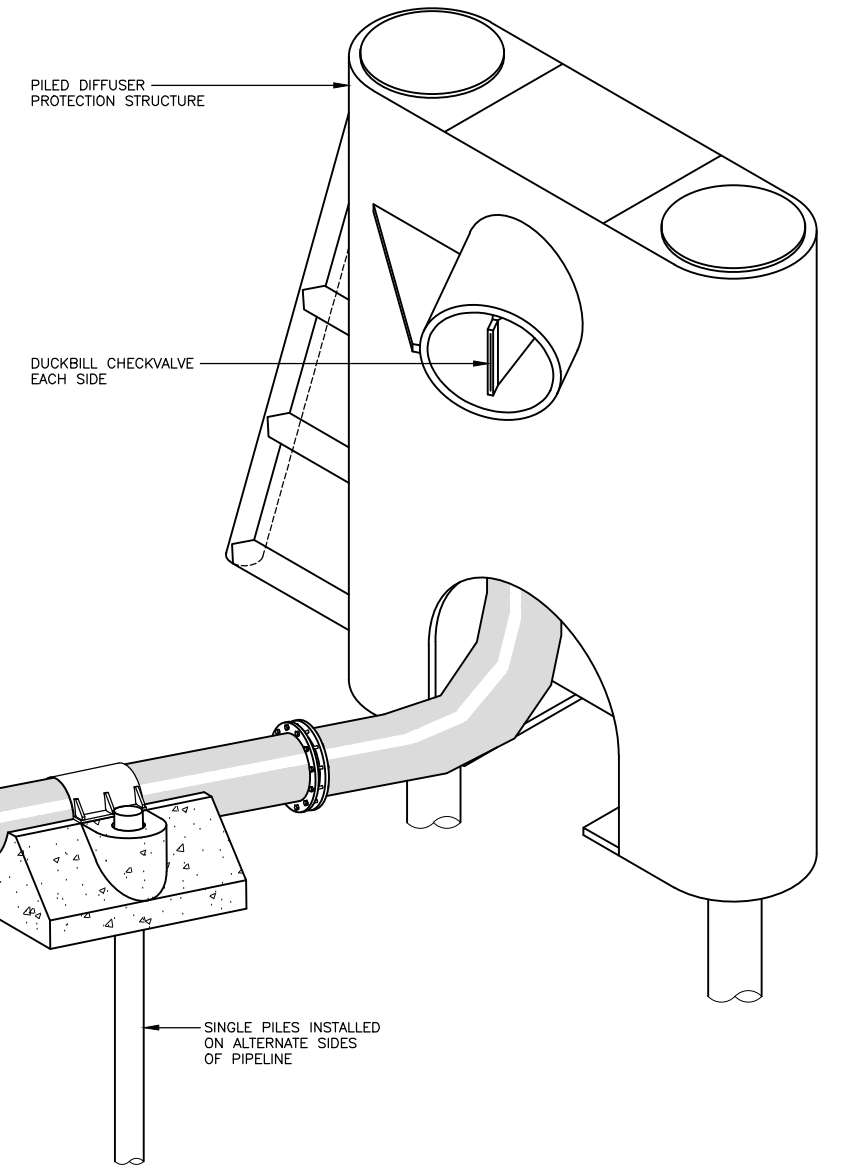
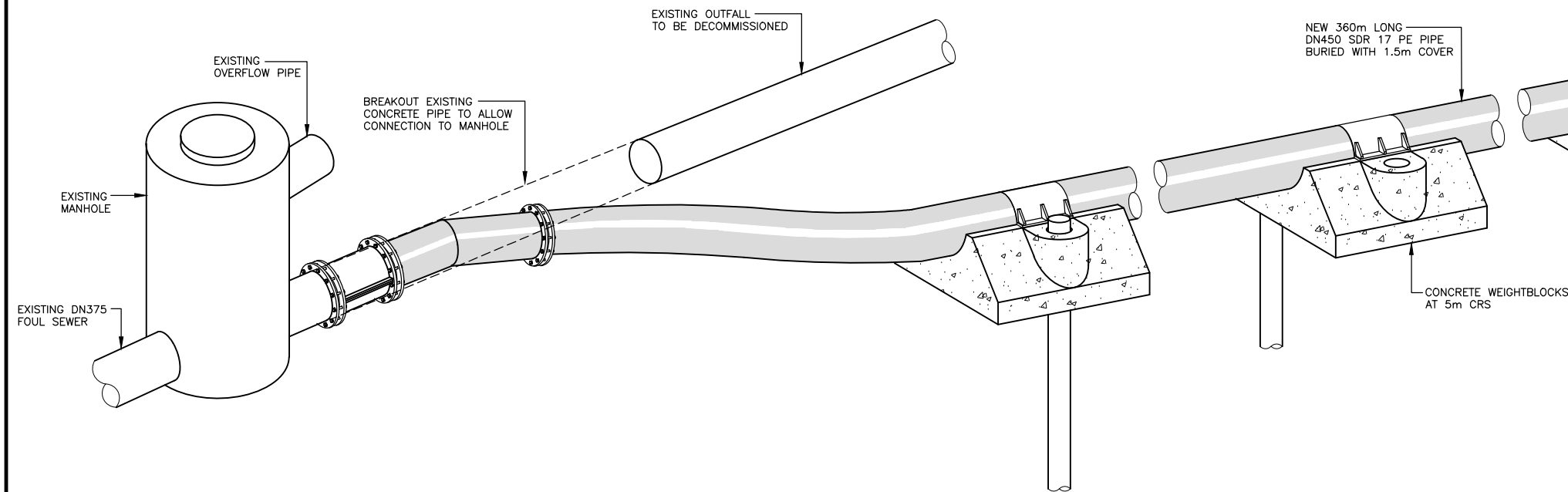


LOCALITY PLAN
Scale 1:10,000



NOTE:

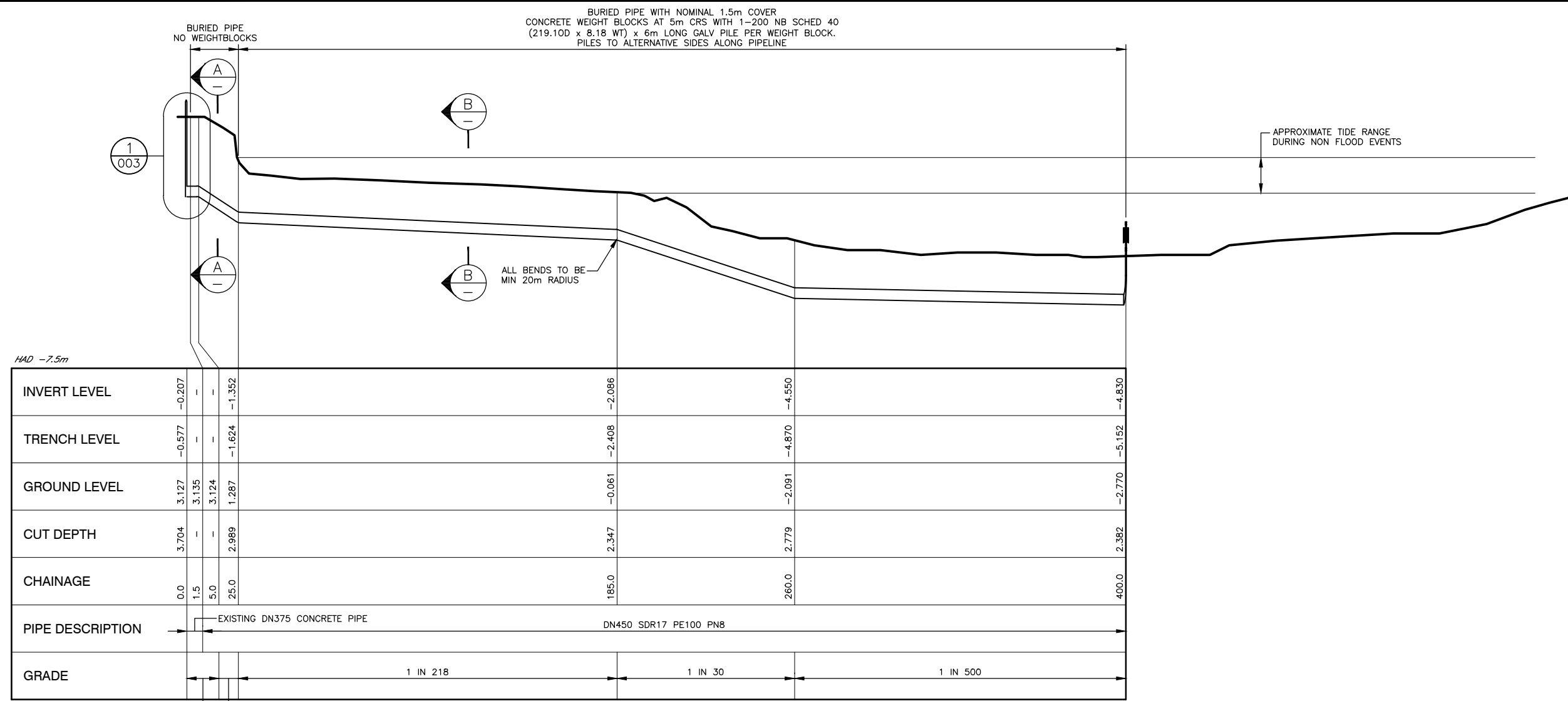
1. ALL STEELWORK TO BE COATED TO AS/NZS 2312 TSA225S UNLESS NOTED OTHERWISE
2. ALL STEEL EDGES TO BE ROUNDED
3. ALL STEELWORK MATERIALS AND WORKMANSHIP TO BE IN ACCORDANCE WITH NZS3404
4. ALL WELDS TO BE MIN CATEGORY SP E41XX/W40X
5. ALL WELDS ARE TO BE FULL PENETRATION BUTT WELDS UNO.
6. FILLET WELD SIZES SHOWN ARE LEG WIDTHS
7. ALL WELDS TO BE 100% VISUALLY INSPECTED
8. ALL PLATE TO BE GRADE 300
9. ALL BOLTS TO BE GR316 SS WITH TEF-GEL OR SIMILAR APPROVED COATING TO THREADS. NYLON OR SIMILAR APPROVED ISOLATION WASHERS TO BE USED TO PREVENT CONTACT BETWEEN SS AND COATED STEEL.
10. FABRICATION TOLERANCES: LINEAR ± 1.0 mm UNO
11. ALL DIMENSIONS ARE IN MILLIMETRES UNO
12. AERIAL PHOTOGRAPHY SOURCED FROM LINZ DATA SERVICE AND LICENSED FOR RE-USE UNDER THE CREATIVE COMMONS ATTRIBUTION 4.0 INTERNATIONAL LICENCE



DO NOT SCALE FROM DRAWING Scale 1:10,000

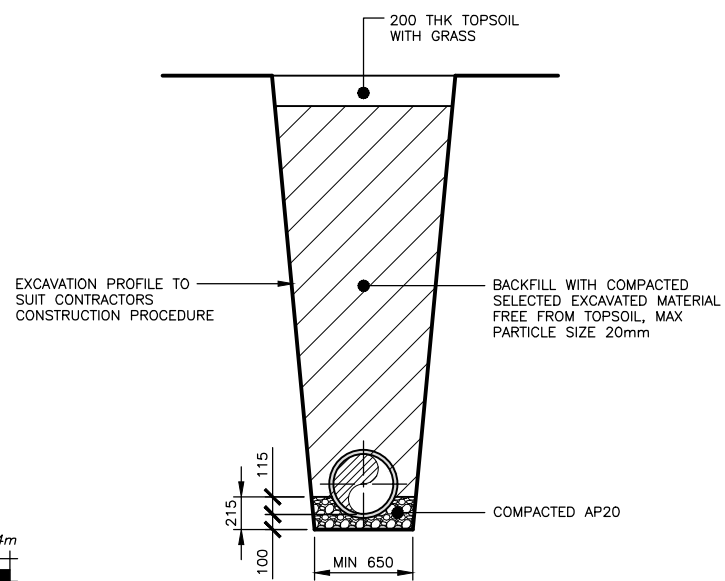
PRELIMINARY

							Drawn	RVE	<p>OFFSHORE AND COASTAL ENGINEERING LIMITED 14 Richardson Terrace PO Box 877 Christchurch Tel (03) 3790444 Fax (03) 3790333</p> <p>49 Crown Hill Street PO Box 151 New Plymouth Tel (067) 512310 Fax (067) 512310</p> <p>This drawing and its content is the property of Offshore and Coastal Engineering Limited Any unauthorised use or reproduction of it is forbidden</p>	<p>WAIROA DISTRICT COUNCIL WAIROA RIVER OUTFALL REPLACEMENT GENERAL DETAILS</p>		Scale (A3)	ACAD Filename
							Checked					AS SHOWN	190504/DR-190504-001R3
							Traced					Drawing No.	Rev.
							Approved					DR-190504-001	3
PIPE SIZE INCREASED TO DN450, PIPE LENGTH INCREASED TO 400m	3	12/09/19	RVE	PRELIMINARY			Date	06/19					
PRELIMINARY ISSUE	1	11/06/19	RVE	PRELIMINARY									
Amendments	Rev'n	Date	Drawn	Issued for	Checked	Approved							



