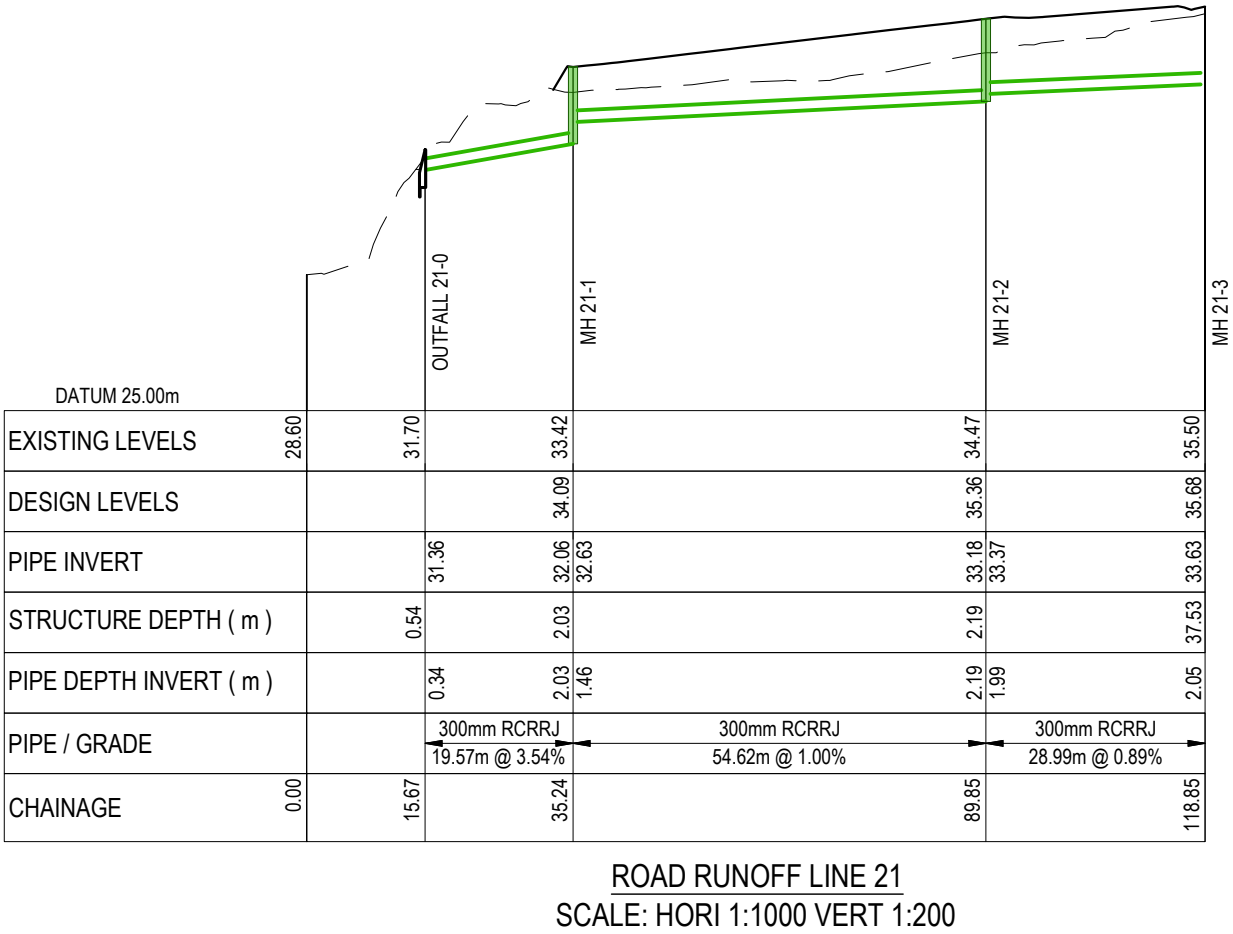
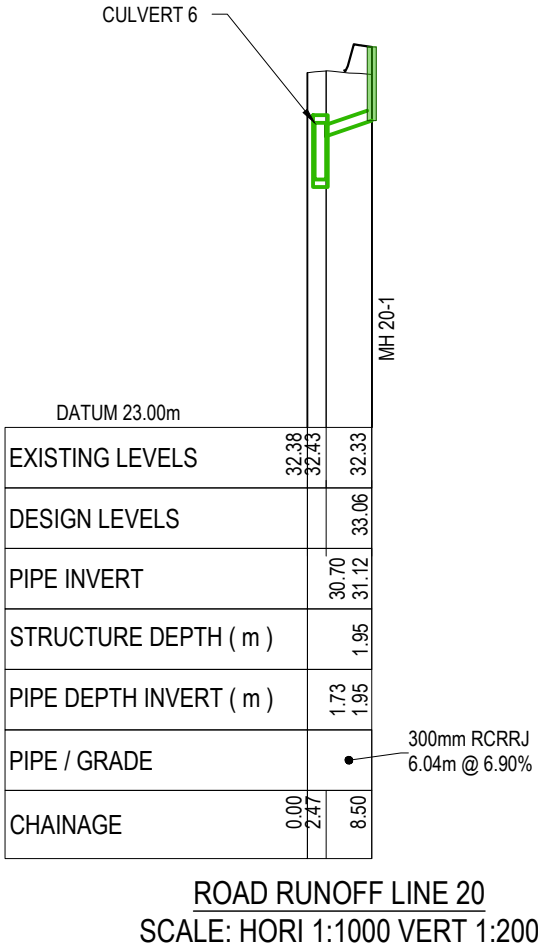
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Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**RETIREMENT VILLAGE
STORMWATER LONG
SECTIONS - ROAD RUN OFF**

Project no.	147016		
Scale	1:1000 @ A3		
Cad file	147016-RV-C420 SW LS_ROAD.DWG		
Drawing no.	C420-29	Rev	B

DATE: 9/25/25 FILE PATH: F:\Maven\PROJECTS\147016 - RIVERHEAD RETIREMENT VILLAGE\DWG\40716-RV-C40 SW LS ROAD.DWG



LEGEND:

- EX GROUND SURFACE
- PR DESIGN SURFACE
- INDICATIVE LOCALISED GROUND LEVELS FOR SW DEVICE AND OUTLET IMPLEMENTATION. TO BE CONFIRMED IN DETAILED DESIGN

B	S67	HN	09/2025
A	RESOURCE CONSENT	AYC	03/2025
Rev	Description	By	Date
	By	Date	
Survey	LIDAR	03/2022	
Design	AYC	03/2025	
Drawn	AYC	03/2025	
Checked	RW	03/2025	



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

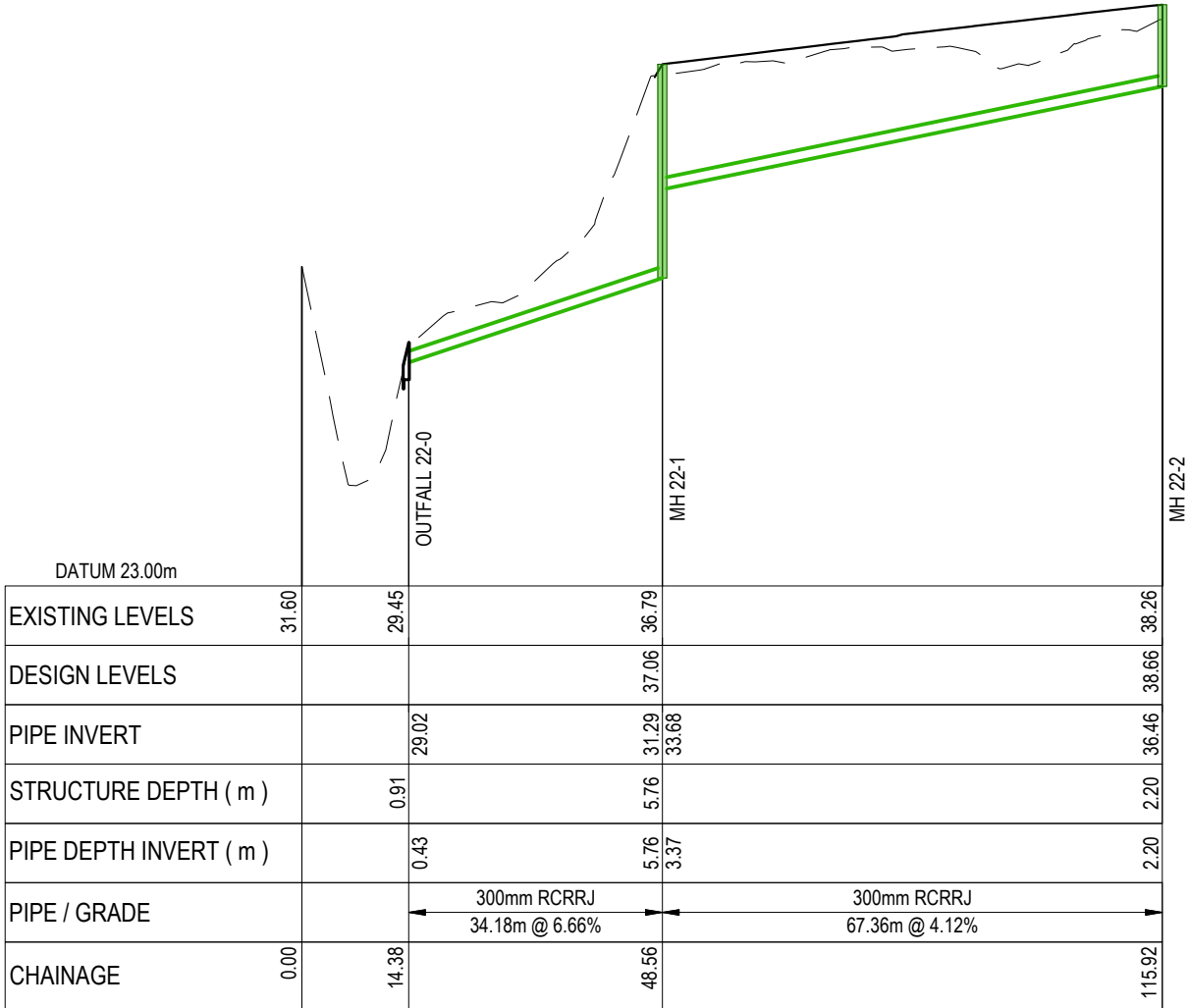
Title
**RETIREMENT VILLAGE
STORMWATER LONG
SECTIONS - ROAD RUN OFF**

Project no.	147016		
Scale	1:1000 @ A3		
Cad file	147016-RV-C420 SW LS_ROAD.DWG		
Drawing no.	C420-30	Rev	B

RESOURCE CONSENT

DATE: 9/25/25 FILE PATH: F:\Maven\PROJECTS\147016 - RIVERHEAD RETIREMENT VILLAGE\DWG\147016-RV-C420 SW LS ROAD.DWG

RESOURCE CONSENT



ROAD RUNOFF LINE 22
SCALE: HORI 1:1000 VERT 1:200

LEGEND:
--- EX GROUND SURFACE
--- PR DESIGN SURFACE
--- INDICATIVE LOCALISED GROUND LEVELS FOR SW DEVICE AND OUTLET IMPLEMENTATION. TO BE CONFIRMED IN DETAILED DESIGN

B	S67	HN	09/2025
A	RESOURCE CONSENT	AYC	03/2025
Rev	Description	By	Date
	By	Date	
Survey	LIDAR	03/2022	
Design	AYC	03/2025	
Drawn	AYC	03/2025	
Checked	RW	03/2025	

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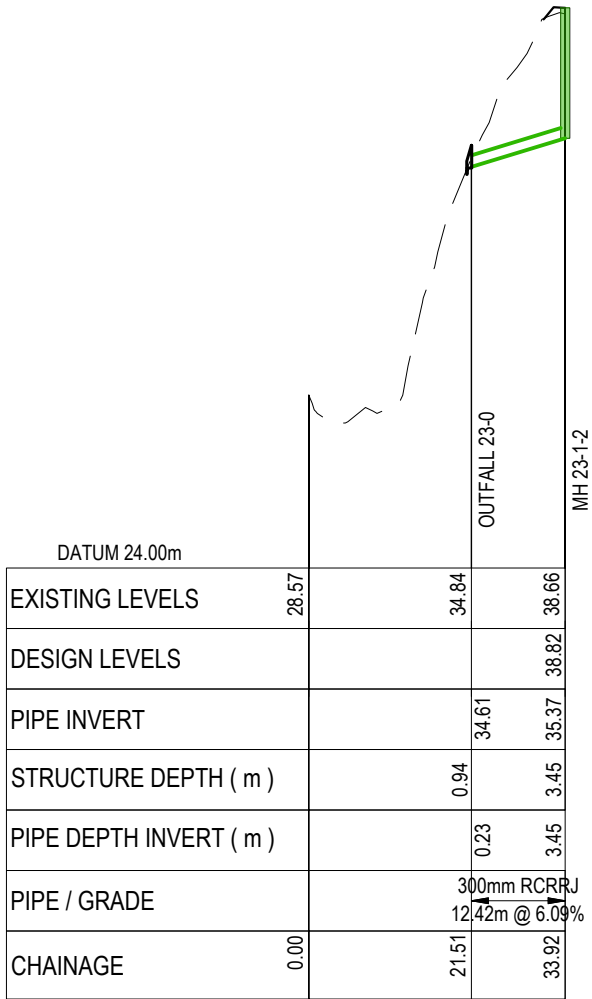
Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**RETIREMENT VILLAGE
STORMWATER LONG
SECTIONS - ROAD RUN OFF**

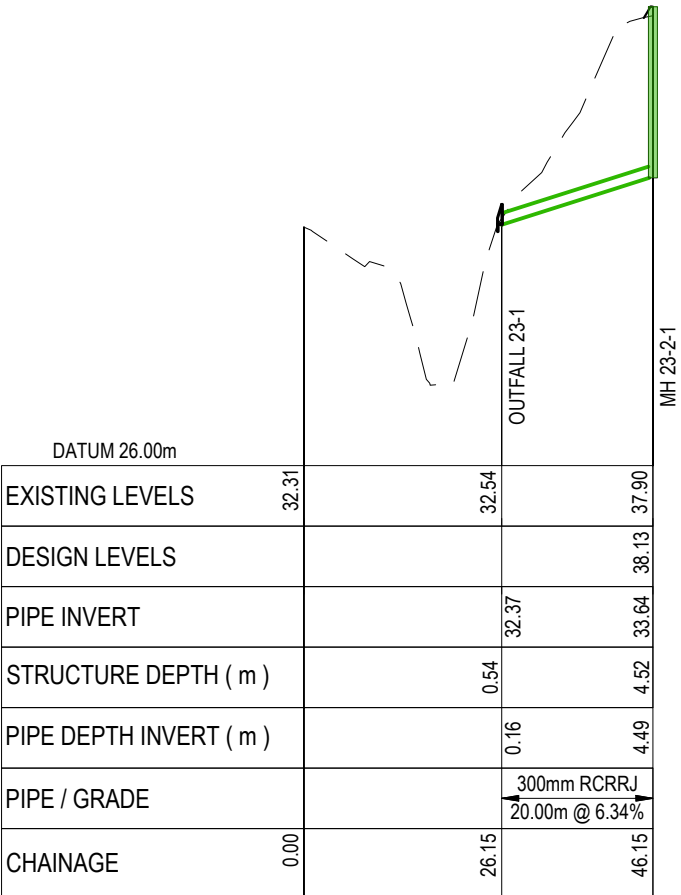
Project no.	147016		
Scale	1:1000 @ A3		
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Drawing no.	C420-31	Rev	B

DATE: 9/25/25 FILE PATH: F:\Maven\PROJECTS\147016 - RIVERHEAD RETIREMENT VILLAGE\DWG\147016-RV-C420 SW LS ROAD.DWG

RESOURCE CONSENT



ROAD RUNOFF LINE 23-1
SCALE: HORI 1:1000 VERT 1:200



ROAD RUNOFF LINE 23-2
SCALE: HORI 1:1000 VERT 1:200

LEGEND:
--- EX GROUND SURFACE
--- PR DESIGN SURFACE
--- INDICATIVE LOCALISED GROUND LEVELS FOR SW DEVICE AND OUTLET IMPLEMENTATION. TO BE CONFIRMED IN DETAILED DESIGN

B	S67	HN	09/2025
A	RESOURCE CONSENT	AYC	03/2025
Rev	Description	By	Date
	By	Date	
Survey	LIDAR	03/2022	
Design	AYC	03/2025	
Drawn	AYC	03/2025	
Checked	RW	03/2025	

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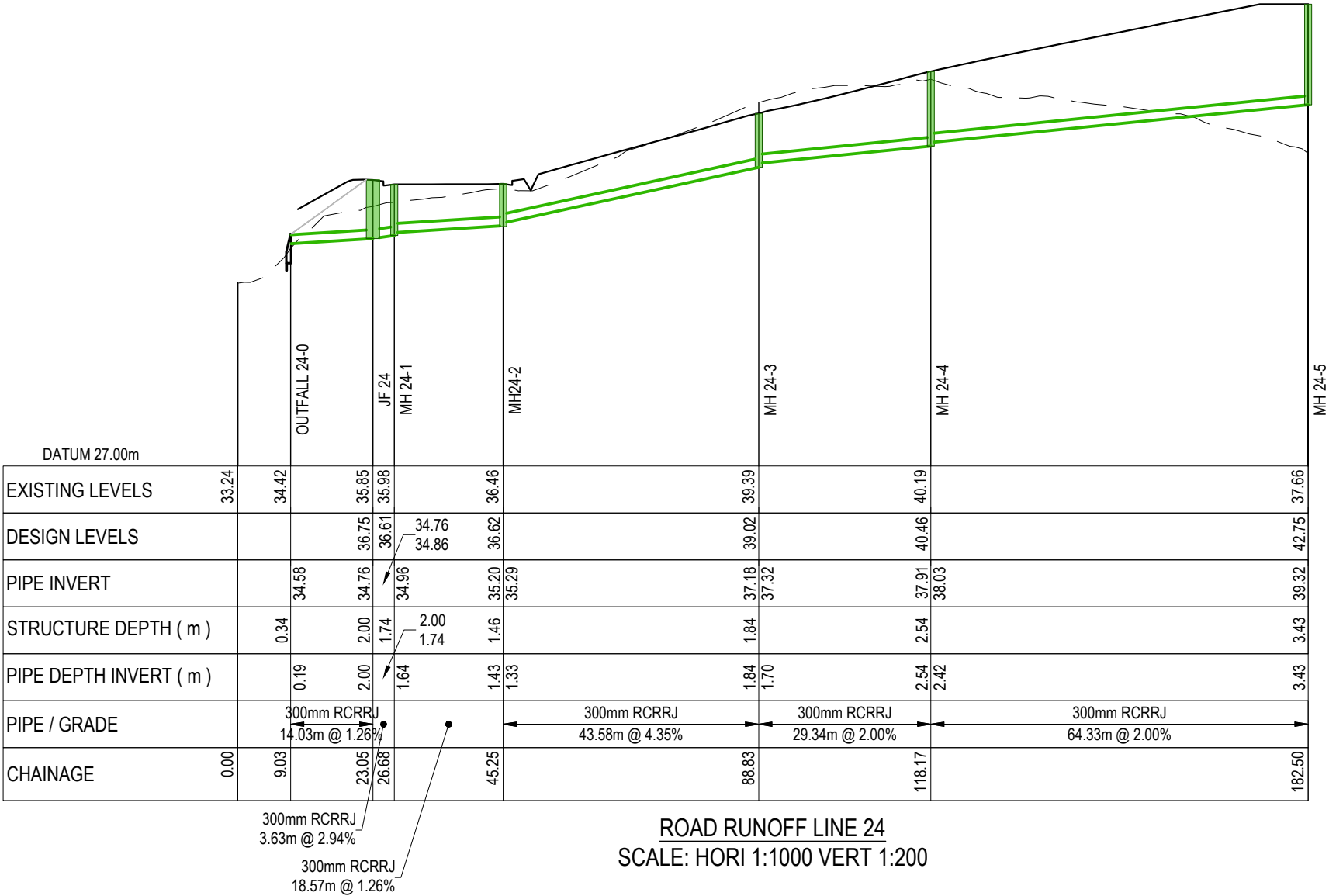
Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**RETIREMENT VILLAGE
STORMWATER LONG
SECTIONS - ROAD RUN OFF**

Project no.	147016		
Scale	1:1000 @ A3		
Cad file	147016-RV-C420 SW LS_ROAD.DWG		
Drawing no.	C420-32	Rev	B

DATE: 9/25/25 FILE PATH: F:\Maven\PROJECTS\147016 - RIVERHEAD RETIREMENT VILLAGE\DWG\147016-RV-C420 SW LS ROAD.DWG

RESOURCE CONSENT



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

Title
**RETIREMENT VILLAGE
STORMWATER LONG
SECTIONS - ROAD RUN OFF**

Project no.	147016
Scale	1:1000 @ A3
Cad file	147016-RV-C420 SW LS ROAD.DWG
Drawing no.	C420-33
Rev	B



REFER TO MAVEN FLOODING
REPORT FOR HAZARD MAPPING
DETAILS

- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 2. PIPE BEDDING: 0 - 10% GRANULAR BEDDING, 10 - 20% WEAK CONCRETE BEDDING, GREATER THAN 20% WEAK CONCRETE BEDDING (7MPa PLUS ANTI SCOUR BLOCKS AT 6m CRS).
 3. EACH CONNECTION SHALL BE MARKED BY A 50mm x 50mm TREATED PINE STAKE EXTENDING 600mm ABOVE GROUND LEVEL WITH THE TOP PAINTED. THIS MARKER POST SHALL BE PLACED ALONGSIDE A TIMBER MARKER INSTALLED AT THE TIME OF PIPELAYING AND EXTENDING FROM THE CONNECTION TO 150mm BELOW FINISHED GROUND LEVEL. CONNECTIONS SHALL BE ACCURATELY INDICATED ON "AS BUILT" PLANS.
 4. APPROVED HARDFILL IS TO BE USED IN BACKFILLING OF ALL ROAD CROSSINGS AND VEHICLE CROSSINGS TO COUNCIL STANDARDS.
 5. HEAVY DUTY MANHOLE LIDS AND FRAMES TO BE USED IN TRAFFICKED AREAS.
 6. ALL MANHOLES ARE TO BE 1050mmØ PRECAST CONCRETE UNLESS SHOWN OTHERWISE.
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 8. ALL LINES TO BE ABANDONED SHALL BE SEALED AT EACH END. TIMING OF ALL SEALING TO BE COORDINATED WITH COUNCIL STAFF.
 9. ALL LOT CONNECTION TO BE MIN 100mm uPVC SN16 UNLESS SHOWN OTHERWISE.
 10. ALL ROOF WATER RUNOFF PIPE TO BE 150 uPVC SN16 UNLESS SHOWN OTHERWISE.

