



T	ISSUED FOR TENDER	11/06/2025	B. DLAMINI	H. FUYANA
P	ISSUED FOR APPROVAL	22/02/2024	B. DLAMINI	H. FUYANA
△	DESCRIPTION OF REVISION(S)	DATE	CHECKED	APPROVED

DESIGNED	C. FUYANA
CHECKED	H. FUYANA
DRAWN	B. DLAMINI
CHECKED	H. FUYANA
PROJECT ENGINEER	H. FUYANA
REGISTRATION NO.:	201670323

PHYSICAL ADDRESS:
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H. FUYANA
(REGISTRATION NO.: 201670323)

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DR NKOSAZANA DLAMINI-ZUMA
LOCAL MUNICIPALITY

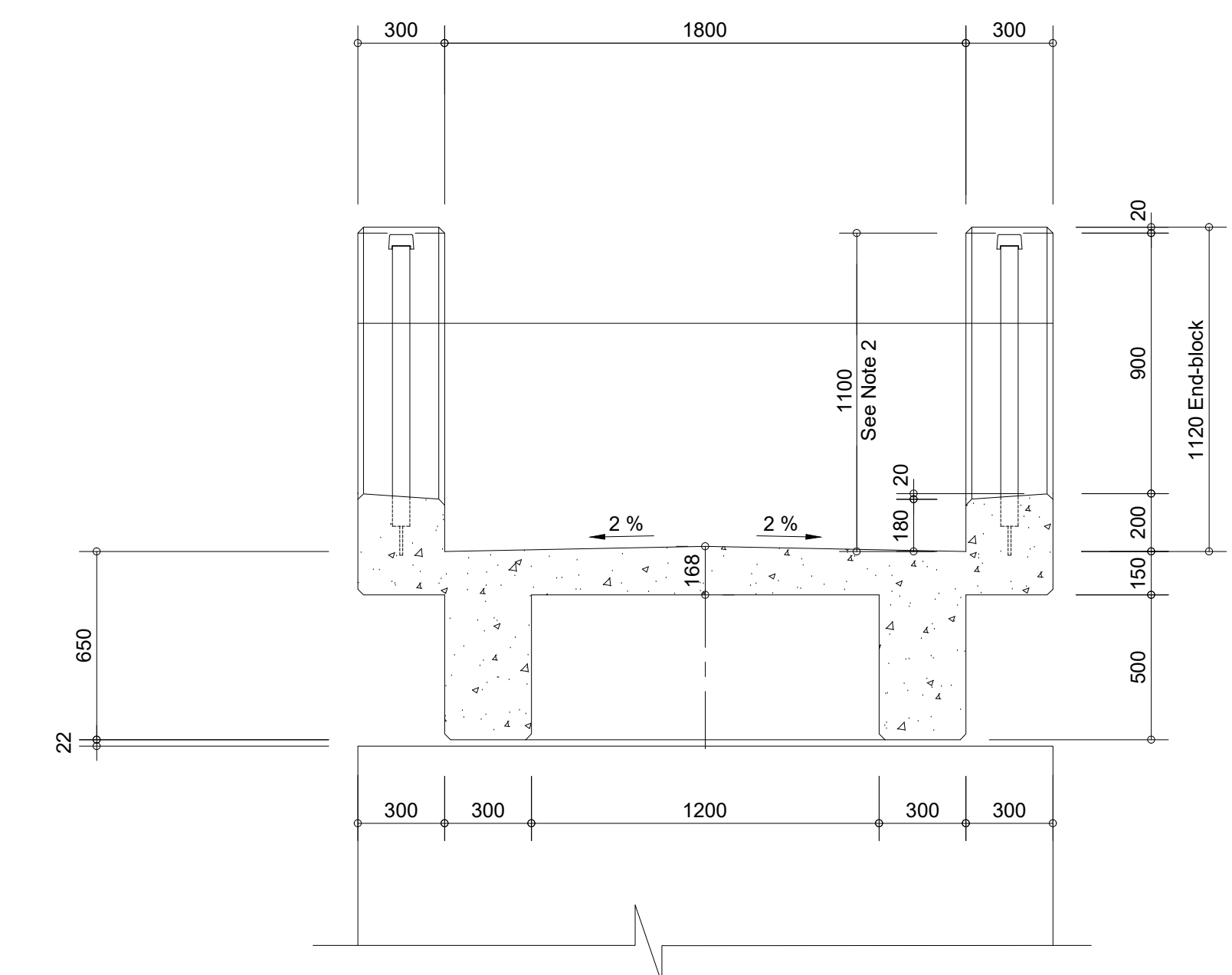
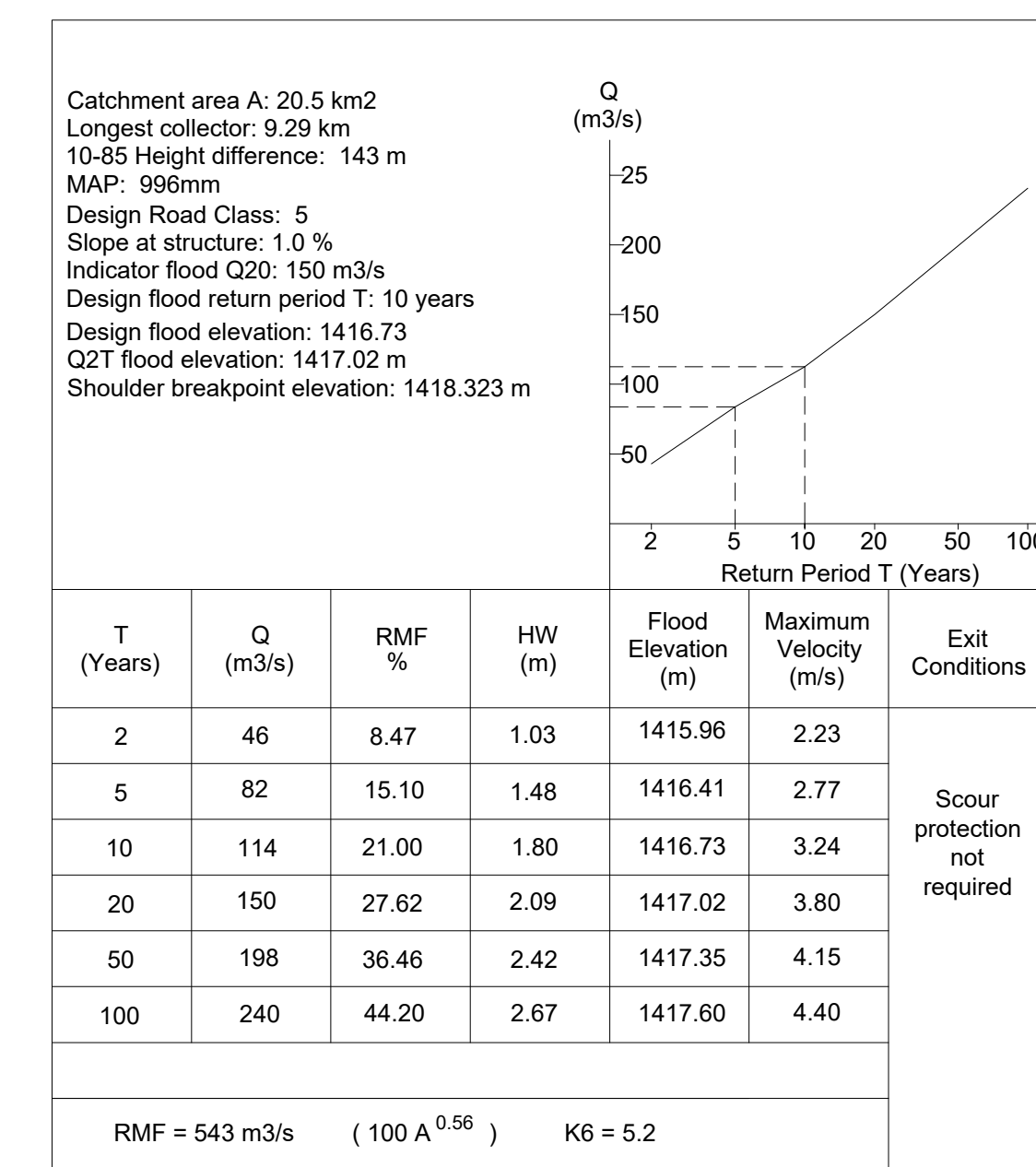
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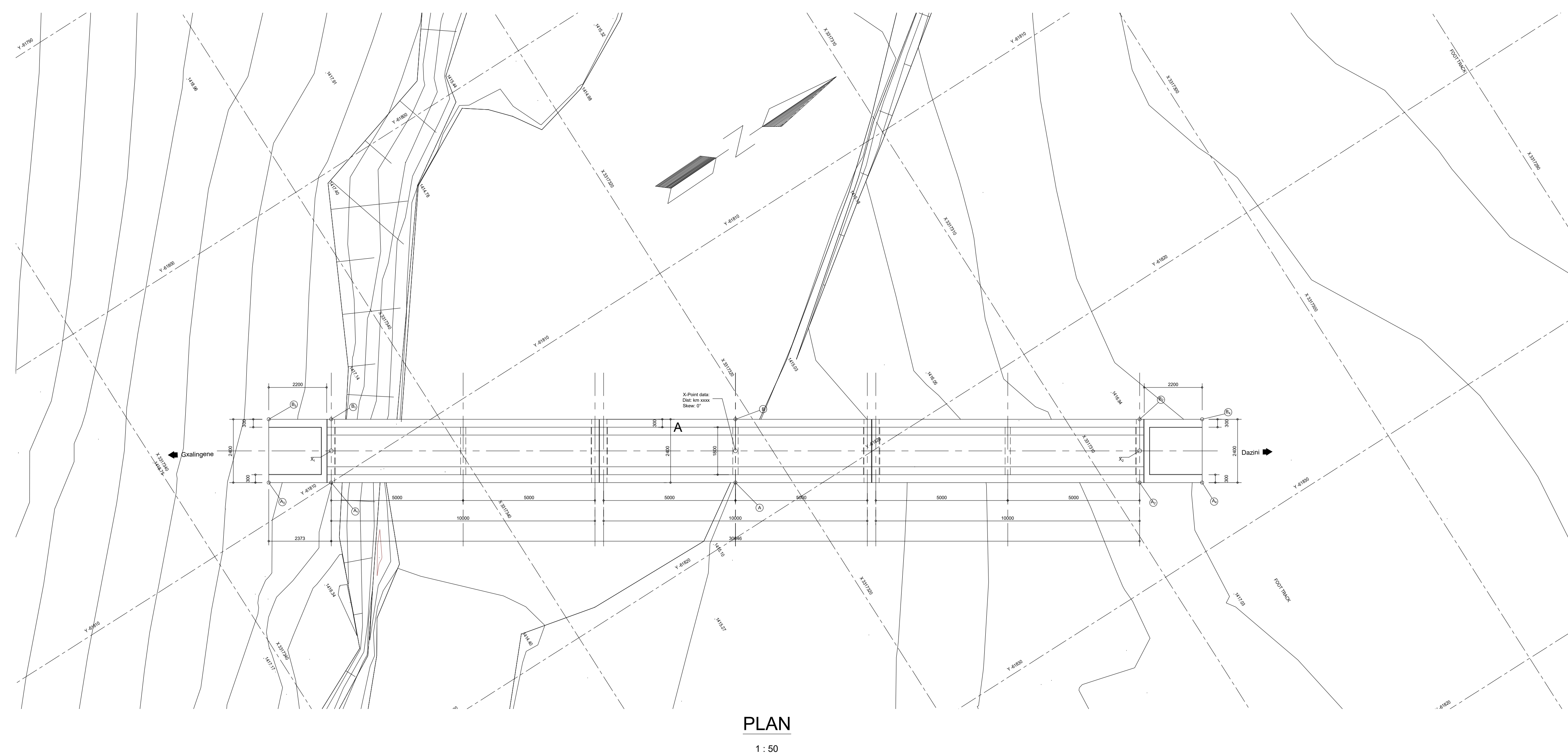
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PROJECT/DRAWING TITLE
DR NKOSAZANA DLAMINI-ZUMA LOCAL MUNICIPALITY
CONSTRUCTION OF NDLANGISA PEDISTRIAN BRIDGE
LAYOUT

SCALE: 1:1000	CONTRACT No. TBC
SHEET 1	OF 1
DRAWING No.	K054.10-ST1T-100
REVISION	T

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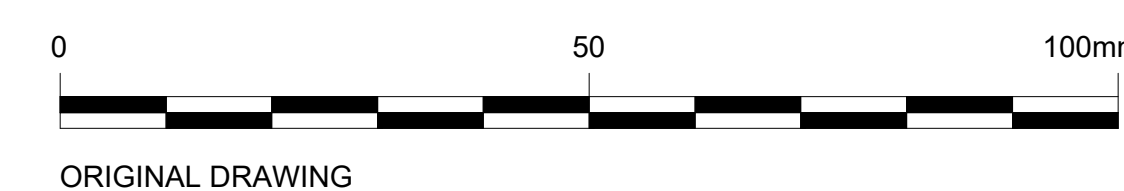
HYDRAULIC & HYDROLOGICAL DATA



Control points Ndlangisa Footbridge Bridge System used WG29			
Benchmark	Y	X	Z
TRIG_61 Y	-58 586.870	3 318 792.100	1823.50
BM01 Y	-61 846.064	3 317 184.513	1436.33
BM02 Y	-61 804.881	3 317 347.400	1420.45

WG29 CO-ORDINATES		
Point	Y	X
A	- 61 818 2295	+ 3 317 321.8375
A ₁	- 61 810.0026	+ 3 317 334.7671
A ₂	- 61 826.4845	+ 3 317 308.9079
A ₃	- 61 808.7292	+ 3 317 336.7694
A ₄	- 61 827.7219	+ 3 317 306.9056
X	- 61 817 2130	+ 3 317 321.1935
X ₁	- 61 808.9900	+ 3 317 334.1231
X ₂	- 61 825.4359	+ 3 317 308.2639
B	- 61 816.2004	+ 3 317 320.5496
B ₁	- 61 807.9775	+ 3 317 333.4752
B ₂	- 61 824.4233	+ 3 317 307.6200
B ₃	- 61 806.7041	+ 3 317 335.4814
B ₄	- 61 825.6967	+ 3 317 305.6177

1. STRUCTURE DESCRIPTION 1.1 There span simply supported reinforced concrete beam and slab. 1.2 Abutments : Reinforced concrete abutment wall abutments 1.3 Foundations : Abutments supported on spread footings 1.4 Ancillary Components : Precast reinforced concrete handrails and end blocks	5. MATERIALS AND STRESSES 5.1 Concrete : 15/38 : Foundation fill 30/19 : Scribed/Blinding 30/19 : Bases 15/19 : Abutment walls, eavings; pier walls wingwalls, walkway slabs 30/19 : Deck slab 40/13 : Handrails and End Blocks
2. HYDROLOGY AND HYDRAULICS 2.1 Hydrology : The total catchment area at the crossing is 20.5 km ² with a longest collector of 9.29 km. The flows at the site were determined using the SCS Type II unit hydrograph for a 10 year flood return period. The design is a class 5 (Pa 8.2) hence designed for Q10 (10 year flood return period). The minimum freeboard required is 0.3 m from fig. 8.3 of the SANRAL Drainage Manual. The Q27 level for the 10 year flood return period is satisfied.	5.2 Reinforcing steel (RSI) Steel : M50 MPa HTS : AS20 MPa
2.2 Hydraulics : (see hydraulics Table above)	6. CONCRETE COVER AND FINISHES 6.1 Minimum concrete cover to reinforcement 50mm Foundations 40mm Abutments 40mm Deck 35mm Handrails and end blocks
3. DESIGN CODES AND LOADING 3.1 Code : TMH7 Parts 1, 2 and 3 (As amended 1988) 3.2 Loading : Live load : 4 kN/m ² Dead loads : Reinforced concrete : 25.5 kN / m ³ : Compacted fill : 20 kN / m ³ Earth Pressures : At rest earth pressure assumed	6.2 All sharp concrete edges to be chamfered 20mm x 20mm U.O.S. 6.3 Formed concrete surfaces Class F1 Concressed surfaces Class F2 Exposed surfaces Class F3 NJ parapets and end blocks 6.4 Unformed concrete finishes Class U1 Top of pile caps and bases Class U2 Top of walls and bridge bearing areas Class U3 Top of parapets
4. DESIGN METHOD AND PARAMETERS 4.1 Design Method : Limit State Design to TMH7 Parts 1, 2 and 3 As amended 1988) 4.2 Parameters : Deck analysis : Grillage Analysis	7. CONSTRUCTION SAFETY 7.1 The contractor shall observe all safety requirements of the Construction Regulations of the OHS Act No. 85 of 1993 7.2 Special attention shall be paid to : - Lateral support of excavations exceeding 1.5m in depth - Protection around open excavations - Fall protection from all components during erection and concreting - Access and drainage



