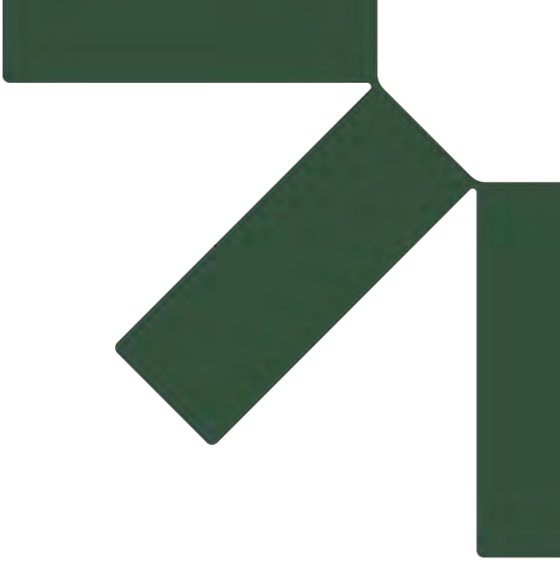




Appendix A: Landfill Upgrade and Repair Plans

Resource Consent Application

Tokanui Landfill Upgrades

Toitū Te Whenua Land Information New Zealand

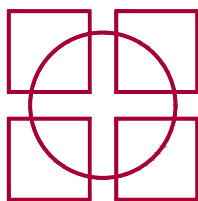
SLR Project No.: 880.V11547.00002

21 November 2024

FORMER TOKANUI HOSPITAL

DEMOLITION AND REMEDIATION PROJECT

TOITU TE WHENUA LAND
INFORMATION NEW ZEALAND



Fraser
Thomas

33097

RESOURCE CONSENT

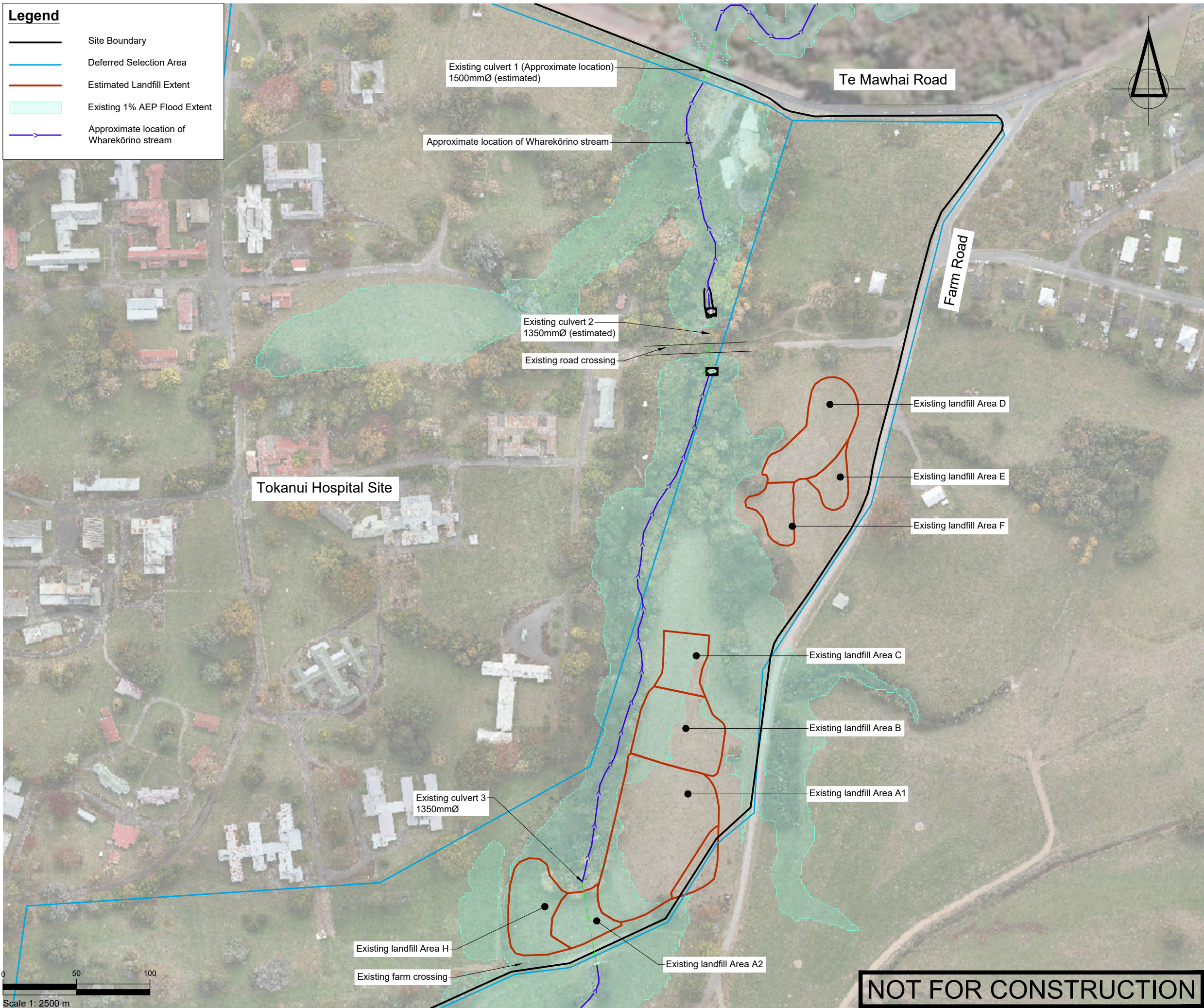
ISSUE SET 3

21/11/24

LIST OF DRAWINGS

DRAWING	DRAWING TITLE	ISSUE SET		
		1	2	3
		7/11/2024	8/11/2024	21/11/2024
33097/LF001	EXISTING LANDFILL OVERVIEW PLAN	-	-	-
33097/LF002	INTRUSIVE GROUND INVESTIGATION TEST PIT LOCATION PLAN 1 OF 3	-	-	-
33097/LF003	INTRUSIVE GROUND INVESTIGATION TEST PIT LOCATION PLAN 2 OF 3	-	-	-
33097/LF004	INTRUSIVE GROUND INVESTIGATION TEST PIT LOCATION PLAN 3 OF 3	-	-	-
33097/LF010	PROPOSED LANDFILL REMEDIAL WORKS SITE OVERVIEW PLAN	-	-	-
33097/LF100	EXISTING LANDFILL AREAS D, E AND F PLAN	-	-	-
33097/LF110	PROPOSED NORTHERN DISPOSAL SITE CELL PROPOSED FINAL DESIGN PLAN	-	-	-
33097/LF120	PROPOSED NORTHERN DISPOSAL SITE CELL BASE OF CELL LEVELS PLAN	-	-	A
33097/LF121	PROPOSED NORTHERN DISPOSAL SITE CELL FINISHED GROUND LEVELS PLAN	-	-	-
33097/LF130	PROPOSED NORTHERN DISPOSAL SITE CELL CROSS SECTIONS	-	-	-
33097/LF140	PROPOSED NORTHERN DISPOSAL SITE CELL CELL FORMATION CUT AND FILL PLAN	-	-	-
33097/LF141	PROPOSED NORTHERN DISPOSAL SITE CELL FILLING PLAN	-	-	-
33097/LF190	PROPOSED NORTHERN DISPOSAL SITE CELL EROSION AND SEDIMENT CONTROL PLAN PHASE 1	-	-	-
33097/LF191	PROPOSED NORTHERN DISPOSAL SITE CELL EROSION AND SEDIMENT CONTROL PLAN PHASE 2	-	-	-
33097/LF200	EXISTING LANDFILL AREAS A1, B, AND C PLAN	-	-	-
33097/LF210	PROPOSED SOUTHERN DISPOSAL SITE CELL PROPOSED FINAL DESIGN PLAN	-	-	A
33097/LF219	PROPOSED SOUTHERN DISPOSAL SITE CELL PROPOSED TOE BUND PLAN	-	-	-
33097/LF220	PROPOSED SOUTHERN DISPOSAL SITE CELL BASE OF CELL LEVELS PLAN	-	-	A

33097/LF221	PROPOSED SOUTHERN DISPOSAL SITE CELL FINISHED GROUND LEVELS PLAN	-	-	A
33097/LF230	PROPOSED SOUTHERN DISPOSAL SITE CELL CROSS SECTIONS SHEET 1	-	-	A
33097/LF231	PROPOSED SOUTHERN DISPOSAL SITE CELL CROSS SECTIONS SHEET 2	-	-	-
33097/LF238	PROPOSED SOUTHERN DISPOSAL SITE CELL REFUSE EXCAVATION PLAN	-	-	-
33097/LF239	PROPOSED SOUTHERN DISPOSAL SITE CELL TOE BUND CONSTRUCTION PLAN	-	-	-
33097/LF240	PROPOSED SOUTHERN DISPOSAL SITE CELL CELL FORMATION CUT AND FILL PLAN	-	-	A
33097/LF241	PROPOSED SOUTHERN DISPOSAL SITE CELL REFUSE FILLING PLAN	-	-	A
33097/LF250	PROPOSED SOUTHERN DISPOSAL SITE CELL GROUNDWATER DRAIN LONG SECTION AND DETAIL	-	-	A
33097/LF289	PROPOSED SOUTHERN DISPOSAL SITE CELL EROSION AND SEDIMENT CONTROL PLAN PHASE 0	-	-	-
33097/LF290	PROPOSED SOUTHERN DISPOSAL SITE CELL EROSION AND SEDIMENT CONTROL PLAN PHASE 1	-	-	A
33097/LF291	PROPOSED SOUTHERN DISPOSAL SITE CELL EROSION AND SEDIMENT CONTROL PLAN PHASE 2	-	-	A
33097/LF300	EXISTING LANDFILL AREAS A2 AND AREA H, AND EXISTING CULVERT 3 PLAN	-	-	-
33097/LF310	AREAS A2/H & CULVERT 3 PROPOSED FINAL DESIGN PLAN	-	A	A
33097/LF311	INDICATIVE VEGETATION REMOVAL PLAN	-	-	-
33097/LF320	AREAS A2/H & CULVERT 3 REFUSE UNDERCUT PLAN	-	-	-
33097/LF321	AREAS A2/H & CULVERT 3 FINISHED LEVELS PLAN	-	-	-
33097/LF330	AREAS A2/H & CULVERT 3 CROSS SECTION PLAN 1	-	-	-
33097/LF340	AREAS A2/H & CULVERT 3 UNDERCUT STRIP PLAN	-	-	-
33097/LF341	AREAS A2/H & CULVERT 3 FINAL LEVELS CUT AND FILL PLAN	-	-	-
33097/LF360	AREAS A2/H & CULVERT 3 CULVERT LONG SECTION PLAN	-	A	A
33097/LF390	AREAS A2/H & CULVERT 3 EROSION AND SEDIMENT CONTROL PLAN	-	A	A
33097/LF500	PROPOSED LANDFILL CELL TYPICAL DETAIL	-	-	-
33097/LF540	DECANTING EARTH BUND DIMENSIONS PLAN	-	-	-
33097/LF545	DECANTING EARTH BUND DETAILS	-	-	-
33097/LF550	EROSION AND SEDIMENT CONTROL DETAILS PAGE 1	-	-	-
33097/LF551	EROSION AND SEDIMENT CONTROL DETAILS PAGE 2	-	-	-

[illegible]

NOTES

PROJECT DATUMS:

LEVEL: Auckland Vertical Datum 1946
COORDINATE: New Zealand Transverse Mercator

CLIENT

TOITU TE WHENUA LAND
INFORMATION NEW ZEALAND

PROJECT

FORMER TOKANUI HOSPITAL DEMOLITION AND REMEDIATION PROJECT

TITLE

EXISTING LANDFILL OVERVIEW PLAN



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HAWKE'S BAY	06 211 2766
CHRISTCHURCH	03 358 5936
BLenheim	03 428 3292
NELSON	03 222 1132
TAURANGA	07 220 9277

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SCALE 1:2500

A3)

DRAWING No.

33097/LF001

REVISION

Legend

Site Boundary

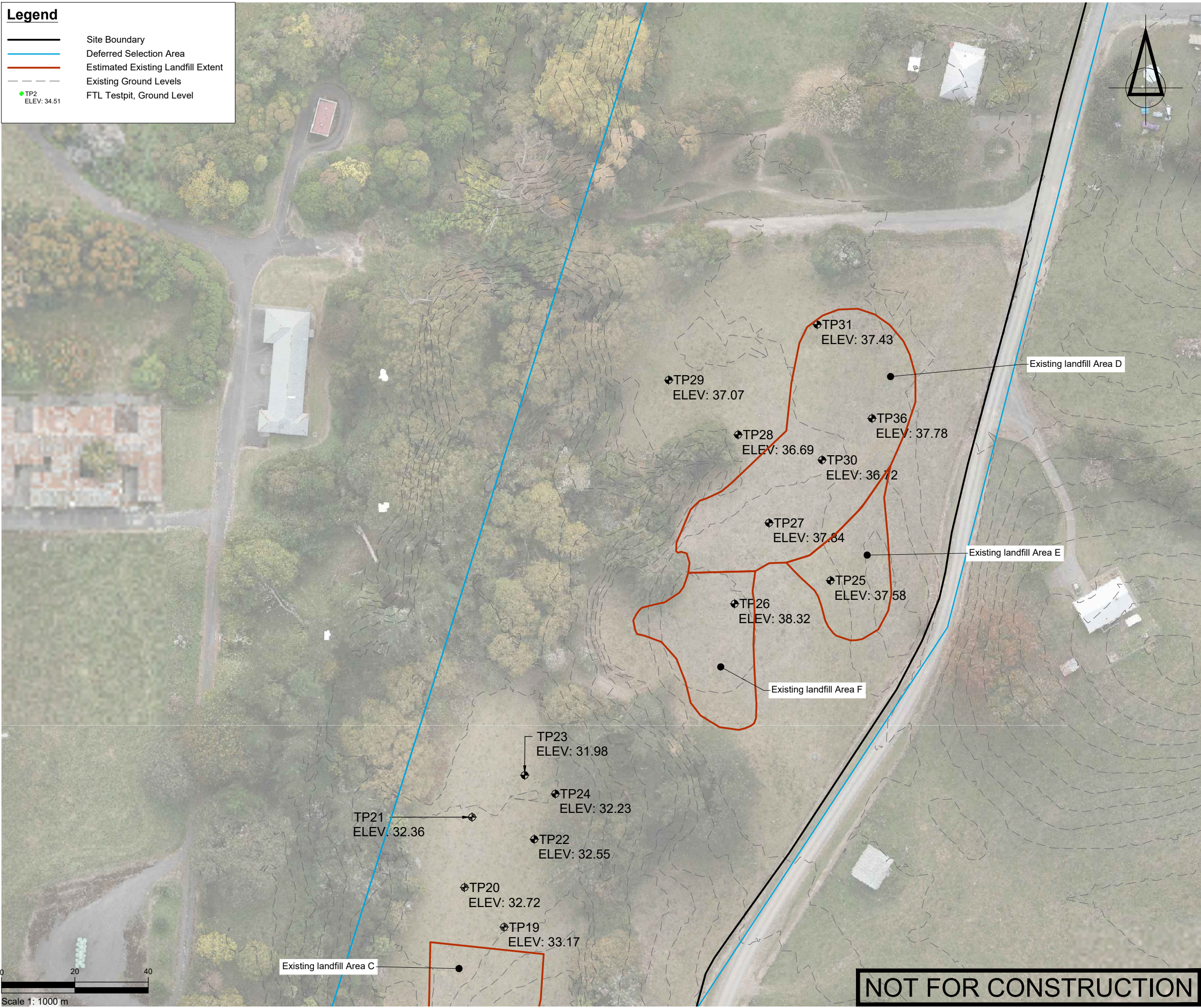
Deferred Selection Area

Estimated Existing Landfill Extent

Existing Ground Levels

TP2
ELEV: 34.51

FTL Testpit, Ground Level



SURVEYED	TB	14/08/24	APPROVED	SF	DATE
DESIGNED	TB	15/08/24			
DRAWN	TB	05/11/24			
CHECKED	SF				
REVISION	CHANGES			CHECKED	DATE

NOTES

PROJECT DATUMS:
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COORDINATE: New Zealand Transverse Mercator

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TOITU TE WHENUA LAND
INFORMATION NEW ZEALAND

PROJECT
FORMER TOKANUI HOSPITAL
DEMOLITION AND REMEDIATION
PROJECT

TITLE
INTRUSIVE GROUND
INVESTIGATION TEST PIT
LOCATION PLAN 1 OF 3

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SCALE	1:1000	(A3)
DRAWING No	33097/LF002	REVISION
		-

Legend

Site Boundary

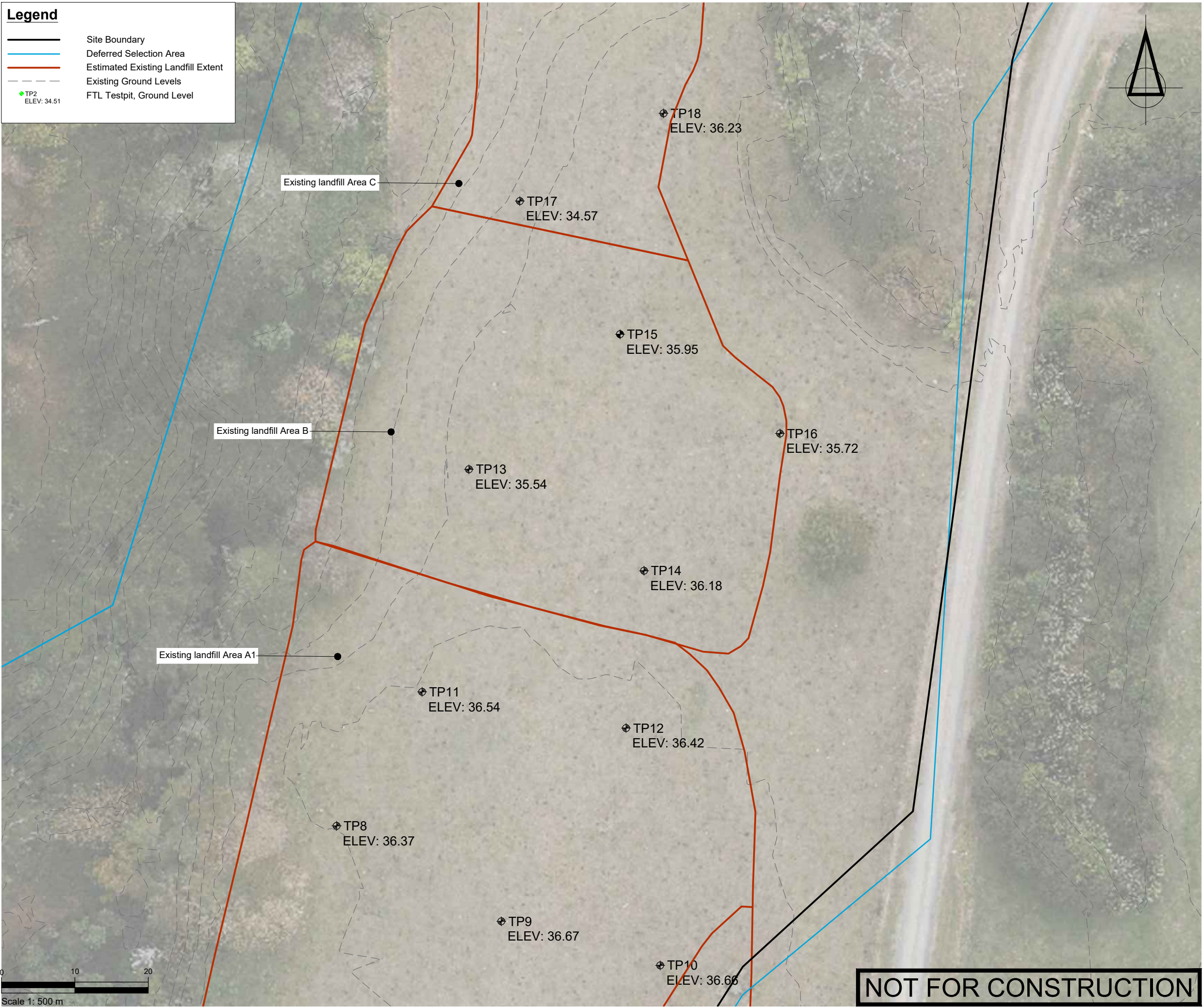
Deferred Selection Area

Estimated Existing Landfill Extent

Existing Ground Levels

TP2
ELEV: 34.51

FTL Testpit, Ground Level



SURVEYED			APPROVED SF 05/11/24	DATE	
DESIGNED	TB	14/08/24			
DRAWN	TB	15/08/24			
CHECKED	SF	05/11/24			
REVISION	CHANGES			CHECKED	DATE

NOTES

PROJECT DATUMS:
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COORDINATE: New Zealand Transverse Mercator

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TOITU TE WHENUA LAND
INFORMATION NEW ZEALAND

PROJECT

FORMER TOKANUI HOSPITAL
DEMOLITION AND REMEDIATION
PROJECT

TITLE

INTRUSIVE GROUND
INVESTIGATION TEST PIT
LOCATION PLAN 2 OF 3

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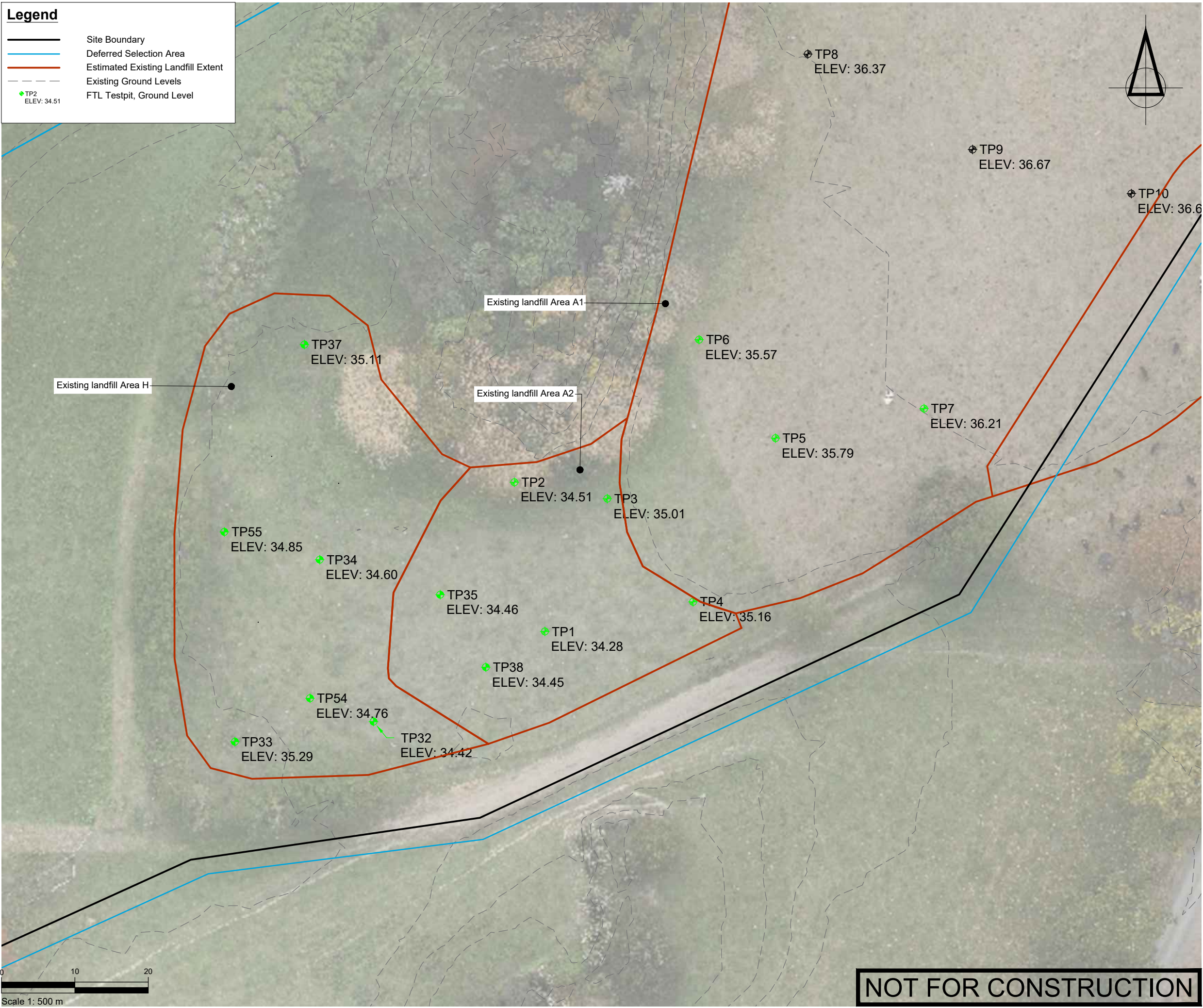
SCALE 1:500 (A3)