LEGEND

EX BDY	PR BDY
EX STORMWATER	PR STORMWATER ROAD
EX 100-YEAR FLOOD EXTENT	PR 100-YEAR FLOOD EXTENT

A	S67	SP	09/2025
Rev	Description	By	Date
Survey	LIDAR		03/2022
Design	AO/AYC		09/2025
Drawn	SP		09/2025
Checked	RW		09/2025

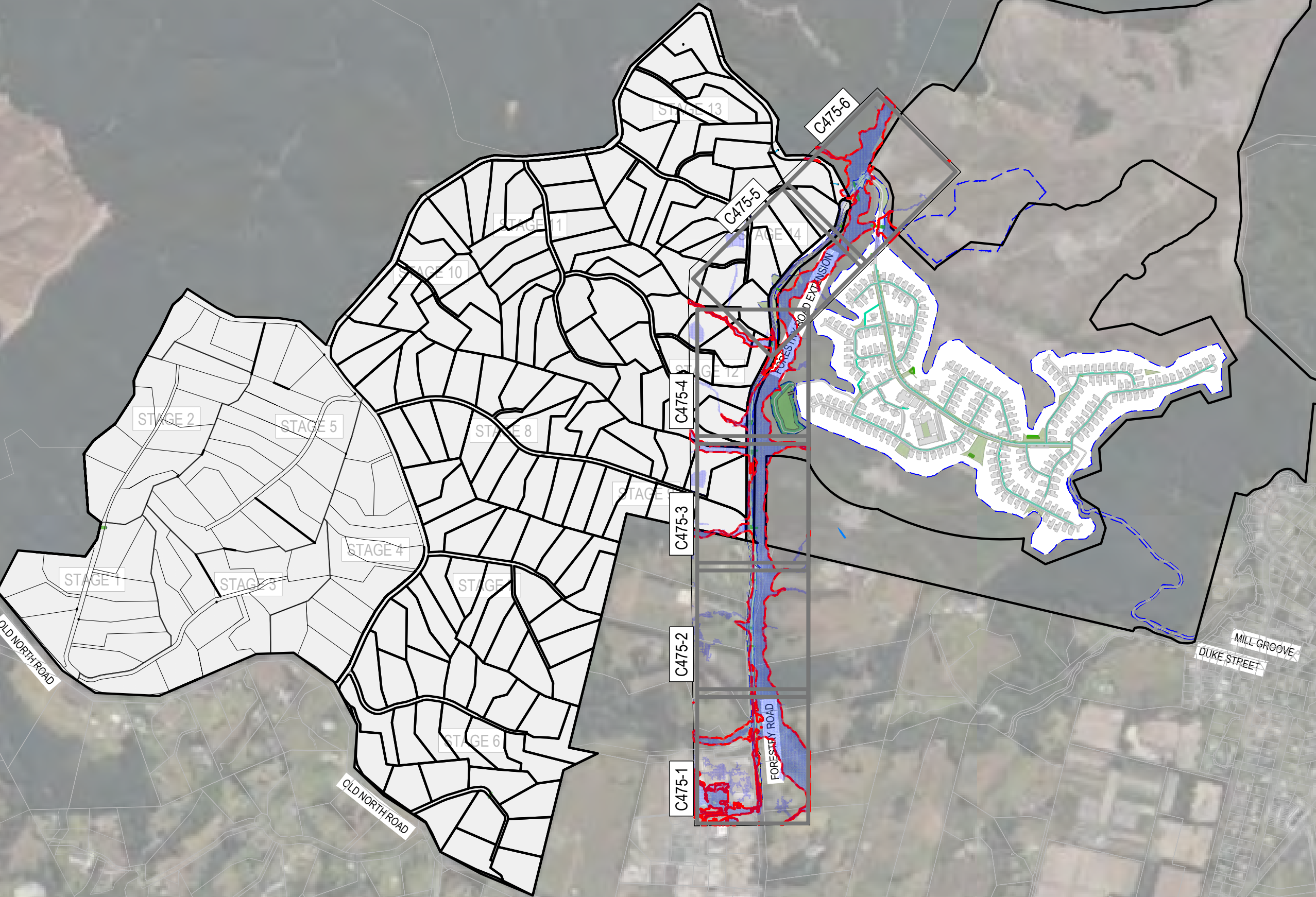


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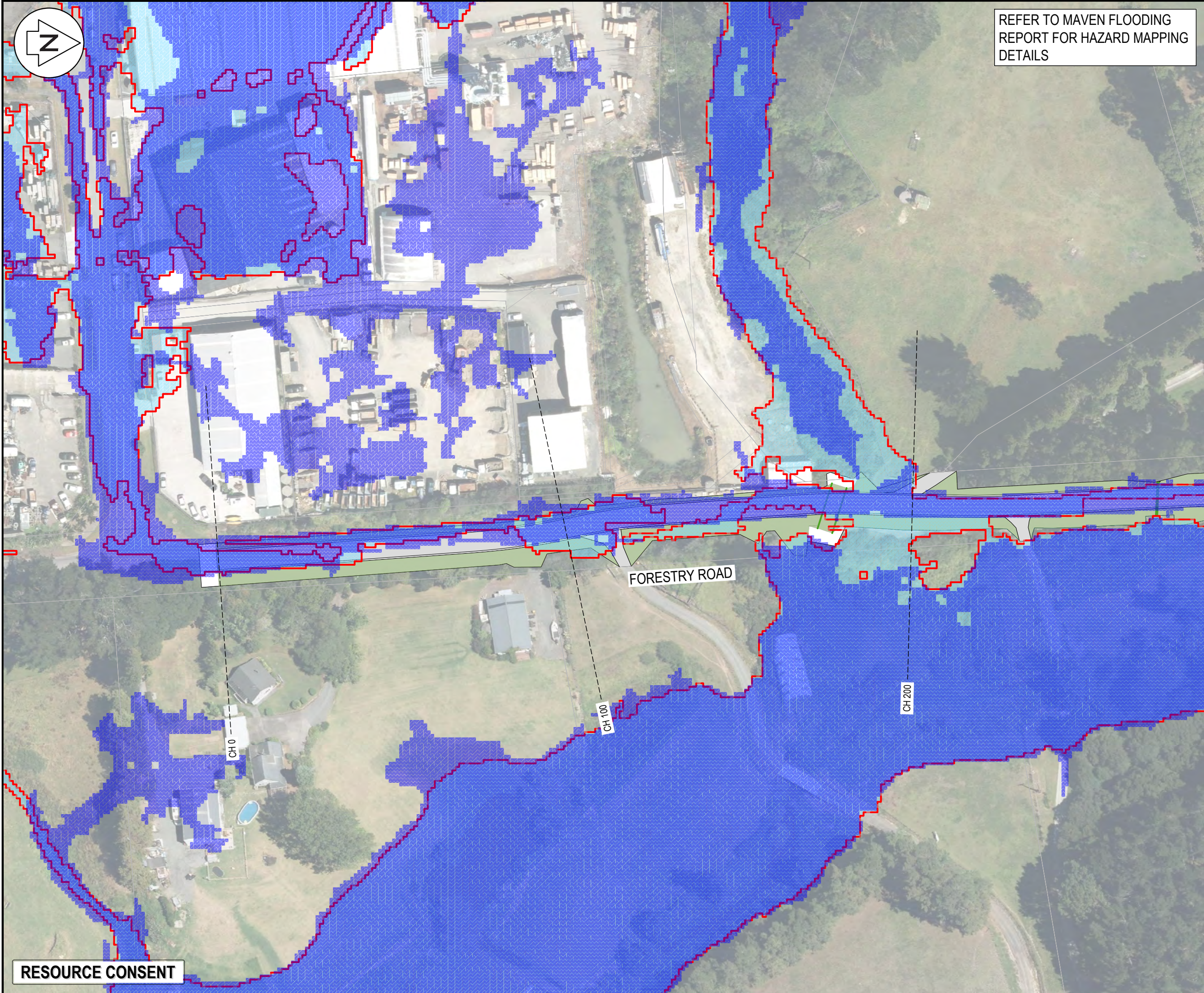
Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**RETIREMENT VILLAGE
100YR FLOOD EXTENT
OVERVIEW PLAN**

Project no.	147016		
Scale	1:10,000 @ A3		
Cad file	147016-RV-C475 FLOOD EXTENT.DWG		
Drawing no.	C475	Rev	A



RESOURCE CONSENT



REFER TO MAVEN FLOODING
REPORT FOR HAZARD MAPPING
DETAILS

- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
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 7. ALL CATCHPIT LEADS ARE 225mm DIAMETER AND SHALL HAVE MIN COVER 1.0m
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 10. ALL ROOF WATER RUNOFF PIPE TO BE 150 uPVC SN16 UNLESS SHOWN OTHERWISE.

LEGEND

—	EX BDY
—	PR BDY
---	EX STORMWATER
---	PR STORMWATER ROAD
- - -	EX 100-YEAR FLOOD EXTENT
---	PR 100-YEAR FLOOD EXTENT

A	S67	SP	09/2025
Rev	Description	By	Date
		By	Date
Survey	LIDAR		03/2022
Design	AO/AYC		09/2025
Drawn	SP		09/2025
Checked	RW		09/2025

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

Title
**RETIREMENT VILLAGE
100YR FLOOD EXTENT
PLAN**

Project no.	147016
Scale	1:1000 @ A3
Cad file	147016-RV-C475 FLOOD EXTENT.DWG
Drawing no.	C475-1
Rev	A

RESOURCE CONSENT



REFER TO MAVEN FLOODING
REPORT FOR HAZARD MAPPING
DETAILS

- NOTES
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- LEGEND
- EX BDY
 - PR BDY
 - EX STORMWATER
 - PR STORMWATER ROAD
 - EX 100-YEAR FLOOD EXTENT
 - PR 100-YEAR FLOOD EXTENT

A	S67	SP	09/2025
Rev	Description	By	Date
		By	Date
Survey	LIDAR		03/2022
Design	AO/AYC		09/2025
Drawn	SP		09/2025
Checked	RW		09/2025

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

Title
**RETIREMENT VILLAGE
100YR FLOOD EXTENT
PLAN**

Project no.	147016
Scale	1:1000 @ A3
Cad file	147016-RV-C475 FLOOD EXTENT.DWG
Drawing no.	C475-2
Rev	A

FORESTRY ROAD

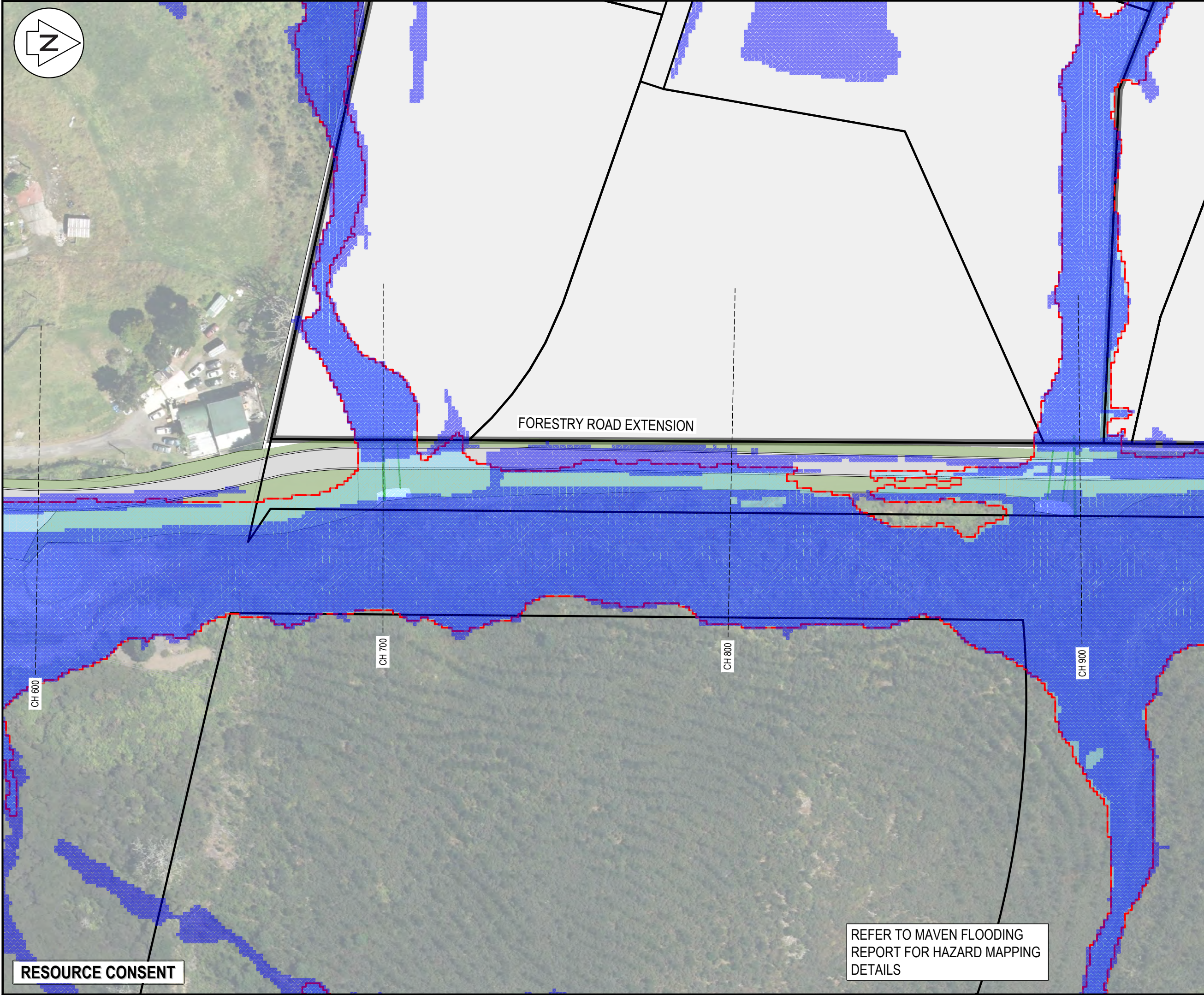
CH 300

CH 400

CH 500

CH 600

RESOURCE CONSENT



- NOTES
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LEGEND

—	EX BDY
—	PR BDY
---	EX STORMWATER
---	PR STORMWATER ROAD
- - -	EX 100-YEAR FLOOD EXTENT
- - -	PR 100-YEAR FLOOD EXTENT

A	S67	SP	09/2025
Rev	Description	By	Date
		By	Date
Survey	LIDAR		03/2022
Design	AO/AYC		09/2025
Drawn	SP		09/2025
Checked	RW		09/2025

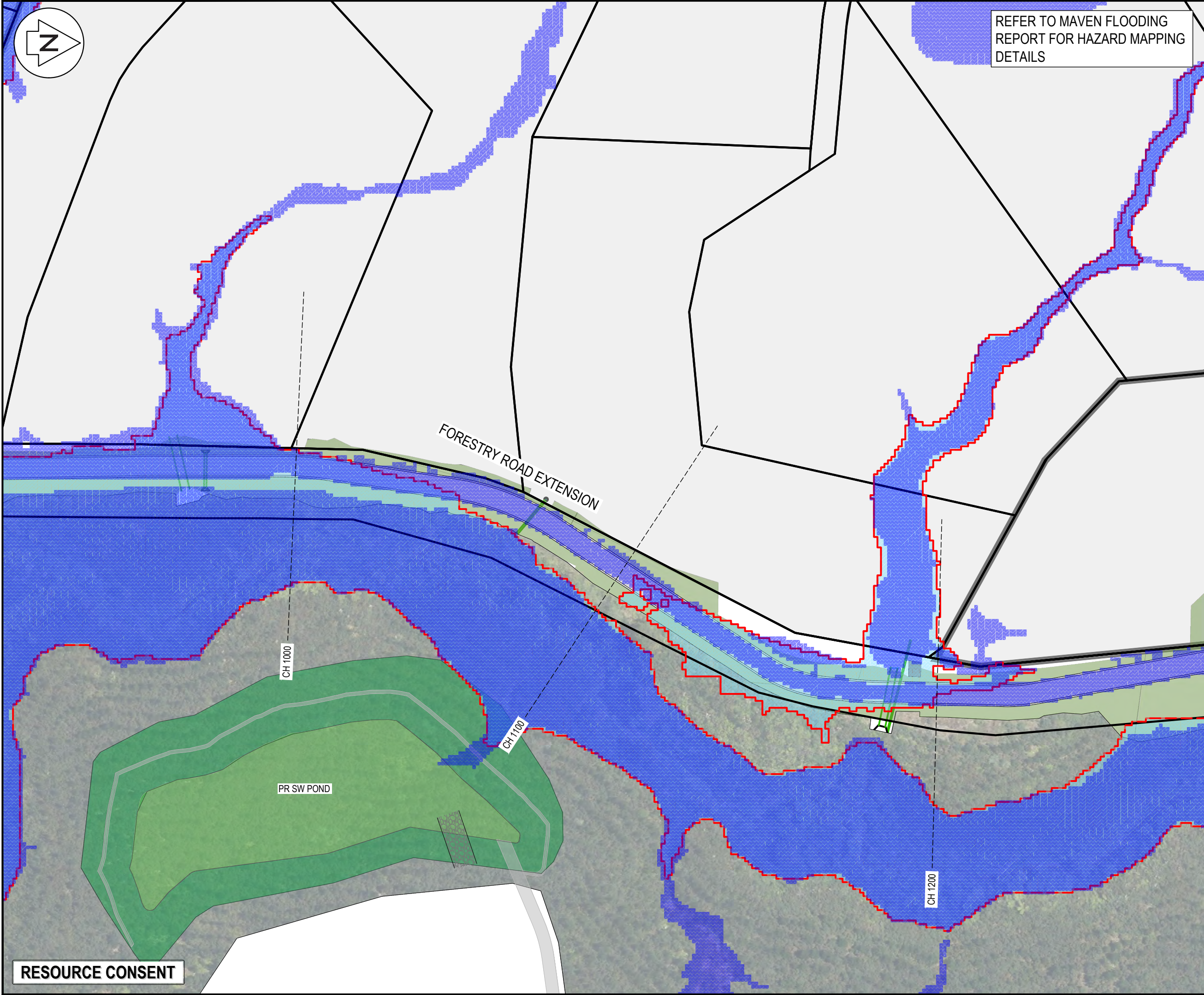


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Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**RETIREMENT VILLAGE
100YR FLOOD EXTENT
PLAN**

