

OLIFANTSVLEI WASTEWATER TREATMENT WORKS: VAN WYKSRUST PUMP STATION

INFRASTRUCTURE RENEWAL PLAN

RE-TENDER DRAWINGS

CONTRACT NO: JW14466R

PREPARED BY:



BUILDING NO. 5 COUNTRY CLUB ESTATE
21 WOODLANDS DRIVE
WOODMEAD
2191
PO BOX 867
GALLO MANOR
2052

TEL: (011) 798-6000

PREPARED FOR:



TURBINE HALL
65 NTEMI PILISO STREET
NEWTOWN
EGOLI 2001

TEL: (011) 688-1400
FAX: (011) 688-1529

DEPARTMENT	APPROVED	DESIGNATION	DATE

CONSULTING ENGINEERS		SURVEYED		JOHANNESBURG WATER (SOC) LTD		CITY OF JOHANNESBURG		DESIGN MANAGER	SCALE	AMENDMENTS		APPROVED	DATE	DRAWING No.					
	Building No. 5 Country Club Estate 21 Woodlands Drive Woodmead 2191 PO Box 867 Gallo Manor 2052 Tel No. +27 11 798 6000	DESIGNED	N. O'GORMAN		TURBINE HALL 65 NTEMI PILISO STREET NEWTOWN JOHANNESBURG 2001 TEL: (011) 688-1400 FAX: (011) 688-1529	OLIFANTSVLEI WWTW: VAN WYKSRUST PUMP STATION INFRASTRUCTURE RENEWAL PLAN COVER PAGE	DATE			AS SHOWN	C01			ISSUED FOR TENDER	D. PHOGOLE	FEB 25	JW NUMBER		
		DRAWN	N. O'GORMAN					C02	ISSUED FOR RE-TENDER		D. PHOGOLE	FEB 26	JW14466R-RHD-C1-99-D-Z-9901						
		CHECKED	L. NAICKER										CONSULTANT'S NUMBER						
		SERVICES CHECKED											BW1400-RHD-C1-99-D-Z-9901						
		GEOTECHNICAL INVESTIGATION											FILE No						
		SERVITUDES																	
		APPROVED Pr. Eng.No.	DITHOLO PHOGOLE 20060098																
		DATE											C02						

OLIFANTSVLEI WASTEWATER TREATMENT WORKS: VAN WYKSRUST PUMP STATION

INFRASTRUCTURE RENEWAL PLAN

DRAWING LIST:

GENERAL:

DRAWING NUMBER

BW1400-RHD-C1-99-D-C-9901
BW1400-RHD-C1-99-D-C-9902
BW1400-RHD-C1-99-D-C-9903

DRAWING TITLE

COVER PAGE
DRAWING REGISTER
GENERAL NOTES

CIVIL:

DRAWING NUMBER

BW1400-RHD-C1-00-D-C-0001
BW1400-RHD-C1-01-D-C-0101
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BW1400-RHD-C1-01-D-C-0103
BW1400-RHD-C1-01-D-C-0104
BW1400-RHD-C1-02-D-C-0201
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BW1400-RHD-C1-11-D-C-1101
BW1400-RHD-C1-11-D-C-1102
BW1400-RHD-C1-11-D-C-1201

DRAWING TITLE

GENERAL SITE LAYOUT
VAN WYKSRUST PUMP STATION - SITE LAYOUT
VAN WYKSRUST PUMP STATION - SITE LAYOUT ISOMETRIC
VAN WYKSRUST PUMP STATION - STORMWATER TERRACING
VAN WYKSRUST PUMP STATION - PAVEMENT LAYOUT
VAN WYKSRUST PUMP STATION - DEMOLITION WORK TO EXISTING STRUCTURE - GENERAL LAYOUT & SECTIONS
VAN WYKSRUST PUMP STATION - UNDERGROUND DRAINAGE
VAN WYKSRUST PUMP STATION - VALVE CHAMBER LAYOUT AND SECTIONS
VAN WYKSRUST PUMP STATION - NEW SUBSTRUCTURE AND SUPERSTRUCTURE - GENERAL LAYOUT AND SECTIONS
VAN WYKSRUST PUMP STATION - SPLITTER BOX LAYOUT, SECTIONS, DETAILS & EARTHWORKS
VAN WYKSRUST PUMP STATION - BYPASS CHAMBER LAYOUT, SECTIONS, DETAILS & EARTHWORKS
VAN WYKSRUST PUMP STATION - BYPASS MANHOLE & SUMP LAYOUT, SECTIONS, DETAILS & EARTHWORKS
VAN WYKSRUST PUMP STATION - GENERATOR SLAB LAYOUT, SECTIONS, DETAILS & EARTHWORKS
VAN WYKSRUST PUMP STATION - ELEVATED GUARD HOUSE LAYOUT, SECTIONS, DETAILS & EARTHWORKS
VAN WYKSRUST PUMP STATION - PERIMETER WALL DETAIL
VAN WYKSRUST PUMP STATION - PERIMETER WALL SECTIONS (FOR INFORMATION)
SUBSTATION C - LAYOUT, SECTIONS & DETAILS
SUBSTATION C - PAVEMENT LAYOUT AND DETAILS
EXISTING VAN WYKSRUST RISING MAINS - SCHEMATIC LAYOUT AND DETAILS
VAN WYKSRUST PUMP STATION - SCREENING LAYOUT, SECTIONS, DETAILS & EARTHWORKS
VAN WYKSRUST PUMP STATION - CONCRETE DOOR AND SLAB, GENERAL LAYOUT AND SECTIONS (OMIT)
NAME BOARD - GENERAL ARRANGEMENT
NAME BOARD - DETAILS
VAN WYKSRUST PUMP STATION AND SUBSTATION C - TYPICAL PAVEMENT DETAILS

MECHANICAL:

DRAWING NUMBER

BW1400-RHD-C1-01-D-M-0141
BW1400-RHD-C1-02-D-M-0241
BW1400-RHD-C1-02-D-M-0242
BW1400-RHD-C1-02-D-M-0243

DRAWING TITLE

VAN WYKSRUST PUMP STATION - SCREENINGS CHANNEL MECHANICAL LAYOUT
VAN WYKSRUST PUMP STATION - GENERAL ARRANGEMENT AND SECTIONS
VAN WYKSRUST PUMP STATION - PIPE SCHEDULE
VAN WYKSRUST PUMP STATION - PROCESS FLOW DIAGRAM

ELECTRICAL:

DRAWING NUMBER

BW1400-RHD-C1-00-D-E-0051
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BW1400-RHD-C1-02-D-E-0267
BW1400-RHD-C1-02-D-E-0268
BW1400-RHD-C1-02-D-E-0269

DRAWING TITLE

COMMUNICATIONS - FIBRE OPTIC RETICULATION CABLE ROUTING
ELECTRICAL - MEDIUM VOLTAGE RETICULATION CABLE ROUTING
ELECTRICAL - MEDIUM VOLTAGE RETICULATION SINGLE LINE DIAGRAM
CONTROL & INSTRUMENTATION CABLE BLOCK DIAGRAM
MOTOR CONTROL CENTER - SINGLE LINE DIAGRAM
MCC SCHEMATIC DIAGRAM - (SHEET 1 OF 11)
MCC SCHEMATIC DIAGRAM - (SHEET 2 OF 11)
MCC SCHEMATIC DIAGRAM - (SHEET 3 OF 11)
MCC SCHEMATIC DIAGRAM - (SHEET 4 OF 11)
MCC SCHEMATIC DIAGRAM - (SHEET 5 OF 11)
MCC SCHEMATIC DIAGRAM - (SHEET 6 OF 11)
MCC SCHEMATIC DIAGRAM - (SHEET 7 OF 11)
MCC SCHEMATIC DIAGRAM - (SHEET 8 OF 11)
MCC SCHEMATIC DIAGRAM - (SHEET 9 OF 11)
MCC SCHEMATIC DIAGRAM - (SHEET 10 OF 11)
MCC SCHEMATIC DIAGRAM - (SHEET 11 OF 11)
TYPICAL INSTRUMENT LOOP DIAGRAMS - (SHT 1 OF 5)
TYPICAL INSTRUMENT LOOP DIAGRAMS - (SHT 2 OF 5)
TYPICAL INSTRUMENT LOOP DIAGRAMS - (SHT 3 OF 5)
TYPICAL INSTRUMENT LOOP DIAGRAMS - (SHT 4 OF 5)
TYPICAL INSTRUMENT LOOP DIAGRAMS - (SHT 5 OF 5)

DEPARTMENT	APPROVED	DESIGNATION	DATE

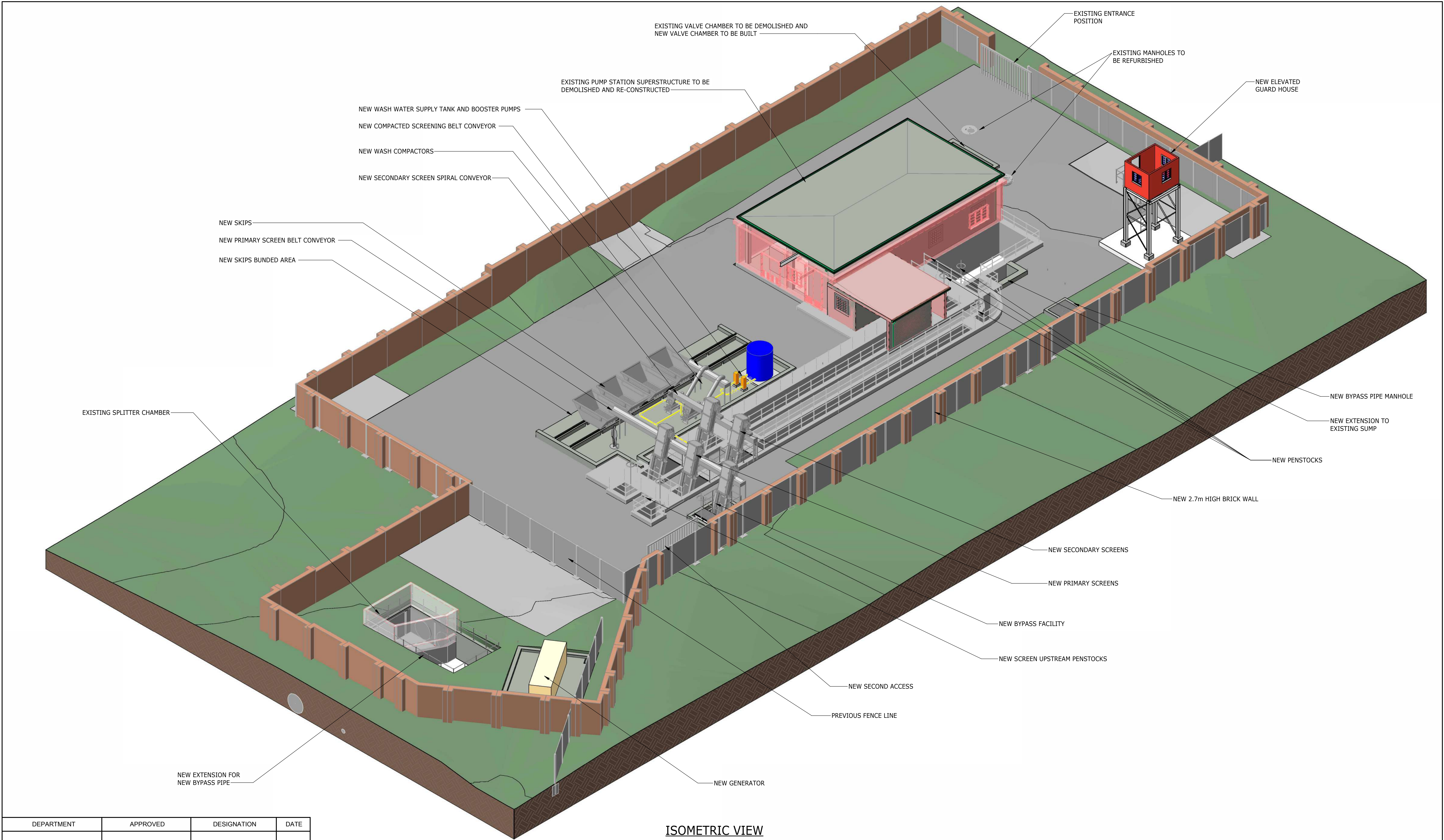
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	Building No. 5 Country Club Estate 21 Woodlands Drive Woodmead 2191 PO Box 867 Gallo Manor 2052 Tel No. +27 11 798 6000	DESIGNED	N. O'GORMAN		TURBINE HALL 65 NTEMI PILISO STREET NEWTOWN JOHANNESBURG 2001	OLIFANTSVLEI WWTW: VAN WYKSRUST PUMP STATION INFRASTRUCTURE RENEWAL PLAN DRAWING LIST	DATE			AS SHOWN	C01	ISSUED FOR TENDER	D. PHOGOLE	FEB 25	JW NUMBER					
		DRAWN	N. O'GORMAN					C02	ISSUED FOR RE-TENDER		D. PHOGOLE	FEB 26	JW14466R-RHD-C1-99-D-Z-9902							
		CHECKED	L. NAICKER					CONSULTANT'S NUMBER												
		SERVICES CHECKED						BW1400-RHD-C1-99-D-Z-9902												
		GEOTECHNICAL INVESTIGATION						FILE No												
		SERVITUDES																		
		APPROVED	DITHOLO PHOGOLE																	
		Pr. Eng.No.	20060098																	
DATE																				
				TEL: (011) 688-1400 FAX: (011) 688-1529										C02						