LONG SECTION

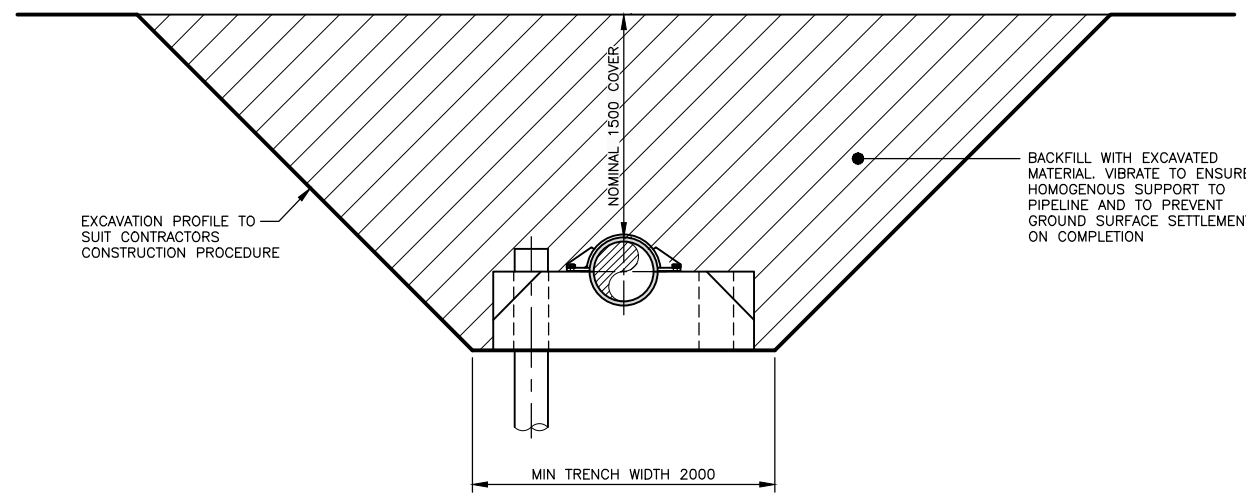
Scale 1:2000 H
1:200 V



SECTION A

Scale 1:50

TRENCH BEYOND RIVERBED



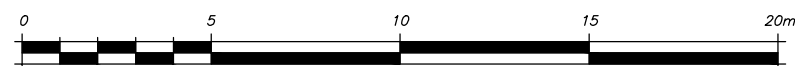
SECTION B

Scale 1:50

TRENCH WITHIN RIVERBED



Scale 1:50

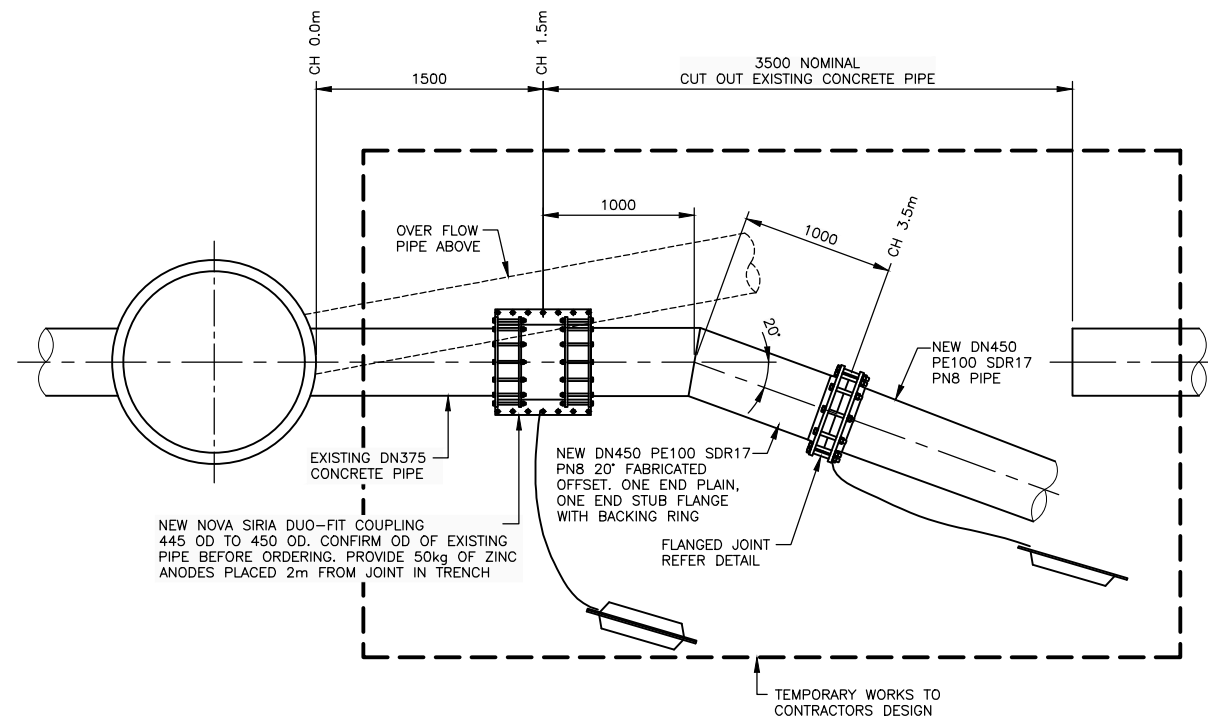


Scale 1:200

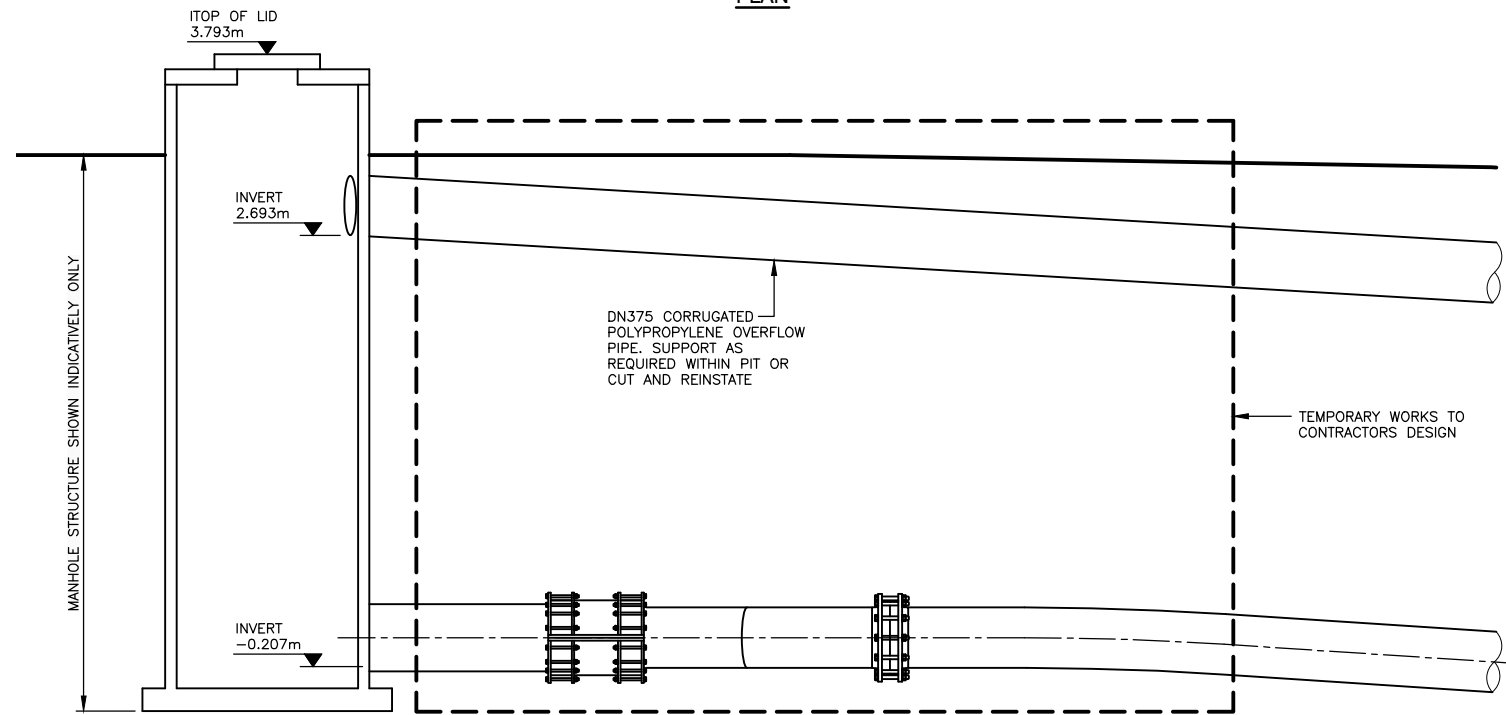
DO NOT SCALE FROM DRAWING

PRELIMINARY

						Drawn	RVE	<p>OFFSHORE AND COASTAL ENGINEERING LIMITED 14 Richardson Terrace PO Box 877 Christchurch Tel (03) 3790444 Fax (03) 3790333</p> <p>49 Crown Hill Street PO Box 151 New Plymouth Tel (067) 512310 Fax (067) 512310</p>	<p style="text-align: center;">Wairoa District Council Wairoa River Outfall Replacement LONG SECTION</p>		Scale (A3)	ACAD Filename
PIPE SIZE INCREASED TO DN450, PIPE LENGTH INCREASED TO 400m						Checked					AS SHOWN	190504/DR-190504-002R2
PRELIMINARY ISSUE						Traced					Drawing No.	Rev.
Amendments						Approved					DR-190504-002	2
Rev'n	Date	Drawn	Issued for	Checked	Approved	Date	06/19					