Project no.	147016		
Scale	1:1000 @ A3		
Cad file	147016-RV-C475 FLOOD EXTENT.DWG		
Drawing no.	C475-3	Rev	A



NOTES

1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
2. PIPE BEDDING: 0 - 10% GRANULAR BEDDING, 10 - 20% WEAK CONCRETE BEDDING, GREATER THAN 20% WEAK CONCRETE BEDDING (7MPa PLUS ANTI SCOUR BLOCKS AT 6m CRS).
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LEGEND

—	EX BDY
—	PR BDY
---	EX STORMWATER
---	PR STORMWATER ROAD
- - -	EX 100-YEAR FLOOD EXTENT
—	PR 100-YEAR FLOOD EXTENT

A	S67	SP	09/2025
Rev	Description	By	Date
Survey	LIDAR		03/2022
Design	AO/AYC		09/2025
Drawn	SP		09/2025
Checked	RW		09/2025

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Project

DEVELOPMENT OF RIVERHEAD FOREST FOR RANGITOOPUNI DEVELOPMENTS LIMITED PARTNERSHIP

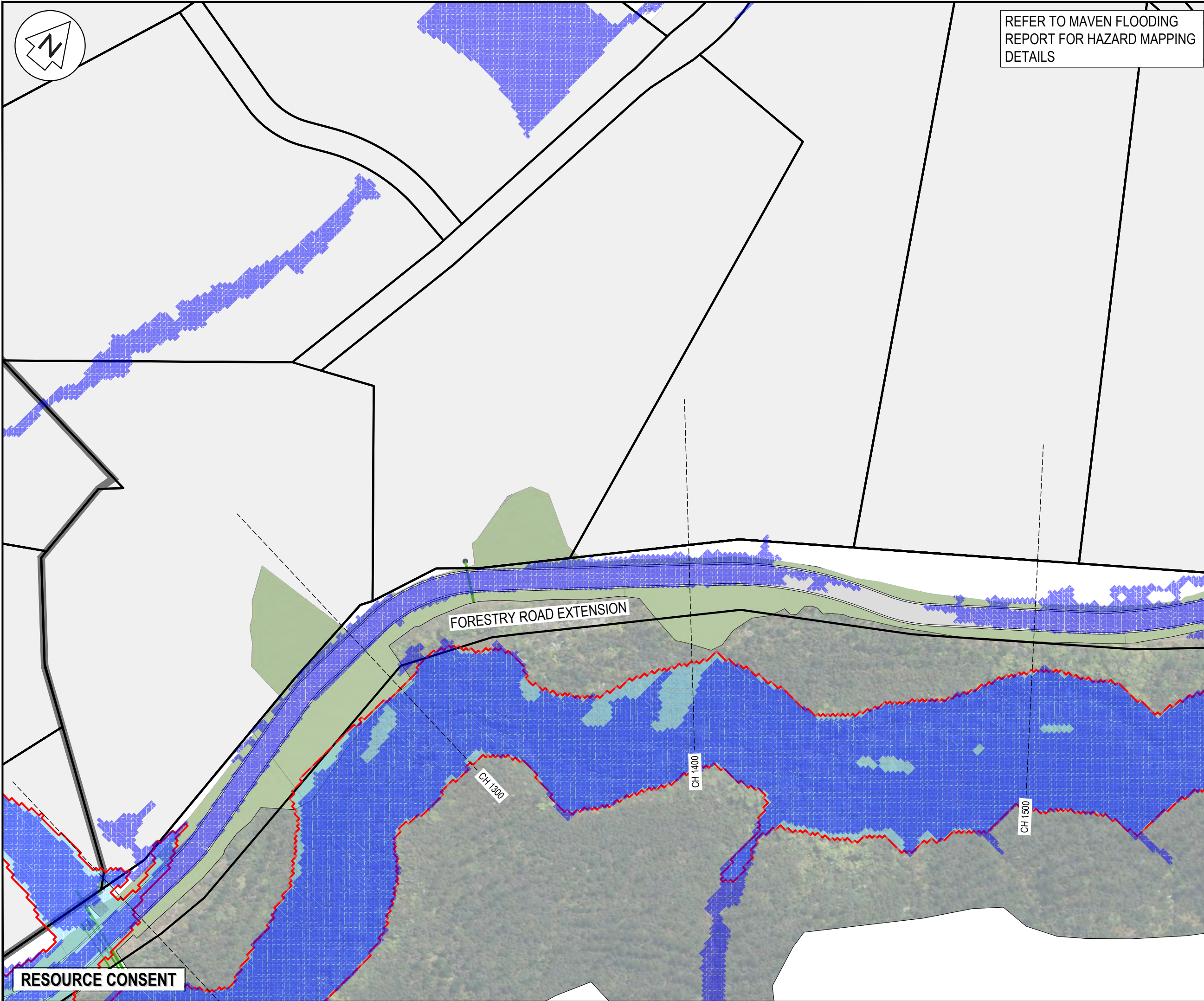
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RETIREMENT VILLAGE 100YR FLOOD EXTENT PLAN

Project no.	147016		
Scale	1:1000 @ A3		
Cad file	147016-RV-C475 FLOOD EXTENT.DWG		
Drawing no.	C475-4	Rev	A

DATE: 9/25/25 FILE PATH: F:\Maven\PROJECTS\147016 - RIVERHEAD RETIREMENT VILLAGE\DWG\147016-RV-C475 FLOOD EXTENT.DWG

RESOURCE CONSENT



REFER TO MAVEN FLOODING
REPORT FOR HAZARD MAPPING
DETAILS

- NOTES**
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 2. PIPE BEDDING: 0 - 10% GRANULAR BEDDING, 10 - 20% WEAK CONCRETE BEDDING, GREATER THAN 20% WEAK CONCRETE BEDDING (7MPa PLUS ANTI SCOUR BLOCKS AT 6m CRS).
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LEGEND

- LEGEND
- EX BDY
 - PR BDY
 - EX STORMWATER
 - PR STORMWATER ROAD
 - EX 100-YEAR FLOOD EXTENT
 - PR 100-YEAR FLOOD EXTENT

A	S67		SP	09/2025	
Rev	Description		By	Date	
	By		Date		
Survey	LiDAR		03/2022		
Design	AO/AYC		09/2025		
Drawn	SP		09/2025		
Checked	RW		09/2025		



Project

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

Title

RETIREMENT VILLAGE

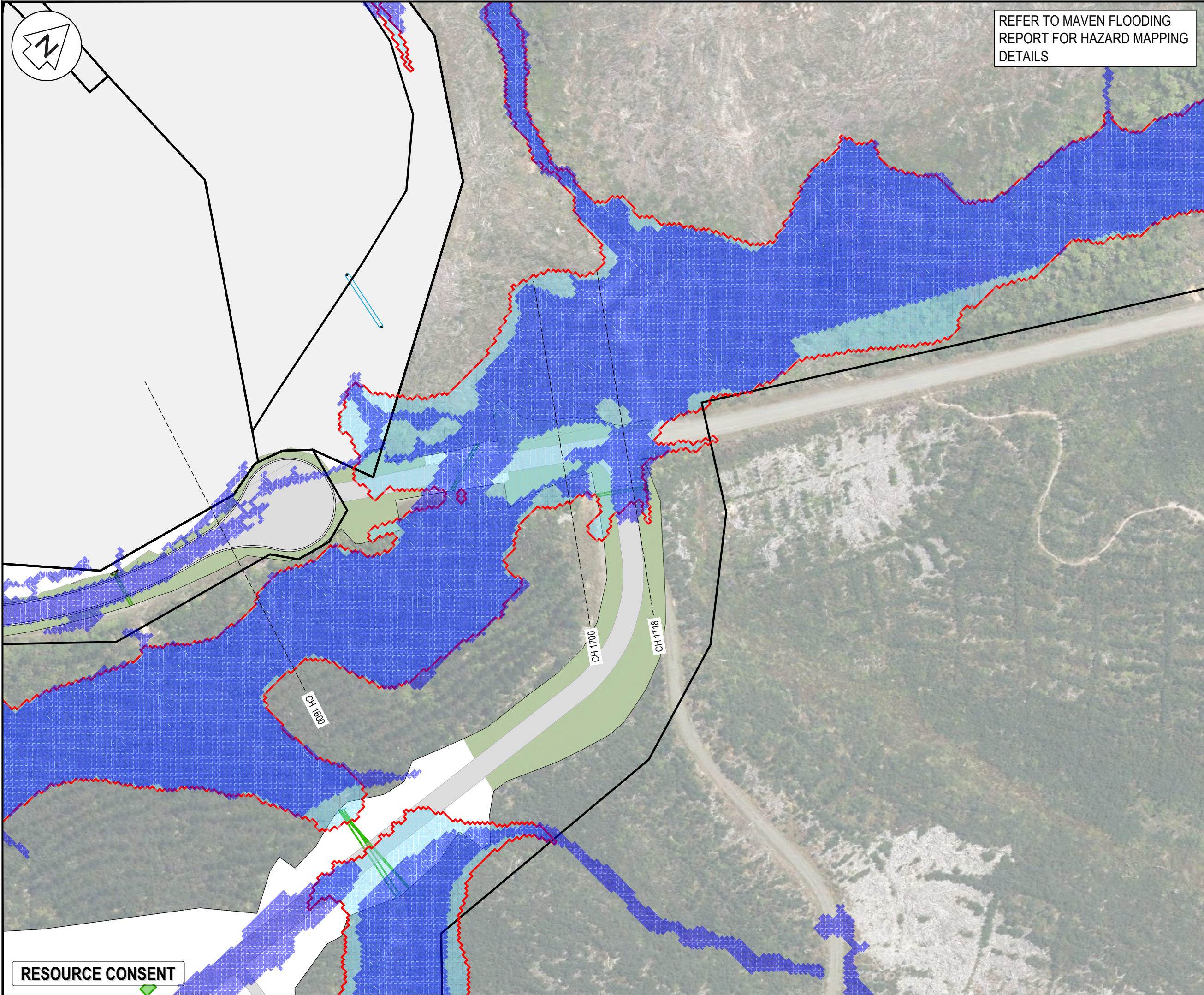
100YR FLOOD EXTENT

PLAN

Project no.	147016		
Scale	1:1000 @ A3		
Cad file	147016-RV-C475 FLOOD EXTENT.DWG		
Drawing no.	C475-5	Rev	A

RESOURCE CONSENT

DATE: 9/25/25 FILE PATH: F:\MAVEN\PROJECTS\147016 - RIVERHEAD RETIREMENT VILLAGE\DWG\147016-RV-C475 FLOOD EXTENT.DWG



REFER TO MAVEN FLOODING
REPORT FOR HAZARD MAPPING
DETAILS

- NOTES
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LEGEND			
		EX BDY	
		PR BDY	
		EX STORMWATER	
		PR STORMWATER ROAD	
		EX 100-YEAR FLOOD EXTENT	
		PR 100-YEAR FLOOD EXTENT	

A	S67	SP	09/2025
Rev	Description	By	Date
Survey	LIDAR		03/2022
Design	AO/AYC		09/2025
Drawn	SP		09/2025
Checked	RW		09/2025



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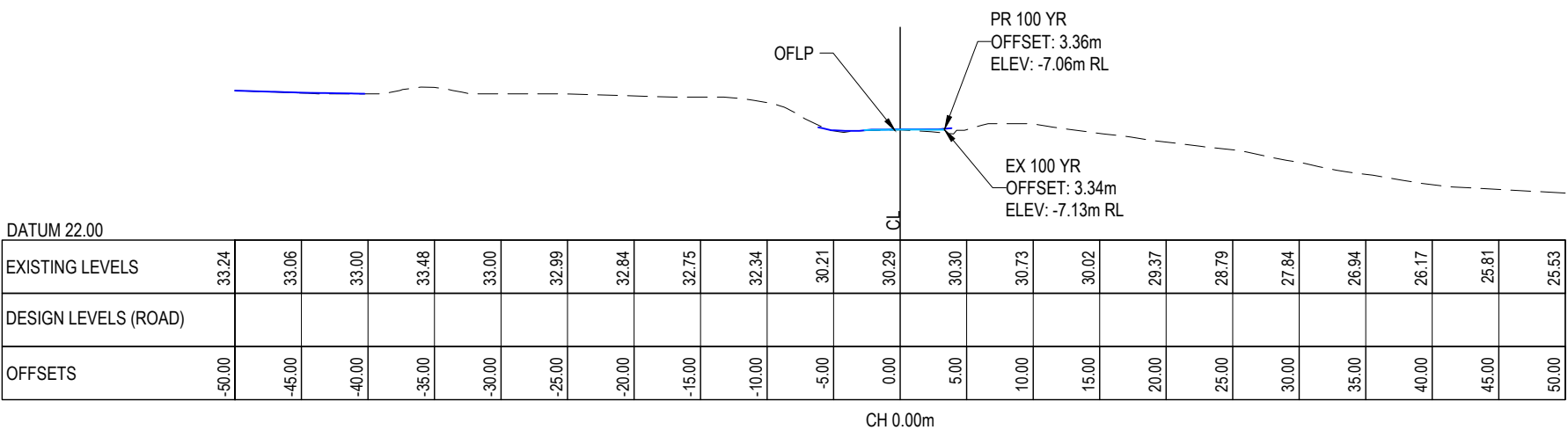
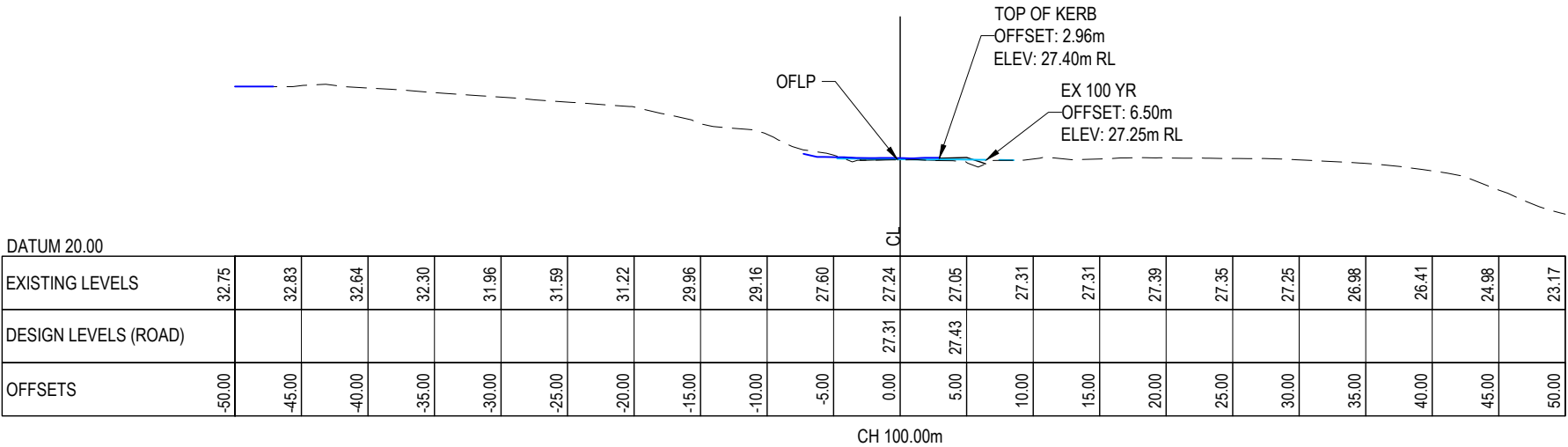
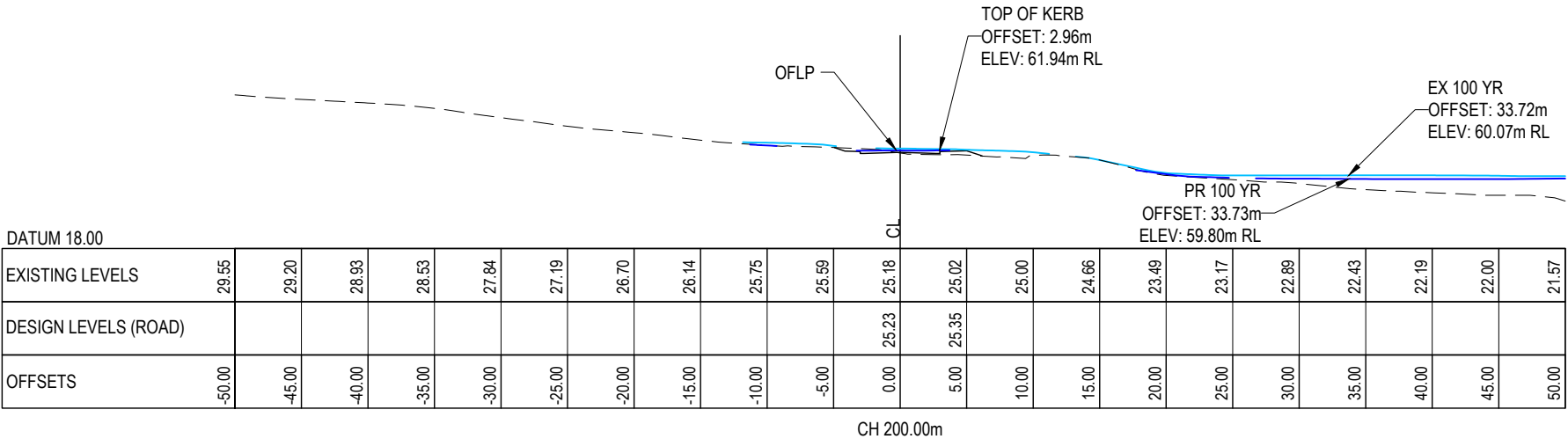
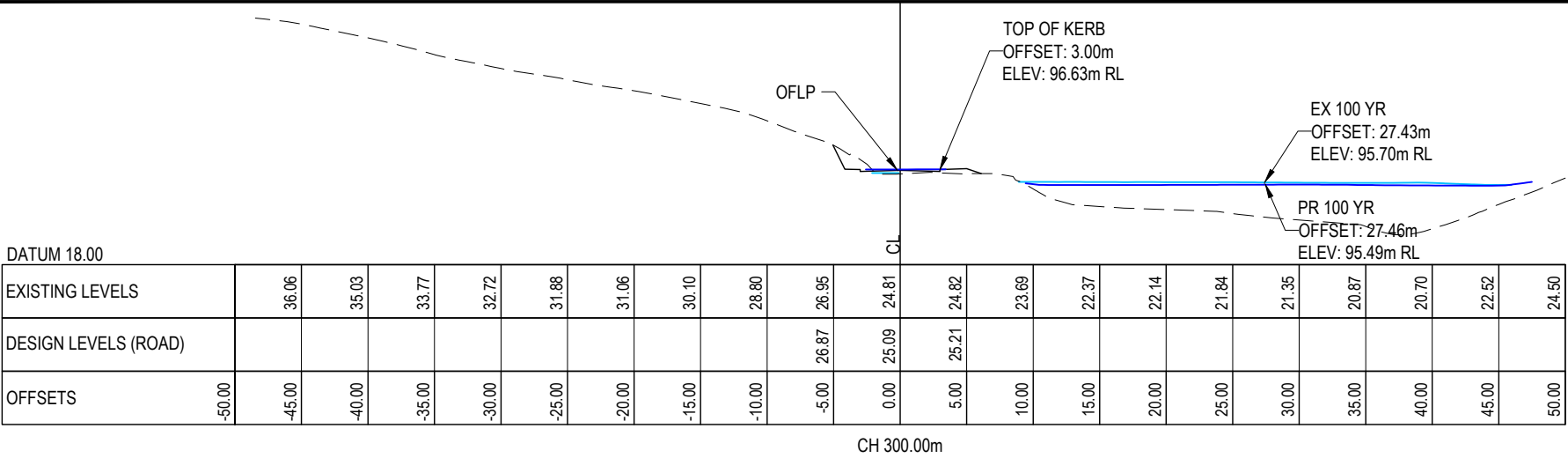
Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**RETIREMENT VILLAGE
100YR FLOOD EXTENT
PLAN**