GENERAL LAYOUT OF EXISTING WWTW

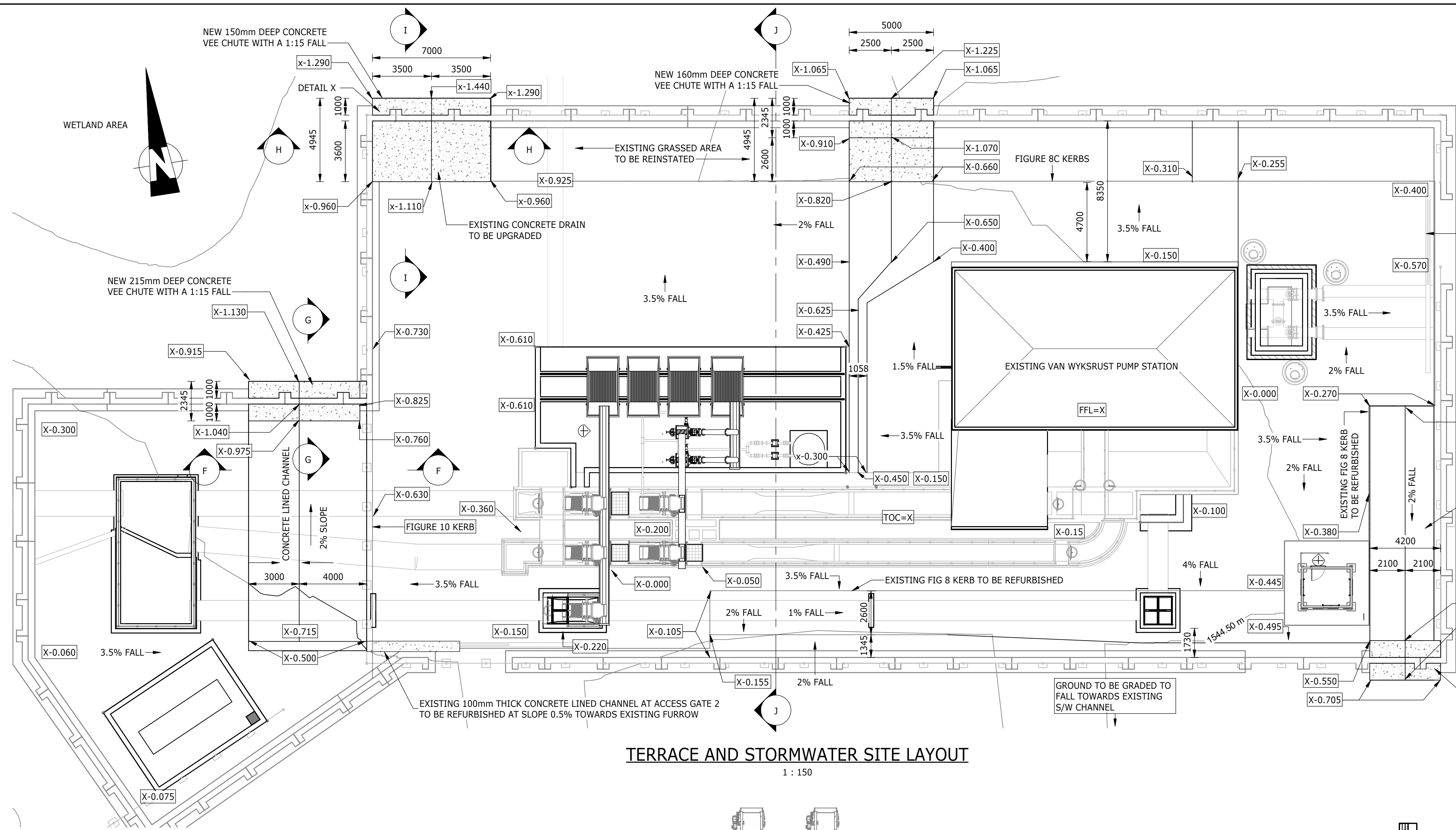
JOHANNESBURG WATER (SOC) LTD	
 Johannesburg Water	TURBINE HALL 65 NTEMI PILISO STREET NEWTOWN JOHANNESBURG 2001 TEL: (011) 688-1400 FAX: (011) 688-1529

DESIGN MANAGER	SCALE	AMENDMENTS		APPROVED	DATE	DRAWING No.						
	AS SHOWN	C01	ISSUED FOR TENDER	D. PHOGOLE	FEB 25	JW NUMBER						
		C02	ISSUED FOR RE-TENDER	D. PHOGOLE	FEB 26	JW14466R-RHD-C1-00-D-C-0001						
						CONSULTANT'S NUMBER						
						BW1400-RHD-C1-00-D-C-0001						
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DATE						C02						

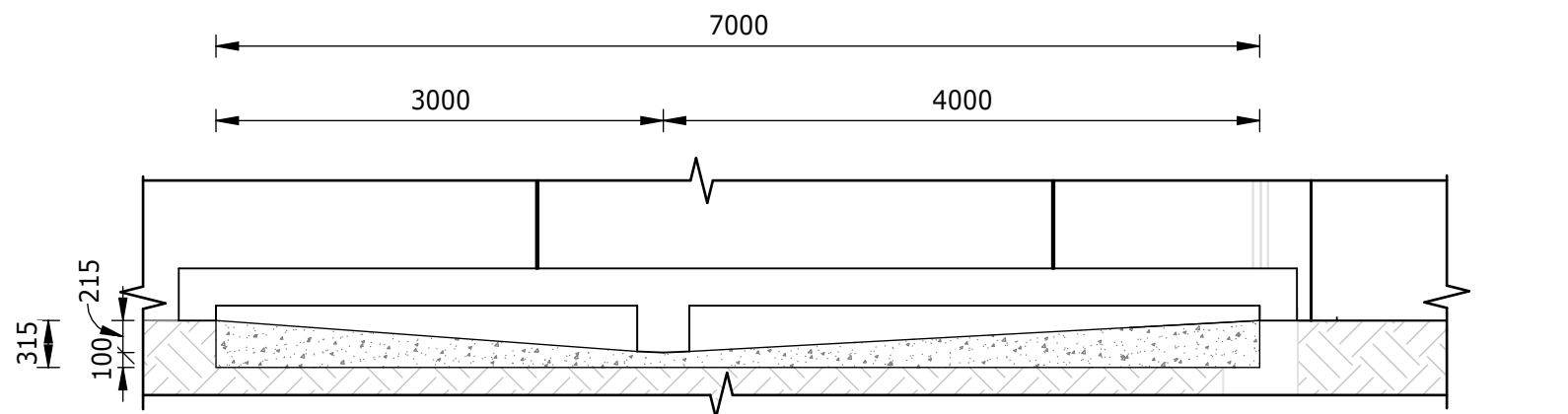


DEPARTMENT	APPROVED	DESIGNATION	DATE

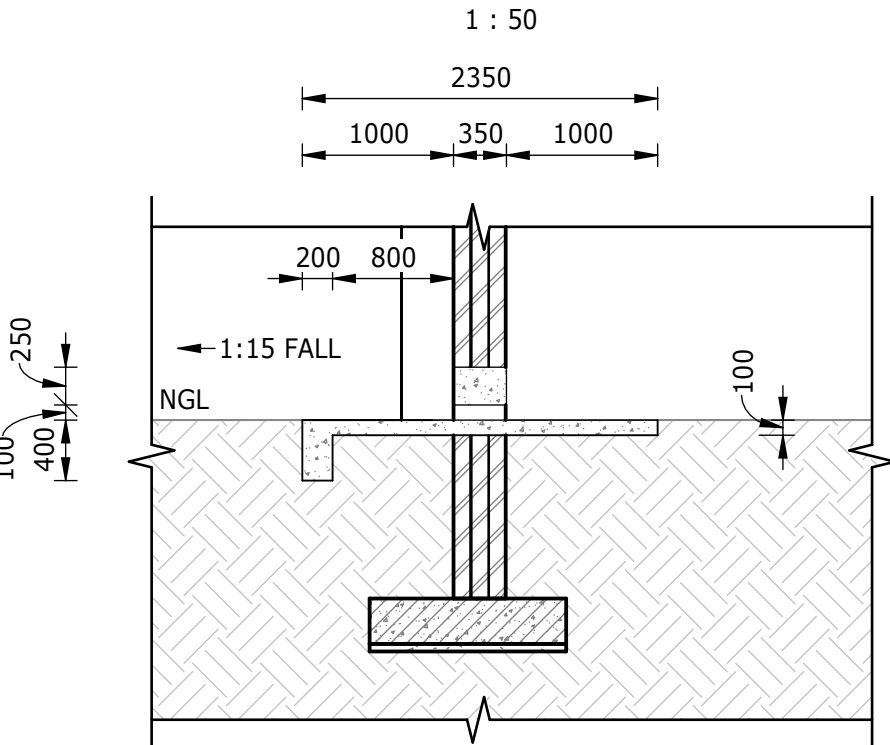
CONSULTING ENGINEERS		SURVEYED		JOHANNESBURG WATER (SOC) LTD		CITY OF JOHANNESBURG		DESIGN MANAGER	SCALE	AMENDMENTS		APPROVED	DATE	DRAWING No.					
 ATANA Legacy Awaits	Building No. 5 Country Club Estate 21 Woodlands Drive Woodmead 2191 PO Box 867 Gallo Manor 2052 Tel No. +27 11 798 6000	DESIGNED	L. NAICKER	 Johannesburg Water	TURBINE HALL 65 NTEMI PILISO STREET NEWTOWN JOHANNESBURG 2001 TEL: (011) 688-1400 FAX: (011) 688-1529	OLIFANTSVLEI WWTW: VAN WYKS RUST PUMP STATION INFRASTRUCTURE RENEWAL PLAN VAN WYKS PUMP STATION ISOMETRIC SITE LAYOUT	DATE		AS SHOWN	C01	ISSUED FOR TENDER	D. PHOGOLE	FEB 25	JW NUMBER					
		C02	ISSUED FOR RE-TENDER							D. PHOGOLE	JULY 26	JW14466R-RHD-C1-01-D-C-0102							
		CONSULTANT'S NUMBER																	
		BW1400-RHD-C1-01-D-C-0102																	
		FILE No																	
		APPROVED DITHOLO PHOGOLE Pr. Eng.No. 20060098																	
		DATE																	