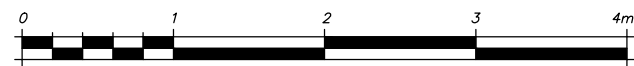


PLAN



ELEVATION

DETAIL 1
Scale 1:50 002

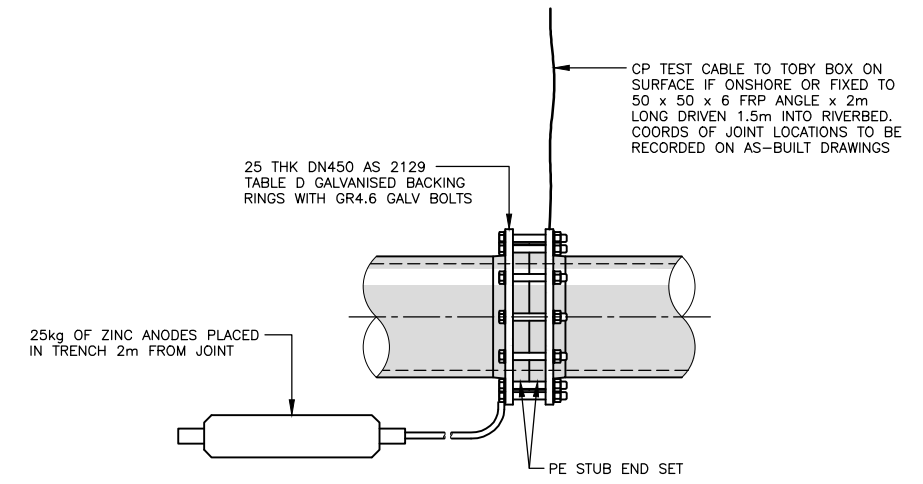


Scale 1:50



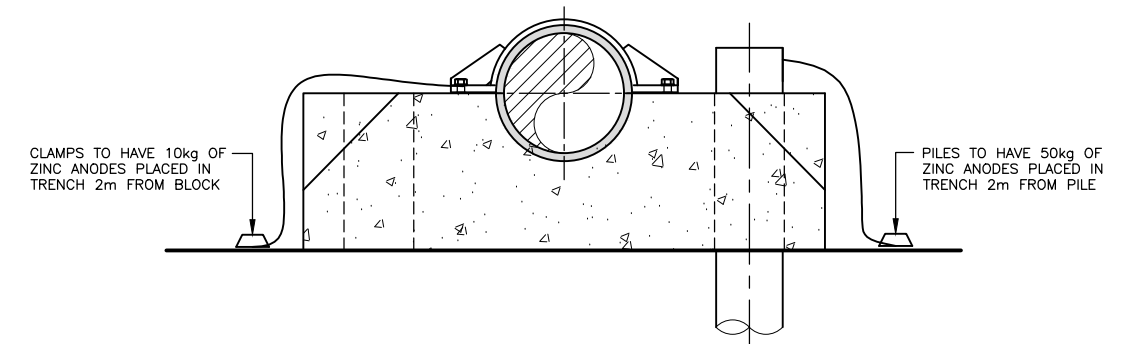
Scale 1:25

DO NOT SCALE FROM DRAWING



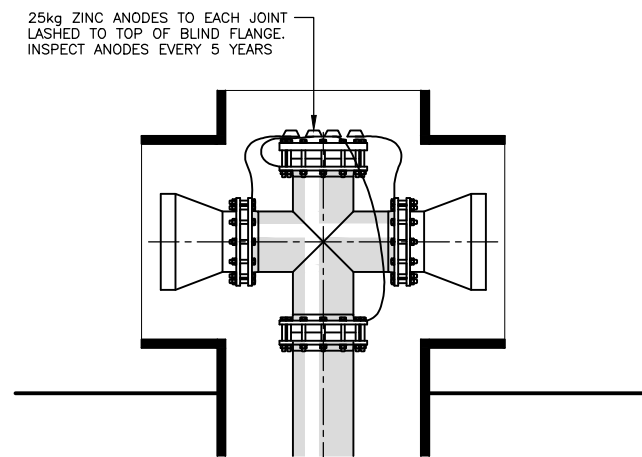
TYPICAL DETAIL OF BURIED BOLTED FLANGED JOINT

Scale 1:25



ANODE REQUIREMENTS TO WEIGHT BLOCKS

Scale 1:25



ANODE REQUIREMENTS TO DIFFUSER

Scale 1:50

NOTE:

1. ANODE WEIGHTS ARE BASED ON A 50 YEAR DESIGN LIFE FOR BURIED COMPONENTS, 10 YEAR DESIGN LIFE FOR SUBMERGED COMPONENTS ABOVE RIVERBED

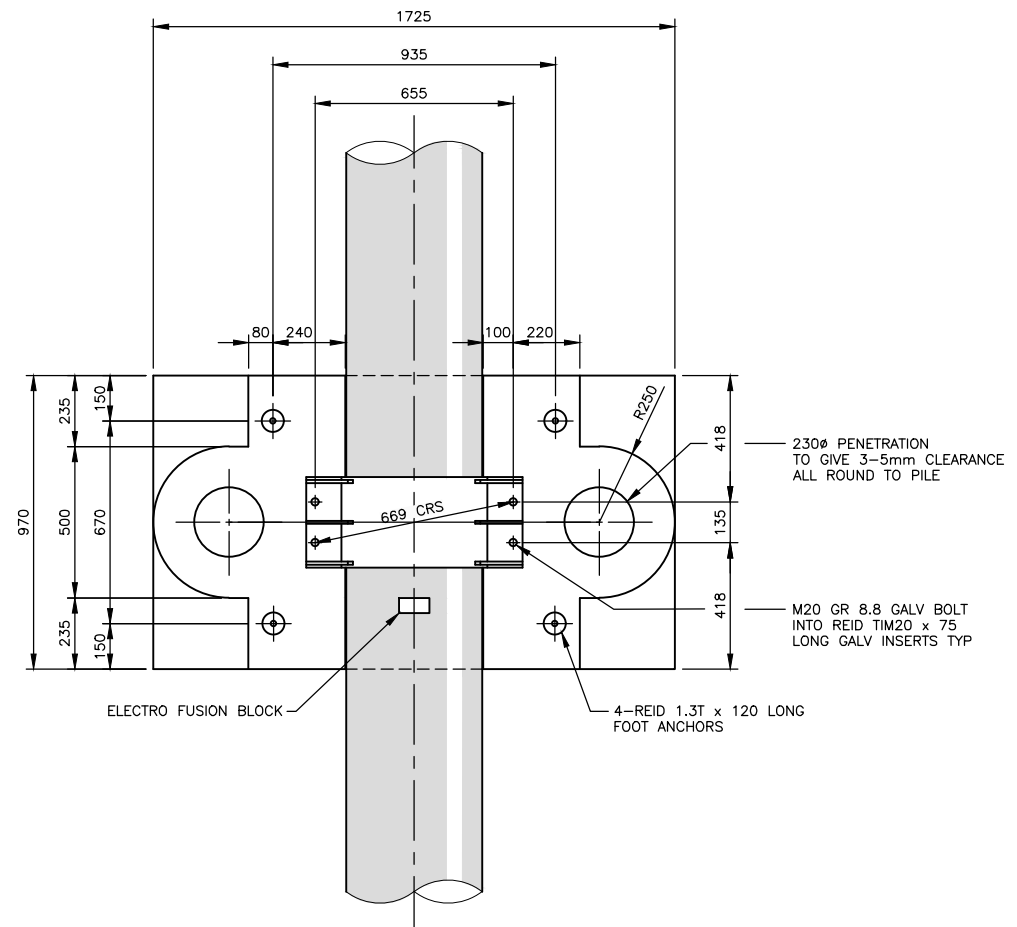
PRELIMINARY

Amendments	Rev'n	Date	Drawn	Issued for	Checked	Approved	Date
PIPE SIZE INCREASED TO DN450	2	12/09/19	RVE	PRELIMINARY			
PRELIMINARY ISSUE	1	11/07/19	RVE	PRELIMINARY			

Drawn	RVE	<p>OFFSHORE AND COASTAL ENGINEERING LIMITED 14 Richardson Terrace PO Box 877 Christchurch Tel (03) 3790444 Fax (03) 3790333 49 Crown Hill Street PO Box 151 New Plymouth Tel (067) 512310 Fax (067) 512310</p>	<p>This drawing and its content is the property of Offshore and Coastal Engineering Limited Any unauthorised use or reproduction of it is forbidden</p>
Checked			
Traced			
Approved			
Date	06/19		

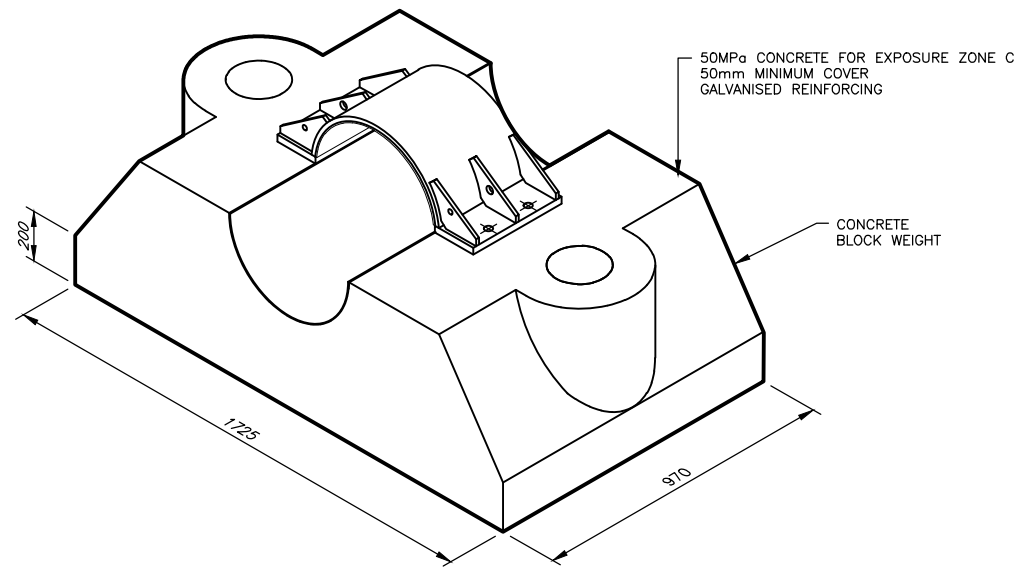
Wairoa District Council
Wairoa River Outfall Replacement
 SECTIONS AND DETAILS

Scale (A3)	AS SHOWN	ACAD Filename	190504/DR-190504-003R2
Drawing No.	DR-190504-003	Rev.	2



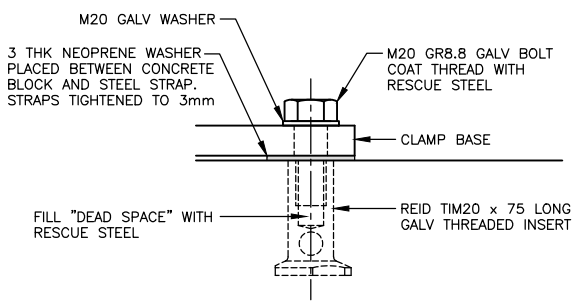
PLAN OF WEIGHT BLOCK

Scale 1:25

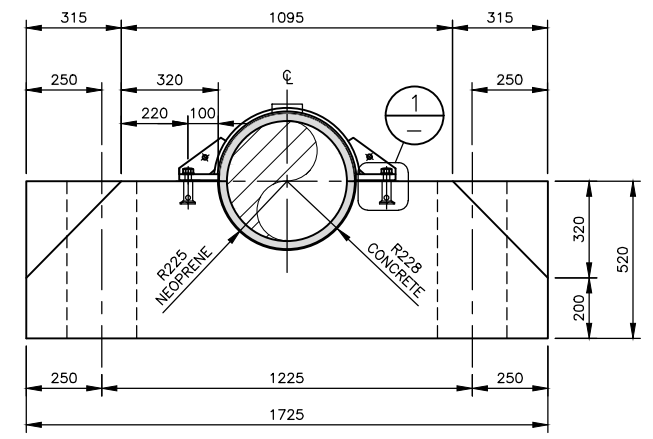


ISOMETRIC VIEW OF WEIGHT BLOCK

Scale 1:25

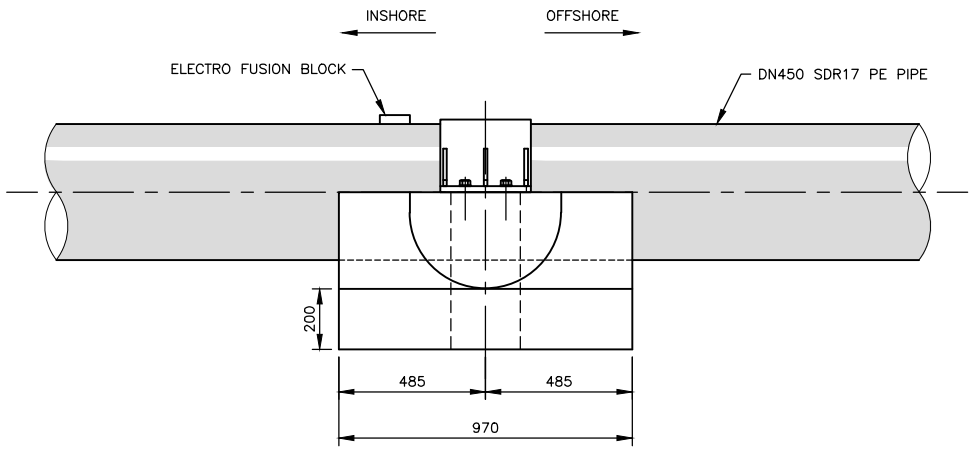


DETAIL 1
Scale 1:5



FRONT ELEVATION OF WEIGHT BLOCK

Scale 1:25



SIDE ELEVATION OF WEIGHT BLOCK

Scale 1:25

DO NOT SCALE FROM DRAWING

Amendments	Rev'n	Date	Drawn	Issued for	Checked	Approved
PIPE SIZE INCREASED TO DN450	2	12/09/19	RVE	PRELIMINARY		
PRELIMINARY ISSUE	1	11/06/19	RVE	PRELIMINARY		

Drawn	RE
Checked	
Traced	
Approved	
Date	08/19

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Fax (067) 512310

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Wairoa District Council
Wairoa River Outfall Replacement
Concrete Weight Block – General Details

Scale (A3)	AS SHOWN	ACAD Filename	190504/DR-190504-004R2
Drawing No.	DR-190504-004	Rev.	2