Project no.	147016
Scale	1:1000 @ A3
Cad file	147016-RV-C475 FLOOD EXTENT.DWG
Drawing no.	C475-6
Rev	A

DATE: 9/25/23 FILE PATH: F:\Maven\PROJECTS\147016 - RIVERHEAD RETIREMENT VILLAGE\DWG\147016-RV-C475 FLOOD EXTENT.DWG

RESOURCE CONSENT



LEGEND:

- EX GROUND SURFACE
- PR DESIGN SURFACE
- EX 100YR FLOOD LEVEL
- PR 100YR FLOOD LEVEL

A	S67	AYC	09/2025
Rev	Description	By	Date
	By	Date	
Survey	LIDAR	03/2022	
Design	AYC	09/2025	
Drawn	AYC	09/2025	
Checked	RW	09/2025	



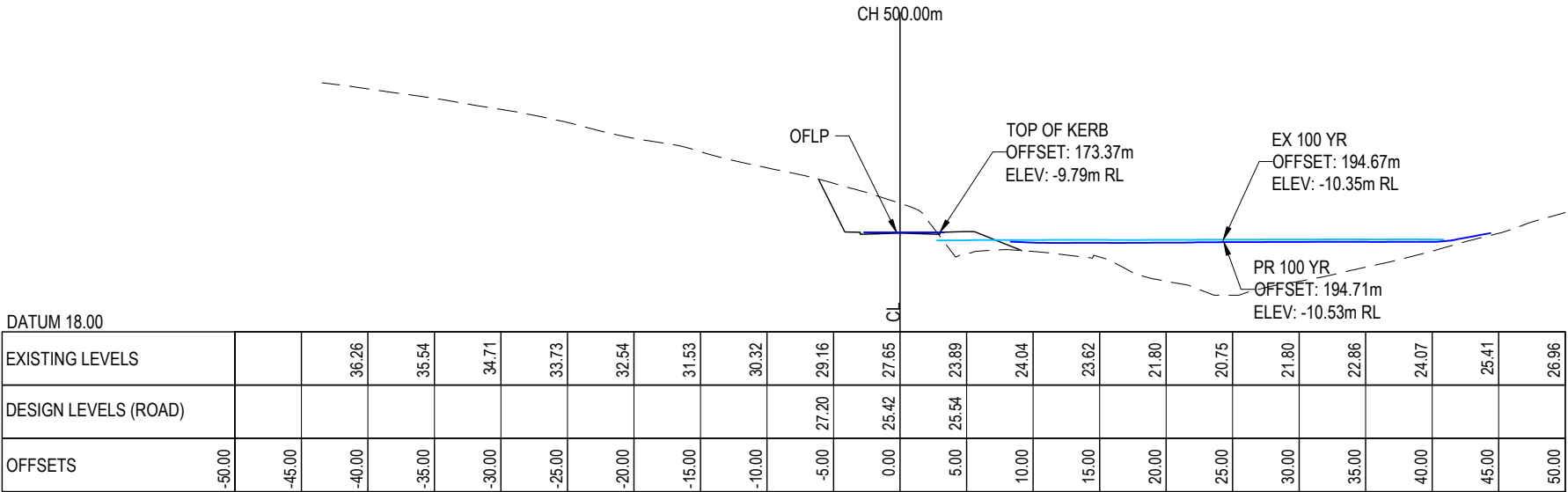
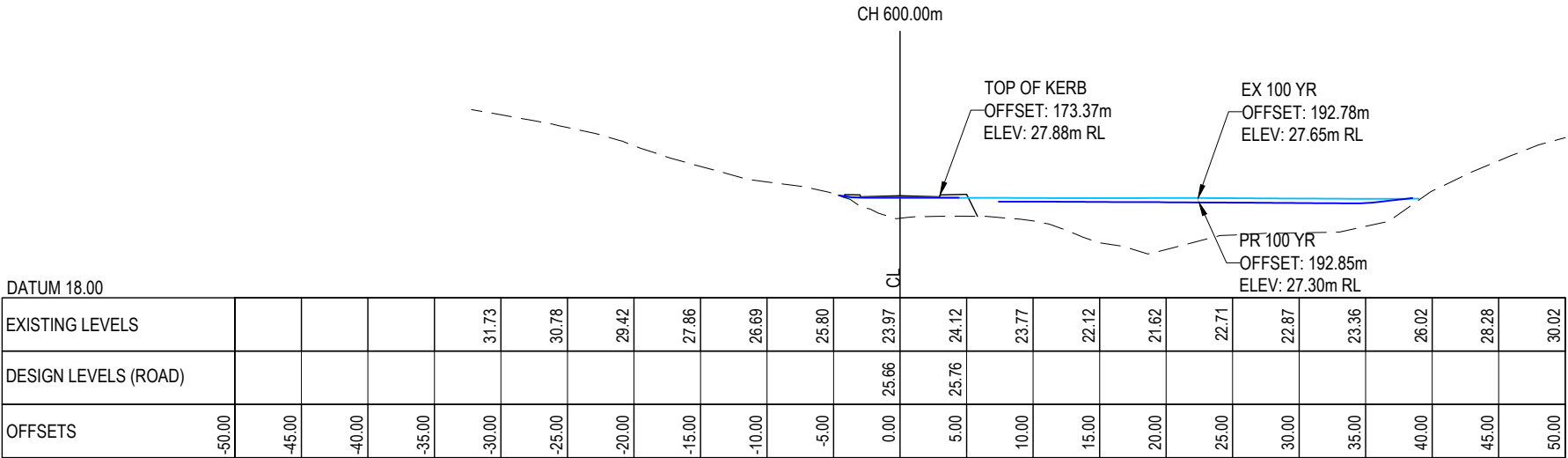
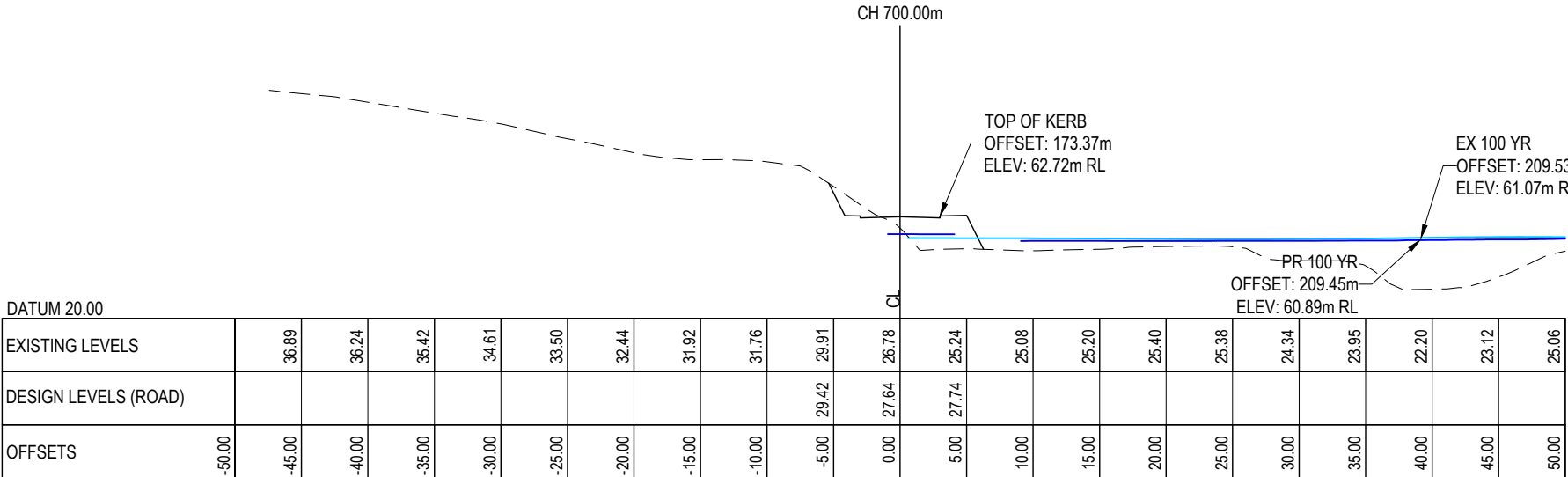
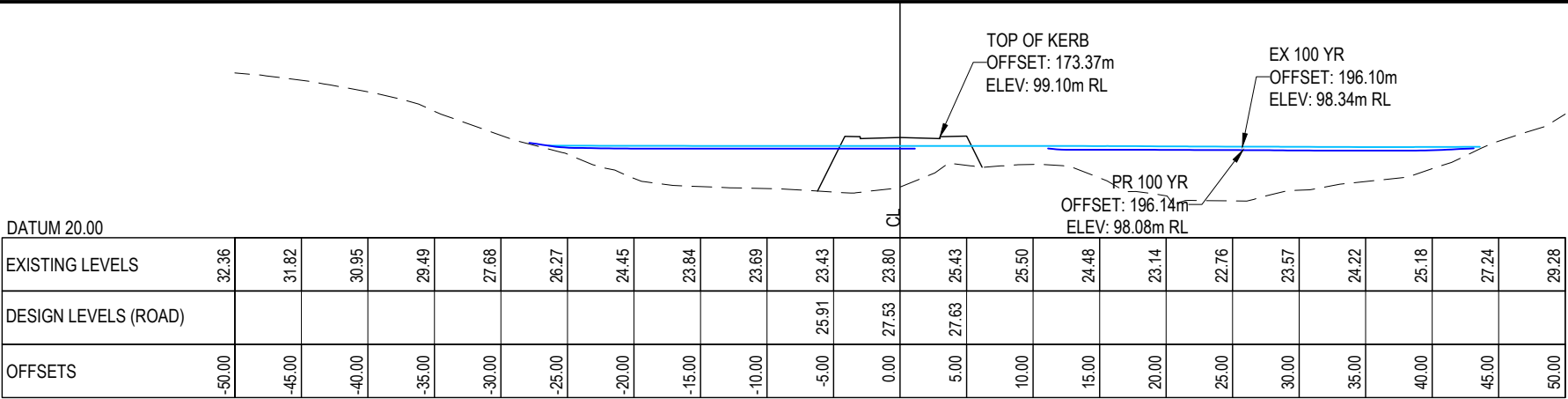
Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**RETIREMENT VILLAGE
100YR FLOOD EXTENT
CROSS SECTION - OLFP**

Project no.	147016		
Scale	1:500 @ A3		
Cad file	147016-RV-C475 FLOOD EXTENT.DWG		
Drawing no.	C475-7	Rev	A

DATE: 9/25/25 FILE PATH: F:\Maven\PROJECTS\147016 - RIVERHEAD RETIREMENT VILLAGE\DWG 147016-RV-C475 FLOOD EXTENT.DWG

RESOURCE CONSENT



LEGEND:
--- EX GROUND SURFACE
--- PR DESIGN SURFACE
--- EX 100YR FLOOD LEVEL
--- PR 100YR FLOOD LEVEL

A	S67	AYC	09/2025
Rev	Description	By	Date
	By	Date	
Survey	LIDAR	03/2022	
Design	AYC	09/2025	
Drawn	AYC	09/2025	
Checked	RW	09/2025	

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Auckland 1023

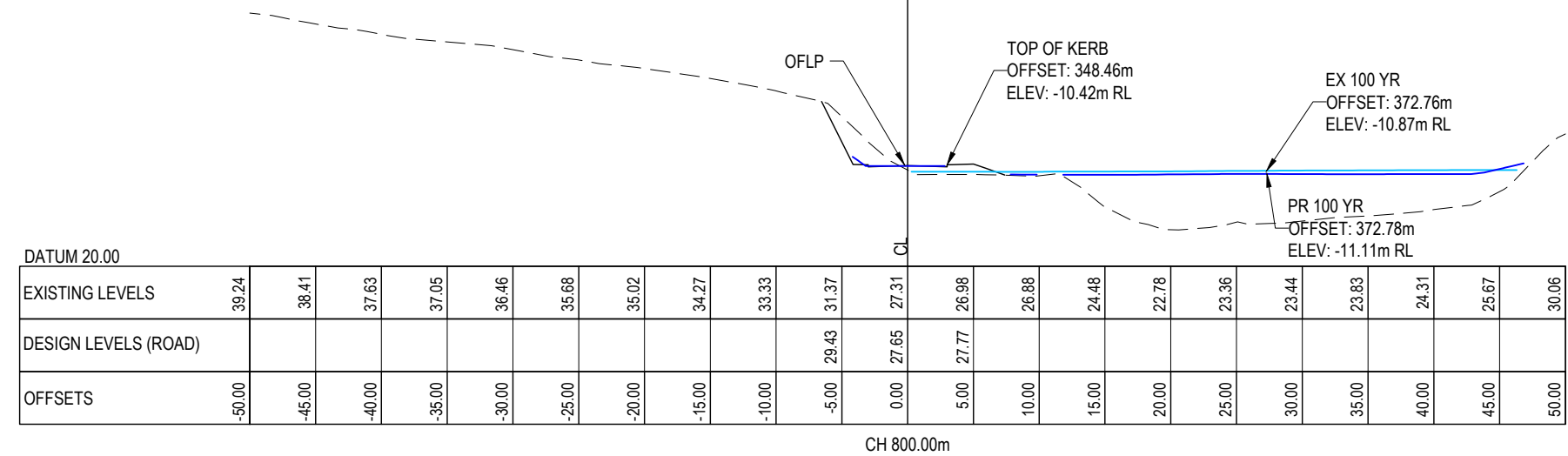
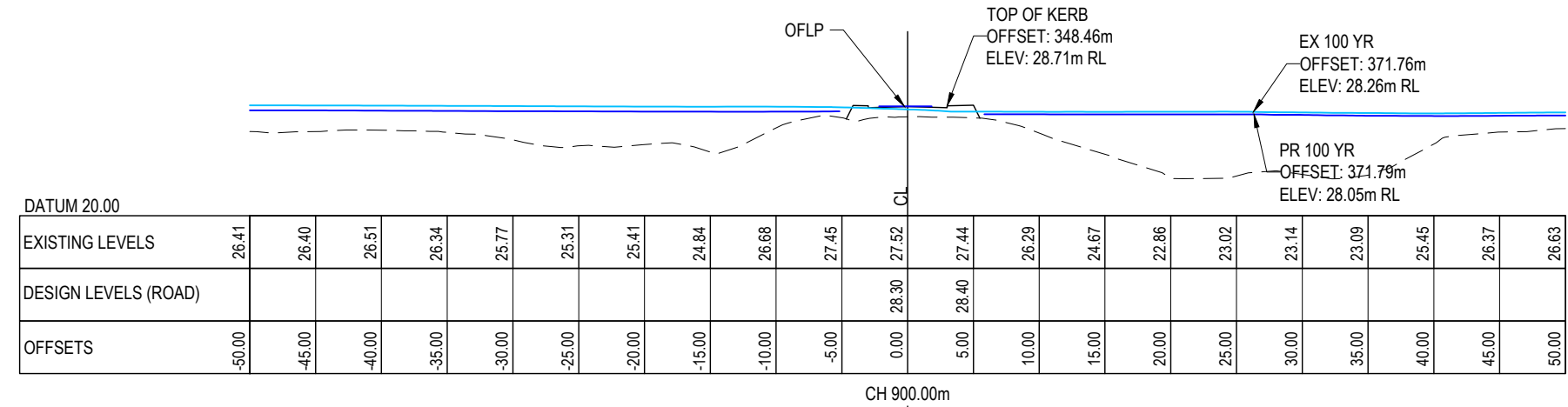
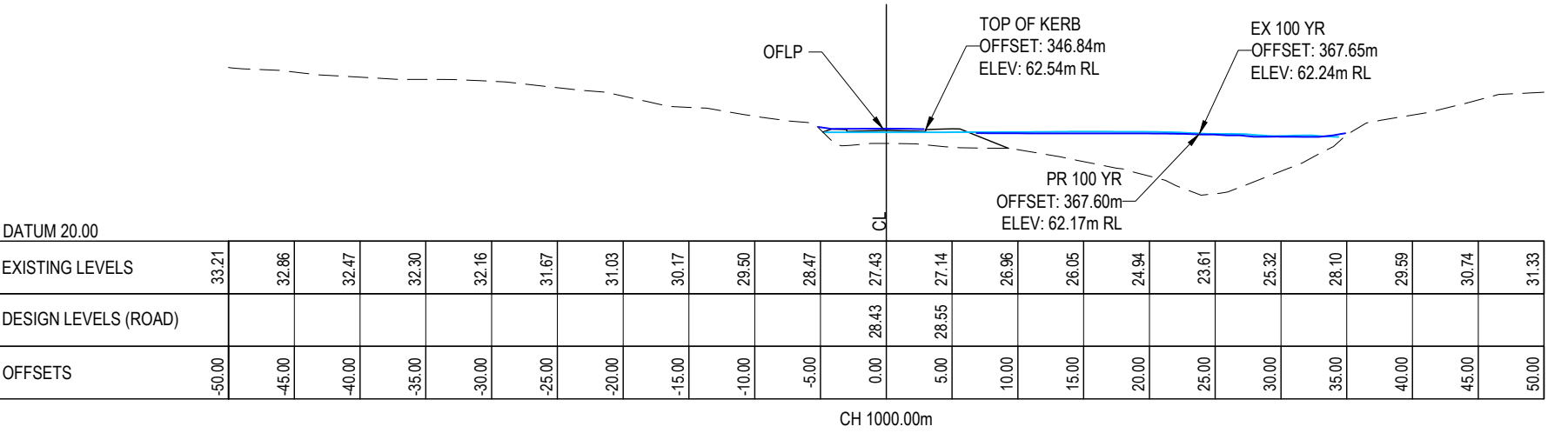
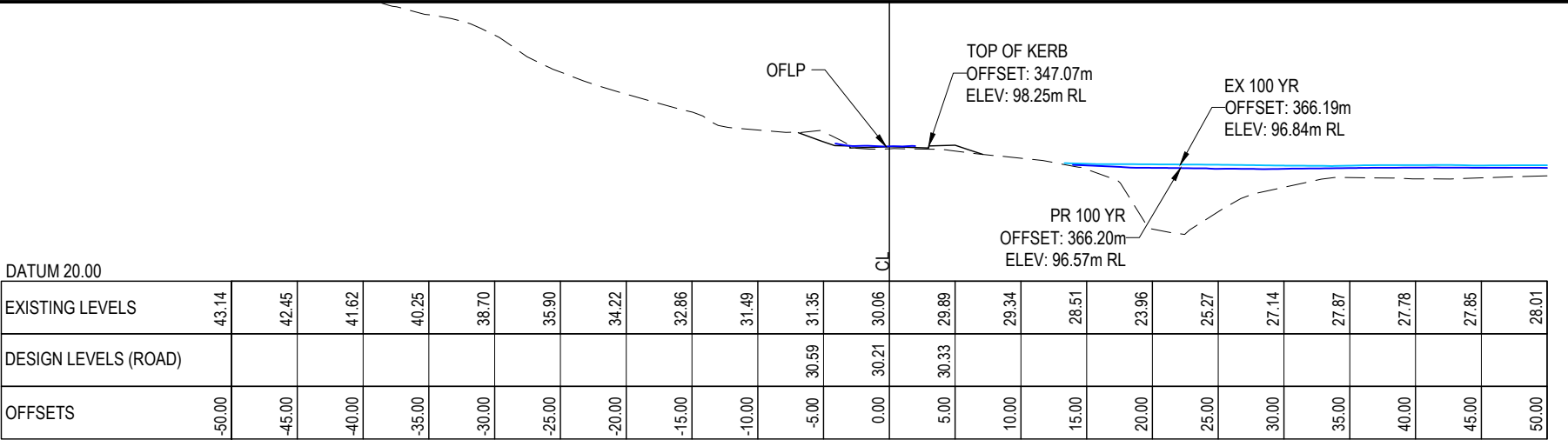
Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**RETIREMENT VILLAGE
100YR FLOOD EXTENT
CROSS SECTION - OLFP**