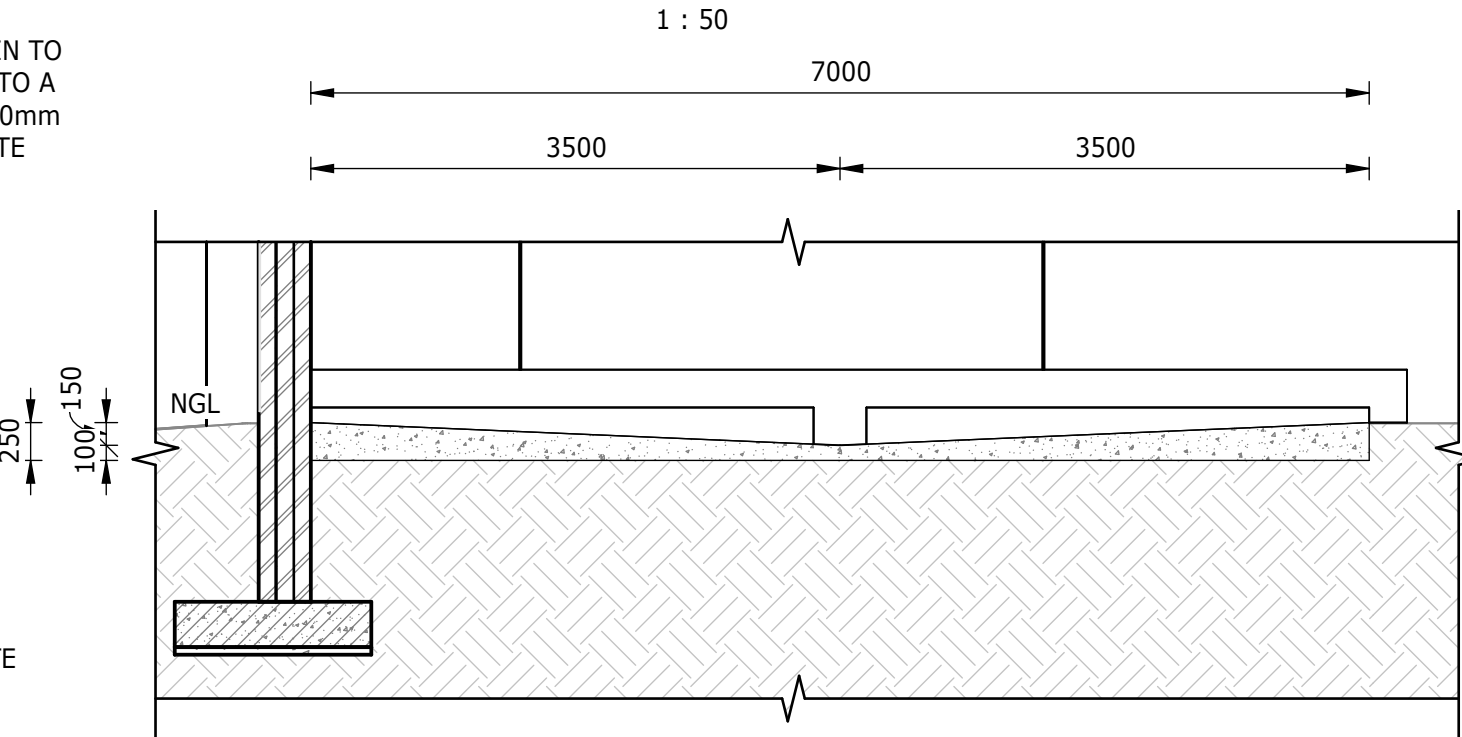
TERRACE AND STORMWATER SITE LAYOUT
1 : 150



