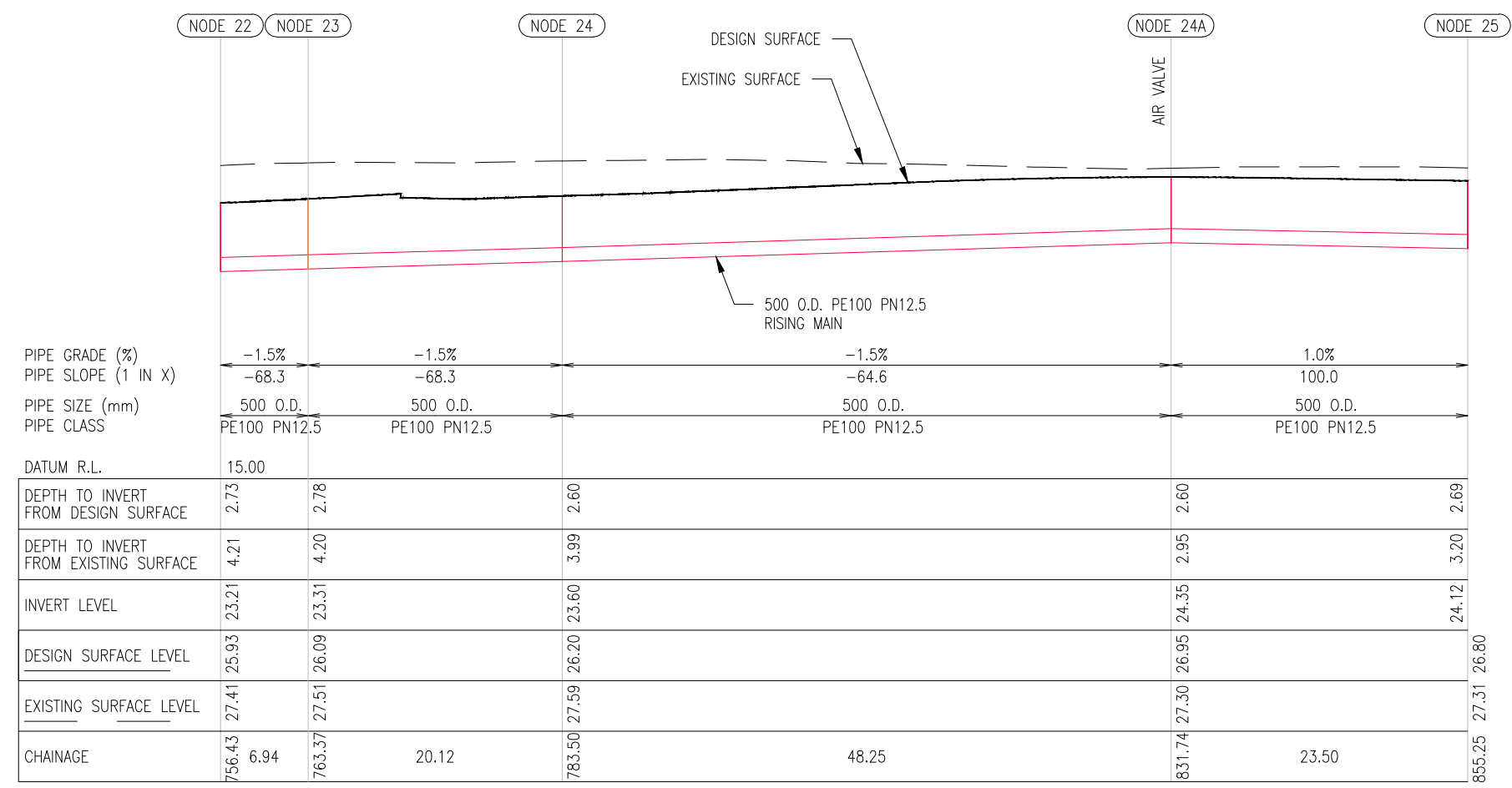


LEGEND

EXISTING	
— WSL —	WASTEWATER TRANSMISSION
— W —	WATER NETWORKS
— SW —	STORMWATER
— G —	GAS
— E —	ELECTRICAL
— T —	TELECOMMUNICATION
— FO —	TELECOM FIBRE OPTIC
— E(OH) —	OVERHEAD POWER CABLE
— // —	PROPERTY BOUNDARY
— [] —	FENCE
— [] —	RETAINING WALL
[]	100-YEAR FLOOD PLAIN
PROPOSED	
— RM —	WASTEWATER RISING MAIN

NOTE:
ROAD DESIGN INFORMATION BY OTHERS HAS BEEN RE-PROJECTED FROM MT. EDEN TO NZTM TO MATCH CURRENT DESIGN COORDINATES. RE-PROJECTION IS NOT SURVEYOR VERIFIED AND INTENDED FOR DESIGN COORDINATION ONLY.



IMPORTANT SERVICES NOTE
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THE CONTRACTOR IS RESPONSIBLE FOR ENSURING ALL SERVICES ARE LOCATED/MARKED BY THE APPROPRIATE SERVICE AUTHORITY, OR THEIR OWN STAFF, PRIOR TO ANY SITE WORKS, AND FOR PROTECTING THESE SERVICES FOR THE DURATION OF THE SITE CONTRACT.

DETAILED DESIGN
NOT FOR CONSTRUCTION

ISSUE	DATE	AMENDMENT	BY	APPD.	DESIGNED	DATE
5	9-22	UPDATED RISING MAIN ROUTE ALIGNMENT	S.V.	P.H.	P. HOUGHTON	9-22
4	4-22	RE-ISSUED FOR DETAILED DESIGN	J.C.	P.H.	S. WANG	9-22
3	12-21	ISSUED FOR DETAILED DESIGN	J.C.	P.H.	S. VASOL	9-22
2	8-21	RE-ISSUED FOR PRELIMINARY DESIGN	J.C.	P.H.	D. XIE	9-22
1	5-21	ISSUED FOR PRELIMINARY DESIGN	J.C.	P.H.		

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WHENUAPAI-REDHILLS WASTEWATER SERVICING
BRIGHAM CREEK ROAD, WHENUAPAI
INTERIM SLAUGHTERHOUSE PS - WASTEWATER RISING MAIN PLAN AND LONG SECTION - SHEET 6 OF 12



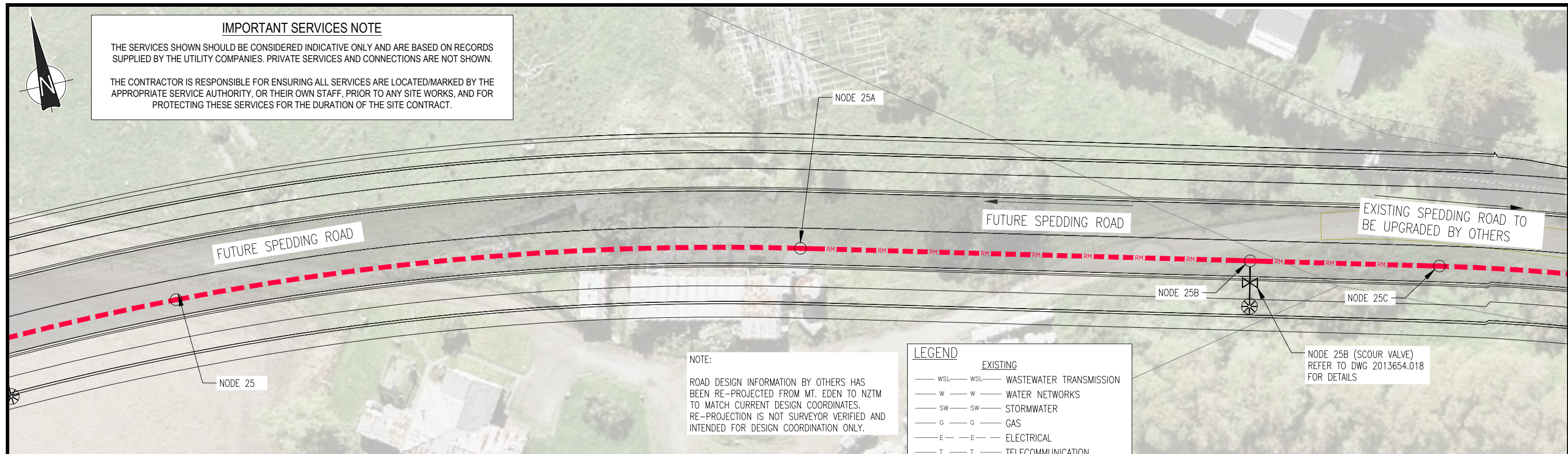
CAD FILE	2013654.004-016	DATE	09-09-22
ORIGINAL SCALE	A3 1:500	CONTRACT No.	6484-6934
REF No.	12508391 3-AWD32	DWG No.	2013654.010
ISSUE			5



IMPORTANT SERVICES NOTE

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	NODE 25	NODE 25A	NODE 25B	NODE 25C
PIPE GRADE (%)		1.0%	1.0%	-1.0%
PIPE SLOPE (1 IN X)		100.0	-100.0	-100.0
PIPE SIZE (mm)		500 O.D.	500 O.D.	500 O.D.
PIPE CLASS		PE100 PN12.5	PE100 PN12.5	PE100 PN12.5
DATUM R.L.	15.00			
DEPTH TO INVERT FROM DESIGN SURFACE	2.69	2.88	3.10	3.27
DEPTH TO INVERT FROM EXISTING SURFACE	3.20	2.91	3.54	3.02
INVERT LEVEL	24.12	23.31	22.74	22.98
DESIGN SURFACE LEVEL	26.80	26.19	25.84	26.25
EXISTING SURFACE LEVEL	27.31	26.22	26.28	26.00
CHAINAGE	855.25	80.25	935.50	57.52
			993.01	24.20
			1017.22	26.00

DETAILED DESIGN
NOT FOR CONSTRUCTION

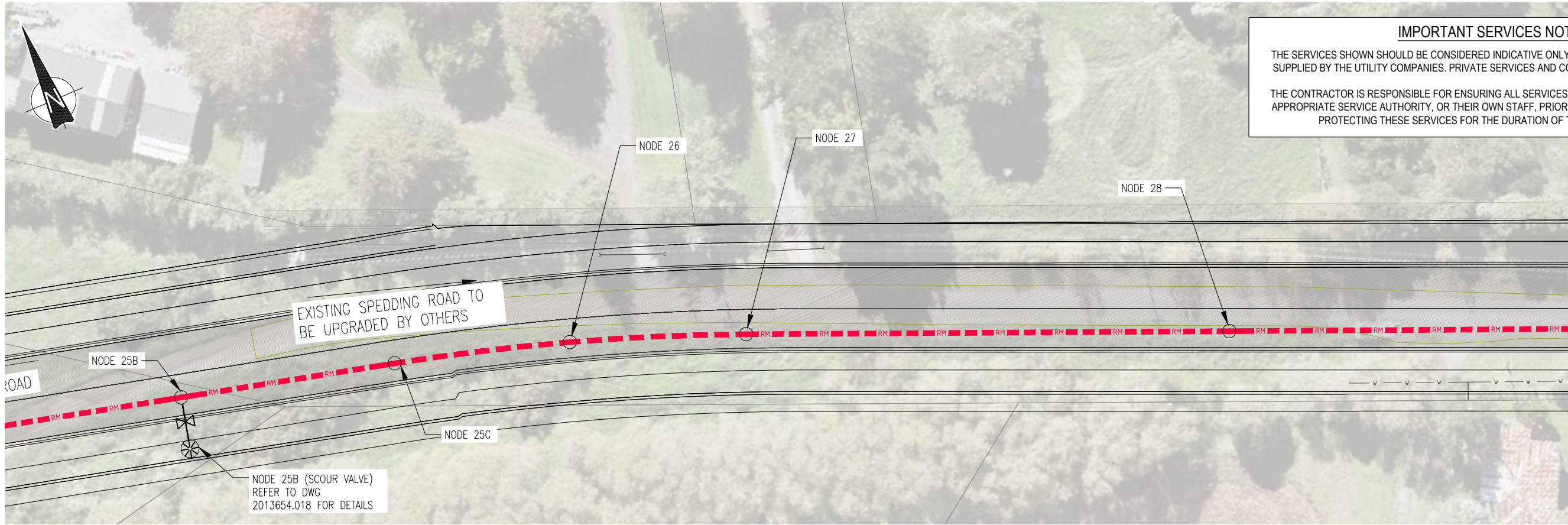
ISSUE	DATE	AMENDMENT	BY	APPD.	DESIGNED	BY	DATE
5	9-22	UPDATED RISING MAIN ROUTE ALIGNMENT	S.V.	P.H.	DES. APPROVED	S. WANG	9-22
4	4-22	RE-ISSUED FOR DETAILED DESIGN	J.C.	P.H.	DRAWN	S. VASOL	9-22
3	12-21	ISSUED FOR DETAILED DESIGN	J.C.	P.H.	DWG. APPROVED	D. XIE	9-22
2	8-21	RE-ISSUED FOR PRELIMINARY DESIGN	J.C.	P.H.	WSL DESIGN MGMT.		
1	5-21	ISSUED FOR PRELIMINARY DESIGN	J.C.	P.H.	WSL PROJ. LEAD		

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WHENUAPAI-REDHILLS WASTEWATER SERVICING
 BRIGHAM CREEK ROAD, WHENUAPAI
 INTERIM SLAUGHTERHOUSE PS - WASTEWATER RISING MAIN PLAN AND LONG SECTION - SHEET 7 OF 12



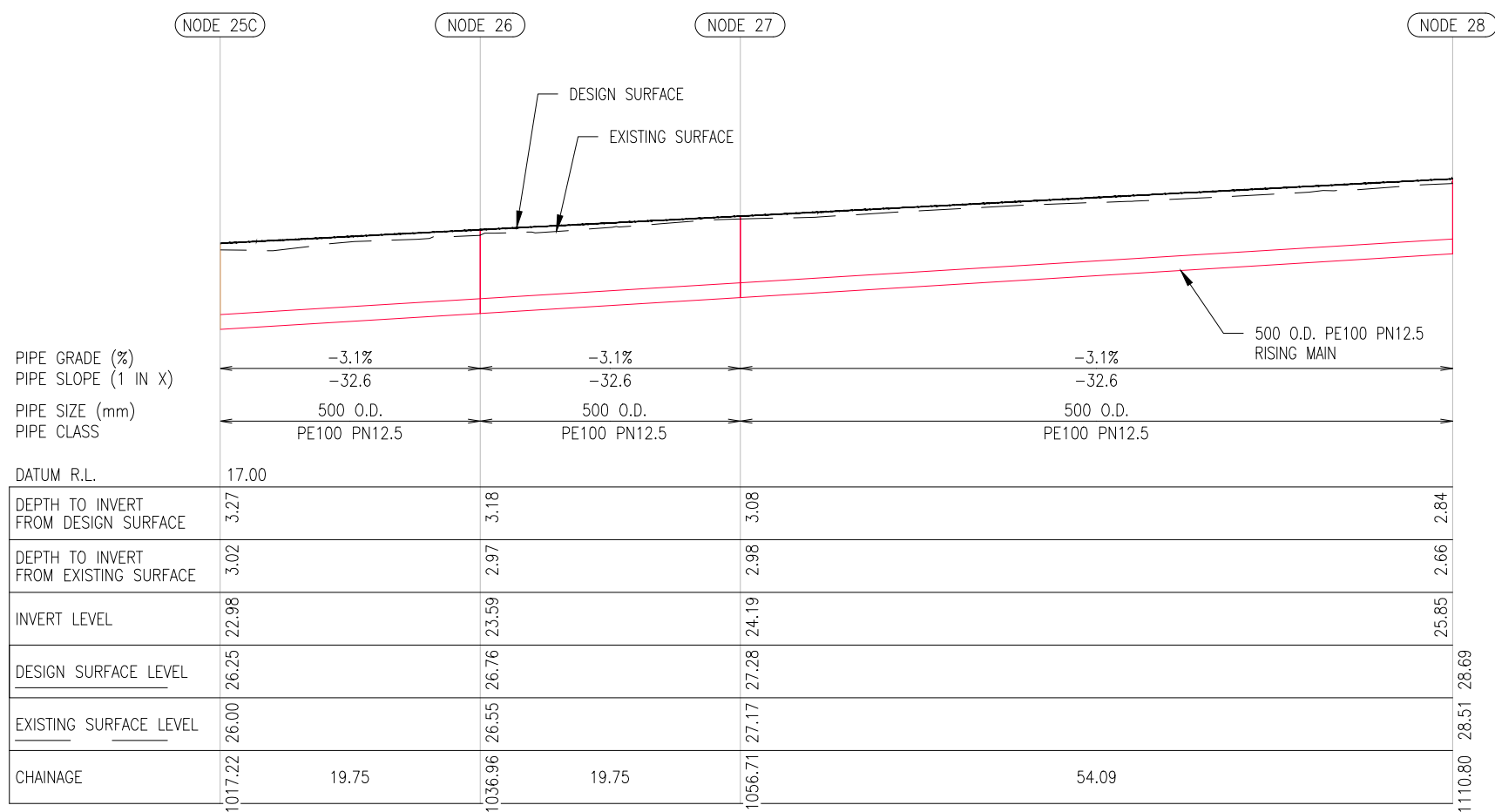
CAD FILE	2013654.004-016	DATE	09-09-22
ORIGINAL SCALE	A3 1:500	CONTRACT No.	6484-6934
REF No.	12508391 3-AWD32		
DWG No.	2013654.011	ISSUE	5



IMPORTANT SERVICES NOTE

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LEGEND

EXISTING		
— WSL —	WSL	WASTEWATER TRANSMISSION
— W —	W	WATER NETWORKS
— SW —	SW	STORMWATER
— G —	G	GAS
— E —	E	ELECTRICAL
— T —	T	TELECOMMUNICATION
— FO —	FO	TELECOM FIBRE OPTIC
— E(OH) —	E(OH)	OVERHEAD POWER CABLE
—	—	PROPERTY BOUNDARY
— // —	//	FENCE
— [] —	[]	RETAINING WALL
— [] —	[]	100-YEAR FLOOD PLAIN
PROPOSED		
— RM —	RM	WASTEWATER RISING MAIN

NOTE:

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DETAILED DESIGN
NOT FOR CONSTRUCTION

ISSUE	DATE	AMENDMENT	BY	APPD.	DESIGNED	BY	DATE
5	9-22	UPDATED RISING MAIN ROUTE ALIGNMENT	S.V.	P.H.	DES. APPROVED	P. HOUGHTON	9-22
4	4-22	RE-ISSUED FOR DETAILED DESIGN	J.C.	P.H.	DRAWN	S. WANG	9-22
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1	5-21	ISSUED FOR PRELIMINARY DESIGN	J.C.	P.H.	WSL PROJ. LEAD		

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WHENUAPAI-REDHILLS WASTEWATER SERVICING
BRIGHAM CREEK ROAD, WHENUAPAI
INTERIM SLAUGHTERHOUSE PS - WASTEWATER RISING MAIN PLAN AND LONG SECTION - SHEET 8 OF 12

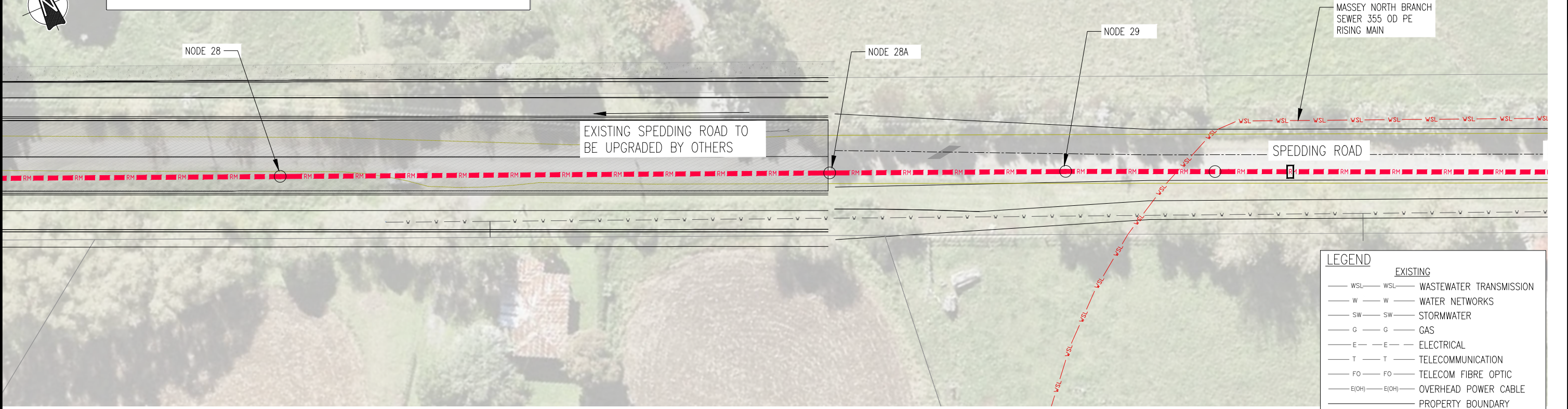


CAD FILE	2013654.004-016	DATE	09-09-22
ORIGINAL SCALE	A3 1:500	CONTRACT No.	6484-6934
REF No.	12508391 3-AWD32		
DWG No.	2013654.012	ISSUE	5

IMPORTANT SERVICES NOTE

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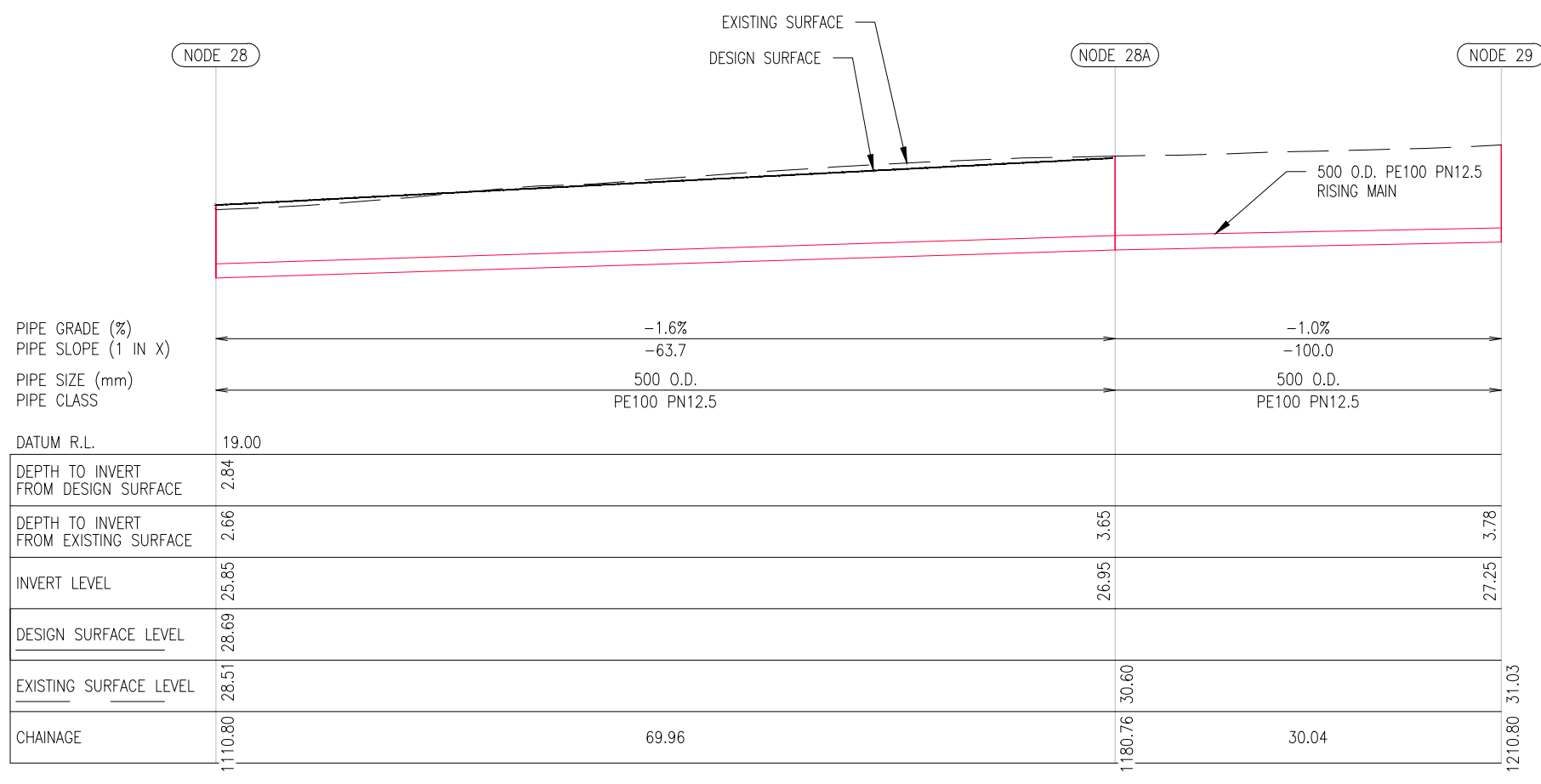
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LEGEND

EXISTING	
— WSL —	WASTEWATER TRANSMISSION
— W —	WATER NETWORKS
— SW —	STORMWATER
— G —	GAS
— E —	ELECTRICAL
— T —	TELECOMMUNICATION
— FO —	TELECOM FIBRE OPTIC
— E(OH) —	OVERHEAD POWER CABLE
— — —	PROPERTY BOUNDARY
— // — // —	FENCE
— ○ — ○ —	RETAINING WALL
— [] —	100-YEAR FLOOD PLAIN
PROPOSED	
— RM —	WASTEWATER RISING MAIN

NOTE:
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DETAILED DESIGN
NOT FOR CONSTRUCTION

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WHENUAPAI-REDHILLS WASTEWATER SERVICING
BRIGHAM CREEK ROAD, WHENUAPAI
INTERIM SLAUGHTERHOUSE PS - WASTEWATER RISING MAIN PLAN AND LONG SECTION - SHEET 9 OF 12

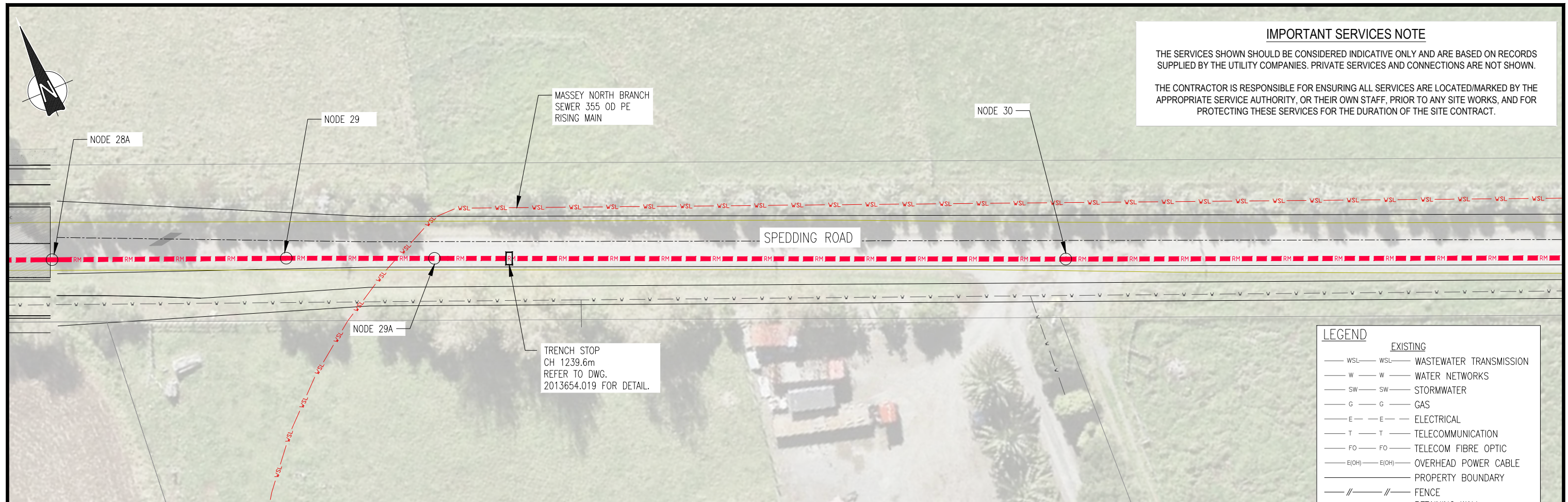


CAD FILE	2013654.004-016	DATE	09-09-22
ORIGINAL SCALE	A3 1:500	CONTRACT No.	6484-6934
REF No.	12508391 3-AWD32		
DWG No.	2013654.013	ISSUE	5

IMPORTANT SERVICES NOTE

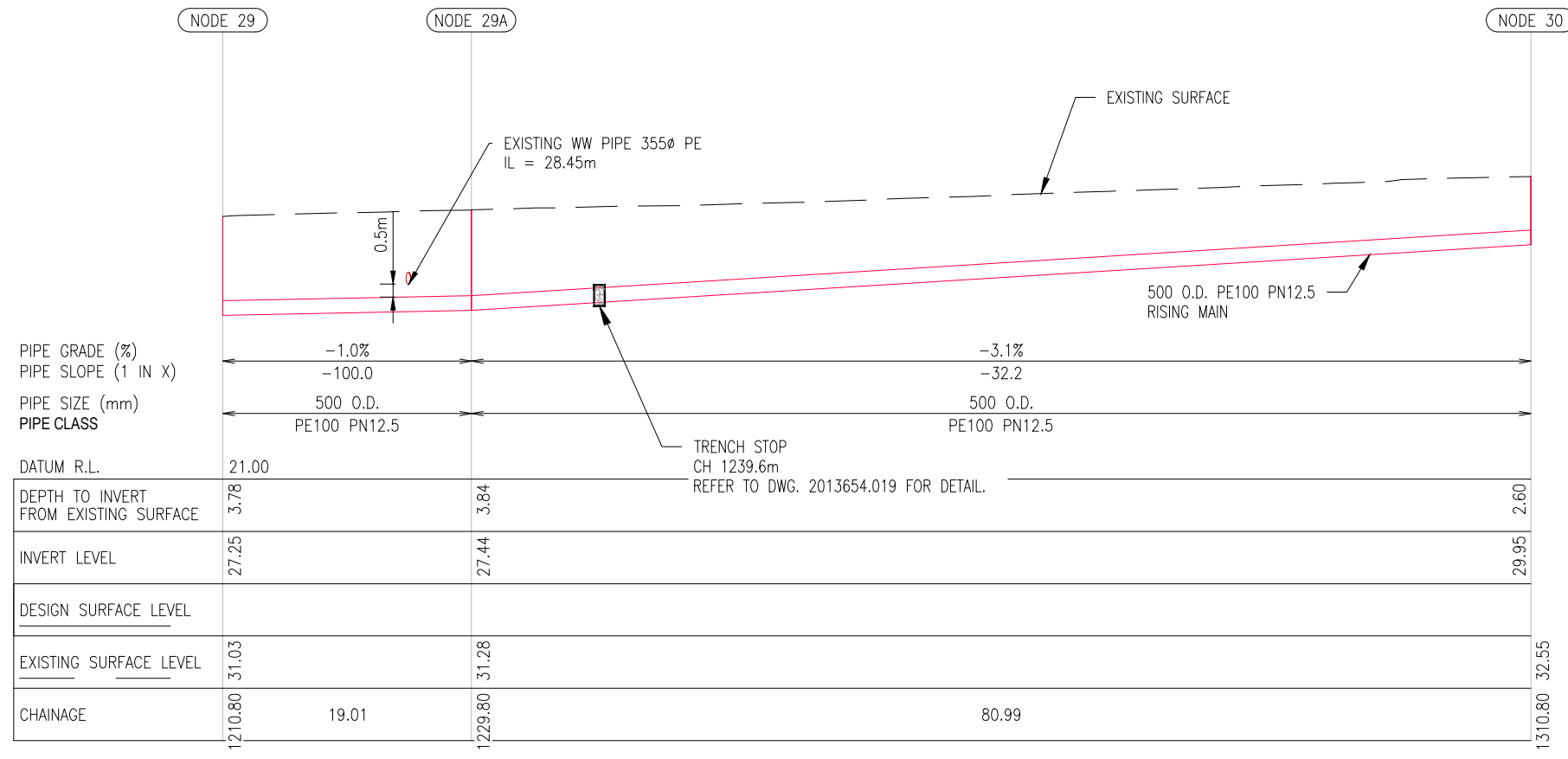
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LEGEND	
EXISTING	
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— W — W —	WATER NETWORKS
— SW — SW —	STORMWATER
— G — G —	GAS
— E — E —	ELECTRICAL
— T — T —	TELECOMMUNICATION
— FO — FO —	TELECOM FIBRE OPTIC
— E(OH) — E(OH) —	OVERHEAD POWER CABLE
— — —	PROPERTY BOUNDARY
— // — // —	FENCE
— ○ — ○ —	RETAINING WALL
— [] — [] —	100-YEAR FLOOD PLAIN
PROPOSED	
— RM — RM —	WASTEWATER RISING MAIN