Project no.	147016		
Scale	1:500 @ A3		
Cad file	147016-RV-C475 FLOOD EXTENT.DWG		
Drawing no.	C475-8	Rev	A

DATE: 9/25/23 FILE PATH: F:\Maven\PROJECTS\147016 - RIVERHEAD RETIREMENT VILLAGE\DWG 147016-RV-C475 FLOOD EXTENT.DWG

RESOURCE CONSENT



LEGEND:

- EX GROUND SURFACE
- PR DESIGN SURFACE
- EX 100YR FLOOD LEVEL
- PR 100YR FLOOD LEVEL

A	S67	AYC	09/2025
Rev	Description	By	Date
	By	Date	
Survey	LIDAR	03/2022	
Design	AYC	09/2025	
Drawn	AYC	09/2025	
Checked	RW	09/2025	

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09 571 0050

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5 Owens Road, Epsom

Auckland 1023

Project

DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP

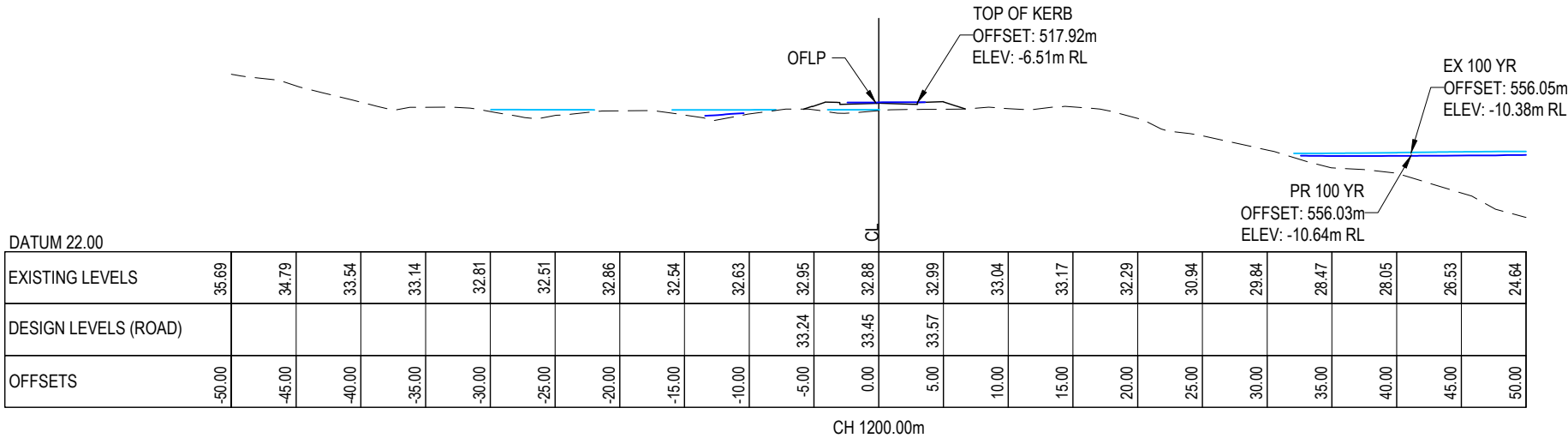
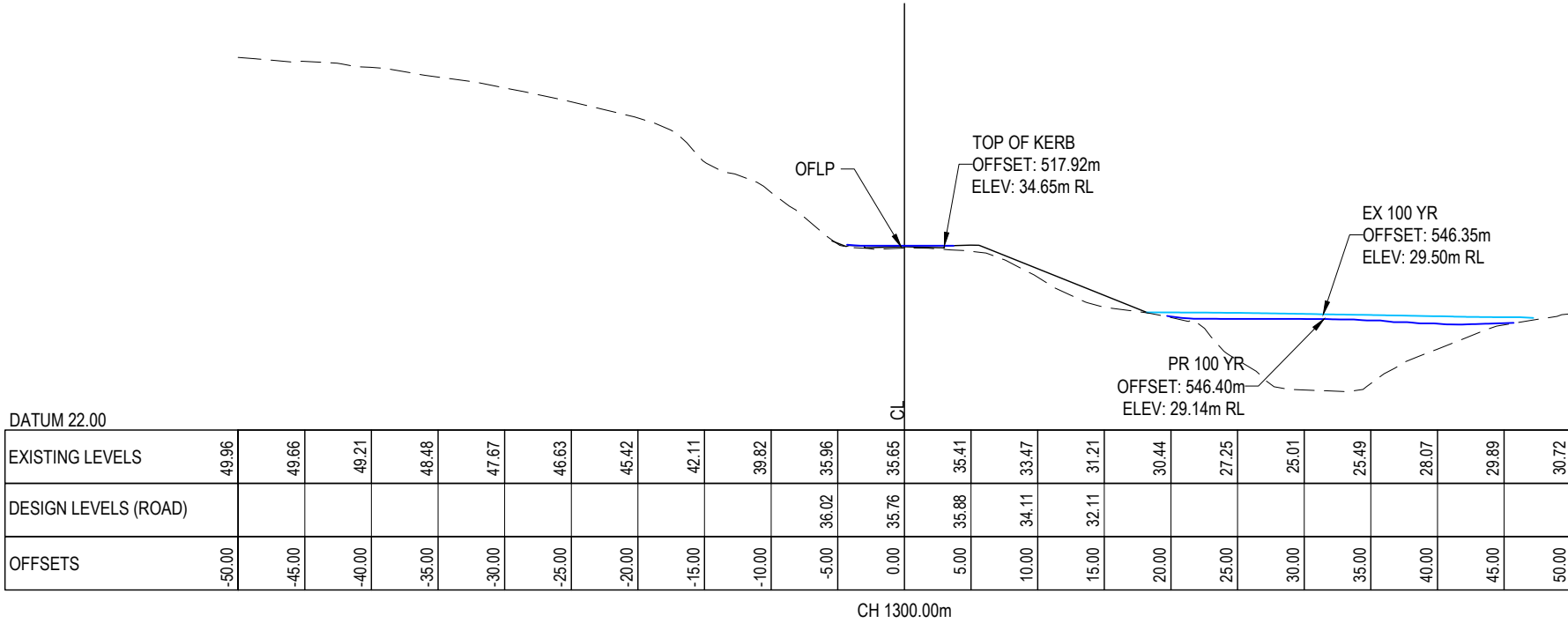
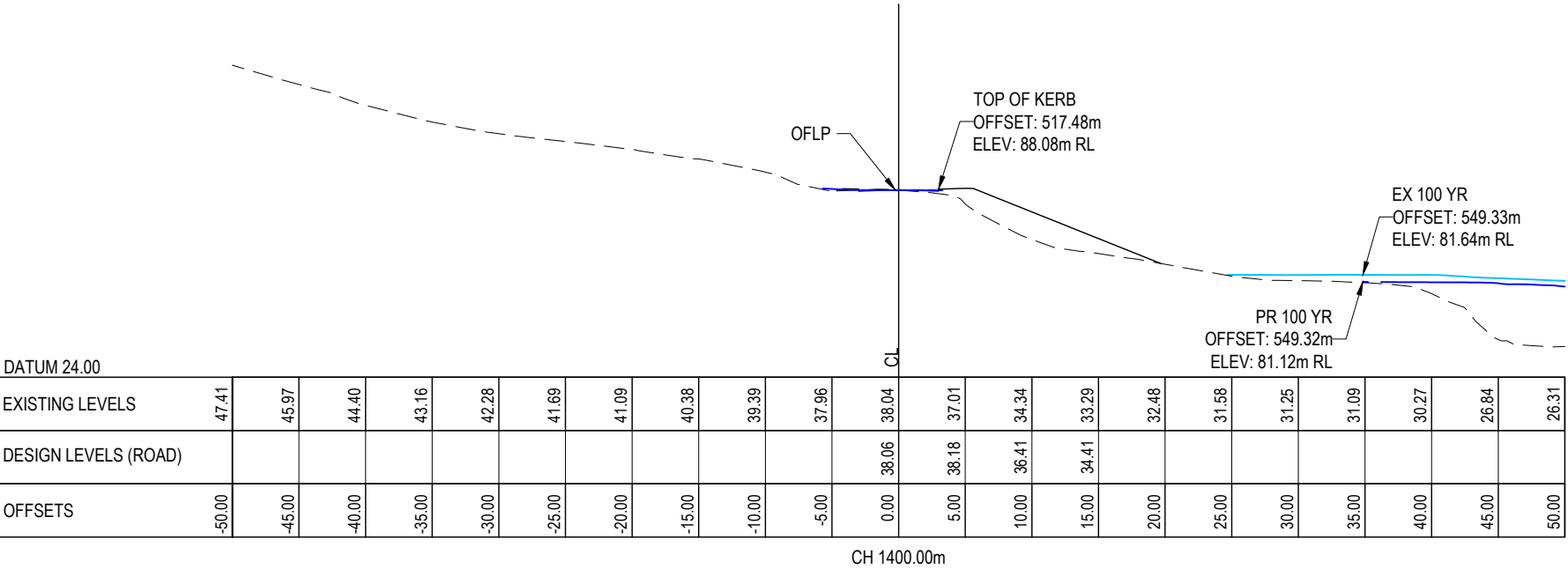
Title

RETIREMENT VILLAGE
100YR FLOOD EXTENT
CROSS SECTION - OLFP

Project no.	147016		
Scale	1:500 @ A3		
Cad file	147016-RV-C475 FLOOD EXTENT.DWG		
Drawing no.	C475-9	Rev	A

DATE: 9/25/25 FILE PATH: F:\Maven\PROJECTS\147016 - RIVERHEAD RETIREMENT VILLAGE\DWG 147016-RV-C475 FLOOD EXTENT.DWG

RESOURCE CONSENT



LEGEND:

- EX GROUND SURFACE
- PR DESIGN SURFACE
- EX 100YR FLOOD LEVEL
- PR 100YR FLOOD LEVEL

A	S67	AYC	09/2025
Rev	Description	By	Date
	Survey	LIDAR	03/2022
	Design	AYC	09/2025
	Drawn	AYC	09/2025
	Checked	RW	09/2025

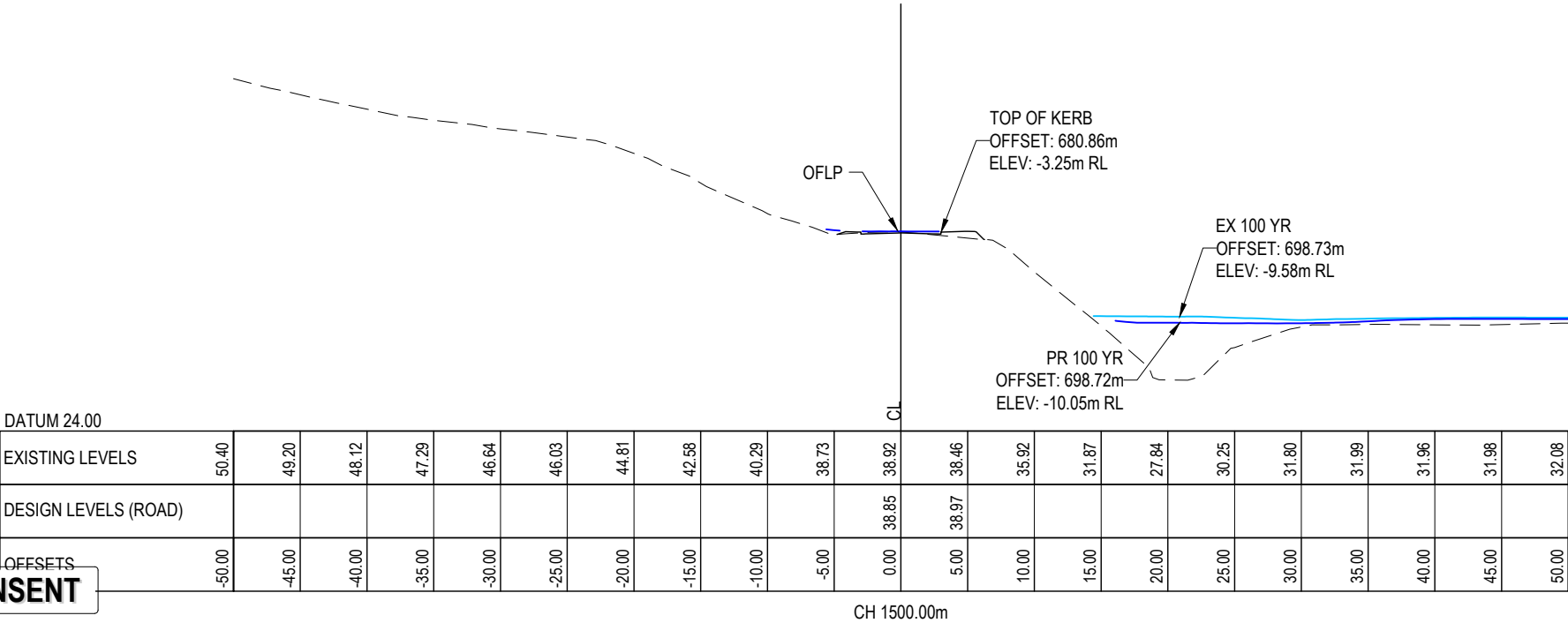
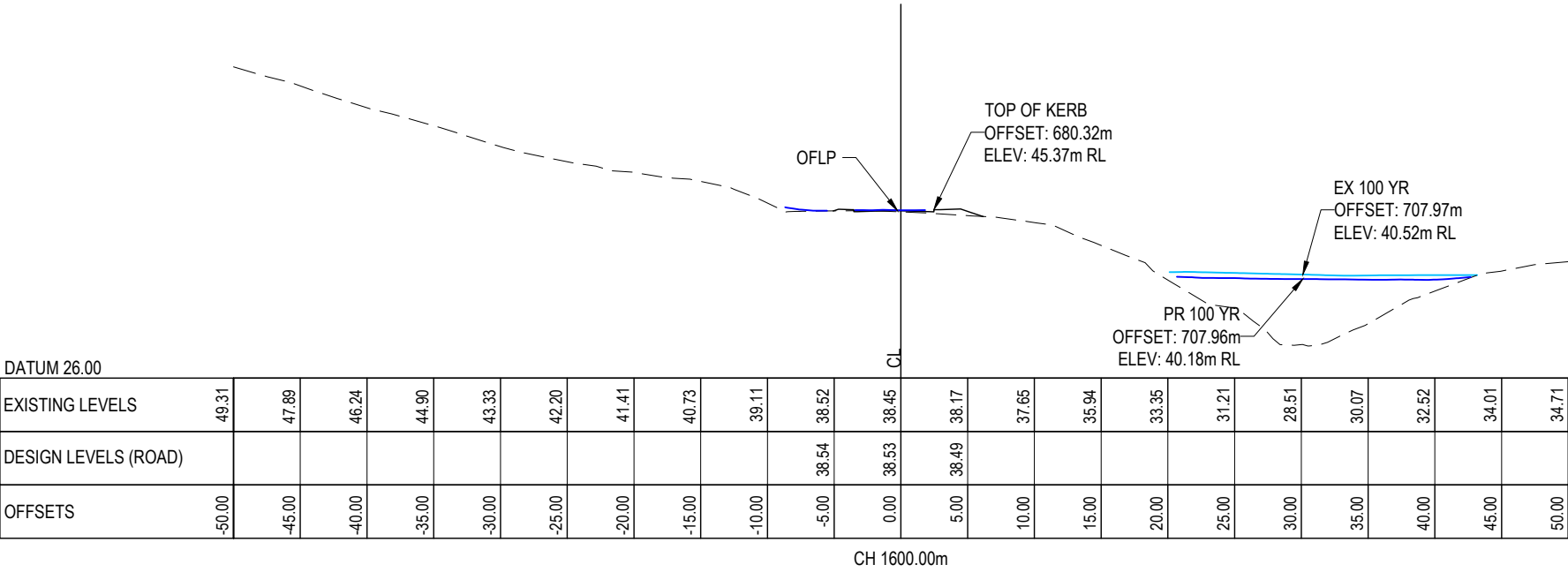
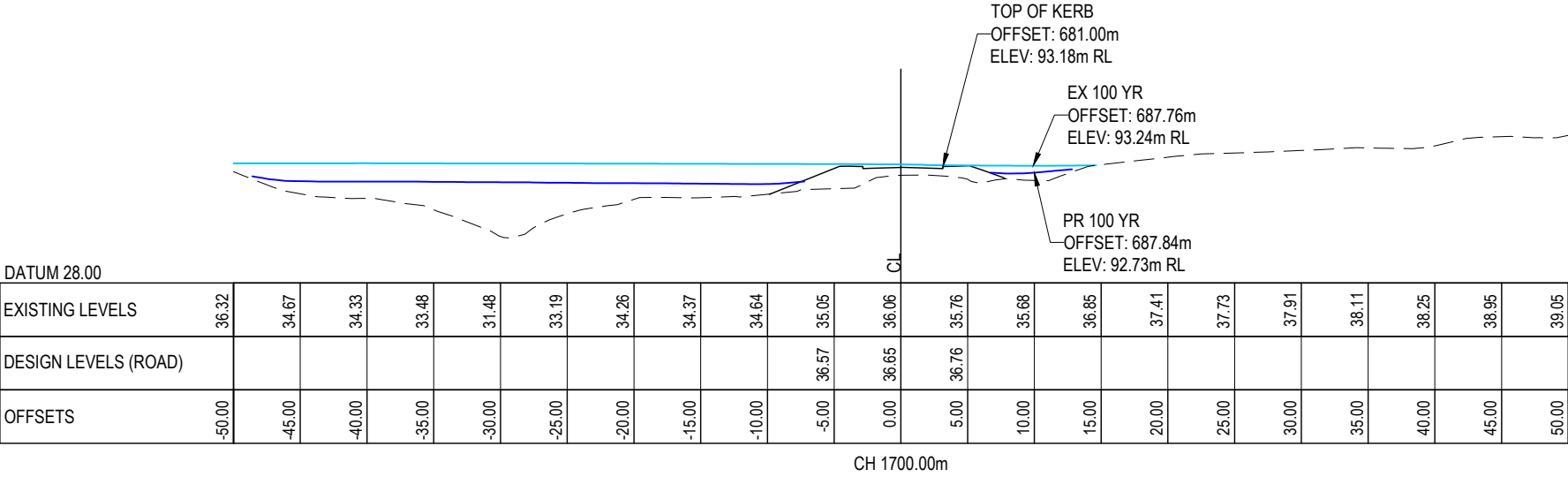


Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**RETIREMENT VILLAGE
100YR FLOOD EXTENT
CROSS SECTION - OLFP**

Project no.	147016		
Scale	1:500 @ A3		
Cad file	147016-RV-C475 FLOOD EXTENT.DWG		
Drawing no.	C475-10	Rev	A

DATE: 9/25/25 FILE PATH: F:\Maven\PROJECTS\147016 - RIVERHEAD RETIREMENT VILLAGE\DWG 147016-RV-C475 FLOOD EXTENT.DWG



RESOURCE CONSENT

LEGEND:
--- EX GROUND SURFACE
--- PR DESIGN SURFACE
--- EX 100YR FLOOD LEVEL
--- PR 100YR FLOOD LEVEL

A	S67	AYC	09/2025
Rev	Description	By	Date
	By	Date	
Survey	LIDAR	03/2022	
Design	AYC	09/2025	
Drawn	AYC	09/2025	
Checked	RW	09/2025	