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PROJECT ENGINEER	H. FUYANA
REGISTRATION NO.:	201670323

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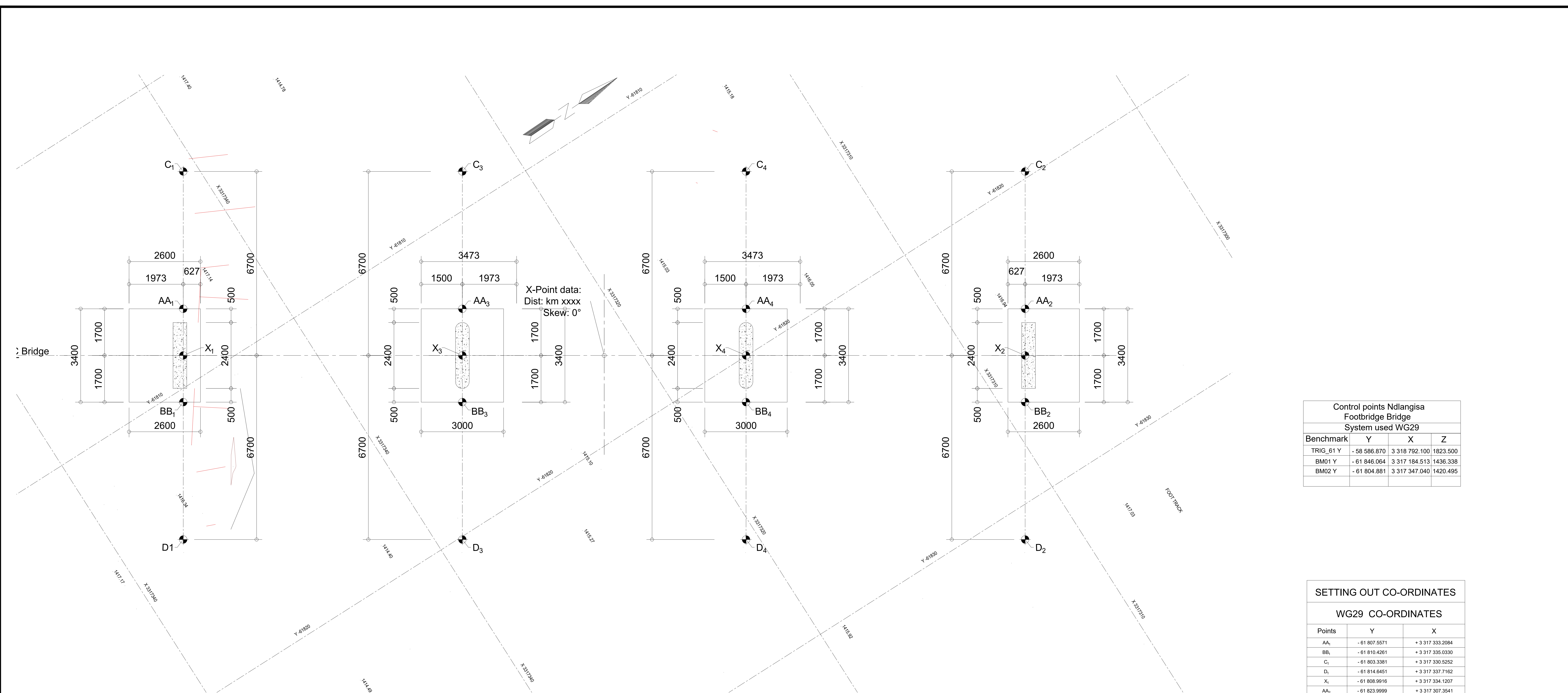
PROJECT/DRAWING TITLE

NKOSAZANA DLAMINI ZUMA LOCAL MUNICIPALITY

NDLANGISA PEDESTRIAN BRIDGE

GENERAL ARRANGEMENT

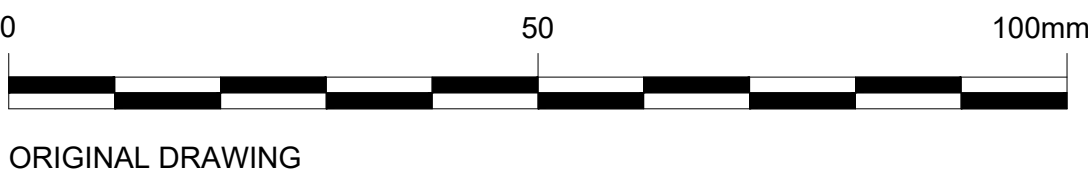
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SHEET OF 1 1	PROJECT No. K054.10
DRAWING No.	K054.10 - B0T - 100
REVISION	T



Control points Ndlangisa Footbridge Bridge System used WG29			
Benchmark	Y	X	Z
TRIG_61 Y	- 58 586.870	3 318 792.100	1823.500
BM01 Y	- 61 846.064	3 317 184.513	1436.338
BM02 Y	- 61 804.881	3 317 347.040	1420.495

SETTING OUT CO-ORDINATES

WG29 CO-ORDINATES		
Points	Y	X
AA ₁	- 61 807.5571	+ 3 317 333.2084
BB ₁	- 61 810.4261	+ 3 317 335.0330
C ₁	- 61 803.3381	+ 3 317 330.5252
D ₁	- 61 814.6451	+ 3 317 337.7162
X ₁	- 61 808.9916	+ 3 317 334.1207
AA ₂	- 61 823.9999	+ 3 317 307.3541
BB ₂	- 61 826.8688	+ 3 317 309.1787
C ₂	- 61 819.7808	+ 3 317 304.6709
D ₂	- 61 831.0879	+ 3 317 311.8619
X ₂	- 61 825.4343	+ 3 317 308.2664
X	- 61 817.2130	+ 3 317 321.1935
AA ₃	- 61 813.0086	+ 3 317 324.6365
BB ₃	- 618 15.8776	+ 3 317326.4611
C ₃	- 61 808.7896	+ 3 317 321.0533
D ₃	- 61 820.0966	+ 3 317 329.1443
X ₃	- 61 814.4431	+ 3 317 325.5488
AA ₄	- 61 816.5483	+ 3 317 315.9260
BB ₄	- 61 821.4173	+ 3 317 317.7505
C ₄	- 61 814.3293	+ 3 317 313.2427
D ₄	- 61 825.6363	+ 3 317 320.4338
X ₄	- 61 819.9828	+ 3 317 316.8383



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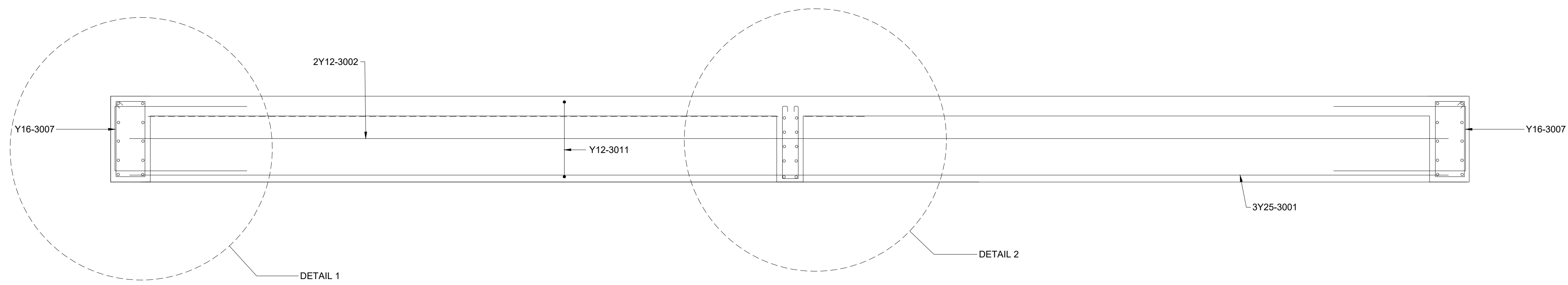
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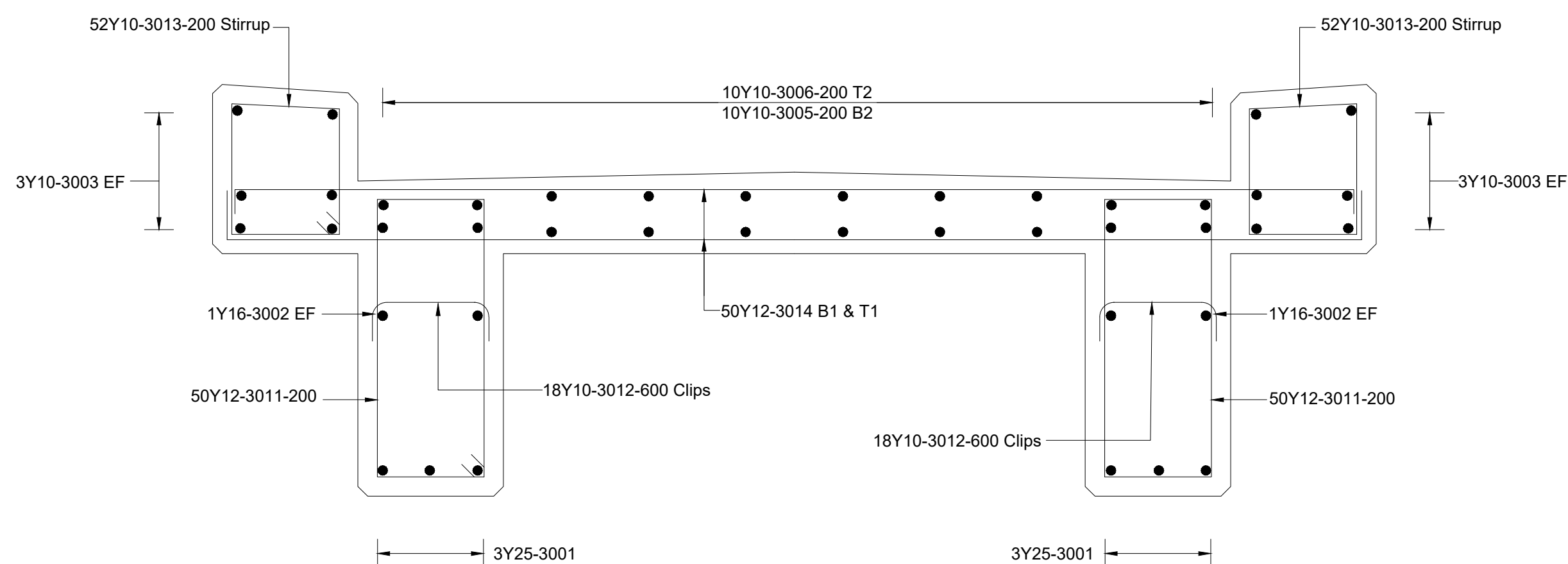
PROJECT/DRAWING TITLE
NKOSAZANA DLAMINI ZUMA LOCAL MUNICIPALITY
NDLANGISA PEDESTRIAN BRIDGE
FOUNDATION LAYOUT

SCALE: AS SHOWN	CONTRACT No. T.B.C
SHEET 1	OF 1
DRAWING No.	K054.10 - B0T - 101
REVISION	T



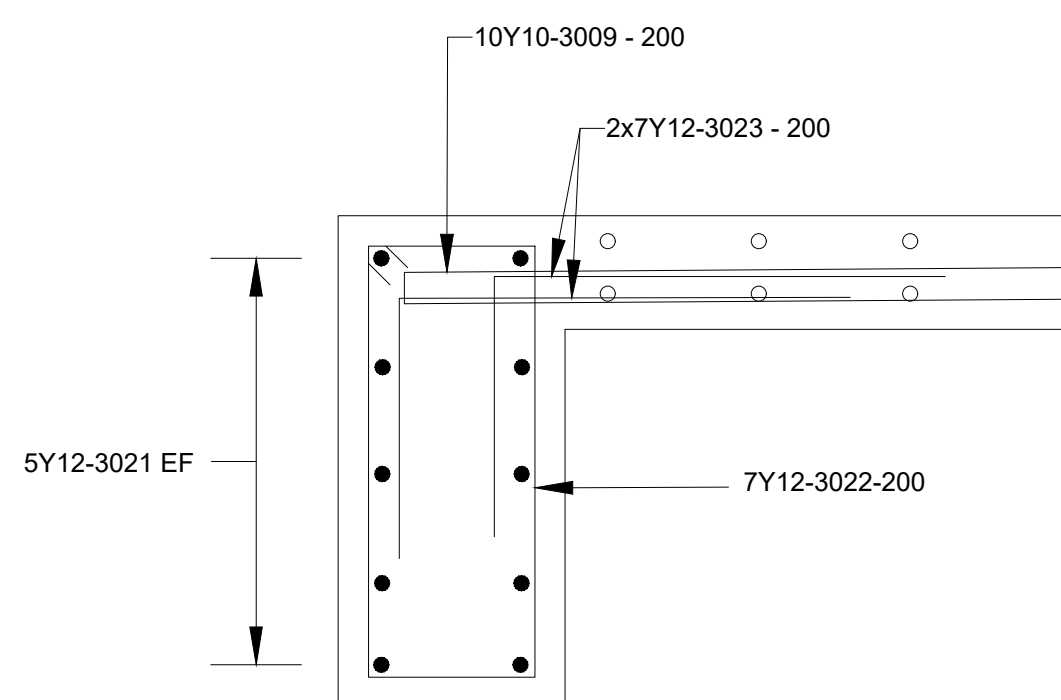
BEAM ELEVATION (3 No.s)

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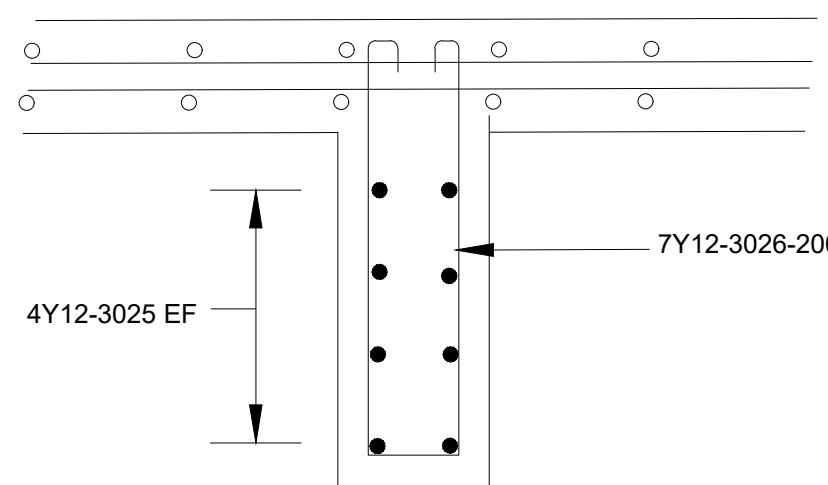
DECK CROSS SECTION

1 : 10



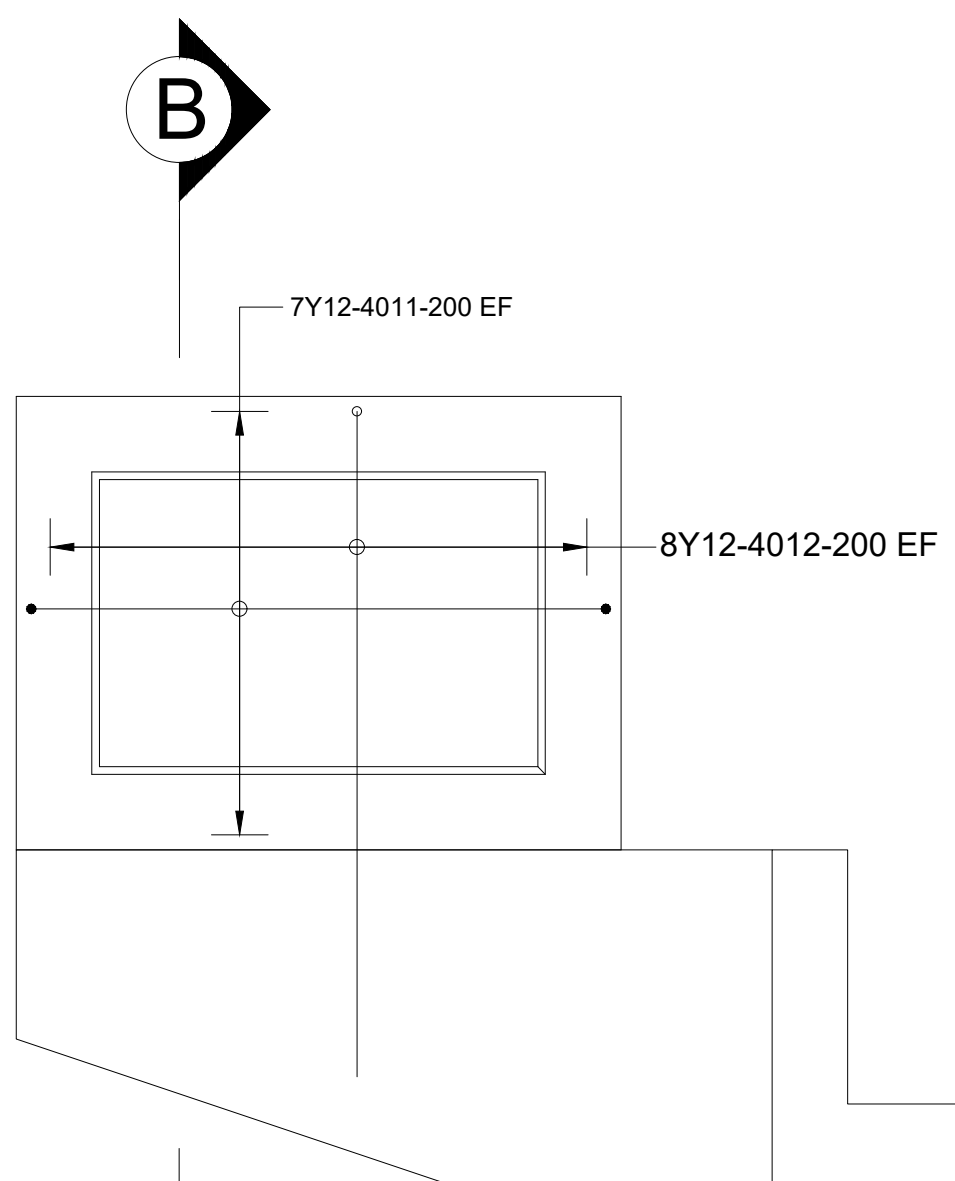
DETAIL 1

1 : 10



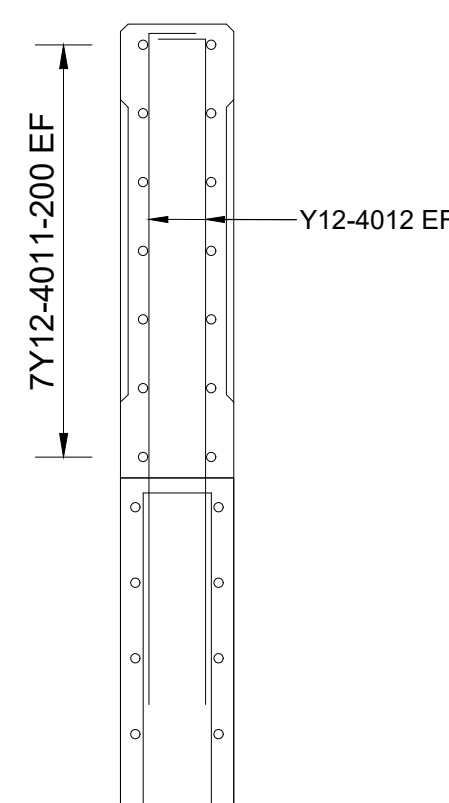
DETAIL 2

1 : 10



ENDBLOCK ELEVATION

1 : 20

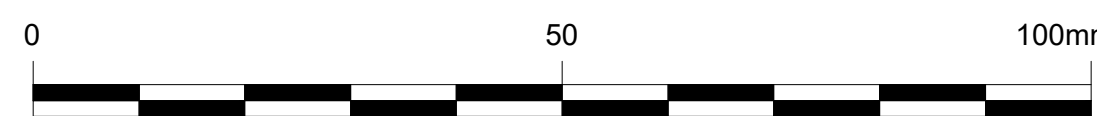


SECTION B-B

1 : 20

NOTES

- Concrete class:
15/19 (15 MPa) Blinding
30/19 (30 MPa) Bases, Piers, and Footings
- Clear Cover to Steel Reinforcement
Concrete cover to reinforcement shall be:
Footing - 50mm
Abutment walls - 40mm
Deck - 40mm
Endblock - 40mm
- Steel Reinforcement
Reinforcement to conform to SABS 920-2011.
Reinforcement shall be bent in accordance with SABS-82-1976 including amendment No. 1-1986.
Characteristic strengths:
Mild steel (R) bars : 250 MPa
High yield stress (Y) bars : 450 MPa
Unless otherwise shown, the minimum reinforcement lap length shall be 45 x dia. of the smaller bar.
- Legend
EF - Each face
NF - Near face
FF - Far face
EW - Each way
BS - Bottom slab
TS - Top slab
T1 - T2
T3 - T4
B1 - B2
B3 - B4
- Chamfers:
All exposed sharp concrete edges to be chamfered 20mm x 20mm unless otherwise shown.
- Formed concrete surface finishes:
Class F1 Concealed surfaces (Rough)
Class F2 Visible surfaces (Smooth)
- Unformed concrete surface finishes:
Class U1 Concealed surfaces
Class U2 Visible surfaces