NOTE:
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PIPE GRADE (%)	-1.0%	-3.1%
PIPE SLOPE (1 IN X)	-100.0	-32.2
PIPE SIZE (mm)	500 O.D.	500 O.D.
PIPE CLASS	PE100 PN12.5	PE100 PN12.5
DATUM R.L.	21.00	
DEPTH TO INVERT FROM EXISTING SURFACE	3.78	3.84
INVERT LEVEL	27.25	27.44
DESIGN SURFACE LEVEL		
EXISTING SURFACE LEVEL	31.03	31.28
CHAINAGE	1210.80 19.01 1229.80	80.99 1310.80 32.55

DETAILED DESIGN
NOT FOR CONSTRUCTION

ISSUE	DATE	AMENDMENT	BY	APPD.	DESIGNED	BY	DATE
5	9-22	UPDATED RISING MAIN ROUTE ALIGNMENT	S.V.	P.H.	DES. APPROVED	P. HOUGHTON	9-22
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1	5-21	ISSUED FOR PRELIMINARY DESIGN	J.C.	P.H.	WSL PROJ. LEAD		

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WHENUAPAI-REDHILLS WASTEWATER SERVICING
BRIGHAM CREEK ROAD, WHENUAPAI
INTERIM SLAUGHTERHOUSE PS - WASTEWATER RISING MAIN PLAN AND LONG SECTION - SHEET 10 OF 12

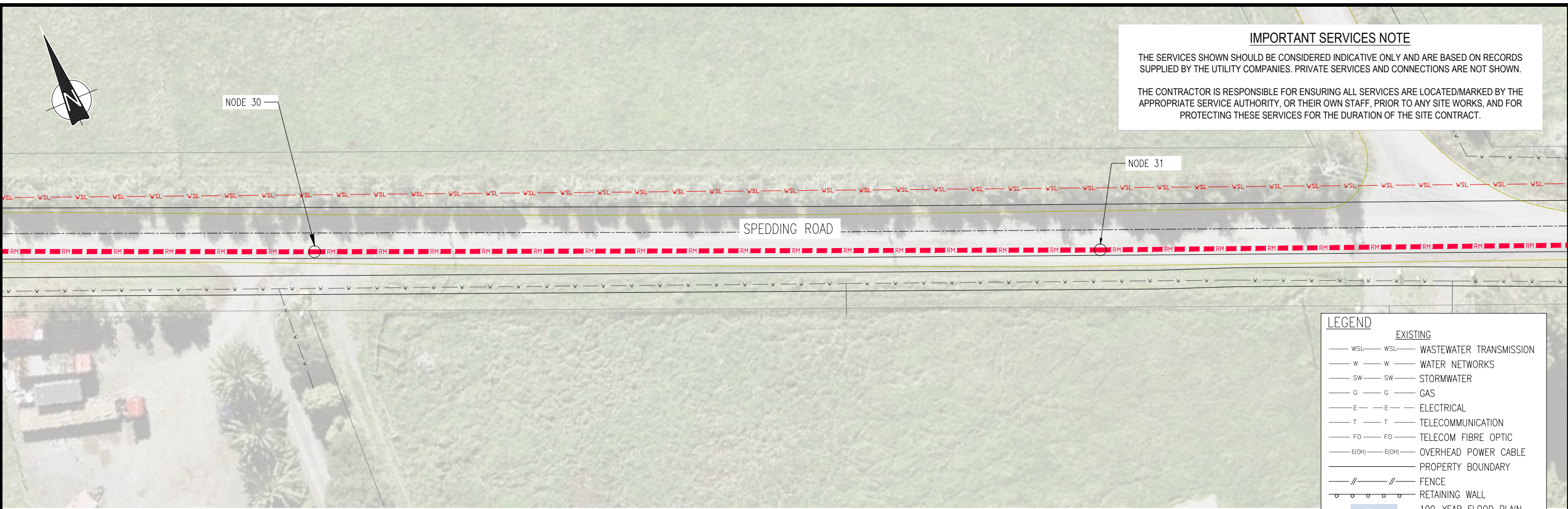


CAD FILE	2013654.004-016	DATE	09-09-22
ORIGINAL SCALE	A3 1:500	CONTRACT No.	6484-6934
REF No.	12508391 3-AWD32		
DWG No.	2013654.014	ISSUE	5

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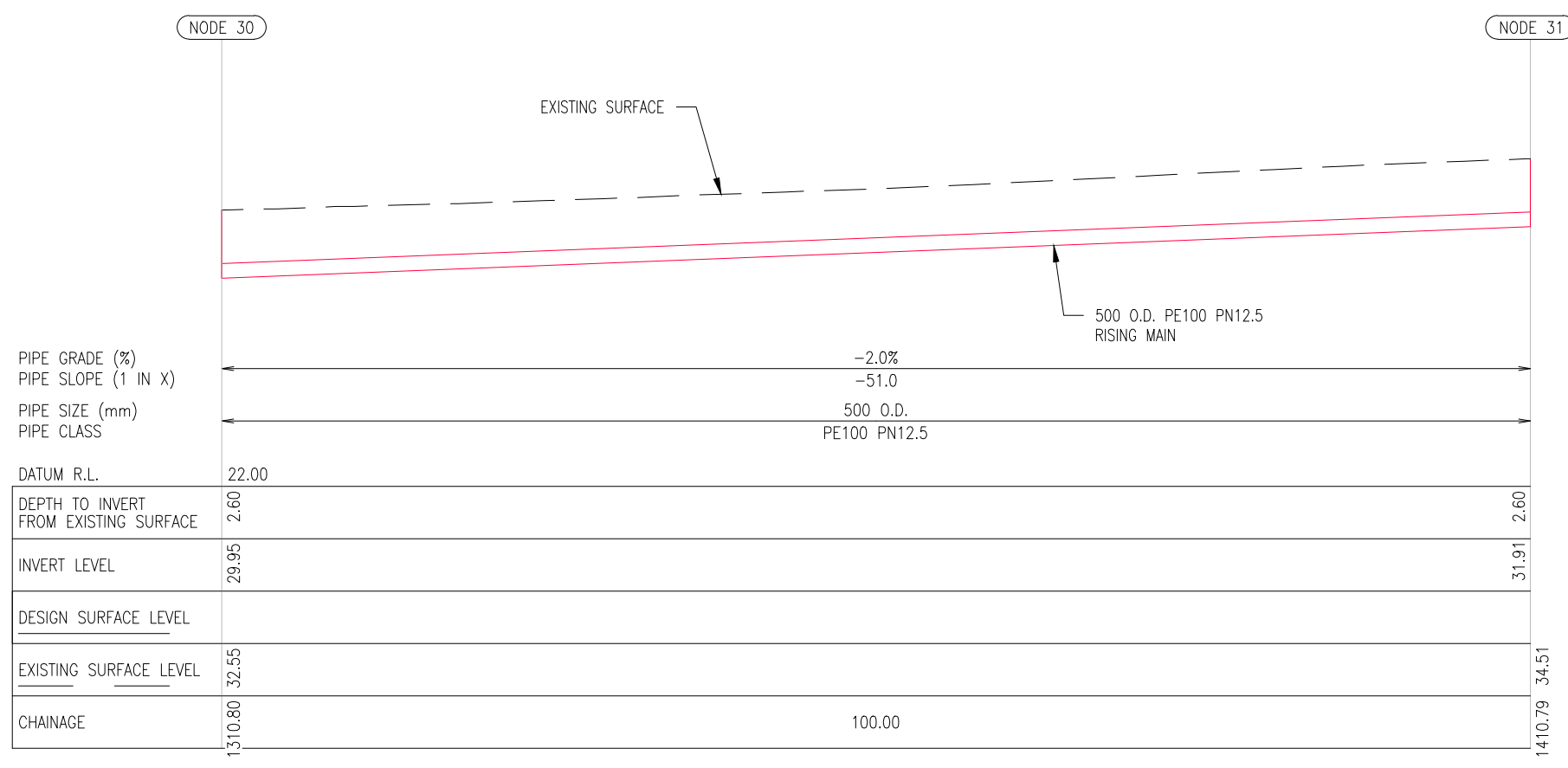
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LEGEND

EXISTING	
— WSL — WSL —	WASTEWATER TRANSMISSION
— W — W —	WATER NETWORKS
— SW — SW —	STORMWATER
— G — G —	GAS
— E — E —	ELECTRICAL
— T — T —	TELECOMMUNICATION
— FO — FO —	TELECOM FIBRE OPTIC
— E(OH) — E(OH) —	OVERHEAD POWER CABLE
— — —	PROPERTY BOUNDARY
— // — // —	FENCE
— ○ — ○ —	RETAINING WALL
— [Blue Shaded] —	100-YEAR FLOOD PLAIN
PROPOSED	
— RM — RM —	WASTEWATER RISING MAIN

NOTE:
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DETAILED DESIGN
NOT FOR CONSTRUCTION

ISSUE	DATE	AMENDMENT	BY	APPD.	DESIGNED	BY	DATE
5	9-22	UPDATED RISING MAIN ROUTE ALIGNMENT			P. HOUGHTON		9-22
4	4-22	RE-ISSUED FOR DETAILED DESIGN	J.C.	P.H.	DES. APPROVED	S. WANG	9-22
3	12-21	ISSUED FOR DETAILED DESIGN	J.C.	P.H.	DRAWN	S. VASOL	9-22
2	8-21	RE-ISSUED FOR PRELIMINARY DESIGN	J.C.	P.H.	DWG. APPROVED	D. XIE	9-22
1	5-21	ISSUED FOR PRELIMINARY DESIGN	J.C.	P.H.	WSL DESIGN MGMT.		
			J.C.	P.H.	WSL PROJ. LEAD		

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WHENUAPAI-REDHILLS WASTEWATER SERVICING
BRIGHAM CREEK ROAD, WHENUAPAI
INTERIM SLAUGHTERHOUSE PS - WASTEWATER RISING MAIN PLAN AND LONG SECTION - SHEET 11 OF 12



CAD FILE	2013654.004-016	DATE	09-09-22
ORIGINAL SCALE	A3 1:500	CONTRACT No.	6484-6934
REF No.	12508391 3-AWD32		
DWG No.	2013654.015	ISSUE	5

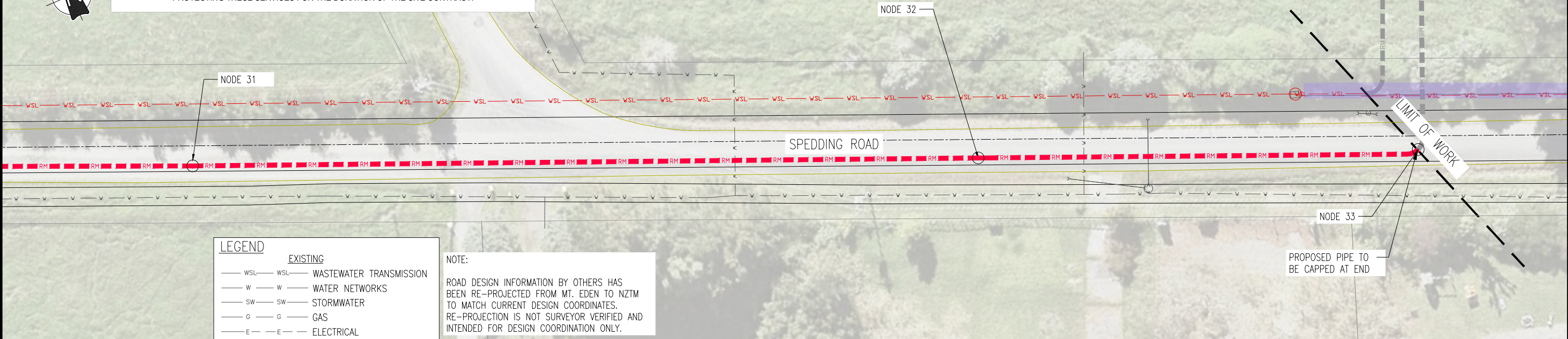
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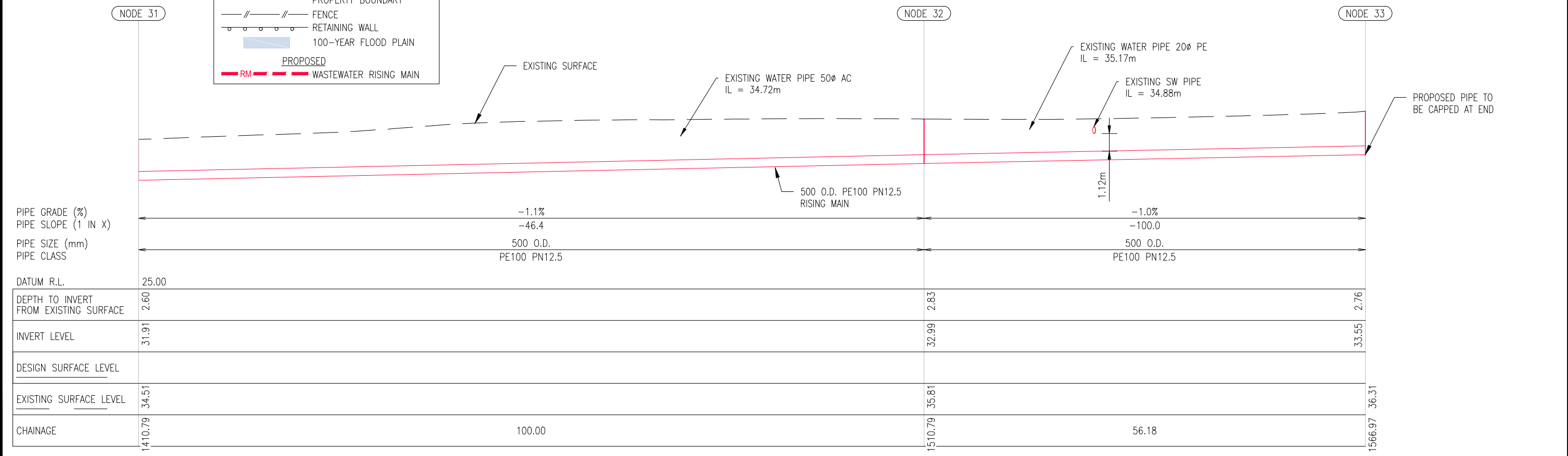
PROPOSED BREAK PRESSURE TANK, CONNECTION, AND DIVERSIONS TO BE DESIGNED AND COMPLETED BY OTHERS



LEGEND

EXISTING	
W-SL	WASTEWATER TRANSMISSION
W	WATER NETWORKS
SW	STORMWATER
G	GAS
E	ELECTRICAL
T	TELECOMMUNICATION
FO	TELECOM FIBRE OPTIC
E(OH)	OVERHEAD POWER CABLE
- - -	PROPERTY BOUNDARY
//	FENCE
○	RETAINING WALL
■	100-YEAR FLOOD PLAIN
PROPOSED	
RM	WASTEWATER RISING MAIN

NOTE:
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DETAILED DESIGN
NOT FOR CONSTRUCTION

ISSUE	DATE	AMENDMENT	BY	APPD.	DESIGNED	DES. APPROVED	DRAWN	DWG. APPROVED	WSL DESIGN MGMT.	WSL PROJ. LEAD
4	9-22	UPDATED RISING MAIN ROUTE ALIGNMENT	S.V.	P.H.	P. HOUGHTON	S. WANG				
3	12-21	ISSUED FOR DETAILED DESIGN	D.X.			S. VASOL				
2	8-21	RE-ISSUED FOR PRELIMINARY DESIGN	D.X.			D. XIE				
1	5-21	ISSUED FOR PRELIMINARY DESIGN	D.X.							

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WHENUAPAI-REDHILLS WASTEWATER SERVICING
BRIGHAM CREEK ROAD, WHENUAPAI
INTERIM SLAUGHTERHOUSE PS - WASTEWATER RISING MAIN PLAN AND LONG SECTION - SHEET 12 OF 12

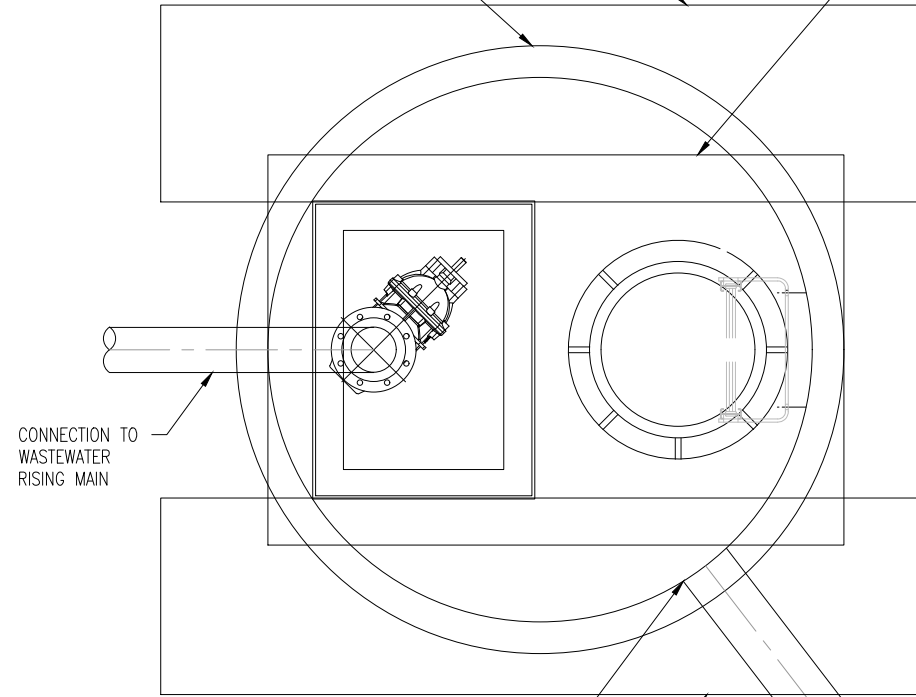


CAD FILE	2013654.004-016	DATE	09-09-22
ORIGINAL SCALE	A3 1:500	CONTRACT No.	6484-6934
REF No.	12508391 3-AWD32		
DWG No.	2013654.016	ISSUE	4

INSITU CONCRETE FOOTING. REFER TO WSL STANDARD DRAWING 2001979.143B FOR FULL CONSTRUCTION DETAILS

1800mm PRECAST CONCRETE MANHOLE RISER

REINFORCED CONCRETE LID WITH CIRCULAR AND RECTANGULAR COVERS AND FRAMES. REFER TO WSL STANDARD DRAWINGS 2001979.017C, 2001979.143B AND 2001979.144B FOR FULL CONSTRUCTION DETAILS.



CONNECTION TO WASTEWATER RISING MAIN

SUITABLE AIR VENT PIPE PENETRATION LOCATION TO BE CONFIRMED ON SITE

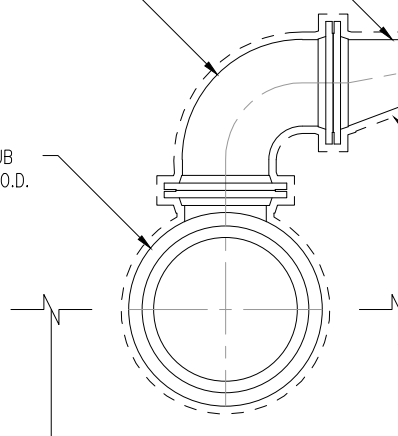
INSITU CONCRETE FOOTING. REFER TO WSL STANDARD DRAWING 2001979.143B FOR FULL CONSTRUCTION DETAILS

AIR VALVE SECTION DETAIL
SCALE NTS

250/150 DI ECCENTRIC REDUCER

250 DI ELBOW

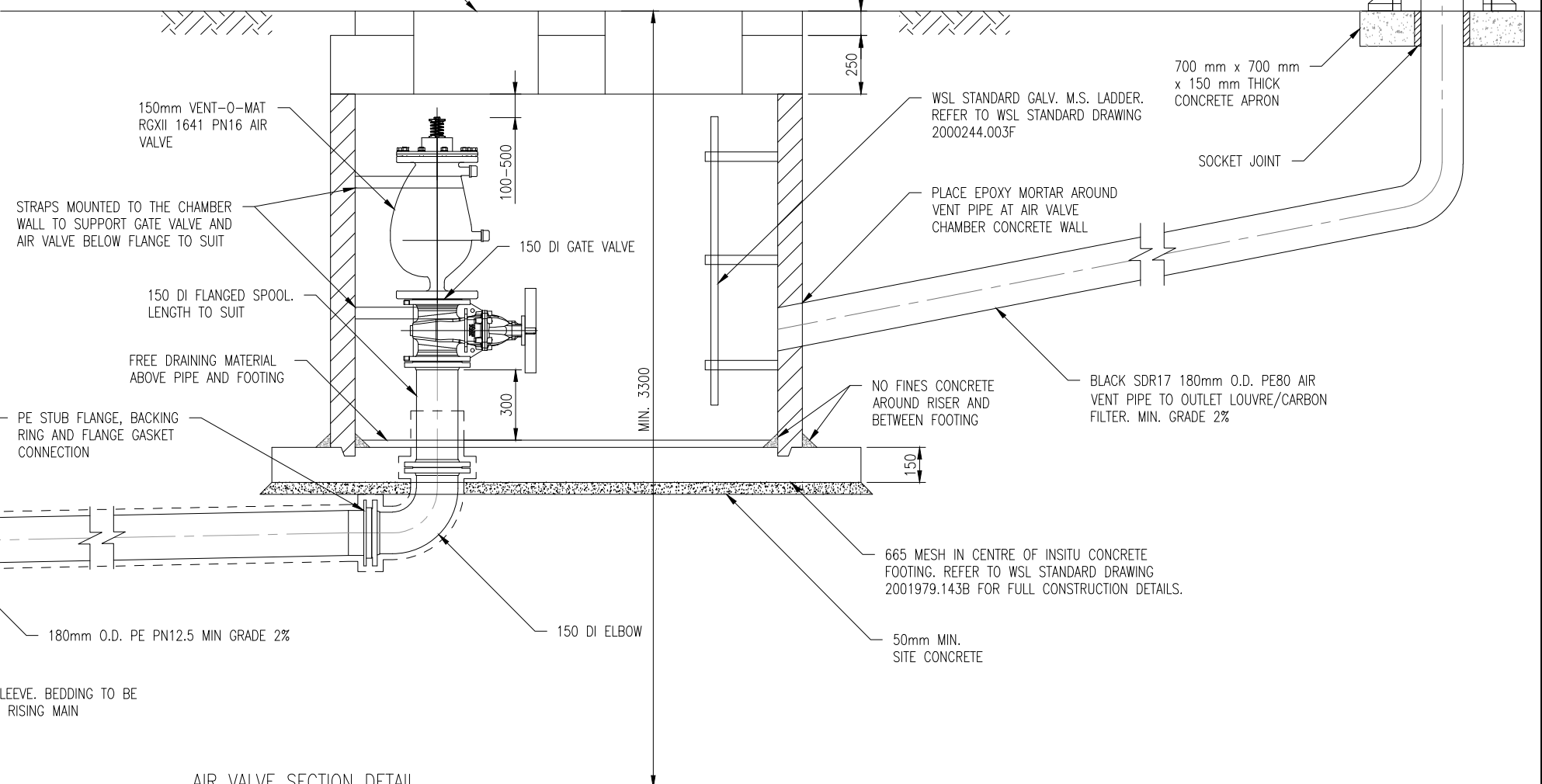
450/250 DI TEE WITH PE STUB FLANGE CONNECTION TO 500 O.D. PE WASTEWATER RISING MAIN



GEOTEXTILE SLEEVE. BEDDING TO BE THE SAME AS RISING MAIN

TRENCH LINE. REFER TO BEDDING DETAILS ON DWG 2013654.017

REINFORCED CONCRETE LID WITH CIRCULAR AND RECTANGULAR COVERS AND FRAMES. REFER TO WSL STANDARD DRAWINGS 2001979.017C, 2001979.143B AND 2001979.144B FOR FULL CONSTRUCTION DETAILS.



150mm VENT-O-MAT RGXII 1641 PN16 AIR VALVE

STRAPS MOUNTED TO THE CHAMBER WALL TO SUPPORT GATE VALVE AND AIR VALVE BELOW FLANGE TO SUIT

150 DI FLANGED SPOOL. LENGTH TO SUIT

FREE DRAINING MATERIAL ABOVE PIPE AND FOOTING

PE STUB FLANGE, BACKING RING AND FLANGE GASKET CONNECTION

180mm O.D. PE PN12.5 MIN GRADE 2%

AIR VALVE SECTION DETAIL
SCALE NTS

150 MAX.

250

100-500

300

MIN. 3300

150

WSL STANDARD GALV. M.S. LADDER. REFER TO WSL STANDARD DRAWING 2000244.003F

PLACE EPOXY MORTAR AROUND VENT PIPE AT AIR VALVE CHAMBER CONCRETE WALL

NO FINES CONCRETE AROUND RISER AND BETWEEN FOOTING

665 MESH IN CENTRE OF INSITU CONCRETE FOOTING. REFER TO WSL STANDARD DRAWING 2001979.143B FOR FULL CONSTRUCTION DETAILS.

50mm MIN. SITE CONCRETE

FABRICATED STEEL AIR INLET BOX WITH SWING FLAP

SINGLE VENTILATION LOUVRE BOX. REFER WSL STANDARD DRAWING 2001979.076. LOCATION TO BE CONFIRMED ON SITE.