CONCRETE STRENGTH = 50 MPa

WEIGHTBLOCK VOLUME = 0.68 m³

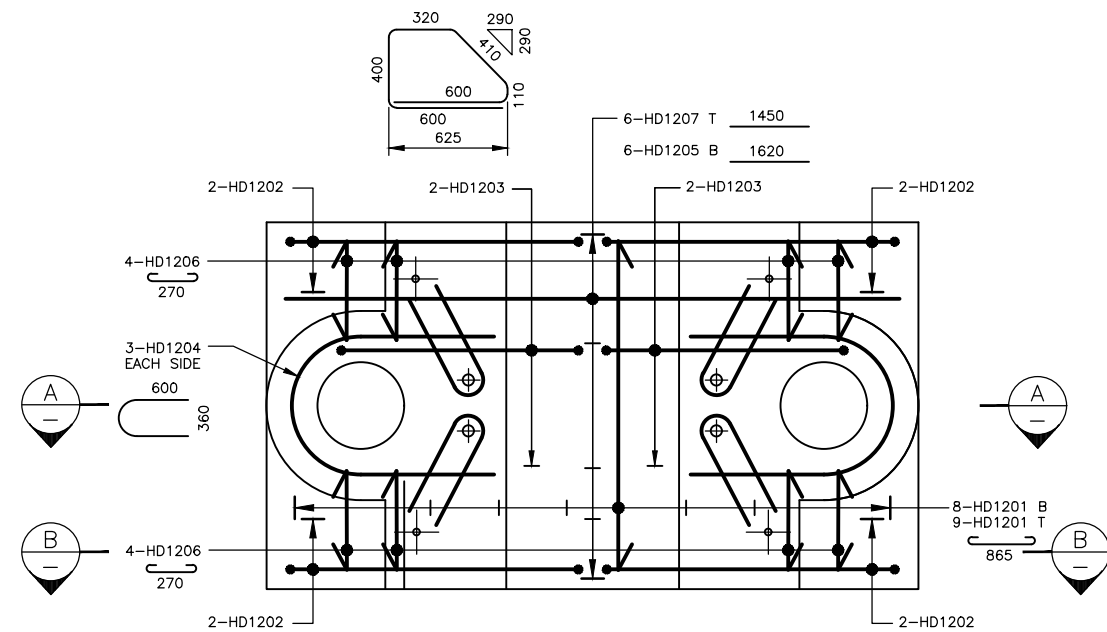
WEIGHTBLOCK WEIGHT = 1640 kg

50mm COVER

FINISHES: F3, U3

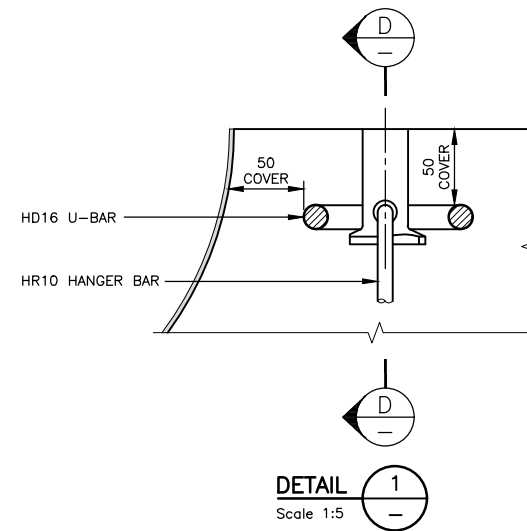
NOTE:

1. ALL REINFORCING DENOTED HD TO BE GRADE 500E DEFORMED
ALL REINFORCING DENOTED HR TO BE GRADE 500E PLAIN
2. ALL REINFORCING CAGES TO BE ELECTRICALLY CONTINUOUS BY WELDING
3. ALL HOOKS, BENDS, STIRRUPS AND CRANKS TO BE IN ACCORDANCE WITH NZS 3101
4. CONCRETE IS TO BE 50 MPa FOR ZONE C WITH A MINIMUM CEMENT CONTENT OF 375 kg/m³ INCLUDING AT LEAST 8% AMORPHOUS SILICA AND A MAXIMUM WATER/CEMENT RATIO OF 0.4
CONCRETE CONSTRUCTION IN ACCORDANCE WITH NZS 3109.
SURFACE FINISHES IN ACCORDANCE WITH NZS 3114.
5. EF DENOTES EACH FACE NF DENOTES NEAR FACE
EW DENOTES EACH WAY FF DENOTES FAR FACE
T TOP B BOTTOM
6. ALL REINFORCING TO BE HOT DIP GALVANISED TO HDG900 AS/NZS 2312
7. CONTRACTOR TO MONITOR TARGET FABRICATED WEIGHTS



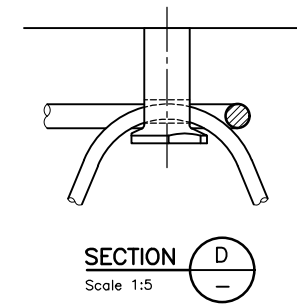
PLAN OF WEIGHT BLOCK

Scale 1:20



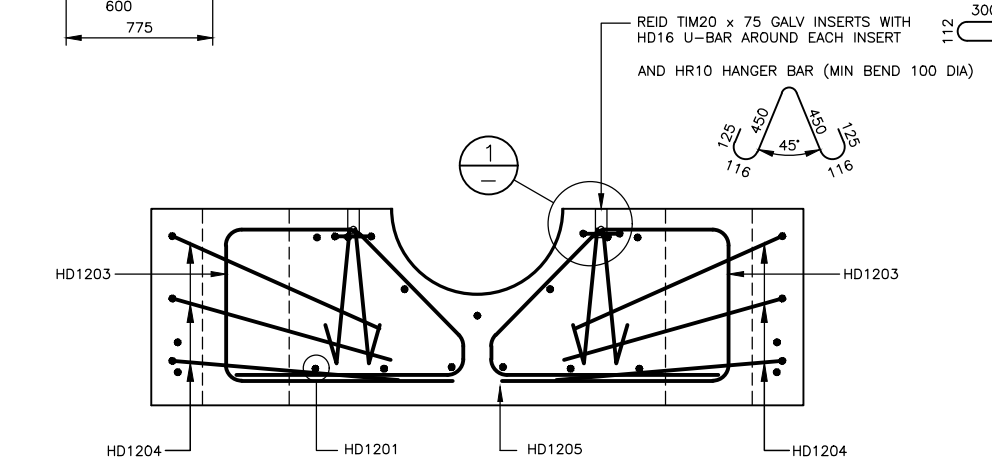
DETAIL 1

Scale 1:5



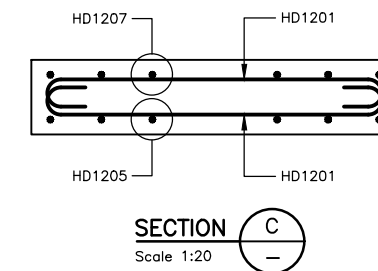
SECTION D

Scale 1:5



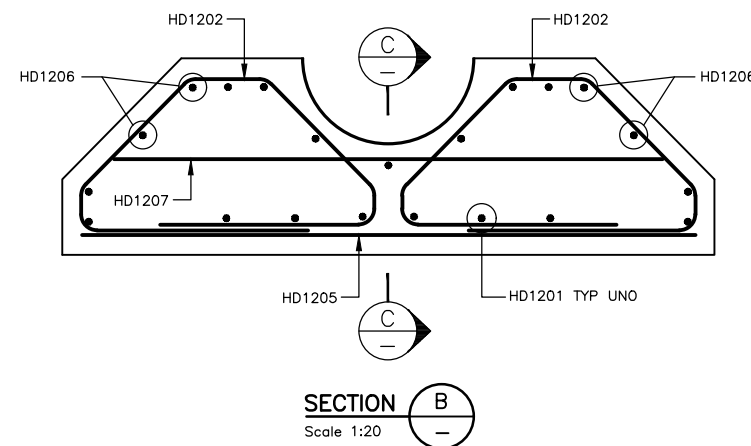
SECTION A

Scale 1:20



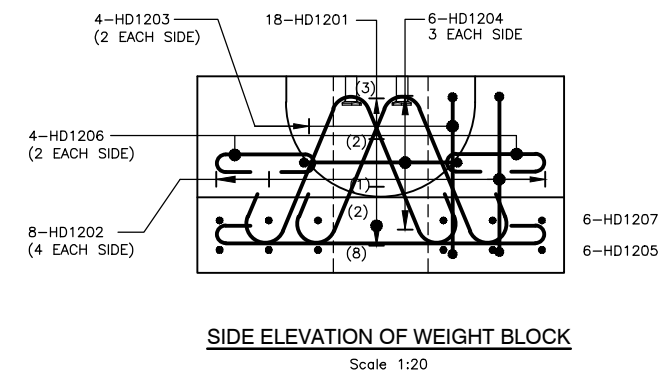
SECTION C

Scale 1:20



SECTION B

Scale 1:20




SIDE ELEVATION OF WEIGHT BLOCK

Scale 1:20

DO NOT SCALE FROM DRAWING

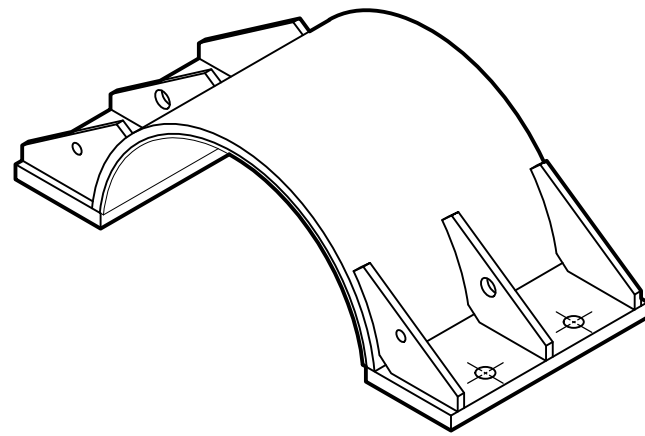
PRELIMINARY

							Drawn	RVE	 OFFSHORE AND COASTAL ENGINEERING LIMITED 14 Richardson Terrace PO Box 877 Christchurch Tel (03) 3790444 Fax (03) 3790333 49 Crown Hill Street PO Box 151 New Plymouth Tel (067) 512310 Fax (067) 512310	This drawing and its content is the property of Offshore and Coastal Engineering Limited Any unauthorised use or reproduction of it is forbidden	Wairoa District Council		Scale (A3)	ACAD Filename
PIPE SIZE INCREASED TO DN450							Checked				Wairoa River Outfall Replacement		1:20	190504/DR-190504-005R2
PRELIMINARY ISSUE							Traced				CONCRETE WEIGHT BLOCK - REINFORCING DETAILS		Drawing No.	Rev.
Amendments							Approved						DR-190504-005	2
Rev'n	Date	Drawn	Issued for	Checked	Approved	Date	06/19							

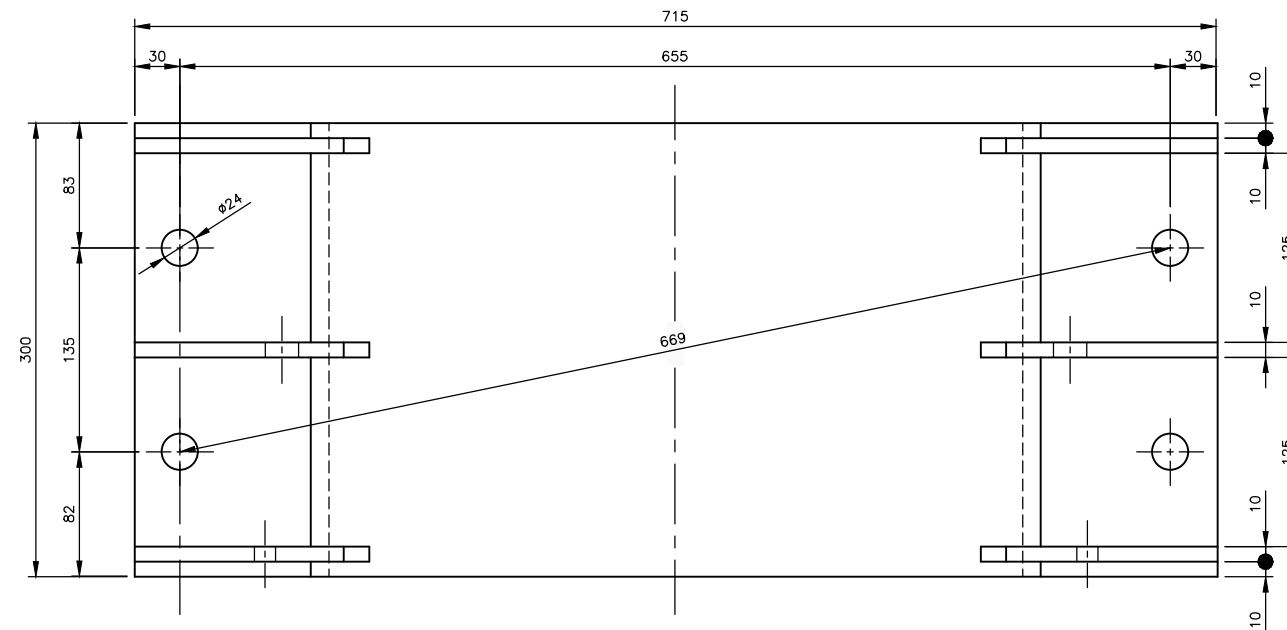
CLAMP WEIGHT = 36 kg DRY AIR WEIGHT
 = 31.3 kg SUBMERGED WEIGHT