ORIGINAL DRAWING

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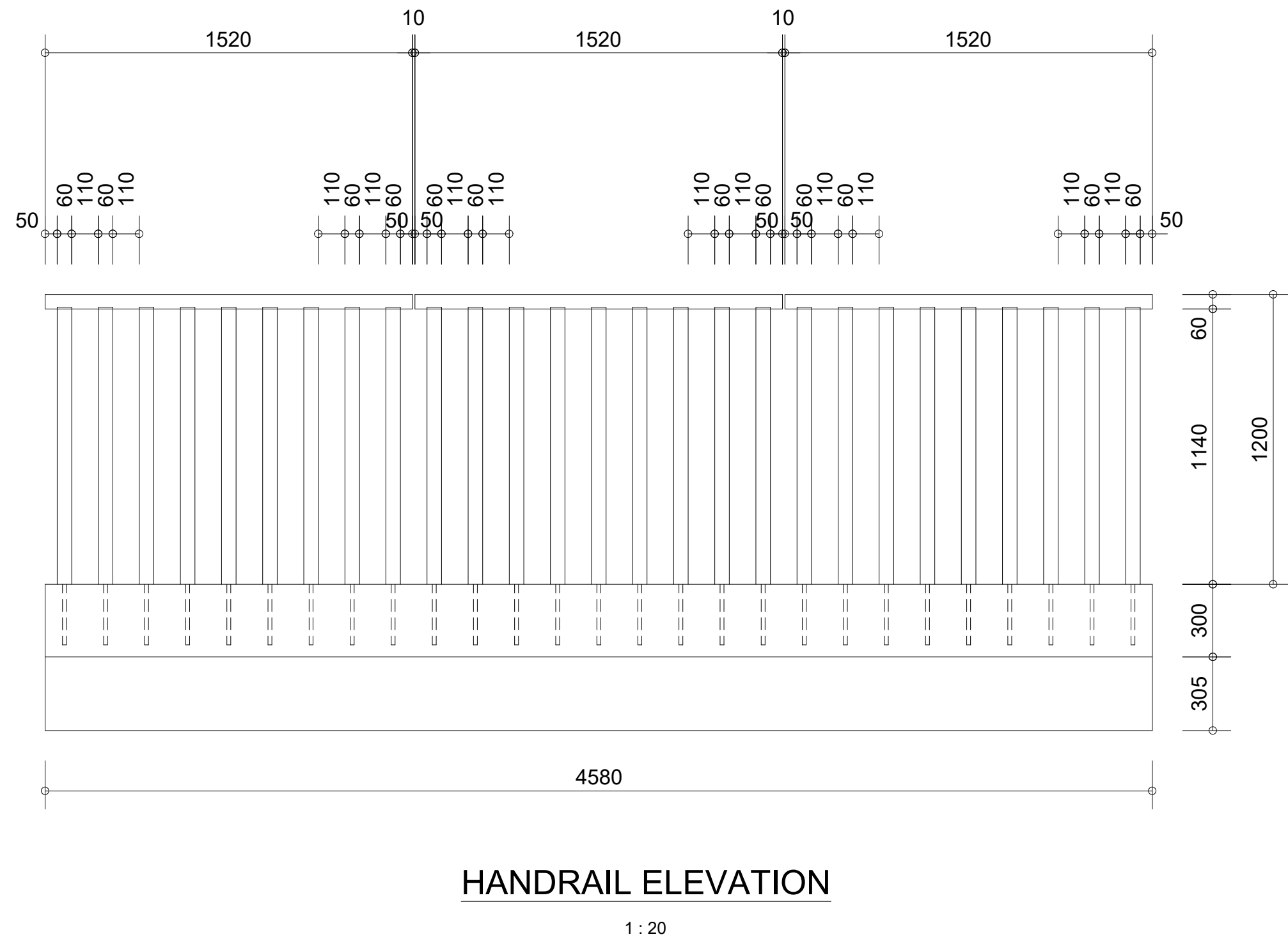
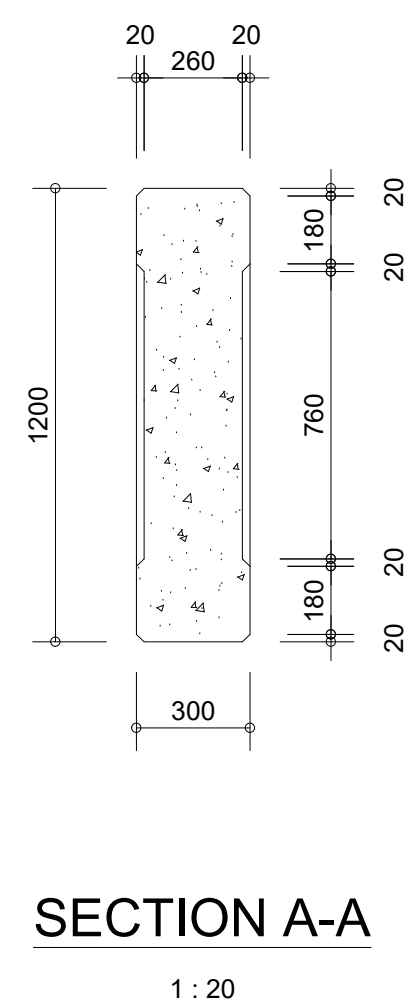
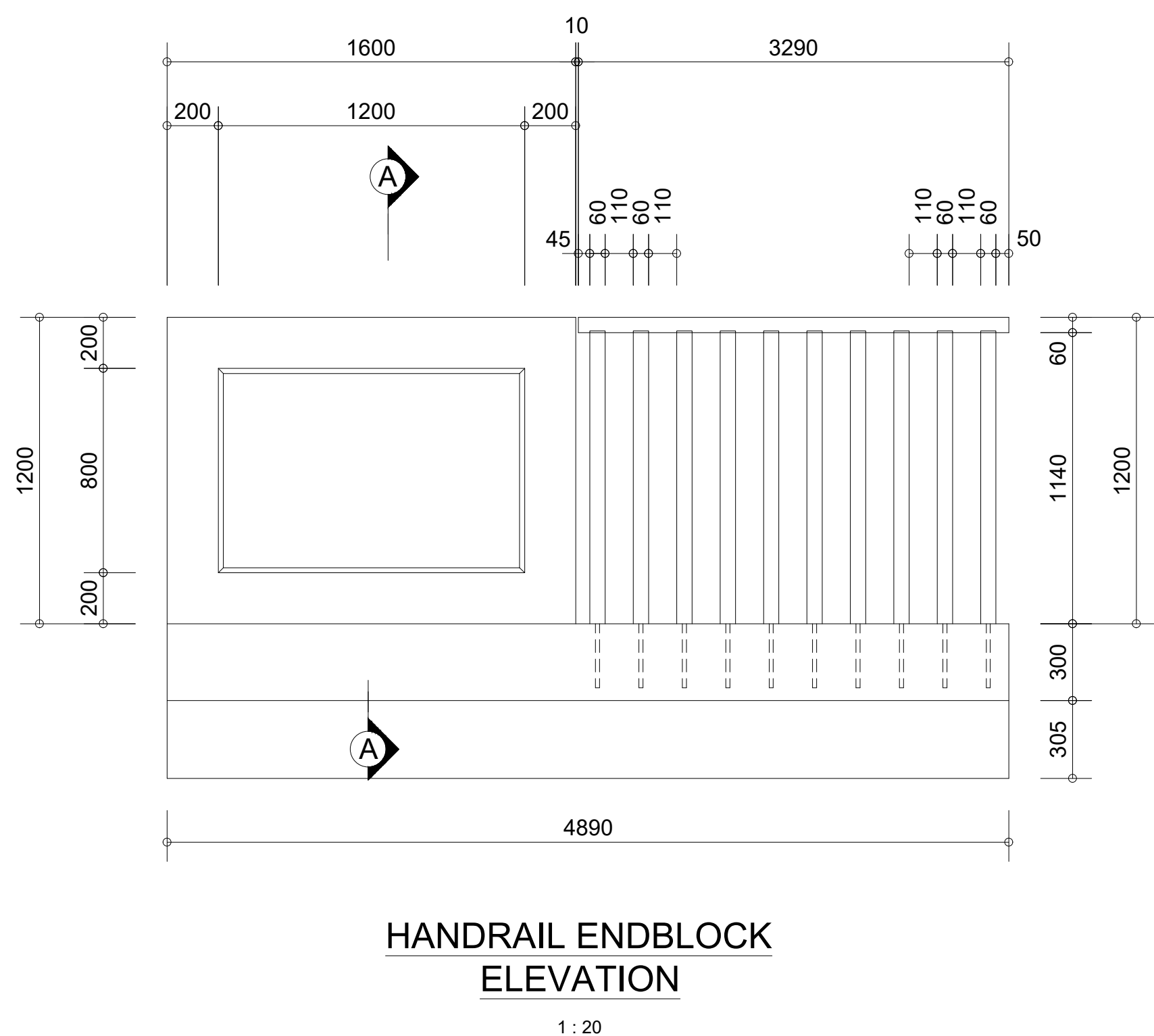
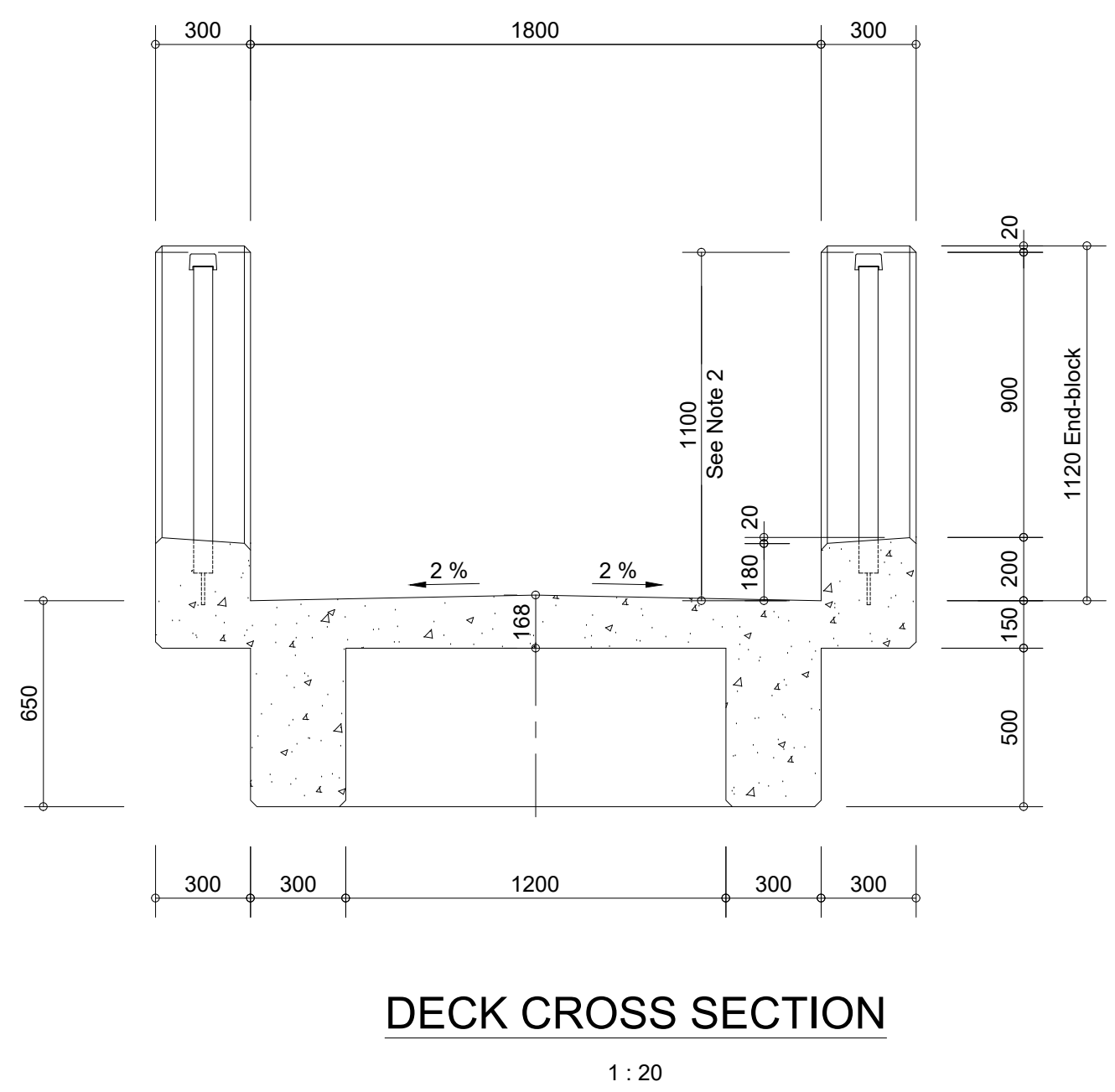
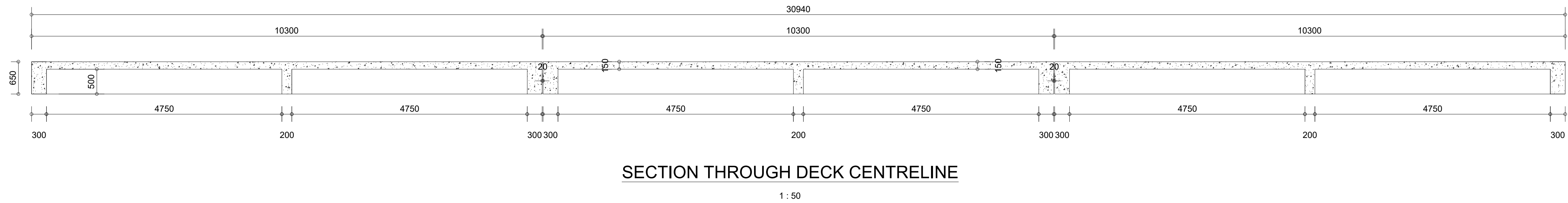
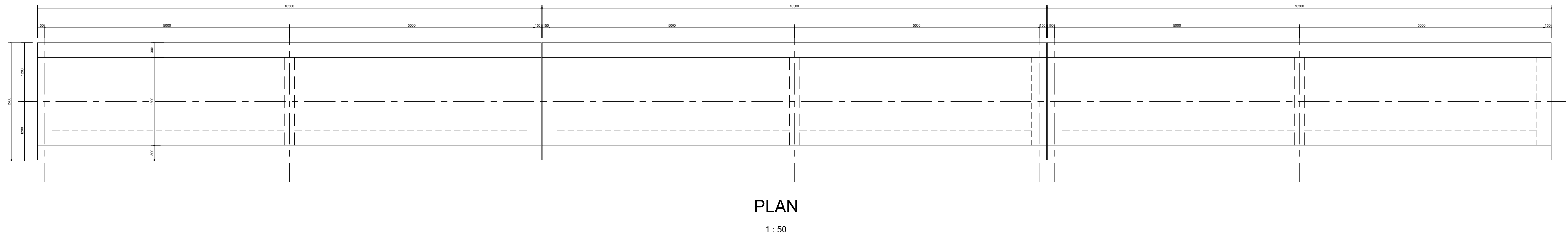
PROJECT/DRAWING TITLE