DRAWING No 33097/LF003

REVISION -

Legend

- Site Boundary
- Deferred Selection Area
- Estimated Existing Landfill Extent
- Existing Ground Levels
- FTL Testpit, Ground Level



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DESIGNED	TB	14/08/24			
DRAWN	TB	15/08/24			
CHECKED	SF	05/11/24			
REVISION	CHANGES			CHECKED	DATE

NOTES

PROJECT DATUMS:
LEVEL: Auckland Vertical Datum 1946
COORDINATE: New Zealand Transverse Mercator

CLIENT
TOITU TE WHENUA LAND
INFORMATION NEW ZEALAND

PROJECT
FORMER TOKANUI HOSPITAL
DEMOLITION AND REMEDIATION
PROJECT

TITLE
INTRUSIVE GROUND
INVESTIGATION TEST PIT
LOCATION PLAN 3 OF 3



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SCALE	1:500	(A3)
DRAWING No	33097/LF004	REVISION
		-

NOT FOR CONSTRUCTION

Legend

Site Boundary

Deferred Selection Area

Estimated Existing Landfill Extent

Proposed Ground Levels

Existing Ground Levels

Proposed 1% AEP Flood Extent

Proposed Grass

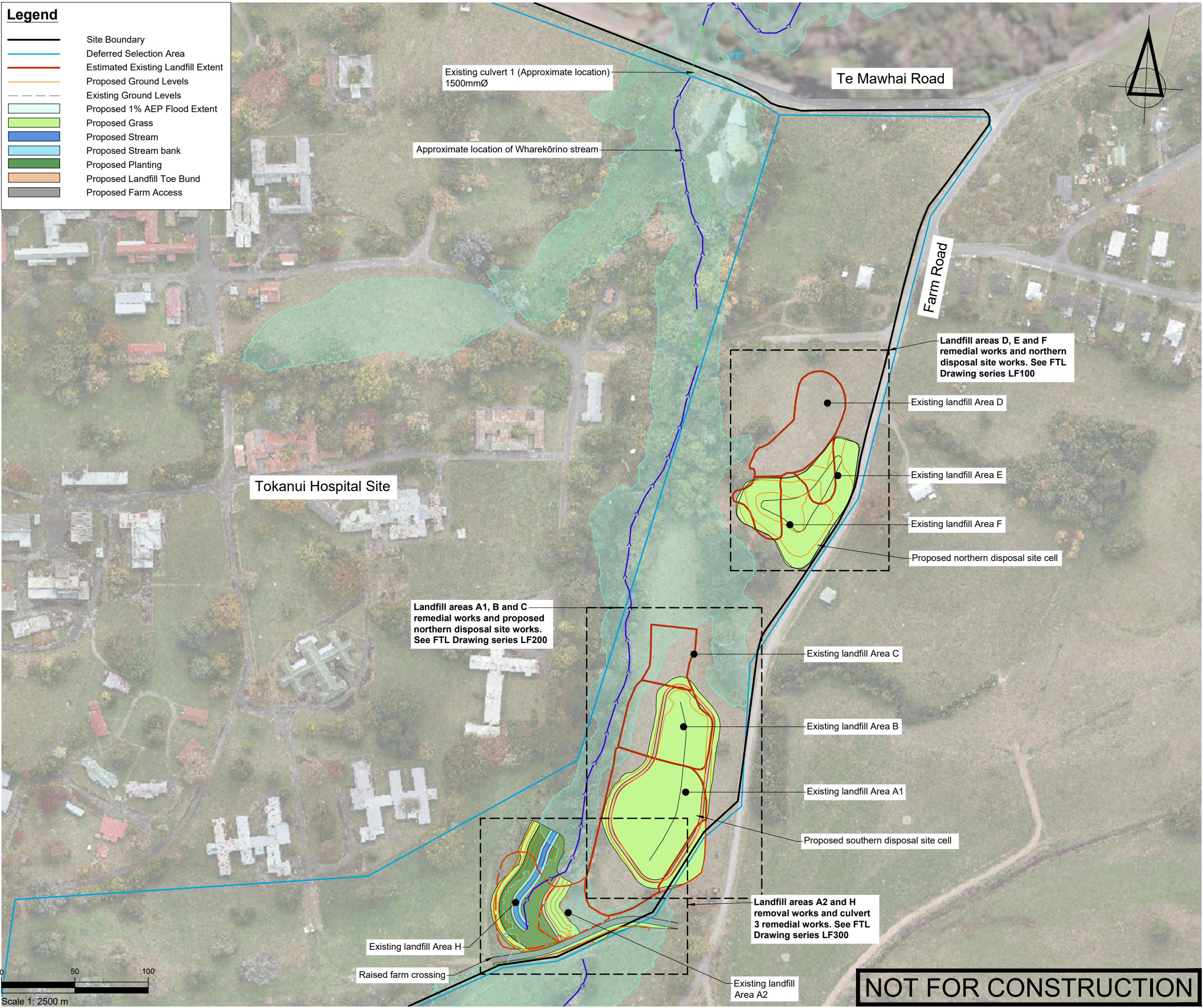
Proposed Stream

Proposed Stream bank

Proposed Planting

Proposed Landfill Toe Bund

Proposed Farm Access



SURVEYED			APPROVED SF 05/11/24	DATE	
DESIGNED	TB	14/08/24			
DRAWN	TB	15/08/24			
CHECKED	SF	05/11/24			
REVISION	CHANGES			CHECKED	DATE
A	STH LF TOE BUND ADDED			SF	20/11/24

NOTES

PROJECT DATUMS:

LEVEL: Auckland Vertical Datum 1946

COORDINATE: New Zealand Transverse Mercator

CLIENT

TOITU TE WHENUA LAND
INFORMATION NEW ZEALAND

PROJECT

FORMER TOKANUI HOSPITAL
DEMOLITION AND REMEDIATION
PROJECT

TITLE

PROPOSED LANDFILL REMEDIAL
WORKS SITE OVERVIEW PLAN

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SCALE 1:2500 (A3)

DRAWING No 33097/LF010

REVISION A

NOT FOR CONSTRUCTION

Legend

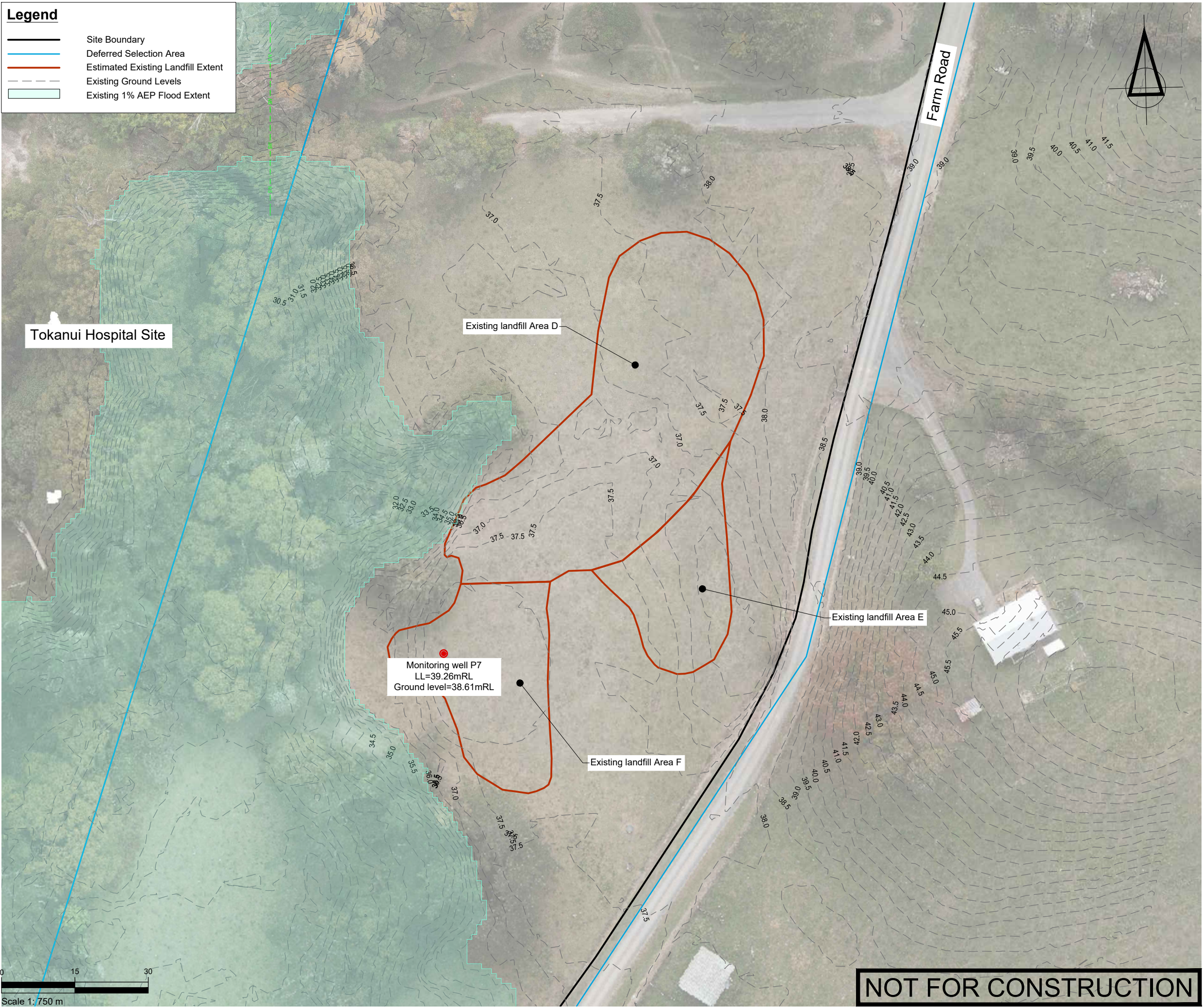
Site Boundary

Deferred Selection Area

Estimated Existing Landfill Extent

Existing Ground Levels

Existing 1% AEP Flood Extent



SURVEYED			APPROVED SF 05/11/24	DATE	
DESIGNED	TB	14/08/24			
DRAWN	TB	15/08/24			
CHECKED	SF	05/11/24			
REVISION	CHANGES			CHECKED	DATE

NOTES

PROJECT DATUMS:

LEVEL: Auckland Vertical Datum 1946

COORDINATE: New Zealand Transverse Mercator

CLIENT

TOITU TE WHENUA LAND
INFORMATION NEW ZEALAND

PROJECT

FORMER TOKANUI HOSPITAL
DEMOLITION AND REMEDIATION
PROJECT

TITLE

EXISTING LANDFILL AREAS D, E
AND F PLAN

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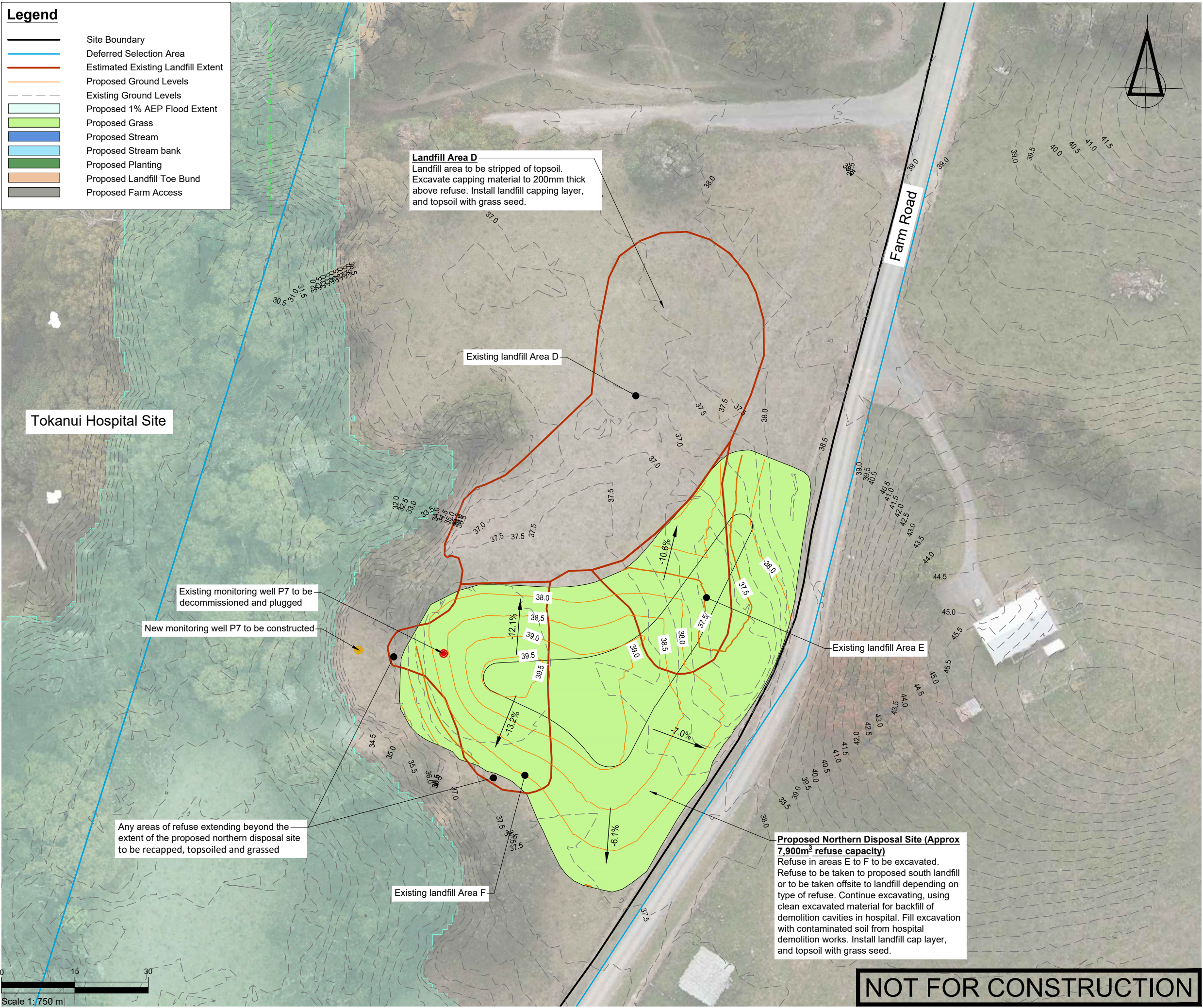
SCALE 1:750 (A3)

DRAWING No 33097/LF100

REVISION -

Legend

- Site Boundary
- Deferred Selection Area
- Estimated Existing Landfill Extent
- Proposed Ground Levels
- Existing Ground Levels
- Proposed 1% AEP Flood Extent
- Proposed Grass
- Proposed Stream
- Proposed Stream bank
- Proposed Planting
- Proposed Landfill Toe Bund
- Proposed Farm Access



SURVEYED			APPROVED SF 05/11/24	DATE	
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DRAWN	TB	15/08/24			
CHECKED	SF	05/11/24			
REVISION	CHANGES			CHECKED	DATE

NOTES

PROJECT DATUMS:
LEVEL: Auckland Vertical Datum 1946
COORDINATE: New Zealand Transverse Mercator

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TOITU TE WHENUA LAND
INFORMATION NEW ZEALAND

PROJECT
FORMER TOKANUI HOSPITAL
DEMOLITION AND REMEDIATION
PROJECT

TITLE
PROPOSED NORTHERN
DISPOSAL SITE CELL
PROPOSED FINAL DESIGN PLAN

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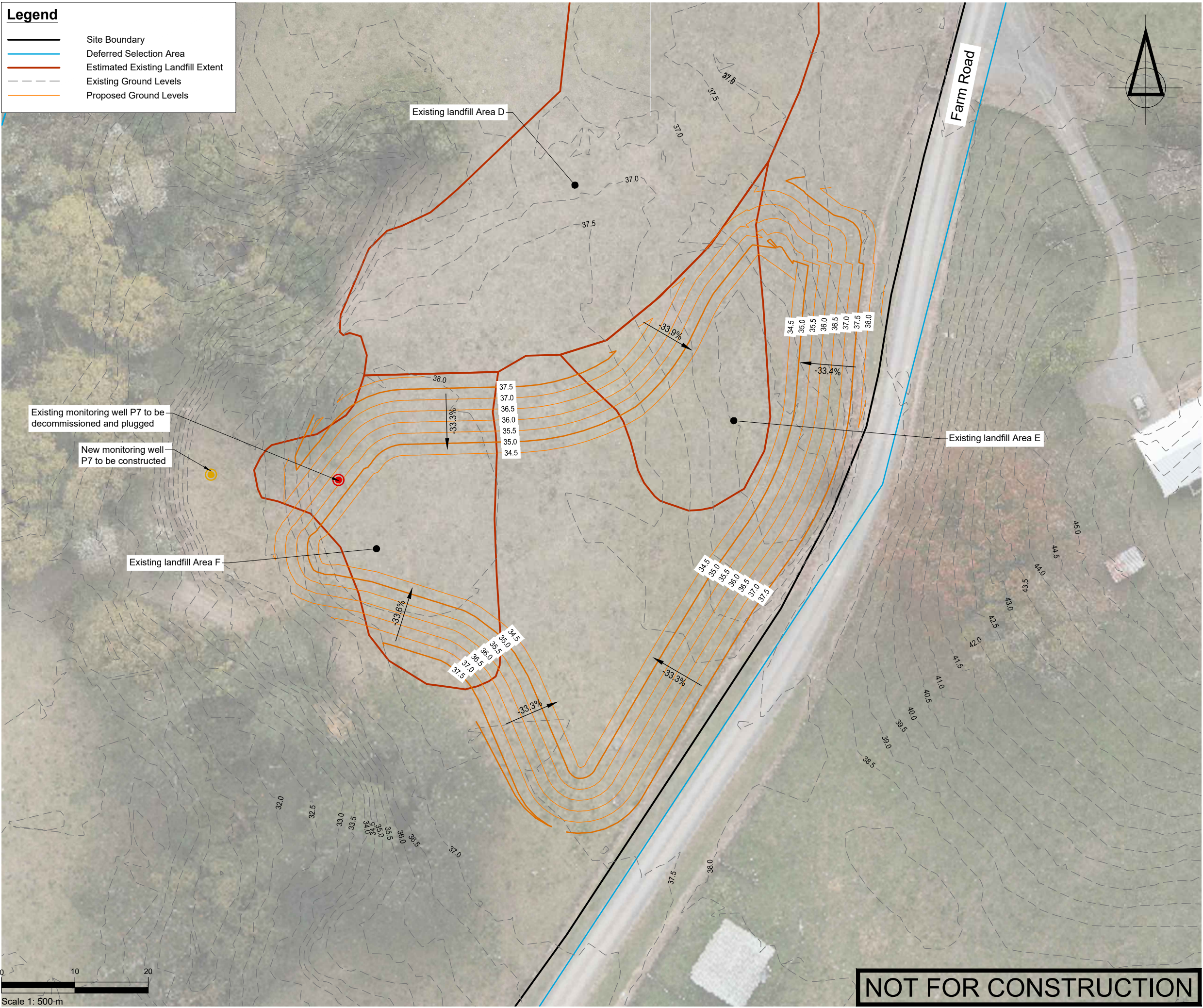
STATUS
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SCALE	1:750	(A3)
DRAWING No	33097/LF110	REVISION
		-

NOT FOR CONSTRUCTION

Legend

- Site Boundary
- Deferred Selection Area
- Estimated Existing Landfill Extent
- Existing Ground Levels
- Proposed Ground Levels



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DESIGNED	TB	14/08/24			
DRAWN	TB	21/08/24			
CHECKED	SF	05/11/24			
REVISION	CHANGES			CHECKED	DATE

NOTES

PROJECT DATUMS:
LEVEL: Auckland Vertical Datum 1946
COORDINATE: New Zealand Transverse Mercator

CLIENT

TOITU TE WHENUA LAND
INFORMATION NEW ZEALAND

PROJECT

FORMER TOKANUI HOSPITAL
DEMOLITION AND REMEDIATION
PROJECT

TITLE

PROPOSED NORTHERN
DISPOSAL SITE CELL
BASE OF CELL LEVELS PLAN

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SCALE 1:500 (A3)

DRAWING No 33097/LF120 REVISION -

Legend

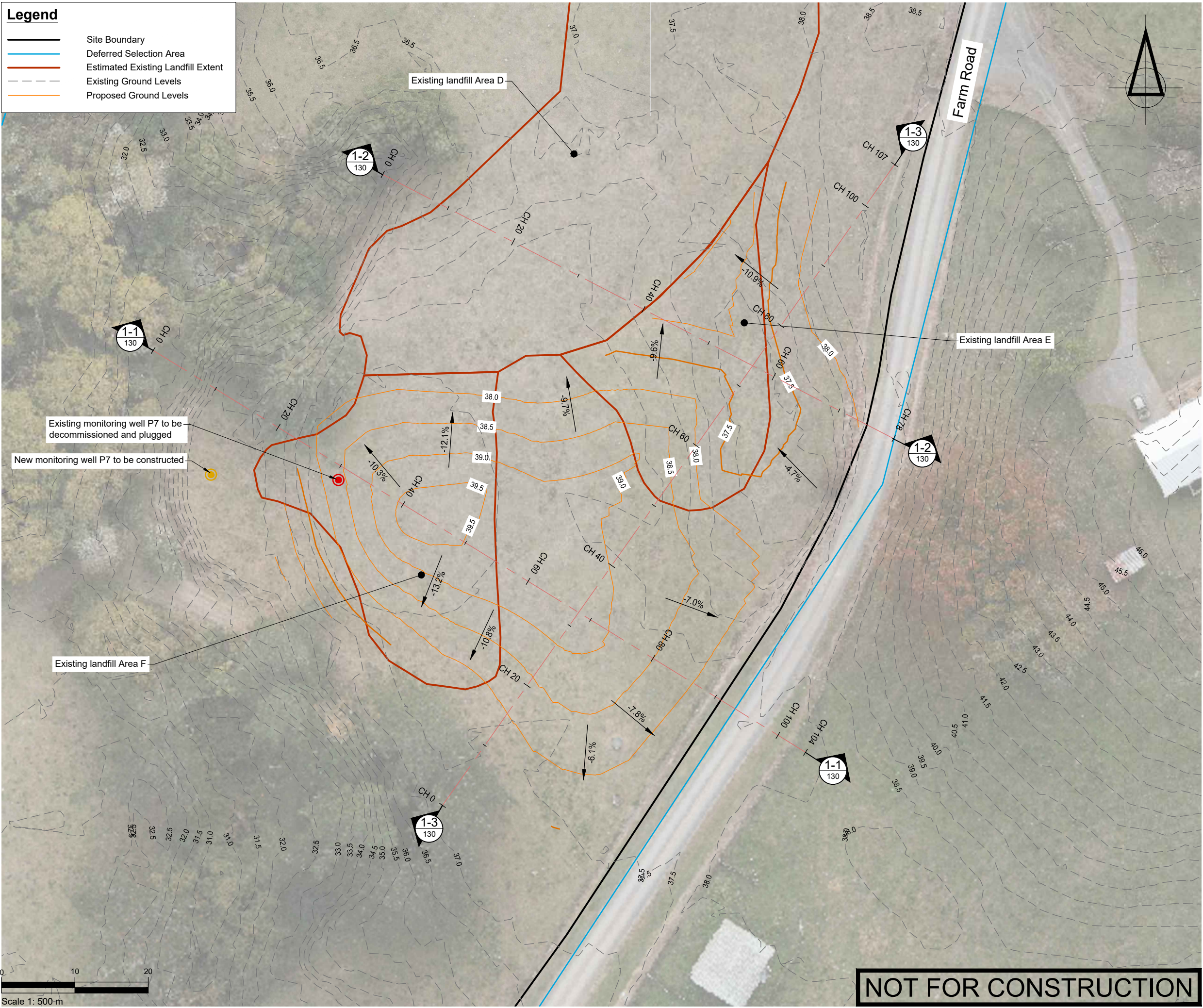
Site Boundary

Deferred Selection Area

Estimated Existing Landfill Extent

Existing Ground Levels

Proposed Ground Levels



SURVEYED	TB	14/08/24	APPROVED	SF	DATE
DRAWN	TB	21/08/24			
CHECKED	SF	05/11/24			
REVISION	CHANGES			CHECKED	DATE

NOTES

PROJECT DATUMS:

LEVEL: Auckland Vertical Datum 1946

COORDINATE: New Zealand Transverse Mercator

CLIENT

TOITU TE WHENUA LAND
INFORMATION NEW ZEALAND

PROJECT

FORMER TOKANUI HOSPITAL
DEMOLITION AND REMEDIATION
PROJECT

TITLE

PROPOSED NORTHERN
DISPOSAL SITE CELL
FINISHED GROUND LEVELS
PLAN

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SCALE 1:500 (A3)

DRAWING No 33097/LF121 REVISION -

Legend

- Existing Ground
- Finished Ground
- Proposed Cap
- Proposed Cell Base

DATUM: 30.00

EXISTING LEVELS	32.27	32.66	36.05	36.53	36.78	38.01	38.28	38.31	38.22	38.13	38.24	37.97	37.77	37.61	37.59	37.59	37.64	37.62	37.79	37.96	37.79	37.88
FINISHED LEVELS						37.87	38.44	39.01	39.57	39.55	39.48	39.37	39.25	39.16	39.05	38.90	38.50	38.11				
BASE OF CAP						37.07	37.64	38.21	38.77	38.75	38.68	38.57	38.45	38.36	38.25	38.10	37.70	37.31				
BASE OF CELL						37.70	35.96	34.50	34.50	34.50	34.50	34.50	34.50	34.50	34.50	34.50	34.74	36.40				
CHAINAGE	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	104

1-1 Cross Section 1-1
121 1:500

DATUM: 32.00

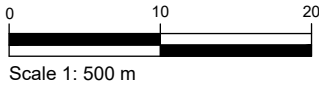
EXISTING LEVELS	34.34	36.09	35.87	36.74	37.39	37.67	37.63	37.29	36.85	36.58	36.16	35.81	35.98	36.35	36.80	38.27	38.43
FINISHED LEVELS										37.05	37.18	37.27	37.35	37.61	37.86		
BASE OF CAP										36.25	36.38	36.47	36.55	36.81	37.06		
BASE OF CELL										35.86	34.50	34.50	34.50	35.46	37.02		
CHAINAGE	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	78

1-2 Cross Section 1-2
121 1:500

DATUM: 32.00

EXISTING LEVELS	37.28	37.45	37.47	37.53	37.60	37.66	37.59	37.65	37.54	37.40	37.60	37.27	36.81	36.28	35.83	35.84	36.35	36.94	37.82	38.30	38.41	38.43	38.41
FINISHED LEVELS				37.97	38.39	38.83	39.11	39.07	38.99	38.94	38.74	38.42	37.98	37.69	37.41	37.24	37.62	38.01	38.31	38.40	38.43		
BASE OF CAP				37.17	37.59	38.03	38.31	38.27	38.19	38.14	37.94	37.62	37.18	36.89	36.61	36.44	36.82	37.21	37.51	37.60	37.63		
BASE OF CELL				36.63	35.21	34.50	34.50	34.50	34.50	34.50	34.50	34.50	34.50	34.50	34.50	34.50	34.50	34.89	35.68	36.99	38.31		
CHAINAGE	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	107

1-3 Cross Section 1-3
121 1:500



NOT FOR CONSTRUCTION

SURVEYED			APPROVED SF 05/11/24	DATE	
DESIGNED	TB	14/08/24			
DRAWN	TB	21/08/24			
CHECKED	SF	05/11/24			
REVISION	CHANGES			CHECKED	DATE

NOTES

PROJECT DATUMS:
LEVEL: Auckland Vertical Datum 1946
COORDINATE: New Zealand Transverse Mercator

TOITU TE WHENUA LAND
INFORMATION NEW ZEALAND

FORMER TOKANUI HOSPITAL
DEMOLITION AND REMEDIATION
PROJECT

PROPOSED NORTHERN
DISPOSAL SITE CELL
CROSS SECTIONS

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SCALE 1:500 (A3)

DRAWING No 33097/LF130

REVISION -

Legend

- Site Boundary
- Deferred Selection Area
- Estimated Existing Landfill Extent
- Existing Ground Levels
- Proposed Ground Levels

Elevations Table			
Number	Minimum Elevation	Maximum Elevation	Color
1	-3.76	-1.50	Red
2	-1.50	-0.50	Orange
3	-0.50	6.28	Yellow

Landfill Area D
Landfill area to be stripped of topsoil.
Excavate capping material to 200mm thick
above refuse. Install landfill capping layer,
and topsoil with grass seed.

Existing landfill Area D

Farm Road



Existing landfill Area F

Existing landfill Area E

Estimated Earthworks Volumes

Northern Disposal Area:

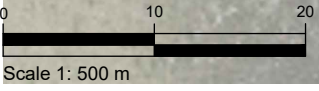
Area = 4000m²

- Strip volumes:
 - Topsoil = 400m³ (assumed 150mm topsoil)
 - Capping material area E = 132m³
 - Capping material area F = 280m³
 - Landfill material area E = 330m³ (assumed 0.5 average depth over area)
 - Landfill material area F = 466m³ (assumed 0.5 average depth over area)
- Total cut to fill of subgrade
 - Cut = 5900m³
 - Fill = 0m³
 - Balance = 5900m³ cut

Existing Landfill Area D

Area = 2400m²

- Strip volumes:
 - Topsoil = 350m³ (assumed 140mm topsoil)
 - Capping material area D = 50m³ (minimal existing capping)
- Capping volume:
 - Clay or other suitable material = 1650m³
 - Topsoil = 400m³



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DESIGNED	TB	21/08/24			
DRAWN	TB	05/11/24			
CHECKED	SF				
REVISION	CHANGES			CHECKED	DATE

NOTES

PROJECT DATUMS:
LEVEL: Auckland Vertical Datum 1946
COORDINATE: New Zealand Transverse Mercator

CLIENT
**TOITU TE WHENUA LAND
INFORMATION NEW ZEALAND**

PROJECT
**FORMER TOKANUI HOSPITAL
DEMOLITION AND REMEDIATION
PROJECT**

TITLE
**PROPOSED NORTHERN
DISPOSAL SITE CELL
CELL FORMATION CUT AND FILL
PLAN**



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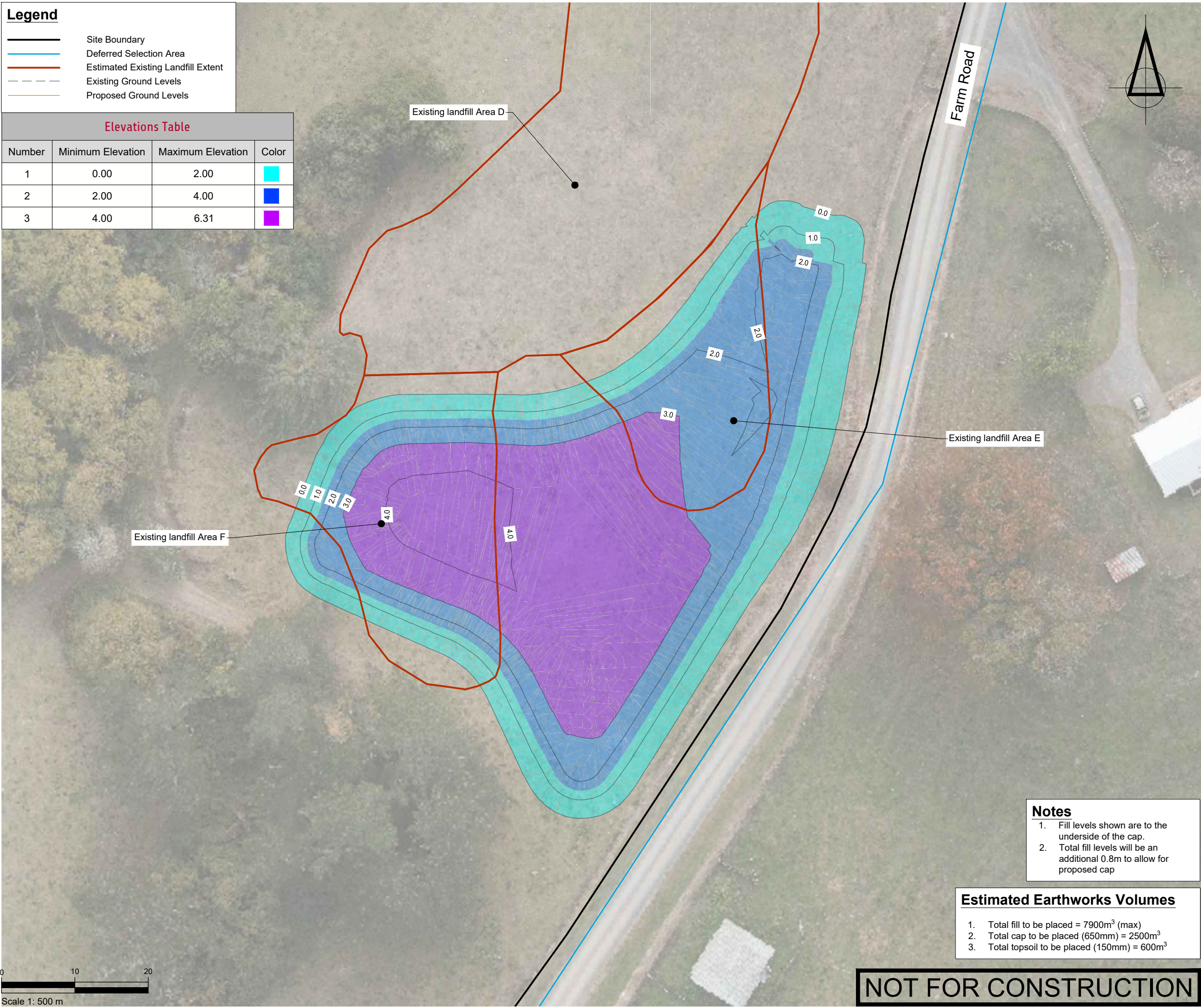
STATUS
FOR RESOURCE CONSENT
Construction works shall commence only on receipt of and in accordance with the Council or Council organisation stamped approved drawings, unless otherwise indicated.

SCALE	1:500	(A3)
DRAWING No	33097/LF140	REVISION
		-

Legend

- Site Boundary
- Deferred Selection Area
- Estimated Existing Landfill Extent
- Existing Ground Levels
- Proposed Ground Levels

Elevations Table			
Number	Minimum Elevation	Maximum Elevation	Color
1	0.00	2.00	
2	2.00	4.00	
3	4.00	6.31	



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NOTES

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INFORMATION NEW ZEALAND

PROJECT
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PROJECT

TITLE
PROPOSED NORTHERN
DISPOSAL SITE CELL
FILLING PLAN



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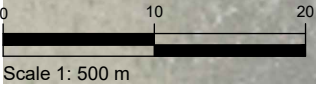
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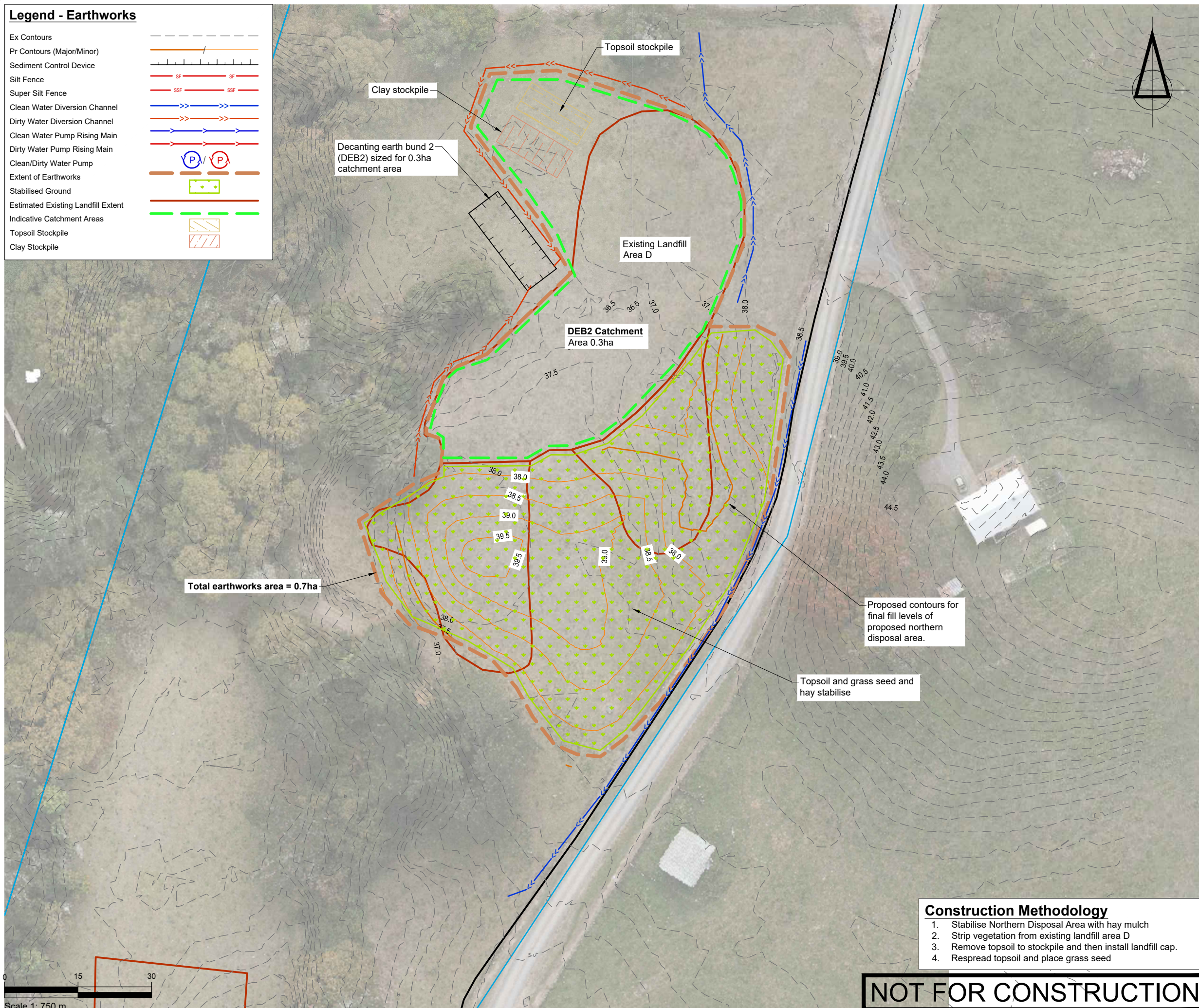
- Notes**
- Fill levels shown are to the underside of the cap.
 - Total fill levels will be an additional 0.8m to allow for proposed cap

Estimated Earthworks Volumes	
1.	Total fill to be placed = 7900m ³ (max)
2.	Total cap to be placed (650mm) = 2500m ³
3.	Total topsoil to be placed (150mm) = 600m ³

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Ex Contours	
Pr Contours (Major/Minor)	
Sediment Control Device	
Silt Fence	
Super Silt Fence	
Clean Water Diversion Channel	
Dirty Water Diversion Channel	
Clean Water Pump Rising Main	
Dirty Water Pump Rising Main	
Clean/Dirty Water Pump	
Extent of Earthworks	
Stabilised Ground	
Estimated Existing Landfill Extent	
Indicative Catchment Areas	
Topsoil Stockpile	
Clay Stockpile	

[illegible]

NOTES

PROJECT DATUMS:

LEVEL: Auckland Vertical Datum 1946
COORDINATE: New Zealand Transverse Mercator

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INFORMATION NEW ZEALAND

PROJECT

PROJECT

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DEMOLITION AND REMEDIATION
PROJECT

TITLE

PROPOSED NORTHERN DISPOSAL SITE CELL EROSION AND SEDIMENT CONTROL PLAN PHASE 2



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SCALE 1:750 (A3)

DRAWING No	REVISION
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33007/1 E101

330977/LF 191 -

2-33 series\33097\03 Drawings\33097-LF191.dwg, f.vohra, 21/11/2024 12:49 pm

Legend

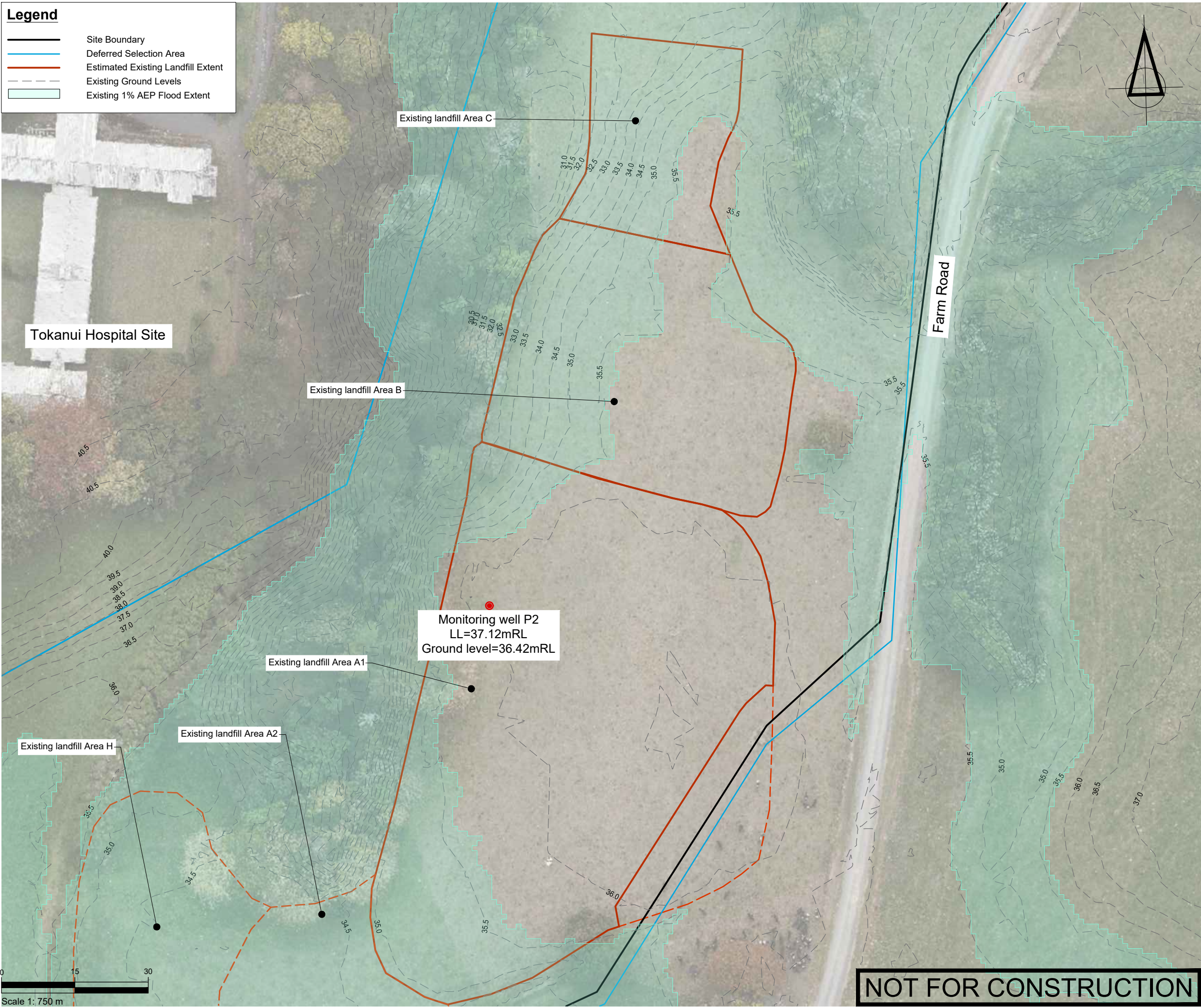
Site Boundary

Deferred Selection Area

Estimated Existing Landfill Extent

Existing Ground Levels

Existing 1% AEP Flood Extent



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NOTES

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INFORMATION NEW ZEALAND

PROJECT

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DEMOLITION AND REMEDIATION
PROJECT

TITLE

EXISTING LANDFILL AREAS A1,
B, AND C PLAN

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SCALE 1:750 (A3)

DRAWING No 33097/LF200 REVISION -

Legend

Site Boundary

Deferred Selection Area

Estimated Existing Landfill Extent

Proposed Ground Levels

Existing Ground Levels

Proposed 1% AEP Flood Extent

Proposed Grass

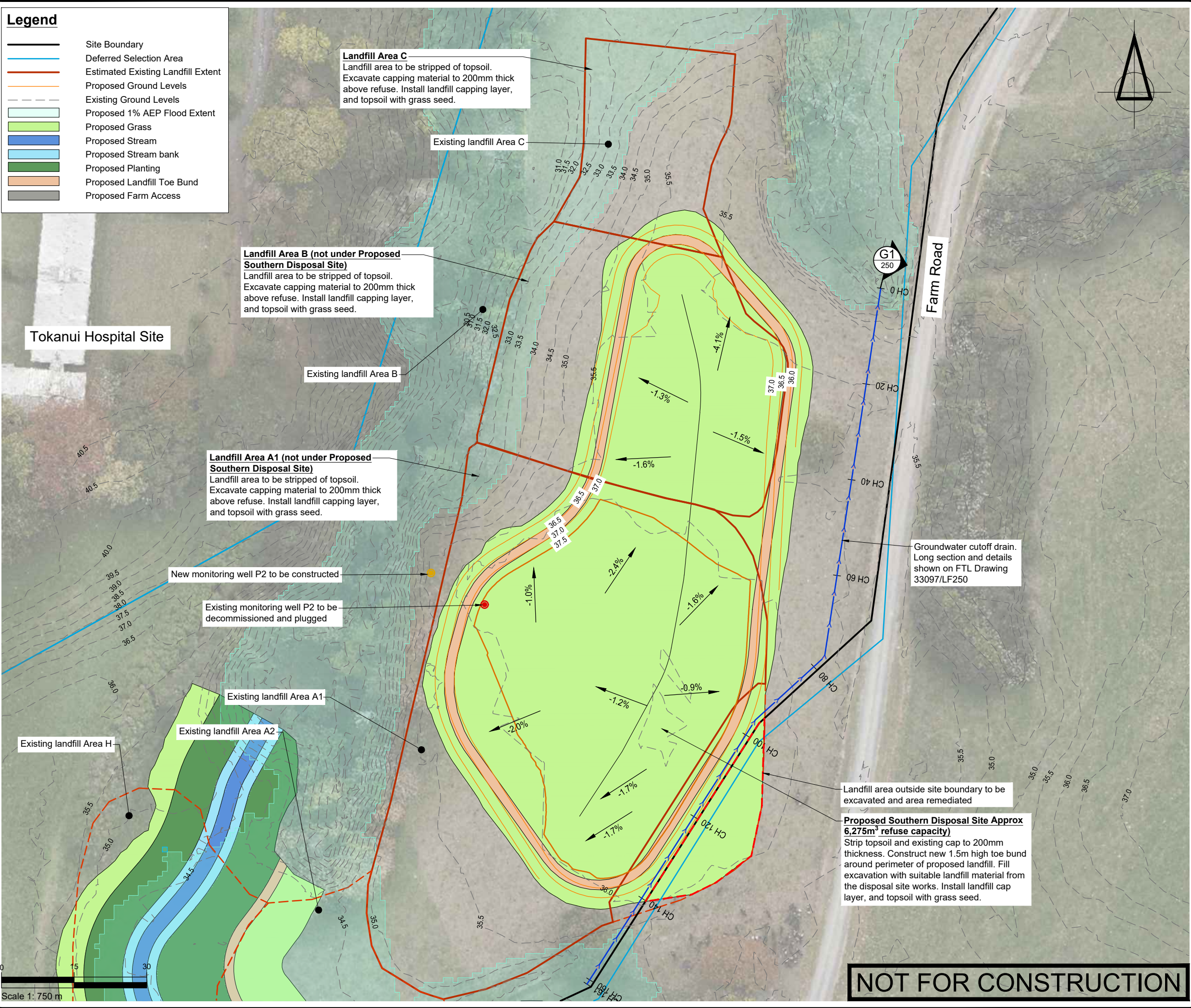
Proposed Stream

Proposed Stream bank

Proposed Planting

Proposed Landfill Toe Bund

Proposed Farm Access



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NOTES

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PROJECT

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DEMOLITION AND REMEDIATION
PROJECT