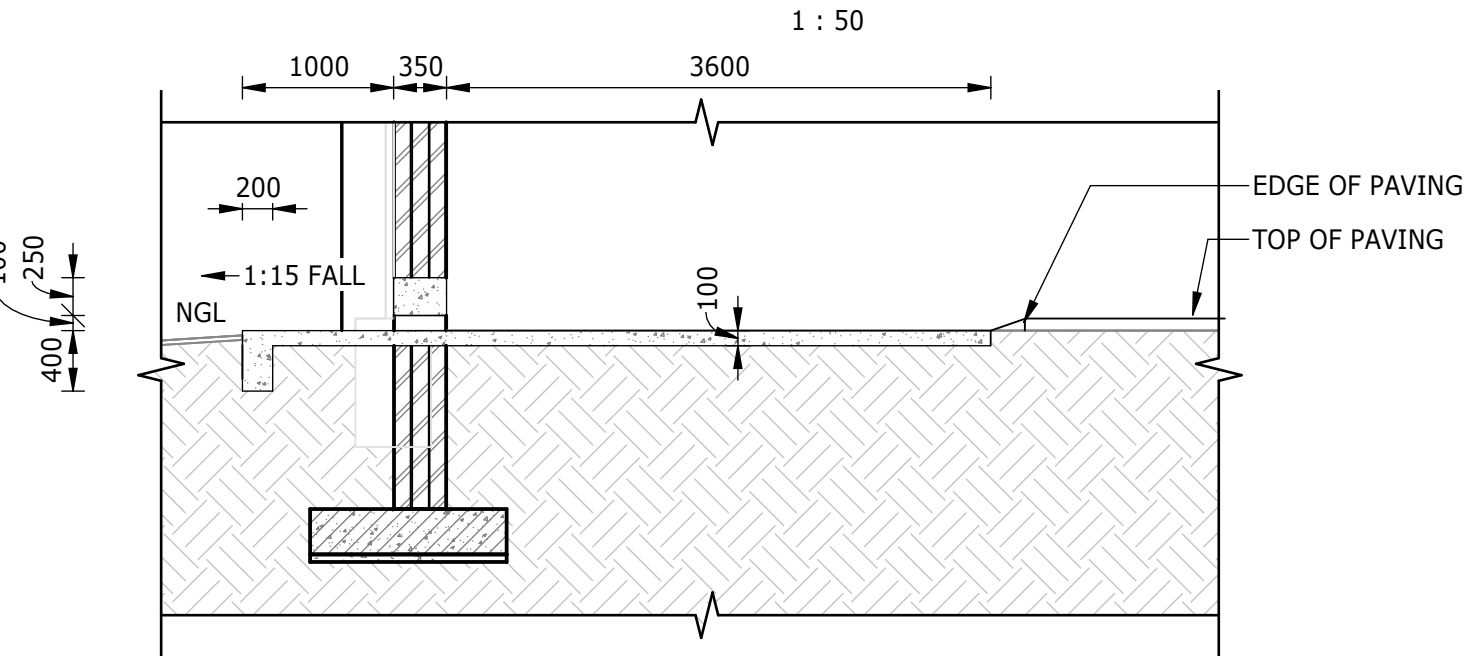
SECTION F-F



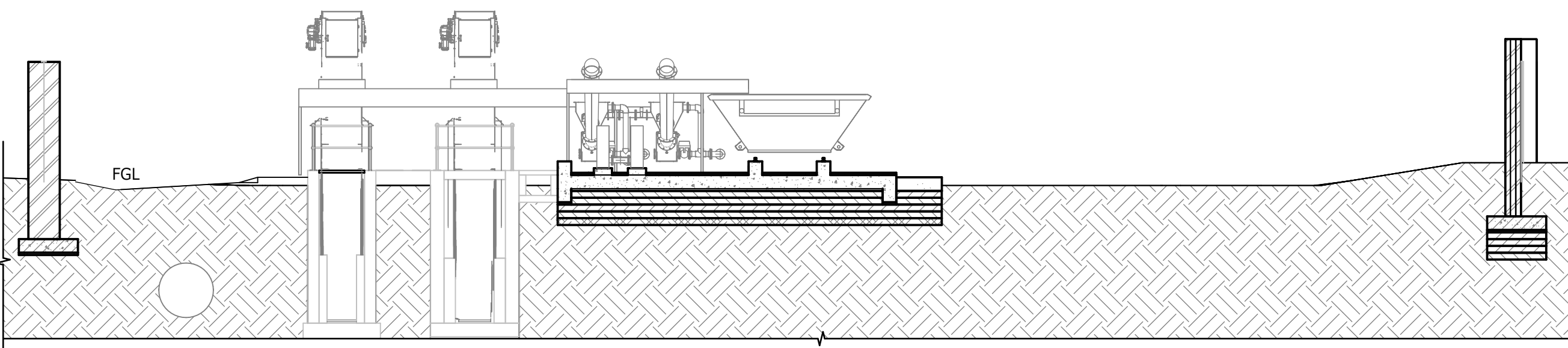
SECTION G-G



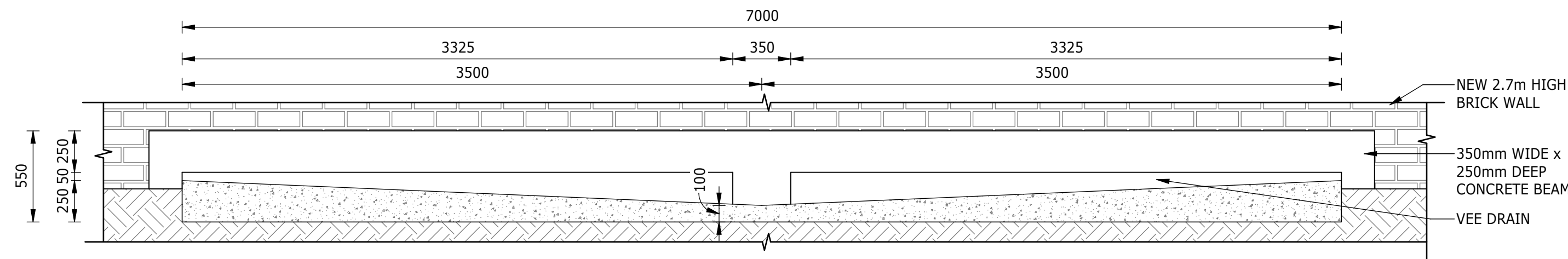
SECTION H-H



SECTION I-I

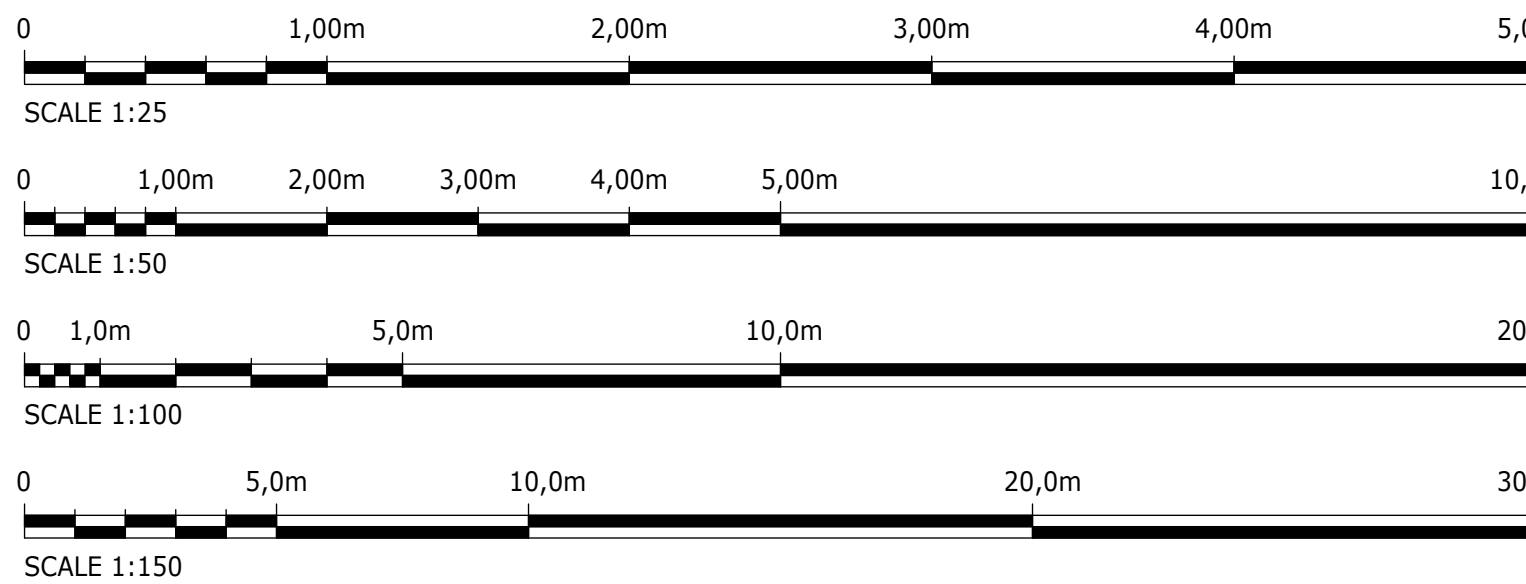


SECTION J-J



DETAIL X

NOTES:
1. DIMENSIONS/LEVELS ARE INDICATIVE AT THIS STAGE AND TO BE CONFIRMED PRIOR TO CONSTRUCTION. ALL LEVELS TBC UPON RECEIPT OF THE CONTRACTORS SURVEY DATA.
2. ALL TREES AND SHRUBS WITHIN 5m FROM WATER-BEARING SERVICE, TO BE REMOVED/CLEARED.
3. CONSTRUCTION ACTIVITIES TO ENSURE NO DAMAGE TO EXISTING INFRASTRUCTURE. METHOD STATEMENTS REQUIRED PRIOR TO COMMENCEMENT OF SUCH ACTIVITIES.



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CONSULTING ENGINEERS

ATANA
Legacy Awaits

Building No. 5 Country Club Estate
21 Woodlands Drive
Woodmead 2191
PO Box 867
Gallo Manor 2052
Tel No. +27 11 798 6000

SURVEYED	
DESIGNED	Z.NZUZA
DRAWN	Z.NZUZA
CHECKED	L. NAICKER
SERVICES CHECKED	
GEOTECHNICAL INVESTIGATION	
SERVITUDES	
APPROVED	DITHOLO PHOGOLE
Pr. Eng.No.	20060098
DATE	

JOHANNESBURG WATER (SOC) LTD

Johannesburg Water

TURBINE HALL
65 NTEMI PILISO STREET
NEWTOWN
JOHANNESBURG 2001

TEL: (011) 688-1400
FAX: (011) 688-1529

CITY OF JOHANNESBURG

OLIFANTSVLEI WWTW: VAN WYKRUST PUMP STATION

INFRASTRUCTURE RENEWAL PLAN

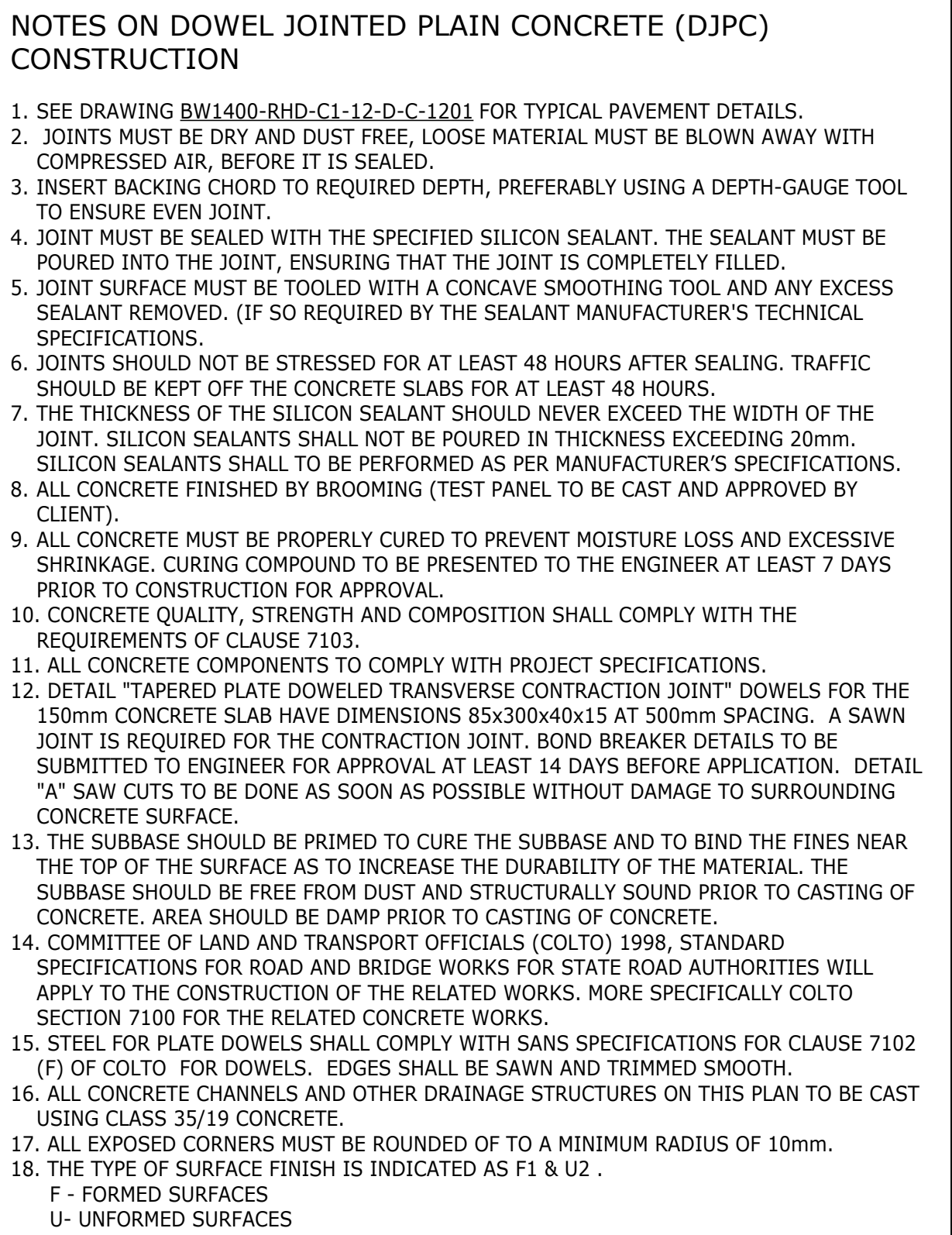
VAN WYKRUST PUMP STATION

TERRACE AND DRAINAGE LAYOUT

DESIGN MANAGER

DATE

DESIGN MANAGER	SCALE	AMENDMENTS	APPROVED	DATE	DRAWING No.
	AS SHOWN	C01 ISSUED FOR TENDER	D. PHOGOLE	FEB 25	JW NUMBER
		C02 ISSUED FOR RE-TENDER	D. PHOGOLE	JULY 26	JW14466R-RHD-C1-01-D-C-0103
					CONSULTANT'S NUMBER
					BW1400-RHD-C1-01-D-C-0103
					FILE No
					C02



1 : 150



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SURVEYED	
DESIGNED	T. MOETI
DRAWN	V. MARINDI
CHECKED	T. MOETI
SERVICES CHECKED	
GEOTECHNICAL INVESTIGATION	
SERVITUDES	
APPROVED Pr. Eng.No. DATE	DITHOLO PHOGOLE 20060098

JOHANNESBURG WATER (SOC) LTD	
 Johannesburg Water	TURBINE HALL 65 NTEMI PILISO STREET NEWTOWN JOHANNESBURG 2001 TEL: (011) 688-1400 FAX: (011) 688-1529

CITY OF JOHANNESBURG

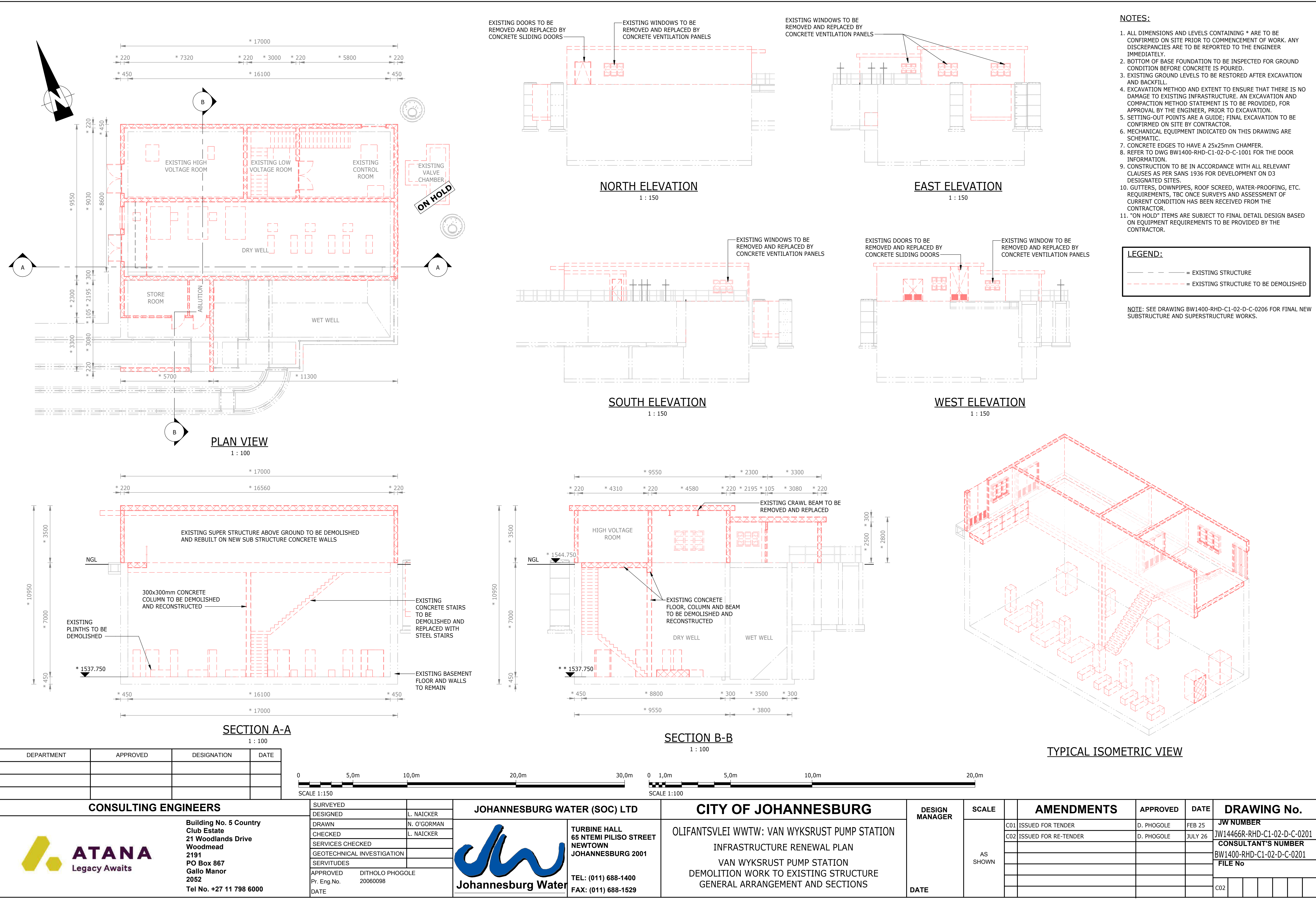
OLIFANTSVLEI WWTW: VAN WYKSRUST PUMP STATION

INFRASTRUCTURE RENEWAL PLAN

VAN WYKSRUST PUMP STATION

PAVEMENT LAYOUT

DESIGN MANAGER	SCALE	AMENDMENTS		APPROVED	DATE	DRAWING No.									
	AS SHOWN	C01	ISSUED FOR INFORMATION	D. PHOGOLE	FEB 25	JW NUMBER									
		C02	ISSUED FOR RE-TENDER	D. PHOGOLE	JULY 26	JW14466R-RHD-C1-01-D-C-0104									
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						FILE No									
DATE						C02									