NKOSAZANA DLAMINI ZUMA LOCAL MUNICIPALITY

NDLANGISA PEDESTRIAN BRIDGE

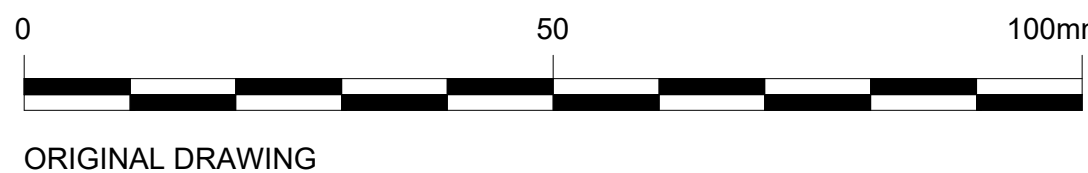
DECK REINFORCEMENT DETAILS

SCALE: AS SHOWN	CONTRACT No. T.B.C
SHEET 1	OF 1
DRAWING No.	PROJECT No. K054.10
REVISION	K054.10 - B0T - 102 T



NOTES

- Concrete class:
15/19 (15 MPa) Blinding
30/19 (30 MPa) Bases, Piers, and Footings
- Clear Cover to Steel Reinforcement
Concrete cover to reinforcement shall be:
Footings - 50mm
Abutment walls - 40mm
Pier walls - 40mm
Deck - 40mm
Endblock - 40mm
- Steel Reinforcement
Reinforcement to conform to SABS 920-2011.
Reinforcement shall be bent in accordance with SABS-82-1976 including amendment No. 1-1986.
Characteristic strengths:
Mild steel (R) bars : 250 MPa
High yield stress (Y) bars : 450 MPa
Unless otherwise shown, the minimum reinforcement lap length shall be 45 x dia. of the smaller bar.
- Legend
EF - Each face T1 -
NF - Near face T2 -
FF - Far face B2 -
EW - Each way B1 -
BS - Bottom slab B4 -
TS - Top slab
- Chamfers:
All exposed sharp concrete edges to be chamfered 20mm x 20mm unless otherwise shown.
- Formed concrete surface finishes:
Class F1 Concealed surfaces (Rough)
Class F2 Visible surfaces (Smooth)
- Unformed concrete surface finishes:
Class U1 Concealed surfaces
Class U2 Visible surfaces