TITLE

PROPOSED SOUTHERN
DISPOSAL SITE CELL
PROPOSED FINAL DESIGN PLAN

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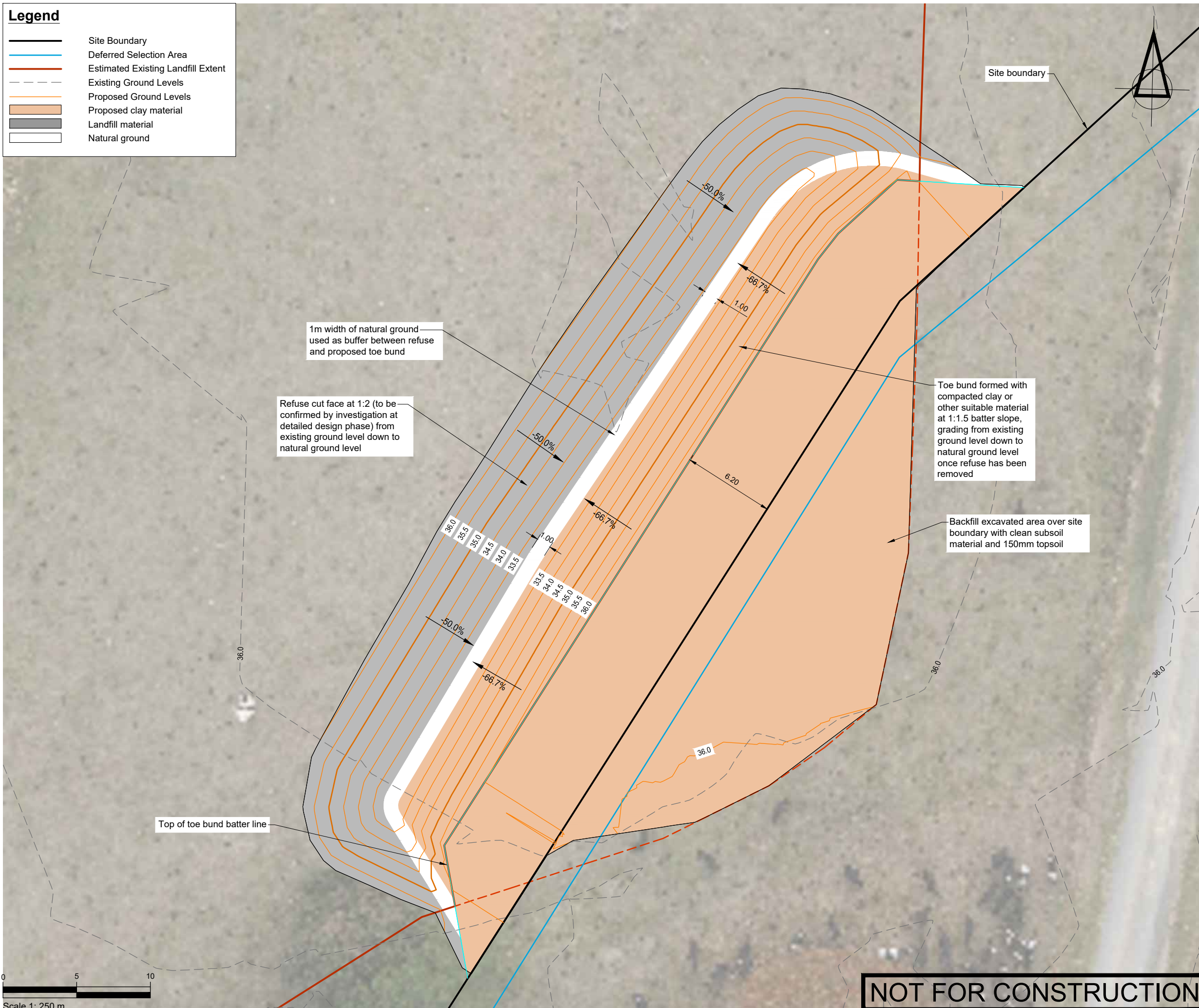
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SCALE 1:750 (A3)

DRAWING No 33097/LF210 REVISION A

	Site Boundary
	Deferred Selection Area
	Estimated Existing Landfill Extent
	Existing Ground Levels
	Proposed Ground Levels
	Proposed clay material
	Landfill material
	Natural ground

[illegible]

NOTES

PROJECT DATUMS:
 LEVEL: Auckland Vertical Datum 1946
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PROJECT
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TITLE

PROPOSED SOUTHERN
DISPOSAL SITE CELL
PROPOSED TOE BUND PLAN



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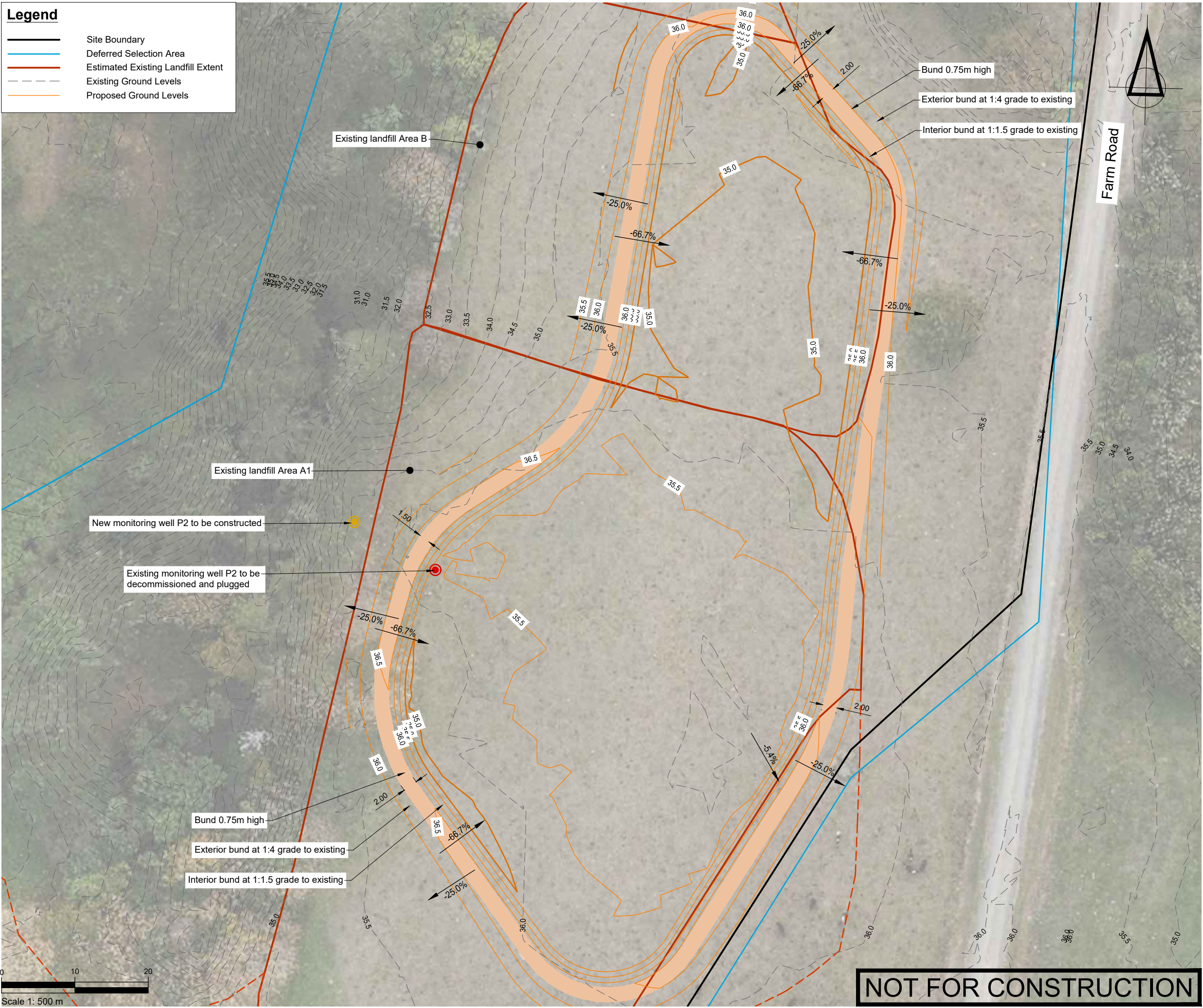
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SCALE	1:250	(A3)
DRAWING No	33097/LF219	REVISION
		-

Legend

- Site Boundary
- Deferred Selection Area
- Estimated Existing Landfill Extent
- Existing Ground Levels
- Proposed Ground Levels



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CHECKED	SF	05/11/24			
REVISION	CHANGES			CHECKED	DATE
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NOTES

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PROJECT
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DEMOLITION AND REMEDIATION
PROJECT

TITLE
PROPOSED SOUTHERN
DISPOSAL SITE CELL
BASE OF CELL LEVELS PLAN



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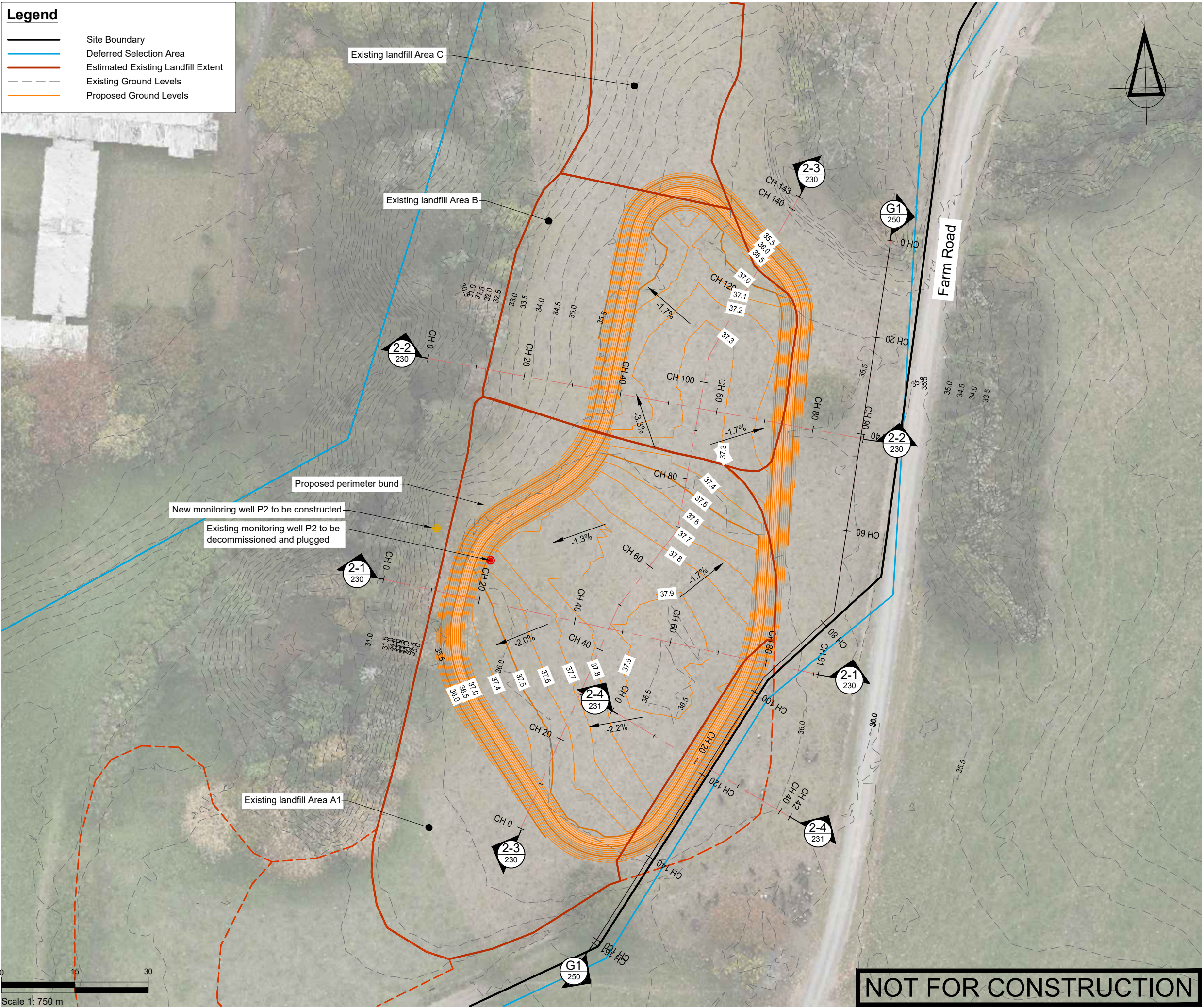
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SCALE	1:500	(A3)
DRAWING No	33097/LF220	REVISION
		A

Legend

- Site Boundary
- Deferred Selection Area
- Estimated Existing Landfill Extent
- Existing Ground Levels
- Proposed Ground Levels



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CHECKED	SF	05/11/24			
REVISION	CHANGES			CHECKED	DATE
A	STH LF TOE BUND ADDED			SF	20/11/24

NOTES

PROJECT DATUMS:
LEVEL: Auckland Vertical Datum 1946
COORDINATE: New Zealand Transverse Mercator

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PROJECT
**FORMER TOKANUI HOSPITAL
DEMOLITION AND REMEDIATION
PROJECT**

TITLE
**PROPOSED SOUTHERN
DISPOSAL SITE CELL
FINISHED GROUND LEVELS
PLAN**



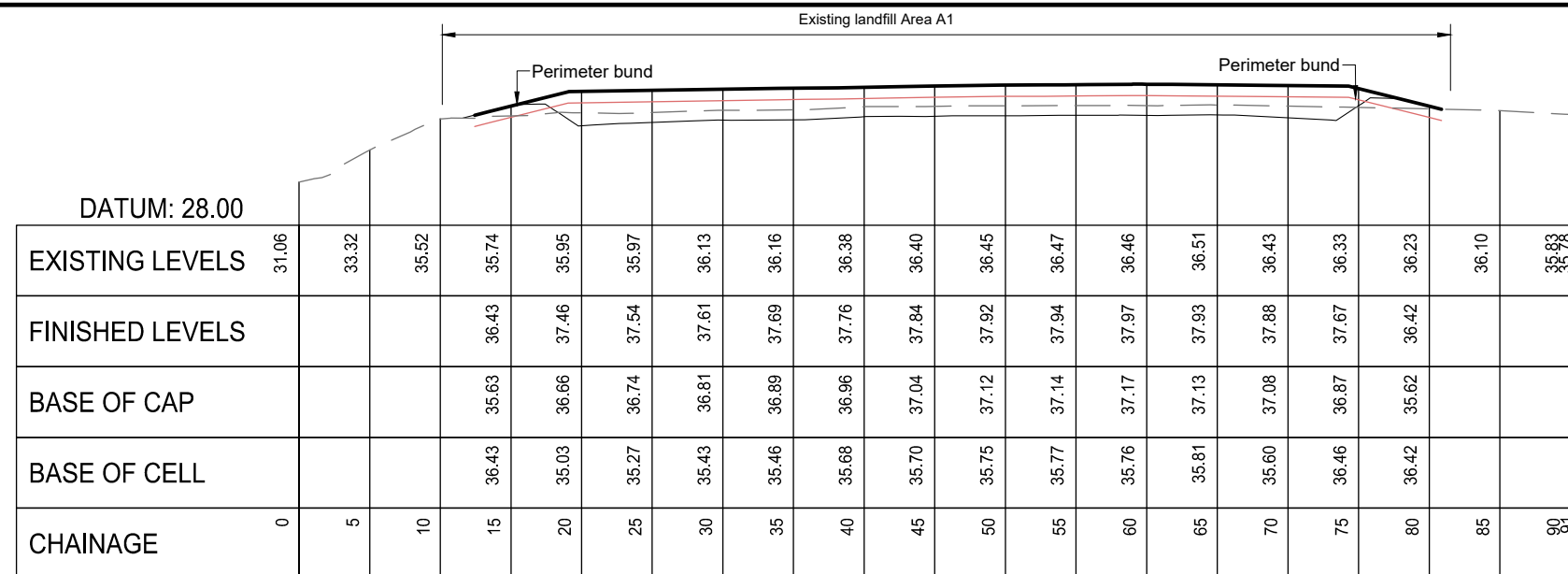
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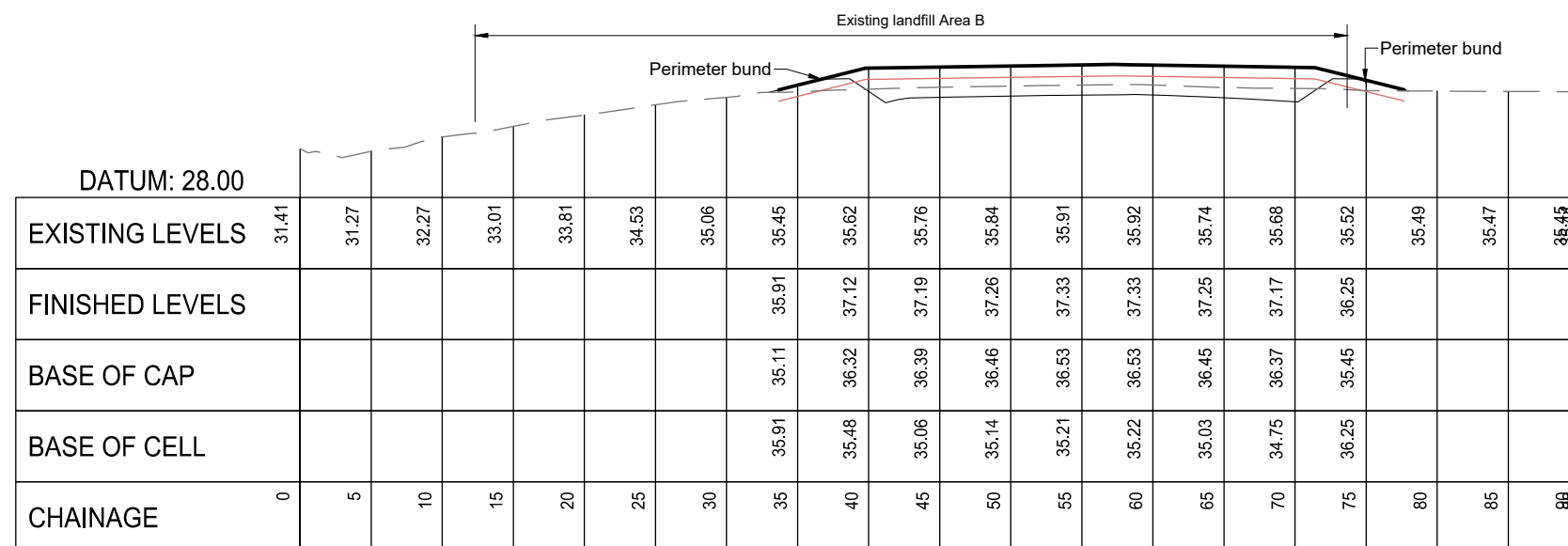
SCALE 1:750 (A3)
DRAWING No 33097/LF221 REVISION A

NOT FOR CONSTRUCTION

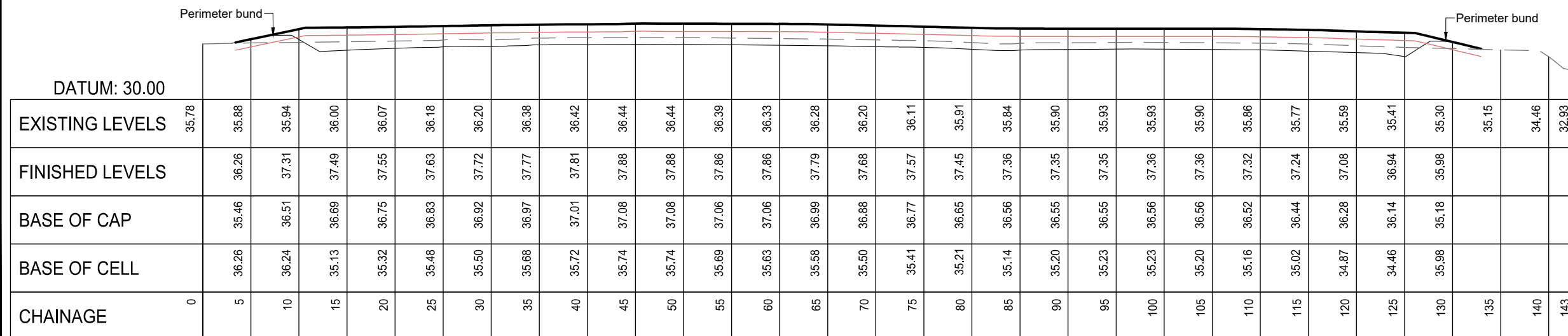
 Existing Ground
 Finished Ground
 Proposed Cap
 Proposed Cell Base



2-1 Cross Section 2-1
221 1:500



2-2 Cross Section 2-2
221 1:500



2-3 Cross Section 2-3
221 1:500

NOT FOR CONSTRUCTION

[illegible]

NOTES

PROJECT DATUMS:
 LEVEL: Auckland Vertical Datum 1946
 COORDINATE: New Zealand Transverse Mercator

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INFORMATION NEW ZEALAND

PROJECT

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DEMOLITION AND REMEDIATION
PROJECT

PROPOSED SOUTHERN
DISPOSAL SITE CELL
CROSS SECTIONS SHEET 1



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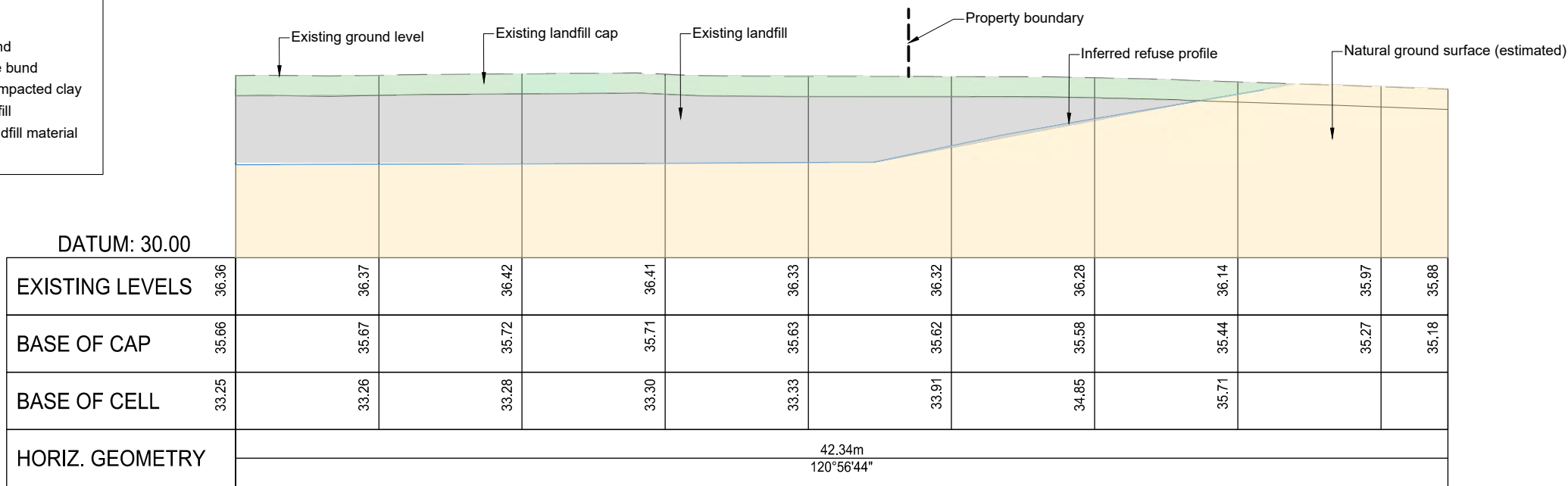
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SCALE 1:500 (A3)