SWING FLAP

700 mm x 700 mm x 150 mm THICK CONCRETE APRON

SOCKET JOINT

BLACK SDR17 180mm O.D. PE80 AIR VENT PIPE TO OUTLET LOUVRE/CARBON FILTER. MIN. GRADE 2%

DETAILED DESIGN
NOT FOR CONSTRUCTION

ISSUE	DATE	AMENDMENT	BY	APPD.	DESIGNED	P. HOUGHTON	9-22
5	9-22	UPDATED RISING MAIN ROUTE ALIGNMENT	S.V.	P.H.	DES. APPROVED	S. WANG	9-22
4	4-22	RE-ISSUED FOR DETAILED DESIGN	K.T.	P.H.	DRAWN	S. VASOL	9-22
3	12-21	ISSUED FOR DETAILED DESIGN	K.T.	P.H.	DWG. APPROVED	D. XIE	9-22
2	8-21	RE-ISSUED FOR PRELIMINARY DESIGN	J.C.	P.H.	WSL DESIGN MGMT.	-	-
1	5-21	ISSUED FOR PRELIMINARY DESIGN	D.X.	P.H.	WSL PROJ. LEAD	-	-

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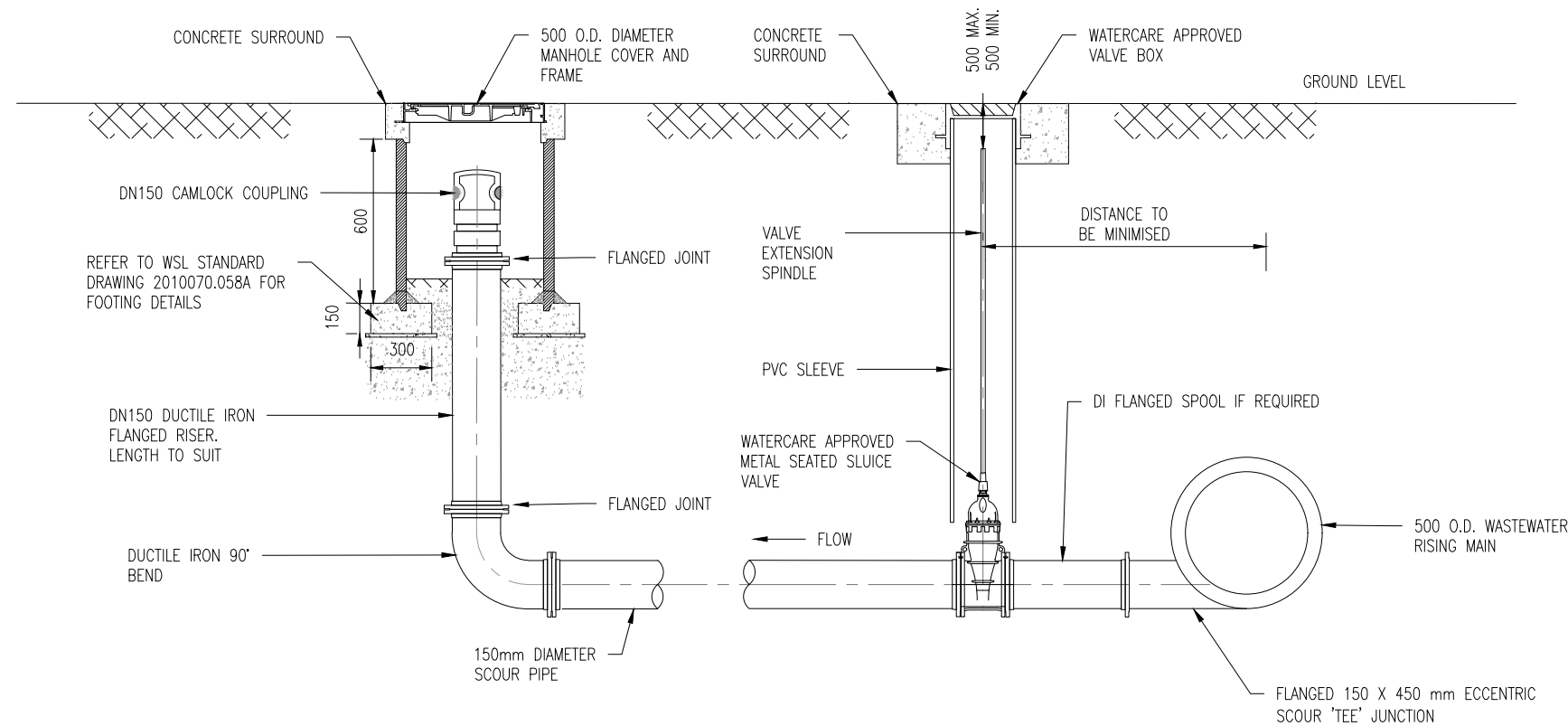
WHENUAPAI-REDHILLS WASTEWATER SERVICING
 BRIGHAM CREEK ROAD, WHENUAPAI
 INTERIM SLAUGHTERHOUSE PS - WASTEWATER RISING MAIN AIR VALVE DETAILS



CAD FILE	2013654.017	DATE	09-09-22
ORIGINAL SCALE	A3 1:25	CONTRACT No.	6484-6934
REF No.	12508391 3-AWD32	DWG No.	2013654.017
		ISSUE	5

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
2. REFER TO WATERCARE STANDARD DRAWINGS 2010070.058A WW23 AND 2010070.055 WW20 FOR FULL CONSTRUCTION DETAILS.
3. MANHOLE VALVE AND OUTLET TO BE IN BERM. 50 mm OFFSET PIPE REQUIRED WHERE MAIN IS IN CARRIAGEWAY.
4. REFER TO DRAWING 2013654.019 FOR PIPE BEDDING DETAILS.
5. DENSO MASTIC PROFILING FOUR STEP SYSTEM TO BE USED FOR CORROSION PROTECTION ON DI PIPING AND FLANGES



SCOUR VALVE DETAIL
SCALE NTS

DETAILED DESIGN
NOT FOR CONSTRUCTION

ISSUE	DATE	AMENDMENT	BY	APPD.	DESIGNED	BY	DATE
5	9-22	UPDATED RISING MAIN ROUTE ALIGNMENT	S.V.	P.H.	DES. APPROVED	S. WANG	9-22
4	4-22	RE-ISSUED FOR DETAILED DESIGN	D.J.	P.H.	DRAWN	S. VASOL	9-22
3	12-21	ISSUED FOR DETAILED DESIGN	D.J.	P.H.	DWG. APPROVED	D. XIE	9-22
2	8-21	RE-ISSUED FOR PRELIMINARY DESIGN	J.C.	P.H.	WSL DESIGN MGMT.	-	-
1	5-21	ISSUED FOR PRELIMINARY DESIGN	D.X.	P.H.	WSL PROJ. LEAD	-	-

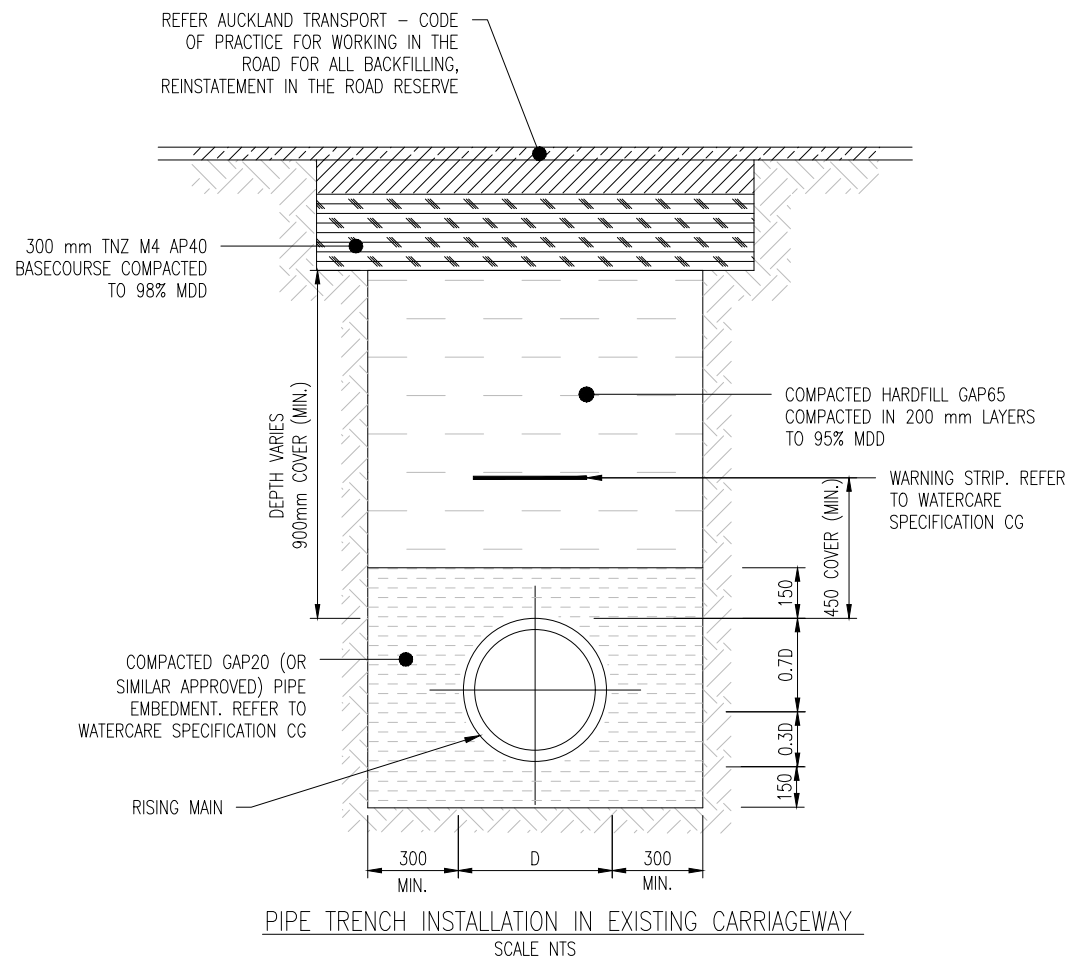
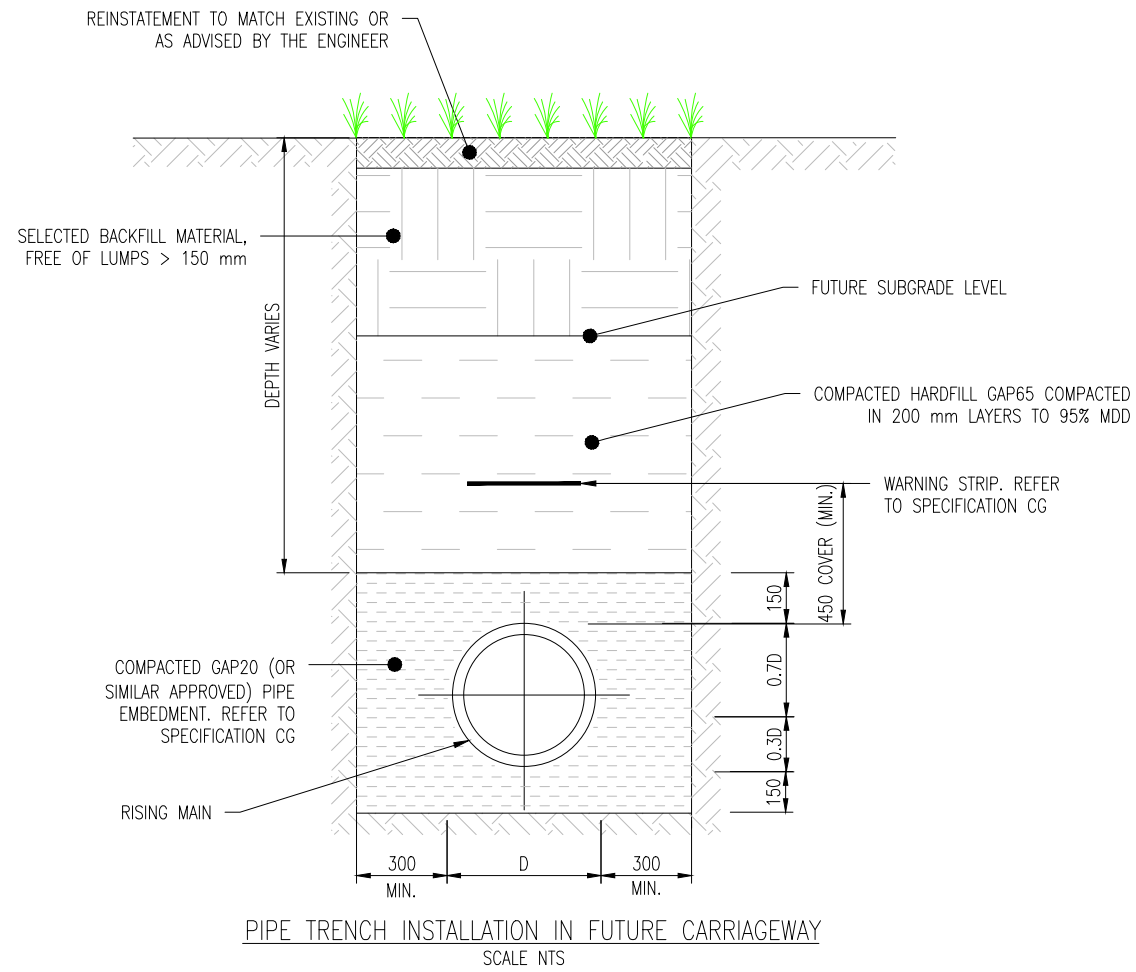
Watercare
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WHENUAPAI-REDHILLS WASTEWATER SERVICING
BRIGHAM CREEK ROAD, WHENUAPAI

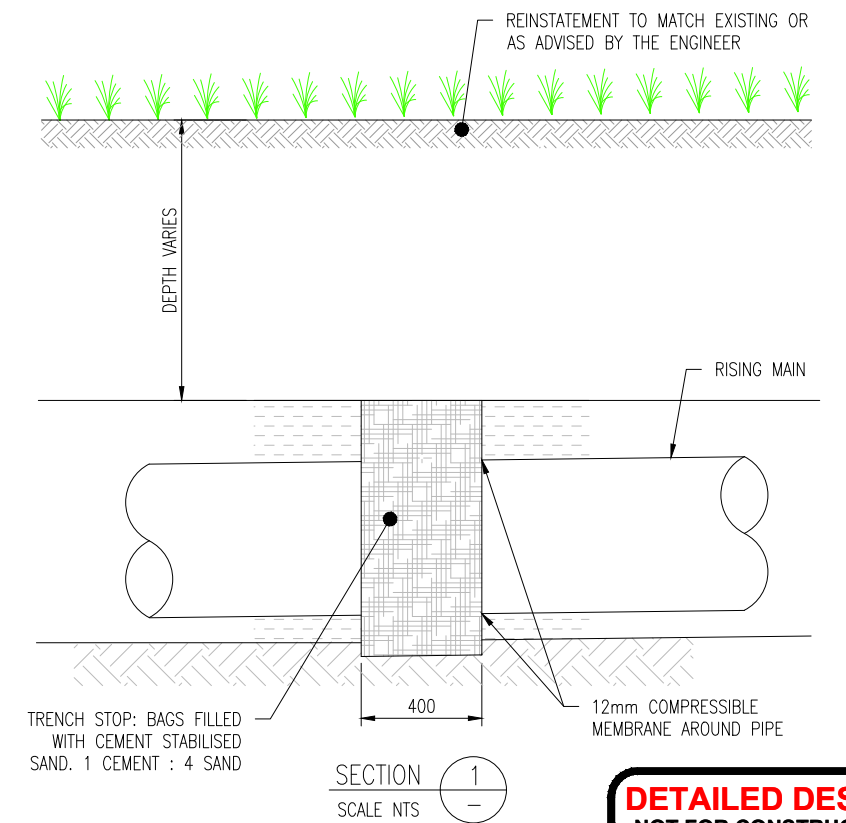
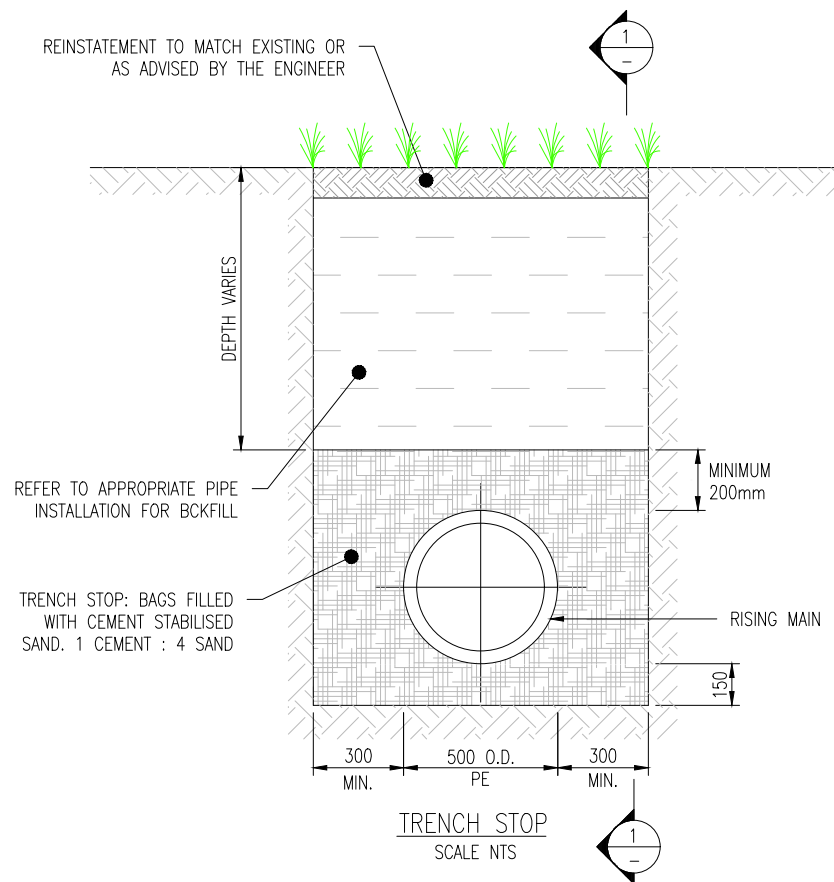
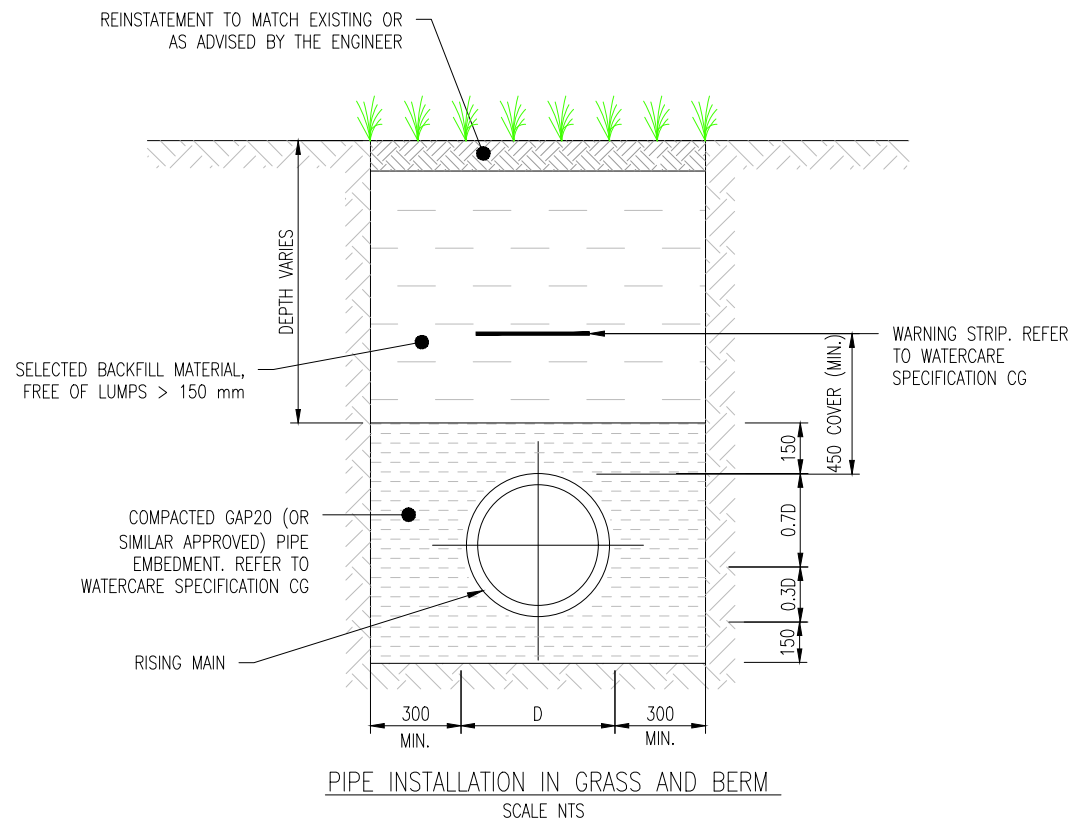
INTERIM SLAUGHTERHOUSE PS - WASTEWATER RISING MAIN SCOUR VALVE DETAILS



CAD FILE	2013654.018	DATE	09-09-22
ORIGINAL SCALE	A3 NTS	CONTRACT No.	6484-6934
REF No.	12508391 3-AWD32		
DWG No.	2013654.018	ISSUE	5



- NOTES:
1. MINIMUM HORIZONTAL AND VERTICAL CLEARANCE TO OTHER SERVICES TO COMPLY WITH WATERCARE CODE OF PRACTICE.
 2. FOR SELECTED BACKFILL MATERIAL REFER TO WATERCARE'S STANDARD.
 3. DIMENSION 'D' REFERS TO THE EXTERNAL PIPE DIAMETER.



DETAILED DESIGN
NOT FOR CONSTRUCTION

ISSUE	DATE	AMENDMENT	BY	APPD.	DESIGNED	BY	DATE
5	9-22	UPDATED RISING MAIN ROUTE ALIGNMENT	S.V.	P.H.	DES. APPROVED	P. HOUGHTON	9-22
4	4-22	RE-ISSUED FOR DETAILED DESIGN	D.J.	P.H.	DRAWN	S. WANG	9-22
3	12-21	ISSUED FOR DETAILED DESIGN	D.J.	P.H.	DWG. APPROVED	S. VASOL	9-22
2	8-21	RE-ISSUED FOR PRELIMINARY DESIGN	D.X.	P.H.	WSL DESIGN MGMT.	D. XIE	9-22
1	5-21	ISSUED FOR PRELIMINARY DESIGN	D.X.	P.H.	WSL PROJ. LEAD		

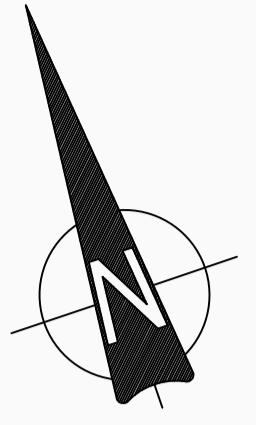
Watercare

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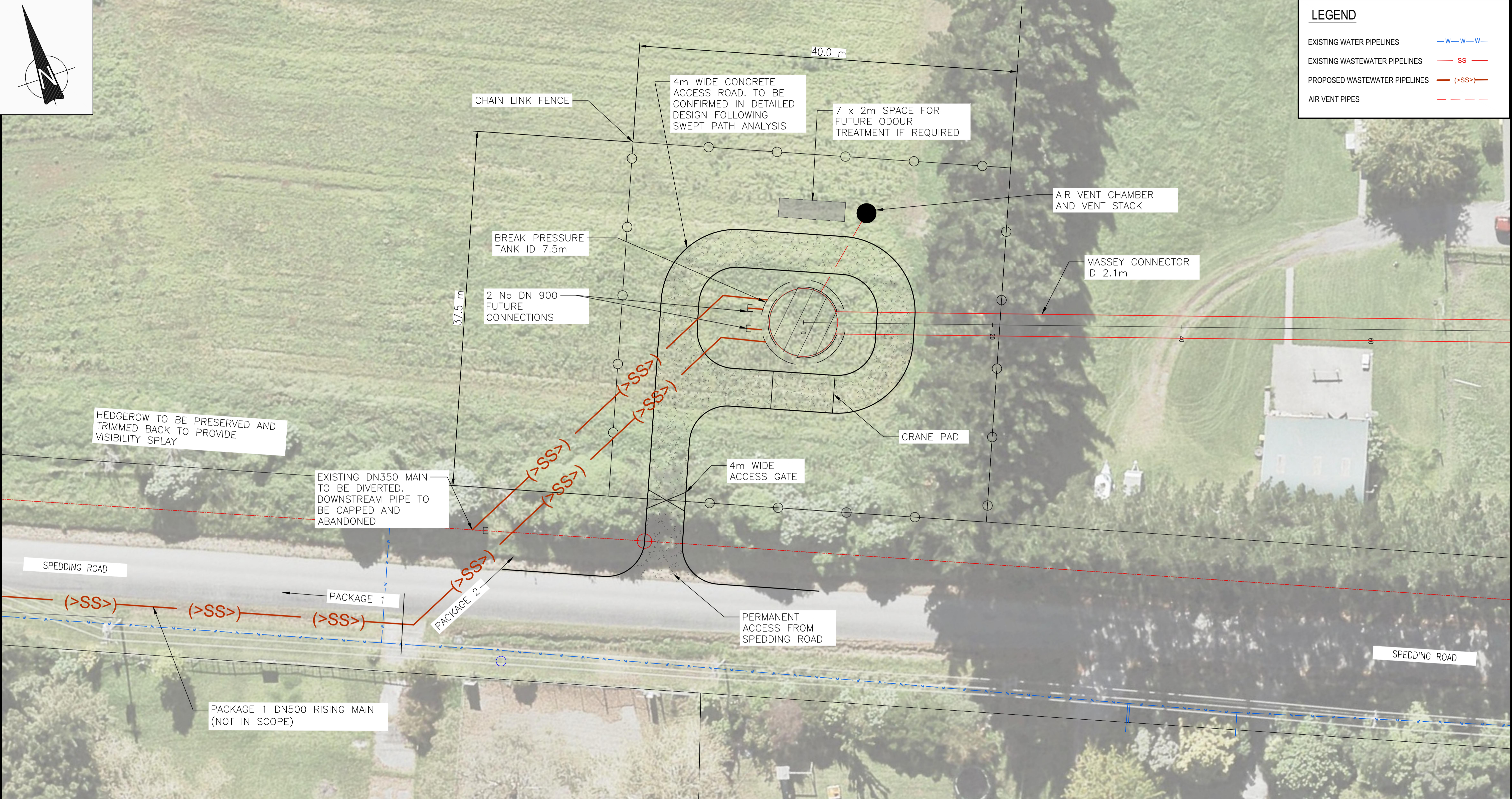
WHENUAPAI-REDHILLS WASTEWATER SERVICING
BRIGHAM CREEK ROAD, WHENUAPAI
INTERIM SLAUGHTERHOUSE PS - WASTEWATER RISING MAIN TRENCH DETAILS



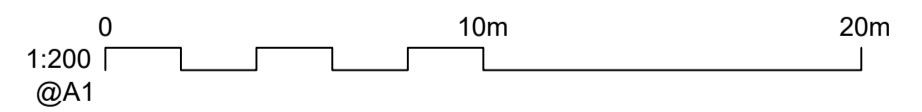
CAD FILE	2013654.019	DATE	09-09-22
ORIGINAL SCALE	A3 NTS	CONTRACT No.	6484-6934
REF No.	12508391 3-AWD32		
DWG No.	2013654.019	ISSUE	5



LEGEND	
EXISTING WATER PIPELINES	—W—W—W—
EXISTING WASTEWATER PIPELINES	—SS—
PROPOSED WASTEWATER PIPELINES	(->SS->)
AIR VENT PIPES	--- ---

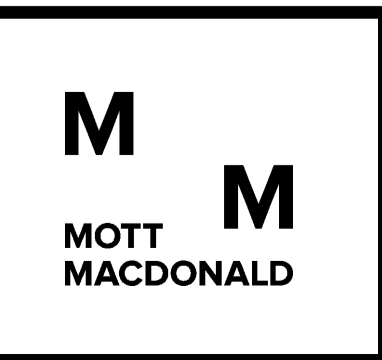


PLAN VIEW
SCALE: 1:200



ISSUE	DATE	BY	APPD.	DESCRIPTION
1	05-22	FM	PC	PRELIMINARY DESIGN - FOR REVIEW
				AMENDMENT

DESIGNED	C. UNDERDOWN	05-22
DES. APPROVED	P. CORRIS	05-22
DRAWN	F. MISPLON	05-22
DWG. APPROVED	P. CORRIS	05-22
WSL DESIGN MGMT.		
WSL PROJ. LEAD		

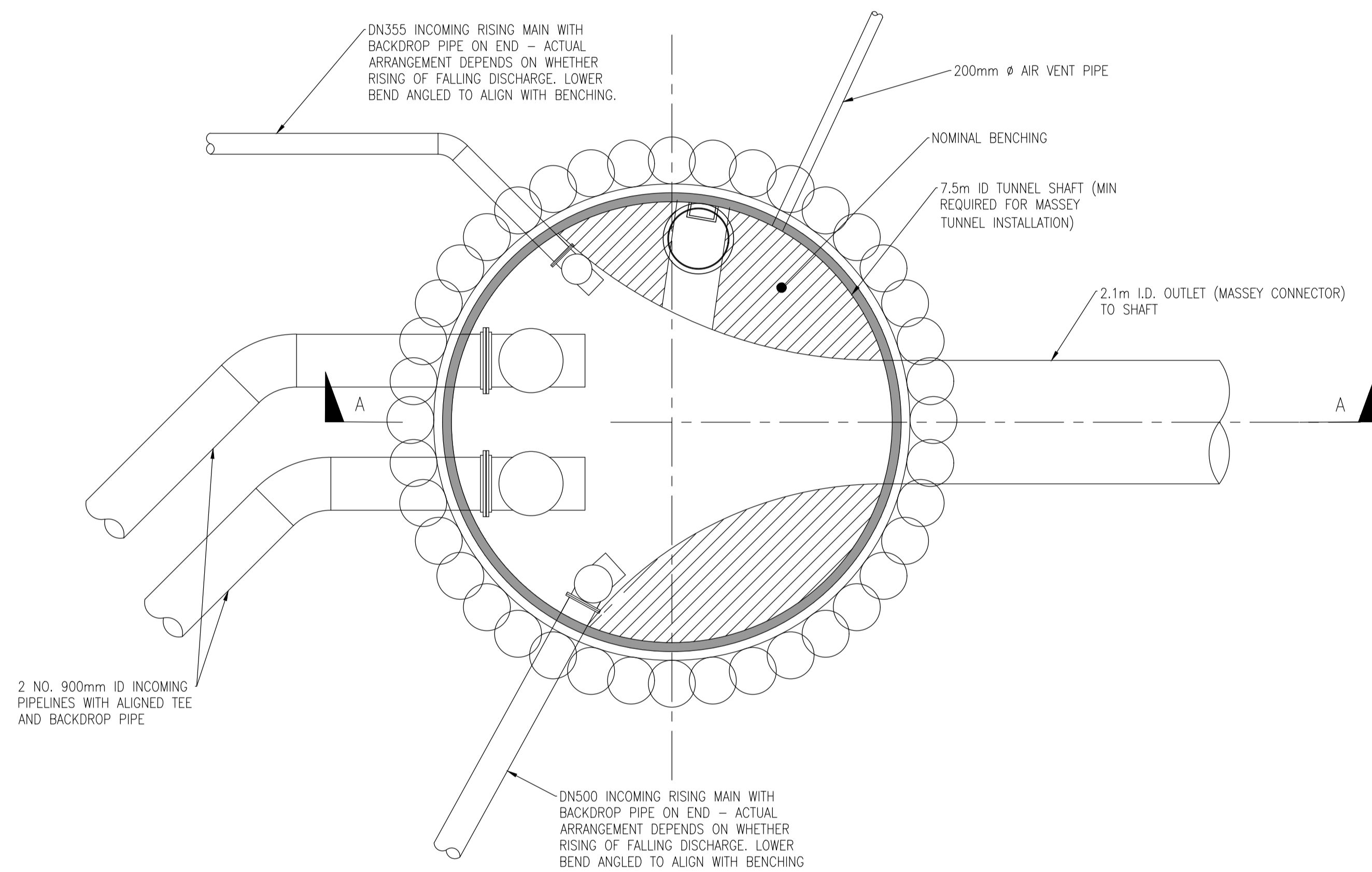


NORTHERN INTERCEPTOR PHASE 2
WESTGATE TO HOBSONVILLE
BREAK PRESSURE TANK SITE LAYOUT

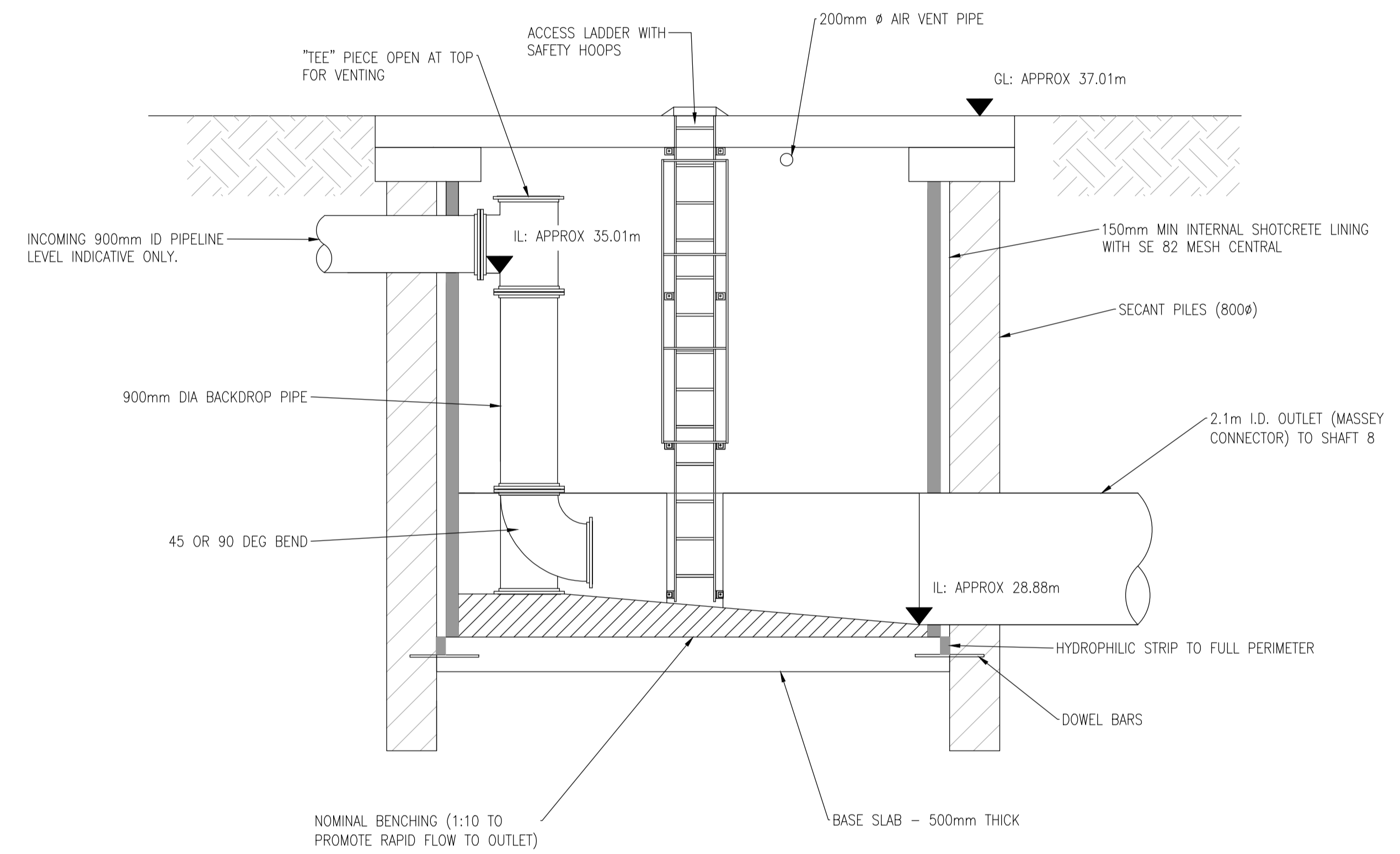
CAD FILE	2013661.302	DATE	11-05-22
ORIGINAL SCALE	A1	CONTRACT No.	-
REF. No.	417039-MMD-02-XX-DR-C-0100		
DWG. No.	2013661.800	ISSUE	1

NOTES

1. DESIGN PHASE IS PRELIMINARY DESIGN. DRAWING NOT FOR CONSTRUCTION
2. DO NOT OBTAIN DIMENSIONS BY SCALING FROM THE DRAWING
3. LEVELS ARE IN TERMS OF DATUM AUCKLAND 1946
4. ALLOW FOR 200mm (MIN)
5. SECANT PILES:
 - SOFT PILES = UN-REINFORCED, F'C = 3 MPA
 - HARD PILES = REINFORCED, F'C = 40 MPA
 - SOFT EYE FOR TUNNEL PENETRATION



PLAN



SECTION A-A

DESIGNED	C. UNDERDOWN	05-22		
DES. APPROVED	P. CORRIS	05-22		
DRAWN	F. MISPLON	05-22		
DWG. APPROVED	P. CORRIS	05-22		
WSL DESIGN MGMT.				
WSL PROJ. LEAD				
ISSUE	DATE	PRELIMINARY DESIGN -- FOR REVIEW	FM	PC
		AMENDMENT	BY	APPD.