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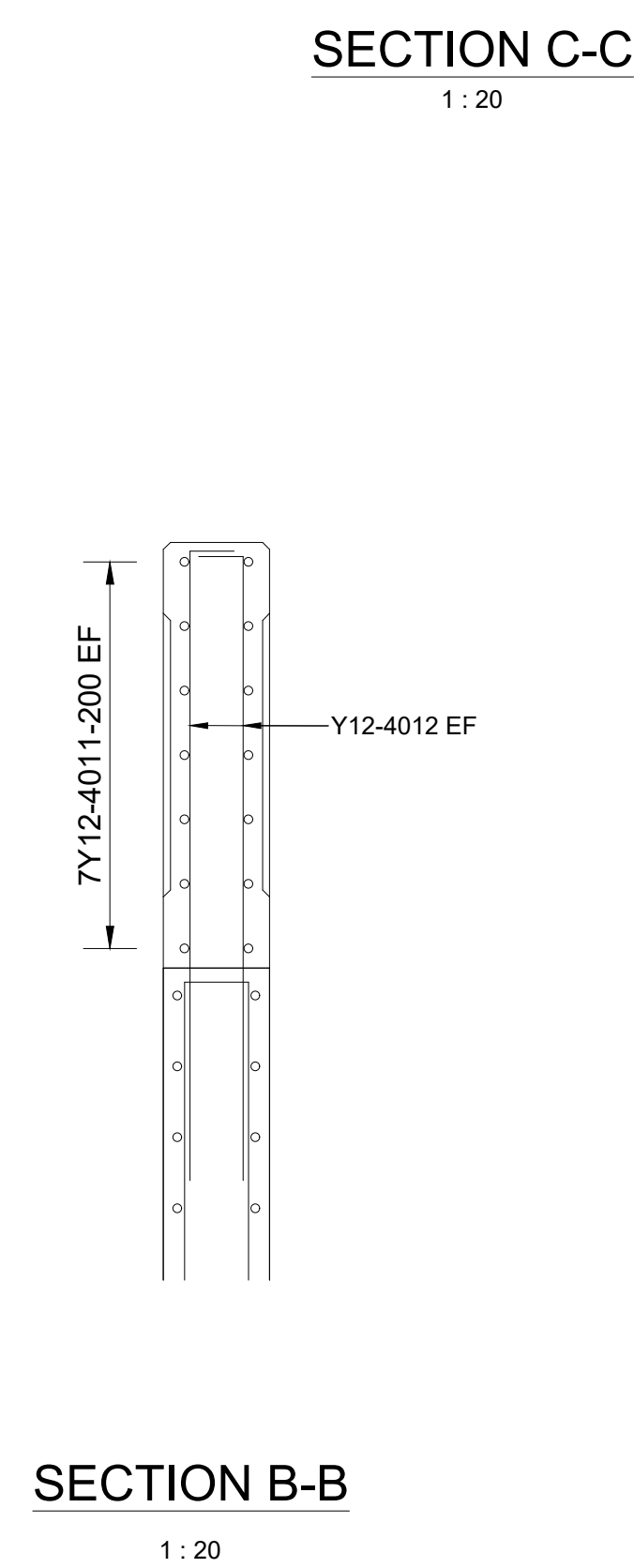
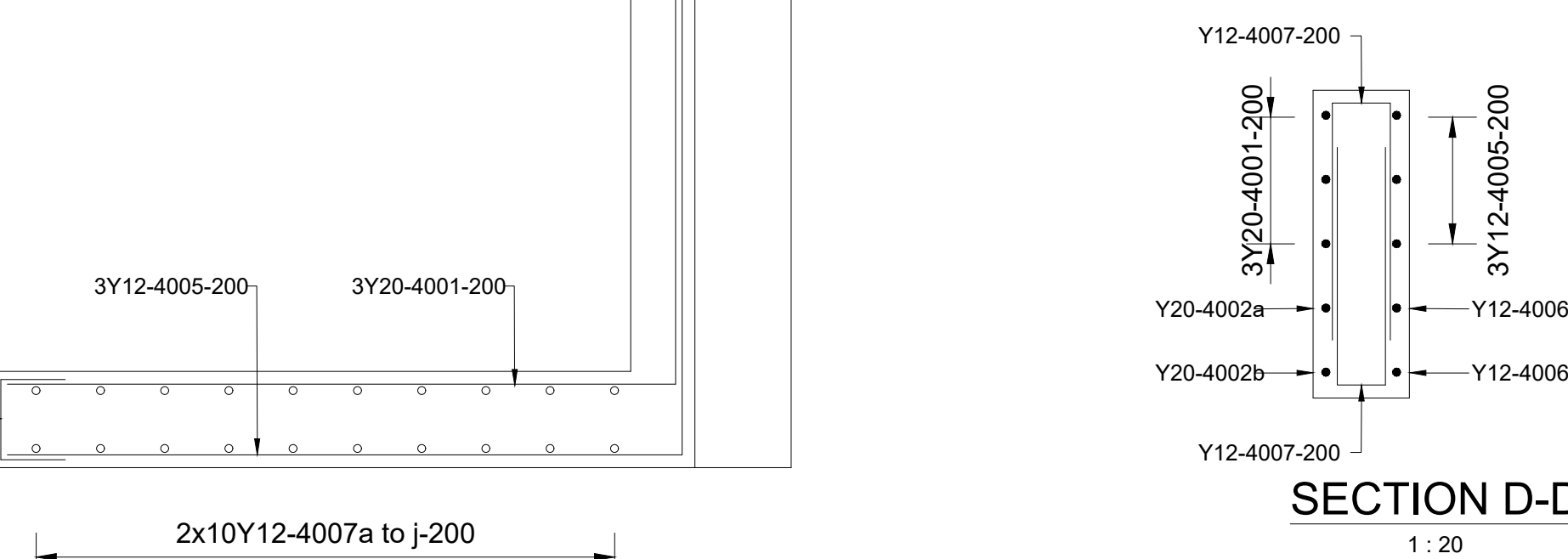
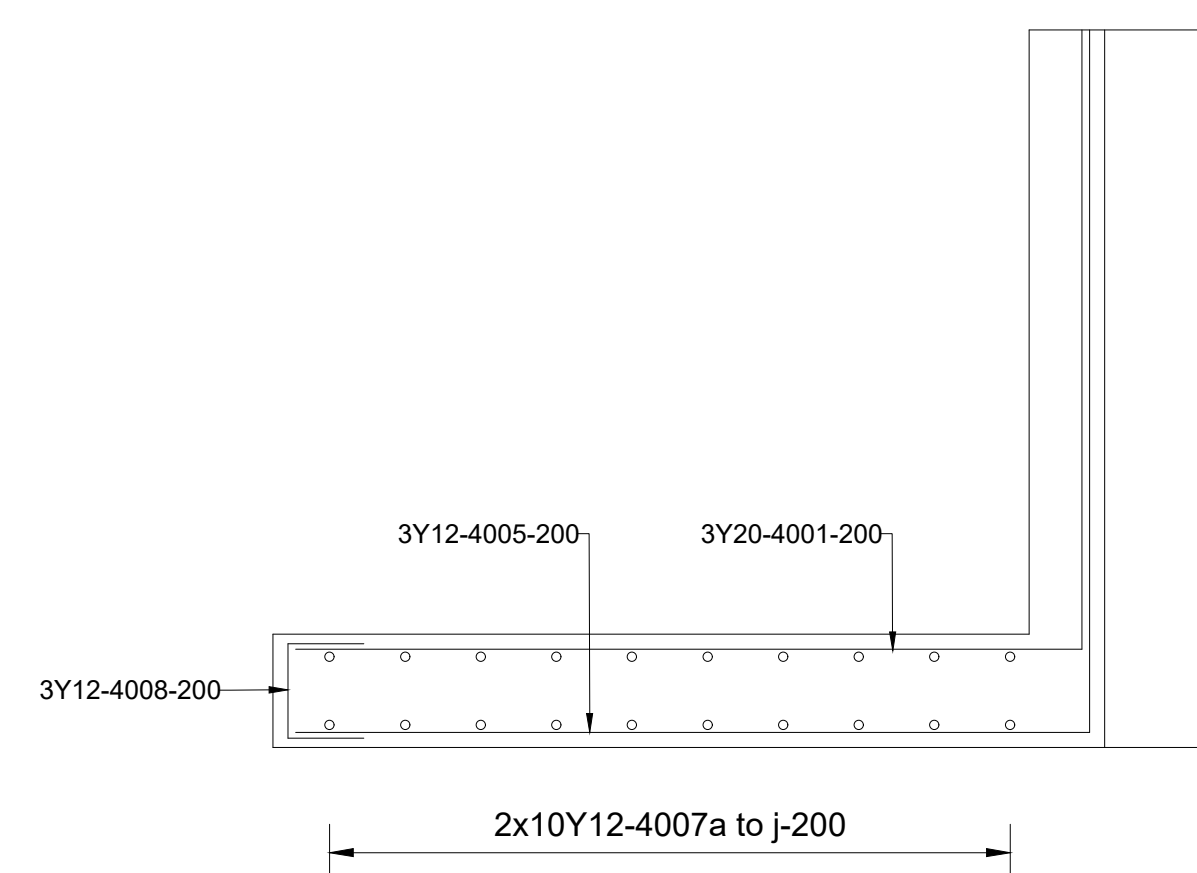
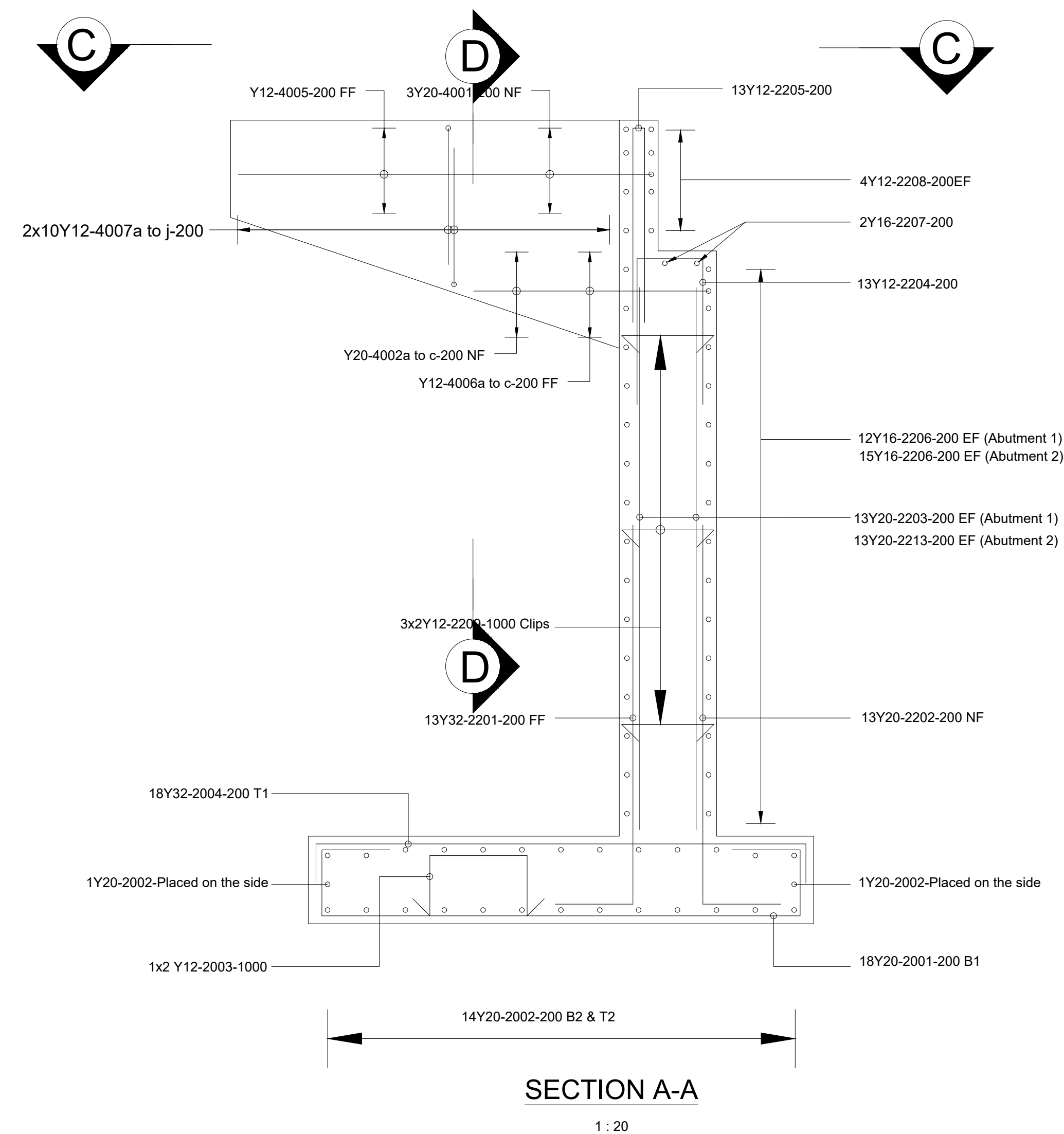
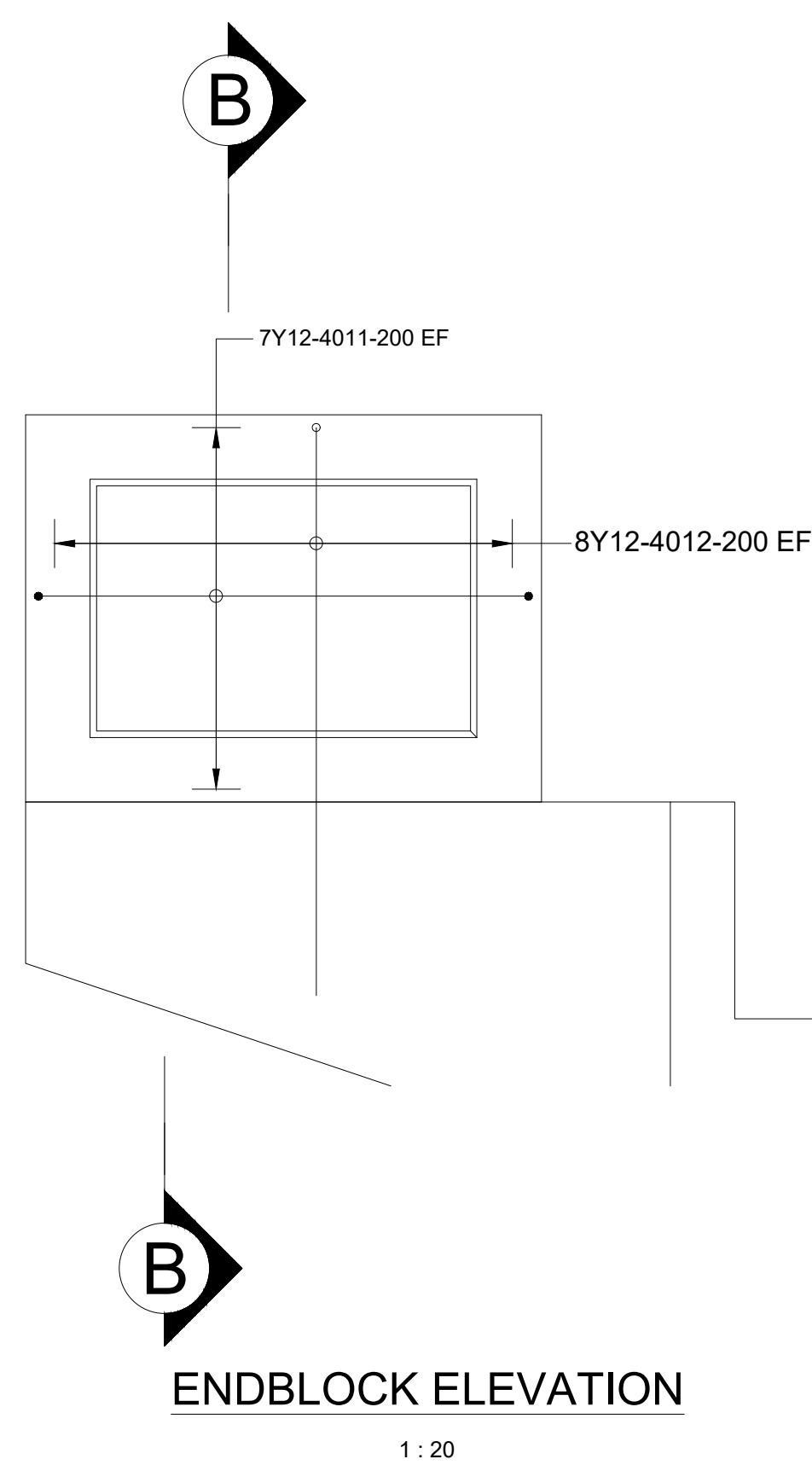
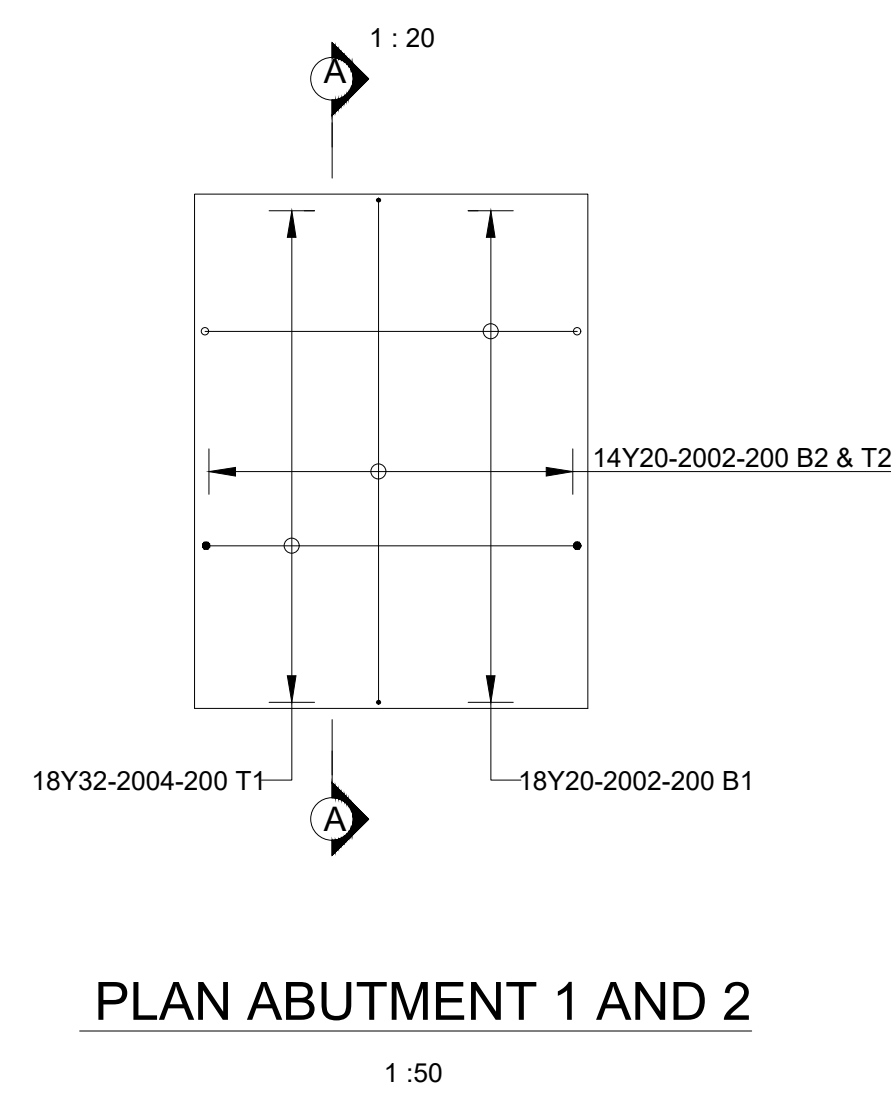
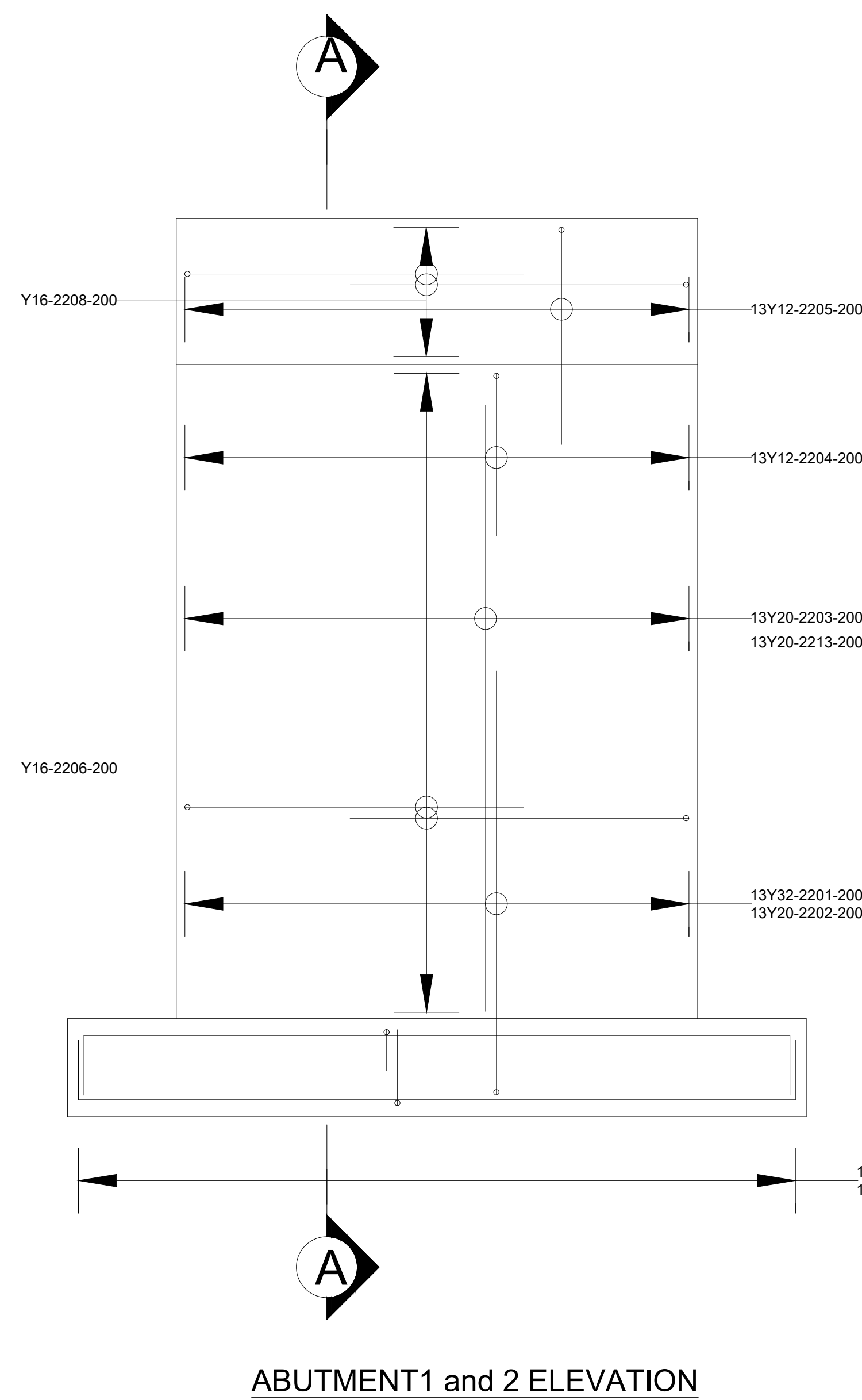
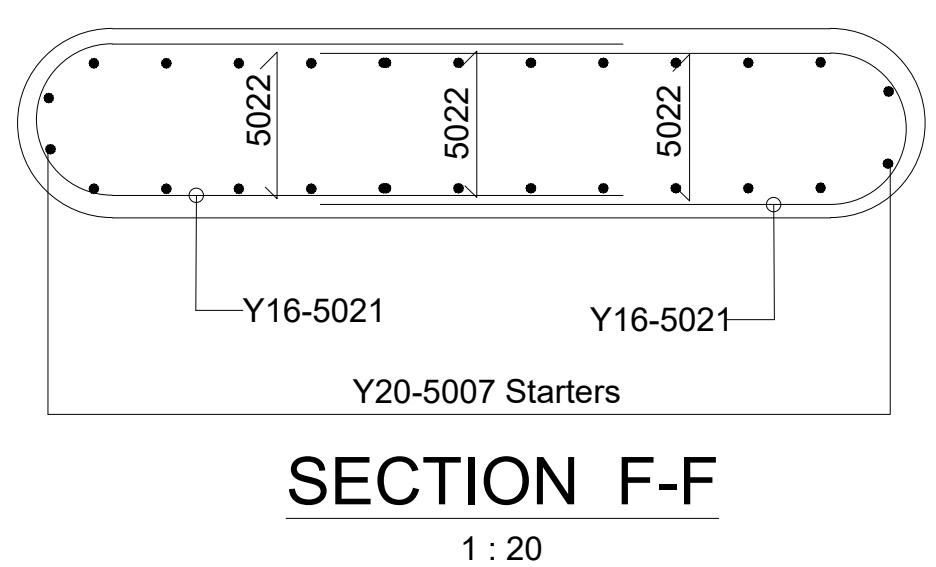
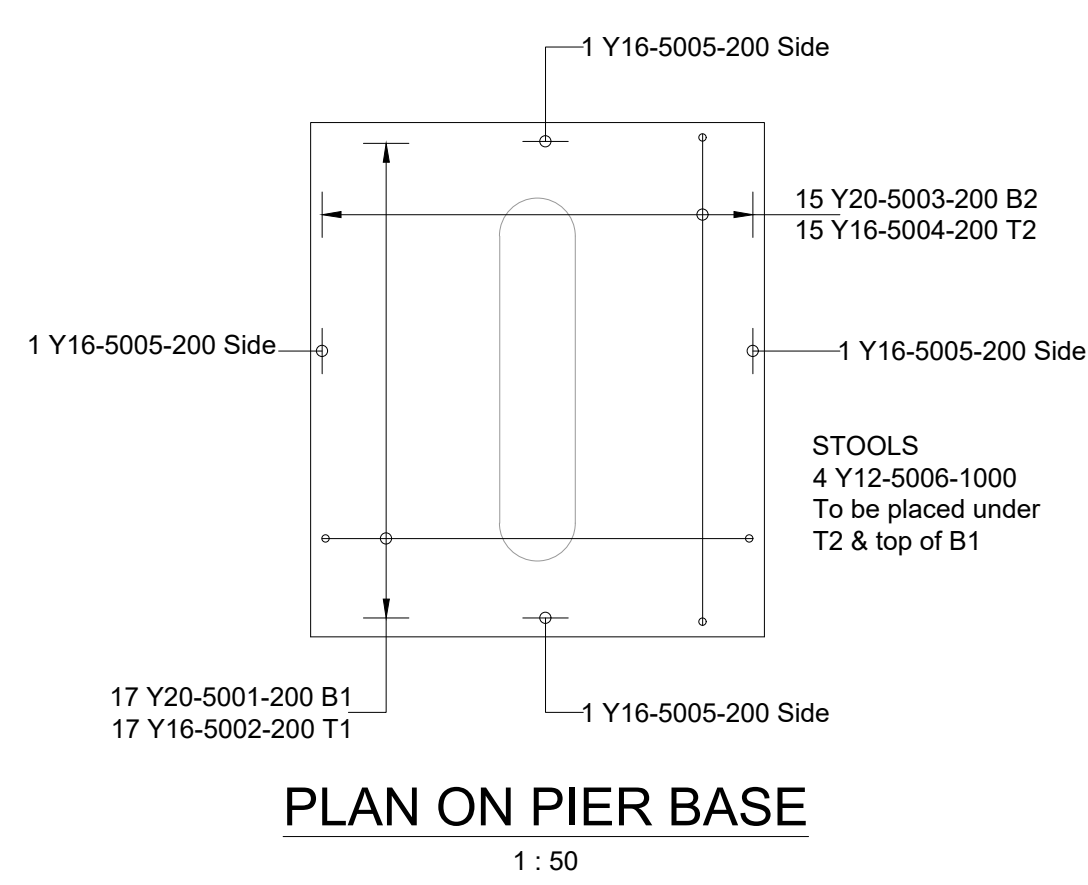
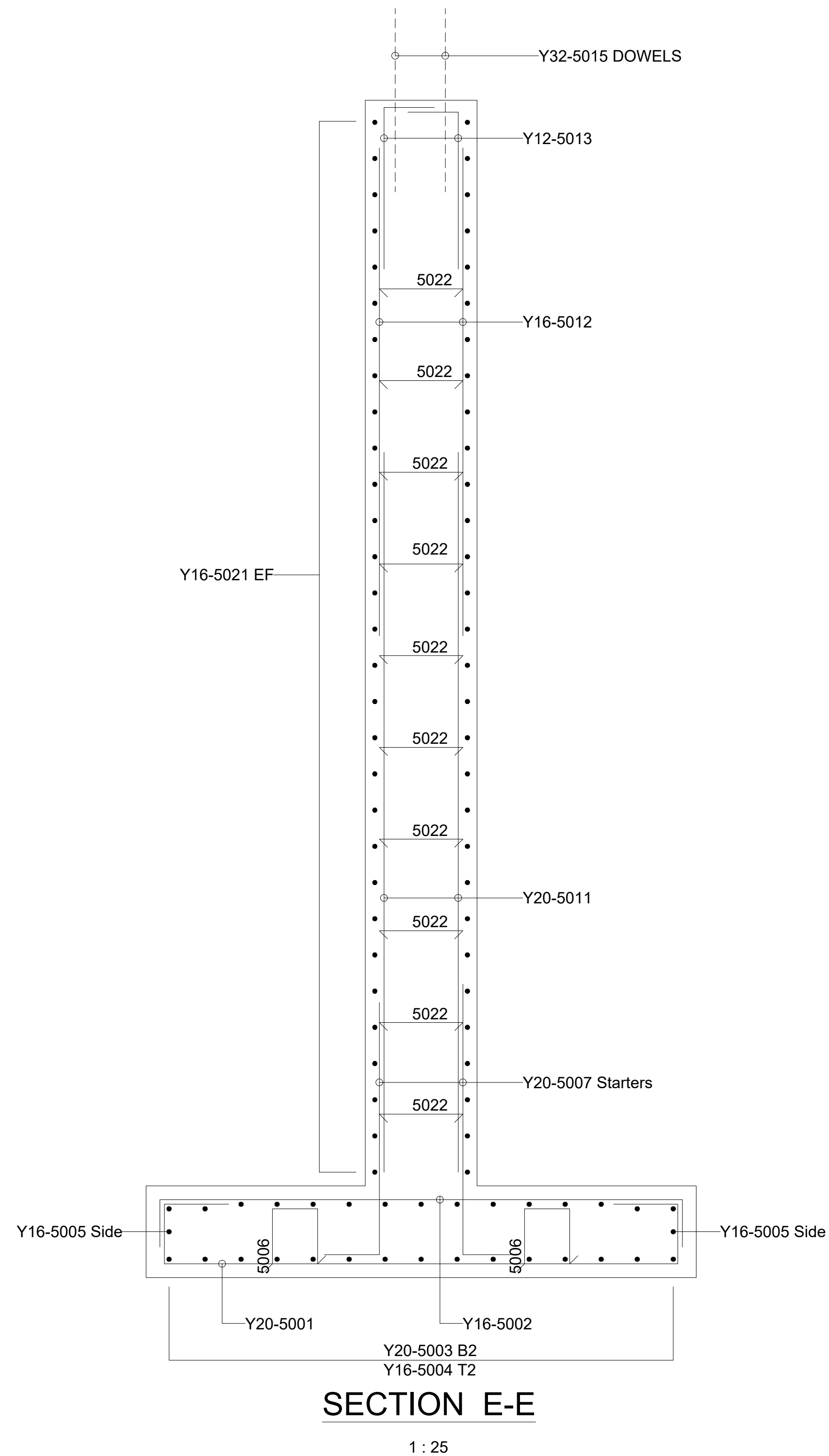
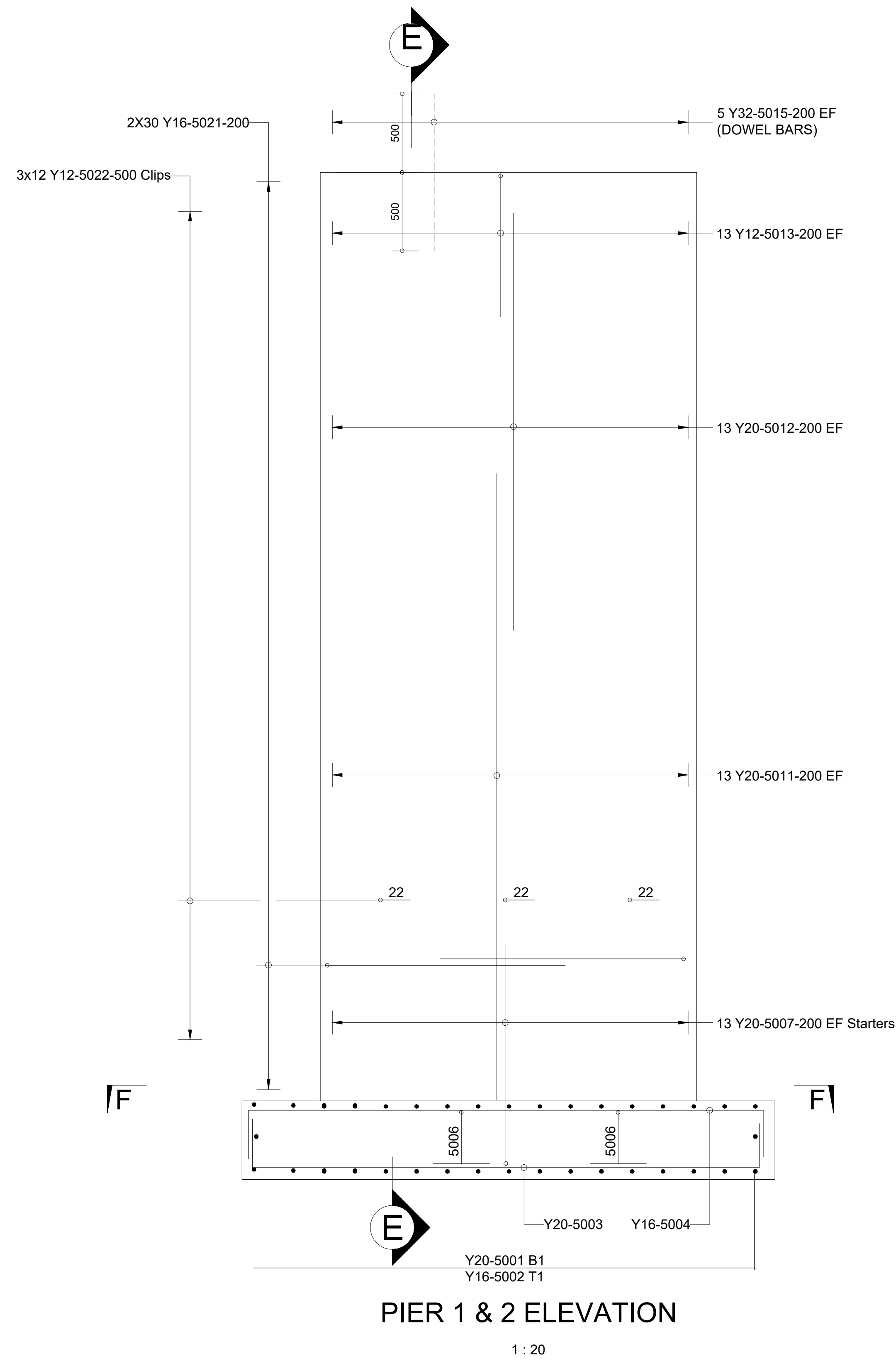
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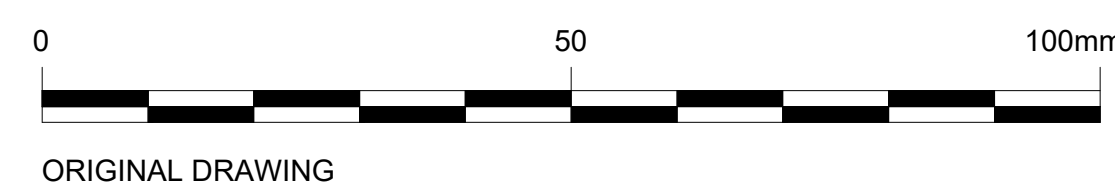
NKQOZAKANA DLAMINI ZUMA LOCAL MUNICIPALITY
NDLANGISA PEDESTRIAN BRIDGE
DECK CONCRETE DETAILS