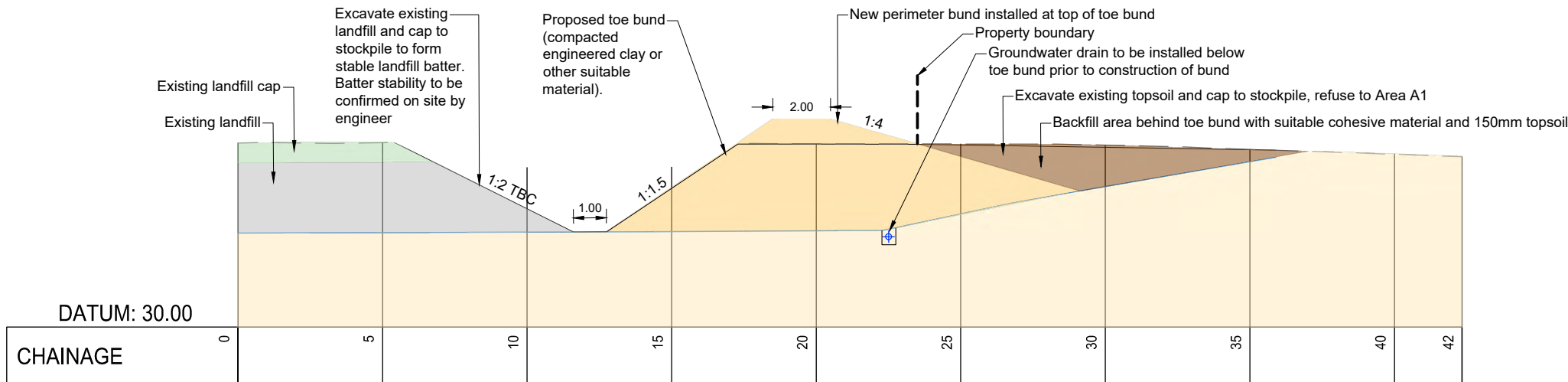
DRAWING No	REVISION
33097/LF230	A

Legend

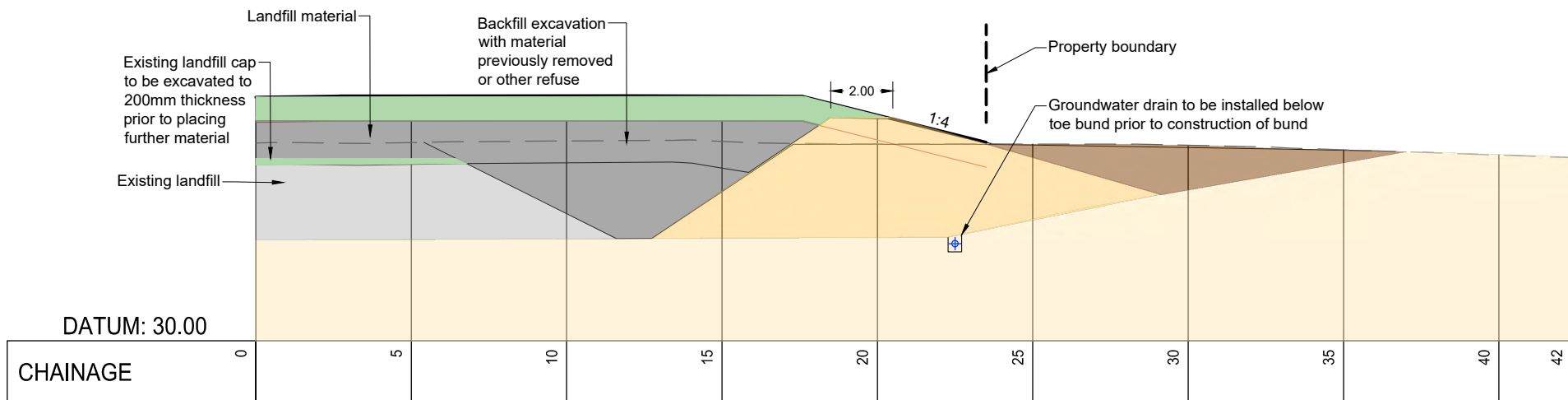
- Natural ground
- Proposed toe bund
- Proposed compacted clay
- Existing landfill
- Proposed landfill material
- Landfill cap



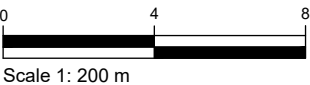
2-4 Cross Section 2-4 - Existing
221 1:200



2-4 Cross Section 2-4 - Stage 1
221 1:200



2-4 Cross Section 2-4 - Stage 2
221 1:200



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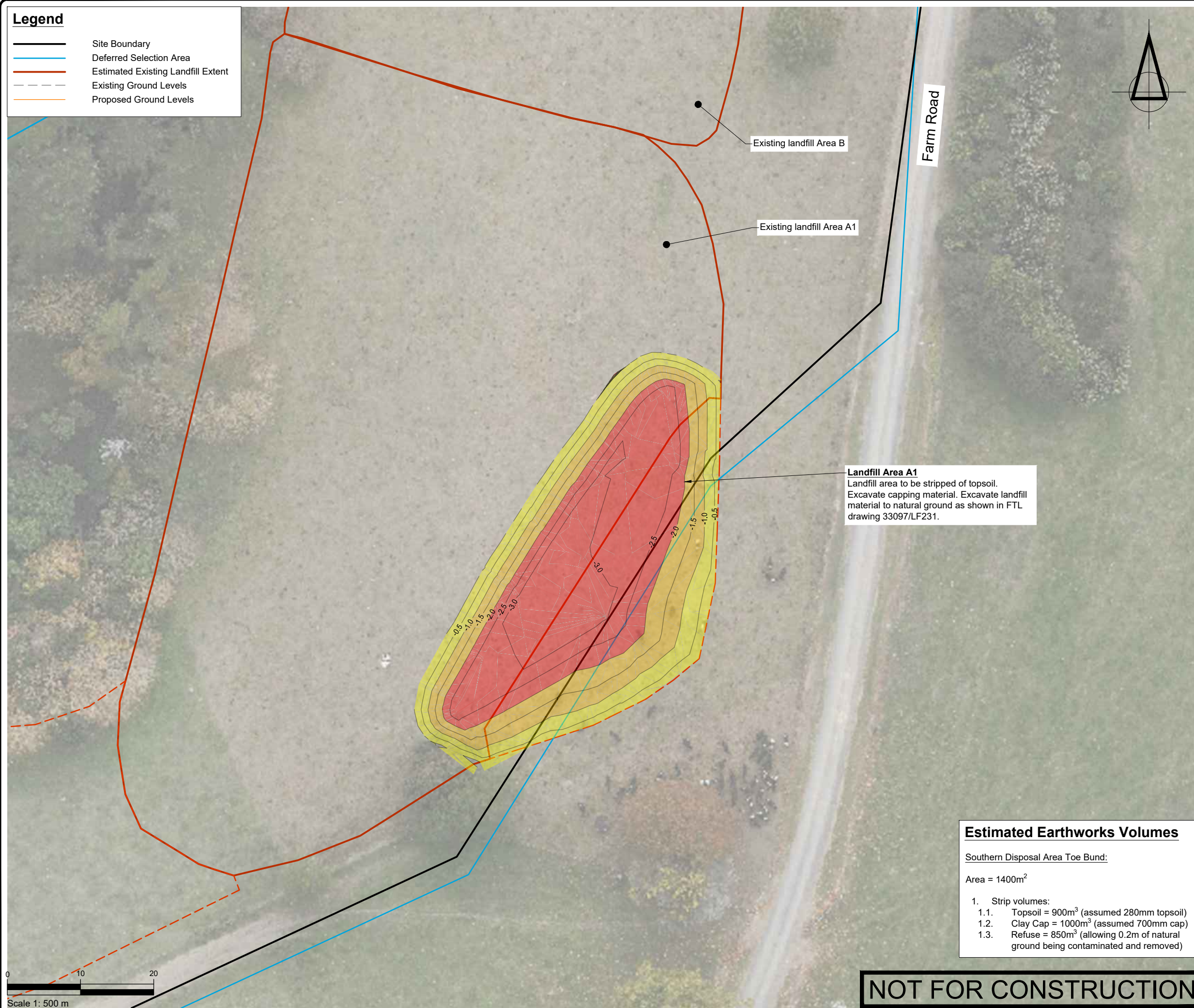
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PROJECT

TITLE
PROPOSED SOUTHERN
DISPOSAL SITE CELL
CROSS SECTIONS SHEET 2

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SCALE	1:200	(A3)
DRAWING No	33097/LF231	REVISION
		-

[illegible]

NOTES

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INFORMATION NEW ZEALAND

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DEMOLITION AND REMEDIATION
PROJECT

TITLE

PROPOSED SOUTHERN
DISPOSAL SITE CELL
REFUSE EXCAVATION PLAN

STATUS	
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SCALE	1:500 (A3)
DRAWING No	REVISION
33097/LF238	-

Estimated Earthworks Volumes

Southern Disposal Area Toe Bund:

Area = 1400m^2

1. Strip volumes:
 - 1.1. Topsoil = 900m^3 (assumed 280mm topsoil)
 - 1.2. Clay Cap = 1000m^3 (assumed 700mm cap)
 - 1.3. Refuse = 850m^3 (allowing 0.2m of natural ground being contaminated and removed)

Legend

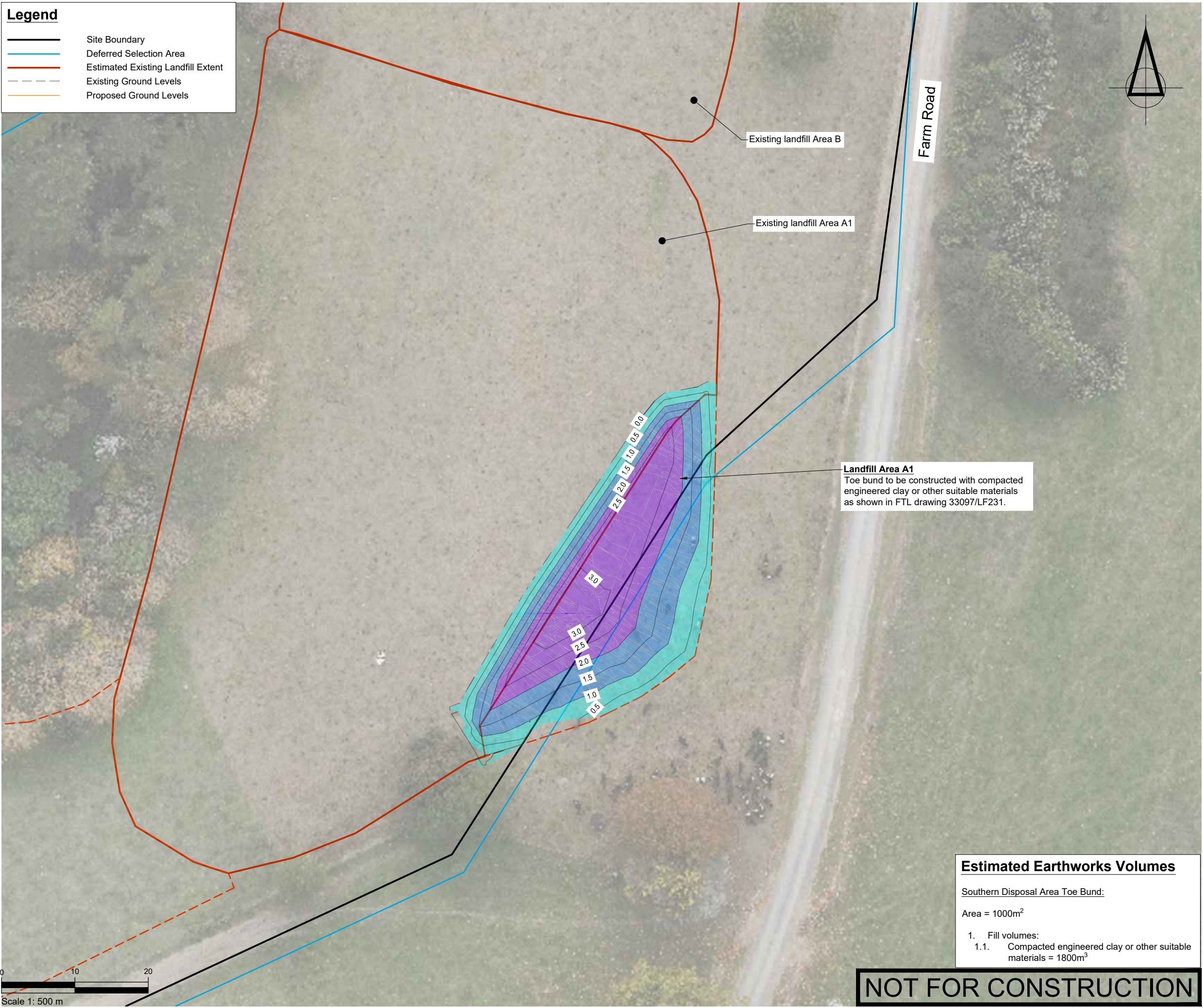
Site Boundary

Deferred Selection Area

Estimated Existing Landfill Extent

Existing Ground Levels

Proposed Ground Levels



Landfill Area A1
Toe bund to be constructed with compacted engineered clay or other suitable materials as shown in FTL drawing 33097/LF231.

Estimated Earthworks Volumes

Southern Disposal Area Toe Bund:

Area = 1000m²

1. Fill volumes:
- 1.1. Compacted engineered clay or other suitable materials = 1800m³

NOT FOR CONSTRUCTION

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PROJECT

TITLE
PROPOSED SOUTHERN
DISPOSAL SITE CELL
TOE BUND CONSTRUCTION
PLAN

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SCALE 1:500 (A3)

DRAWING No 33097/LF239 REVISION -

Legend

Site Boundary

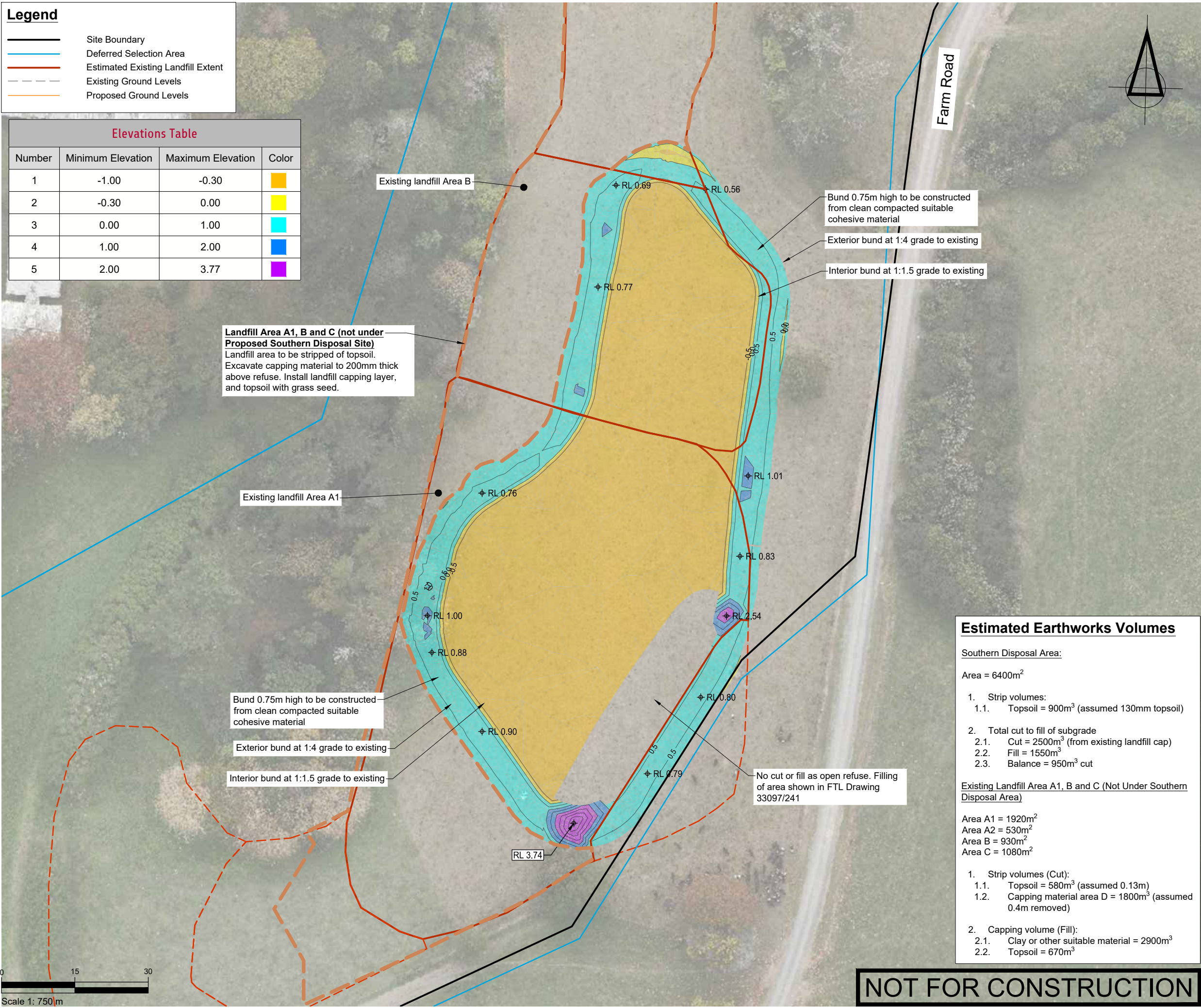
Deferred Selection Area

Estimated Existing Landfill Extent

Existing Ground Levels

Proposed Ground Levels

Elevations Table			
Number	Minimum Elevation	Maximum Elevation	Color
1	-1.00	-0.30	
2	-0.30	0.00	
3	0.00	1.00	
4	1.00	2.00	
5	2.00	3.77	



Estimated Earthworks Volumes

- Southern Disposal Area:
- Area = 6400m²
- Strip volumes:
 - Topsoil = 900m³ (assumed 130mm topsoil)
 - Total cut to fill of subgrade
 - Cut = 2500m³ (from existing landfill cap)
 - Fill = 1550m³
 - Balance = 950m³ cut
- Existing Landfill Area A1, B and C (Not Under Southern Disposal Area)
- Area A1 = 1920m²
Area A2 = 530m²
Area B = 930m²
Area C = 1080m²
- Strip volumes (Cut):
 - Topsoil = 580m³ (assumed 0.13m)
 - Capping material area D = 1800m³ (assumed 0.4m removed)
 - Capping volume (Fill):
 - Clay or other suitable material = 2900m³
 - Topsoil = 670m³

SURVEYED			APPROVED SF 05/11/24	DATE	
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DRAWN	TB	21/08/24			
CHECKED	SF	05/11/24			
REVISION	CHANGES			CHECKED	DATE
A	STH LF TOE BUND ADDED			SF	20/11/24

NOTES

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TOITU TE WHENUA LAND
INFORMATION NEW ZEALAND

PROJECT

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DEMOLITION AND REMEDIATION
PROJECT

TITLE

PROPOSED SOUTHERN
DISPOSAL SITE CELL
CELL FORMATION CUT AND FILL
PLAN

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SCALE 1:500 (A3)

DRAWING No 33097/LF240

REVISION A

NOT FOR CONSTRUCTION

Legend

Site Boundary

Deferred Selection Area

Estimated Existing Landfill Extent

Existing Ground Levels

Proposed Ground Levels

Elevations Table			
Number	Minimum Elevation	Maximum Elevation	Color
1	0.00	1.00	
2	1.00	2.00	
3	2.00	3.81	

Existing landfill Area B

Existing landfill Area A1

Farm Road

Notes

- Fill levels shown are to the top of refuse.
- Total fill levels will be an additional 0.8m to allow for proposed cap

Estimated Earthworks Volumes

Area = 6800m²

- Total refuse to be placed = 7200m³ (max)
- Total cap to be placed (650mm) = 4400m³
- Total topsoil to be placed (150mm) = 1000m³

NOT FOR CONSTRUCTION

SURVEYED			APPROVED SF 05/11/24	DATE	
DESIGNED	TB	14/08/24			
DRAWN	TB	21/08/24			
CHECKED	SF	05/11/24			
REVISION	CHANGES			CHECKED	DATE
A	STH LF TOE BUND ADDED			SF	20/11/24
</					

NOTES

PROJECT DATUMS:
LEVEL: Auckland Vertical Datum 1946
COORDINATE: New Zealand Transverse Mercator

CLIENT
TOITU TE WHENUA LAND
INFORMATION NEW ZEALAND

PROJECT
FORMER TOKANUI HOSPITAL
DEMOLITION AND REMEDIATION
PROJECT

TITLE
PROPOSED SOUTHERN
DISPOSAL SITE CELL
REFUSE FILLING PLAN

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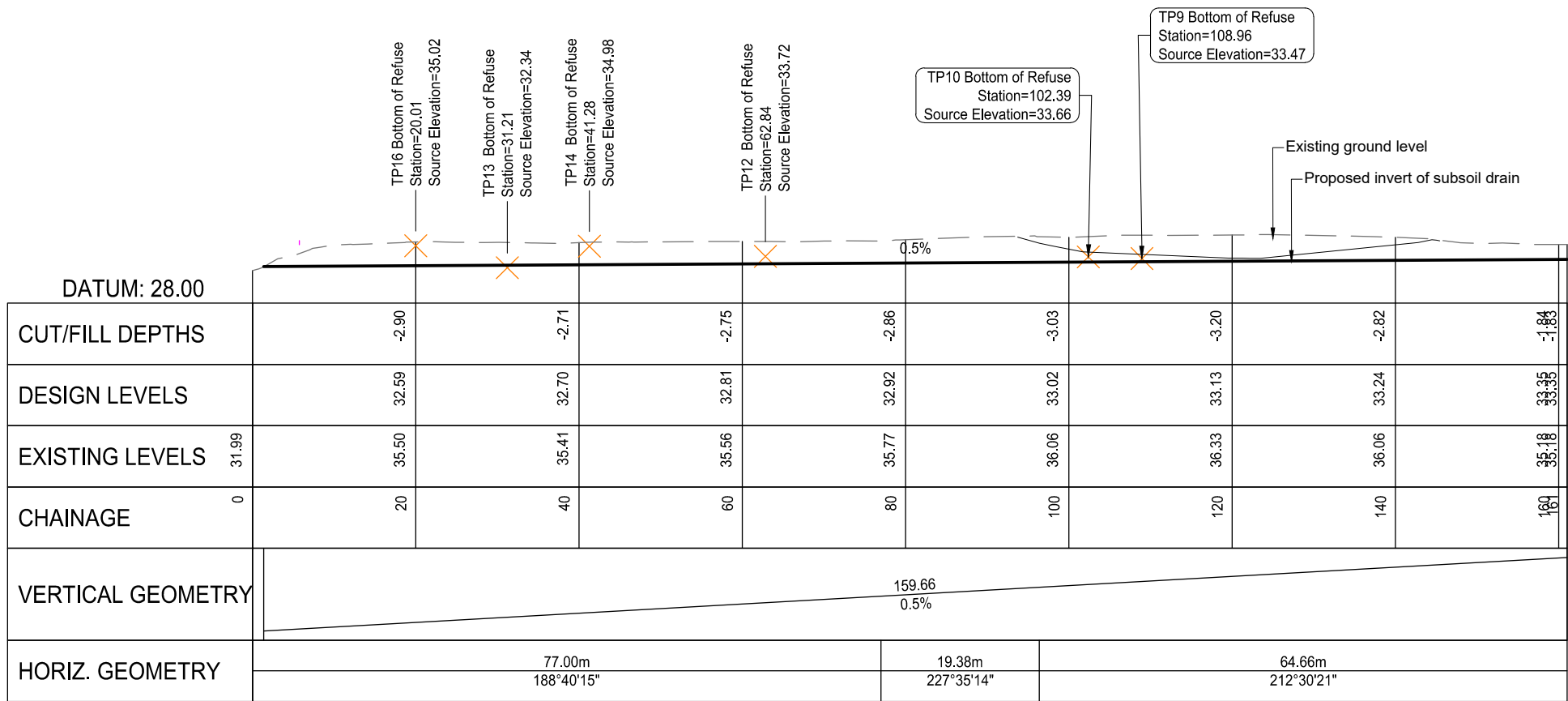
STATUS
FOR RESOURCE CONSENT