NOTE:

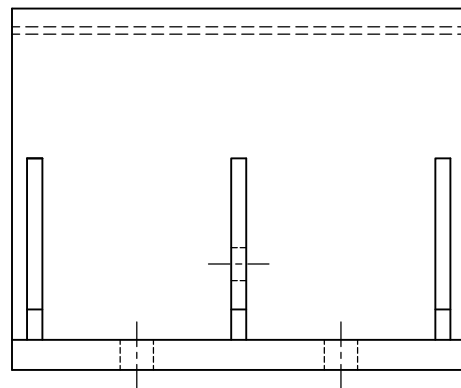
1. ALL STEELWORK TO BE HOT DIP GALVANISED TO HDG900 AS/NZS 2312
2. ALL STEELWORK MATERIALS AND WORKMANSHIP TO BE IN ACCORDANCE WITH NZS3404
3. ALL WELDS ARE TO BE FULL PENETRATION BUTT WELDS UNO
4. FILLET WELD SIZES SHOWN ARE LEG WIDTHS
5. ALL WELDS ARE TO BE 100% VISUALLY INSPECTED
6. ALL PLATE TO BE MIN GRADE 300
7. FULL SEAL WELD GUSSET PLATES



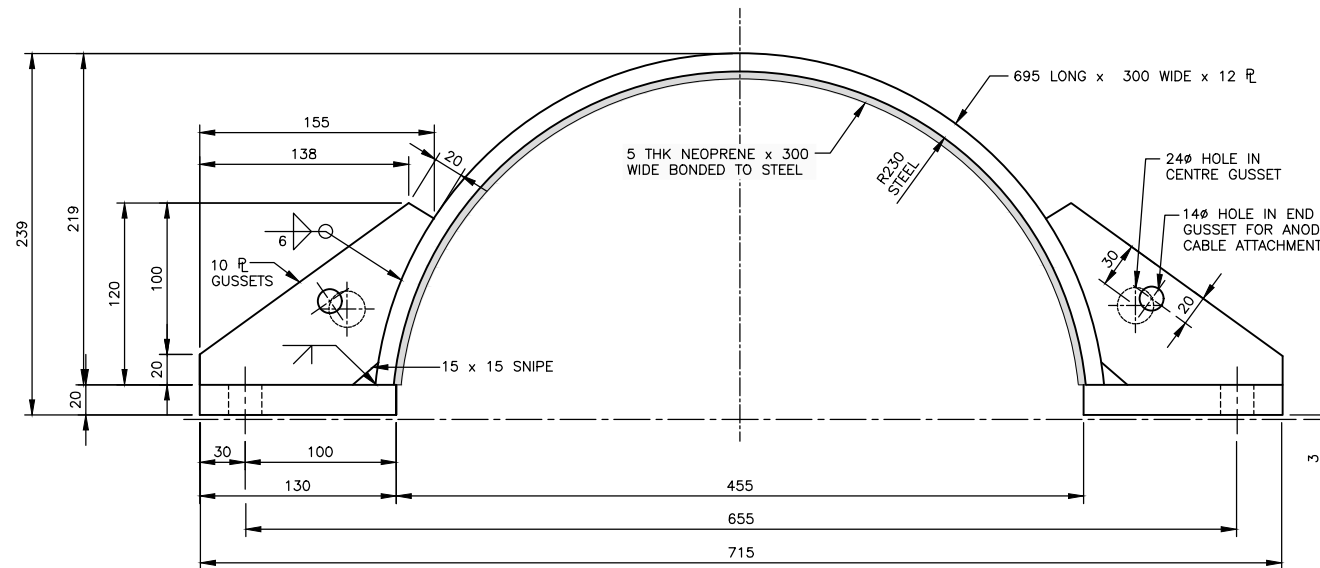
ISOMETRIC VIEW OF WEIGHTBLOCK CLAMP
 Scale 1:10



PLAN
 Scale 1:5



SIDE ELEVATION
 Scale 1:5

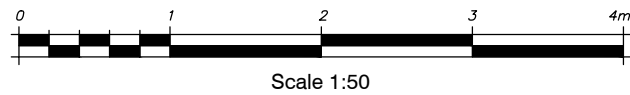
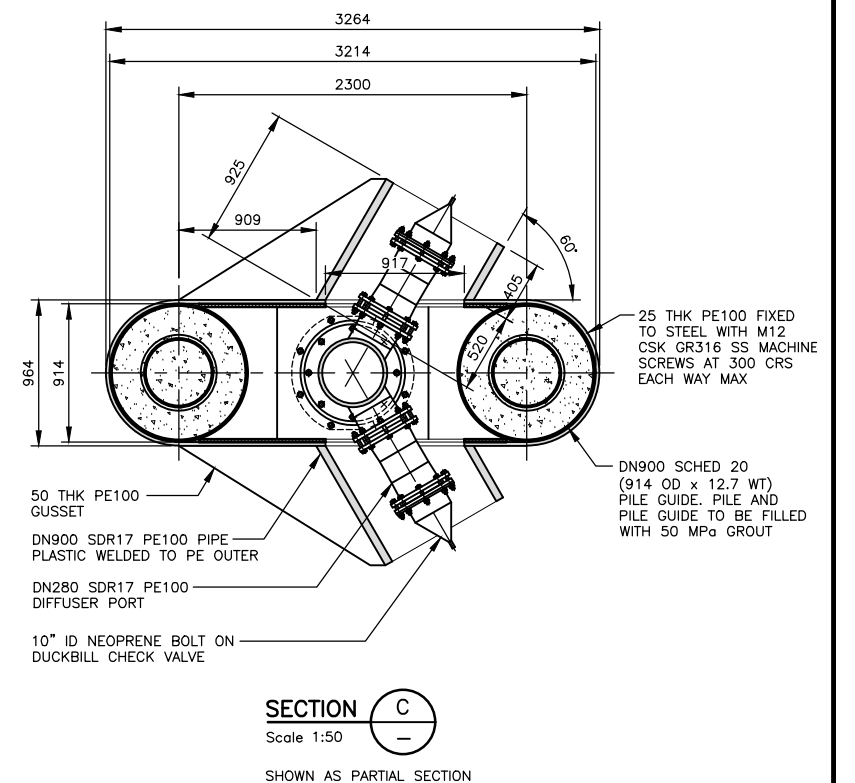
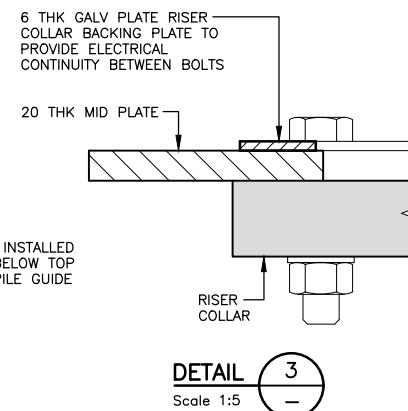
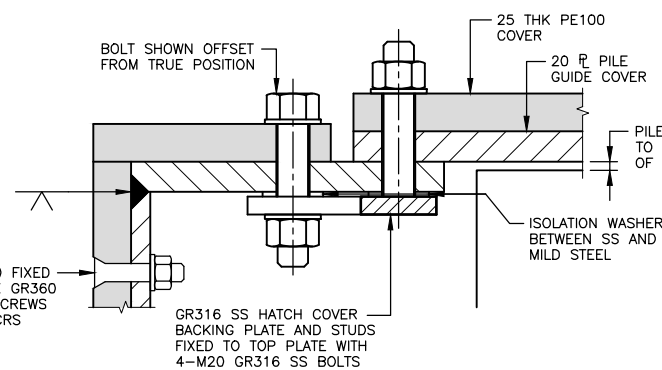
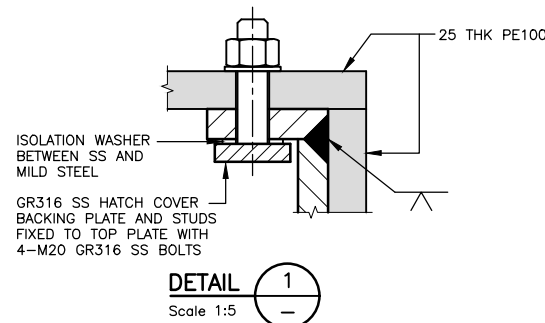
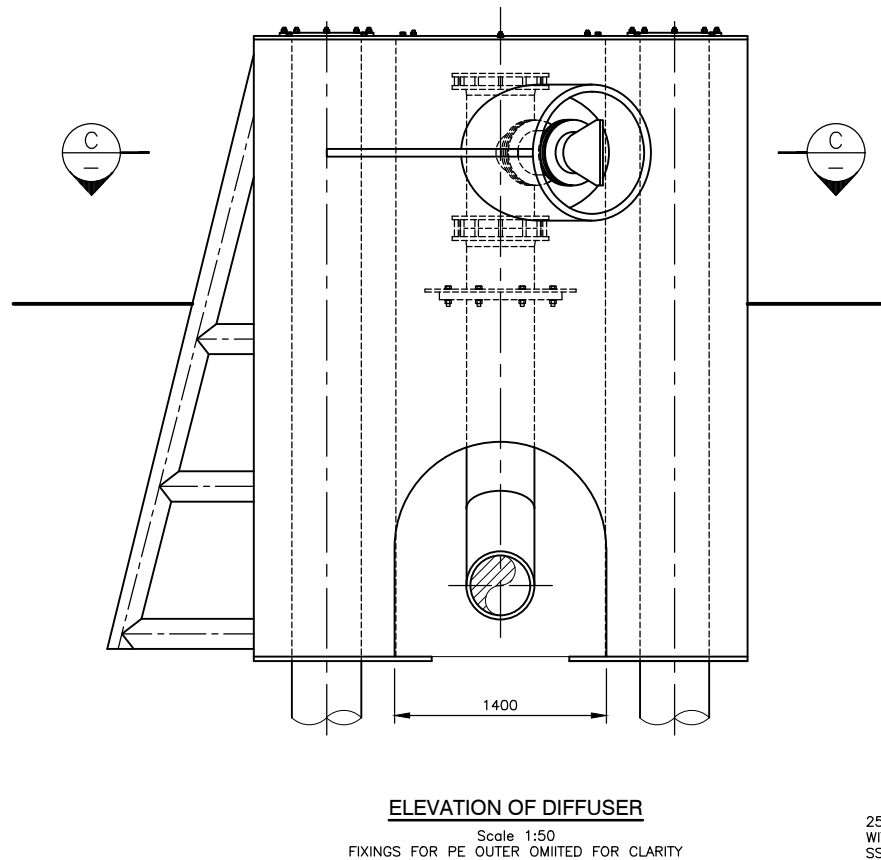
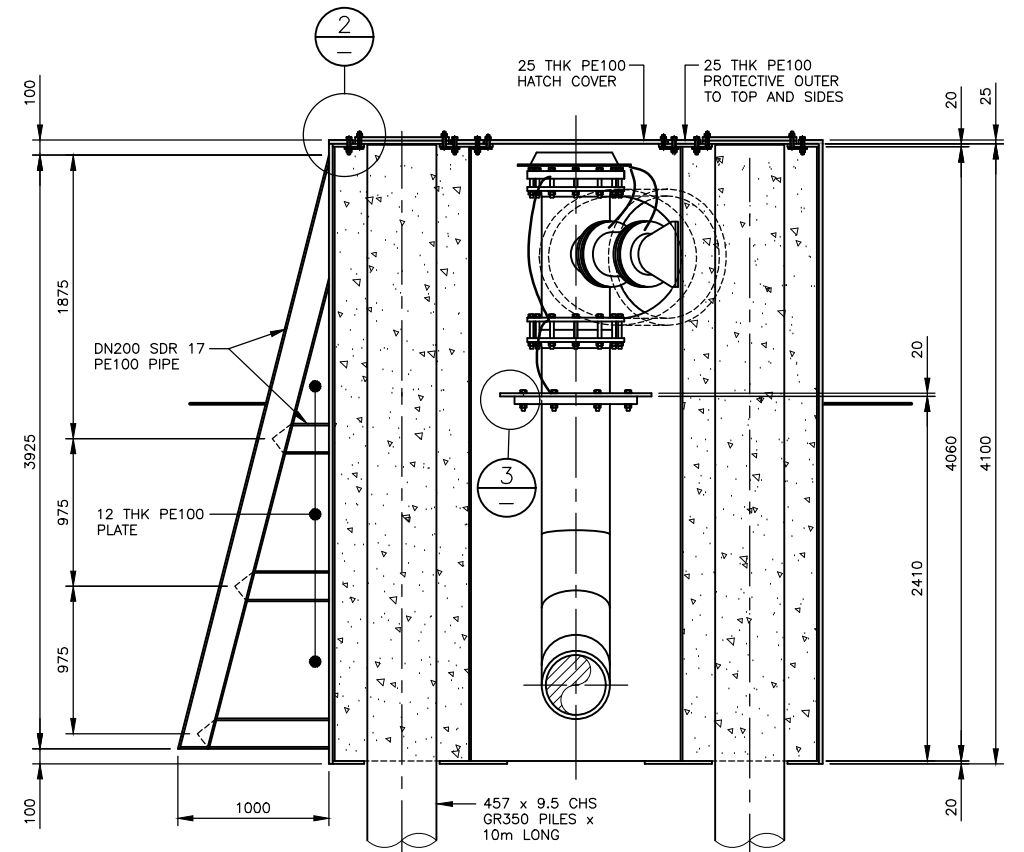
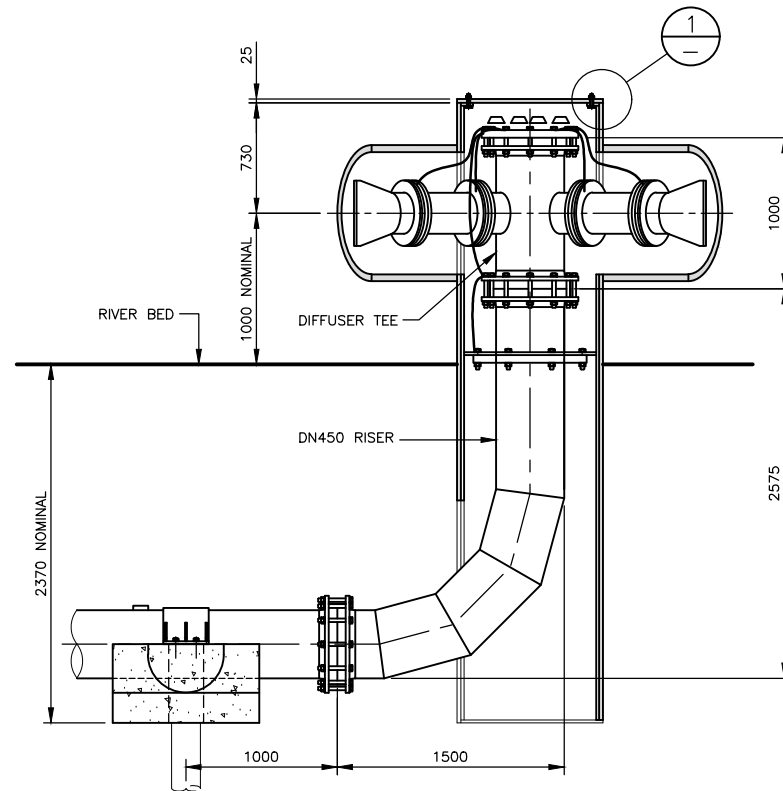
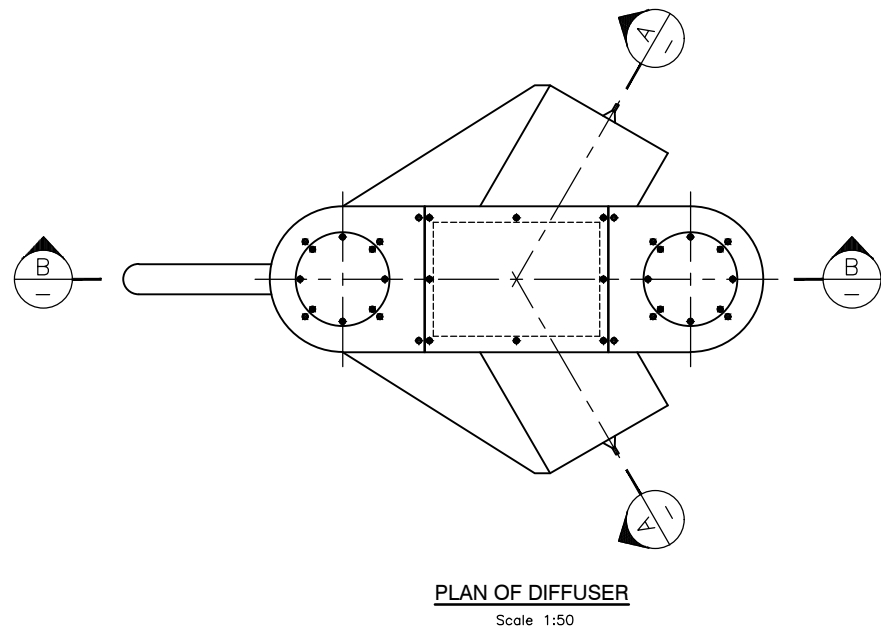