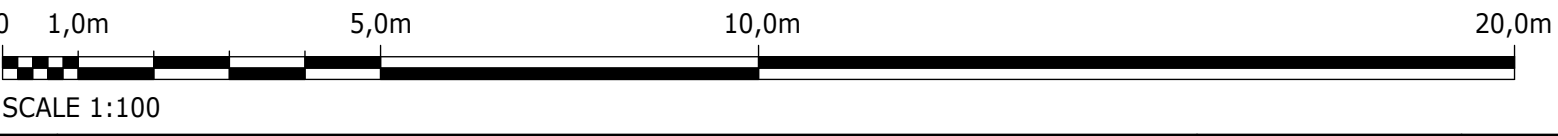
- NOTES:**
- ALL DIMENSIONS AND LEVELS CONTAINING * ARE TO BE CONFIRMED ON SITE PRIOR TO COMMENCEMENT OF WORK. ANY DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER IMMEDIATELY.
 - BOTTOM OF BASE FOUNDATION TO BE INSPECTED FOR GROUND CONDITION BEFORE CONCRETE IS POURED.
 - EXISTING GROUND LEVELS TO BE RESTORED AFTER EXCAVATION AND BACKFILL.
 - EXCAVATION METHOD AND EXTENT TO ENSURE THAT THERE IS NO DAMAGE TO EXISTING INFRASTRUCTURE. AN EXCAVATION AND COMPACTION METHOD STATEMENT IS TO BE PROVIDED, FOR APPROVAL BY THE ENGINEER, PRIOR TO EXCAVATION.
 - SETTING-OUT POINTS ARE A GUIDE; FINAL EXCAVATION TO BE CONFIRMED ON SITE BY CONTRACTOR.
 - MECHANICAL EQUIPMENT INDICATED ON THIS DRAWING ARE SCHEMATIC.
 - CONCRETE EDGES TO HAVE A 25x25mm CHAMFER.
 - REFER TO DWG BW1400-RHD-C1-02-D-C-1001 FOR THE DOOR INFORMATION.
 - CONSTRUCTION TO BE IN ACCORDANCE WITH ALL RELEVANT CLAUSES AS PER SANS 1936 FOR DEVELOPMENT ON D3 DESIGNATED SITES.
 - GUTTERS, DOWNPIPES, ROOF SCREED, WATER-PROOFING, ETC. REQUIREMENTS, TBC ONCE SURVEYS AND ASSESSMENT OF CURRENT CONDITION HAS BEEN RECEIVED FROM THE CONTRACTOR.
 - "ON HOLD" ITEMS ARE SUBJECT TO FINAL DETAIL DESIGN BASED ON EQUIPMENT REQUIREMENTS TO BE PROVIDED BY THE CONTRACTOR.

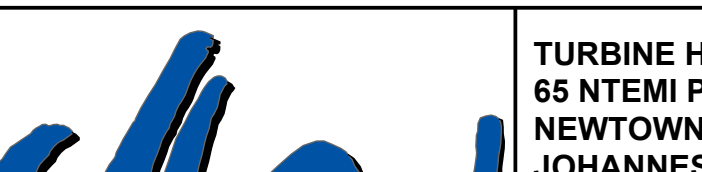
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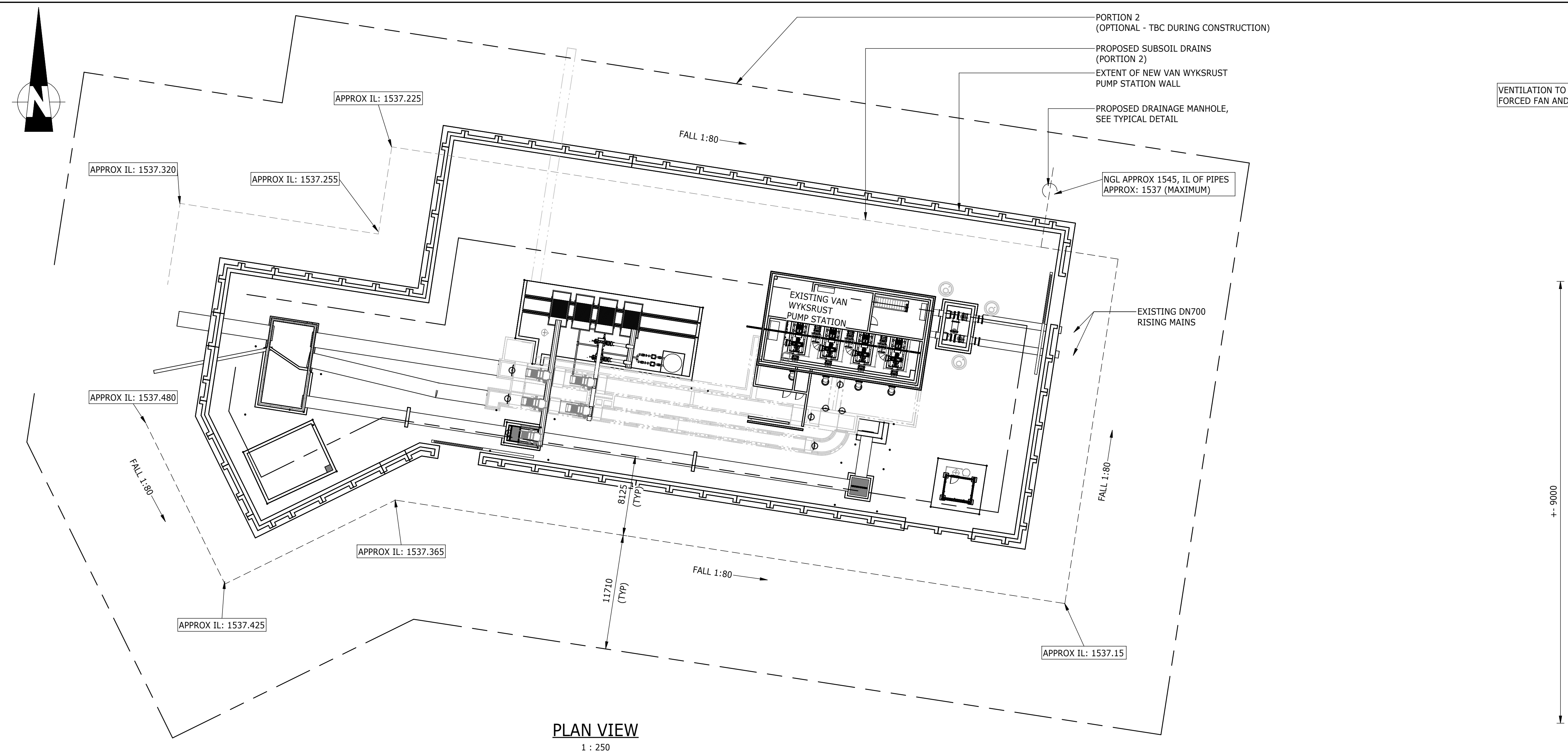
— — — — — = EXISTING STRUCTURE
- - - - - = EXISTING STRUCTURE TO BE DEMOLISHED

NOTE: SEE DRAWING BW1400-RHD-C1-02-D-C-0206 FOR FINAL NEW SUBSTRUCTURE AND SUPERSTRUCTURE WORKS.

DEPARTMENT	APPROVED	DESIGNATION	DATE

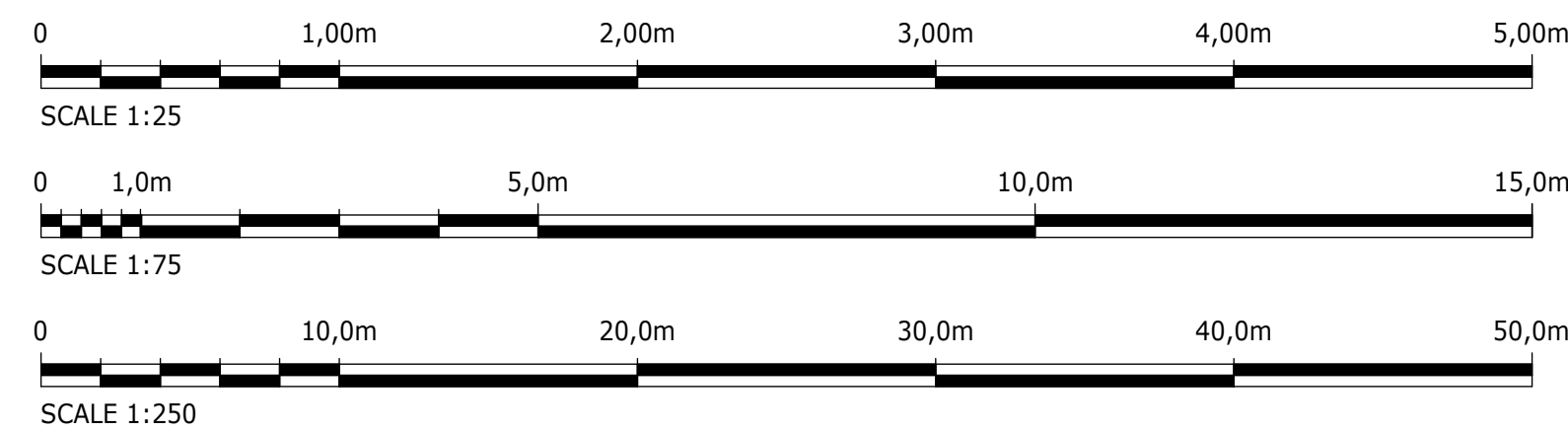


CONSULTING ENGINEERS		JOHANNESBURG WATER (SOC) LTD		CITY OF JOHANNESBURG		DESIGN MANAGER	SCALE	AMENDMENTS		APPROVED	DATE	DRAWING No.				
	Building No. 5 Country Club Estate 21 Woodlands Drive Woodmead 2191 PO Box 867 Gallo Manor 2052 Tel No. +27 11 798 6000	SURVEYED			TURBINE HALL 65 NTEMI PILISO STREET NEWTOWN JOHANNESBURG 2001 TEL: (011) 688-1400 FAX: (011) 688-1529			OLIFANTSVLEI WWTW: VAN WYKSrust PUMP STATION INFRASTRUCTURE RENEWAL PLAN VAN WYKSrust PUMP STATION DEMOLITION WORK TO EXISTING STRUCTURE GENERAL ARRANGEMENT AND SECTIONS	AS SHOWN	C01	ISSUED FOR TENDER	D. PHOGOLE	FEB 25	JW NUMBER		
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										CONSULTANT'S NUMBER						
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										FILE No						
										C02						



LEGEND:
--- = UNDERGROUND DRAINAGE
--- = EXCAVATION EXTENT

- NOTES:**
1. FOR EXCAVATIONS GREATER THAN 3M, THE CONTRACTOR IS REQUIRED TO APPOINT A COMPETENT PERSON FOR THE INSPECTION AND CERTIFICATION OF TRENCH WALLS/EXCAVATIONS, WHICH SHALL BE DECLARED SAFE IN WRITING BEFORE ANY PERSON MAY ENTER, OR BRACING/SHORING/LATERAL SUPPORT OF ADEQUATE STRENGTH SHALL BE DESIGNED AND INSTALLED TO ENSURE TRENCH WALL STABILITY.
 2. DEWATERING TO A MAXIMUM DEPTH OF 8m BELOW NGL, NOT TO BE EXCEEDED UNDER ANY CIRCUMSTANCES.
 3. ALL LEVELS TO BE CHECKED BASED ON EXISTING INFRASTRUCTURE AND FINAL DRAIN POSITIONS.
 4. LENGTH OF EXCAVATION ARE TO BE KEPT TO MINIMUM TO MINIMISE THE ACCUMULATION OF PONDING WATER.
 5. CONSTRUCTION TO BE IN ACCORDANCE WITH ALL RELEVANT CLAUSES AS PER SANS 1936 FOR DEVELOPMENT ON D3 DESIGNATED SITES.
 6. SETTING-OUT DETAILS TO BE CONFIRMED ONCE THE ENGINEER IS IN RECEIPT OF THE CONTRACTORS SURVEYS (BOTH GPR AND TOPOGRAPHICAL).
 7. "ON HOLD" ITEMS ARE SUBJECT TO FINAL DETAIL DESIGN BASED ON EQUIPMENT REQUIREMENTS TO BE PROVIDED BY THE CONTRACTOR.