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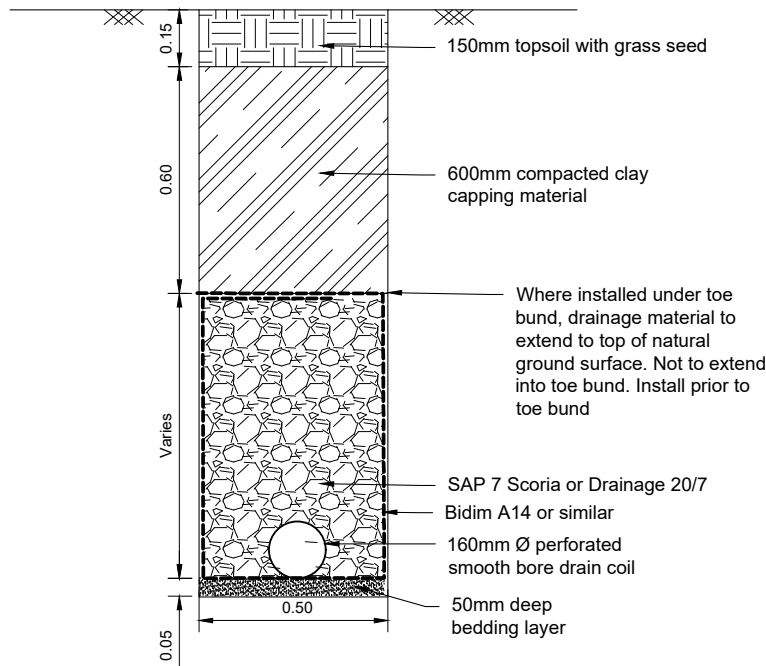
SCALE 1:500 (A3)

DRAWING No 33097/LF241 REVISION A

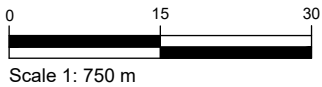
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G1 Ground Water Diversion Drain Long Section
210 1:750



Ground Water Diversion Drain Typical Detail
Scale 1:20



NOT FOR CONSTRUCTION

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CHECKED	SF	05/11/24		
REVISION	CHANGES		CHECKED	DATE
A	STH LF TOE BUND ADDED		SF	20/11/24

NOTES

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INFORMATION NEW ZEALAND

PROJECT
FORMER TOKANUI HOSPITAL
DEMOLITION AND REMEDIATION
PROJECT

TITLE
PROPOSED SOUTHERN
DISPOSAL SITE CELL
GROUNDWATER DRAIN LONG
SECTION AND DETAIL

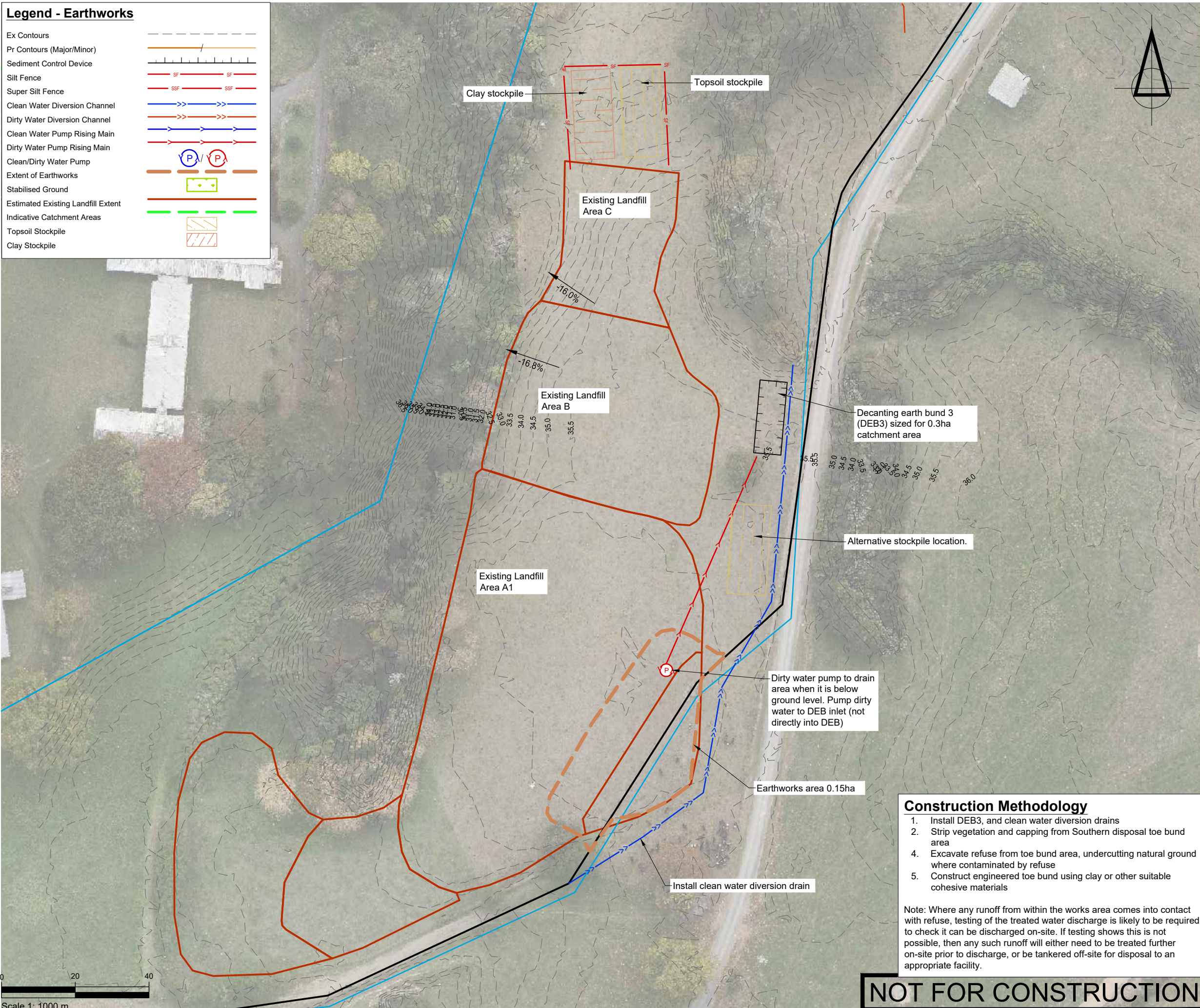
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SCALE	AS SHOWN	(A3)
DRAWING No	33097/LF250	REVISION A

Legend - Earthworks

Ex Contours	
Pr Contours (Major/Minor)	
Sediment Control Device	
Silt Fence	
Super Silt Fence	
Clean Water Diversion Channel	
Dirty Water Diversion Channel	
Clean Water Pump Rising Main	
Dirty Water Pump Rising Main	
Clean/Dirty Water Pump	
Extent of Earthworks	
Stabilised Ground	
Estimated Existing Landfill Extent	
Indicative Catchment Areas	
Topsoil Stockpile	
Clay Stockpile	



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REVISION	CHANGES			CHECKED	DATE

NOTES

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INFORMATION NEW ZEALAND

PROJECT
FORMER TOKANUI HOSPITAL
DEMOLITION AND REMEDIATION
PROJECT

TITLE
PROPOSED SOUTHERN
DISPOSAL SITE CELL
EROSION AND SEDIMENT
CONTROL PLAN PHASE 0

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SCALE 1:1000 (A3)
DRAWING No 33097/LF289
REVISION -

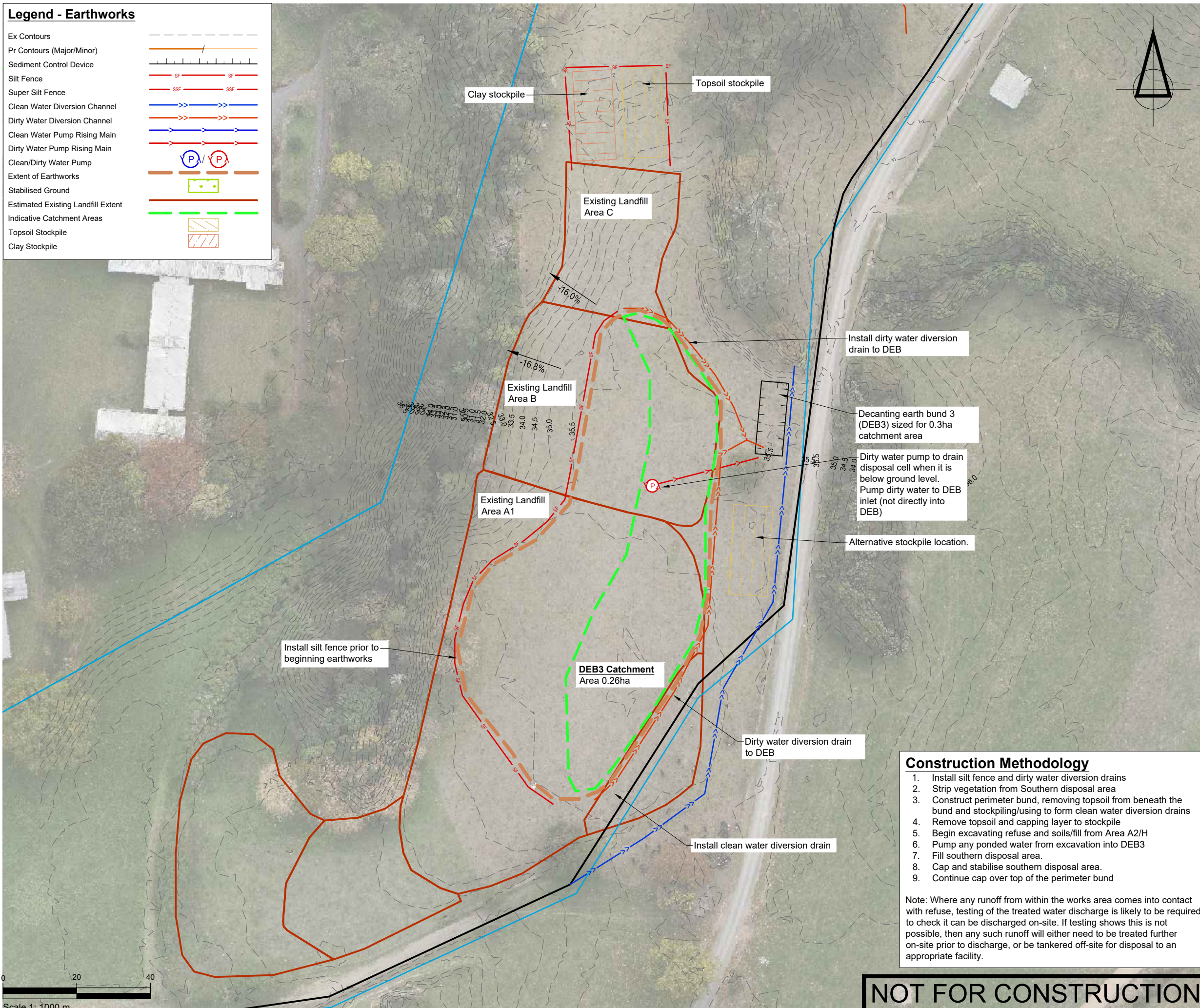
Construction Methodology

1. Install DEB3, and clean water diversion drains
2. Strip vegetation and capping from Southern disposal toe bund area
4. Excavate refuse from toe bund area, undercutting natural ground where contaminated by refuse
5. Construct engineered toe bund using clay or other suitable cohesive materials

Note: Where any runoff from within the works area comes into contact with refuse, testing of the treated water discharge is likely to be required to check it can be discharged on-site. If testing shows this is not possible, then any such runoff will either need to be treated further on-site prior to discharge, or be tankered off-site for disposal to an appropriate facility.

NOT FOR CONSTRUCTION

Ex Contours	
Pr Contours (Major/Minor)	
Sediment Control Device	
Silt Fence	
Super Silt Fence	
Clean Water Diversion Channel	
Dirty Water Diversion Channel	
Clean Water Pump Rising Main	
Dirty Water Pump Rising Main	
Clean/Dirty Water Pump	
Extent of Earthworks	
Stabilised Ground	
Estimated Existing Landfill Extent	
Indicative Catchment Areas	
Topsoil Stockpile	
Clay Stockpile	

[illegible]

NOTES

PROJECT DATUMS:

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COORDINATE: New Zealand Transverse Mercator

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TOITU TE WHENUA LAND
INFORMATION NEW ZEALAND

PROJECT

FORMER TOKANUI HOSPITAL DEMOLITION AND REMEDIATION PROJECT

TITLE

PROPOSED SOUTHERN DISPOSAL SITE CELL EROSION AND SEDIMENT CONTROL PLAN PHASE 1



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SCALE 1:1000

A3)

DRAWING No.

REVISION

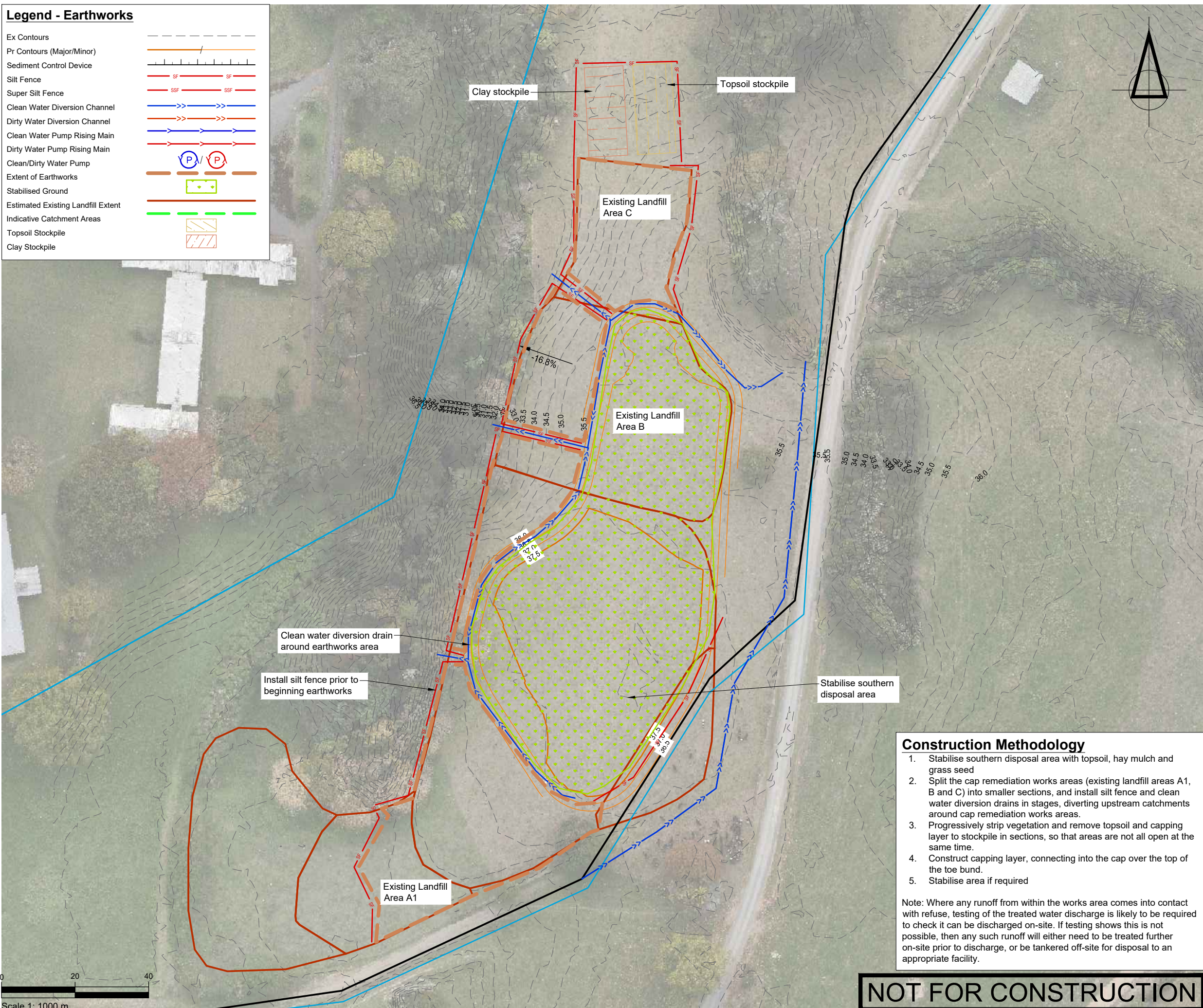
33097/LF290

A

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Legend - Earthworks

Ex Contours	
Pr Contours (Major/Minor)	
Sediment Control Device	
Silt Fence	
Super Silt Fence	
Clean Water Diversion Channel	
Dirty Water Diversion Channel	
Clean Water Pump Rising Main	
Dirty Water Pump Rising Main	
Clean/Dirty Water Pump	
Extent of Earthworks	
Stabilised Ground	
Estimated Existing Landfill Extent	
Indicative Catchment Areas	
Topsoil Stockpile	
Clay Stockpile	



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REVISION	CHANGES			CHECKED	DATE
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INFORMATION NEW ZEALAND

PROJECT
FORMER TOKANUI HOSPITAL
DEMOLITION AND REMEDIATION
PROJECT

TITLE
PROPOSED SOUTHERN
DISPOSAL SITE CELL
EROSION AND SEDIMENT
CONTROL PLAN PHASE 2



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SCALE	1:1000 (A3)
DRAWING No	33097/LF291
REVISION	A

Construction Methodology

1. Stabilise southern disposal area with topsoil, hay mulch and grass seed
2. Split the cap remediation works areas (existing landfill areas A1, B and C) into smaller sections, and install silt fence and clean water diversion drains in stages, diverting upstream catchments around cap remediation works areas.
3. Progressively strip vegetation and remove topsoil and capping layer to stockpile in sections, so that areas are not all open at the same time.
4. Construct capping layer, connecting into the cap over the top of the toe bund.
5. Stabilise area if required

Note: Where any runoff from within the works area comes into contact with refuse, testing of the treated water discharge is likely to be required to check it can be discharged on-site. If testing shows this is not possible, then any such runoff will either need to be treated further on-site prior to discharge, or be tankered off-site for disposal to an appropriate facility.

NOT FOR CONSTRUCTION

Legend

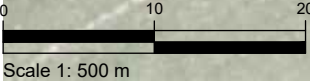
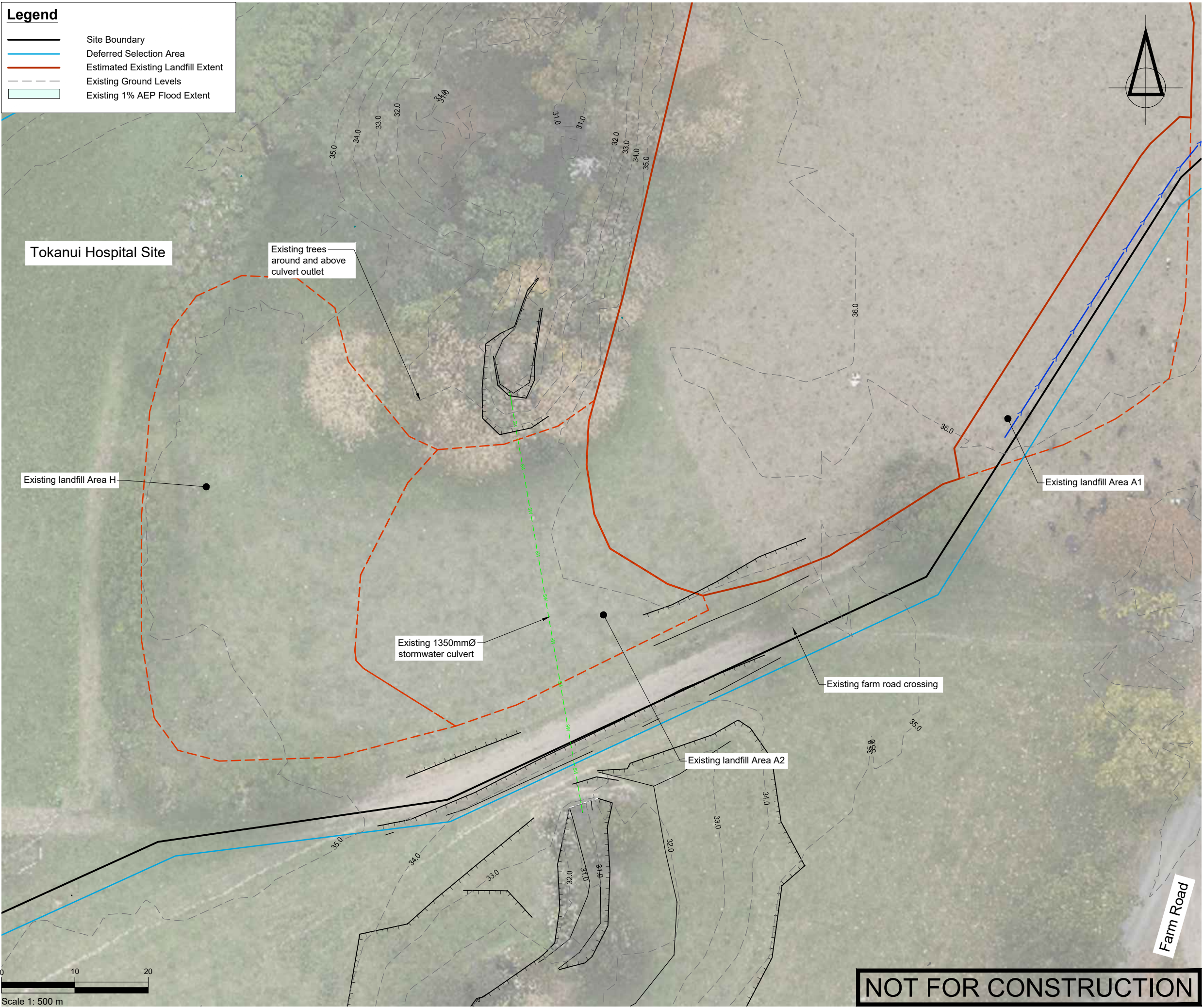
Site Boundary

Deferred Selection Area

Estimated Existing Landfill Extent

Existing Ground Levels

Existing 1% AEP Flood Extent



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INFORMATION NEW ZEALAND

PROJECT
FORMER TOKANUI HOSPITAL
DEMOLITION AND REMEDIATION
PROJECT

TITLE
EXISTING LANDFILL AREAS A2
AND AREA H, AND EXISTING
CULVERT 3 PLAN

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SCALE

1:500

(A3)

DRAWING No

33097/LF300

REVISION

-

Legend

Site Boundary

Deferred Selection Area

Estimated Existing Landfill Extent

Proposed Ground Levels

Existing Ground Levels

Proposed 1% AEP Flood Extent

Proposed Grass

Proposed Stream

Proposed Stream bank

Proposed Planting

Proposed Landfill Toe Bund

Proposed Farm Access

Tokanui Hospital Site

Exact location of outlet to be confirmed prior to works.

L1
360

Form new toe bund for existing landfill Area A1

Stream designed with meanders and will be planted with natives with rock/logs located throughout.

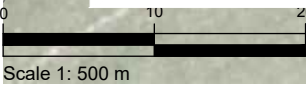
Rear face of toe bund to be backfilled with refuse material and then capped, topsoiled and grassed

Farm track to be lifted to detain flood waters to existing levels

Existing landfill Area A2

Culvert 3 Remedial works
Strip topsoil, landfill cap and any soils/fill material. Excavate all refuse from area, disposing of the refuse into the southern disposal site. Undercut the natural ground if required, and then form the proposed stream and farm crossing. Topsoil and stabilise the area. Riparian planting along the stream.