FRONT ELEVATION
 Scale 1:5

DO NOT SCALE FROM DRAWING

PRELIMINARY

							Drawn	RVE	<p>OFFSHORE AND COASTAL ENGINEERING LIMITED 14 Richardson Terrace PO Box 877 Christchurch Tel (03) 3790444 Fax (03) 3790333</p> <p>49 Crown Hill Street PO Box 151 New Plymouth Tel (067) 512310 Fax (067) 512310</p> <p>This drawing and its content is the property of Offshore and Coastal Engineering Limited Any unauthorised use or reproduction of it is forbidden.</p>	<p>Wairoa District Council Wairoa River Outfall Replacement Weight Block Clamp</p>		Scale (A3)	ACAD Filename	
							Checked					1:5	190504/DR-190504-006R2	
							Traced					Drawing No.		Rev.
							Approved					DR-190504-006		2
							Date	06/19						
PIPE SIZE INCREASED TO DN450	2	12/09/19	RVE	PRELIMINARY										
PRELIMINARY ISSUE	1	11/06/19	RVE	PRELIMINARY										
Amendments	Rev'n	Date	Drawn	Issued for	Checked	Approved	Date							



DO NOT SCALE FROM DRAWING

PRELIMINARY

Amendments	Rev'n	Date	Drawn	Issued for	Checked	Approved
PRELIMINARY ISSUE	2	30/09/19	RVE	PRELIMINARY		
PRELIMINARY ISSUE	1	20/09/19	RVE	PRELIMINARY		

Drawn	RVE
Checked	
Traced	
Approved	
Date	09/19

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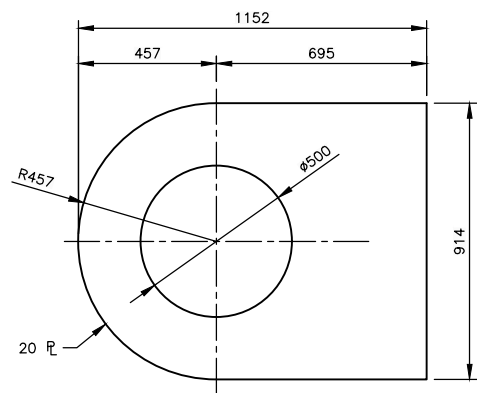
14 Richardson Terrace
PO Box 877
Christchurch
Tel (03) 3790444
Fax (03) 3790333

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PO Box 151
New Plymouth
Tel (067) 512310
Fax (067) 512310

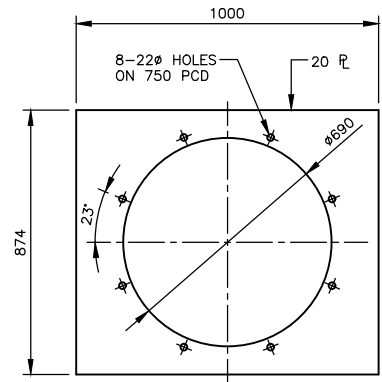
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Wairoa District Council
Wairoa River Outfall Replacement
Diffuser Details - Sheet 1

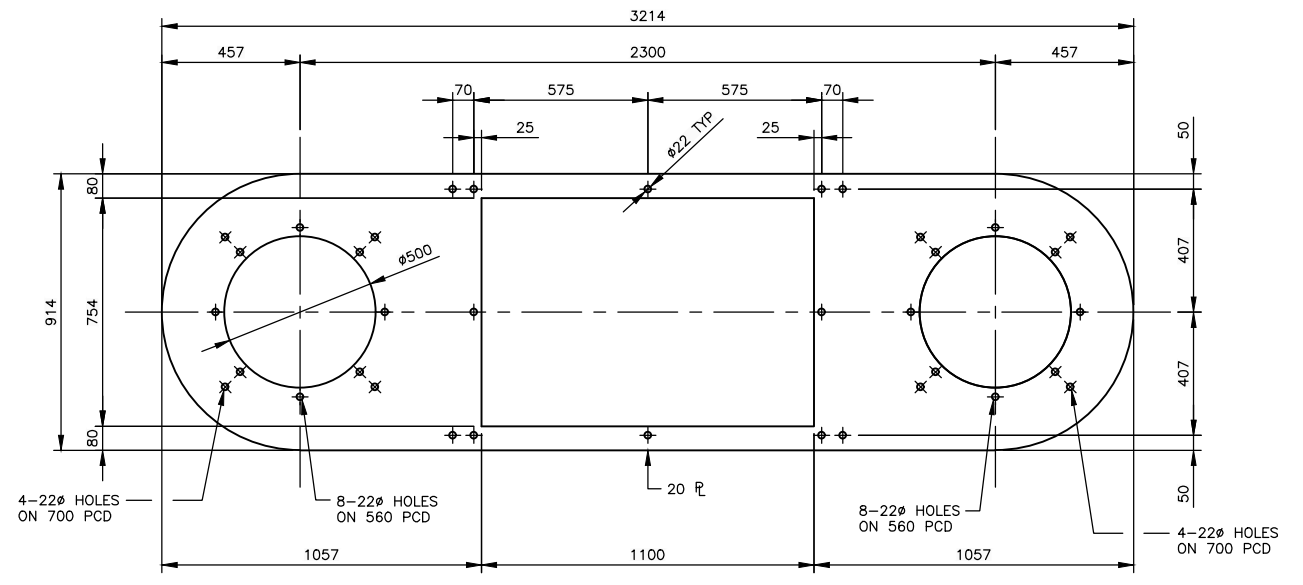
Scale (A3)	ACAD Filename
AS SHOWN	190504/DR-190504-007R2
Drawing No.	Rev.
DR-190504-007	2