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SURVEYED	
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DRAWN	N. O'GORMAN
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SERVICES CHECKED	
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APPROVED	DITHOLO PHOGOLE
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CITY OF JOHANNESBURG

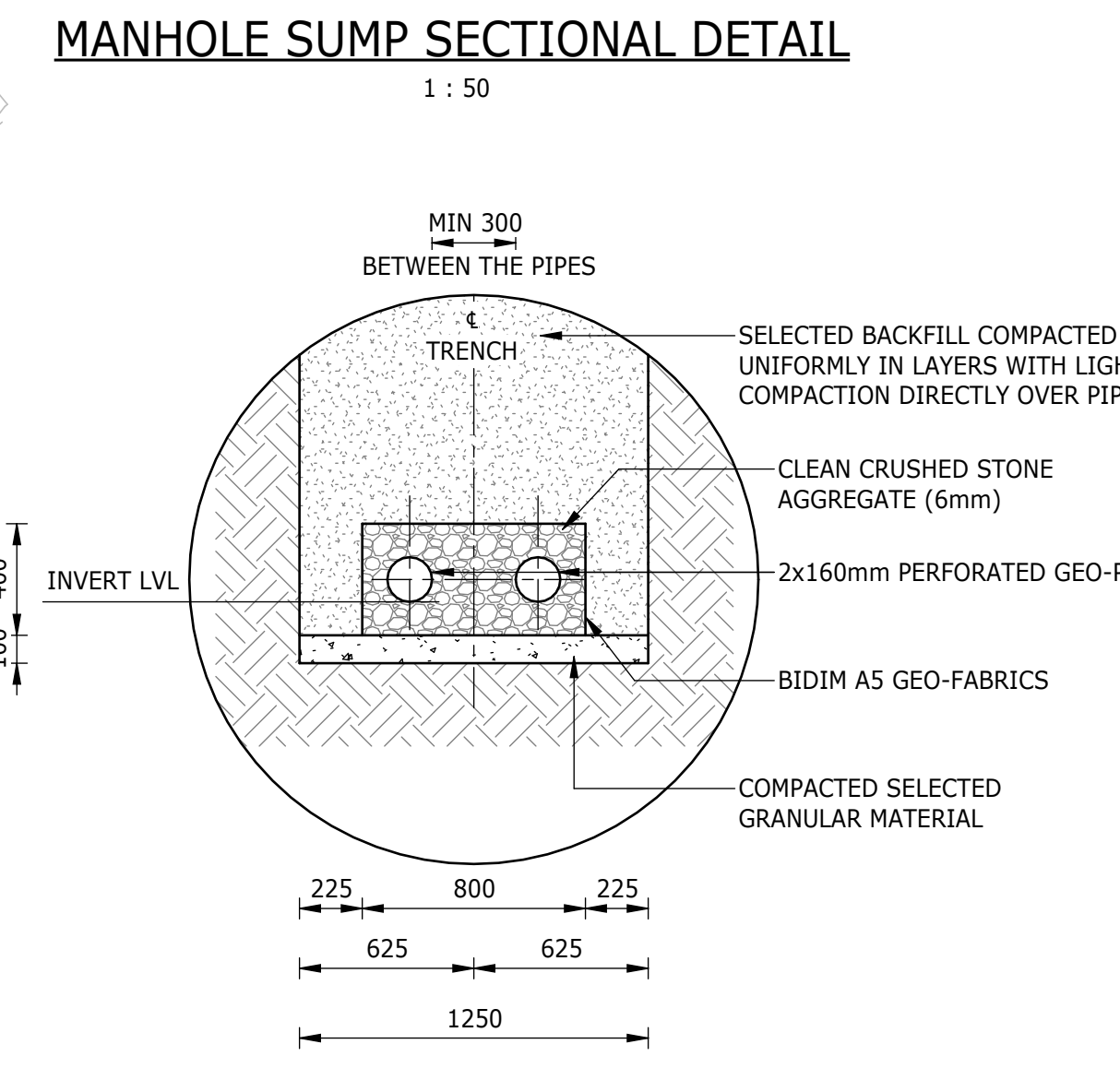
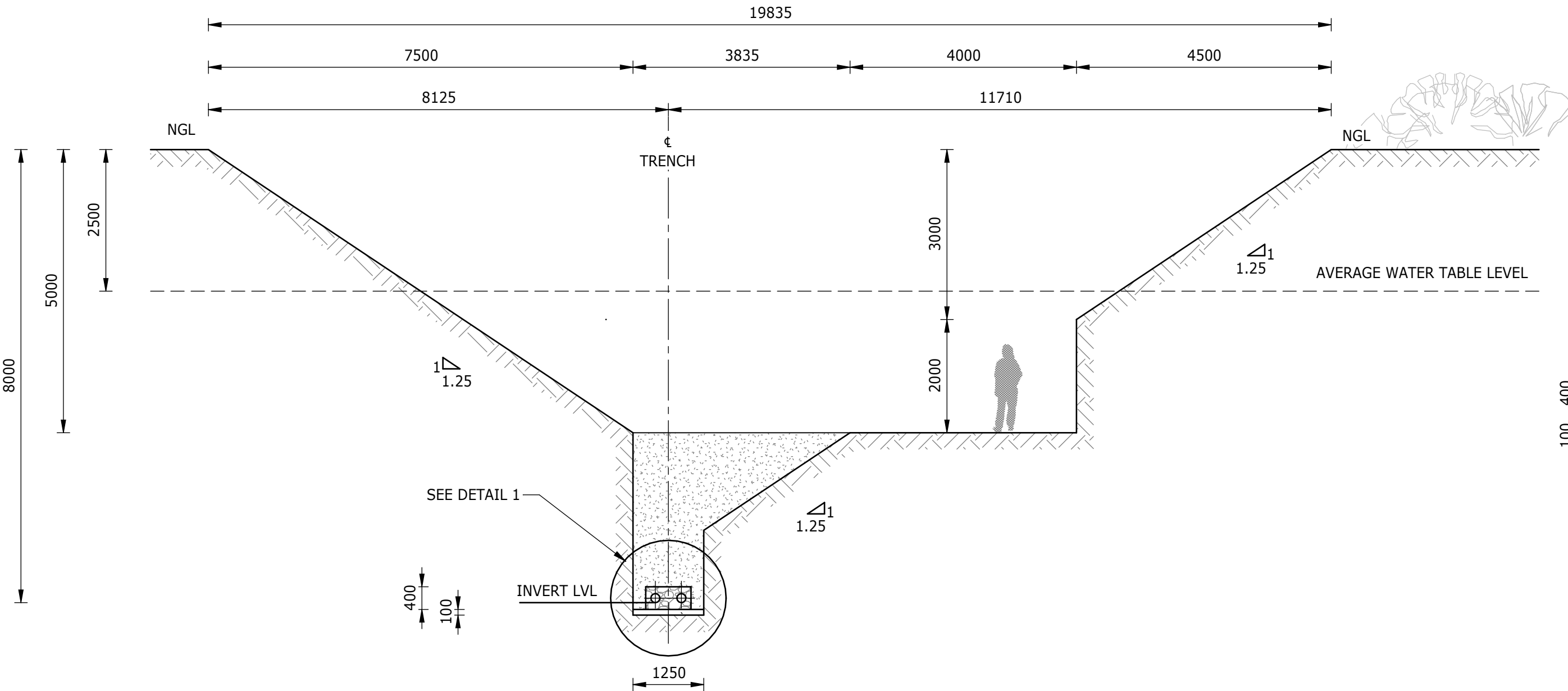
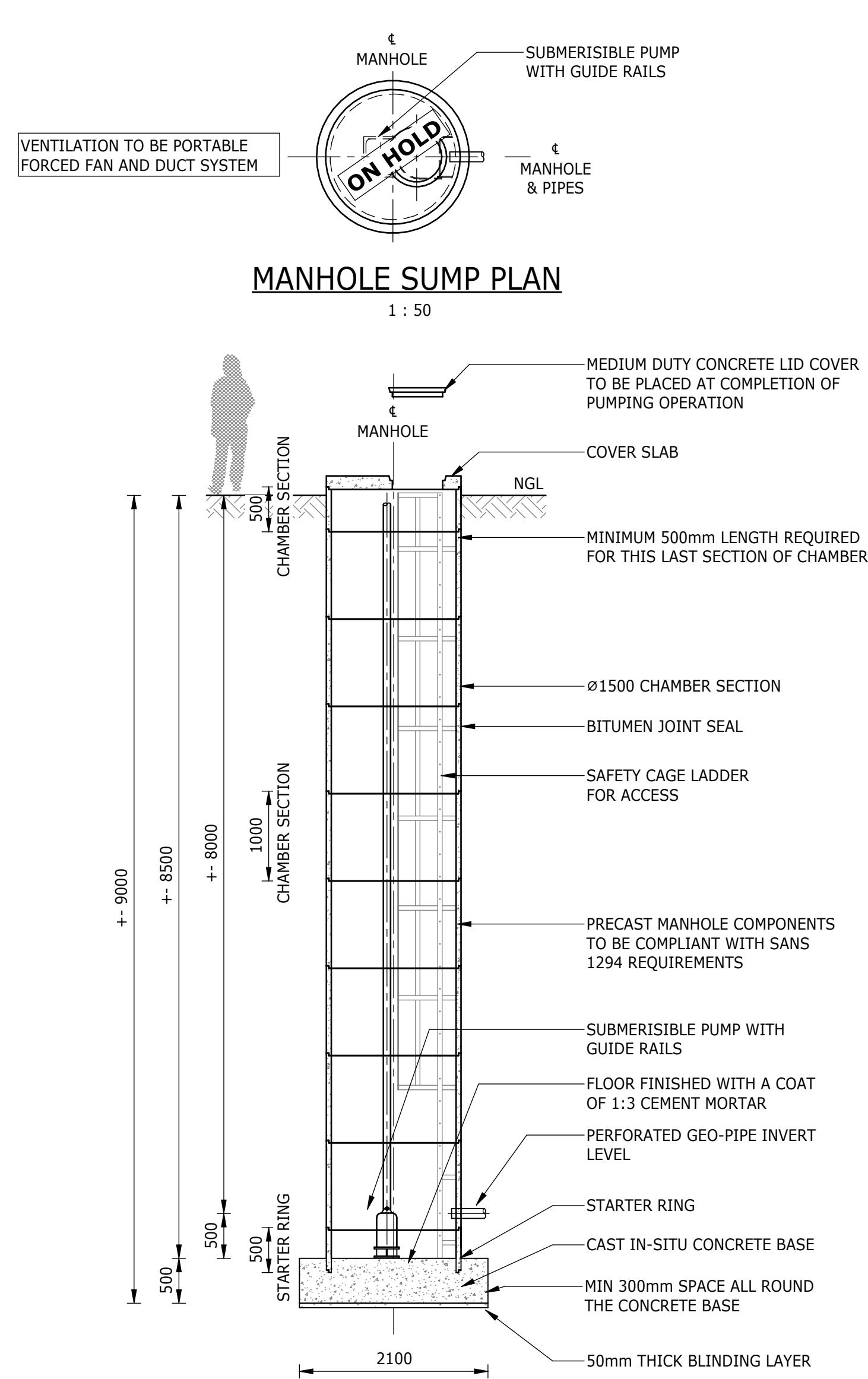
OLIFANTSVLEI WWTW: VAN WYKSRUST PUMP STATION