SCALE: AS SHOWN	CONTRACT No. T.B.C
SHEET 1	OF 1
DRAWING No.	K054.10 - B0T - 103
REVISION	T



NOTES

- Concrete class:
15/19 (15 MPa) Blinding
30/19 (30 MPa) Bases, Piers, and Footings
- Clear Cover to Steel Reinforcement
Concrete cover to reinforcement shall be;
Footings - 50mm
Abutment walls - 40mm
Deck - 40mm
Endblock - 40mm
- Steel Reinforcement
Reinforcement to conform to SABS 920-2011.
Reinforcement shall be bent in accordance with SABS-82-1976 including amendment No. 1-1986.
Characteristic strengths:
Mild steel (R) bars : 250 MPa
High yield stress (Y) bars : 450 MPa
Unless otherwise shown, the minimum reinforcement lap length shall be 45 x dia. of the smaller bar.
- Legend
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- Chamfers:
All exposed sharp concrete edges to be chamfered 20mm x 20mm unless otherwise shown.
- Formed concrete surface finishes:
Class F1 Concealed surfaces (Rough)
Class F2 Visible surfaces (Smooth)
- Unformed concrete surface finishes:
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Class U2 Visible surfaces



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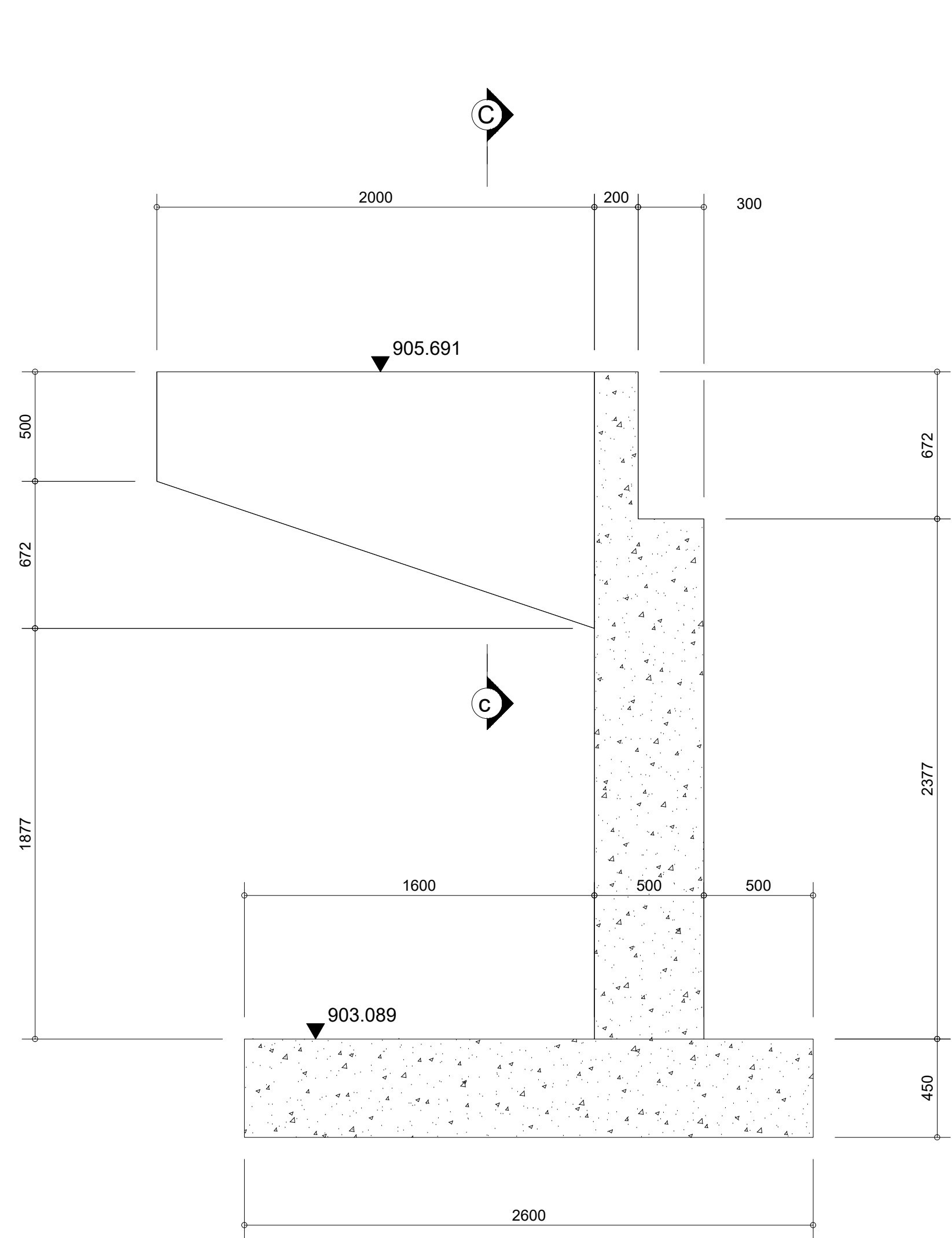


ON BEHALF OF CLIENT: SIGNATURE: _____

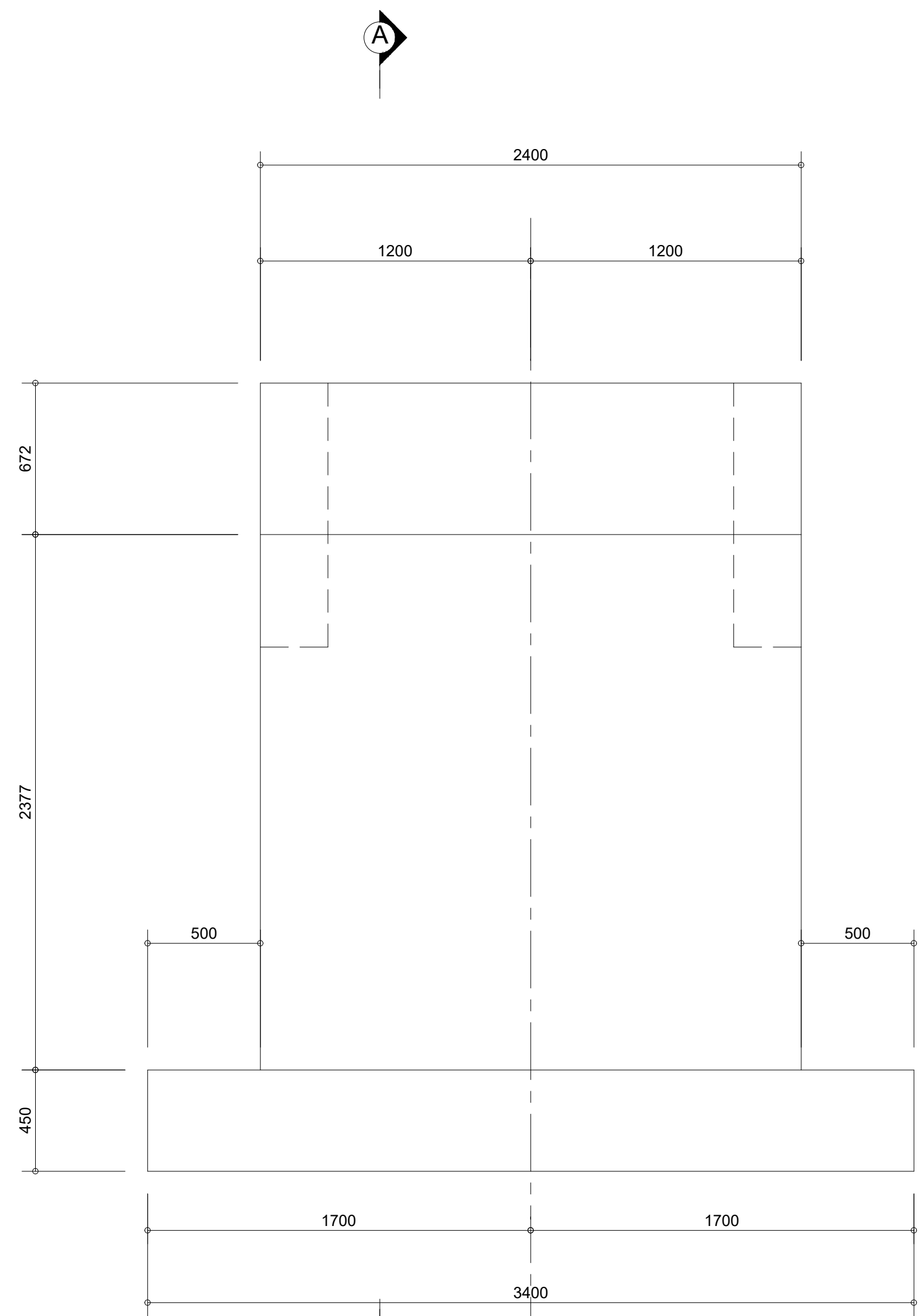
POSTAL ADDRESS:	
P.O BOX 62	
CREIGHTON	
3263	

PROJECT/DRAWING TITLE	
NKOSAZANA DLAMINI ZUMA LOCAL MUNICIPALITY	
NDLANGISA PEDESTRIAN BRIDGE	
ABUTMENTS AND PIERS REINFORCEMENT DETAILS	

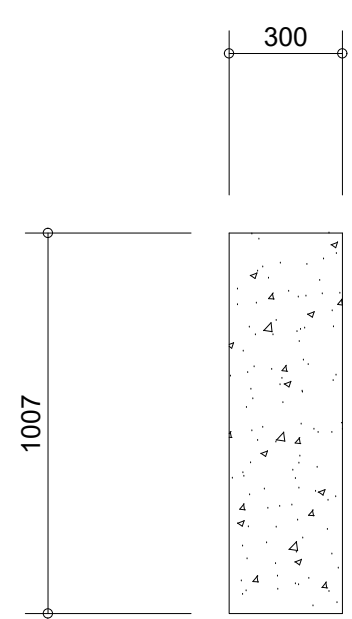
SCALE: AS SHOWN	CONTRACT No. T.B.C
SHEET 1	PROJECT No. K054.10
DRAWING No.	K054.10 - B0A - 104
REVISION	T