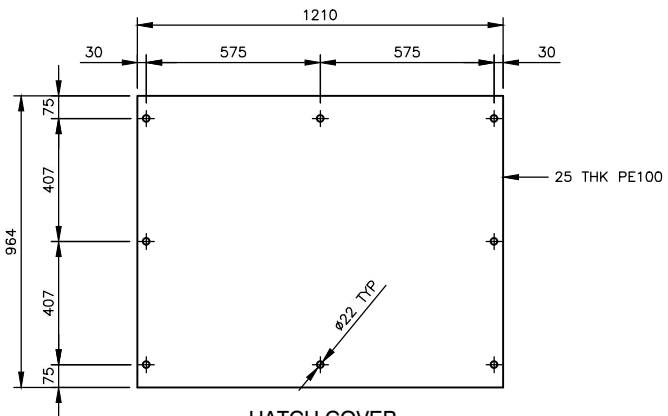
BOTTOM PLATE
Scale 1:25
2 No OFF



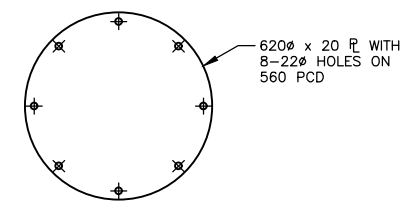
MID PLATE
Scale 1:25
1 No OFF



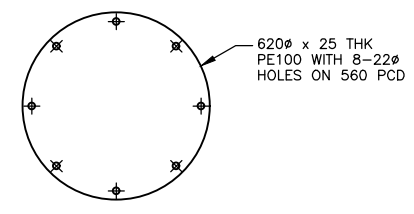
TOP PLATE
Scale 1:25
1 No OFF



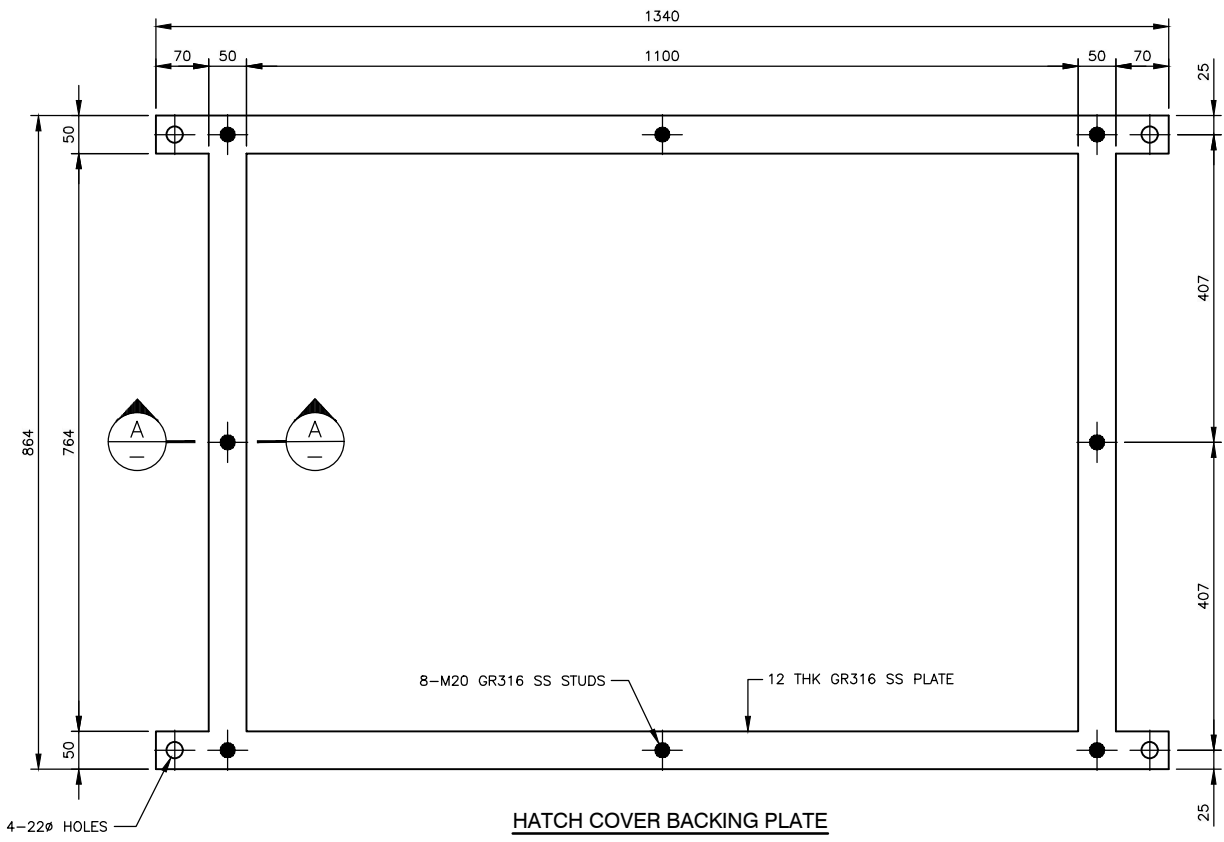
HATCH COVER
Scale 1:25
1 No OFF



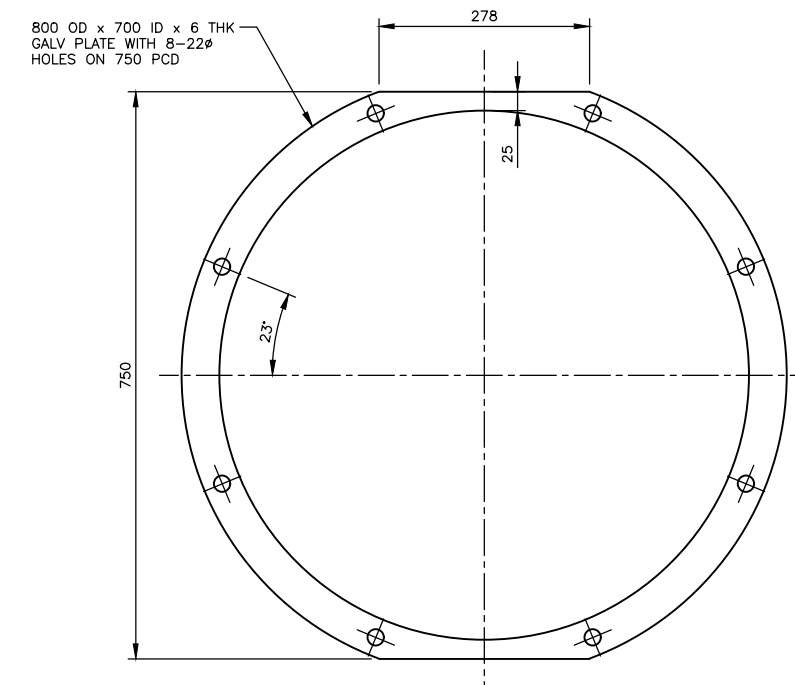
PILE GUIDE HATCH
Scale 1:25
2 No OFF



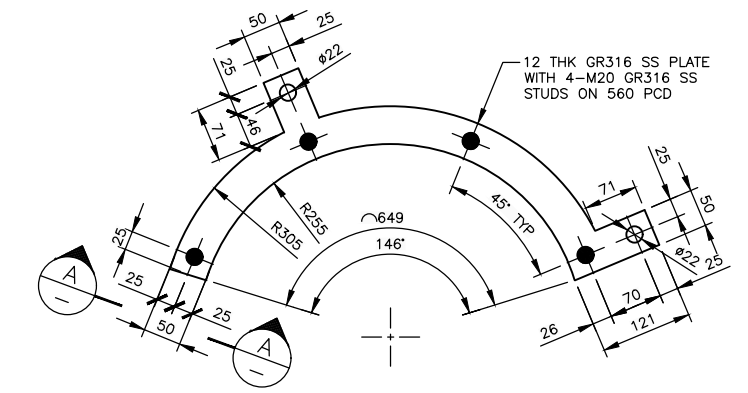
PILE GUIDE HATCH COVER
Scale 1:25
2 No OFF



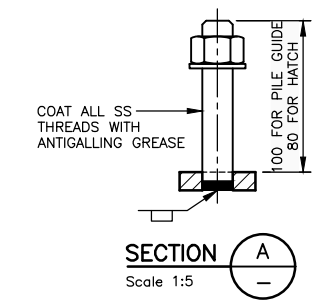
HATCH COVER BACKING PLATE
Scale 1:10
1 No OFF



MID PLATE BACKING RING
Scale 1:10
1 No OFF



PILE GUIDE BACKING RING
Scale 1:10
4 No OFF

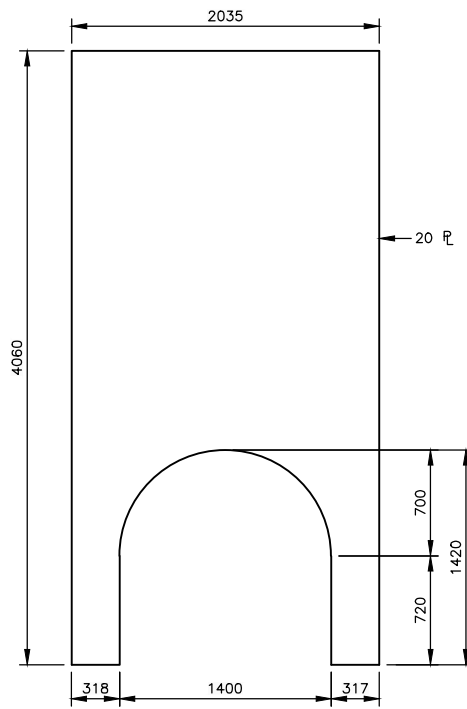


SECTION A
Scale 1:5

DO NOT SCALE FROM DRAWING

PRELIMINARY

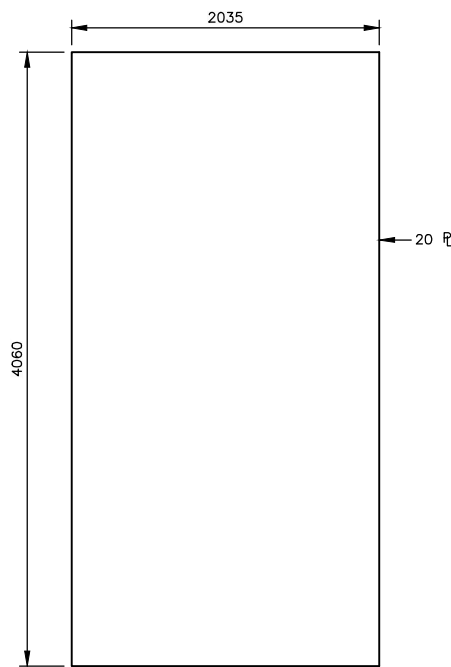
						Drawn	RVE	<p>OFFSHORE AND COASTAL ENGINEERING LIMITED 14 Richardson Terrace PO Box 877 Christchurch Tel (03) 3790444 Fax (03) 3790333</p> <p>49 Crown Hill Street PO Box 151 New Plymouth Tel (067) 512310 Fax (067) 512310</p> <p>This drawing and its content is the property of Offshore and Coastal Engineering Limited Any unauthorised use or reproduction of it is forbidden.</p>	<p>WAIROA DISTRICT COUNCIL WAIROA RIVER OUTFALL REPLACEMENT DIFFUSER DETAILS – SHEET 2</p>		Scale (A3)	ACAD Filename
						Checked					AS SHOWN	190504/DR-190504-008R2
						Traced					Drawing No.	Rev.
						Approved					DR-190504-008	2
PRELIMINARY ISSUE	2	30/09/19	RVE	PRELIMINARY		Date	09/19					
PRELIMINARY ISSUE	1	20/09/19	RVE	PRELIMINARY		Date						
Amendments	Rev'n	Date	Drawn	Issued for	Checked	Approved						