INFRASTRUCTURE RENEWAL PLAN

VAN WYKSRUST PUMP STATION
SUBSOIL DRAINAGE
GENERAL LAYOUT AND DETAILS

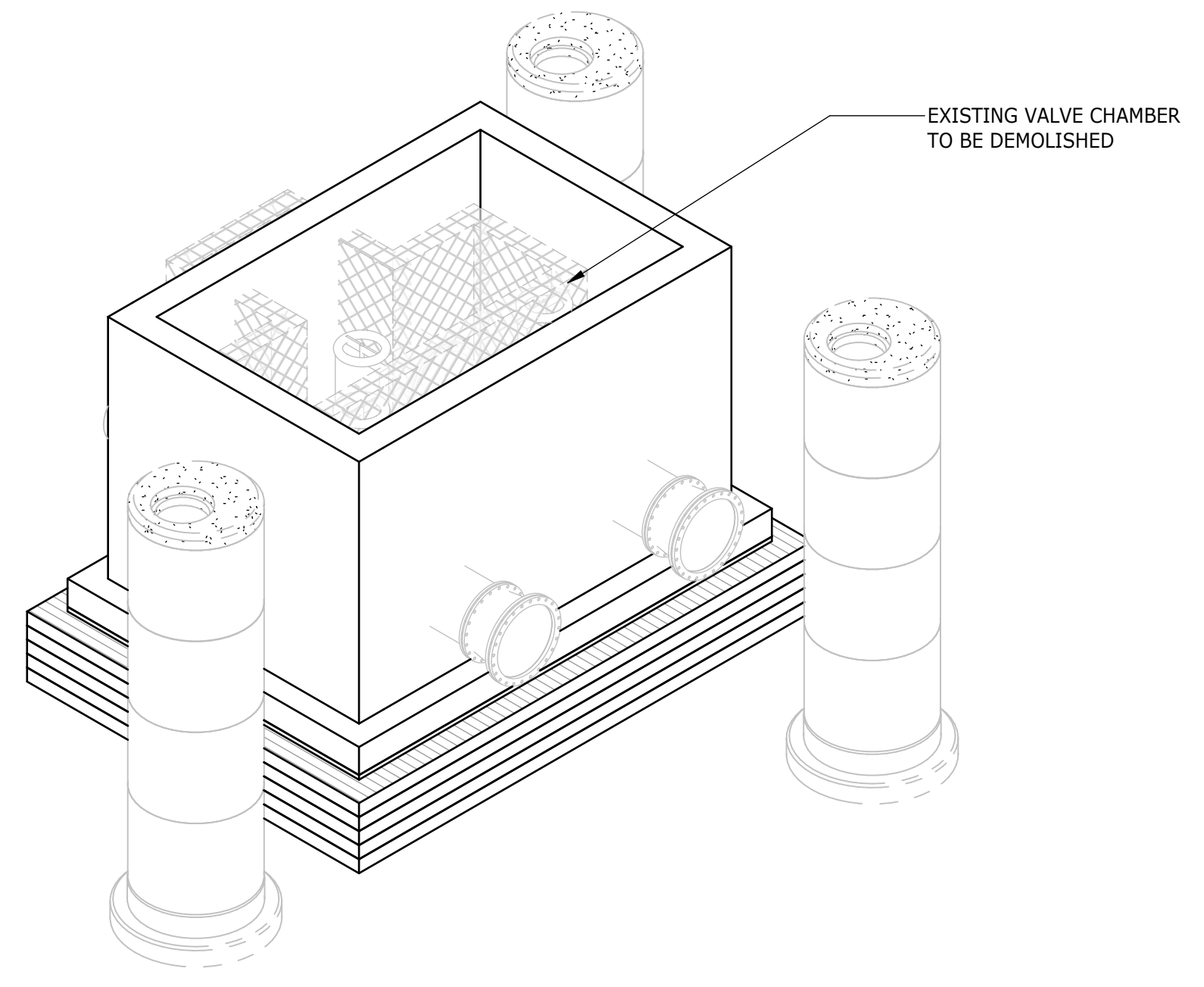
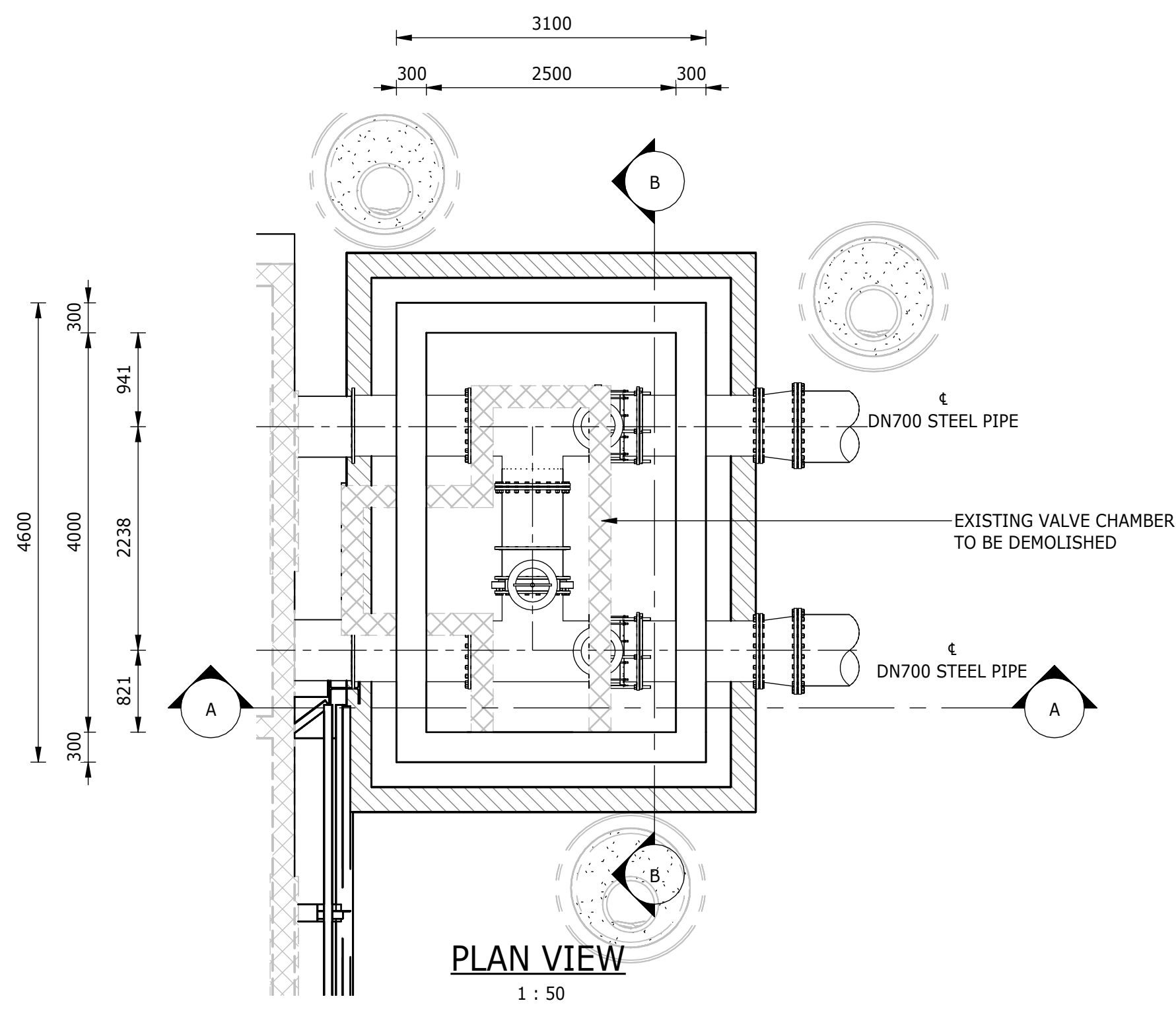
DESIGN MANAGER	
DATE	

SCALE	AMENDMENTS	APPROVED	DATE	DRAWING No.
AS SHOWN	P01 ISSUED FOR INFORMATION	D. PHOGOLE	FEB 25	JW NUMBER JW14466R-RHD-C1-02-D-C-0204
	C02 ISSUED FOR RE-TENDER	D. PHOGOLE	JULY 26	CONSULTANT'S NUMBER BW1400-RHD-C1-02-D-C-0204
				FILE No
				C02