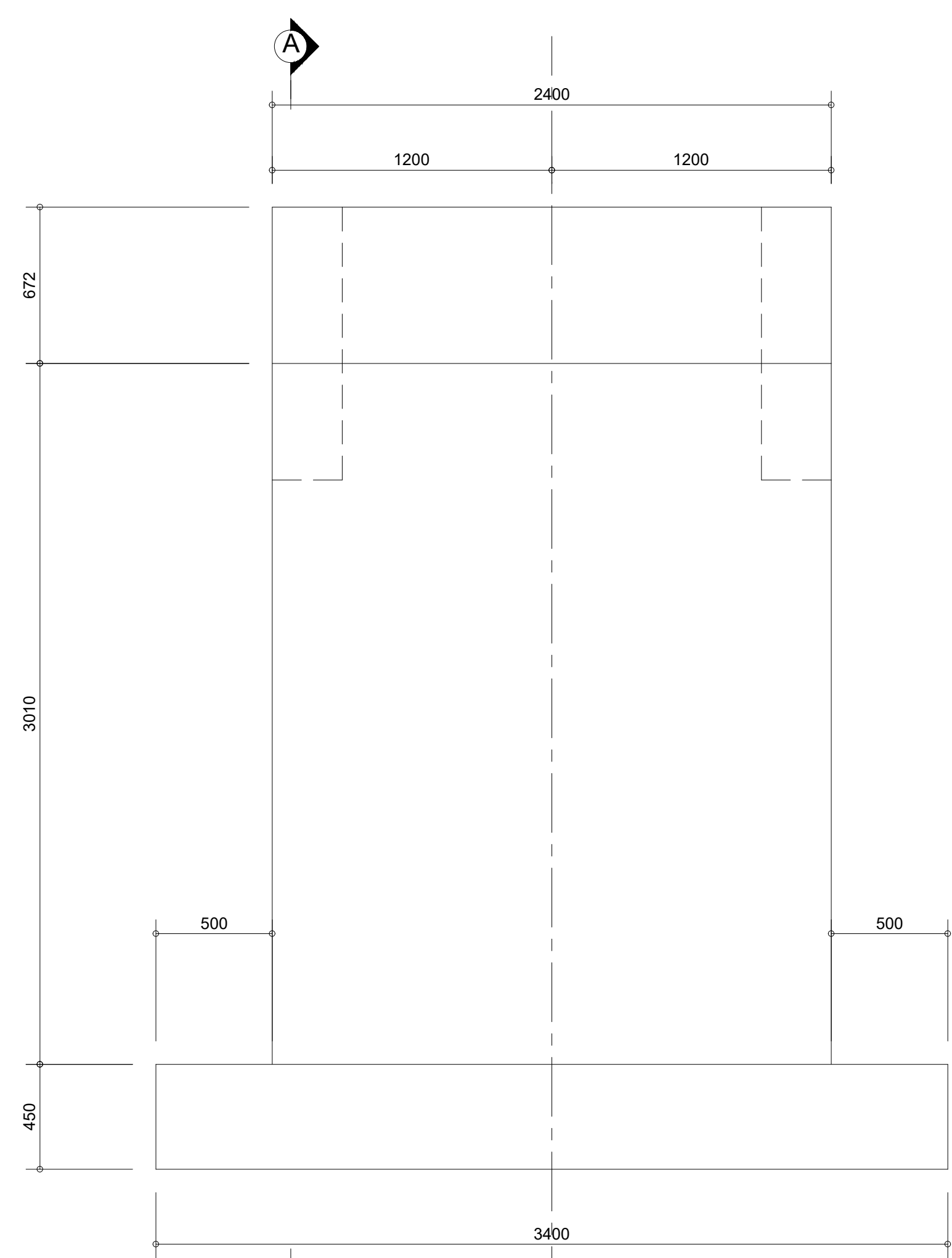
SECTION A-A
1:20



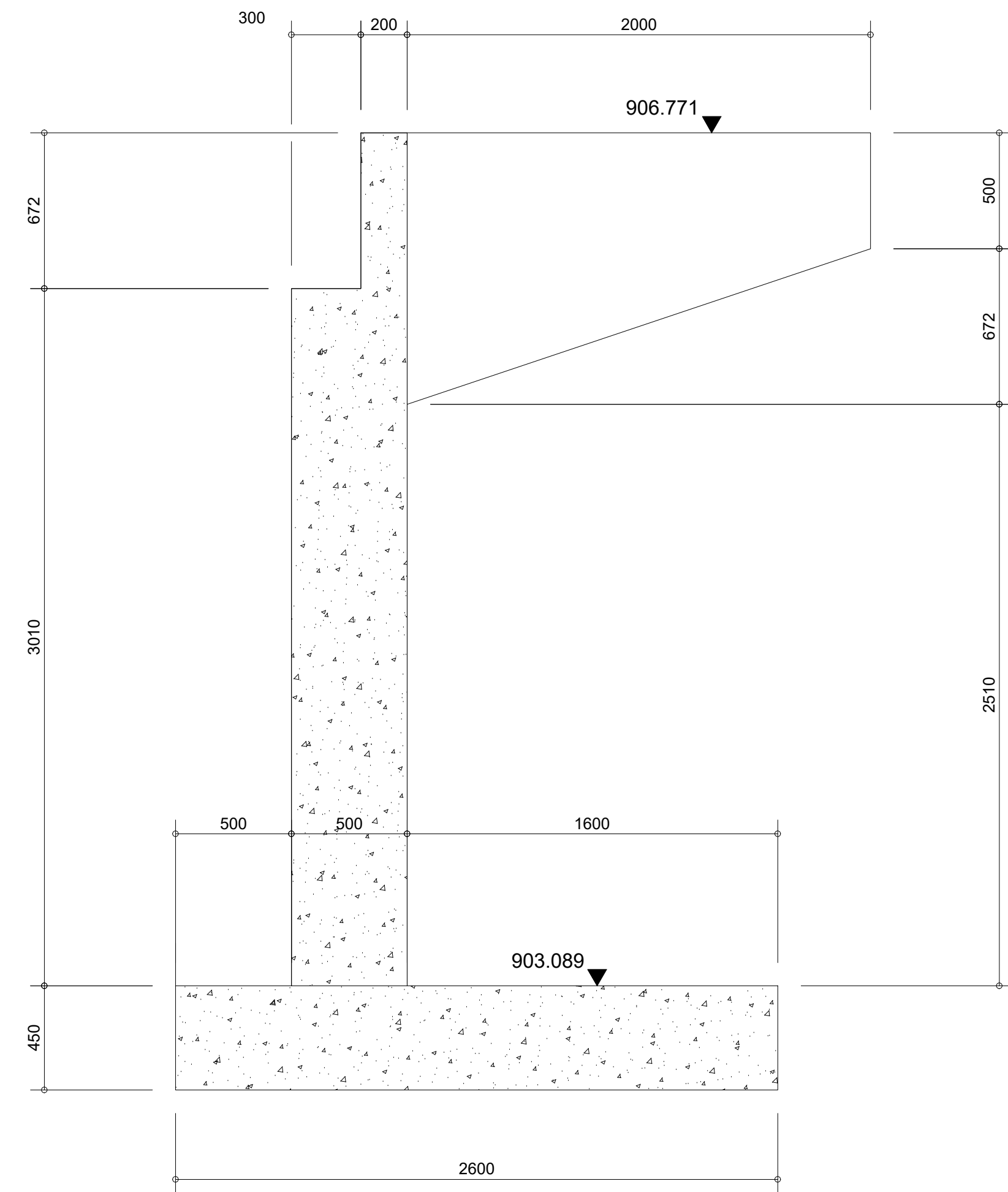
ABUTMENT 1 ELEVATION
1:20



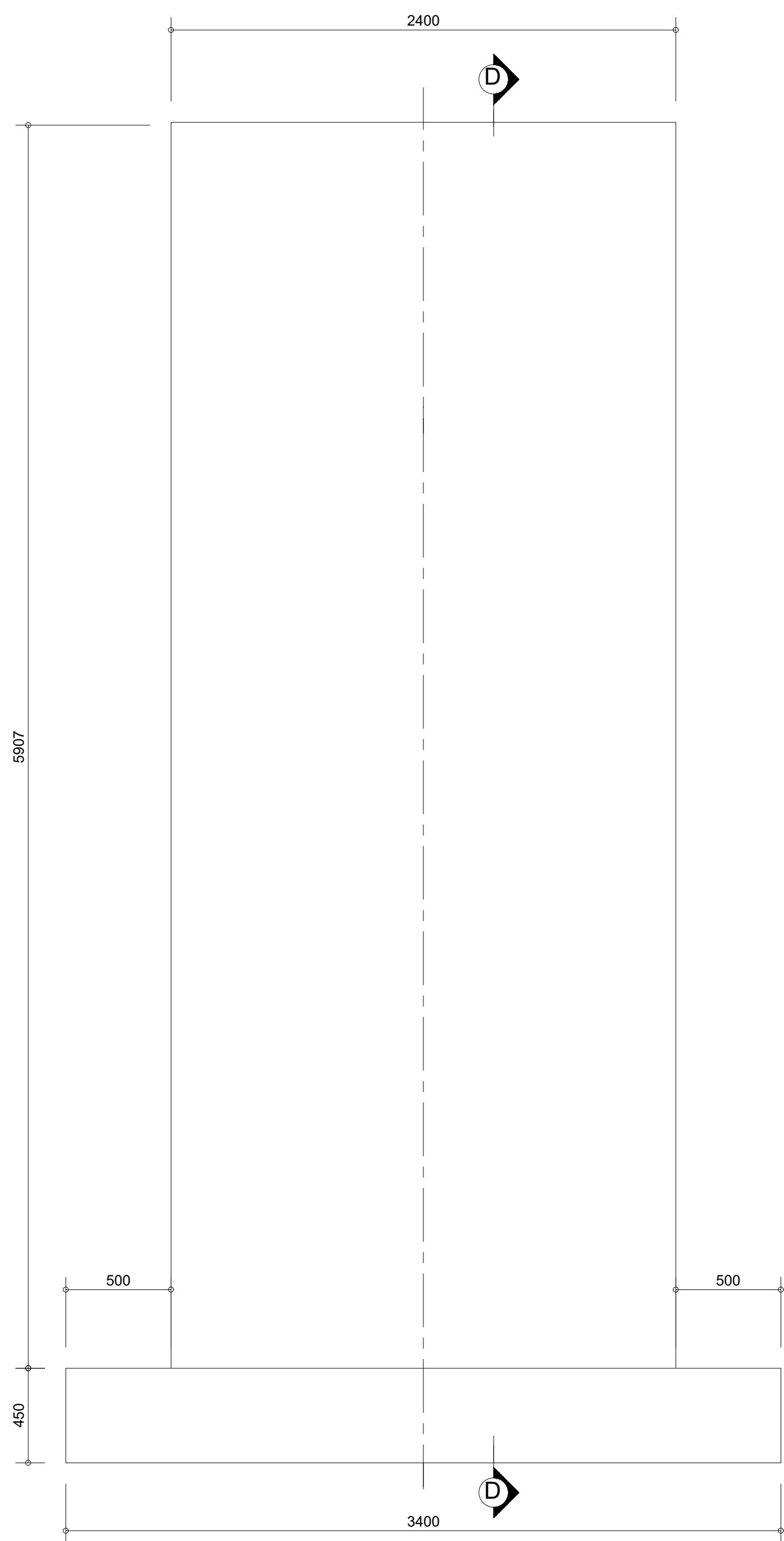
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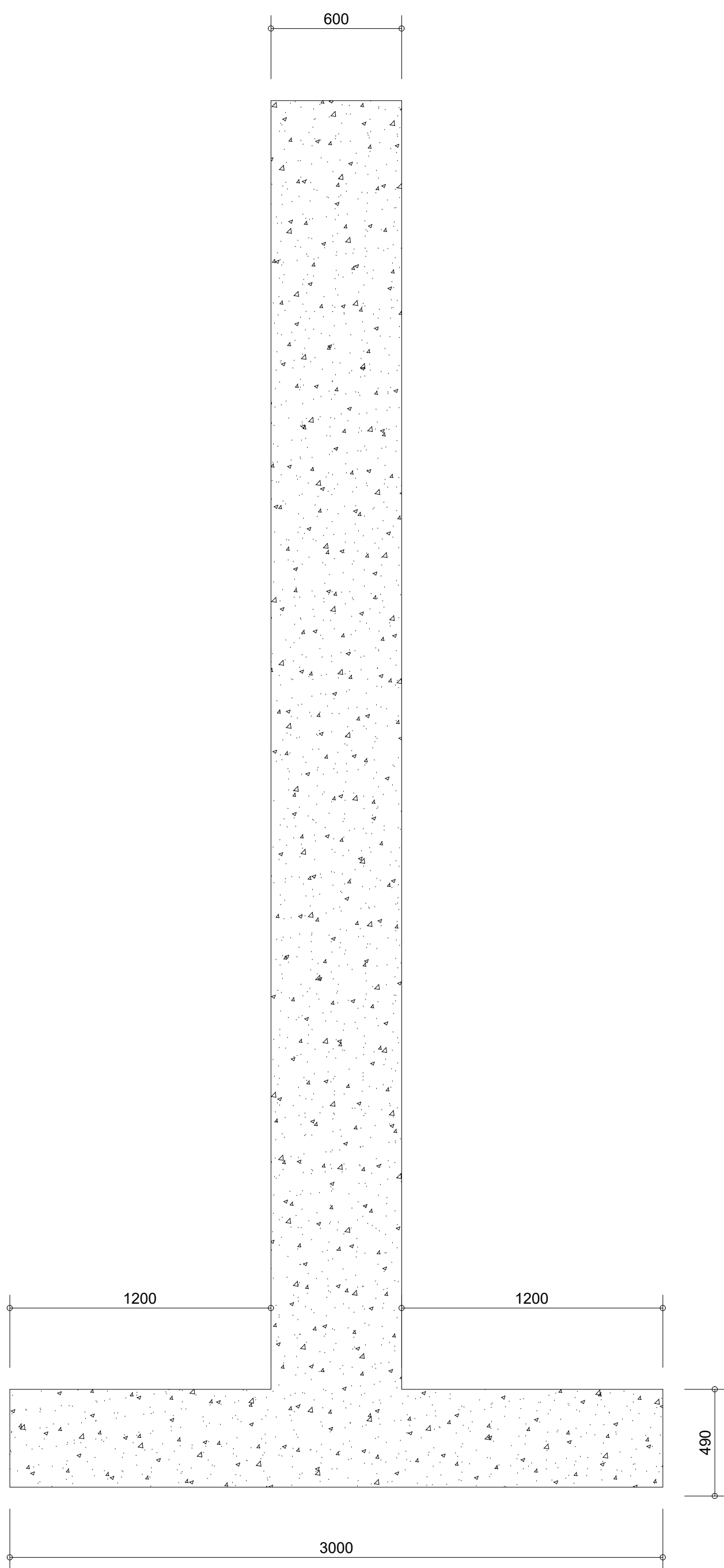
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1:20