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M M

MOTT MACDONALD

NORTHERN INTERCEPTOR PHASE 2
WESTGATE TO HOBSONVILLE
BREAK PRESSURE TANK LAYOUT AND SECTION

CAD FILE	2013661.801	DATE	13-05-22
ORIGINAL SCALE	A1	CONTRACT No.	-
AS SHOWN			
REF. No.	417039-MMD-02-XX-DR-C-0001		
DWG. No.	2013661.801	ISSUE	1



**WATERCARE SERVICES LIMITED
WHENUAPAI-REDHILLS WASTEWATER SERVICING PACKAGE 1
WASTEWATER PUMP STATION (DPISH)**

DETAILED DESIGN ISSUE

Project No: 3-AWD32.00
Date: 14/01/2022

Plot Date: Jan 24, 2022 - 5:45pm U:\Project\NZ13A13-AWD32-00 Whenuapai-Redhills Wastewater Servicing\Home\800 Drawings\Civil\AutoCAD\2013646.001.dwg

DRAWING INDEX		
DRAWING NUMBER	SHEET	DRAWING TITLE
		<u>GENERAL</u>
2013646	000	COVER SHEET
2013646	001	DRAWING INDEX
2013646	002	LOCATION MAP & LOCATION PLAN
		<u>CIVIL</u>
2013646	003	OVERALL PLAN
2013646	004	SITE PLAN
2013646	005	SITE ROADING - PLAN
2013646	006	SITE ROADING - TYPICAL SECTION AND DETAILS
2013646	007	SITE ROADING - LARGE TRUCK VEHICLE TURNING
2013646	008	SITE ROADING - MEDIUM TRUCK VEHICLE TURNING
2013646	009	SITE ROADING - ROAD MARKING AND BOLLARDS
2013646	010	PUMP STATION THRUST BLOCK TYPE 1 DETAILS
2013646	011	PUMP STATION THRUST BLOCK TYPE 2 DETAILS
2013646	012	EMERGENCY OVERFLOW - LONG SECTION
2013646	013	EMERGENCY OVERFLOW - OUTFALL AND RIPRAP DETAIL
2013646	014	WET WELL GANTRY LIFTING PLAN
		<u>MECHANICAL</u>
2013650	001	PUMP STATION LAYOUT PLAN
2013650	002	WET WELL, VALVE CHAMBER - DETAILED SECTIONS
2013650	003	INLET MANHOLE - DETAIL SECTIONS
2013650	004	STORAGE TANK - DETAIL SECTIONS
2013650	005	AIR VALVE AND FLOW METER CHAMBER - SECTION AND DETAILS
2013650	006	PUMP STATION ODOUR DUCTING PLAN
2013650	007	PUMP STATION EQUIPMENT SCHEDULE AND GENERAL NOTES
		<u>STRUCTURAL</u>
2013648	001	GENERAL NOTES
2013648	002	REINFORCED CONCRETE NOTES
2013648	003	STRUCTURAL STEELWORK NOTES
2013648	010	GENERAL ARRANGEMENT
2013648	011	WET WELL PUMP BUND SLAB AND DETAILS
2013648	012	WET WELL PUMP LIFTING GANTRY
2013648	013	WET WELL PUMP LIFTING GANTRY DETAILS
		<u>LANDSCAPE</u>
2013649	001	PLANTING PLAN
2013649	002	PLANT SCHEDULE
2013649	003	PLANTING DETAILS

DRAWING INDEX		
DRAWING NUMBER	SHEET	DRAWING TITLE
		<u>PROCESS AND INSTRUMENTATION</u>
203651	000	PIPING AND INSTRUMENTATION DIAGRAM - SYMBOL SHEET
203651	001	PIPING AND INSTRUMENTATION SHEET 1 OF 2
203651	002	PIPING AND INSTRUMENTATION SHEET 2 OF 2
		<u>ELECTRICAL</u>
2013647	003	01-RTU-X01 KINGFISHER RTU CONNECTION SCHEMATIC (SHEET 1 OF 2)
2013647	004	01-RTU-X01 KINGFISHER RTU CONNECTION SCHEMATIC (SHEET 2 OF 2)
2013647	005	SINGLE LINE DIAGRAM
2013647	006	06-PSU X01 24VDC DISTRIBUTION
2013647	007	80-PU-11 PUMP 1 MOTOR SCHEMATIC
2013647	008	80-PU-12 PUMP 2 MOTOR SCHEMATIC
2013647	009	80-PU-21 PUMP 1 MOTOR SCHEMATIC
2013647	010	80-PU-22 PUMP 2 MOTOR SCHEMATIC
2013647	011	PANEL ALARMS
2013647	012	WET WELL 1 ULTRASONIC LEVEL SENSOR 011A
2013647	013	WET WELL 1 ULTRASONIC LEVEL SENSOR 011B
2013647	014	WET WELL 1 80-LSH-012 ALARM FLOAT SWITCH AND 80-SOV-X01 SOLENOID VALVE
2013647	015	WET WELL 2 ULTRASONIC LEVEL SENSOR 021A
2013647	016	WET WELL 2 ULTRASONIC LEVEL SENSOR 021B
2013647	017	WET WELL 2 80-LSH-022 ALARM FLOAT SWITCH
2013647	018	80-FIT-X01 DISCHARGE FLOWMETER
2013647	019	STORAGE TANK 1 WASHER 80-SOV-X03 SOLENOID VALVE
2013647	020	STORAGE TANK 2 WASHER 80-SOV-X04 SOLENOID VALVE
2013647	021	STORAGE TANK 3 WASHER 80-SOV-X05 SOLENOID VALVE
2013647	022	STORAGE TANK 4 WASHER 80-SOV-X06 SOLENOID VALVE
2013647	023	STORAGE TANK 5 WASHER 80-SOV-X07 SOLENOID VALVE
2013647	024A	STORAGE INLET MANHOLE 80-MH-02 LEVEL SWITCH 80-LSH-021
2013647	024B	STORAGE INLET MANHOLE 80-MH-02 LEVEL SWITCH 80-LSH-022
2013647	024C	STORAGE INLET MANHOLE 80-MH-02 LEVEL SWITCH 80-LSH-023
2013647	025	CONTAINER LAYOUT
2013647	026	TYPICAL GENERATOR CONNECTION TERMINAL BOX

DETAILED DESIGN
NOT FOR CONSTRUCTION

ISSUE	DATE	AMENDMENT	BY	APPD.	BY	DATE
3	01-22	DETAILED DESIGN ISSUE	JG	MG		
2	08-21	RE-ISSUE FOR PRELIMINARY DESIGN	EVV	MK		
1	05-21	PRELIMINARY DESIGN ISSUE	AJ	BR		

DESIGNED	AJ	05-21
DES. APPROVED	BR	05-21
DRAWN	EW	05-21
DWG. APPROVED	EW	05-21
WLS DESIGN MGMT.	-	-
WLS PROJ. LEAD	-	-

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WHENUAPAI-REDHILLS WASTEWATER SERVICING PACKAGE 1
WASTEWATER PUMP STATION (DPISH)
DRAWING INDEX

wsp **GHD**

CAD FILE	2013646.001	DATE	14-01-22
ORIGINAL SCALE	A3 AS SHOWN	CONTRACT No.	6484-6934
REF No.	12508391	3-AWD32	
DWG No.	2013646.001	ISSUE	3

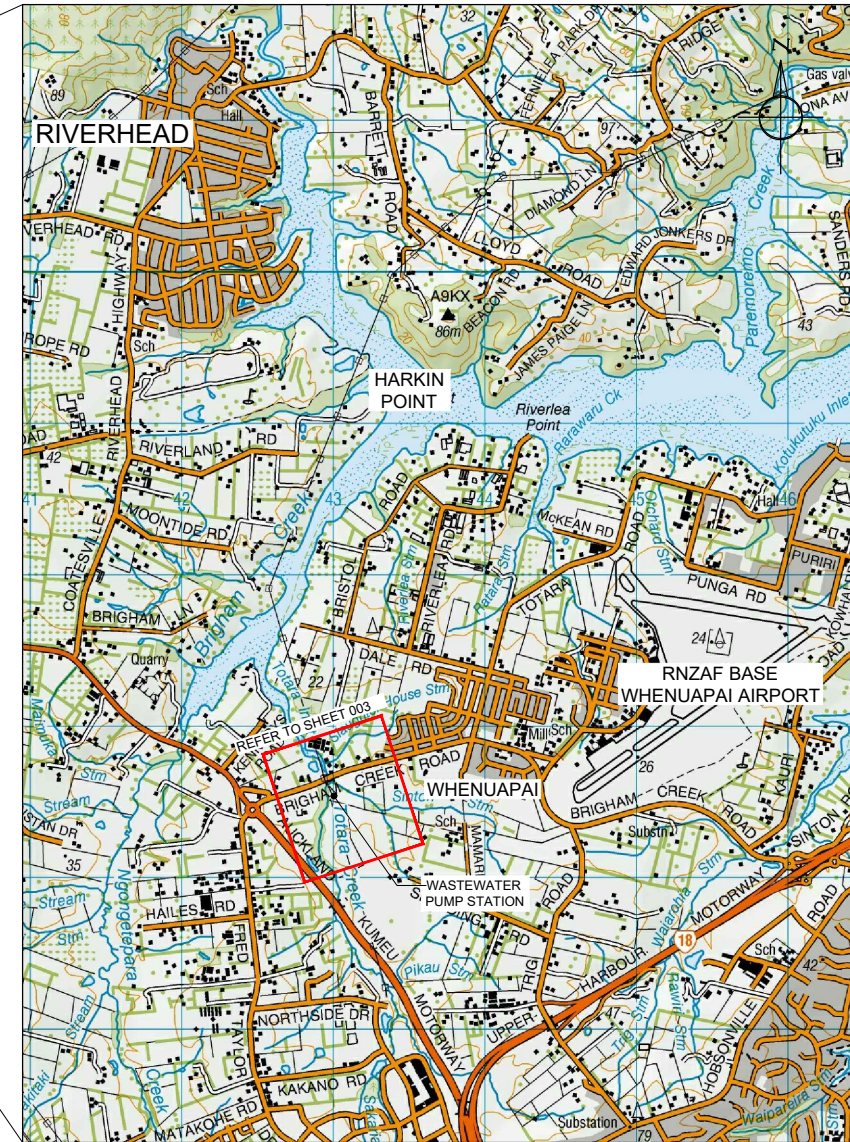
WATERCARE SERVICES LIMITED

WHENUAPAI-REDHILLS WASTEWATER SERVICING PACKAGE 1

WASTEWATER PUMP STATION (DPISH)



LOCATION MAP



LOCATION PLAN
SCALE 1:25,000 (A1)
1:50,000 (A3)

ISSUE	DATE	AMENDMENT	BY	APPD.	DESIGNED	DES. APPROVED	DRAWN	DWG. APPROVED	WLS DESIGN MGMT.	WLS PROJ. LEAD
3	01-22	DETAILED DESIGN ISSUE	JG	MG	AJ	BR	EW	EW	-	-
2	08-21	RE-ISSUED FOR PRELIMINARY DESIGN	EW	MK	-	-	-	-	-	-
1	05-21	PRELIMINARY DESIGN ISSUE	AJ	BR	-	-	-	-	-	-

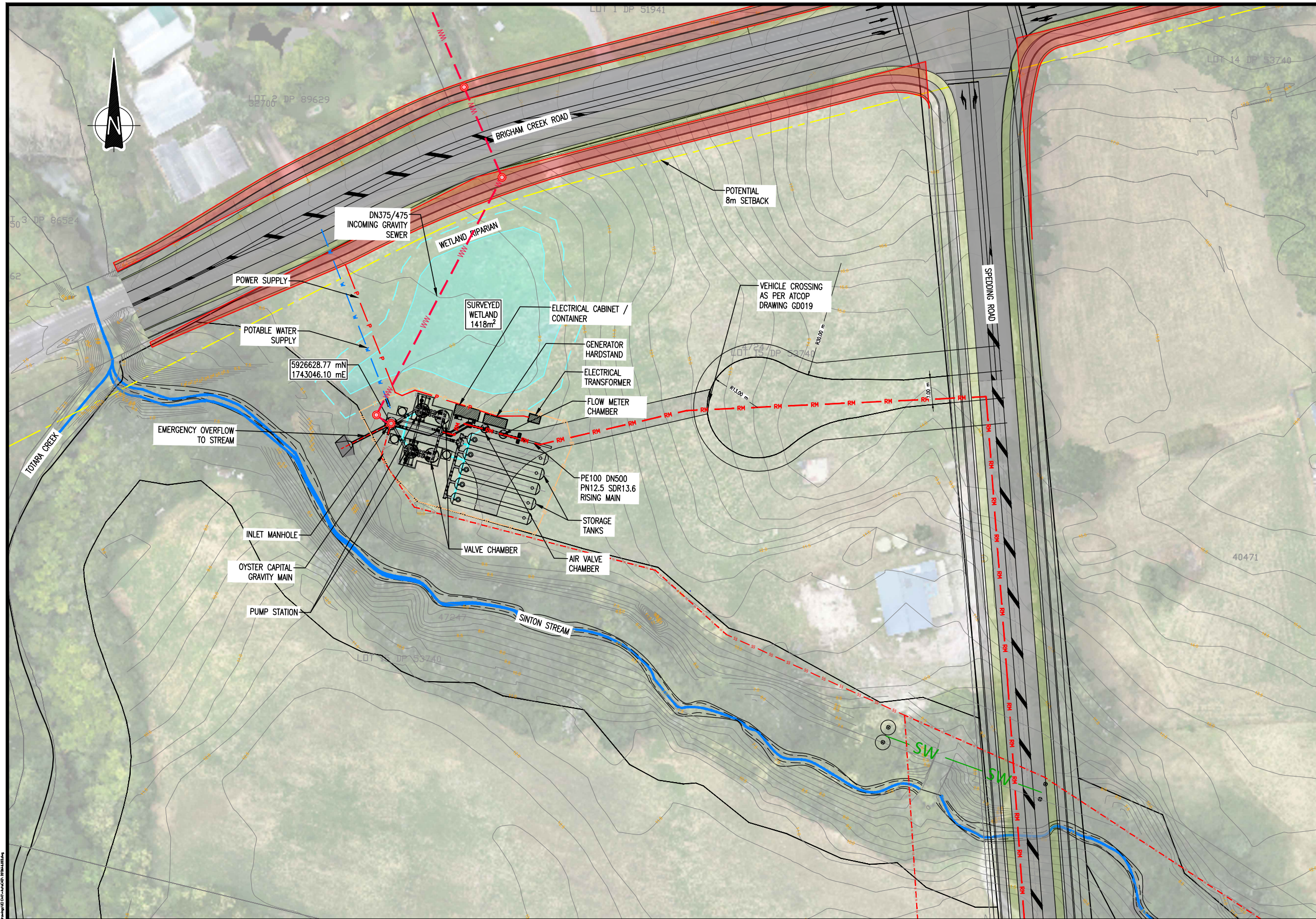
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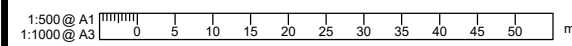
WHENUAPAI-REDHILLS WASTEWATER SERVICING PACKAGE 1
WASTEWATER PUMP STATION (DPISH)
LOCATION MAP AND LOCATION PLAN



CAD FILE	2013646.002	DATE	14-01-22
ORIGINAL SCALE	A3	CONTRACT No.	6484-6934
REF No.	12508391 3-AWD32		
DWG No.	2013646.002	ISSUE	3



- LEGEND:**
- EXISTING LOT BOUNDARY
 - 8.00 — EXISTING GROUND LEVEL
 - 8.10 — EXISTING GROUND LEVEL
 - - - POTENTIAL SETBACK
 - RM — RM — RISING MAIN
 - P — P — POWER SUPPLY
 - - - SECURITY FENCE AND WSL OWNED
 - W — W — WATER SUPPLY
 - - - WETLAND BOUNDARY
 - STREAM
 - - - WW — WASTEWATER GRAVITY SEWER
 - SS — SS — OYSTER CAPITAL GRAVITY SEWER (TBC)



DETAILED DESIGN
NOT FOR CONSTRUCTION

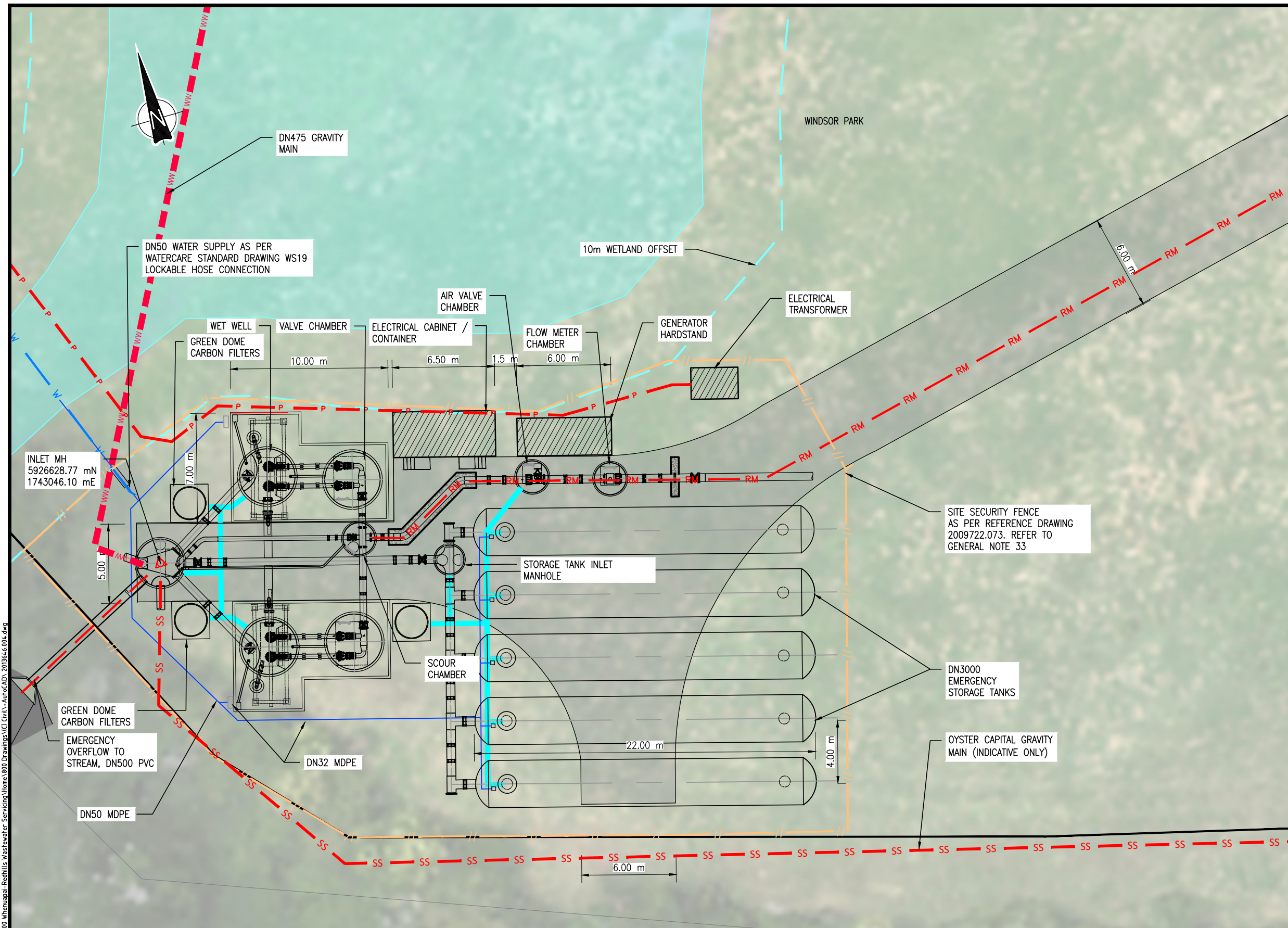
ISSUE	DATE	AMENDMENT	BY	APPD.	DESIGNED	DES. APPROVED	DRAWN	DWG. APPROVED	WSL DESIGN MGMT.	WSL PROJ. LEAD	BY	DATE
4	01-22	DETAILED DESIGN ISSUE	SA	MG	AJ	BR	EW	EW	-	-		03-21
3	10-21	SAFETY IN DESIGN	SA	MK	SA	MK	EW	EW	-	-		03-21
2	08-21	RE-ISSUED FOR PRELIMINARY DESIGN	EvV	MK	EvV	MK	-	-	-	-		-
1	03-21	PRELIMINARY DESIGN ISSUE	AJ	BR	AJ	BR	-	-	-	-		-

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WHENUAPAI-REDHILLS WASTEWATER SERVICING PACKAGE 1
WASTEWATER PUMP STATION (DPISH)
OVERALL PLAN



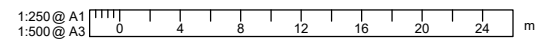
CAD FILE	2013646.003	DATE	14-01-2022
ORIGINAL SCALE	A3 1:500	CONTRACT No.	6484-6934
REF No.	12508391 3-AWD32		
DWG No.	2013646.003	ISSUE	4



- EXISTING LOT BOUNDARY
- RM — RM — RISING MAIN
- P — P — POWER SUPPLY
- // — // — SECURITY FENCE AND WSL OWNED SITE
- v — v — WATER SUPPLY
- - - OVERFLOW PIPE
- - - WETLAND BOUNDARY
- STREAM
- ODOUR VENT
- - - WW — WASTEWATER GRAVITY SEWER
- - - S — SS — INDICATIVE OYSTER CAPITAL GRAVITY SEWER (TBC)

NOTE:
 1. REFER TO DRAWING 2013650.007 FOR GENERAL NOTES

SITE PLAN
 SCALE: 1:250



DETAILED DESIGN
 NOT FOR CONSTRUCTION

ISSUE	DATE	AMENDMENT	BY	APPD.	DESIGNED	DES. APPROVED	DRAWN	DWG. APPROVED	WSL DESIGN MGMT.	WSL PROJ. LEAD	BY	DATE
4	01-22	DETAILED DESIGN ISSUE	SA	MG	AJ	BR	EW	EW	-	-		05-21
3	10-21	SAFETY IN DESIGN	SA	MK								05-21
2	08-21	RE-ISSUED FOR PRELIMINARY DESIGN	EV	MK								05-21
1	05-21	PRELIMINARY DESIGN ISSUE	AJ	BR								

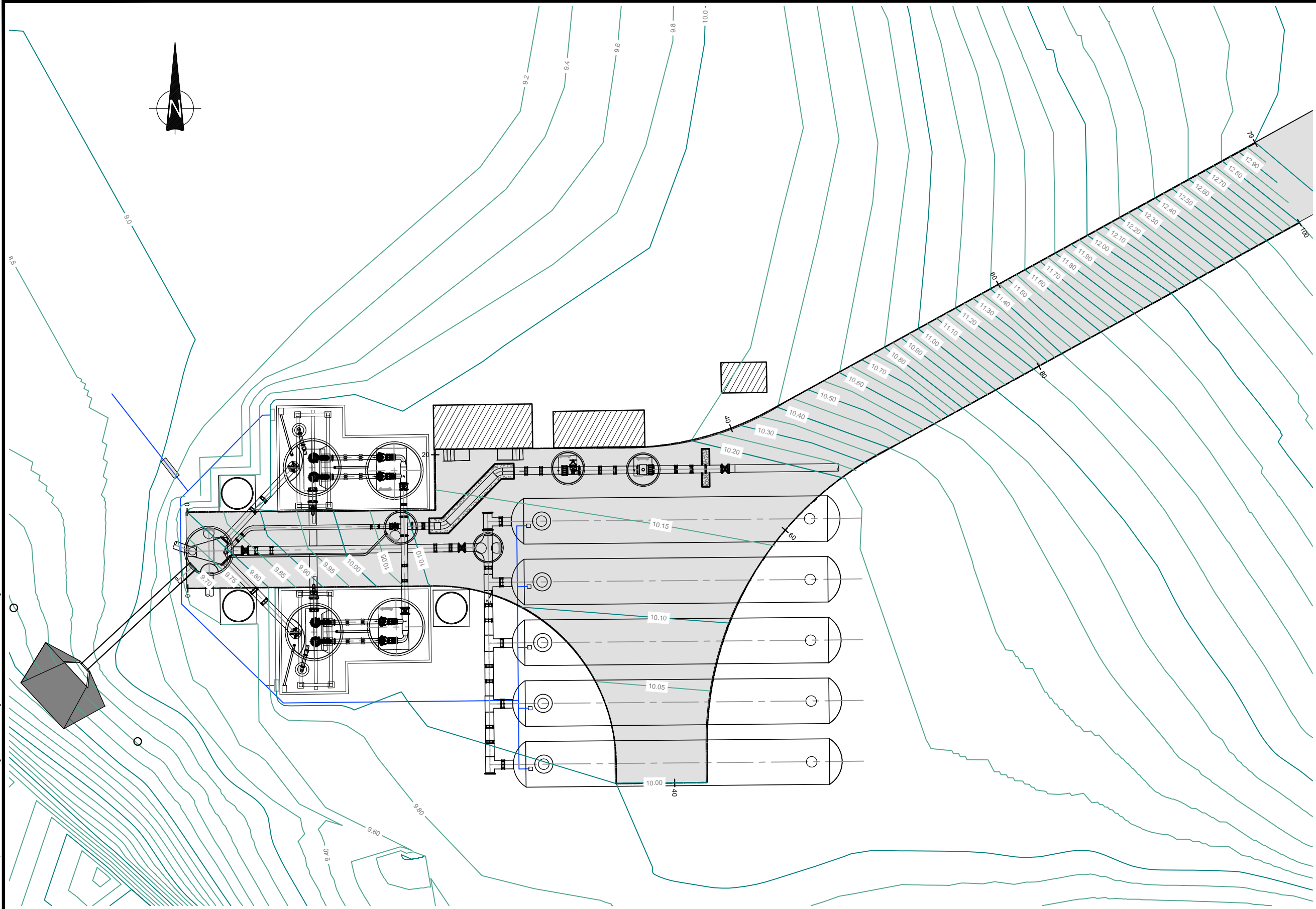


WHENUAPAI-REDHILLS WASTEWATER SERVICING PACKAGE 1
WASTEWATER PUMP STATION (DPISH)
 SITE PLAN



CAD FILE	2013646.004	DATE	14-01-2022
ORIGINAL SCALE	A3 AS SHOWN	CONTRACT No.	6484-6934
REF No.	12508391 3-AWD32		
DWG No.	2013646.004	ISSUE	4

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- NOTE:**
1. CO-ORDINATES ARE NEW ZEALAND TRANSVERSE MERCATOR – NZTM.
 2. LEVELS ARE IN TERMS OF NZVD1946.