New 1350mmØ stormwater culvert see FTL Drawing 33097/LF360 for long section. Base of culvert to be embedded 340mm into the ground. Spoiler baffles to be added to assist fish passage, as required



Scale 1: 500 m

NOT FOR CONSTRUCTION

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PROJECT
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DEMOLITION AND REMEDIATION
PROJECT

TITLE
AREAS A2/H & CULVERT 3
PROPOSED FINAL DESIGN PLAN



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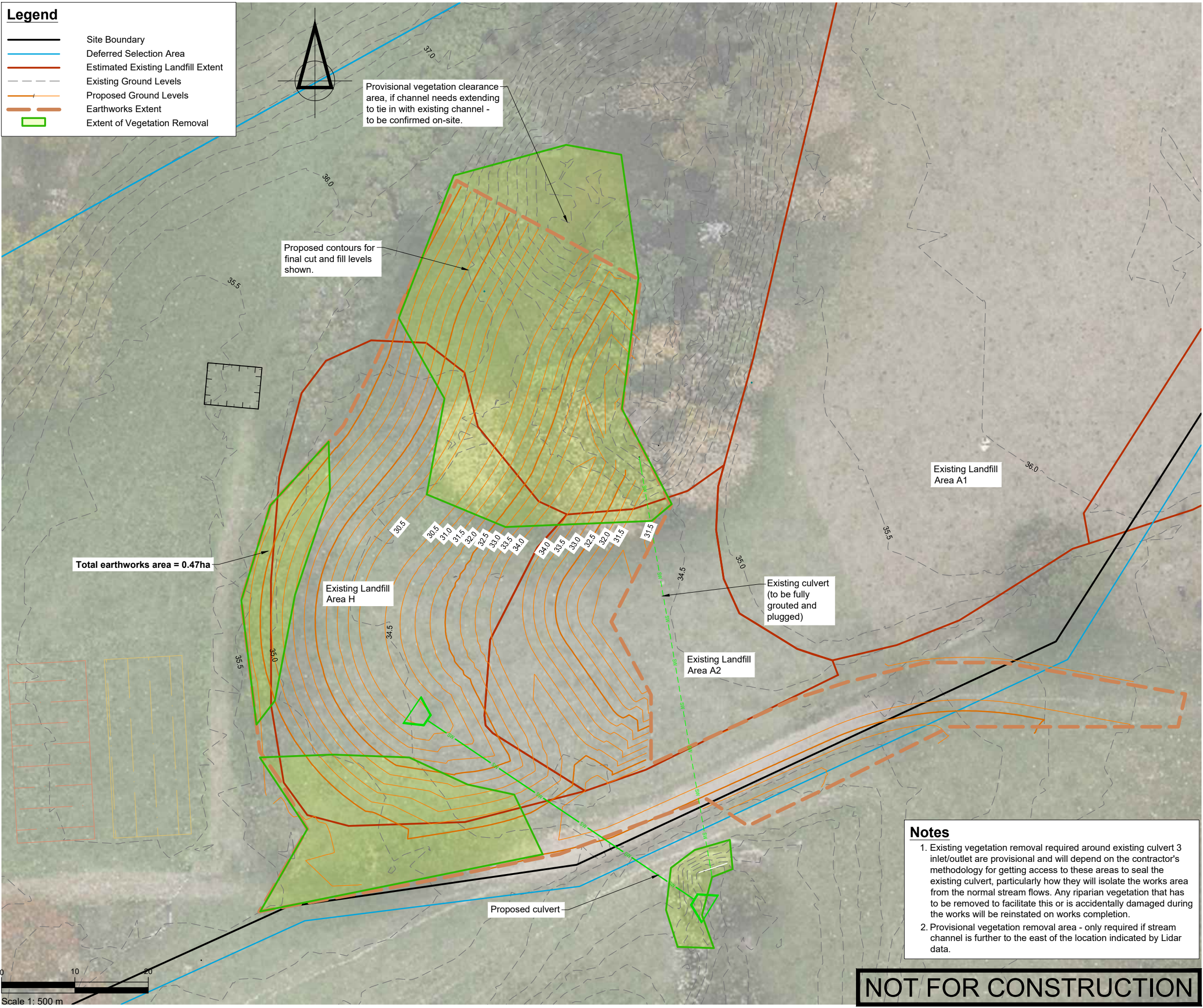
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STATUS	
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SCALE	1:500 (A3)
DRAWING No	33097/LF310
REVISION	A

Legend

- Site Boundary
- Deferred Selection Area
- Estimated Existing Landfill Extent
- Existing Ground Levels
- Proposed Ground Levels
- Earthworks Extent
- Extent of Vegetation Removal



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DESIGNED	TB	14/08/24			
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REVISION	CHANGES			CHECKED	DATE

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INFORMATION NEW ZEALAND**

PROJECT
**FORMER TOKANUI HOSPITAL
DEMOLITION AND REMEDIATION
PROJECT**

TITLE
**INDICATIVE VEGETATION
REMOVAL PLAN**



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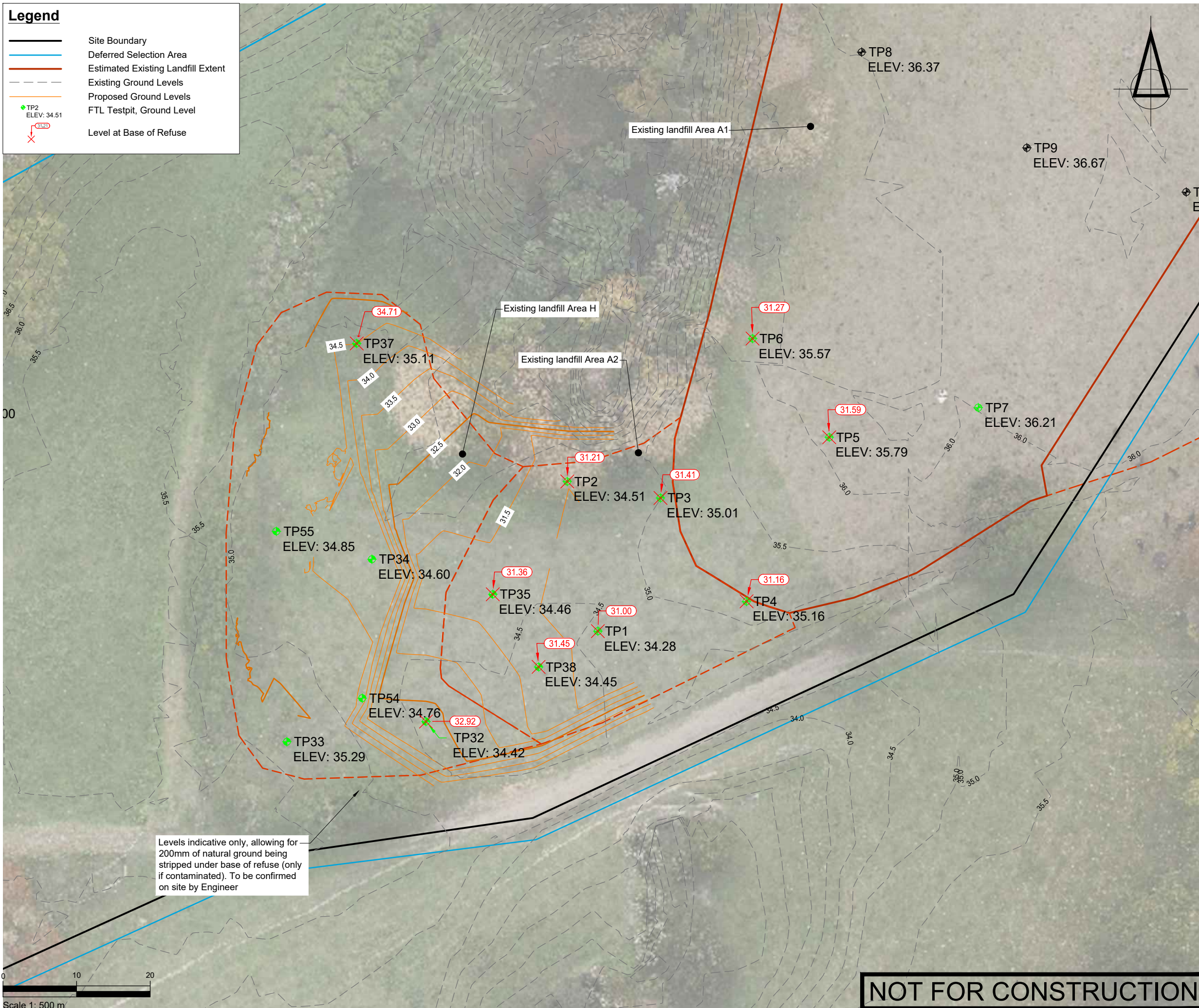
- Existing vegetation removal required around existing culvert 3 inlet/outlet are provisional and will depend on the contractor's methodology for getting access to these areas to seal the existing culvert, particularly how they will isolate the works area from the normal stream flows. Any riparian vegetation that has to be removed to facilitate this or is accidentally damaged during the works will be reinstated on works completion.
- Provisional vegetation removal area - only required if stream channel is further to the east of the location indicated by Lidar data.

NOT FOR CONSTRUCTION

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Legend

-

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INFORMATION NEW ZEALAND

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FORMER TOKANUI HOSPITAL
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PROJECT

TITLE

AREAS A2/H & CULVERT 3
REFUSE UNDERCUT PLAN



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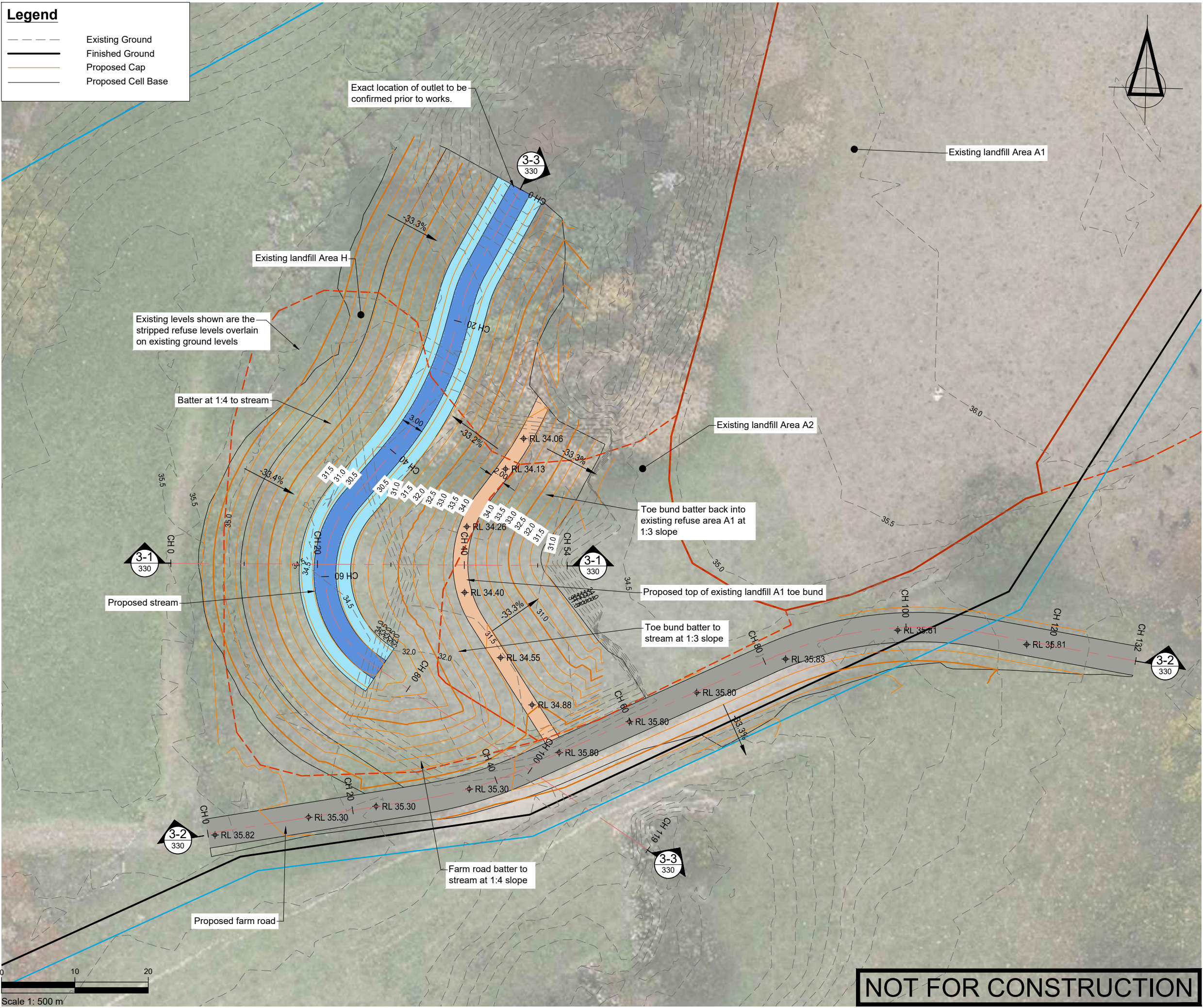
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SCALE	1:500	(A3)
DRAWING No	33097/LF320	REVISION
		-

NOT FOR CONSTRUCTION

Legend

- Existing Ground
- Finished Ground
- Proposed Cap
- Proposed Cell Base



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CHECKED	SF	05/11/24			
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INFORMATION NEW ZEALAND

PROJECT
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DEMOLITION AND REMEDIATION
PROJECT

TITLE
AREAS A2/H & CULVERT 3
FINISHED LEVELS PLAN

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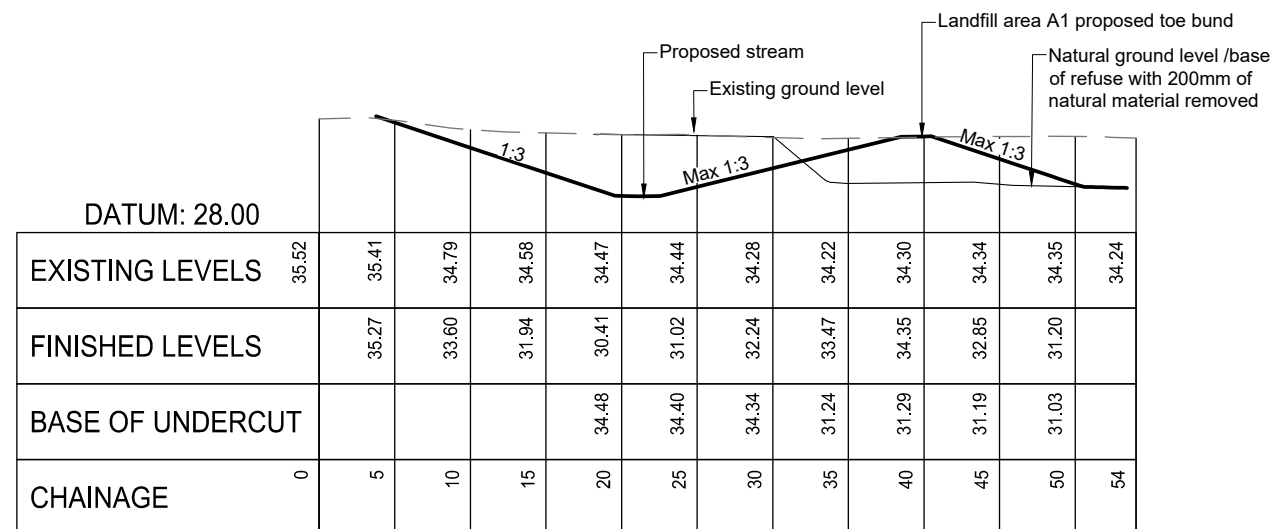
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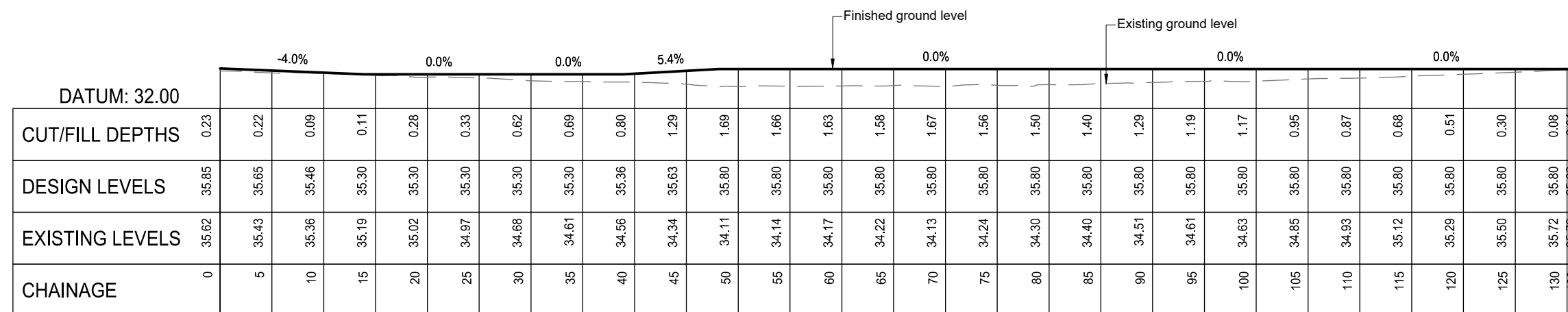
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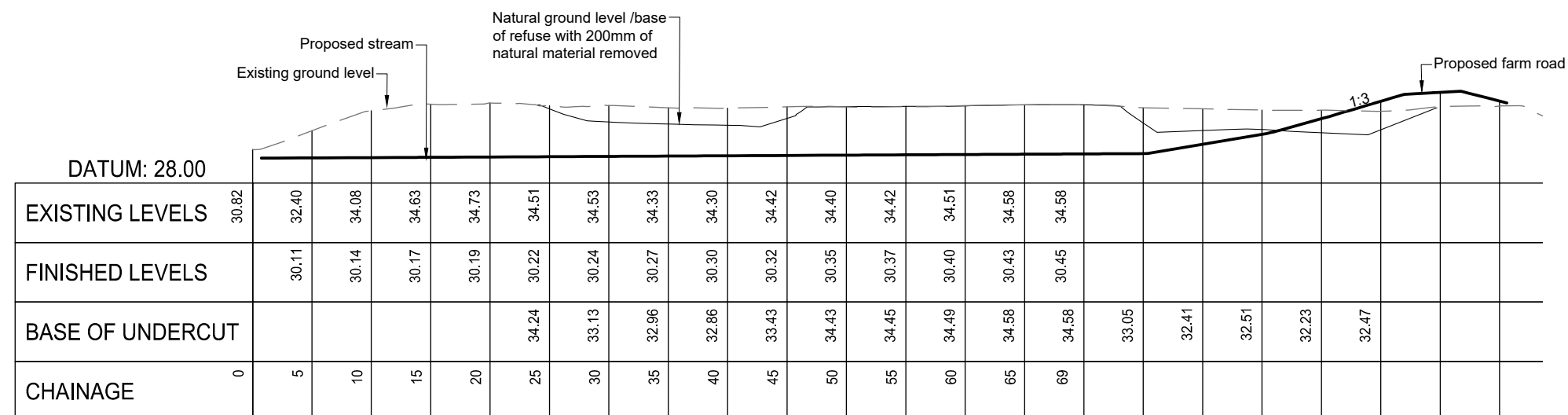
SCALE 1:500 (A3)
DRAWING No 33097/LF321
REVISION -



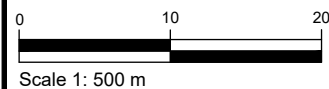
3-1 Cross Section 3-1
321 1:500



3-2 Cross Section 3-2
321 1:500



3-3 Cross Section 3-3
321 1:500



NOT FOR CONSTRUCTION

[illegible]

NOTES

PROJECT DATUMS:
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TOITU TE WHENUA LAND INFORMATION NEW ZEALAND

PROJECT
FORMER TOKANUI HOSPITAL
DEMOLITION AND REMEDIATION
PROJECT

TITLE

AREAS A2/H & CULVERT 3
CROSS SECTION PLAN 1

STATUS

FOR RESOURCE CONSENT

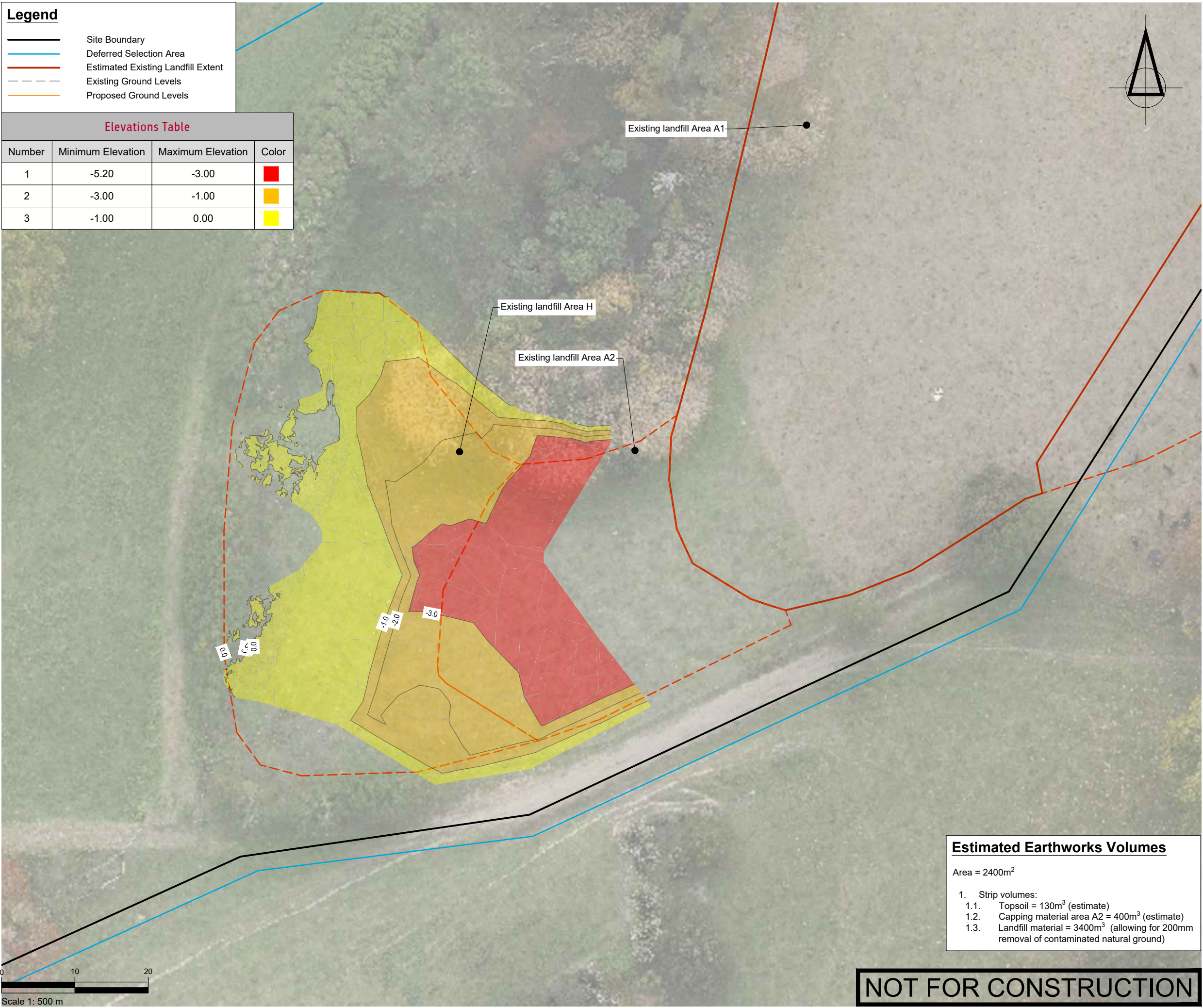
Construction works shall commence only on receipt of and in accordance with the Council or Council organisation stamped approved drawings, unless otherwise indicated.