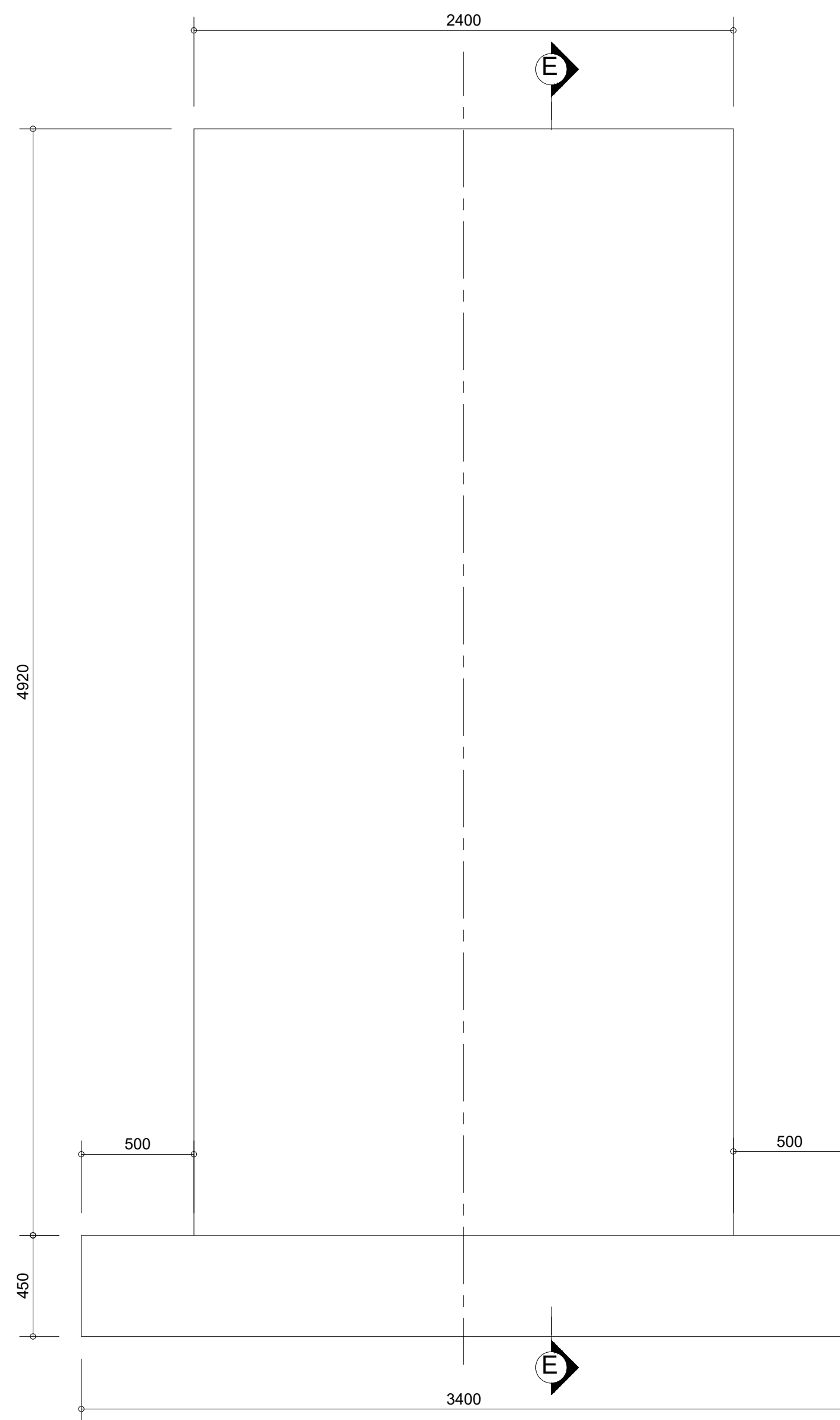
SECTION B-B
1:20



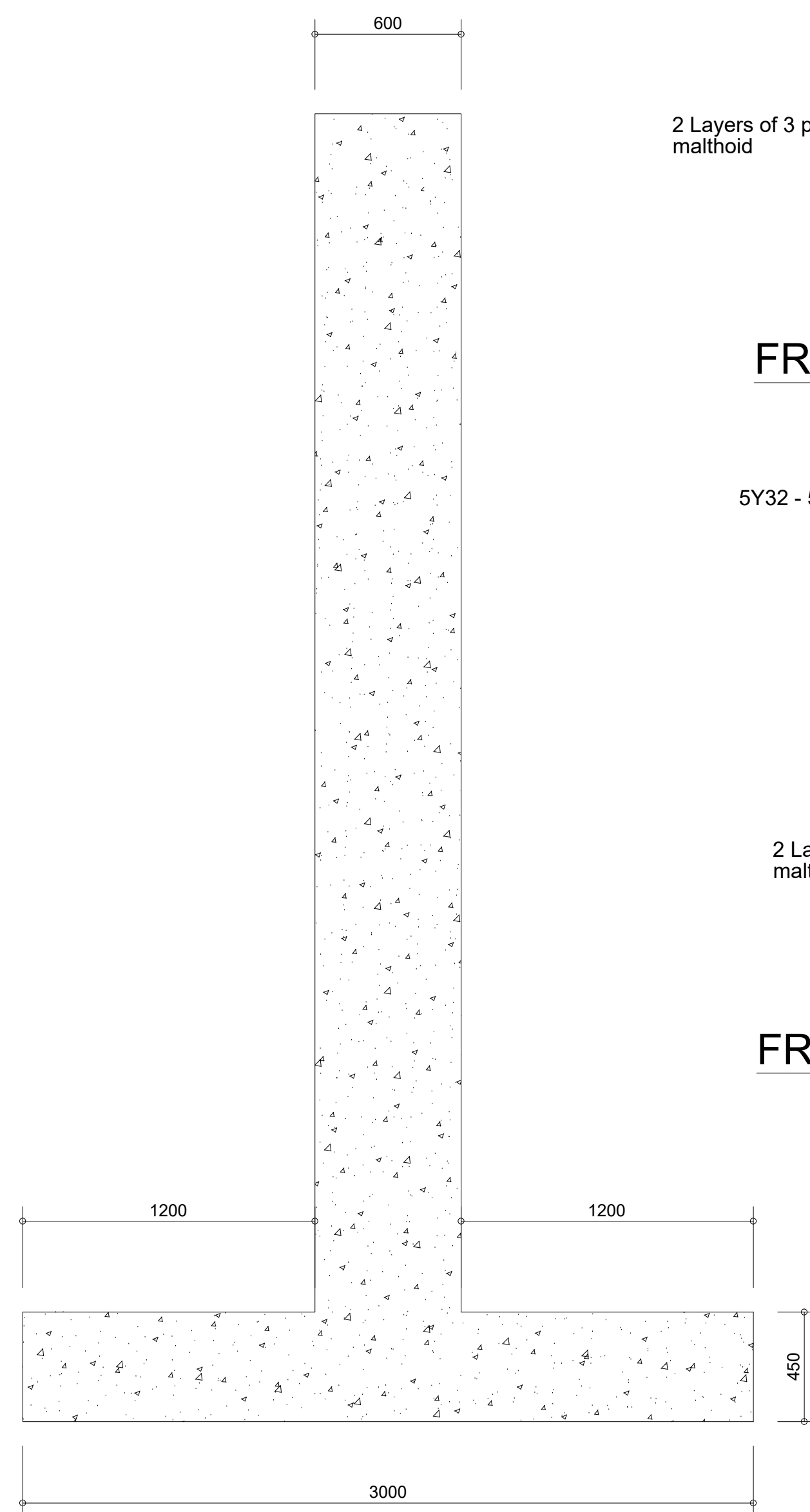
PIER 1 ELEVATION
1:20



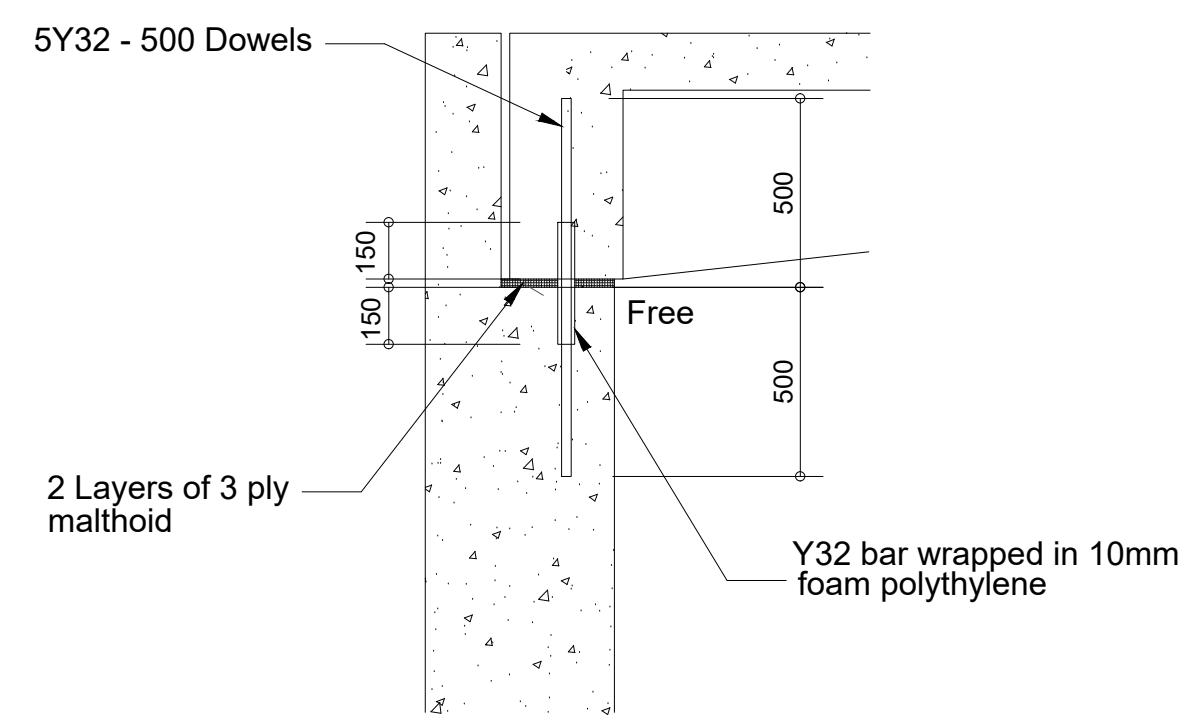
SECTION D-D
1:20



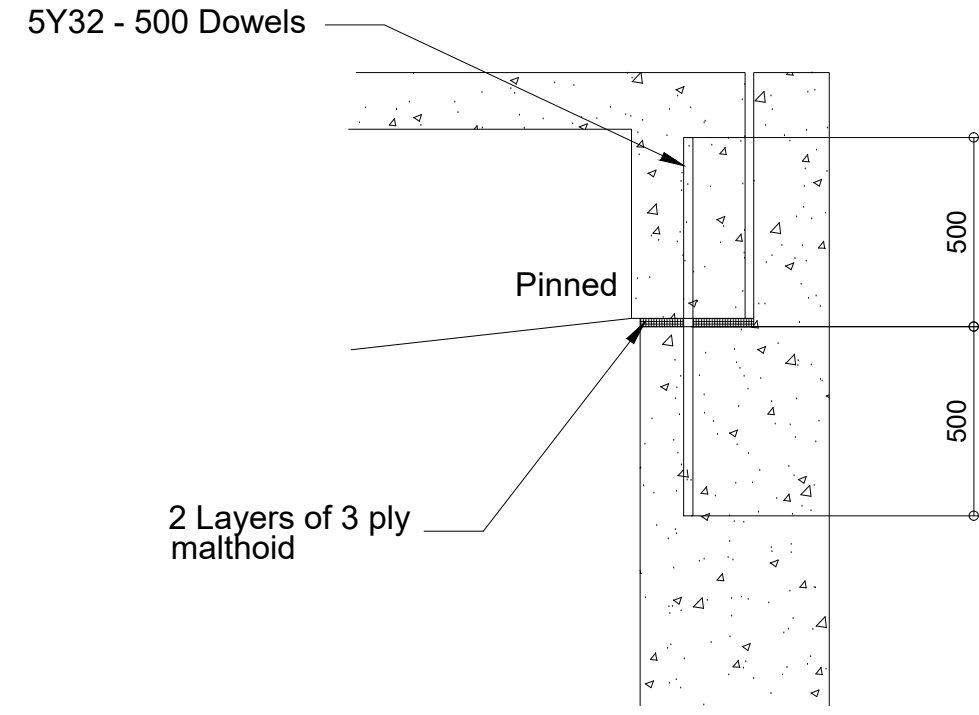
PIER 2 ELEVATION
1:20



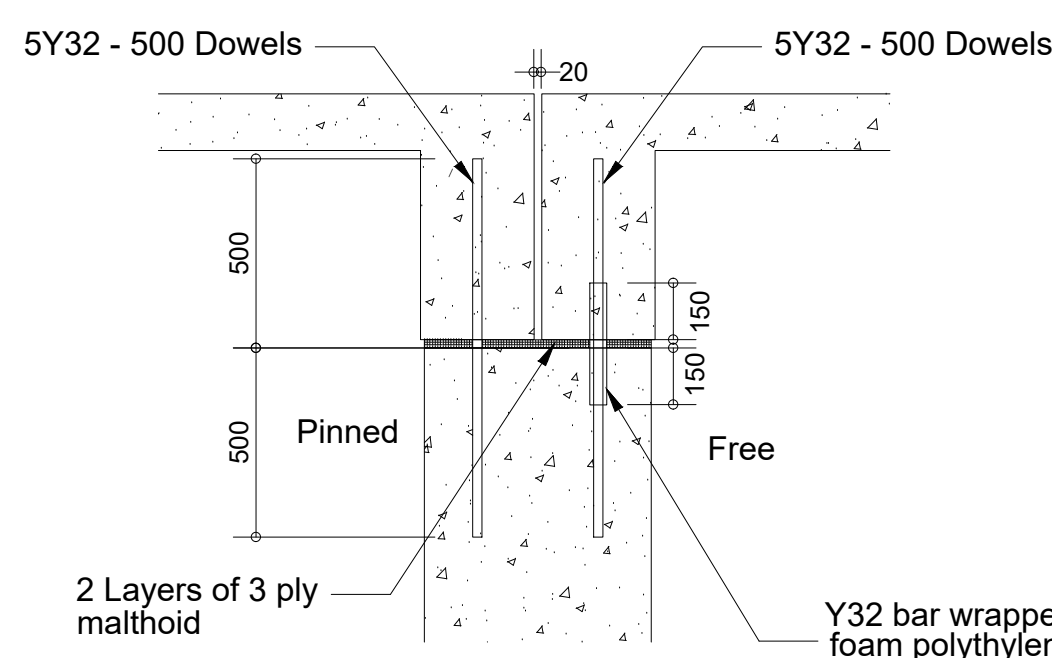
SECTION E-E
1:20



FREE DOWEL DETAIL



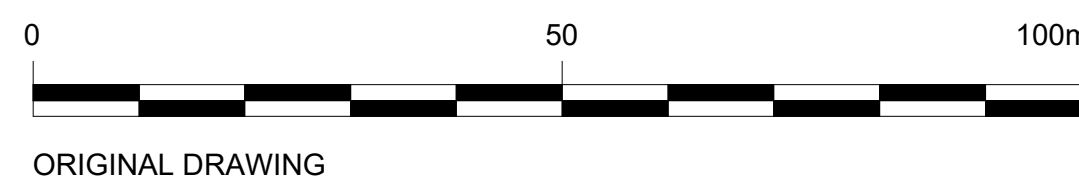
PINNED DOWEL DETAIL



FREE & PINNED DOWEL DETAIL

NOTES

- Concrete class:
15/19 (15 MPa) Blinding
30/19 (30 MPa) Bases, Piers, and Footings
- Clear Cover to Steel Reinforcement
Concrete cover to reinforcement shall be;
Footings - 50mm
Abutment walls - 40mm
Pier walls - 40mm
Deck - 40mm
Endblock - 40mm
- Steel Reinforcement
Reinforcement to conform to SABS 920-2011.
Reinforcement shall be bent in accordance with SABS-82-1976 including amendment No. 1-1986.
Characteristic strengths:
Mild steel (R) bars : 250 MPa
High yield stress (Y) bars : 450 MPa
Unless otherwise shown, the minimum reinforcement lap length shall be 45 x dia. of the smaller bar.
- Legend
EF - Each face T1
NF - Near face T2
FF - Far face B2
EW - Each way B1
BS - Bottom slab B4
TS - Top slab T3
- Chamfers:
All exposed sharp concrete edges to be chamfered 20mm x 20mm unless otherwise shown.
- Formed concrete surface finishes:
Class F1 Concealed surfaces (Rough)
Class F2 Visible surfaces (Smooth)
- Unformed concrete surface finishes:
Class U1 Concealed surfaces
Class U2 Visible surfaces



T	ISSUED FOR TENDER	09/06/2025	B. DLAMINI	H. FUYANA
A	ISSUED FOR APPROVAL	06/05/2024	B. DLAMINI	H. FUYANA
△	DESCRIPTION OF REVISION(S)	DATE	CHECKED	APPROVED

DESIGNED	T. MPOFU
CHECKED	H. FUYANA
DRAWN	L. DLAMINI
CHECKED	T. MPOFU
PROJECT ENGINEER	H. FUYANA
REGISTRATION NO.:	201670323

CONSULTING ENGINEER
PHYSICAL ADDRESS:
18 YORK ROAD
GILLITTS
3610
TEL: (031) 764 2763
FAX: (086) 542 4084
e-mail: admin@fmaengineers.co.za



H. FUYANA
(REGISTRATION NO.: 201670323) SIGNATURE: _____

CLIENT
PHYSICAL ADDRESS:
MAIN STREET
CREIGHTON
3263
Tel: (039) 833 1038
e-mail: mailbox@ndz.gov.za



POSTAL ADDRESS:
P.O. BOX 62
CREIGHTON
3263

ON BEHALF OF CLIENT: SIGNATURE: _____

PROJECT/DRAWING TITLE
NKOSAZANA DLAMINI ZUMA LOCAL MUNICIPALITY
NDLANGISA PEDESTRIAN BRIDGE
ABUTMENTS AND PIERS CONCRETE DETAILS

SCALE: AS SHOWN	CONTRACT No. T.B.C
SHEET 1	OF 1
DRAWING No.	K054.10 - B0T - 105
REVISION	T

STRUCTURAL MEMBER	BAR MARK	TYPE & SIZE	No. OF MEMBERS	No. IN EACH	TOTAL NUMBER	CUT LENGTH mm	SHAPE CODE	DIMENSIONS						TOTAL LENGTH mm	REVISION
								A mm	B mm	C mm	D mm	E mm	F/R		
Abutment 1	2001	Y20	1	18	18	3700	55	350	350	2500	350	360		66.6	
	2002	Y20	1	30	30	3800	38	300	3300	300				114	
	2003	Y12	1	2	2	1250	83	300	280	250	260			2.5	
	2004	Y32	1	18	18	2850	38	250	2500	260				51.3	
	2201	Y32	1	13	13	2250	37	400	1400					29.25	
	2202	Y20	1	13	13	1750	37	400	1400					22.75	
	2203	Y20	1	26	26	2200	20	2200						57.2	
	2204	Y12	1	13	13	1800	38	750	350	750				23.4	
	2205	Y12	1	13	13	2050	38	1000	90	1000				26.65	
	2206	Y16	1	24	24	2950	38	350	2300	360				70.8	
	2207	Y16	1	2	2	2950	38	350	2300	360				5.9	
	2208	Y12	1	8	8	2550	38	150	2300	160				20.4	
2209	Y12	1	6	6	700	36	100	100	100	100			4.2		
2215	Y32	1	5	5	1200	20	1200						6		
Abutment 2	2001	Y20	1	18	18	3700	55	350	350	2500	350	360		66.6	
	2002	Y20	1	30	30	3800	38	300	3300	300				114	
	2003	Y12	1	2	2	1250	83	300	280	250	260			2.5	
	2004	Y32	1	18	18	2850	38	250	2500	260				51.3	
	2201	Y32	1	13	13	2250	37	400	1400					29.25	
	2202	Y20	1	13	13	1750	37	400	1400					22.75	
	2204	Y12	1	13	13	1800	38	750	350	750				23.4	
	2205	Y12	1	13	13	2050	38	1000	90	1000				26.65	
	2206	Y16	1	30	30	2950	38	350	2300	360				88.5	
	2207	Y16	1	2	2	2950	38	350	2300	360				5.9	
	2208	Y12	1	8	8	2550	38	150	2300	160				20.4	
	2209	Y12	1	6	6	700	36	100	100	100	100			4.2	
2213	Y20	1	26	26	2700	20	2700						70.2		
2215	Y32	1	5	5	1200	20	1200						6		
BENDING SCHEDULE NUMBER 1 OF 10															
TOTAL MASS						MILD STL	R8	R10	R12	R16	R20	R25	R32	R40	
			kg			HIGH TENSILE STL	Y8	Y10	Y12	Y16	Y20	Y25	Y32	Y40	
HIGH TENSILE			2817.1	kg		kg			137	270	1317			1093	

STRUCTURAL MEMBER	BAR MARK	TYPE & SIZE	No. OF MEMBERS	No. IN EACH	TOTAL NUMBER	CUT LENGTH mm	SHAPE CODE	DIMENSIONS						TOTAL LENGTH mm	REVISION	
								A mm	B mm	C mm	D mm	E mm	F/R mm			
Deck	3001	Y25	3	6	18	10000	20	10000							180	
	3002	Y16	3	4	12	10000	20	10000							120	
	3003	Y10	3	12	36	10000	20	10000							360	
	3004	Y16	3	4	12	10000	20	10000							120	
	3005	Y10	3	10	30	10000	20	10000							300	
	3006	Y10	3	10	30	10000	20	10000							300	
	3007	Y16	3	12	36	2450	38	1000	520	1000					88.2	
	3008	Y10	3	4	12	2250	38	1000	270	1000					27	
	3009	Y10	3	20	60	2000	38	1000	50	1000					120	
	3011	Y12	6	100	600	1750	60	220	570						1050	
	3012	Y12	6	36	216	500	38	150	220	160					108	
	3013	Y10	6	104	624	900	52	220	270	220	260				561.6	
	3014	Y12	6	100	600	2450	38	100	2300	100					1470	
Diaphragm	3021	Y12	6	10	60	2050	38	250	1600	250					123	
	3022	Y12	6	7	42	1750	80	570	220						73.5	
	3023	Y12	6	14	84	1000	100	600	100	400					84	
	3024	Y12	6	14	84	1000	101	600	100	400					84	
Cross beam	3025	Y12	3	8	24	2050	38	250	1600	250					49.2	
	3026	Y12	3	7	21	1650	72	570	120						34.65	
BENDING SCHEDULE NUMBER 2 OF 10																
TOTAL MASS					MILD STL		R8	R10	R12	R16	R20	R25	R32	R40		
					kg											
MILD STL		kg	HIGH TENSILE STL					Y8	Y10	Y12	Y16	Y20	Y25	Y32	Y40	
HIGH TENSILE	4971.6	kg	kg						1029	2731	518		694			

STRUCTURAL MEMBER	BAR MARK	TYPE & SIZE	No. OF MEMBERS	No. IN EACH	TOTAL NUMBER	CUT LENGTH mm	SHAPE CODE	DIMENSIONS						TOTAL LENGTH m	REVISION	
								A mm	B mm	C mm	D mm	E mm	F/R			
E-wall	4001	Y20	4	3	12	2950	37	2000	1000						35.4	
	4002a	Y20	4	1	4	2750	37	1800	1000						11	
	4002b	Y20	4	1	4	2150	37	1200	1000						8.6	
	4002c	Y20	4	1	4	1550	37	600	1000						6.2	
	4005	Y12	4	3	12	2600	37	2000	600						31.2	
	4005a	Y12	4	1	4	2400	37	1800	600						9.6	
	4005b	Y12	4	1	4	1800	37	1200	600						7.2	
	4005c	Y12	4	1	4	1200	37	600	600						4.8	
	4007a	Y12	4	2	8	1850	38	840	185	840					14.8	
	4007b	Y12	4	2	8	1750	38	805	185	805					14	
	4007c	Y12	4	2	8	1700	38	770	185	770					13.6	
	4007d	Y12	4	2	8	1600	38	735	185	735					12.8	
	4007e	Y12	4	2	8	1550	38	705	185	705					12.4	
	4007f	Y12	4	2	8	1500	38	670	185	670					12	
	4007g	Y12	4	2	8	1400	38	635	185	635					11.2	
	4007h	Y12	4	2	8	1350	38	605	185	605					10.8	
	4007i	Y12	4	2	8	1200	38	535	185	535					9.6	
	4007j	Y12	4	2	8	1100	38	470	185	470					8.8	
	4008	Y12	4	3	12	1600	38	700	220	700					19.2	
Handrail endblock	4011	Y12	5	14	70	1900	38	150	1620	160					133	
	4012	Y12	5	16	80	1900	37	150	1760						152	
BENDING SCHEDULE NUMBER 3 OF 10																
TOTAL MASS						MILD STL	R8	R10	R12	R16	R20	R25	R32	R40		
					kg											
MILD STL		kg	HIGH TENSILE STL					Y8	Y10	Y12	Y16	Y20	Y25	Y32	Y40	
HIGH TENSILE	574.42	kg	kg								423	151				

STRUCTURAL MEMBER	BAR MARK	TYPE & SIZE	No. OF MEMBERS		TOTAL NUMBER	CUT LENGTH mm	SHAPE CODE	DIMENSIONS						TOTAL LENGTH m	REVISION
			No. IN EACH					A mm	B mm	C mm	D mm	E mm	F/R mm		
Pier 1	5001	Y20	1	17	17	4100	55	350	350	2900	350	360		69.7	
	5002	Y16	1	17	17	3450	38	300	2900	300				58.65	
	5003	Y20	1	15	15	3800	38	300	3300	300				57	
	5004	Y16	1	17	17	3850	38	300	3300	300				65.45	
	5005	Y16	1	4	4	4000	37	2100	1400					16	
	5006	Y12	1	4	4	1250	83	300	280	250	260			5	
	5007	Y20	1	26	26	1750	37	400	1400					45.5	
	5011	Y20	1	26	26	4000	20	4000						104	
	5012	Y16	1	26	26	3000	20	3000						78	
	5013	Y12	1	26	26	1800	37	1500	300					46.8	
	5015	Y32	1	10	10	1000	20	1000						10	
	5021	Y16	1	60	60	3400	39	1550	500	1660				204	
5022	Y12	1	24	24	800	36	100	100	500	100	100		19.2		
TOTAL MASS					MILD STL	R8	R10	R12	R16	R20	R25	R32	R40		
					kg										
MILD STL					HIGH TENSILE STL	Y8	Y10	Y12	Y16	Y20	Y25	Y32	Y40		
HIGH TENSILE					1473.5	kg				63	666	681	63		
BENDING SCHEDULE NUMBER 4 OF 10															