SITE PLAN
SCALE. 1:250

DETAILED DESIGN
NOT FOR CONSTRUCTION

U:\Project\NZ\3A\3-AWD32.00 Whenuapai-Redhills Wastewater Servicing\Home.800 Drawings\1\CI\Civil-AutoCAD\2013646.005.dwg

ISSUE	DATE	AMENDMENT	BY	APPD.	BY	DATE
1	01-22	DETAILED DESIGN ISSUE	SA	WC		

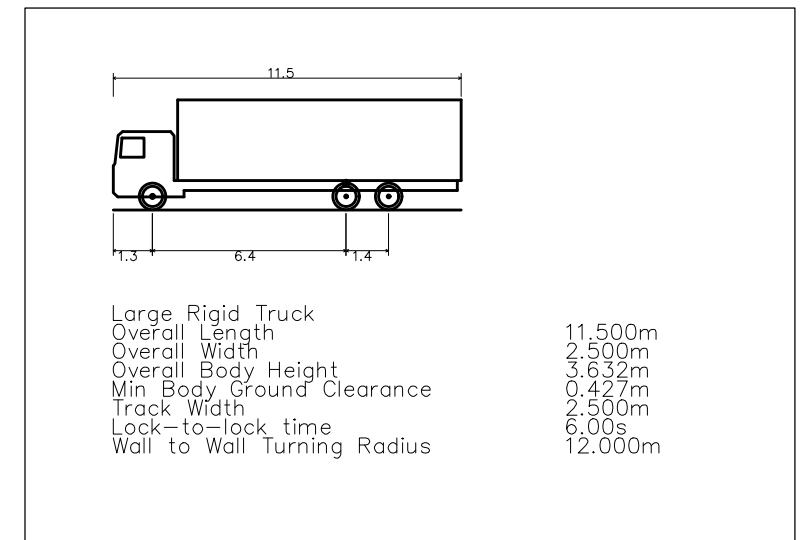
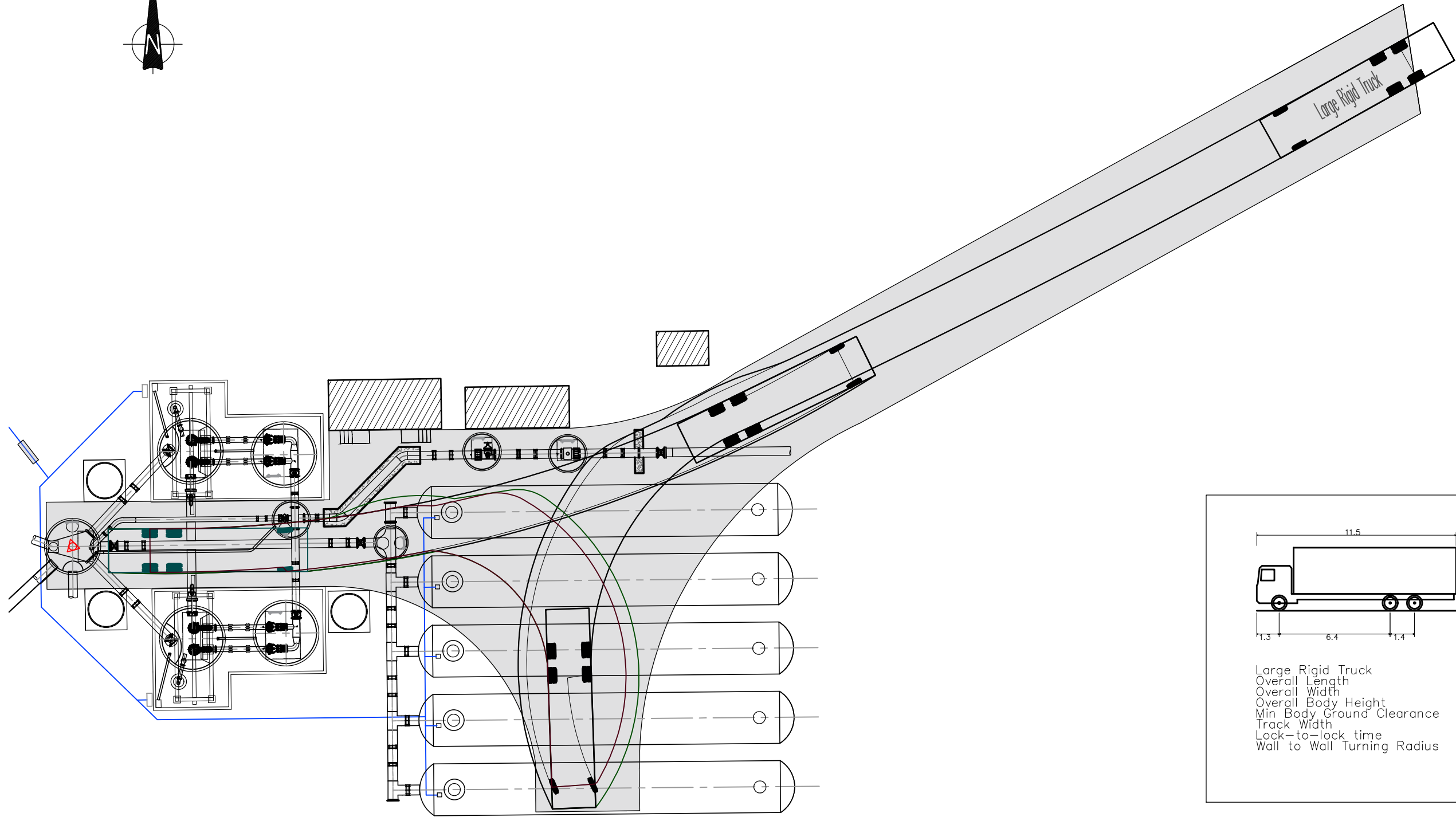
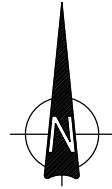
DESIGNED	SA	11-21
DES. APPROVED	RG	11-21
DRAWN	SA	11-21
DWG. APPROVED	WC	11-21
WSL DESIGN MGMT.	RB	11-21
WSL PROJ. LEAD	RB	11-21

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WHENUAPAI-REDHILLS WASTEWATER SERVICING PACKAGE 1
WASTEWATER PUMP STATION (DPISH)
 SITE ROADING - PLAN



CAD FILE	2013646.005	DATE	14-01-22
ORIGINAL SCALE	A3 AS SHOWN	CONTRACT No.	-
REF No.	12508391 3-AWD32	DWG No.	2013646.005
ISSUE	1		



1:250 0 2 4 6 8 10 12 m

DETAILED DESIGN
NOT FOR CONSTRUCTION

U:\Project\NZ\3A\3-AWD32.00 Whenuapai-Redhills Wastewater Servicing\Home.800 Drawings\NIC\Civil-AutoCAD\2013646.007.dwg

ISSUE	DATE	AMENDMENT	BY	APPD.	DESIGNED	SA	11-21
1	01-22	DETAILED DESIGN ISSUE	SA	WC	DES. APPROVED	RG	11-21
					DRAWN	SA	11-21
					DWG. APPROVED	WC	11-21
					WSL DESIGN MGMT.	RB	11-21
					WSL PROJ. LEAD	RB	11-21

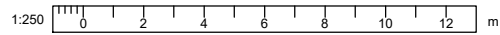
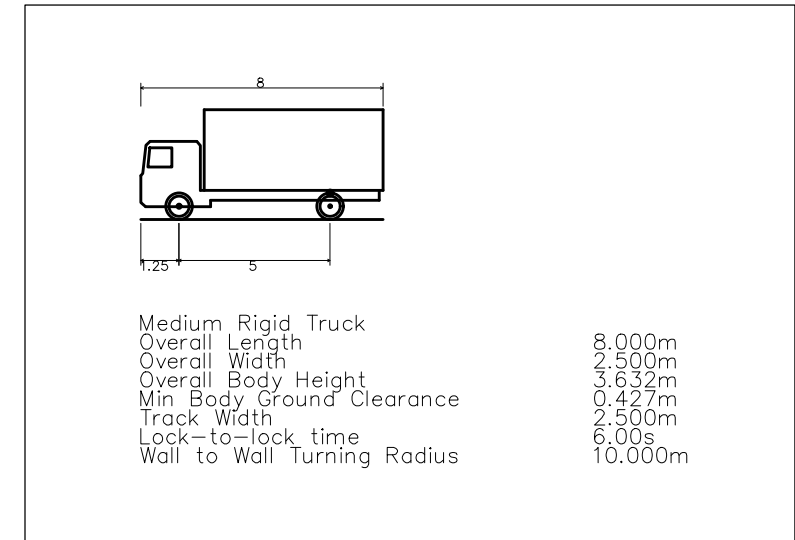
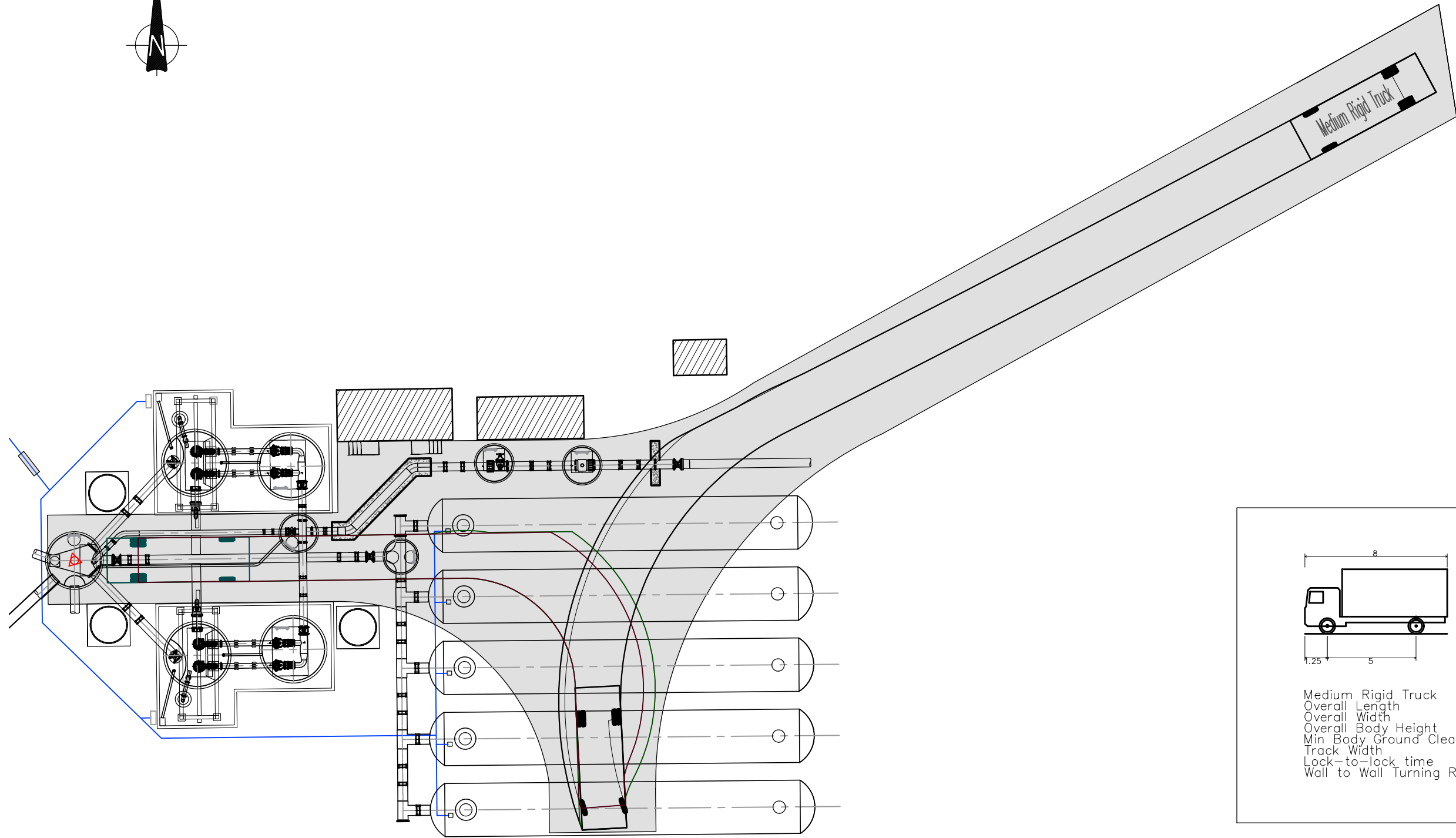
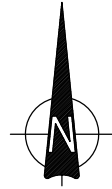
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WHENUAPAI-REDHILLS WASTEWATER SERVICING PACKAGE 1
WASTEWATER PUMP STATION (DPISH)
SITE ROADING - LARGE RIGID TRUCK VEHICLE TURNING



CAD FILE	2013646.007	DATE	14-01-2022
ORIGINAL SCALE	A3 AS SHOWN	CONTRACT No.	-
REF No.	12508391 3-AWD32	DWG No.	2013646.007
		ISSUE	1



DETAILED DESIGN
NOT FOR CONSTRUCTION

U:\Project\NZ\3A\3-AWD32.00 Whenuapai-Redhills Wastewater Servicing\Home.800 Drawings\1\CI\Civil-AutoCAD\2013646.008.dwg

ISSUE	DATE	AMENDMENT	BY	APPD.	DESIGNED	SA	11-21
1	01-22	DETAILED DESIGN ISSUE	SA	WC	DES. APPROVED	RG	11-21
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					DWG. APPROVED	WC	11-21
					WSL DESIGN MGMT.	RB	11-21
					WSL PROJ. LEAD	RB	11-21

Watercare

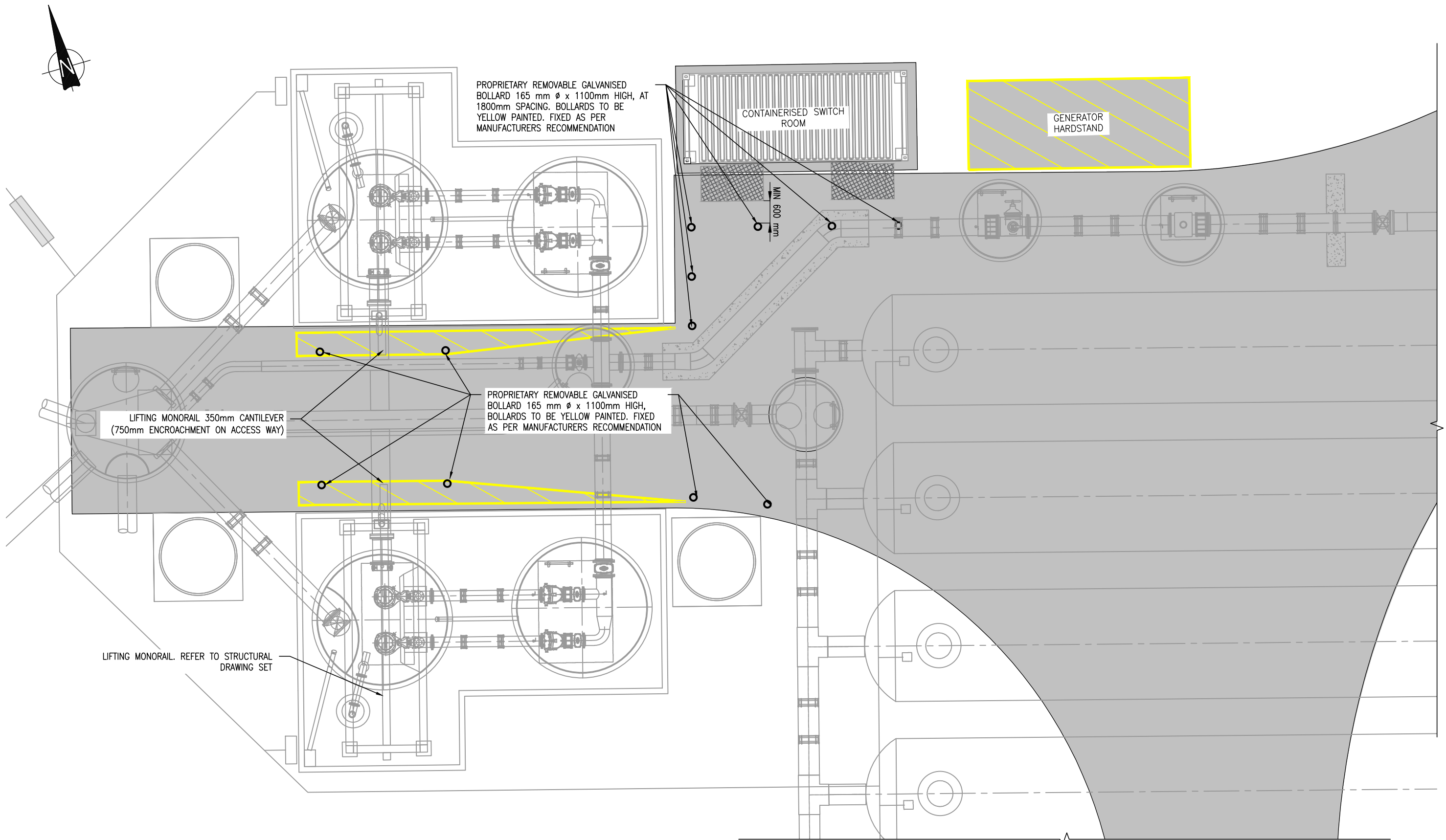
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WHENUAPAI-REDHILLS WASTEWATER SERVICING PACKAGE 1
WASTEWATER PUMP STATION (DPISH)
SITE ROADING - MEDIUM RIGID TRUCK VEHICLE TURNING



CAD FILE	2013646.008	DATE	14-01-2022
ORIGINAL SCALE	A3 AS SHOWN	CONTRACT No.	-
REF No.	12508391 3-AWD32		
DWG No.	2013646.008	ISSUE	1

NOTE:
1. REFER TO DRAWING 2013650.001 FOR PIPEWORK DETAILS



PUMP STATION ROAD MARKING AND BOLLARDS

SCALE 1:100 (A3)

1:250 0 2 4 6 8 10 12 m

DETAILED DESIGN
NOT FOR CONSTRUCTION

U:\Project\NZ\3A\3-AWD32.00 Whenuapai-Redhills Wastewater Servicing\Home.800 Drawings\1\CI\Civil-AutoCAD\2013646.009.dwg

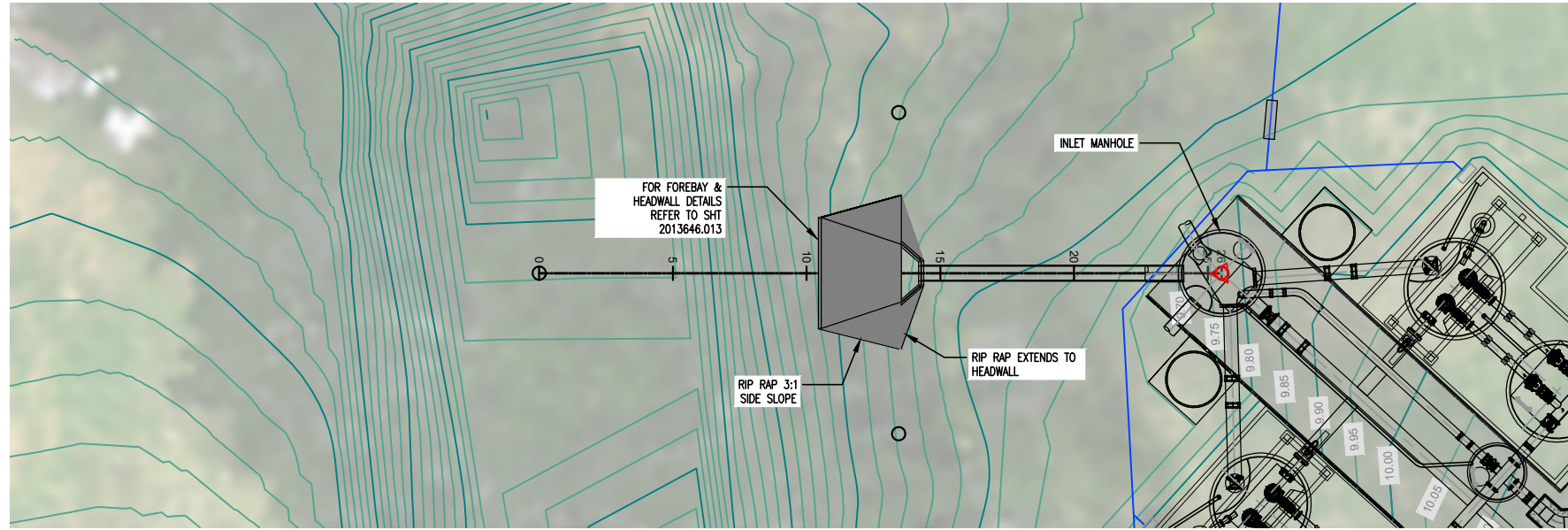
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DES. APPROVED	MG	11-21			
DRAWN	JG	11-21			
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WSL DESIGN MGMT.	RB	-			
WSL PROJ. LEAD	RB	-			
BY	DATE		BY	DATE	
1	01-22	DETAILED DESIGN ISSUE	JG	WC	
ISSUE	DATE	AMENDMENT	BY	APPD.	

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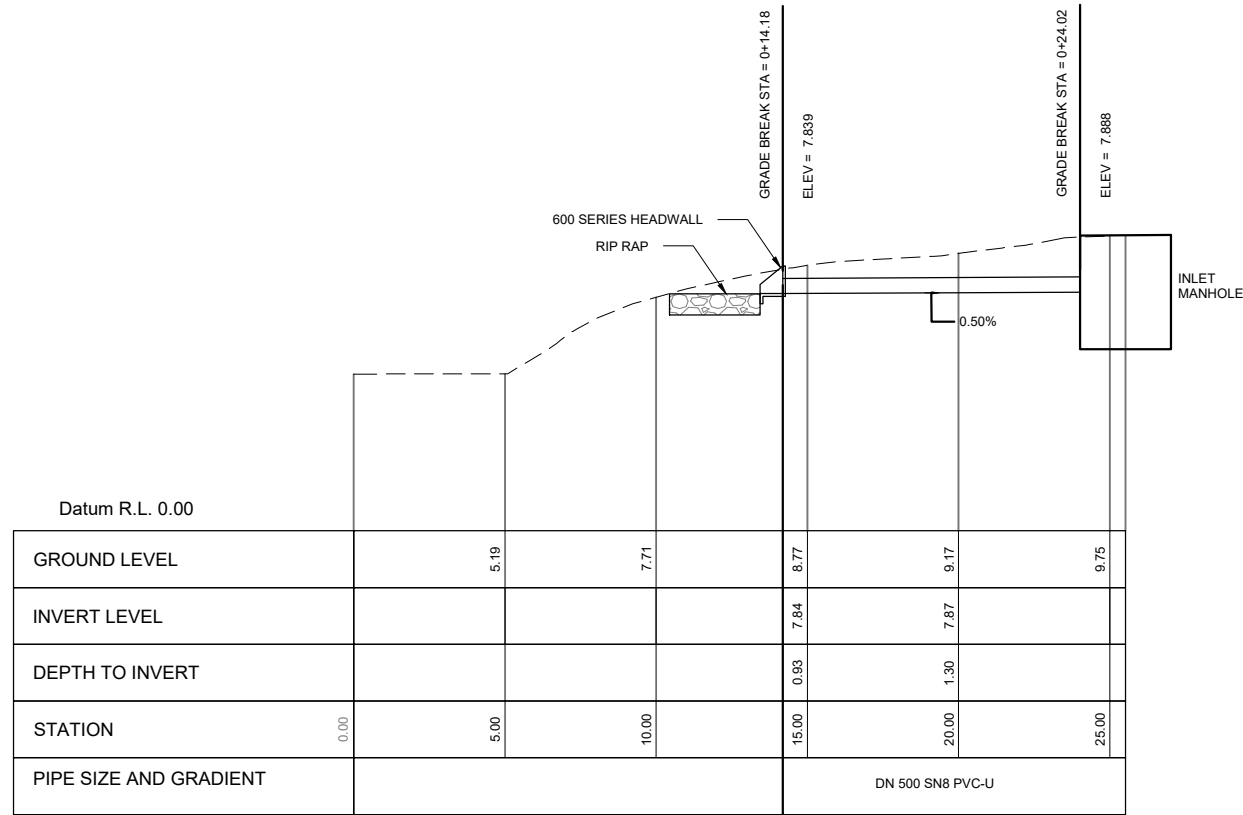
WHENUAPAI-REDHILLS WASTEWATER SERVICING PACKAGE 1
WASTEWATER PUMP STATION (DPISH)
SITE ROADING - ROAD MARKING AND BOLLARDS



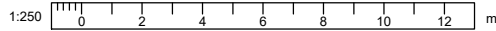
CAD FILE	2013646.006	DATE	14-01-2022
ORIGINAL SCALE	A3 AS SHOWN	CONTRACT No.	-
REF No.	12508391 3-AWD32	DWG No.	2013646.009
ISSUE	1		



PLAN
SCALE: 1:250



EMERGENCY OVERFLOW LONGITUDINAL SECTION
SCALE: 1:250



DETAILED DESIGN
NOT FOR CONSTRUCTION

ISSUE	DATE	AMENDMENT	BY	APPD.	DESIGNED	DATE
1	01-22	DETAILED DESIGN ISSUE	SA	WC	SA	11-21
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					DRAWN	11-21
					DWG. APPROVED	11-21
					WSL DESIGN MGMT.	11-21
					WSL PROJ. LEAD	11-21

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WHENUAPAI-REDHILLS WASTEWATER SERVICING PACKAGE 1
 WASTEWATER PUMP STATION (DPISH)
 EMERGENCY OVERFLOW PLAN & LONGITUDINAL SECTION

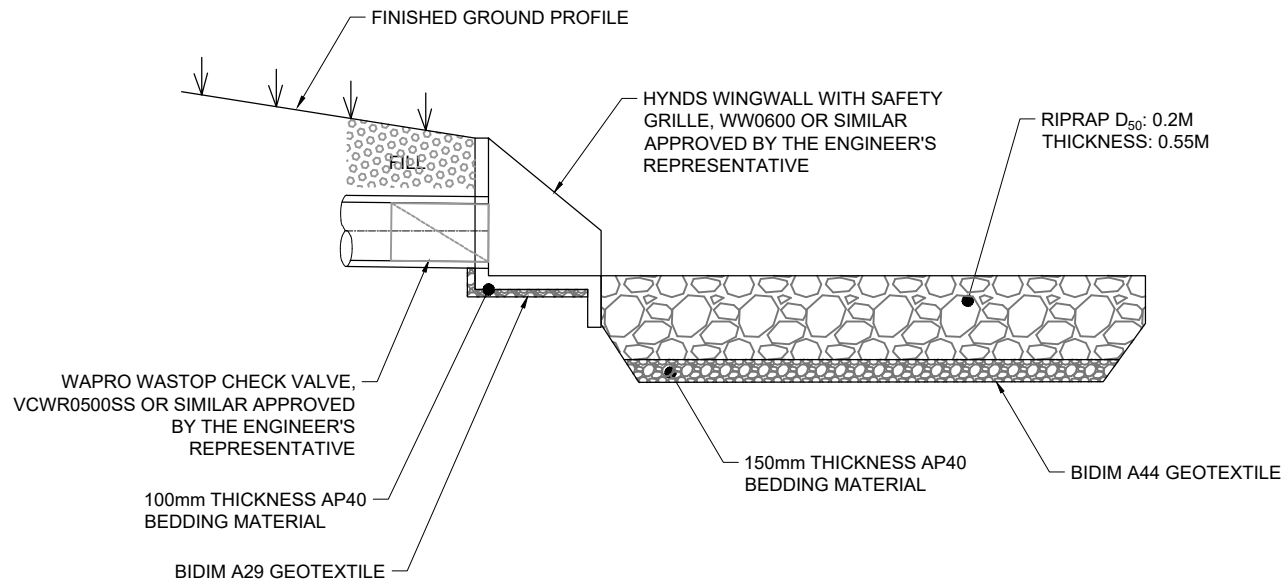


CAD FILE	2013646.012	DATE	14-01-2022
ORIGINAL SCALE	A3 AS SHOWN	CONTRACT No.	-
REF No.	12508391 3-AWD32		
DWG No.	2013646.012	ISSUE	1

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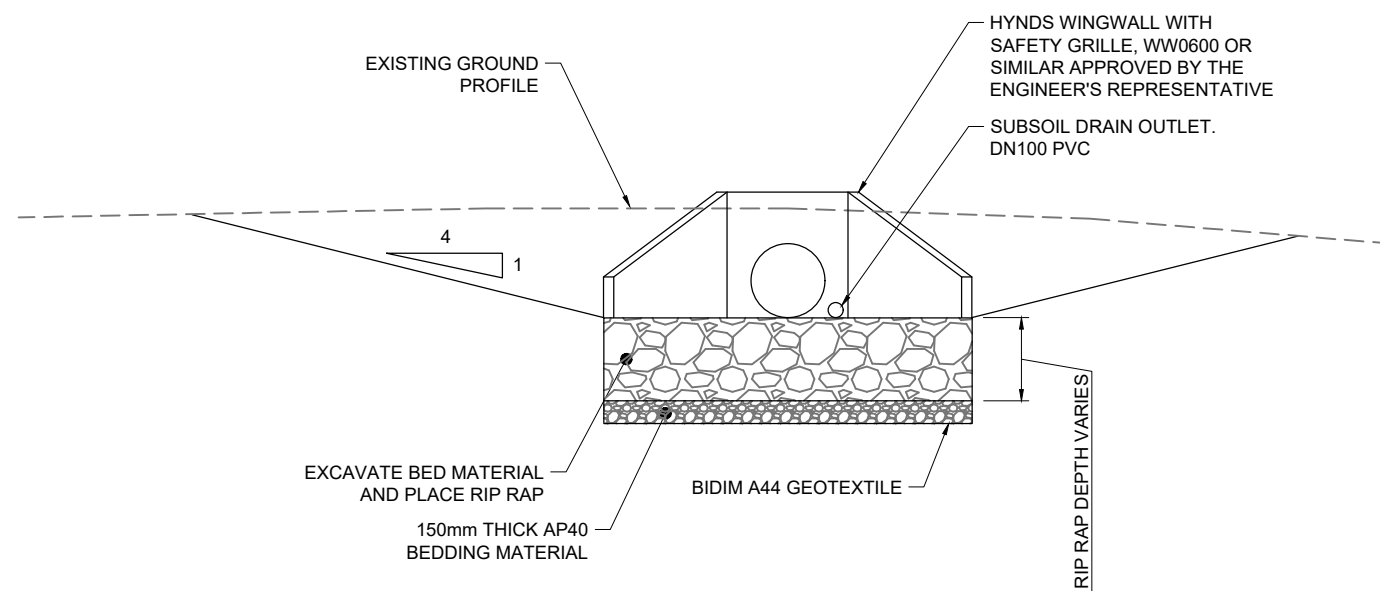
APRON NOTES:

1. RIP-RAP APRON IS TO BE PLACED FLAT LONGITUDINALLY (0% GRADE), WHEREVER POSSIBLE.
2. GEOTEXTILE MATERIAL SHOULD OVERLAP 300mm AND EXTEND 300mm BEYOND ROCK. SECURE THE FILTER CLOTH AT THE EDGES VIA SECURE PINS.
3. WINGWALL TO INCLUDE PROPRIETARY SAFETY GRILLE