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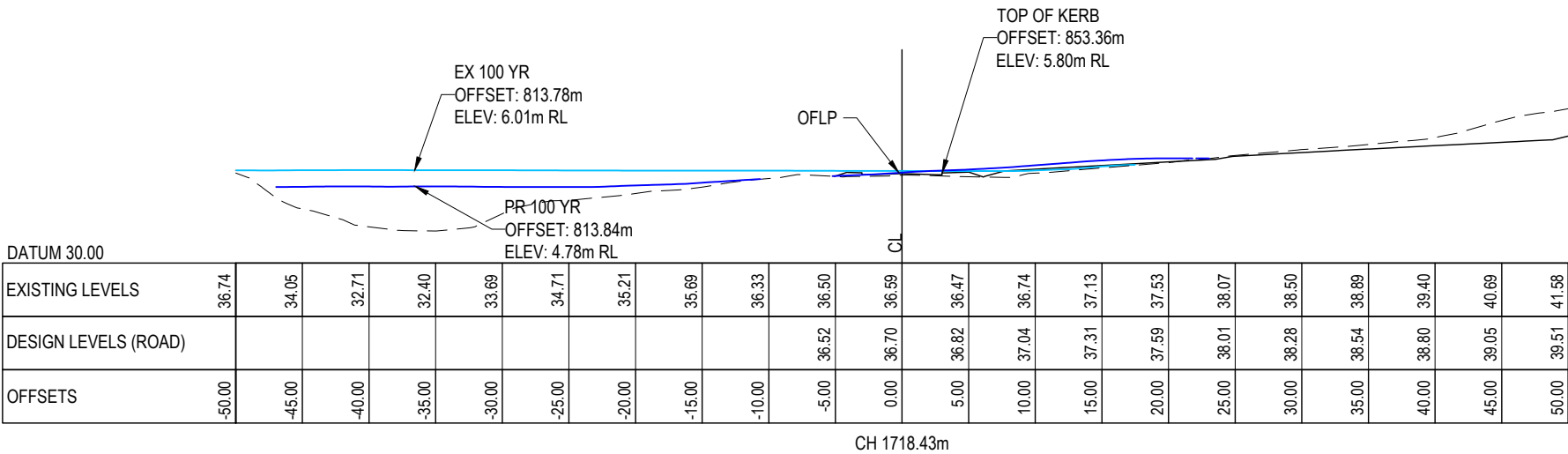
Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**RETIREMENT VILLAGE
100YR FLOOD EXTENT
CROSS SECTION - OLFP**

Project no.	147016		
Scale	1:500 @ A3		
Cad file	147016-RV-C475 FLOOD EXTENT.DWG		
Drawing no.	C475-11	Rev	A

DATE: 9/25/25 FILE PATH: F:\Maven\PROJECTS\147016 - RIVERHEAD RETIREMENT VILLAGE\DWG 147016-RV-C475 FLOOD EXTENT.DWG

RESOURCE CONSENT



LEGEND:

- EX GROUND SURFACE
- PR DESIGN SURFACE
- EX 100YR FLOOD LEVEL
- PR 100YR FLOOD LEVEL

A	S67	AYC	09/2025
Rev	Description	By	Date
	By	Date	
Survey	LIDAR	03/2022	
Design	AYC	09/2025	
Drawn	AYC	09/2025	
Checked	RW	09/2025	

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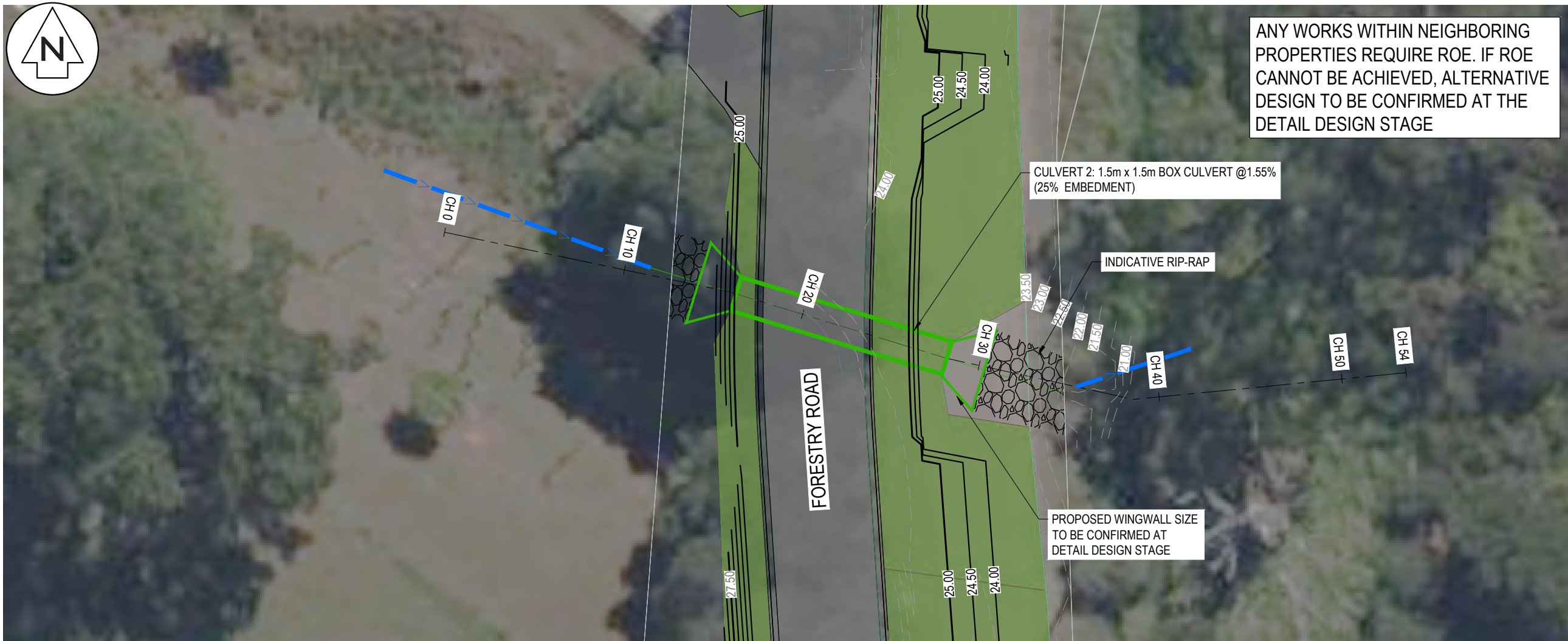
Project

DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP

Title

RETIREMENT VILLAGE
100YR FLOOD EXTENT
CROSS SECTION - OLFP

Project no.	147016		
Scale	1:500 @ A3		
Cad file	147016-RV-C475 FLOOD EXTENT.DWG		
Drawing no.	C475-12	Rev	A



ANY WORKS WITHIN NEIGHBORING PROPERTIES REQUIRE ROE. IF ROE CANNOT BE ACHIEVED, ALTERNATIVE DESIGN TO BE CONFIRMED AT THE DETAIL DESIGN STAGE

- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 2. COORDINATES IN TERMS OF NZ GEODETIC DATUM MT EDEN 2000. LEVELS IN TERMS OF THE AUCKLAND VERTICAL DATUM 1946.
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 9. ALL CATCHPIT LEADS SHALL HAVE MIN COVER 1.0M.
 10. ALL LINES TO BE ABANDONED SHALL BE SEALED AT EACH END. TIMING OF ALL SEALING TO BE COORDINATED WITH COUNCIL STAFF.
 11. ALL LOT CONNECTION TO BE MIN 100mm uPVC SN16 UNLESS SHOWN OTHERWISE.

LEGEND

	EX BDY
	PR BDY
	PR OLFP
	EX STREAMS
	EX CULVERT
	EX WETLAND
	PR BERM
	PR ROAD

B	S67	SP	09/2025
A	RESOURCE CONSENT	EZ	03/2025
Rev	Description	By	Date
Survey			
Design	EZ		03/2025
Drawn	EZ		03/2025
Checked	RW/KH		03/2025



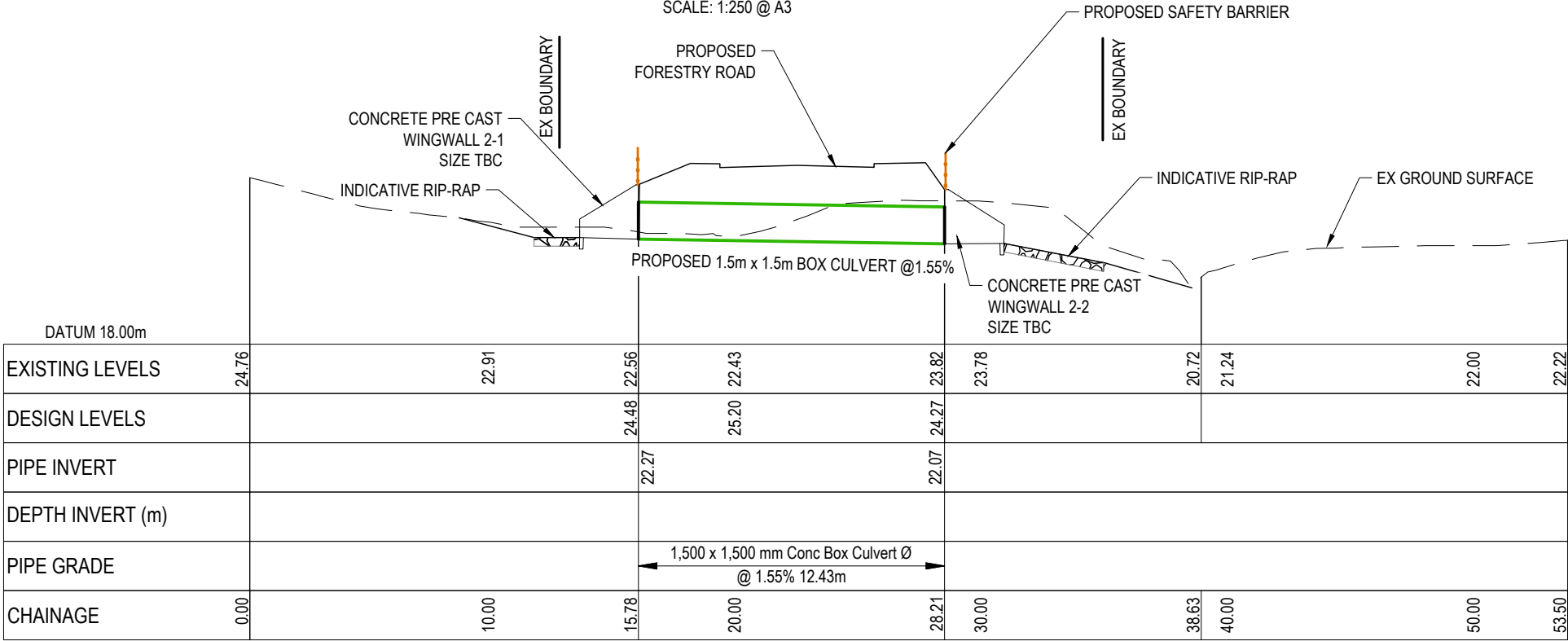
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Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**RETIREMENT VILLAGE
PROPOSED CULVERT
PLAN AND LONGSECTION**

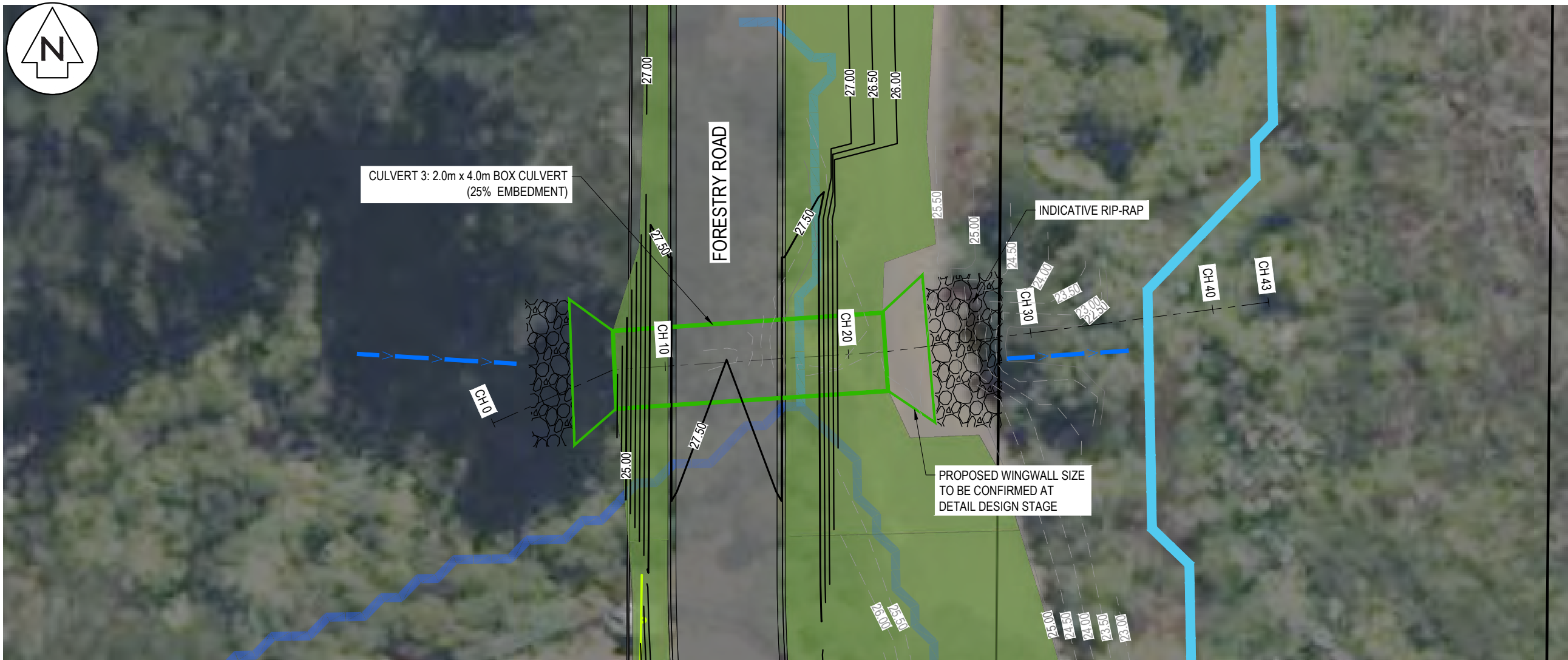
Project no.	147016		
Scale	AS SHOWN @ A3		
Cad file	147016-RV-C481 CULVERT DETAILS.DWG		
Drawing no.	C481-1	Rev	B

CULVERT 2 PLAN VIEW
SCALE: 1:250 @ A3



CULVERT 2 LONG SECTION-
SCALE: HORI 1:250 VERT 1:250

RESOURCE CONSENT



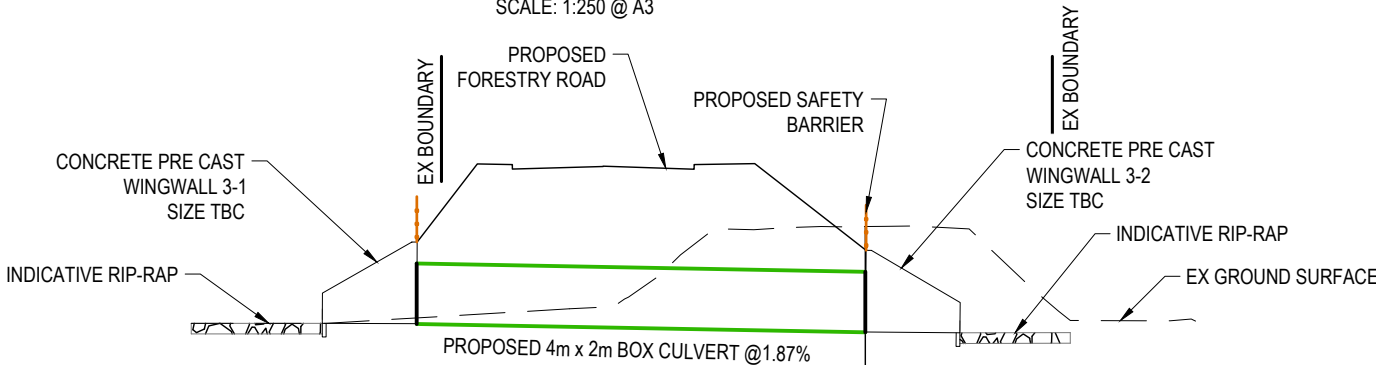
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LEGEND

EX BDY	PR BDY	PR OLFP	EX STREAMS	EX CULVERT	EX WETLAND	PR BERM	PR ROAD
--------	--------	---------	------------	------------	------------	---------	---------

CULVERT 3 PLAN VIEW

SCALE: 1:250 @ A3



NOTE:
CULVERT1, 3, 4 TO BE DESIGNED
AS PER NZTA BRIDGE MANUAL

DATUM 20.00m					
EXISTING LEVELS			25.50	25.52	22.41
DESIGN LEVELS		27.57	26.32	24.75	
PIPE INVERT		22.30		22.02	
DEPTH INVERT (m)					
PIPE GRADE		4,000 x 2,000 mm Conc Box Culvert Ø @ 1.87% 14.84m			
CHAINAGE	0.00	7.18	10.00	20.00	22.02
				30.00	40.00
					43.07

CULVERT 3 LONG SECTION-
SCALE: HORI 1:250 VERT 1:250

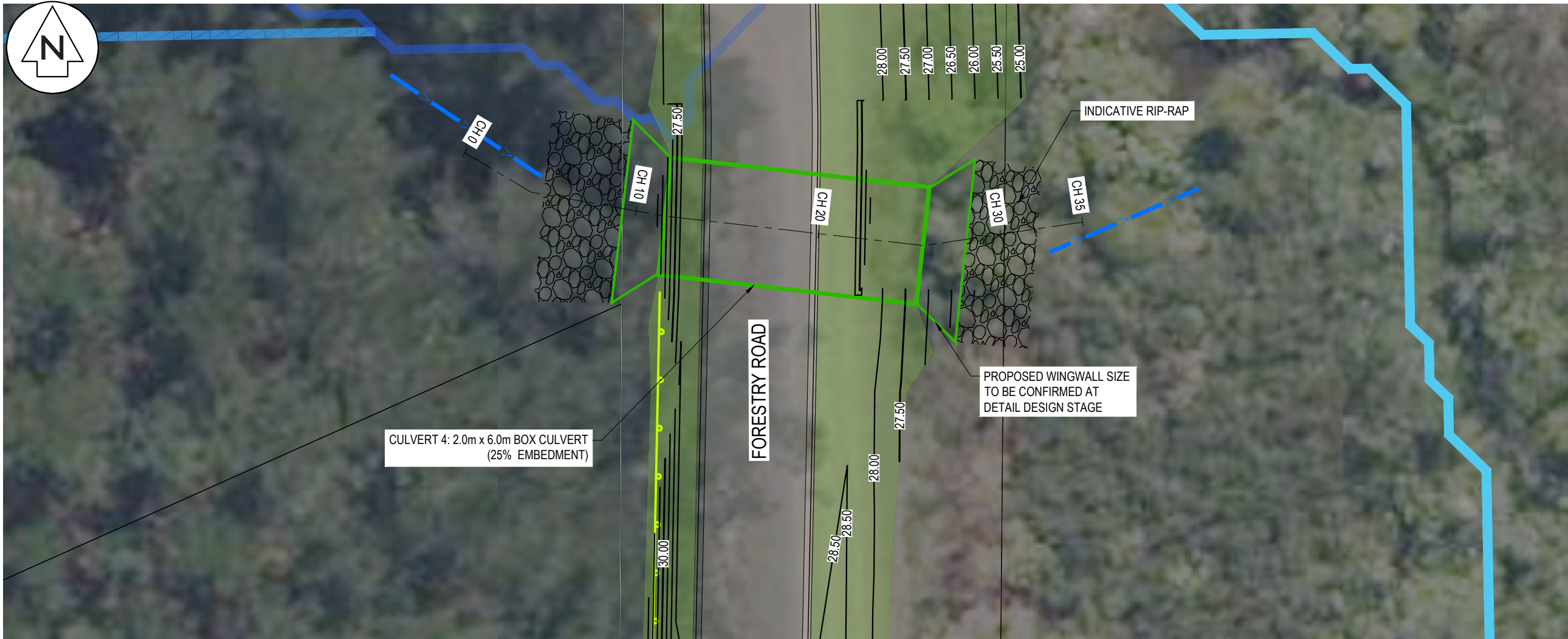
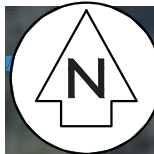
RESOURCE CONSENT