FRONT SIDE PLATE

Scale 1:50
1 No OFF

FIXINGS FOR PE OUTER OMITTED FOR CLARITY



BACK SIDE PLATE

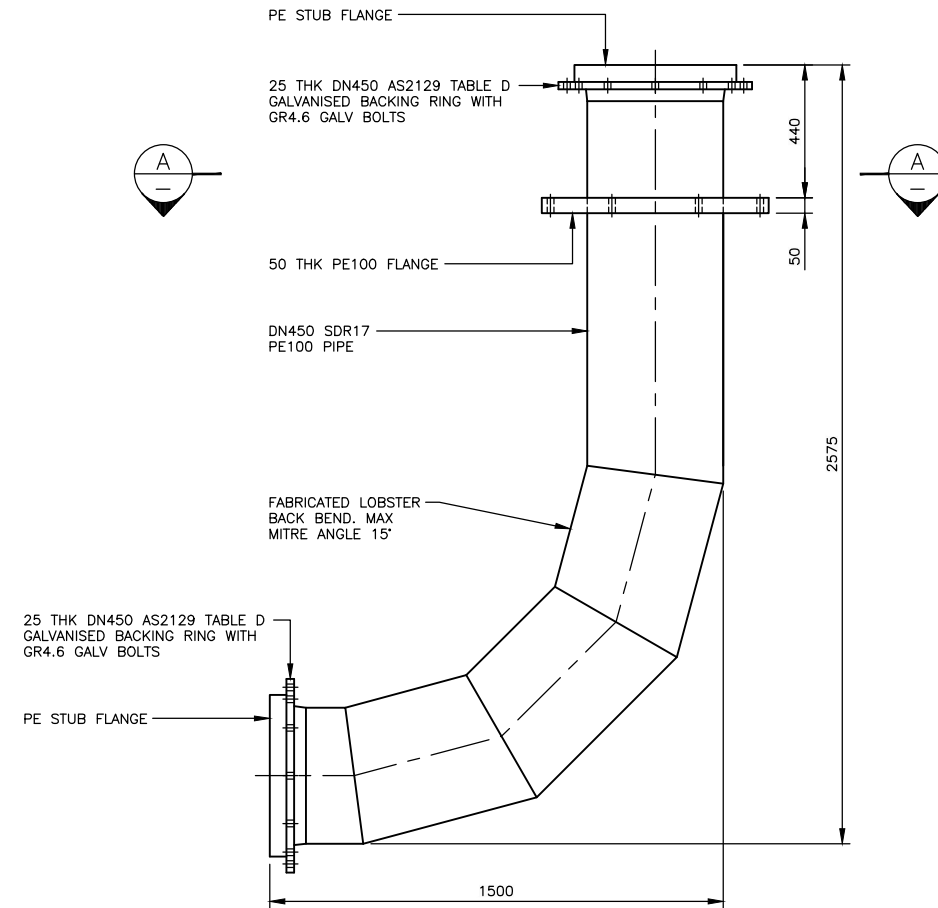
Scale 1:50
1 No OFF

FIXINGS FOR PE OUTER OMITTED FOR CLARITY



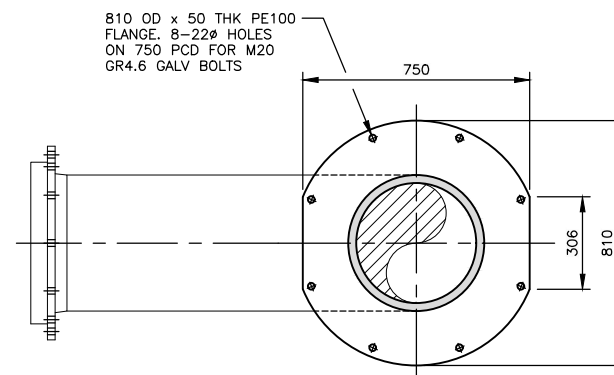
Scale 1:25

DO NOT SCALE FROM DRAWING



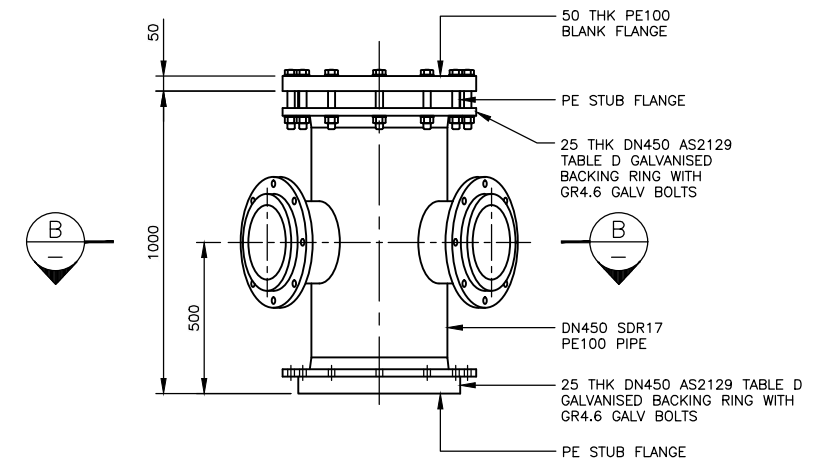
ELEVATION OF RISER

Scale 1:25
1 No OFF



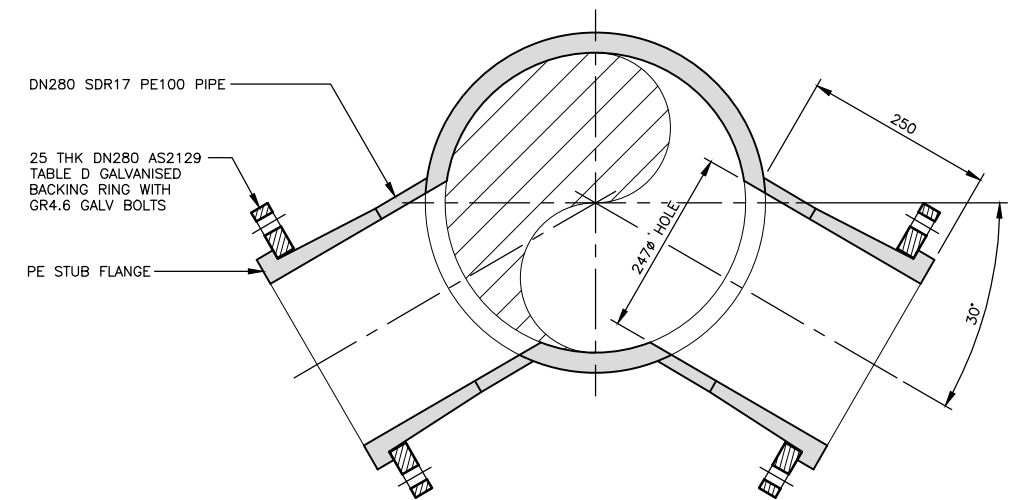
SECTION A

Scale 1:25



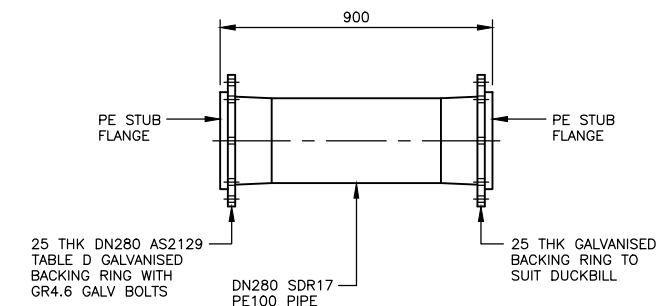
ELEVATION OF DIFFUSER TEE

Scale 1:25
1 No OFF



SECTION B

Scale 1:10



ELEVATION OF DIFFUSER PORT

Scale 1:25
2 No OFF

PRELIMINARY

Amendments	Rev'n	Date	Drawn	Issued for	Checked	Approved
PRELIMINARY ISSUE	2	30/09/19	RVE	PRELIMINARY		
PRELIMINARY ISSUE	1	20/09/19	RVE	PRELIMINARY		

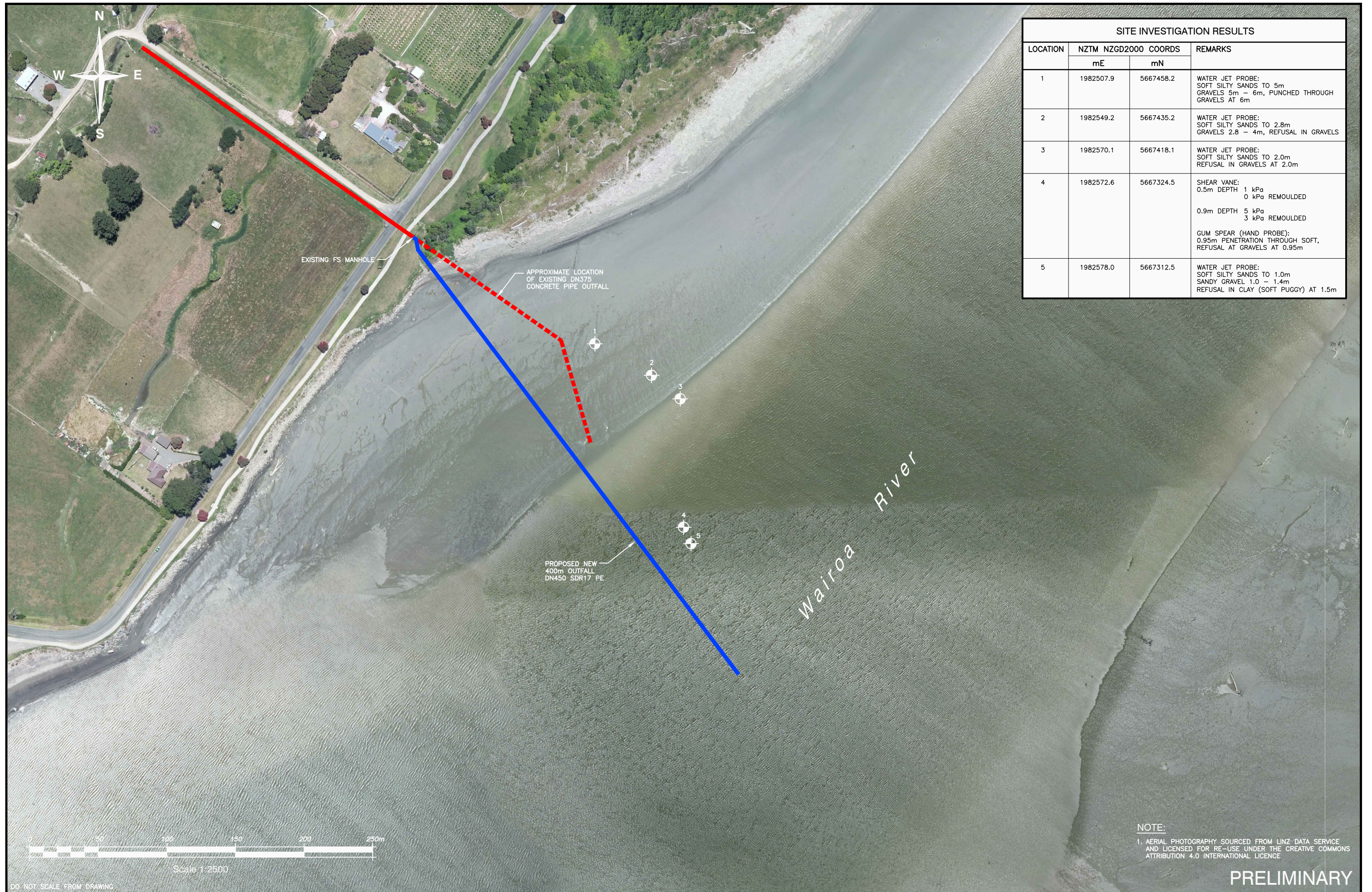
Drawn	RVE
Checked	
Traced	
Approved	
Date	09/19

OCEL OFFSHORE AND COASTAL ENGINEERING LIMITED
 14 Richardson Terrace PO Box 877 Christchurch Tel (03) 3790444 Fax (03) 3790333
 49 Crown Hill Street PO Box 151 New Plymouth Tel (067) 512310 Fax (067) 512310

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Wairoa District Council
Wairoa River Outfall Replacement
 Diffuser Details – Sheet 3

Scale (A3)	ACAD Filename
AS SHOWN	190504/DR-190504-009R2
Drawing No.	Rev.
DR-190504-009	2



SITE INVESTIGATION RESULTS			
LOCATION	NZTM NZGD2000 COORDS		REMARKS
	mE	mN	
1	1982507.9	5667458.2	WATER JET PROBE: SOFT SILTY SANDS TO 5m GRAVELS 5m - 6m, PUNCHED THROUGH GRAVELS AT 6m
2	1982549.2	5667435.2	WATER JET PROBE: SOFT SILTY SANDS TO 2.8m GRAVELS 2.8 - 4m, REFUSAL IN GRAVELS
3	1982570.1	5667418.1	WATER JET PROBE: SOFT SILTY SANDS TO 2.0m REFUSAL IN GRAVELS AT 2.0m
4	1982572.6	5667324.5	SHEAR VANE: 0.5m DEPTH 1 kPa 0 kPa REMOULDED 0.9m DEPTH 5 kPa 3 kPa REMOULDED GUM SPEAR (HAND PROBE): 0.95m PENETRATION THROUGH SOFT, REFUSAL AT GRAVELS AT 0.95m
5	1982578.0	5667312.5	WATER JET PROBE: SOFT SILTY SANDS TO 1.0m SANDY GRAVEL 1.0 - 1.4m REFUSAL IN CLAY (SOFT PUGGY) AT 1.5m

NOTE:
1. AERIAL PHOTOGRAPHY SOURCED FROM LINZ DATA SERVICE AND LICENSED FOR RE-USE UNDER THE CREATIVE COMMONS ATTRIBUTION 4.0 INTERNATIONAL LICENCE

PRELIMINARY

							Drawn	RVE	OFFSHORE AND COASTAL ENGINEERING LIMITED 14 Richardson Terrace PO Box 877 Christchurch Tel (03) 3790444 Fax (03) 3790333	49 Crown Hill Street PO Box 151 New Plymouth Tel (067) 512310 Fax (067) 512310	WAIROA DISTRICT COUNCIL WAIROA RIVER OUTFALL REPLACEMENT SITE INVESTIGATION DETAILS		Scale (A3)	ACAD Filename
							Checked						1:2500	190504/DR-190504-020R1
							Traced						Drawing No.	Rev.
PRELIMINARY ISSUE	1	30/09/19	RVE	PRELIMINARY		Approved		DR-190504-020					1	
Amendments	Rev'n	Date	Drawn	Issued for	Checked	Approved	Date	06/19						

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Scale 1:2500