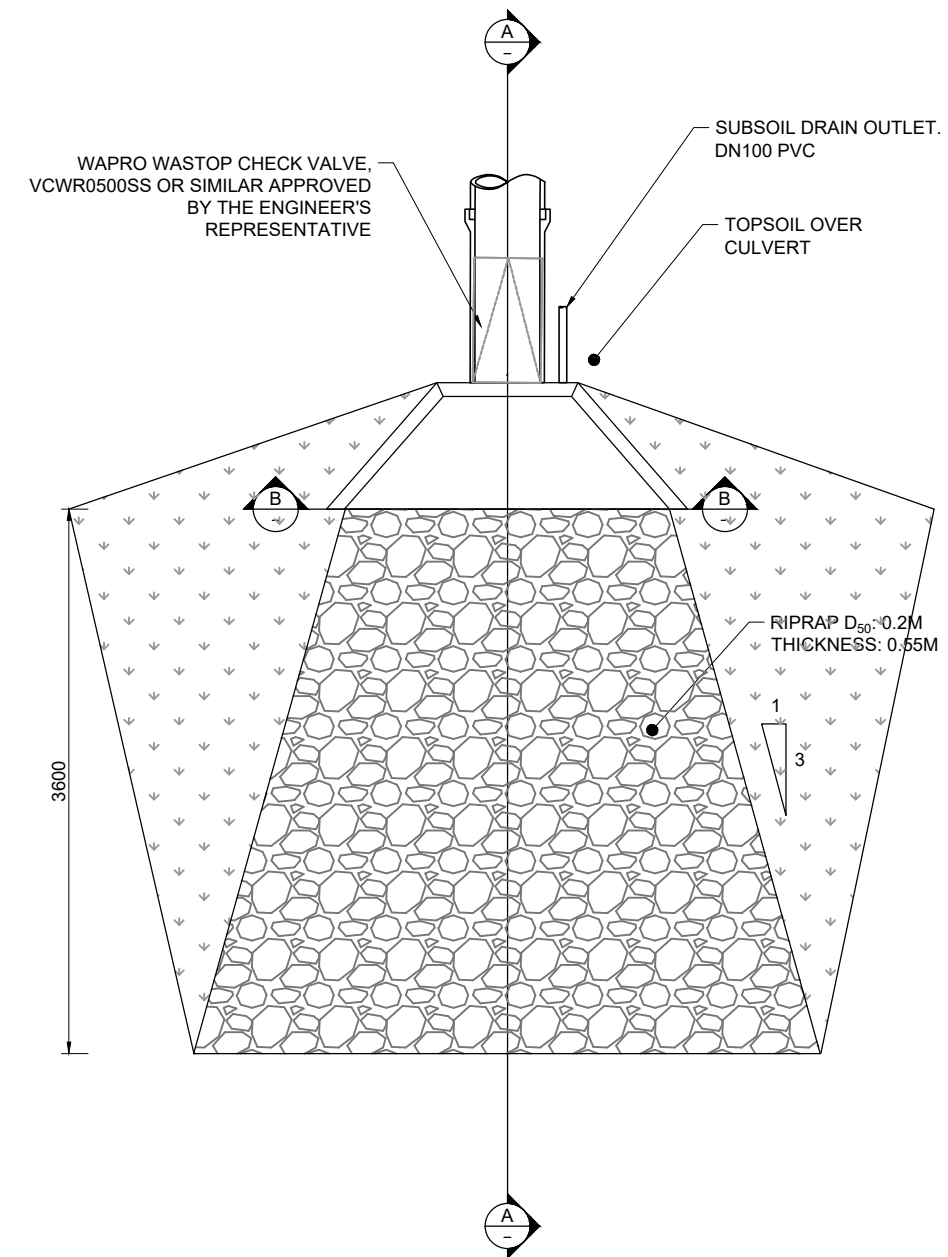
SECTION A-A - RIP-RAP APRON ENERGY DISSIPATOR

Scale: NTS



SECTION B-B - RIP-RAP APRON ENERGY DISSIPATOR

Scale: NTS



PLAN - RIP-RAP APRON ENERGY DISSIPATOR

Scale: NTS

1:25 @ A1
1:50 @ A3

DESIGNED	RG	11-21		
DES. APPROVED	MG	11-21		
DRAWN	JG	11-21		
DWG. APPROVED	RG	11-21		
WSL DESIGN MGMT.	RB			
WSL PROJ. LEAD	RB			
ISSUE	DATE	AMENDMENT	BY	APPD.
2	04-22	RE-ISSUED FOR DETAILED DESIGN	JC	MG
1	01-22	DETAILED DESIGN ISSUE	JG	RG

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WHENUAPAI-REDHILLS WASTEWATER SERVICING PACKAGE 1
WASTEWATER PUMP STATION (DPISH)
EMERGENCY OVERFLOW - OUTFALL AND RIPRAP DETAIL

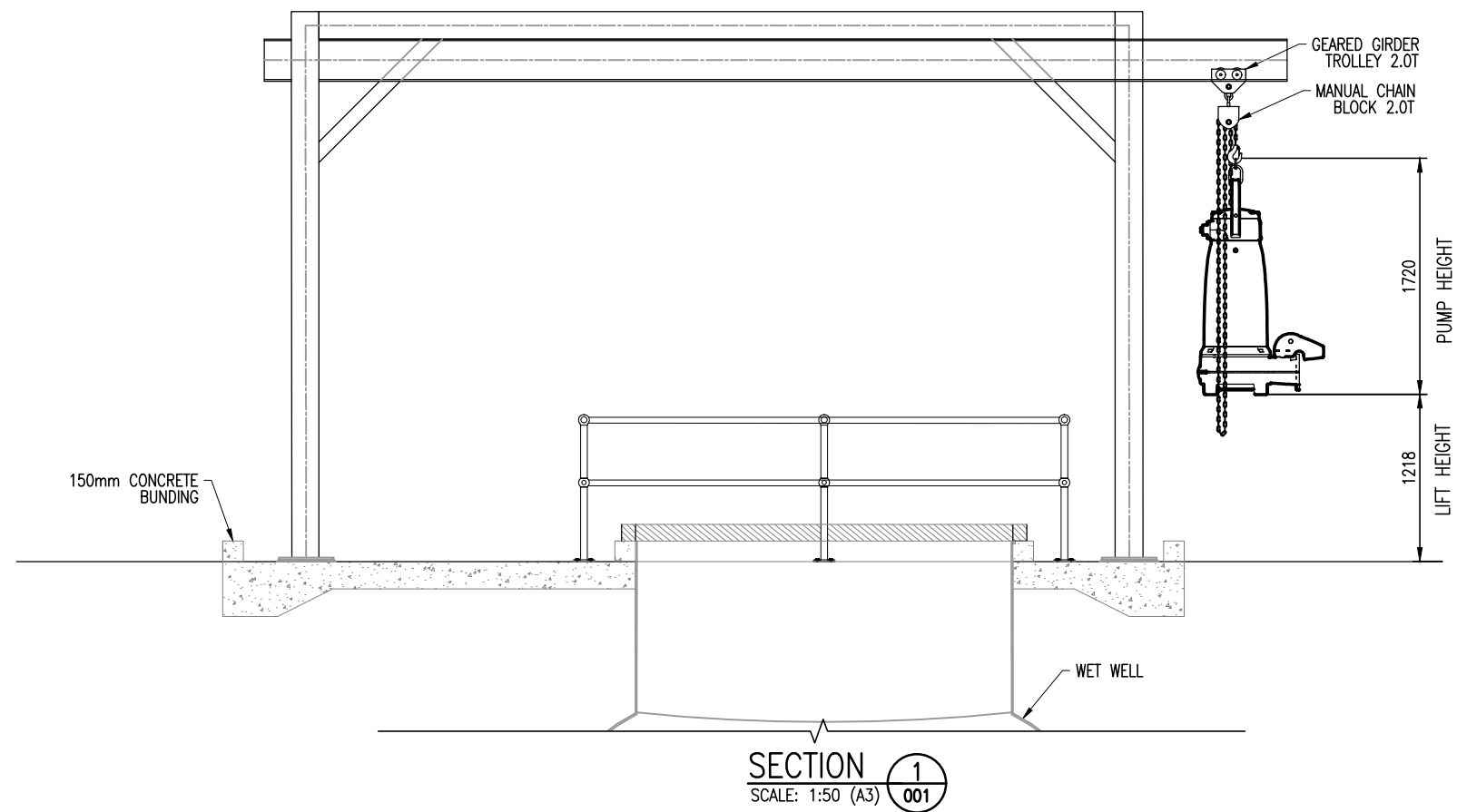
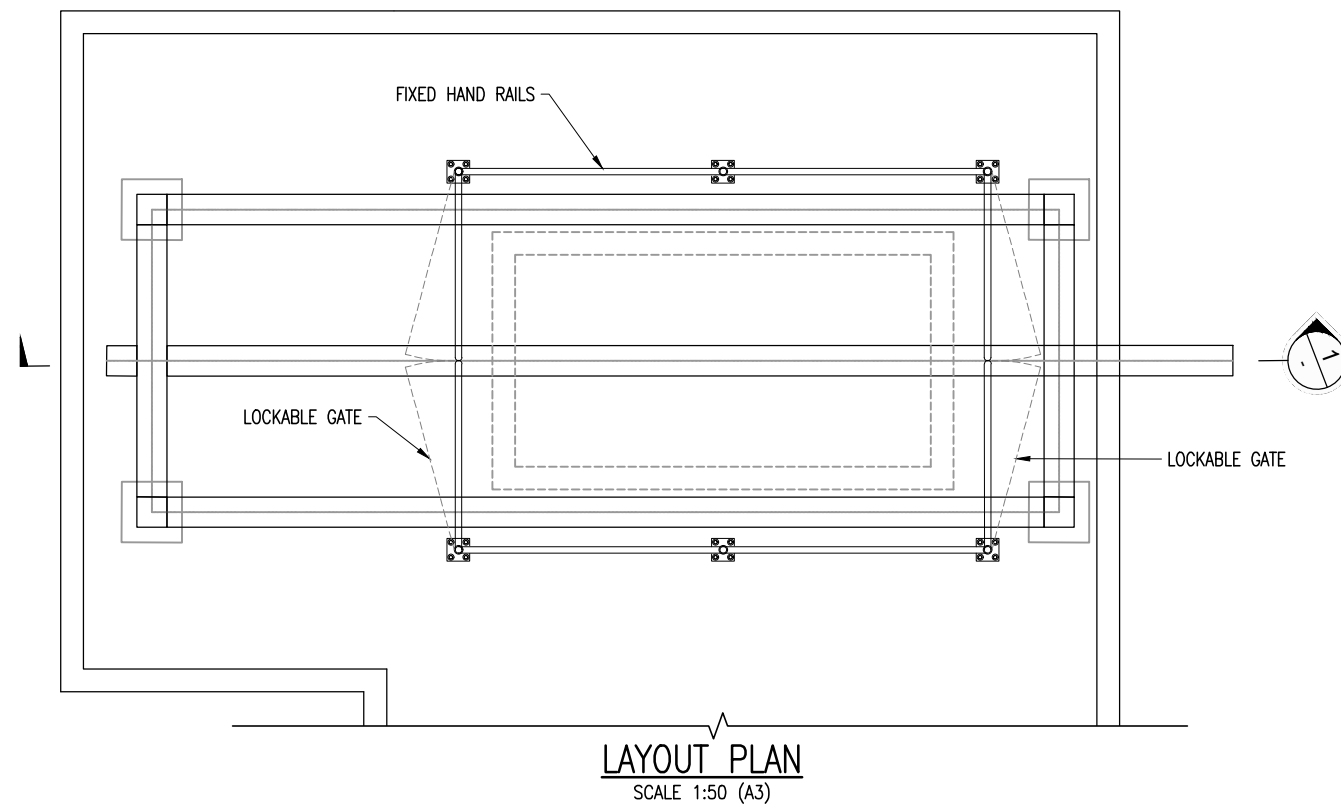


CAD FILE	2013646.013	DATE	08-04-2022
ORIGINAL SCALE	A3 AS SHOWN	CONTRACT No.	-
REF No.	12508391 3-AWD32	DWG No.	2013646.013
ISSUE	2		

DETAILED DESIGN
NOT FOR CONSTRUCTION

U:\Project\NZ\3A\3-AWD32-00 Whenuapai-Redhills Wastewater Servicing Home\800 Drawings\1\Civil\A-InfoCAD\2013646.013.dwg

NOTE:
1. REFER TO STRUCTURAL DRAWINGS FOR GANTRY DIMENSIONS



DETAILED DESIGN
NOT FOR CONSTRUCTION

U:\Project\NZ13\A3-3-AWD32-00 Whenuapai-Redhills Wastewater Servicing\Home\800 Drawings\Civil-AutoCAD\2013646.014.dwg

Plot Date: Jan 13, 2022 - 1:10pm

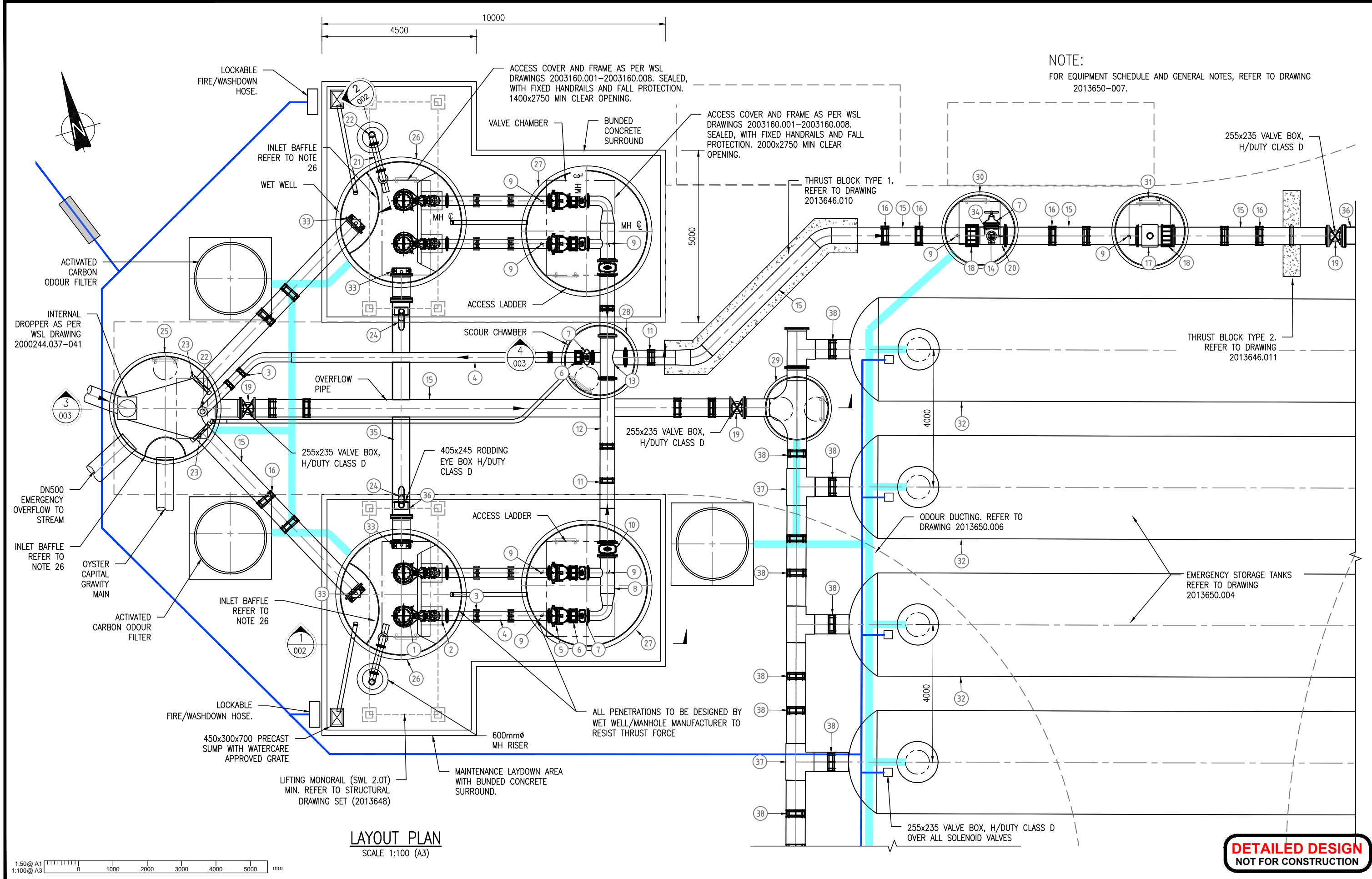
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DES. APPROVED	MG	11-21			
DRAWN	JG	11-21			
DWG. APPROVED	MG	05-21			
WSL DESIGN MGMT.	-	-			
WSL PROJ. LEAD	-	-			
ISSUE	DATE	AMENDMENT	BY	APPD.	BY
1	01-22	DETAILED DESIGN ISSUE	JG	MG	

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WHENUAPAI-REDHILLS WASTEWATER SERVICING PACKAGE 1
WASTEWATER PUMP STATION (DPISH)
WET WELL GANTRY LIFTING PLAN

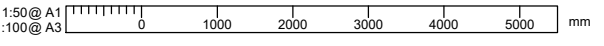


CAD FILE	201346.014	DATE	14-01-2022
ORIGINAL SCALE	A3	CONTRACT No.	6484-6934
AS SHOWN			
REF No.	12508391	3-AWD32	
DWG No.	2013646.014	ISSUE	4



NOTE:
FOR EQUIPMENT SCHEDULE AND GENERAL NOTES, REFER TO DRAWING 2013650-007.

LAYOUT PLAN
SCALE 1:100 (A3)



DETAILED DESIGN
NOT FOR CONSTRUCTION

ISSUE	DATE	AMENDMENT	BY	APPD.	DESIGNED	DES. APPROVED	DRAWN	DWG. APPROVED	WSL DESIGN MGMT.	WSL PROJ. LEAD	BY	DATE
4	01-22	DETAILED DESIGN ISSUE	JG	MG	AJ	BR	EW	EW	-	-	-	05-21
3	10-21	SAFETY IN DESIGN	SA	MK	SA	MK	EW	EW	-	-	-	05-21
2	08-21	RE-ISSUED FOR PRELIMINARY DESIGN	EVV	MK	EVV	MK	-	-	-	-	-	05-21
1	05-21	PRELIMINARY DESIGN ISSUE	AJ	BR	AJ	BR	-	-	-	-	-	-

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WHENUAPAI-REDHILLS WASTEWATER SERVICING PACKAGE 1

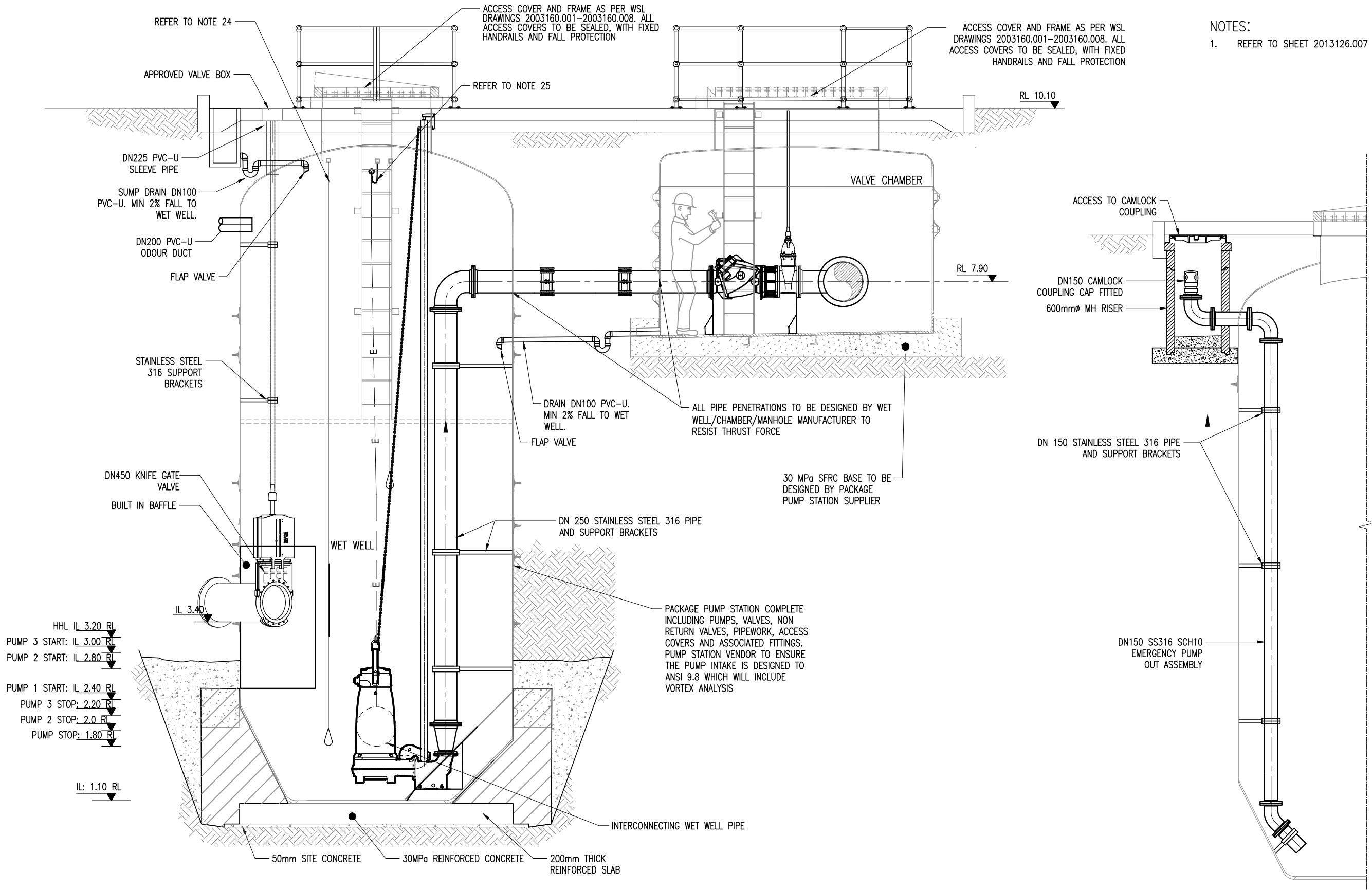
WASTEWATER PUMP STATION (DPISH)

PUMP STATION LAYOUT PLAN

CAD FILE 2013650.001	DATE 14-01-2022
ORIGINAL SCALE A3 AS SHOWN	CONTRACT No. 6484-6934
REF No. 12508391	3-AWD32
DWG No. 2013650.001	ISSUE 4

Plot Date: Jan 21, 2022, 11:52am U:\Project\NZ\3A\3-AWD32-00 Whenuapai-Redhills Wastewater Servicing\Home\800 Drawings\Civil-AurCAD\2013650.001.dwg

NOTES:
1. REFER TO SHEET 2013126.007 FOR NOTES.



SECTION 1
SCALE: 1:50 (A3) 001

SECTION 2
SCALE: 1:50 (A3) 001

DETAILED DESIGN
NOT FOR CONSTRUCTION

Plot Date: Jan 21, 2022 - 12:06pm U:\Project\NZ\3\A3-AWD32-00 Whenupai-Redhills Wastewater Servicing\Home\800 Drawings\Civil-AutoCAD\2013650.002.dwg

ISSUE	DATE	AMENDMENT	BY	APPD.	DESIGNED	DES. APPROVED	DRAWN	DWG. APPROVED	WSL DESIGN MGMT.	WSL PROJ. LEAD	BY	DATE
4	01-22	DETAILED DESIGN ISSUE	JG	MG	AJ	BR	EW	EW	-	-		05-21
3	10-21	SAFETY IN DESIGN	SA	MK	SA	MK	EW	EW	-	-		05-21
2	08-21	RE-ISSUED FOR PRELIMINARY DESIGN	EV	MK	EV	MK	-	-	-	-		05-21
1	05-21	PRELIMINARY DESIGN ISSUE	AJ	BR	AJ	BR	-	-	-	-		-

Watercare

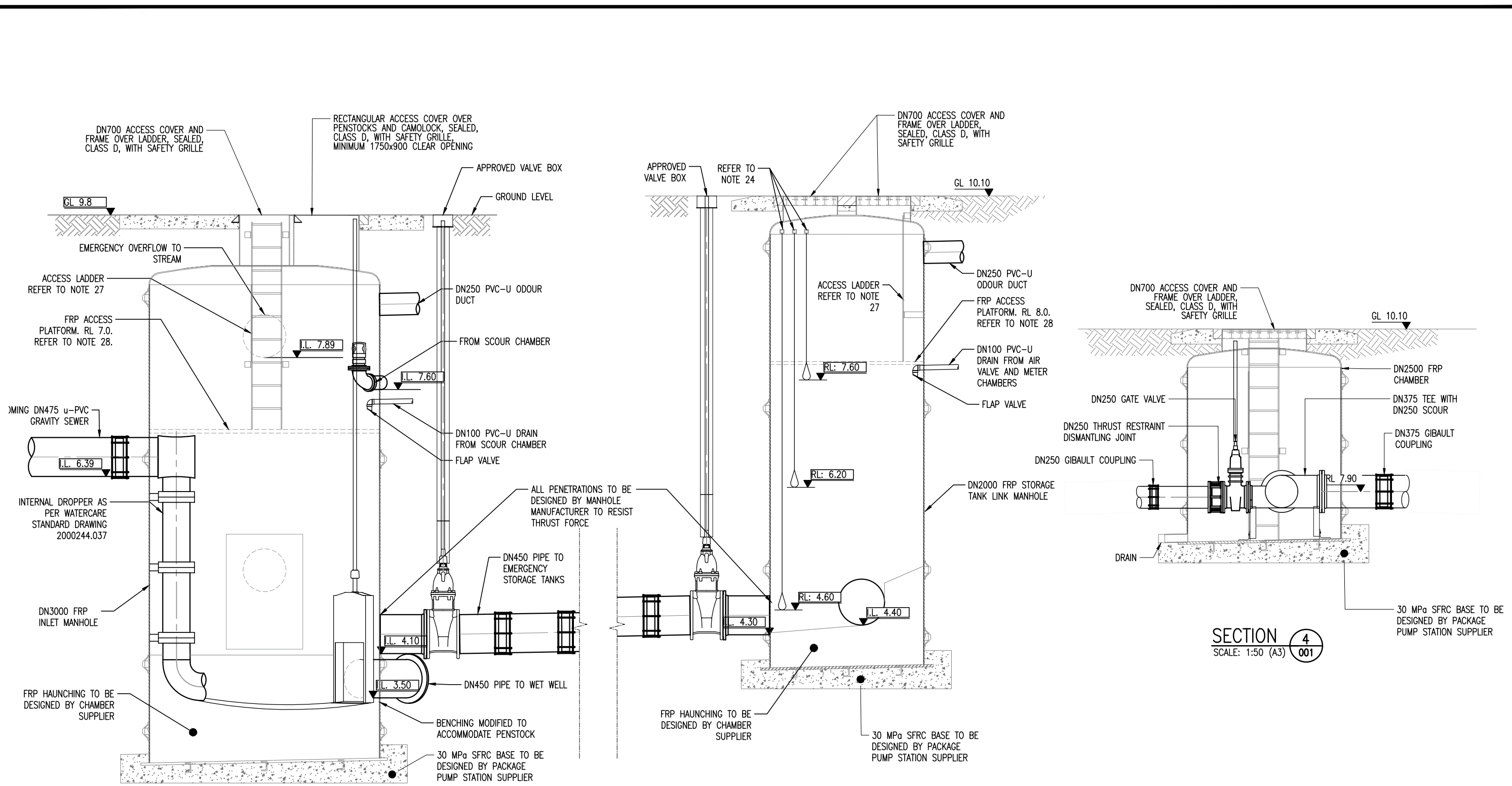
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WHENUAPAI-REDHILLS WASTEWATER SERVICING PACKAGE 1

WASTEWATER PUMP STATION (DPISH)

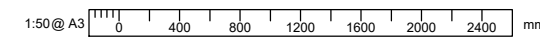
WET WELL, FLOW METER CH. - DETAILED SECTIONS

CAD FILE	2013650.002	DATE	14-01-2022
ORIGINAL SCALE	A3	CONTRACT No.	6484-6934
REF No.	12508391	3-AWD32	
DWG No.	203650.002	ISSUE	4



SECTION 3
SCALE: 1:50 (A3) 001

SECTION 4
SCALE: 1:50 (A3) 001



DETAILED DESIGN
NOT FOR CONSTRUCTION

Plot Date: Jan 21, 2022 - 12:48pm U:\Project\NZ\3\3-AWD32-00 Whenuapai-Redhills Wastewater Servicing\Home\800 Drawings\Civil-AutoCAD\2013650.003.dwg

ISSUE	DATE	AMENDMENT	BY	APPD.	DESIGNED	DES. APPROVED	DRAWN	DWG. APPROVED	WLS DESIGN MGMT.	WLS PROJ. LEAD	BY	DATE
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3	10-21	SAFETY IN DESIGN	SA	MK			EW	EW	-	-		05-21
2	08-21	RE-ISSUED FOR PRELIMINARY DESIGN	EV	MK					-	-		05-21
1	05-21	PRELIMINARY DESIGN ISSUE	AJ	BR					-	-		

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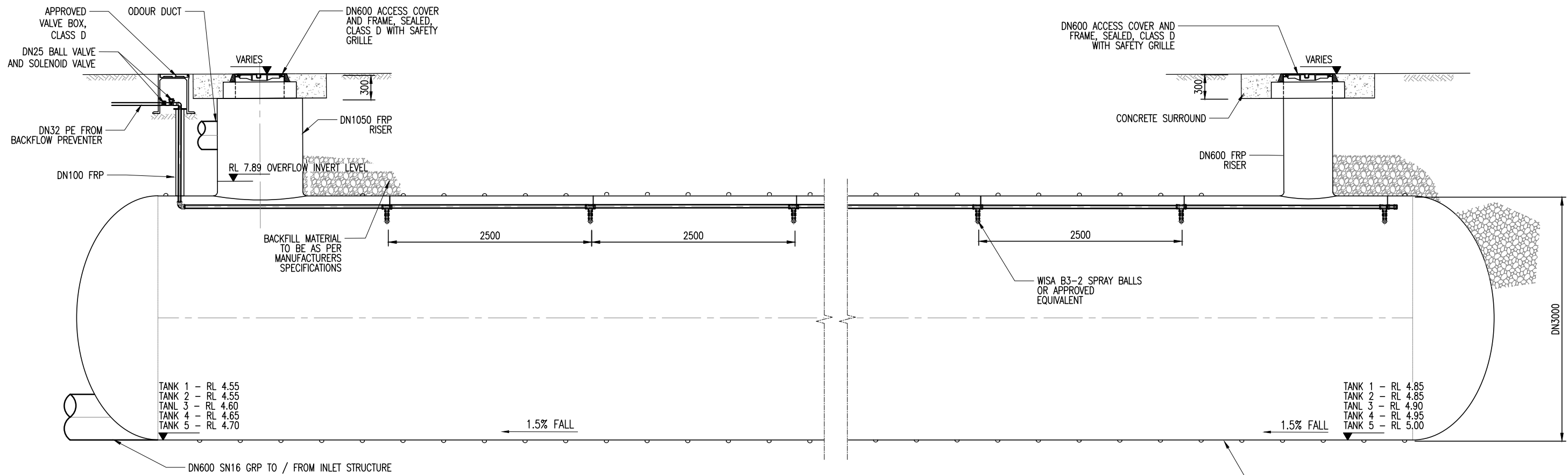
WHENUAPAI-REDHILLS WASTEWATER SERVICING PACKAGE 1

WASTEWATER PUMP STATION (DPISH)

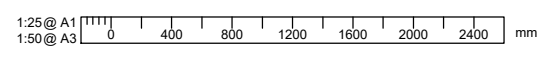
INLET MANHOLE - SECTION DETAILS

CAD FILE	2013650.003	DATE	14-01-2022
ORIGINAL SCALE	A3 AS SHOWN	CONTRACT No.	6484-6934
REF No.	12508391	3-AWD32	
DWG No.	2013650.003	ISSUE	4

U:\Project\NZ13\3-AWD32-00 Whenuapai-Redhills Wastewater Servicing\Home\800 Drawings\Civil\AutoCAD\2013650.004.dwg



STORAGE TANK TYPICAL SECTION
SCALE 1:50 (A3)