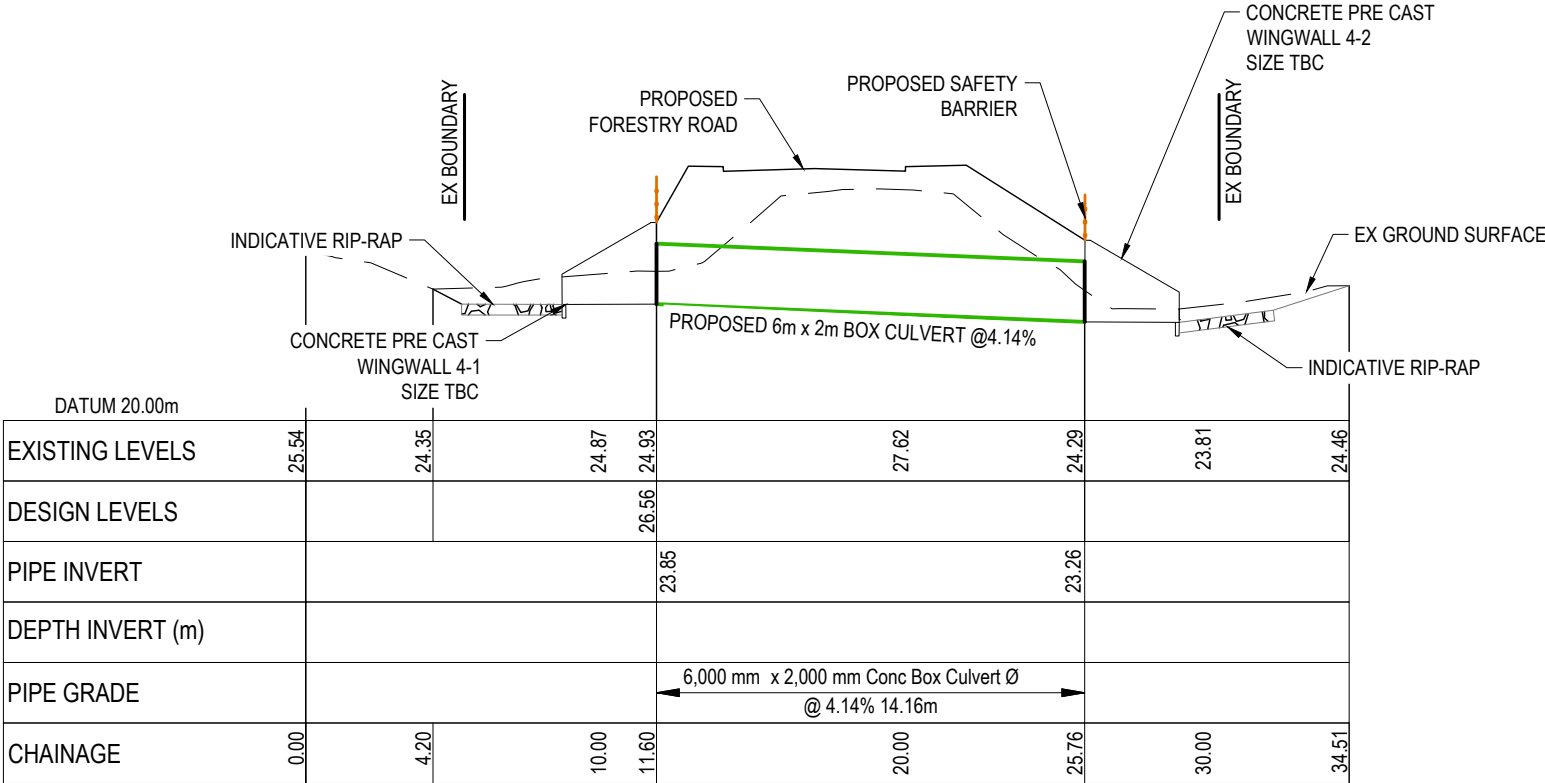
Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**RETIREMENT VILLAGE
PROPOSED CULVERT
PLAN AND LONGSECTION**

Project no.	147016
Scale	AS SHOWN @ A3
Cad file	147016-RV-C481 CULVERT DETAILS.DWG
Drawing no.	C481-2
Rev	B



CULVERT 4 PLAN VIEW
SCALE: 1:250 @ A3



CULVERT 4 LONG SECTION-
SCALE: HORI 1:250 VERT 1:250

NOTE:
CULVERT1, 3, 4 TO BE DESIGNED
AS PER NZTA BRIDGE MANUAL

- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
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LEGEND

---	EX BDY
---	PR BDY
--->---	PR OLFP
---	EX STREAMS
---	EX CULVERT
---	EX WETLAND
---	PR BERM
---	PR ROAD

B	S67	SP	09/2025
A	RESOURCE CONSENT	EZ	03/2025
Rev	Description	By	Date
Survey			
Design	EZ		03/2025
Drawn	EZ		03/2025
Checked	RW/KH		03/2025

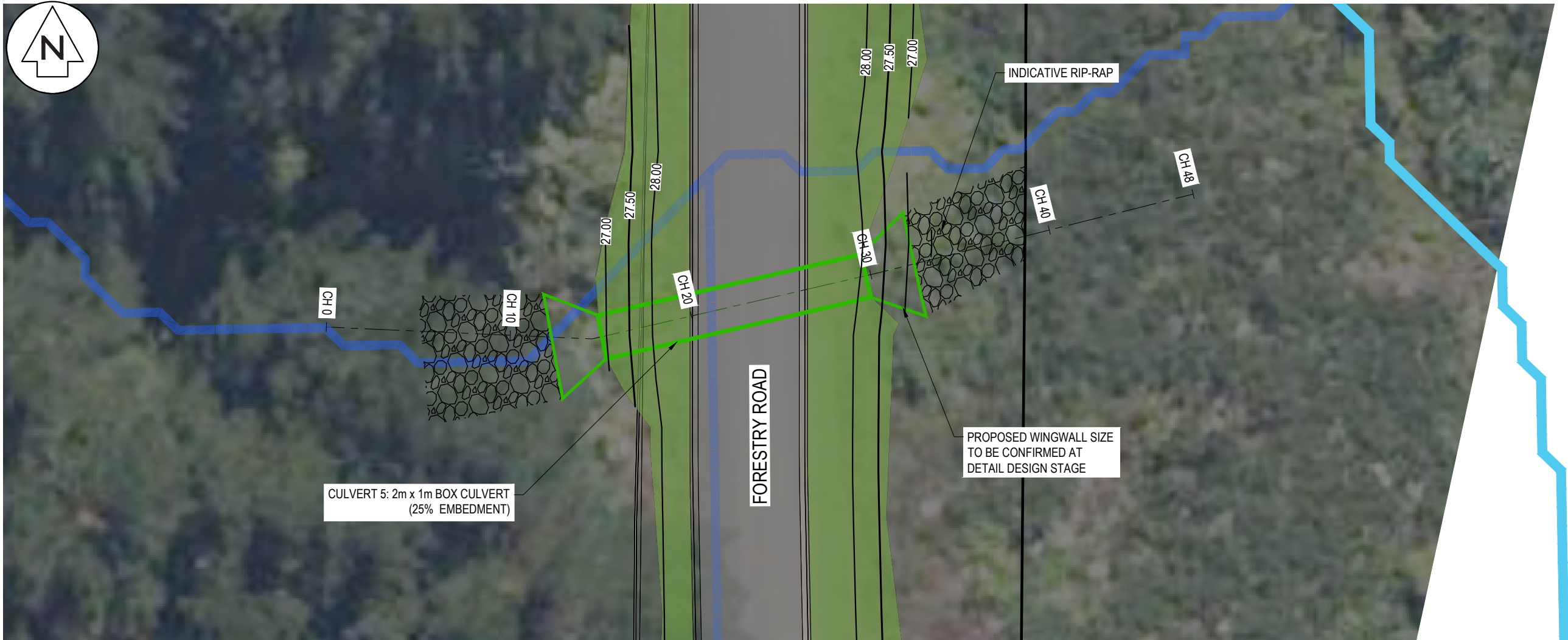
M **Maven Associates**
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Project
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

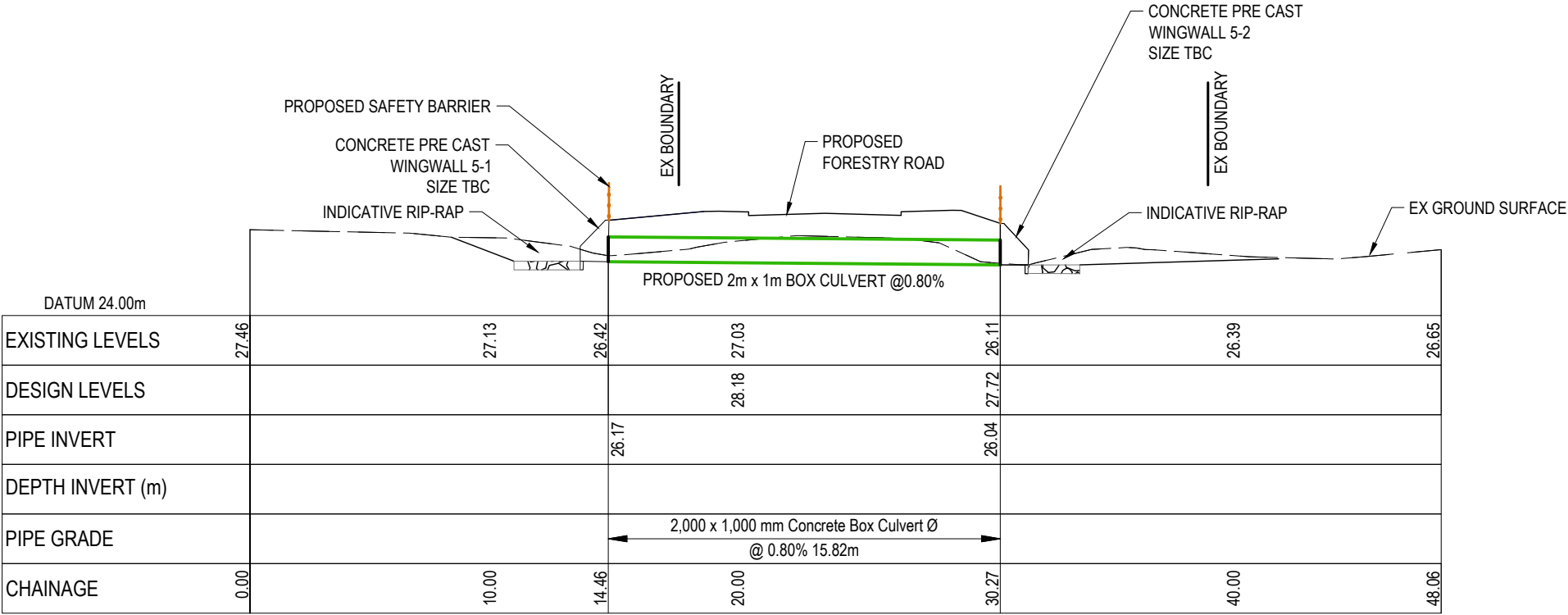
Title
**RETIREMENT VILLAGE
PROPOSED CULVERT
PLAN AND LONGSECTION**

Project no.	147016		
Scale	AS SHOWN @ A3		
Cad file	147016-RV-C481 CULVERT DETAILS.DWG		
Drawing no.	C481-3	Rev	B

RESOURCE CONSENT



CULVERT 5 PLAN VIEW
SCALE: 1:250 @ A3



CULVERT 5 LONG SECTION-
SCALE: HORI 1:250 VERT 1:250

- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
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LEGEND

---	EX BDY
---	PR BDY
--->--->---	PR OLFP
---	EX STREAMS
---	EX CULVERT
---	EX WETLAND
---	PR BERM
---	PR ROAD

B	S67	SP	09/2025
A	RESOURCE CONSENT	EZ	03/2025
Rev	Description	By	Date
Survey			
Design	EZ		03/2025
Drawn	EZ		03/2025
Checked	RW/KH		03/2025



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

Title
**RETIREMENT VILLAGE
PROPOSED CULVERT
PLAN AND LONGSECTION**

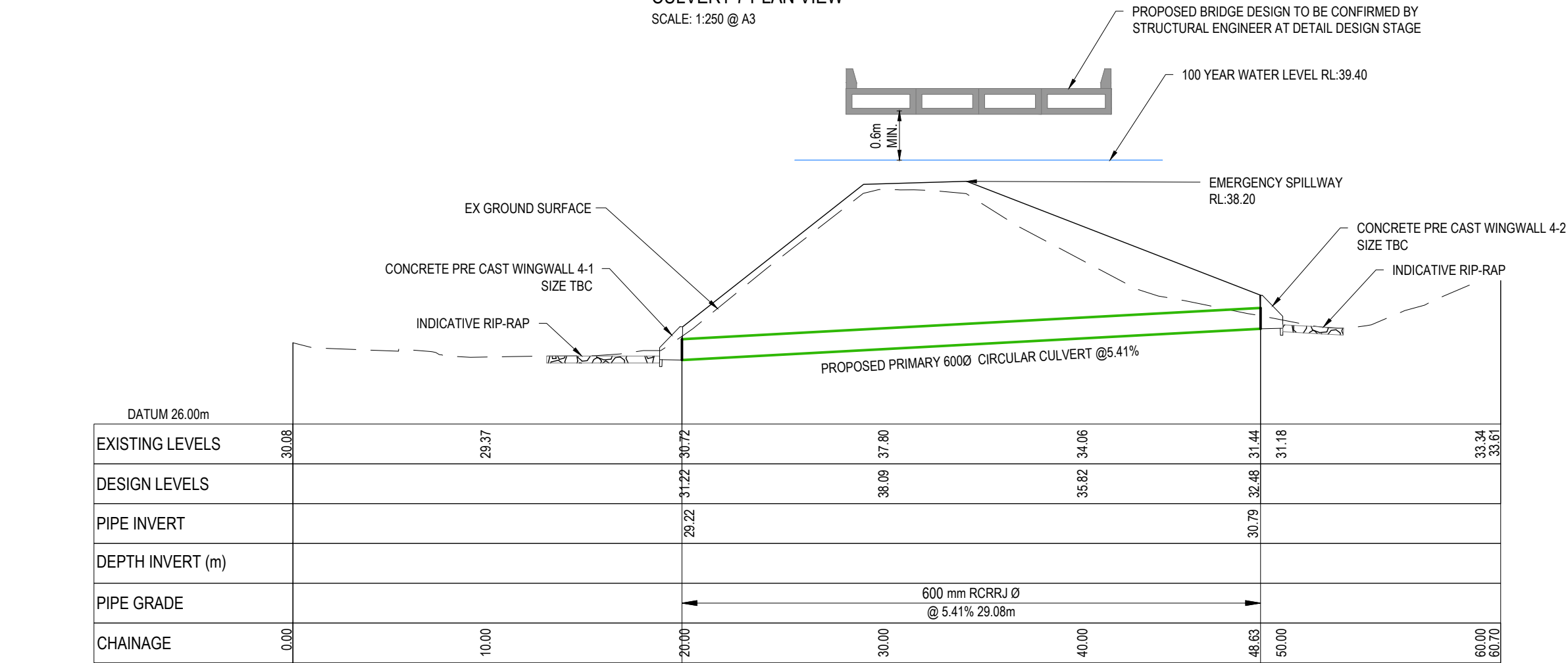
Project no.	147016		
Scale	AS SHOWN @ A3		
Cad file	147016-RV-C481 CULVERT DETAILS.DWG		
Drawing no.	C481-4	Rev	B

RESOURCE CONSENT



CULVERT 7 PLAN VIEW

SCALE: 1:250 @ A3



CULVERT 7 LONG SECTION-

SCALE: HORI 1:250 VERT 1:250

RESOURCE CONSENT

- NOTES
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LEGEND

EX BDY	PR BDY	PR OLFP	EX STREAMS	EX CULVERT	EX WETLAND	PR BERM	PR ROAD

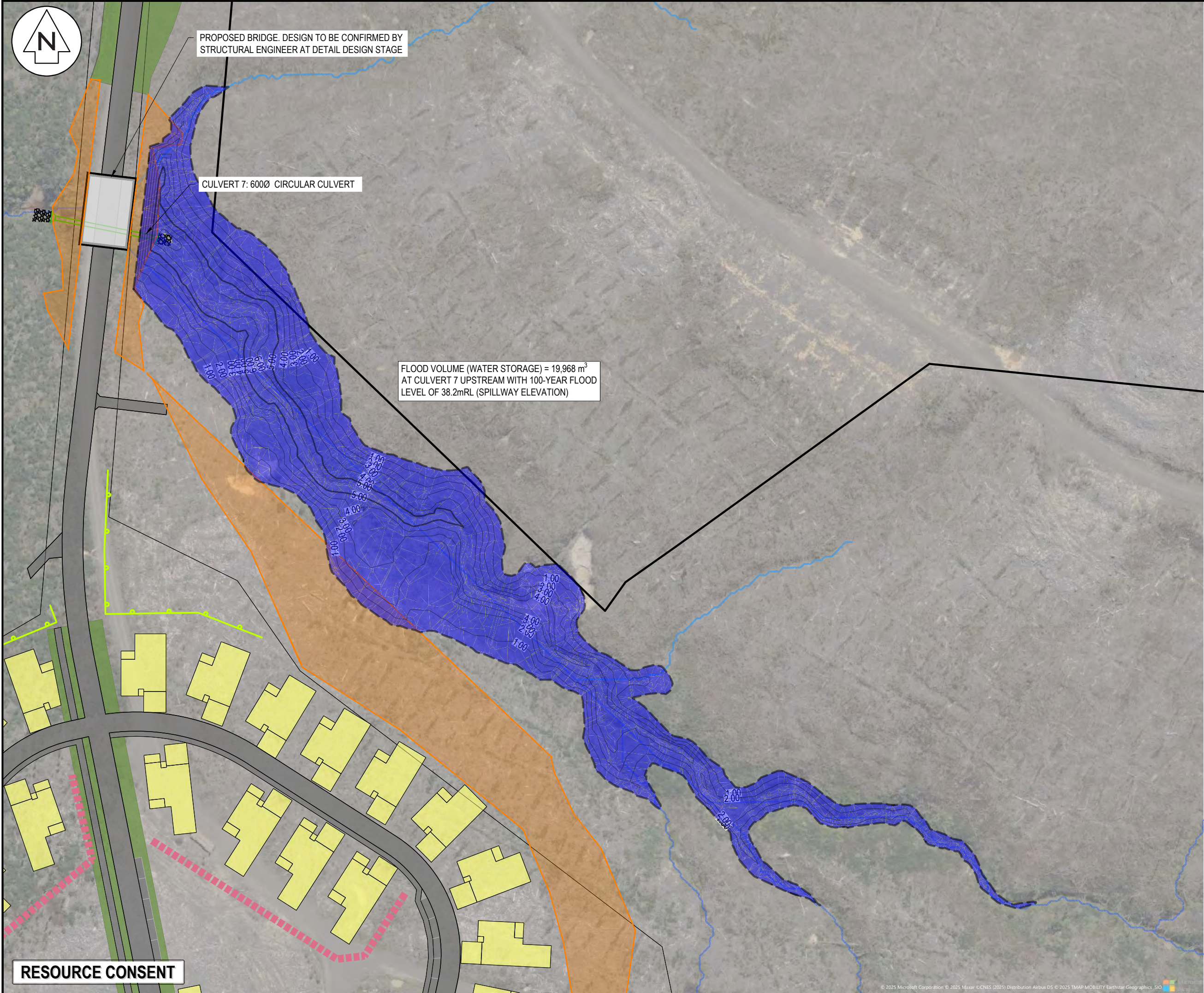
B	S67	SP	09/2025
A	RESOURCE CONSENT	EZ	03/2025
Rev	Description	By	Date
Survey	EZ		03/2025
Design	EZ		03/2025
Drawn	RW/KH		03/2025
Checked			

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

Title
**RETIREMENT VILLAGE
PROPOSED CULVERT
PLAN AND LONGSECTION**

Project no.	147016
Scale	AS SHOWN @ A3
Cad file	147016-RV-C481 CULVERT DETAILS.DWG
Drawing no.	C481-6
Rev	B



NOTES

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8. ALL MANHOLES ARE TO BE 1050MMØ PRECAST CONCRETE UNLESS SHOWN OTHERWISE.
9. ALL CATCHPIT LEADS SHALL HAVE MIN COVER 1.0M.
10. ALL LINES TO BE ABANDONED SHALL BE SEALED AT EACH END. TIMING OF ALL SEALING TO BE COORDINATED WITH COUNCIL STAFF.
11. ALL LOT CONNECTION TO BE MIN 100mm uPVC SN16 UNLESS SHOWN OTHERWISE.