SCALE	1:500	(A3)
DRAWING No	33097/LF330	REVISION
		-

Legend

- Site Boundary
- Deferred Selection Area
- Estimated Existing Landfill Extent
- Existing Ground Levels
- Proposed Ground Levels

Elevations Table			
Number	Minimum Elevation	Maximum Elevation	Color
1	-5.20	-3.00	
2	-3.00	-1.00	
3	-1.00	0.00	



Estimated Earthworks Volumes

Area = 2400m²

1. Strip volumes:

- 1.1. Topsoil = 130m³ (estimate)
- 1.2. Capping material area A2 = 400m³ (estimate)
- 1.3. Landfill material = 3400m³ (allowing for 200mm removal of contaminated natural ground)

NOT FOR CONSTRUCTION

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PROJECT

TITLE
AREAS A2/H & CULVERT 3
UNDERCUT STRIP PLAN

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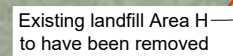
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Construction works shall commence only on receipt of and in accordance with the Council or Council organisation stamped approved drawings, unless otherwise indicated.	
SCALE	1:500 (A3)
DRAWING No	33097/LF340
REVISION	-

 Site Boundary
 Deferred Selection Area
 Estimated Existing Landfill Extent
 Existing Ground Levels
 Proposed Ground Levels

Elevations Table			
Number	Minimum Elevation	Maximum Elevation	Color
1	-5.14	-2.00	
2	-2.00	-0.50	
3	-0.50	0.00	
4	0.00	0.50	
5	0.50	2.00	
6	2.00	4.05	



Existing landfill Area A1-

Existing landfill Area A2
to have been removed

[illegible]

NOTES

PROJECT DATUMS:

LEVEL: Auckland Vertical Datum 1946
COORDINATE: New Zealand Transverse Mercator

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TOITU TE WHENUA LAND
INFORMATION NEW ZEALAND

PROJECT

PROJECT

FORMER TOKANUI HOSPITAL
DEMOLITION AND REMEDIATION
PROJECT

TITLE	DATE	BY	NO.	PRICE	REMARKS
...	...	...	...	...	...

AREAS A2/H & CULVERT 3
FINAL LEVELS CUT AND FILL
PLAN



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STATUS

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SCALE 1:500

A3)

DRAWING No

REVISION

33097/LF341

Estimated Earthworks Volumes

Area = $4,800\text{m}^2$

1. Total cut to fill of subgrade
 - 1.1. Cut = 4800m^3
 - 1.2. Fill = 2400m^3
 - 1.3. Balance = 2400m^3 cut
2. Clay cap (650mm) = 450m^3
3. Topsoil respread (150mm) = 700m^3

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[illegible]

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TOITU TE WHENUA LAND
INFORMATION NEW ZEALAND

TITLE

AREAS A2/H & CULVERT 3
CULVERT LONG SECTION PLAN

STATUS	
FOR RESOURCE CONSENT	
Construction works shall commence only on receipt of and in accordance with the Council or Council organisation stamped approved drawings, unless otherwise indicated.	
SCALE	1:500 (A3)
DRAWING No	REVISION
33097/LF360	A



Ex Contours	
Pr Contours (Major/Minor)	
Sediment Control Device	
Silt Fence	
Super Silt Fence	
Clean Water Diversion Channel	
Dirty Water Diversion Channel	
Clean Water Pump Rising Main	
Dirty Water Pump Rising Main	
Clean/Dirty Water Pump	
Extent of Earthworks	
Stabilised Ground	
Estimated Existing Landfill Extent	
Indicative Catchment Areas	
Topsoil Stockpile	
Clay Stockpile	



1. Install silt fences, portable silt/sediment removal device or DEB(s) outside of works area and clean water diversion drains. Allow for pump in lowest area of excavation to pump dirty runoff to portable silt/sediment removal device/DEB(s). Use the existing farm crossing as a clean water diversion bund upstream of the works, and maintain Culvert 3 live for as long as possible during the works. Allow for clean water diversion pump to be available for diversion of stream water if necessary.
2. Groundwater piezometers are planned to be installed in this area to check groundwater depths within Area A2/H as part of detailed design. If necessary, based on the groundwater depth findings, install a number of dewatering wells or wellpoints or temporary pump for dewatering to lower the groundwater table within the works area.
3. Mark out the approximate alignment of Culvert 3 pre-works (assumed straight line between inlet and outlet). Trafficking over this culvert should be minimised during the works, with refuse being shifted from Area A2/H to A1/B by truck via the existing farm crossing. The best available information indicates that the top of Culvert 3 is just over 2m below existing ground level (see Figure 14).
4. Strip existing topsoil and landfill cap from the works area and stockpile separately outside the works area. Refuse layers will then be removed and transferred to Area A1 by truck. Fill material (that is not refuse) will either be transferred to Area A1 or used for other purposes (e.g. cap) depending on its contamination status.
5. Once the refuse has been transferred, construct a compacted toe bund embankment along the western side of the residual A2 Area. Stockpiled landfill material will be placed in the void between the toe bund and refuse as necessary. A low permeability cap will then be placed over the material followed by topsoil. Capping details will be as for Area A1.
6. Cut in the new stream channel (approximately 75m long with base width of 4m with maximum side slopes of 1V:3H, with some meanders), retopsoiling the channel and line with biodegradable coir matting to stabilise it, followed by planting with natives in accordance with the landscaping plan and placement of some rocks and logs. Place clean, stockpiled capping material or clean fill material from Area H to fill any depressions within Area A2 and then retopsoiling, using clean topsoil.
7. For the new outfall to the stream, strip vegetation and trees. Install a temporary dam comprising steel shields or similar around the outfall works area and pump out water from inside the dam. Continue the stream channel to connect into the existing stream. Line with biodegradable coir matting to stabilise it, followed by planting as above.
8. For installation of the new shorter culvert 3 (1350 dia x 44m long), install this in a downstream to upstream direction starting at the top of the new channel. A temporary dam will be installed as for step 7 on the western side of the existing culvert 3 inlet, to isolate the area where the new culvert inlet will be installed, from water in the existing stream which will continue to flow through the existing culvert. Water will then be pumped out from inside the dam. Once the new culvert is "live", the temporary dams at each end of the stream diversion will be relocated to block off the inlet and outlet to the existing culvert. This culvert (1350mm dia x approximately 60m long) will then be filled with flowable concrete fill or similar (~86m3), with both ends of this culvert being sealed. Water within this culvert will be pumped out if necessary, or alternatively expelled naturally during the filling process.

- a. Contractor to monitor weather daily. If medium to large rainfall predicted, contractor to install BIDIM cloth from upstream to downstream to allow any flood waters to pass over the earthworks area without uplifting sediment.
- b. Clean water diversion pump may not be needed, only required if the existing culvert is unable to discharge the water from upstream at a low enough level to prevent water entering the earthworks area, or if the existing culvert is not operational.
- c. Maximum dirty water catchment area is 0.47ha. Works should be able to be progressively stabilised so that if DEBS are used, a single DEB (max 0.3ha catchment) can be used for all works. Otherwise, two DEBs may be needed to provide for entire works area.
- d. Where any runoff from within the works area comes into contact with refuse, testing of the treated water discharge is likely to be required to check it can be discharged on-site. If testing shows this is not possible, then any such runoff will either need to be treated further on-site prior to discharge, or be tankered off-site for disposal to an appropriate facility.

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[illegible]

NOTES

PROJECT DATUMS:
 LEVEL: Auckland Vertical Datum 1946
 COORDINATE: New Zealand Transverse Mercator

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TOITU TE WHENUA LAND
INFORMATION NEW ZEALAND

PROJECT

FORMER TOKANUI HOSPITAL DEMOLITION AND REMEDIATION PROJECT

TITLE

AREAS A2/H & CULVERT 3
EROSION AND SEDIMENT
CONTROL PLAN



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SCALE 1:500

A3)

DRAWING No.

33097/LF390

A

[illegible]

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TITLE

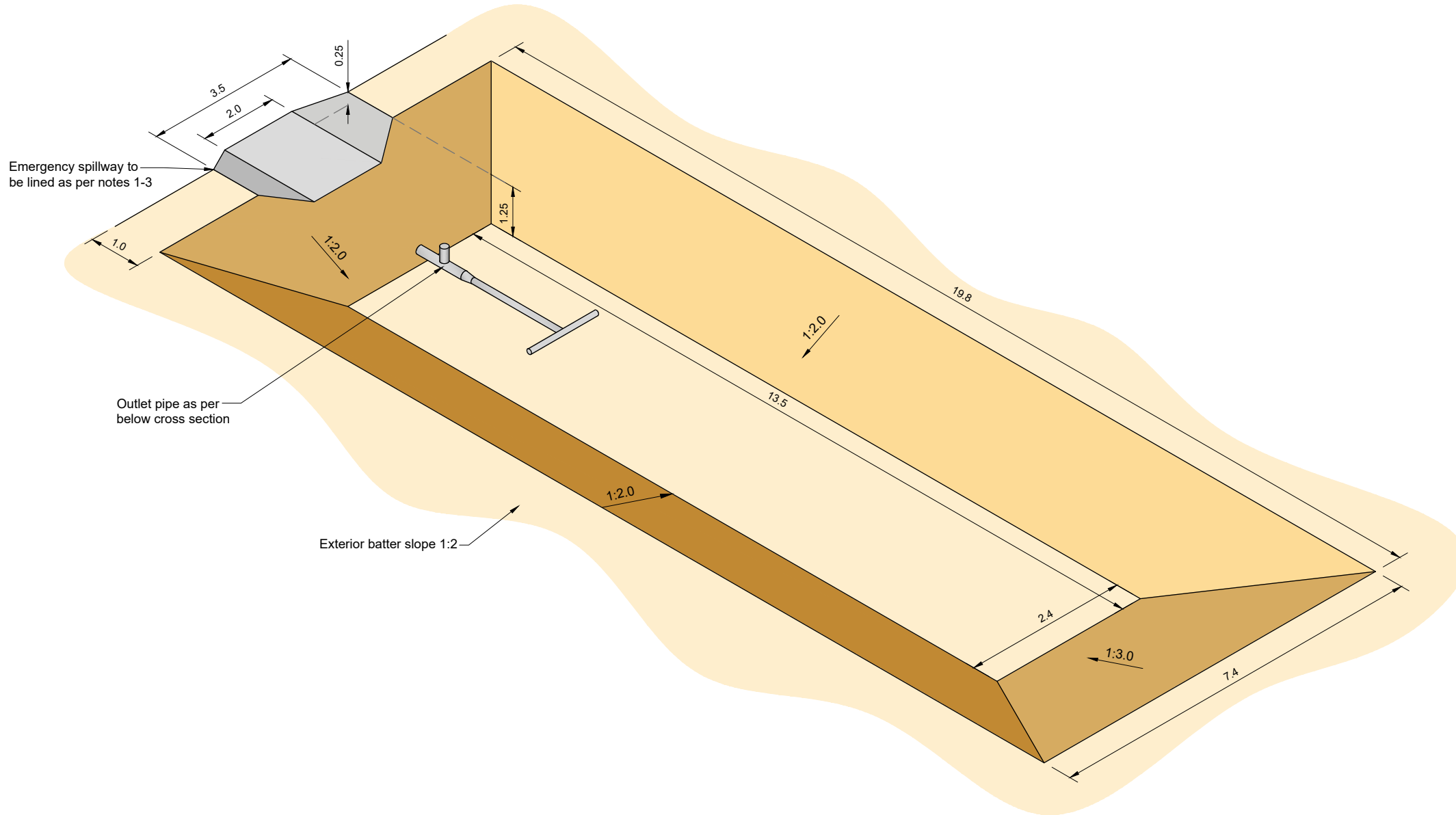
PROPOSED LANDFILL CELL
TYPICAL DETAIL

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SCALE	N.T.S. (A3)
DRAWING No	REVISION
33097/LF500	-

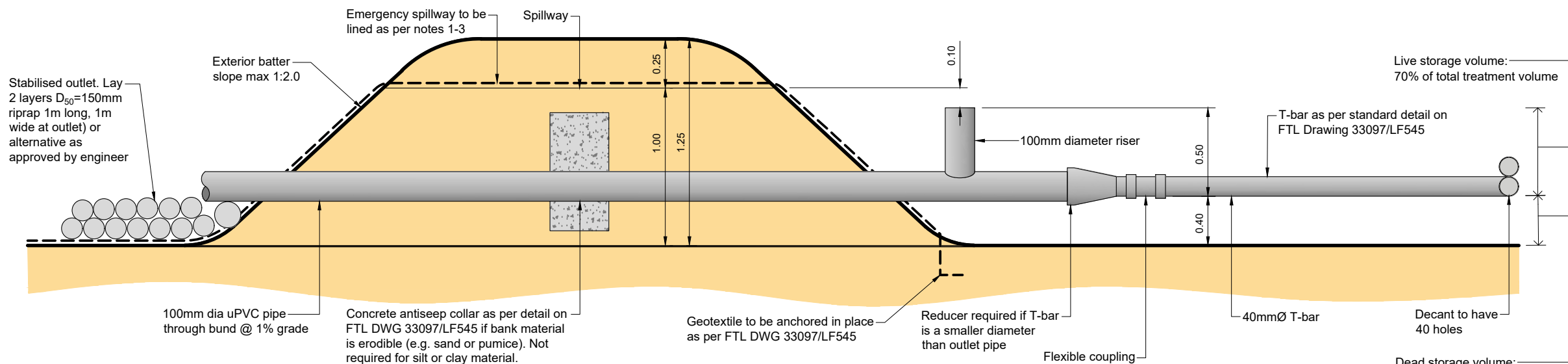


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P:\33 series\33097\03 Drawings\33097-LF540 & LF545.dwg, tboiles, 11/21/2024 12:52 pm



Decanting Earth Bund Layout
NTS



Cross Section
NTS

NOT FOR CONSTRUCTION

SURVEYED			APPROVED	DATE	
DESIGNED	TB	14/08/24			
DRAWN	TB	20/08/24			
CHECKED	SF	05/11/24			
SF					
05/11/24					
REVISION	CHANGES			CHECKED	DATE
				</	

- Notes
- Emergency spillway lined with strong woven low permeability geotextile (Bidim A14 or Duraforce AS240 or approved equivalent) overlaid with soft non-woven needle punched geotextile (Tencate Mirafi HP 280a, Duraforce WG30/30 or approved equivalent).
 - Emergency spillway to be secured with pins every 0.5m,
 - If the emergency spillway embankment is constructed with sand, pumice or other erodable material under the spillway lining, install waterproof layer underneath geotextile. Do not secure spillway with pins, instead follow alternative methodology provided in FTL Drawing 33097/LF545 based on Waikato Regional Council Earthworks series – erosion and sediment control factsheet 2019.

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PROJECT
FORMER TOKANUI HOSPITAL
DEMOLITION AND REMEDIATION
PROJECT

TITLE
DECANTING EARTH BUND
DIMENSIONS PLAN



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SCALE
NTS

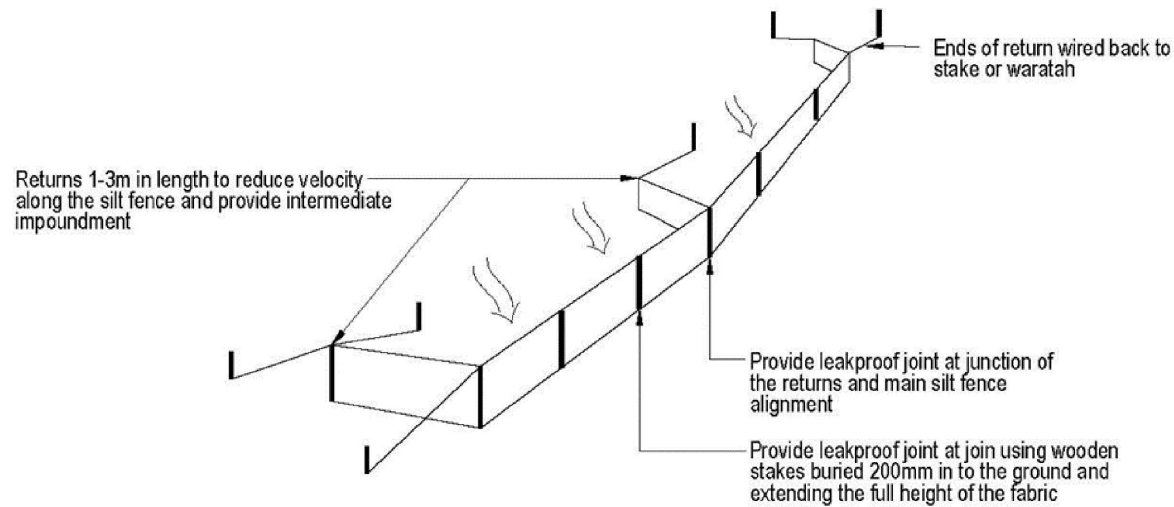
(A3)

DRAWING No
33097/LF540

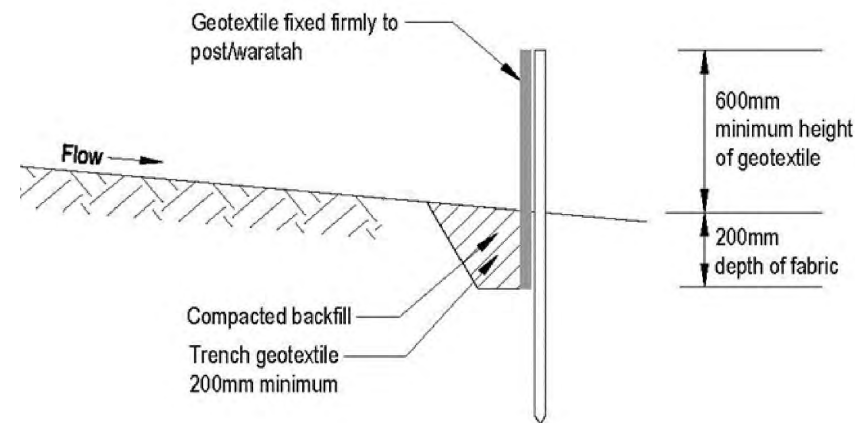
REVISION
-

NOTES

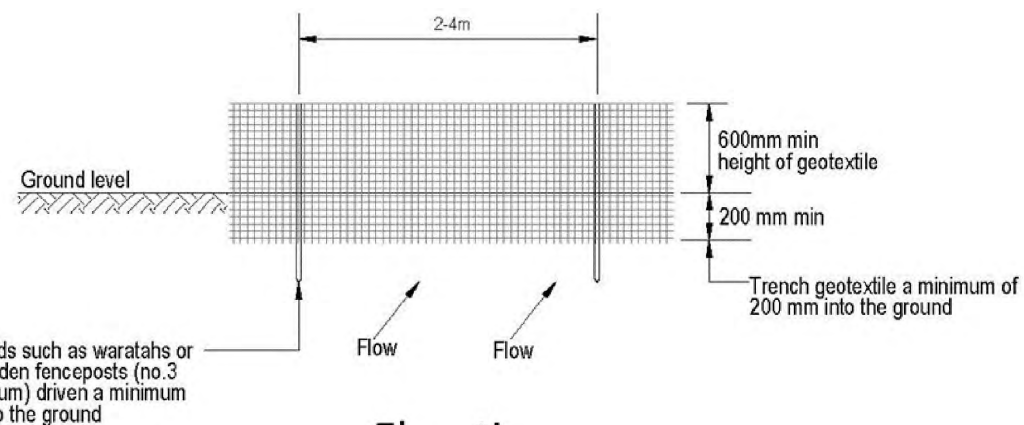
PROJECT FORMER TOKANUI HOSPITAL
DEMOLITION AND REMEDIATION
PROJECT



Silt Fence Schematic
NTS

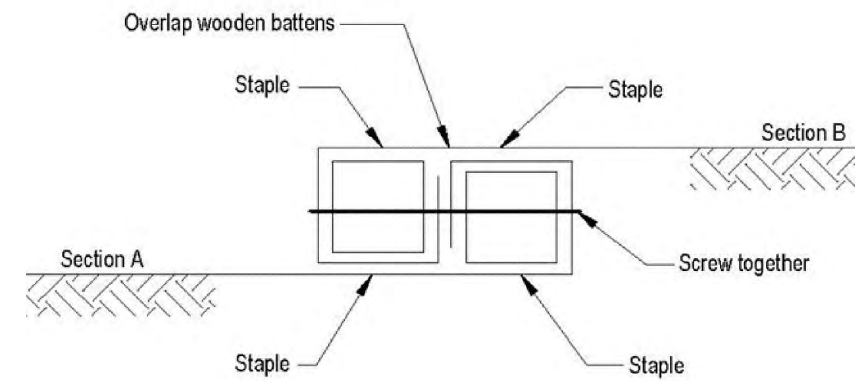


Silt Fence Cross Section
NTS

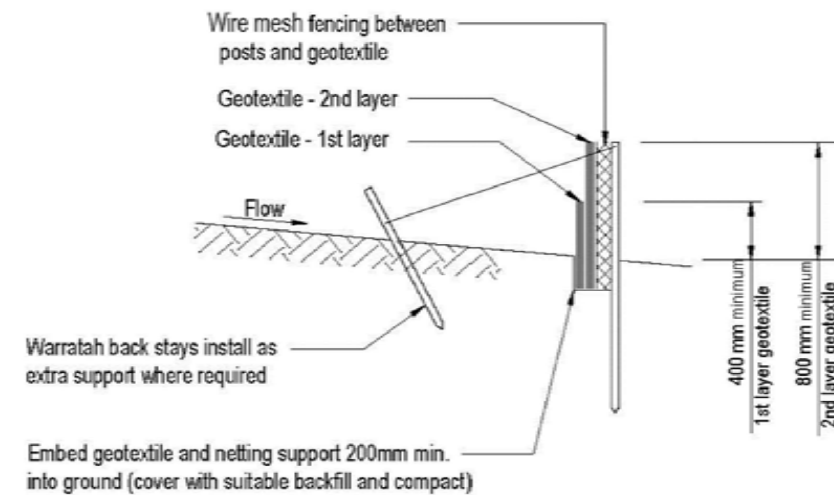


Silt Fence Elevation
NTS

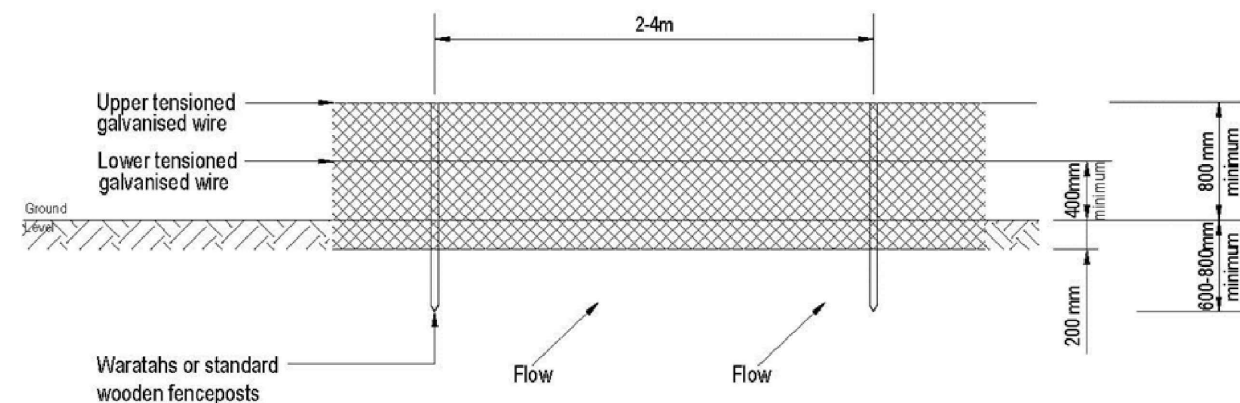
SILT FENCE DESIGN CRITERIA			
Slope %	Slope Length (m)	Spacing of Returns (m)	Length (m)
<2%	Unlimited	N/A	Unlimited
2-10%	40	60	300
10-20%	30	50	230
20-33%	20	40	150
33-50%	15	30	75
>50%	6	20	40



Silt Fence Standard Fabric Join
NTS



Super Silt Fence Cross Section
NTS



Super Silt Fence Elevation
NTS

SUPER SILT FENCE DESIGN CRITERIA			
Slope %	Slope Length (m)	Spacing of Returns (m)	Length (m)
0-10	Unlimited	60	Unlimited
10-20	60	50	450
20-33	30	40	300
33-50	30	30	150
>50	15	20	75

NOT FOR CONSTRUCTION

SURVEYED			APPROVED	DATE
DESIGNED	TB	14/08/24	SF	05/11/24
DRAWN	TB	20/08/24		
CHECKED	SF	05/11/24		
REVISION	CHANGES		CHECKED	DATE

NOTES

PROJECT DATUMS:
LEVEL: Auckland Vertical Datum 1946
COORDINATE: New Zealand Transverse Mercator

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PROJECT
FORMER TOKANUI HOSPITAL
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TITLE
EROSION AND SEDIMENT
CONTROL DETAILS PAGE 1



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SCALE NTS (A3)
DRAWING No 33097/LF550 REVISION -