DETAILED DESIGN
NOT FOR CONSTRUCTION

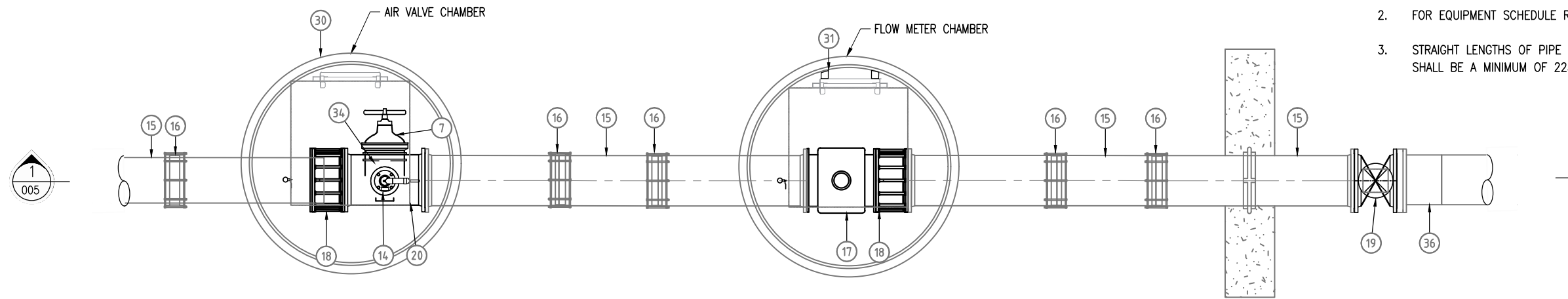
ISSUE	DATE	AMENDMENT	BY	APPD.	BY	DATE
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3	10-21	SAFETY IN DESIGN	SA	MK	EW	05-21
2	08-21	RE-ISSUED FOR PRELIMINARY DESIGN	EVV	MK	-	-
1	05-21	PRELIMINARY DESIGN ISSUE	AJ	BR	-	-

	WHENUAPAI-REDHILLS WASTEWATER SERVICING PACKAGE 1		CAD FILE 2013650.004 ORIGINAL SCALE A3 AS SHOWN	DATE 14-01-2022 CONTRACT No. 6484-6934
	WASTEWATER PUMP STATION (DPISH)		REF No. 12508391 3-AWD32	ISSUE 4
22m STORAGE TANK - SECTION DETAILS			DWG No. 2013650.004	

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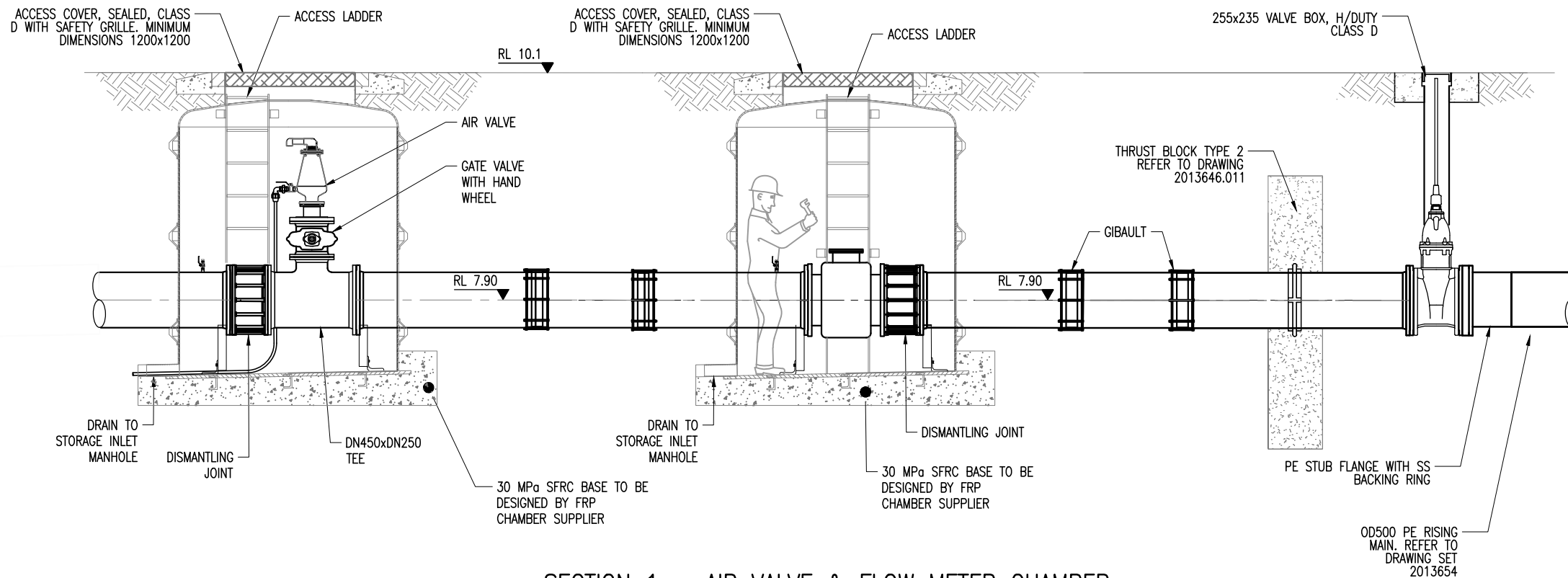
NOTES:

1. FOR GENERAL NOTES REFER TO DRAWING 2013650-002
2. FOR EQUIPMENT SCHEDULE REFER TO DRAWING 2013650-007.
3. STRAIGHT LENGTHS OF PIPE BEFORE AND AFTER FLOW METER SHALL BE A MINIMUM OF 2250mm AND 950mm RESPECTIVELY



PLAN – AIR VALVE & FLOW METER CHAMBER

SCALE 1:50 (A3)

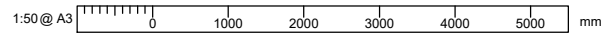


SECTION 1 – AIR VALVE & FLOW METER CHAMBER

SCALE 1:50 (A3)

DETAILED DESIGN
NOT FOR CONSTRUCTION

U:\Project\NZ\3A\3-AWD32.00 Whenuapai-Redhills Wastewater Servicing\Home.800 Drawings\1\CI\Civil-AutoCAD\2013650.005.dwg



DESIGNED	JG	03-21		
DES. APPROVED	MG	03-21		
DRAWN	SA	11-21		
DWG. APPROVED	JG	03-21		
WSL DESIGN MGMT.	-	-		
WSL PROJ. LEAD	-	-		
ISSUE	DATE	AMENDMENT	BY	APPD.
1	01-22	DETAILED DESIGN ISSUE	SA	MG

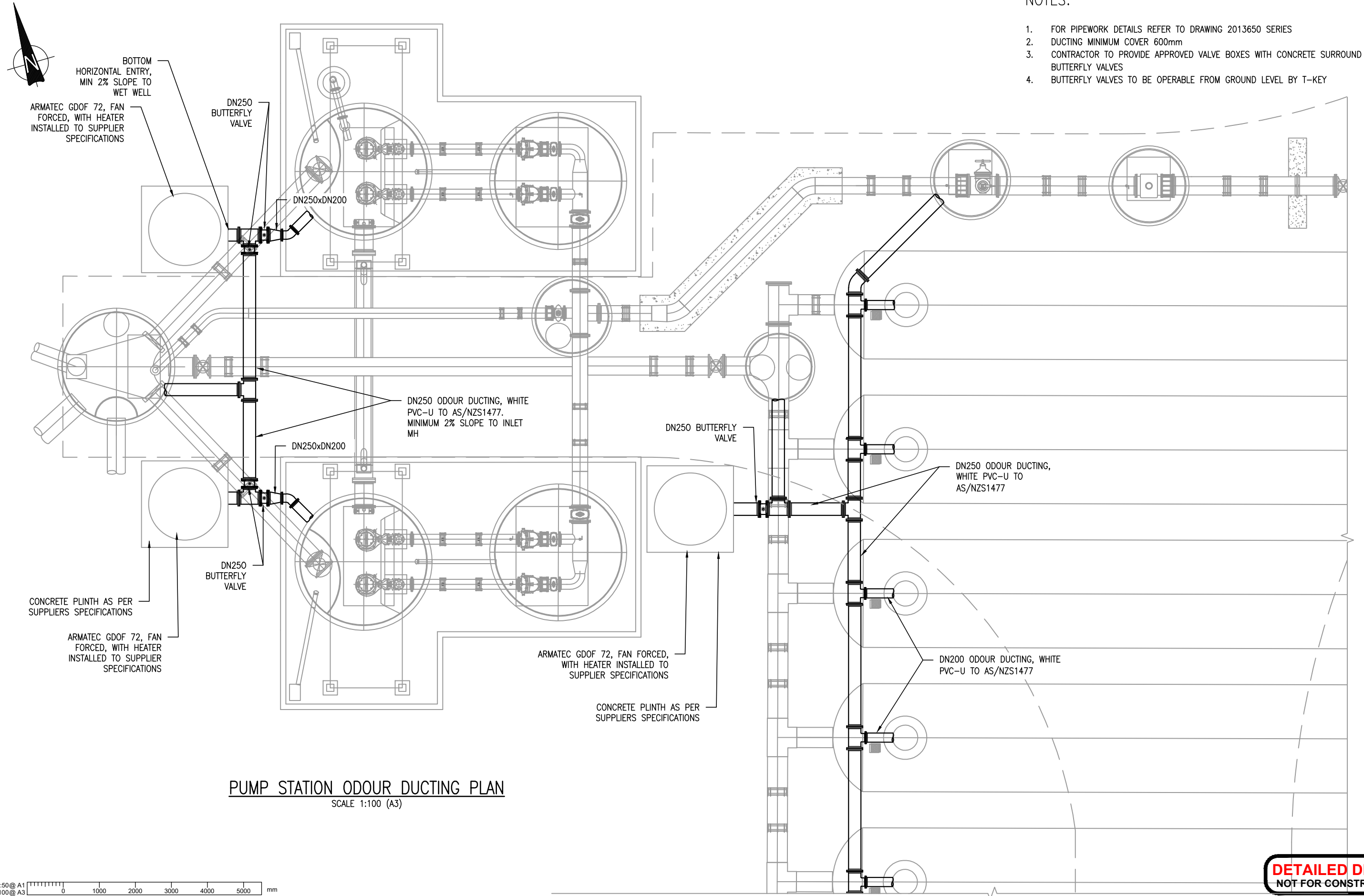
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WHENUAPAI-REDHILLS WASTEWATER SERVICING PACKAGE 1
WASTEWATER PUMP STATION (DPISH)
AIR VALVE & FLOW METER CHAMBER – SECTION AND DETAILS

CAD FILE	2013650.005	DATE	14-01-2022
ORIGINAL SCALE	A3 AS SHOWN	CONTRACT No.	-
REF No.	12508391 3-AWD32		
DWG No.	2013650.005	ISSUE	1

NOTES:

1. FOR PIPEWORK DETAILS REFER TO DRAWING 2013650 SERIES
2. DUCTING MINIMUM COVER 600mm
3. CONTRACTOR TO PROVIDE APPROVED VALVE BOXES WITH CONCRETE SURROUND FOR ALL BUTTERFLY VALVES
4. BUTTERFLY VALVES TO BE OPERABLE FROM GROUND LEVEL BY T-KEY



PUMP STATION ODOUR DUCTING PLAN
SCALE 1:100 (A3)

DETAILED DESIGN
NOT FOR CONSTRUCTION

U:\Project\NZ13\13-AWD32-00 Whenuapai-Redhills Wastewater Servicing\Home\800 Drawings\Civil-AutoCAD\2013650.006.dwg Plot Date: Jan 13, 2022 - 4:58pm

ISSUE	DATE	AMENDMENT	BY	APPD.	BY	DATE
1	01-22	DETAILED DESIGN ISSUE	JG	MG		

DESIGNED	JG	11-21
DES. APPROVED	MG	11-21
DRAWN	JG	11-21
DWG. APPROVED	MG	11-21
WSL DESIGN MGMT.	RB	-
WSL PROJ. LEAD	RB	-

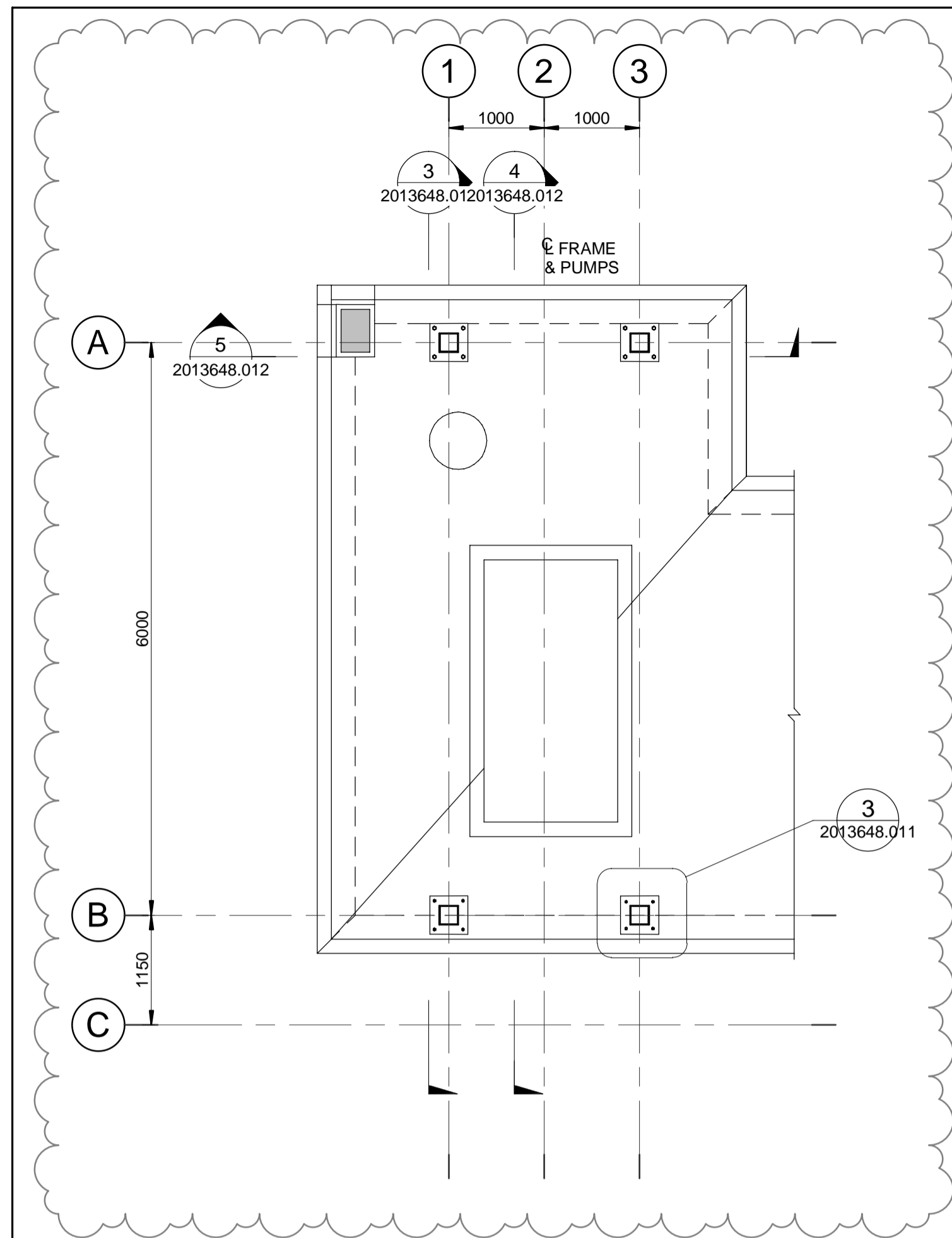


WHENUAPAI-REDHILLS WASTEWATER SERVICING PACKAGE 1
WASTEWATER PUMP STATION (DPISH)
PUMP STATION ODOUR DUCTING PLAN

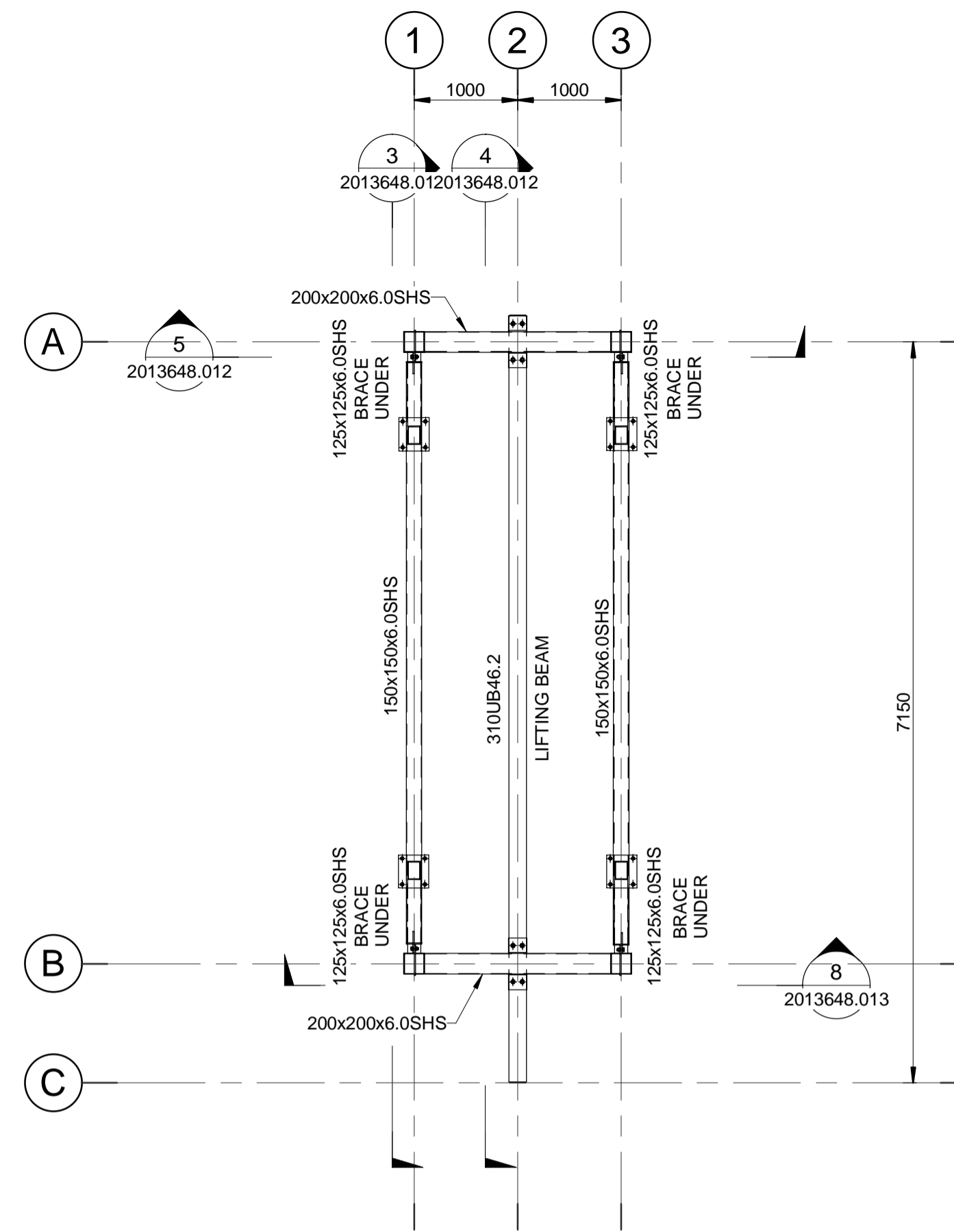


CAD FILE	2013650.006	DATE	14-01-2022
ORIGINAL SCALE	A3 AS SHOWN	CONTRACT No.	6484-6934
REF No.	12508391	3-AWD32	
DWG No.	2013650.006	ISSUE	1

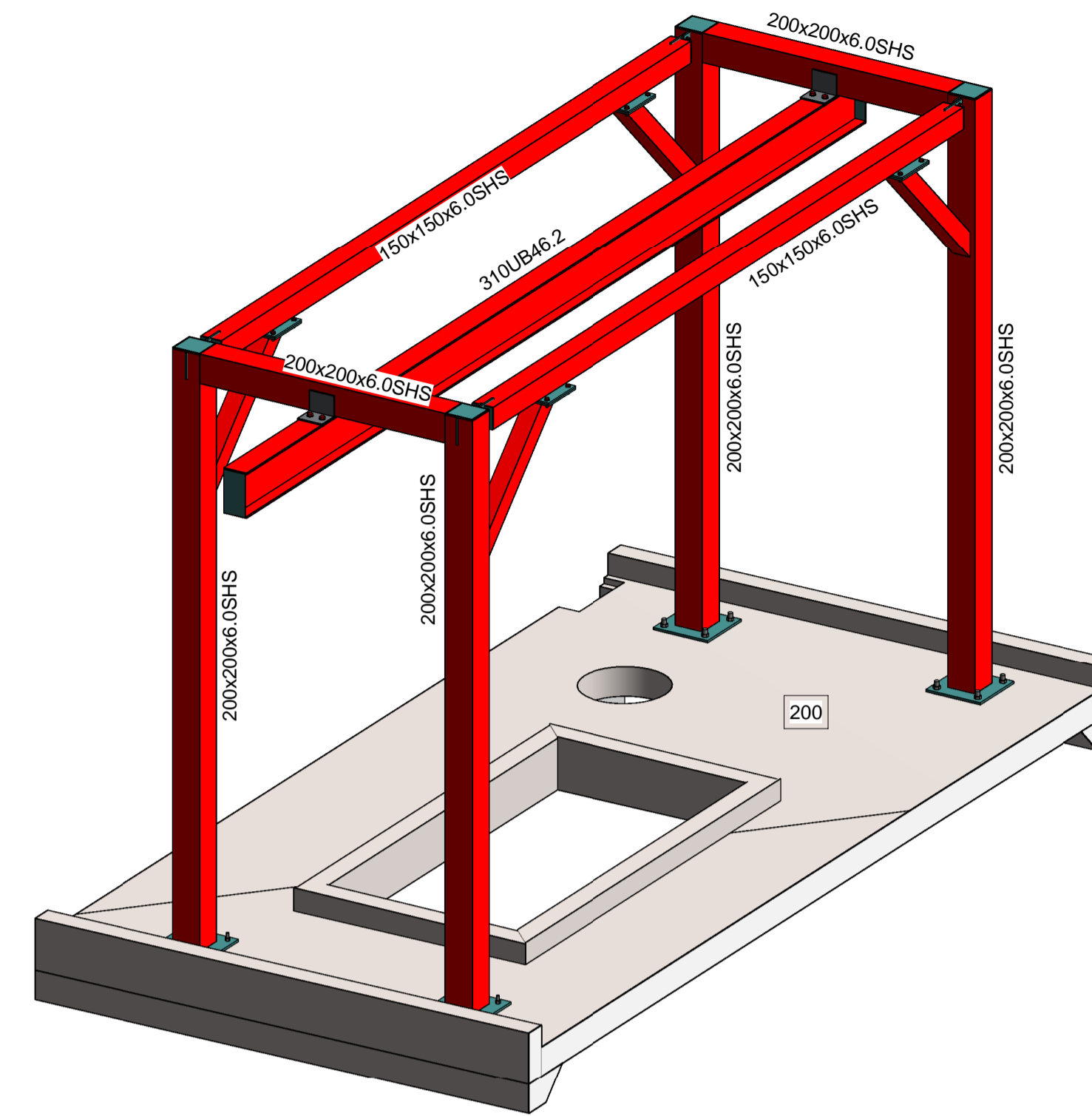
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PLAN ON GANTRY BASEPLATE LEVEL
SCALE 1 : 50



PLAN ON GANTRY LIFTING BEAM LEVEL
SCALE 1 : 50



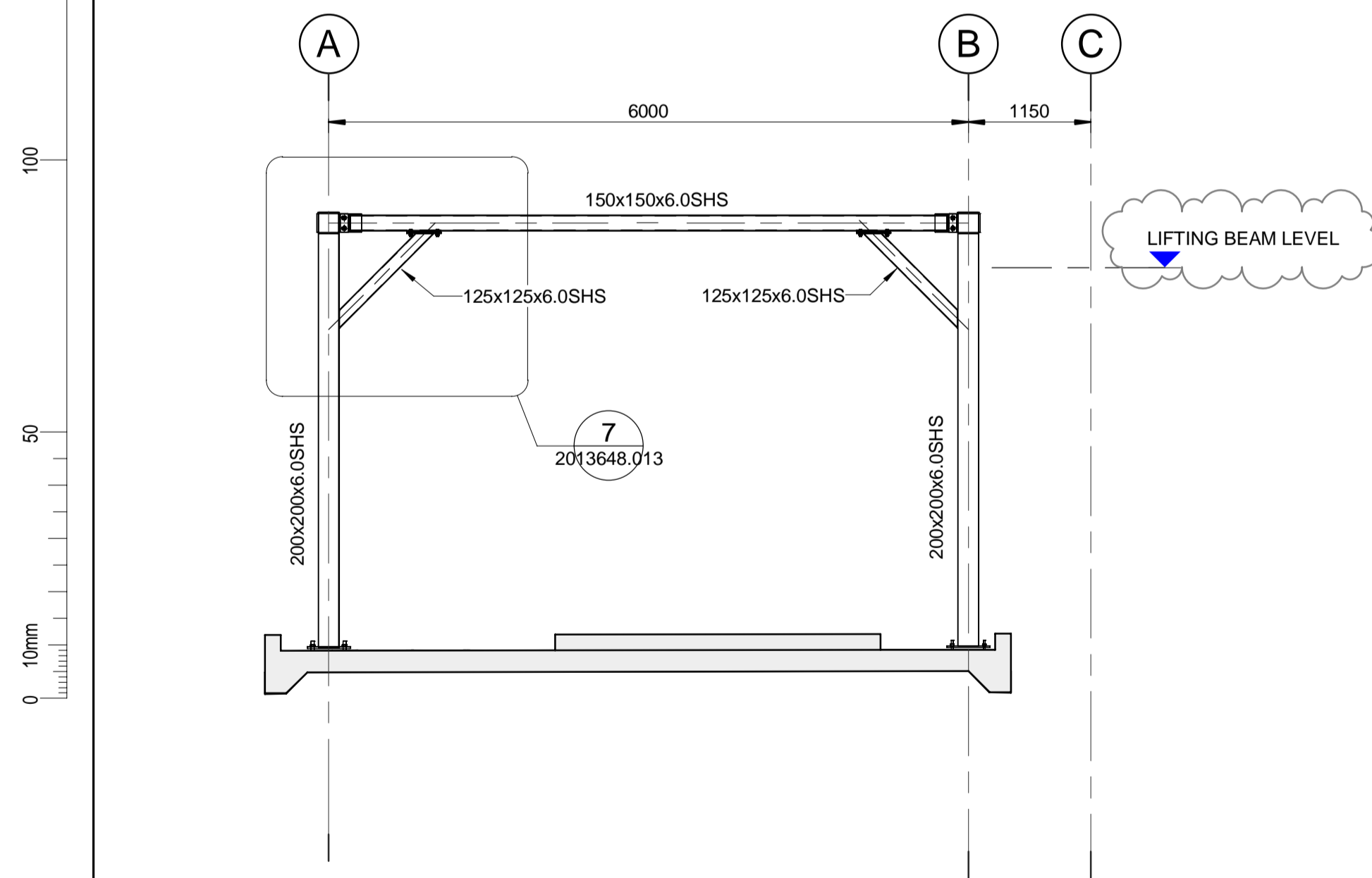
3D VIEW OF GANTRY FRAME
SCALE

NOTES:

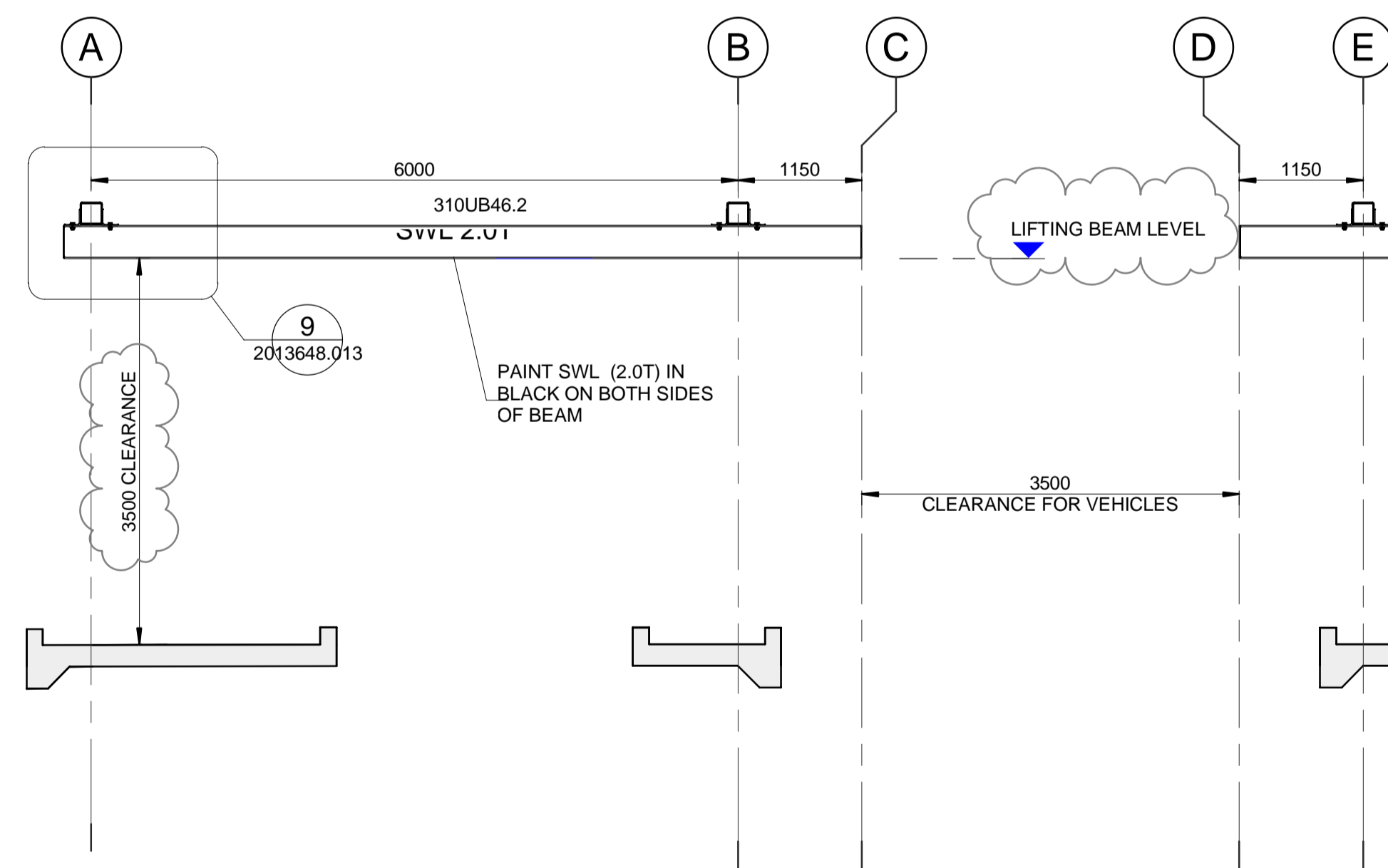
- ALL DWGS TO BE READ IN CONJUNCTION WITH THE WSP STRUCTURAL SPECIFICATION.
- EXISTING STRUCTURE IS SHOWN INDICATIVELY ONLY. VERIFY DIMENSIONS & CONFIGURATION OF EXISTING STRUCTURE ON SITE BEFORE COMMENCING ANY WORKS & NOTIFY ENGINEER IF ANY DIFFERENCES TO WHAT IS INDICATED ON THE DWGS ARE ENCOUNTERED.
- EXISTING SERVICES NOT SHOWN. VERIFY LOCATION OF ALL EXISTING SERVICES ON SITE BEFORE COMMENCING ANY WORKS.
- REFER TO CIVILS DWGS FOR ALL SET OUT DIMENSIONS, LEVELS, FALLS, SLAB SET DOWNS, REBATES, EDGE DETAILS & EQUIPMENT.
- ANY SERVICES PENETRATIONS & FIXTURES SHOWN ARE SHOWN INDICATIVELY ONLY. REFER SERVICES DWGS FOR LOCATION & SIZE OF SERVICES. SERVICES PENETRATIONS & SERVICES FIXTURES U.N.O.
- ALL EXTERNALLY EXPOSED STEELWORK INCLUDING FIXINGS TO BE HOT DIP GALVANIZED U.N.O.