LEGEND

—	EX BDY
—	PR BDY
— > > —	PR OLFP
— > > —	EX STREAMS
— > > —	EX CULVERT
—	EX WETLAND
—	PR BERM
—	PR ROAD
—	100-YEAR FLOOD EXTENT AT CULVERT 7 UPSTREAM

A	S67	AYC	09/2025
Rev	Description	By	Date
		By	Date
Survey			
Design	EZ		03/2025
Drawn	EZ		03/2025
Checked	RW/KH		03/2025



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Project

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

Title

**RETIREMENT VILLAGE
PROPOSED 100-YEAR
FLOOD STORAGE PLAN**

Project no.	147016		
Scale	1:1000 @ A3		
Cad file	147016-RV-C481 CULVERT DETAILS.DWG		
Drawing no.	C481-6-1	Rev	A



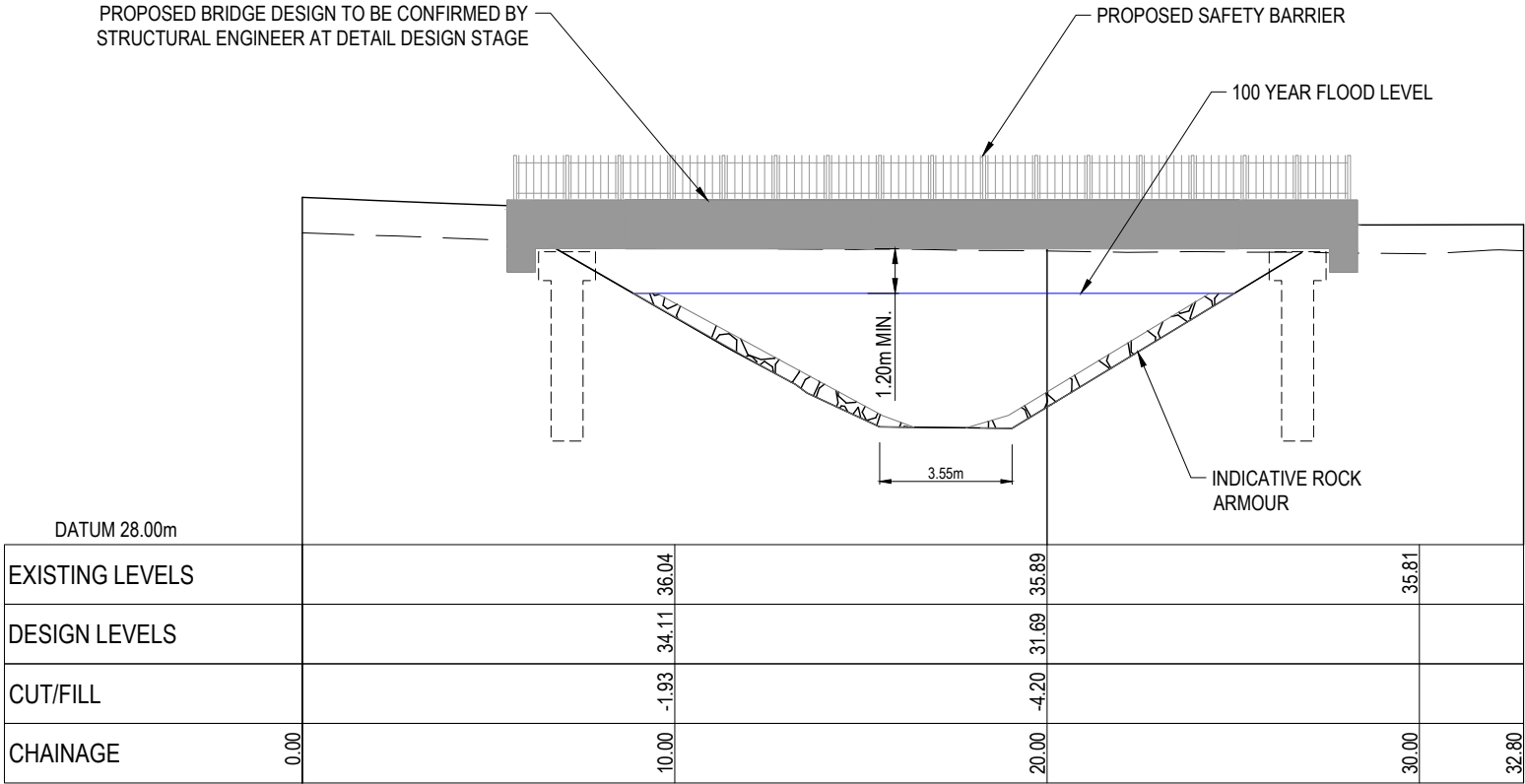
BRIDGE 1 PLAN VIEW
SCALE: 1:250 @ A3

PROPOSED BRIDGE DESIGN TO BE CONFIRMED BY
STRUCTURAL ENGINEER AT DETAIL DESIGN STAGE

PROPOSED SAFETY BARRIER

100 YEAR FLOOD LEVEL

INDICATIVE ROCK
ARMOUR



BRIDGE 1 LONG SECTION
SCALE: HORI 1:250 VERT 1:250

- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 2. COORDINATES IN TERMS OF NZ GEODETIC DATUM MT EDEN 2000. LEVELS IN TERMS OF THE AUCKLAND VERTICAL DATUM 1946.
 3. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
 4. PIPE BEDDING: 0 - 10% GRANULAR BEDDING, 10 - 20% WEAK CONCRETE BEDDING, GREATER THAN 20% WEAK CONCRETE BEDDING (7MPA PLUS ANTI SCOUR BLOCKS AT 6M CRS).
 5. EACH CONNECTION SHALL BE MARKED BY A 50MMX50MM TREATED PINE STAKE EXTENDING 600MM ABOVE GROUND LEVEL WITH THE TOP PAINTED. THIS MARKER POST SHALL BE PLACED ALONGSIDE A TIMBER MARKER INSTALLED AT THE TIME OF PIPELAYING AND EXTENDING FROM THE CONNECTION TO 150MM BELOW FINISHED GROUND LEVEL. CONNECTIONS SHALL BE ACCURATELY INDICATED ON "AS BUILT" PLANS.
 6. APPROVED HARDFILL IS TO BE USED IN BACKFILLING OF ALL ROAD CROSSINGS AND VEHICLE CROSSINGS TO COUNCIL STANDARDS.
 7. HEAVY DUTY MANHOLE LIDS AND FRAMES TO BE USED IN TRAFFICKED AREAS.
 8. ALL MANHOLES ARE TO BE 1050MMØ PRECAST CONCRETE UNLESS SHOWN OTHERWISE.
 9. ALL CATCHPIT LEADS SHALL HAVE MIN COVER 1.0M.
 10. ALL LINES TO BE ABANDONED SHALL BE SEALED AT EACH END. TIMING OF ALL SEALING TO BE COORDINATED WITH COUNCIL STAFF.
 11. ALL LOT CONNECTION TO BE MIN 100mm uPVC SN16 UNLESS SHOWN OTHERWISE.

LEGEND	
	EX BDY
	PR BDY
	PR OLFP
	EX STREAMS
	EX CULVERT
	EX WETLAND
	PR BERM
	PR ROAD

B	S67	SP	09/2025
A	RESOURCE CONSENT	EZ	03/2025
Rev	Description	By	Date
		By	Date
Survey			
Design	EZ		03/2025
Drawn	EZ		03/2025
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Project
**DEVELOPMENT OF
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FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title
**RETIREMENT VILLAGE
PROPOSED BRIDGE PLAN
AND LONGSECTION**

Project no.	147016		
Scale	AS SHOWN @ A3		
Cad file	147016-RV-C481 CULVERT DETAILS.DWG		
Drawing no.	C481-7	Rev	B

RESOURCE CONSENT

	Maven Associates		Job Number 147016	Sheet 1	Rev A					
	Development of Riverhead Retirement Village For Rangitootuni Developments Limited		Author AO	Date Mar-25	Checked KH					
Job Title Retirement Village-Raingarden Sizing Calculations										
Outfall/ RG	Catchment	Proposed Raingarden Footprint area m²		Treatment Type	Number of Cartridges Required	StormFilter Drawing				
						Online	Peak Diversion			
				1-0	1+50	113.0	Storm Filter	12	Storm Filter Vault	2800W X 3650L X 2150 D
				2-0	2	34.0	Storm Filter	4	SF-MH-69-1500-T-20	SF-MHPD-69-1800-T-20
				3-0	3	11.0	no treatment proposed, less than 10 lots.			
				4-0	7	7.0	no treatment proposed, less than 10 lots.			
				5-0	6	100.0	Communal RG			
				6-0	5	89.0	JELLYFISH	3	JF-MH-54-1200-T-OFF-20	
				7-0	4	13.0	no treatment proposed, less than 10 lots.			
				8-0	8	54.0	Communal RG			
				9-0	9	140.0	Communal RG			
				10-0	10+51	17.0	no treatment proposed , serving less than 10 carparks, if required stormfilter			

	Maven Associates	Job Number 147016	Sheet 2	Rev A
Job Title Title	Development of Riverhead Retirement Village For Rangitootupuni Developments Limited Forest Road-Raingarden Sizing Calculations	Author AO	Date Mar-25	Checked KH

Outfall/ RG	Catchment	Proposed Raingarden Footprint area m ²		Treatment Type	Number of Cartridges Required	Drawing	
						Online	Peak Diversion
15	1254.92	44.0				Public Raingarden	
16	294.07	11.0				Public Raingarden	
17	913.11	32.00				Public Raingarden	
18	794.77	28.00				Public Raingarden	
19	658.65	24.00				Public Raingarden	
20	379.49	14.00				Public Raingarden	
21	1061.14	38.00				Public Raingarden	
22	944.38	34.00				Public Raingarden	
23	1172.16	42.0				Public Raingarden	
24	2224.46	78.0		Jelly Fish	5	JF-MH-54-1800-T-OFF-20	



Maven Associates

Job Number
147016

Sheet
3

Rev
A

Job Title
Title

Development of Riverhead Retirement Village For
Rangitootuni Developments Limited
Preliminary Raingarden Sizing Calculations

Author
AO

Date
Mar-25

Checked
KH

GD01 Bioretention Device Sizing Criteria for WQV :

Device footprint	2%
Ponding depth	0.1
Media depth	0.5
Transition layer	0.1
Drainage layer	0.3

Design parameters

water quality treatment only
The volume of water stored in the ponding area (100% @ Void space)
The volume of water stored in the void space of the bioretention media Media Depth (@ 30% Void space)
The volume of water stored in the void space of 50mm Transition Layer (@ 30% Void space)
The volume of water stored in the void space of the drainage layer, above the underdrain invert. (@ 35% Void Space)

1

					Alternative Solutions						
RG No	Road Catchment Area	Min Ponding Footprint Required (m2)	Proposed Raingarden Footprint area m²		Notes	Number of Cartridges Required	StormFilter Drawing				
Rain Gardens							Online	Peak Diversion			
1	5643.3	112.87	113.00		Storm Filter	12	Storm Filter Vault	2800W X 3650L X 2150 D			
2	1698.1	33.962	34		Storm Filter	4	SF-MH-69-1500-T-20	SF-MHPD-69-1800-T-20			
3	502	10.04	11.00		no treatment proposed, less than 10 lots.						
4	311.2	6.22	7.00		no treatment proposed, less than 10 lots.						
5	4975	99.50	100.00		Communal RG						
6	4401.3	88.03	89.00		JELLYFISH	3	JF-MH-54-1200-T-OFF-20				
7	612.2	12.24	13.00		no treatment proposed, less than 10 lots.						
8	2655.9	53.12	54.00		Communal RG						
9	6970.3	139.41	140.00		Communal RG						
10	810.2	16.20	17.00		no treatment proposed , serving less than 10 carparks, if required stormfilter						

Proprietary device due to proposed location constraints

MEMORANDUM OF EASEMENTS IN GROSS			
PURPOSE	SHOWN	BURDENED LAND	GRANTEE
RIGHT OF WAY (PEDESTRIAN)	(VA)	LOT 1 HEREON	AUCKLAND COUNCIL
	(VB)	LOT 2 HEREON	

NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
2. COORDINATES IN TERMS OF NZ GEODETIC DATUM MT EDEN 2000.
3. BOUNDARIES ARE SUBJECT TO FINAL SURVEY.

LEGEND

_____ EX BDY
_____ PR BDY
_____ EX EASEMENT
_____ RT _____ RT _____ REFERENCE TITLE
_____ PR EASEMENT

B	S67	RM	09/2025
A	RESOURCE CONSENT	RM	03/2025
Rev	Description	By	Date
	By	Date	
Survey	LIDAR	03/2022	
Design	KH	03/2025	
Drawn	RM	03/2022	
Checked	TM	03/2025	



Project

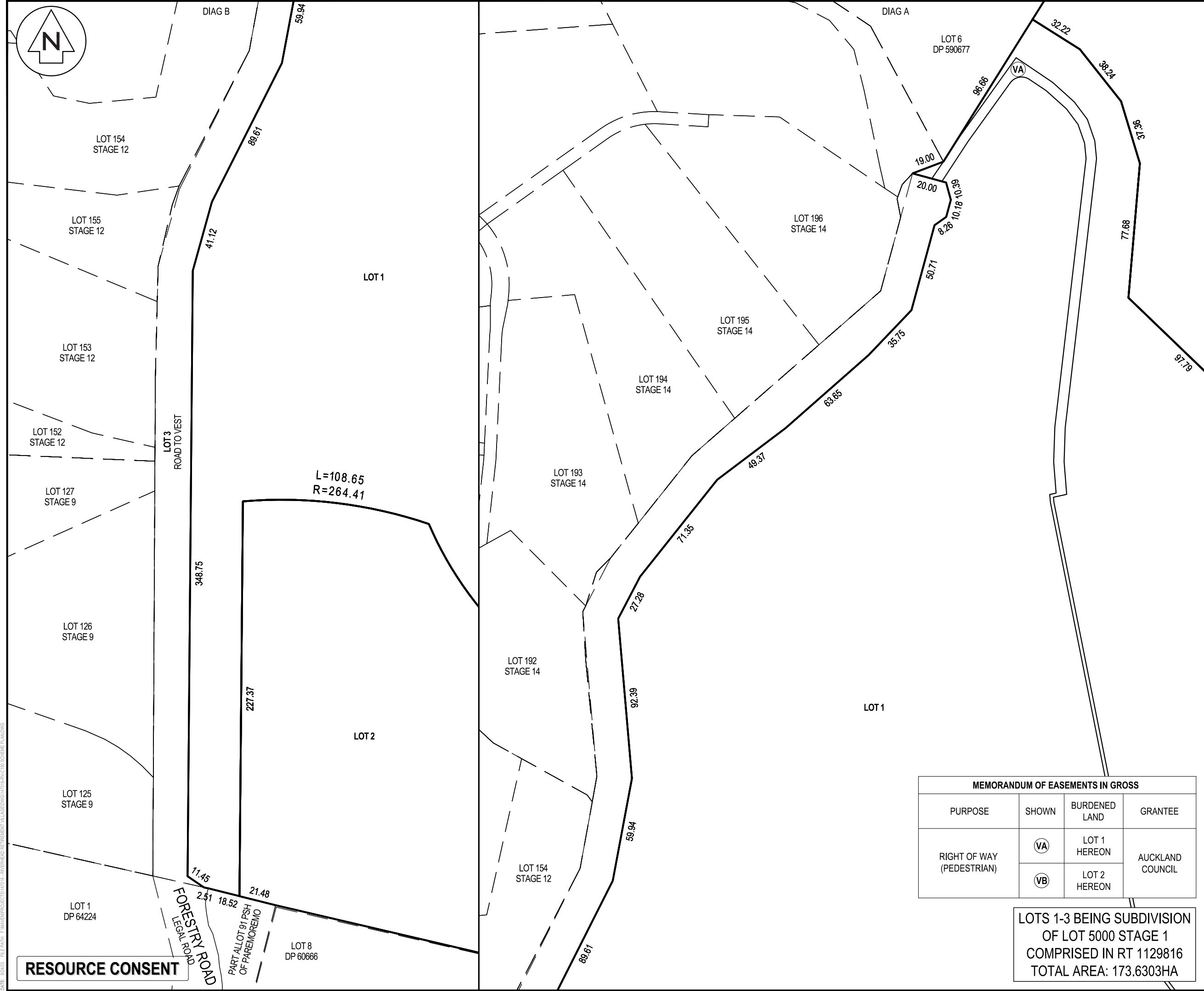
**DEVELOPMENT OF
RIVERHEAD FOREST
FOR RANGITOOPUNI
DEVELOPMENTS LIMITED
PARTNERSHIP**

Title

**RETIREMENT VILLAGE
PROPOSED SCHEME
PLAN**

Project no.	147016		
Scale	1:7500		
Cad file	147016-RV-C190 SCHEME PLAN.DWG		
Drawing no.	C190-1-1	Rev	B

LOTS 1-3 BEING SUBDIVISION
OF LOT 5000 STAGE 1
COMPRISED IN RT 1129816
TOTAL AREA: 173.6303HA



NOTES

- ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
- COORDINATES IN TERMS OF NZ GEODETIC DATUM MT EDEN 2000.
- BOUNDARIES ARE SUBJECT TO FINAL SURVEY.

LEGEND

	EX BDY
	PR BDY
	EX EASEMENT
	RT
	RT
	REFERENCE TITLE
	PR EASEMENT

B	S67	RM	09/2025
A	RESOURCE CONSENT	RM	03/2025
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Survey	LIDAR		03/2022
Design	KH		03/2025
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Checked	##		03/2025

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Project

DEVELOPMENT OF RIVERHEAD FOREST FOR RANGITOOPUNI DEVELOPMENTS LIMITED PARTNERSHIP

Title

RETIREMENT VILLAGE PROPOSED SCHEME PLAN

Project no.	147016		
Scale	1:2000		
Cad file	147016-RV-C190 SCHEME PLAN.DWG		
Drawing no.	C190-1-2	Rev	B

MEMORANDUM OF EASEMENTS IN GROSS			
PURPOSE	SHOWN	BURDENED LAND	GRANTEE
RIGHT OF WAY (PEDESTRIAN)	ⓅA	LOT 1 HEREON	AUCKLAND COUNCIL
	ⓅB	LOT 2 HEREON	

LOTS 1-3 BEING SUBDIVISION OF LOT 5000 STAGE 1 COMPRISED IN RT 1129816 TOTAL AREA: 173.6303HA



LOT 2

DIA BB

LOT 1

RESOURCE CONSENT

LOTS 1-3 BEING SUBDIVISION
OF LOT 5000 STAGE 1
COMPRISED IN RT 1129816
TOTAL AREA: 173.6303HA

- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
 2. COORDINATES IN TERMS OF NZ GEODETIC DATUM MT EDEN 2000.
 3. BOUNDARIES ARE SUBJECT TO FINAL SURVEY.

LEGEND	
	EX BDY
	PR BDY
	EX EASEMENT
	RT
	RT
	REFERENCE TITLE
	PR EASEMENT

B	S67	RM	09/2025
A	RESOURCE CONSENT	RM	03/2025
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DEVELOPMENTS LIMITED
PARTNERSHIP**

Title

**RETIREMENT VILLAGE
PROPOSED SCHEME
PLAN**

Project no.	147016		
Scale	1:7500		
Cad file	147016-RV-C190 SCHEME PLAN.DWG		
Drawing no.	C190-1-3	Rev	B