LEGEND:

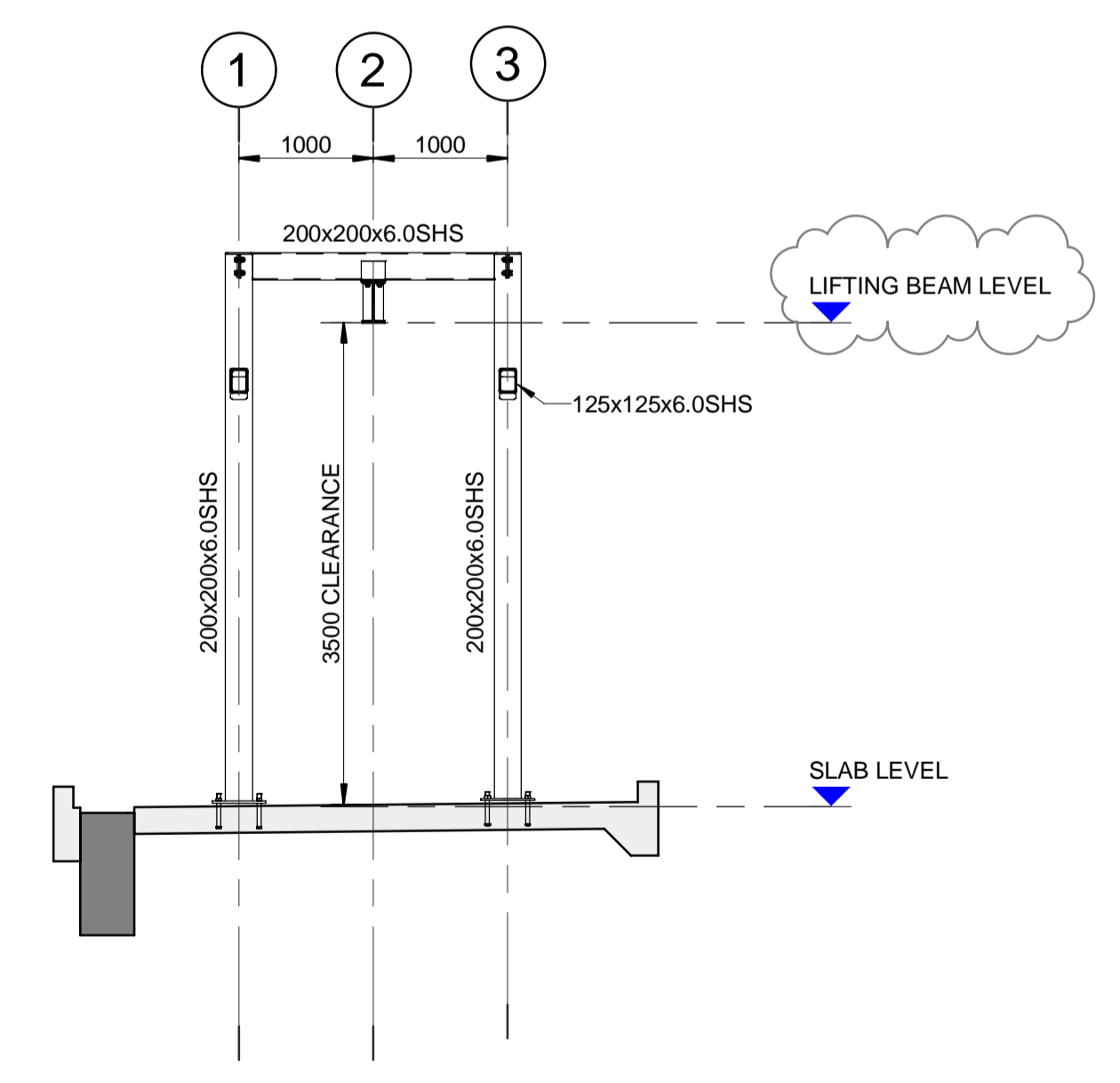
- 200 200 THK SLAB WITH SE82 TOP & BTM. ON DPC ON 25 NOM SAND BLINDING ON 150 MIN WELL COMPACTED GAP65 HARDFILL ON WELL COMPACTED SUBGRADE.
- 250 250 THK SLAB WITH SE82 TOP & BTM. ON DPC ON 25 NOM SAND BLINDING ON 150 MIN WELL COMPACTED GAP65 HARDFILL ON WELL COMPACTED SUBGRADE.



3 SECTION
2013648.010 SCALE 1 : 50



4 SECTION
2013648.010 SCALE 1 : 50



5 SECTION
2013648.010 SCALE 1 : 50

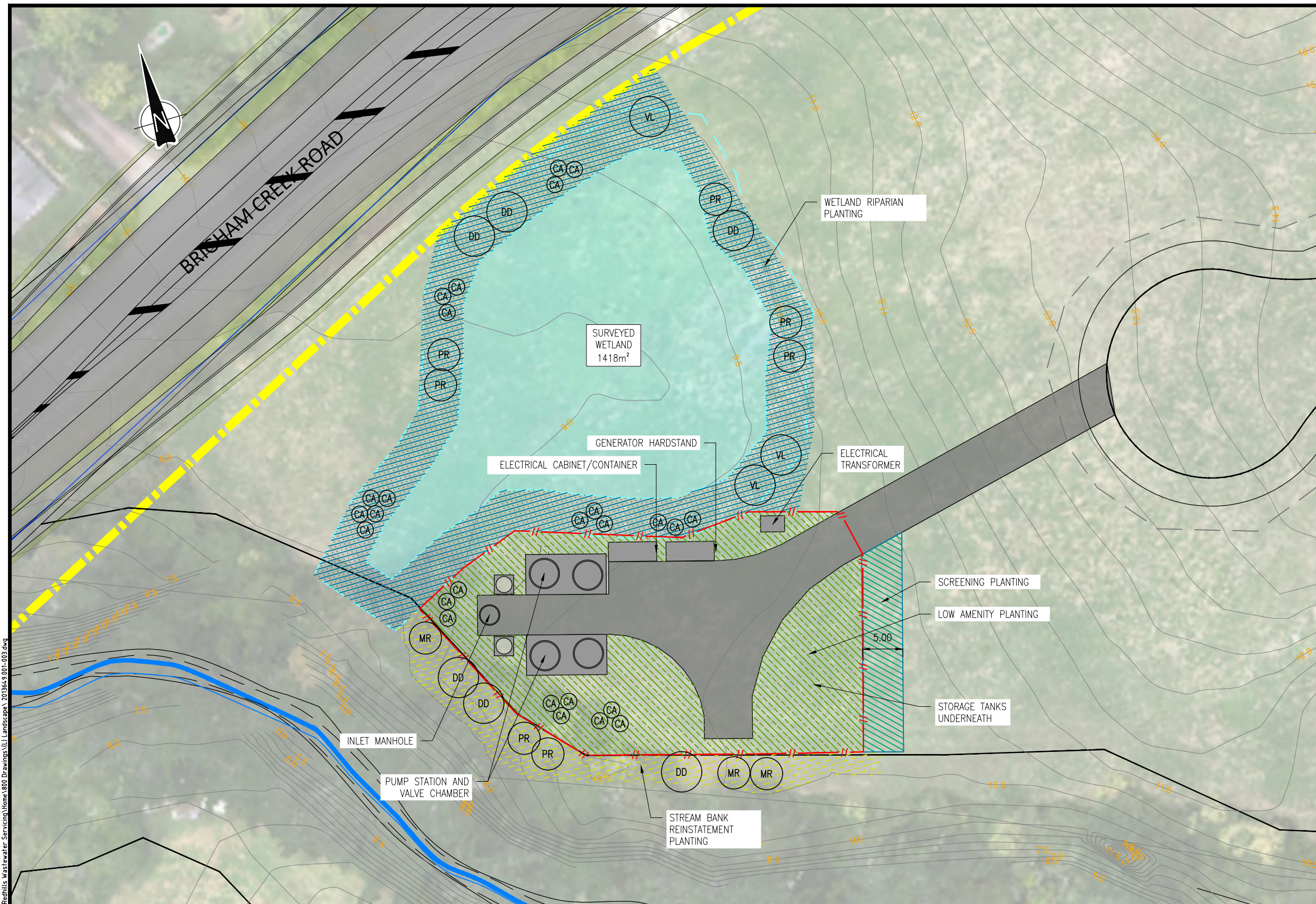
DESIGNED	P.PATEL	21/12/21
DES. APPROVED	A. SIMPSON	21/12/21
DRAWN	V.CARTER	21/12/21
DWG. APPROVED	S.JIANG	21/12/21
WSL DESIGN MGMT.		
WSL PROJ. LEAD		
ISSUE	DATE	AMENDMENT
A	01-22	DETAILED DESIGN ISSUE

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WHENUAPAI-REDHILLS WASTEWATER SERVICING PACKAGE 1
WET WELL PUMP LIFTING GANTRY



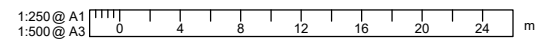
CAD FILE	2013648.012	DATE	14-01-2022
ORIGINAL SCALE	A1	CONTRACT No.	-
	As indicated @ A1		
REF. No.	2013648 3-AWD32		
DWG. No.	2013648.012	ISSUE	A



- LEGEND:**
- EXISTING LOT BOUNDARY
 - EXISTING GROUND LEVEL
 - POTENTIAL 8m SET BACK
 - SITE SECURITY FENCE
 - WETLAND BOUNDARY
 - STREAM
 - HARD STAND
 - WETLAND RIPARIAN PLANTING
 - LOW AMENITY PLANTING
 - SCREENING PLANTING
 - STREAM BANK REINSTATEMENT PLANTING

- TREES**
- CORDYLINE AUSTRALIS
 - DACRYCARPUS DACRYDIODES
 - MYRSINE AUSTRALIS
 - PLAGIANTHUS REGIUS
 - VITEX LUCENS

PLANTING PLAN
SCALE 1:500(A3)



DETAILED DESIGN
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ISSUE	DATE	AMENDMENT	BY	APPD.	BY	DATE
1	01-22	DETAILED DESIGN ISSUE	AL	CN		

DESIGNED	AL	07-21
DES. APPROVED	CN	07-21
DRAWN	AL	07-21
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WHENUAPAI-REDHILLS WASTEWATER SERVICING PACKAGE 1
WASTEWATER PUMP STATION (DPISH)
PLANTING PLAN

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CAD FILE	2013646.001-003	DATE	14-01-2022
ORIGINAL SCALE	A3 AS SHOWN	CONTRACT No.	6484-6934
REF No.	12508391 3-AWD32	DWG No.	2013649.001
		ISSUE	1

GENERAL NOTES:

THE GENERAL PHILOSOPHY FOR THE LANDSCAPE DESIGN ON THE PROJECT IS TO PROMOTE BIODIVERSITY AND ADD AMENITY VALUES THROUGH AN ENVIRONMENT SENSITIVE AND PLACE-BASED APPROACH. THE DESIGN WILL LOOK TO INCORPORATE LOW MAINTENANCE, SUSTAINABLE AND ENVIRONMENTALLY INTERVENTIONS.

THE PLANTING AREAS WITHIN THE PROJECT ARE THE IMMEDIATE SURROUNDING OF THE PUMP STATION AND WETLAND AND WILL BE DESIGNED WITH A NATIVE PLANT PALETTE.

PLANTING AREAS TO BE DEFINED AS:

- WETLAND RIPARIAN PLANTING
- PUMP STATION LOW AMENITY PLANTING
- PUMP STATION SCREENING PLANTING
- STREAM BANK REINSTATEMENT PLANTING

TREES WILL BE PLACED WITHIN PLANTING AREAS TO ADD AMENITY VALUE AND TO PROVIDE SCREENING EFFECTS AND BIODIVERSITY. THE TREES SELECTED ARE WET SOIL TOLERANT SPECIES INCLUDING CABBAGE TREE, KAHIKATEA, MAHOE, RIBBONWOOD AND PURIRI. THEY WILL BE POSITIONED TO AVOID OBSTRUCTING THE UNDERGROUND SERVICES.

PLANT SCHEDULE								
Code	Botanical Name	Common Name	Unit/ Grade	Max. Growth Size (H x W)	Plant Spacing (mm)	Percentage Mix	TOTAL (no.)	
Wetland Riparian Planting								
CAR GEM	Carex geminata	Cutty Grass	1L/PB2	1.0 x 1.0m	750	10%	180	
CAR VIR	Carex virgata	Pukio / Swamp Sedge	1L/PB2	1.0 x 1.0m	750	20%	360	
COR FUL	Cortaderia fulvida	Toetoe	1L/PB2	1.5 x 1.5m	1000	30%	300	
PHO COO	Phormium cookianum	Wharariki / Mountain Flax	1L/PB2	1.5 x 1.5m	1000	10%	100	
PHO TEN	Phormium tenax	Harakeke / NZ Flax	1L/PB2	3.0 x 2.0m	1000	30%	300	
Pump Station Low Amenity Planting								
CAR TES	Carex testacea	Grass / Sedge	2L/PB3	0.6 x 0.6m	500	20%	530	
CAR VIR	Carex virgata	Pukio / Swamp Sedge	1L/PB2	1.0 x 1.0m	500	20%	530	
COR FUL	Cortaderia fulvida	Toetoe	1L/PB2	1.5 x 1.5m	1000	10%	66	
DIA NIG	Dianella nigra	Turutu	2L/PB3	0.5 x 0.5m	500	10%	265	
PHO 'EG'	Phormium 'Emerald Gem'	Dwarf Flax	2L/PB3	0.6 x 0.6m	500	20%	530	
PHO 'JS'	Phormium 'Jack Spratt'	Ornamental Flax	2L/PB3	0.6 x 0.6m	500	20%	530	
Pump Station Screening Planting								
HEB STR	Hebe stricta	Koromiko	2L/PB3	2.5 x 1.5m	1000	25%	31	
KUN ERI	Kunzea ericoides	Kanuka	2L/PB3	10.0 x 4.0m	2000	25%	31	
LEP SCO	Leptospermum scoparium	Manuka	2L/PB3	4.0 x 3.0m	2000	25%	31	
PHO TEN	Phormium tenax	Harakeke / NZ Flax	1L/PB2	3.0 x 2.0m	1000	25%	31	
		Mahoe						
Stream Bank Reinstatement Planting								
COR FUL	Cortaderia fulvida	Toetoe	1L/PB2	1.5 x 1.5m	1000	30%	92	
PHO COO	Phormium cookianum	Wharariki / Mountain Flax	1L/PB2	1.5 x 1.5m	1000	30%	92	
PHO TEN	Phormium tenax	Harakeke / NZ Flax	1L/PB2	3.0 x 2.0m	1000	40%	122	
							Sub Total	4121

TREE SCHEDULE							
Code	Botanical Name	Common Name	Unit/ Grade	Max. Growth Size (H x W)	Plant Spacing (mm)	TOTAL	
CA	Cordyline asutralis	Cabbage Tree / Ti Kouka	PB18	10.0 x 2.0m	as shown	26	
DD	Dacrycarpus dacrydioides	Kahikatea / White Pine	PB18	30.0 x 10.0m	as shown	6	
MR	Melicytus ramiflorus	Mahoe / Whiteywood	PB18	5.0 x 4.0m	as shown	3	
PR	Plagianthus regius	Manatu / Ribbonwood	PB18	12.0 x 4.0m	as shown	7	
VL	Vitex lucens	Puriri	PB18	10.0 x 10.0m	as shown	3	
						Sub Total	45

DETAILED DESIGN
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			DESIGNED	AL	07-21
			DES. APPROVED	CN	07-21
			DRAWN	AL	07-21
			DWG. APPROVED	CN	07-21
			WSL DESIGN MGMT.	-	-
			WSL PROJ. LEAD	-	-
1	01-22	DETAILED DESIGN ISSUE		AL	CN
ISSUE	DATE	AMENDMENT	BY	APPD.	DATE

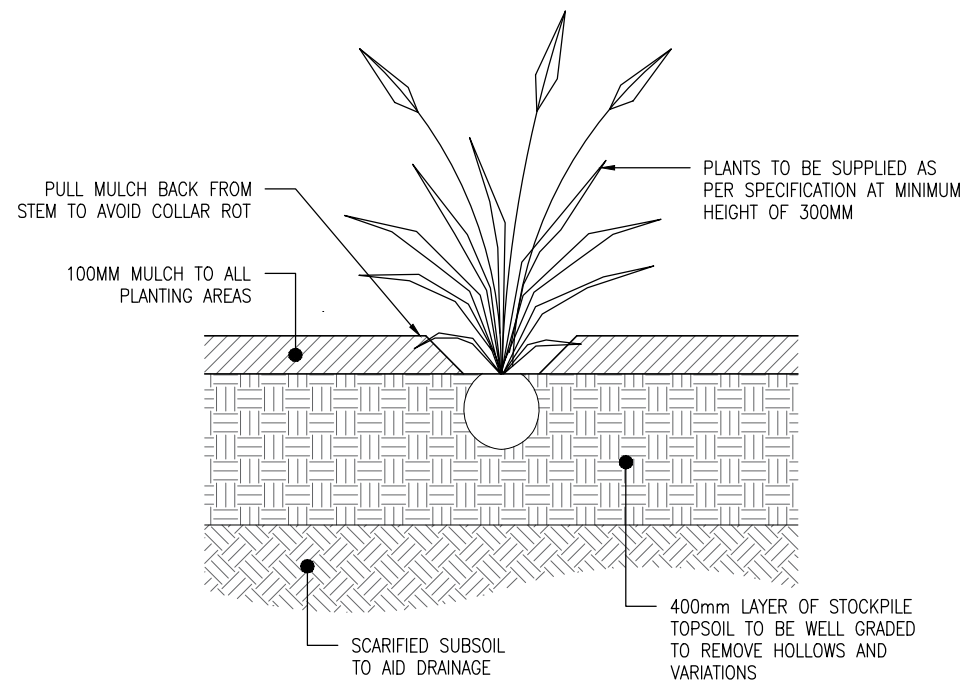


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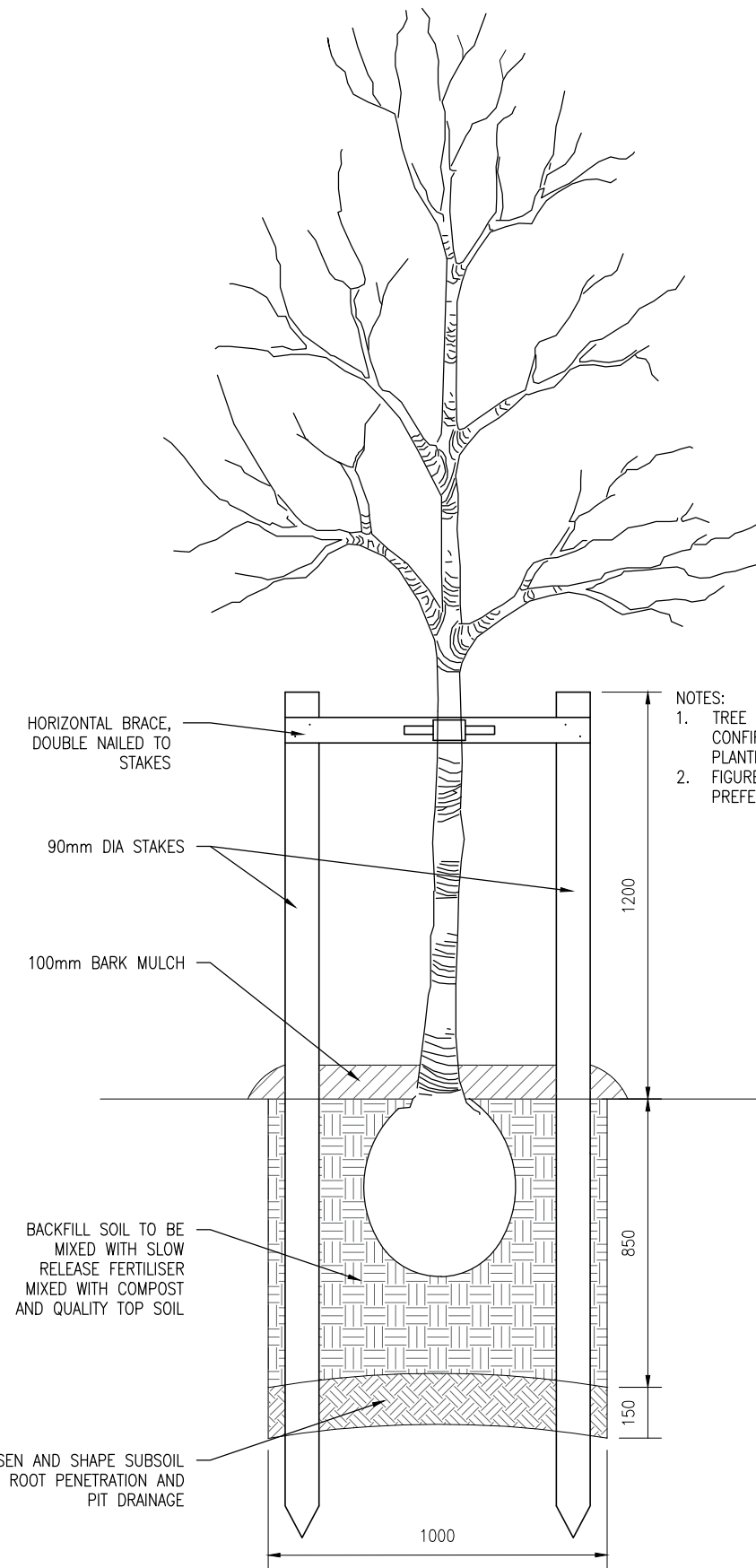
WHENUAPAI-REDHILLS WASTEWATER SERVICING PACKAGE 1
WASTEWATER PUMP STATION (DPISH)
PLANT SCHEDULE



CAD FILE	2013649.001-003	DATE	14-01-2022
ORIGINAL SCALE	A3	CONTRACT No.	6484-6934
REF No.	12508391	3-AWD32	
DWG No.	2013649.002	ISSUE	1



TYPICAL SHRUB PLANTING DETAIL
SCALE 1:20(A3)



- NOTES:
1. TREE AND PLANTING LOCATIONS TO BE CONFIRMED ON SITE ON SITE PRIOR TO PLANTING.
 2. FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DIMENSIONS.

TYPICAL TREE PLANTING DETAIL
SCALE 1:20(A3)

1:10 @ A1
1:20 @ A3
0 100 200 300 400 500 600 700 800 900 1000 mm

DETAILED DESIGN
NOT FOR CONSTRUCTION

DESIGNED	AL	07-21		
DES. APPROVED	CN	07-21		
DRAWN	AL	07-21		
DWG. APPROVED	CN	07-21		
WSL DESIGN MGMT.	-	-		
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ISSUE	DATE	AMENDMENT	BY	APPD.
1	01-22	DETAILED DESIGN ISSUE	AL	CN

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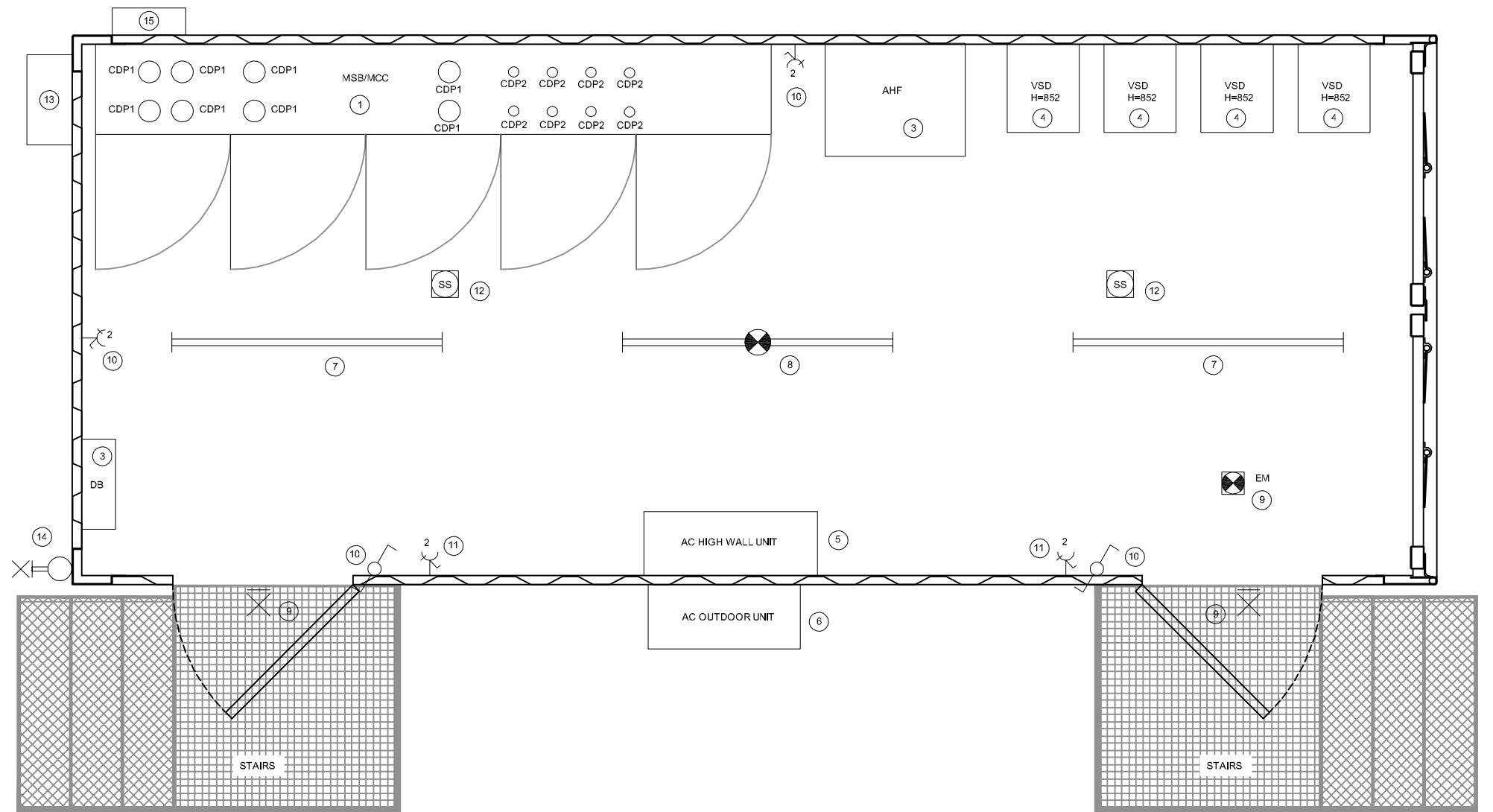
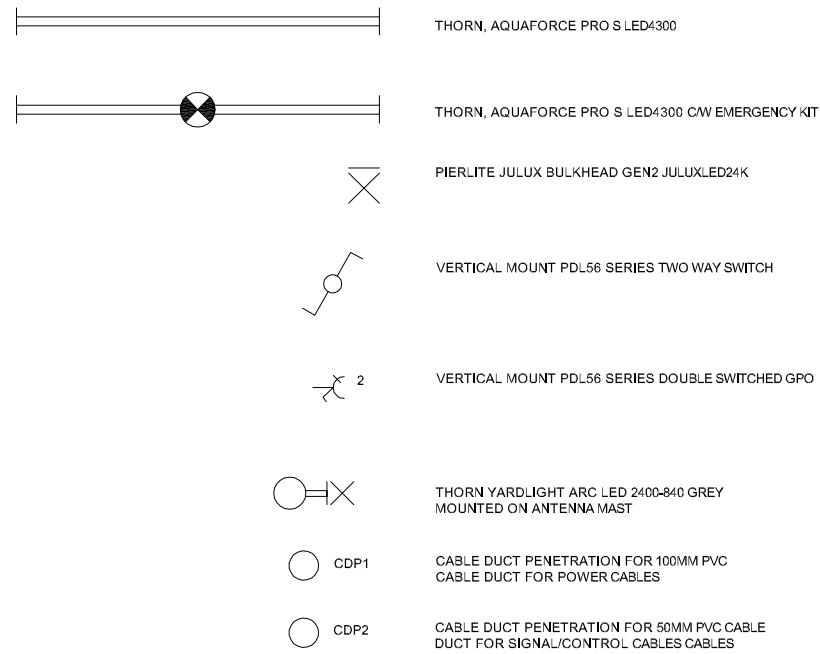
WHENUAPAI-REDHILLS WASTEWATER SERVICING PACKAGE 1
WASTEWATER PUMP STATION (DPISH)
PLANTING DETAILS



CAD FILE	2013649.001-003	DATE	14-01-22
ORIGINAL SCALE	A3 AS SHOWN	CONTRACT No.	6484-6934
REF No.	12508391 3-AWD32	DWG No.	2013649.003
ISSUE	1		

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KEY TO SYMBOLS



EQUIPMENT SCHEDULE	
ID	DESCRIPTION
1	MAIN SWITCHBOARD, DISTRIBUTION BOARD, MOTOR CONTROL CENTRE
2	DISTRIBUTION BOARD
3	ACTIVE HARMONIC FILTER
4	VARIABLE SPEED DRIVE
5	HEAT PUMP HIGH WALL INDOOR UNIT
6	HEAT PUMP GROUND MOUNTED OUTDOOR UNIT
7	SURFACE MOUNT LED BATTEN LIGHTS
8	SURFACE MOUNT LED BATTEN LIGHT WITH INTEGRAL EMERGENCY KIT
9	WALL MOUNTED EXTERIOR LED IP44 LIGHTS
10	TWO WAY LIGHT SWITCH
11	VERTICAL DOUBLE SWITCHED GENERAL PURPOSE OUTLET
12	SMOKE DETECTORS
13	GENERATOR CONNECTION TERMINAL BOX
14	AREA FLOOD LIGHT MOUNTED ON ANTENNA MAST
15	CABLE DRAW PIT

TYPICAL CONTAINER INSTALLATION FOR A PUMP STATION



DETAILED DESIGN
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ISSUE	DATE	AMENDMENT	BY	APPD.	BY	DATE
2	01-22	CABLE DUCT PENETRATION DETAILS	BL	PW		
1	11-21	DETAIL DESIGN ISSUE	BL	PW		

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	DPISH WHENUAPAI - REDHILLS WASTEWATER SERVICING BRINGHAM CREEK ROAD, WHENUAPAI CONTAINER LAYOUT			REF No. 12508391 3-AWD32	
				DWG No. 2013647.025	ISSUE 2