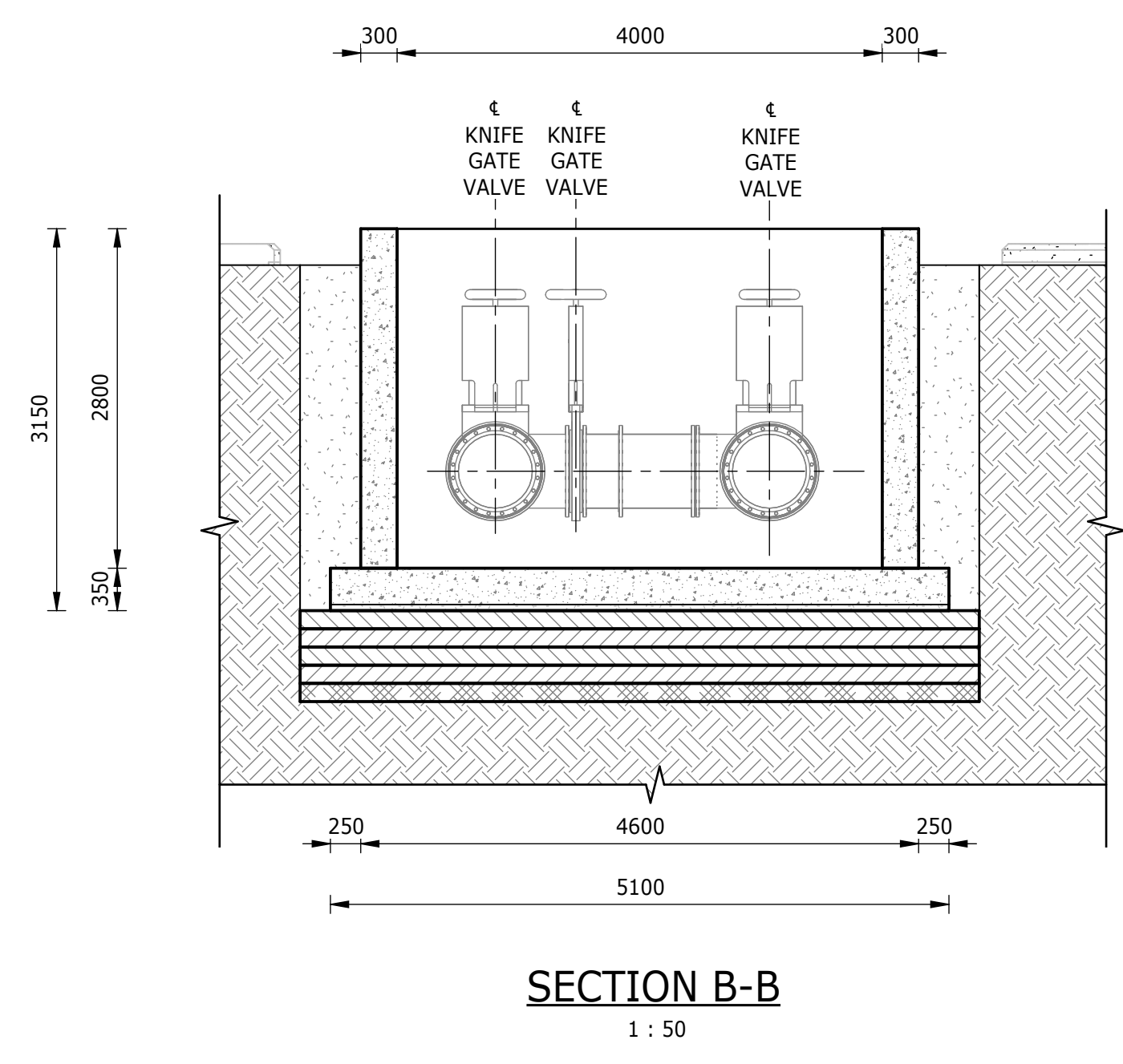
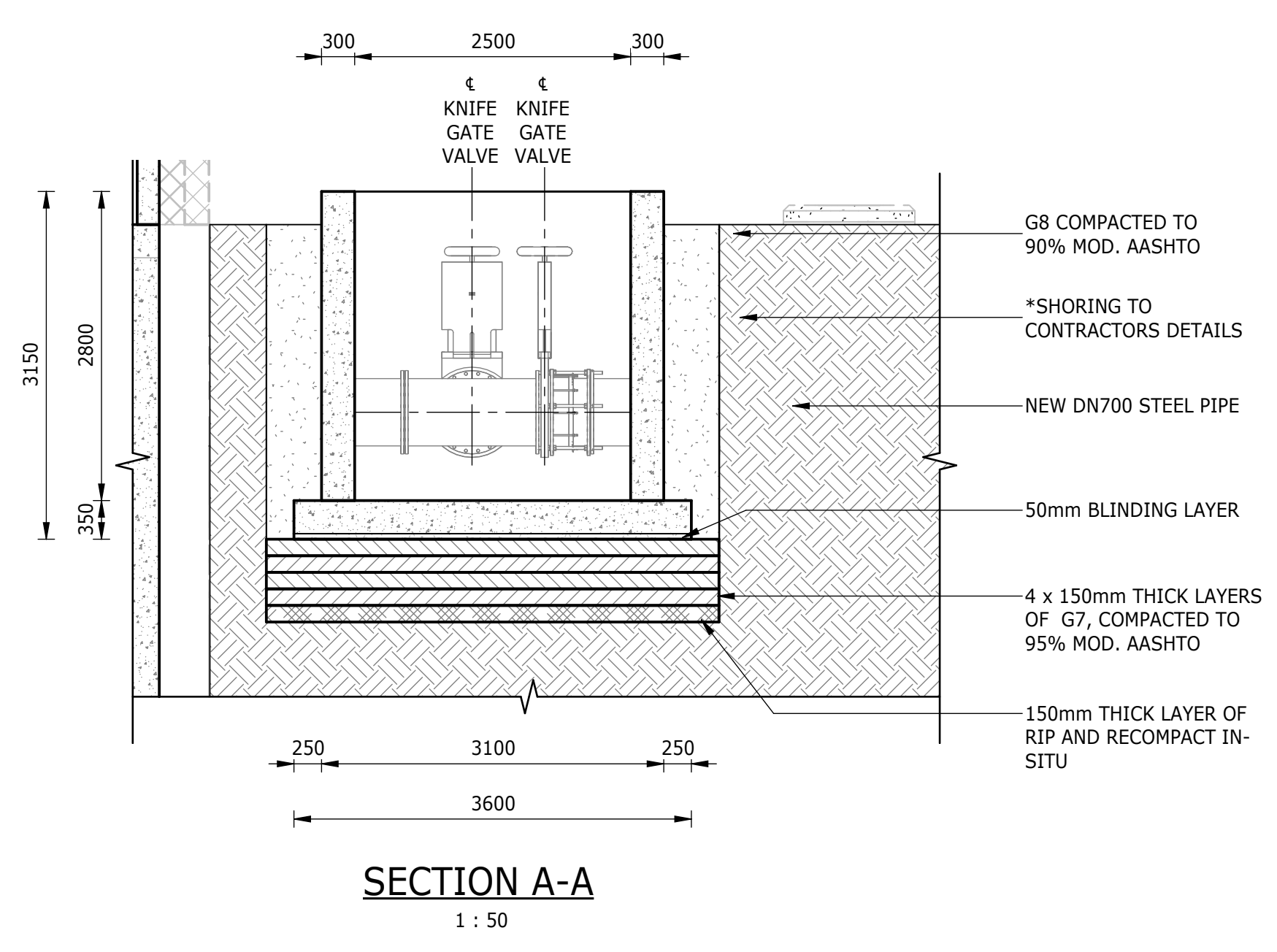


TYPICAL TRENCH CROSS SECTION FOR UNDERGROUND DRAINAGE SYSTEM - "FOR INFORMATION ONLY"

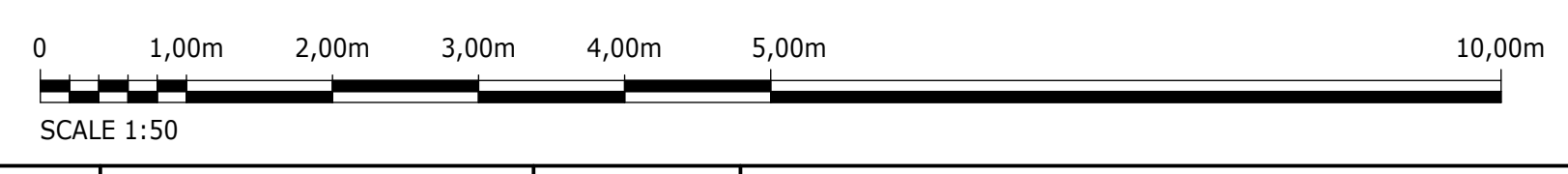
DETAIL 1: UNDERGROUND DRAINAGE SYSTEM

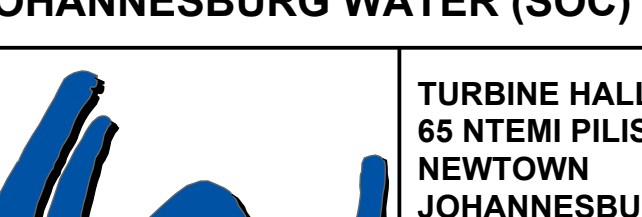


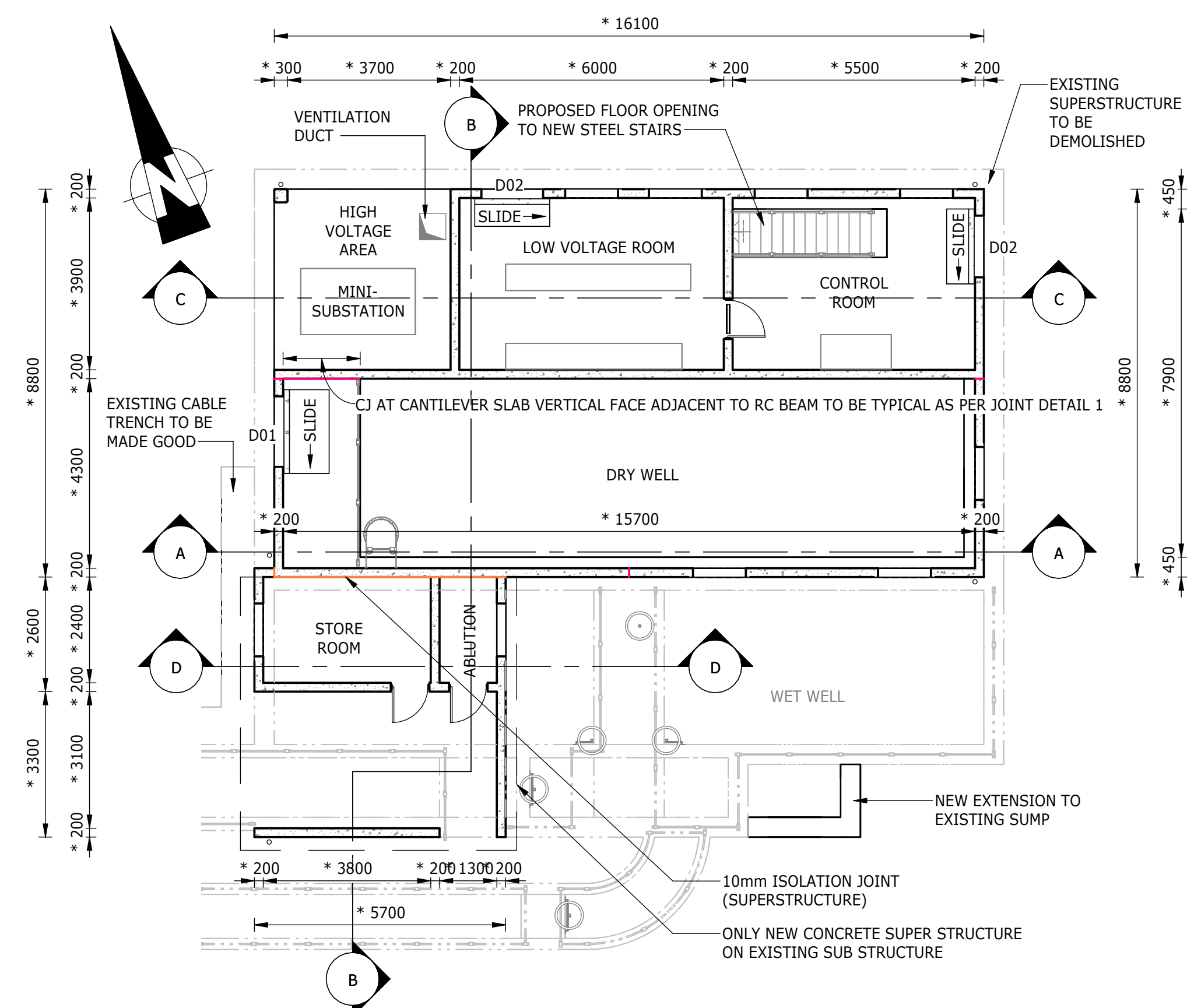
- NOTES:**
1. ALL DIMENSIONS AND LEVELS CONTAINING * ARE TO BE CONFIRMED ON SITE PRIOR TO COMMENCEMENT OF WORK. ANY DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER IMMEDIATELY.
 2. BOTTOM OF BASE FOUNDATION TO BE INSPECTED FOR GROUND CONDITION BEFORE CONCRETE IS POURED.
 3. EXISTING GROUND LEVELS TO BE RESTORED AFTER EXCAVATION AND BACKFILL.
 4. EXCAVATION METHOD AND EXTENT TO ENSURE THAT THERE IS NO DAMAGE TO EXISTING INFRASTRUCTURE. AN EXCAVATION AND COMPACTION METHOD STATEMENT IS TO BE PROVIDED, FOR APPROVAL BY THE ENGINEER, PRIOR TO EXCAVATION.
 5. SETTING-OUT POINTS ARE A GUIDE; FINAL EXCAVATION TO BE CONFIRMED ON SITE BY CONTRACTOR.
 6. MECHANICAL EQUIPMENT INDICATED ON THIS DRAWING ARE SCHEMATIC.
 7. CONCRETE EDGES TO HAVE A 25x25mm CHAMFER.
 8. SHORING OR OTHER APPROPRIATE LATERAL SUPPORT TO CONTRACTORS DETAILS, WHERE REQUIRED.
 9. CONSTRUCTION TO BE IN ACCORDANCE WITH ALL RELEVANT CLAUSES AS PER SANS 1936 FOR DEVELOPMENT ON D3 DESIGNATED SITES.
 10. CONCRETE STRENGTH TO BE 35MPa FOR WATER-RETAINING STRUCTURES, UNLESS SPECIFIED OTHERWISE.



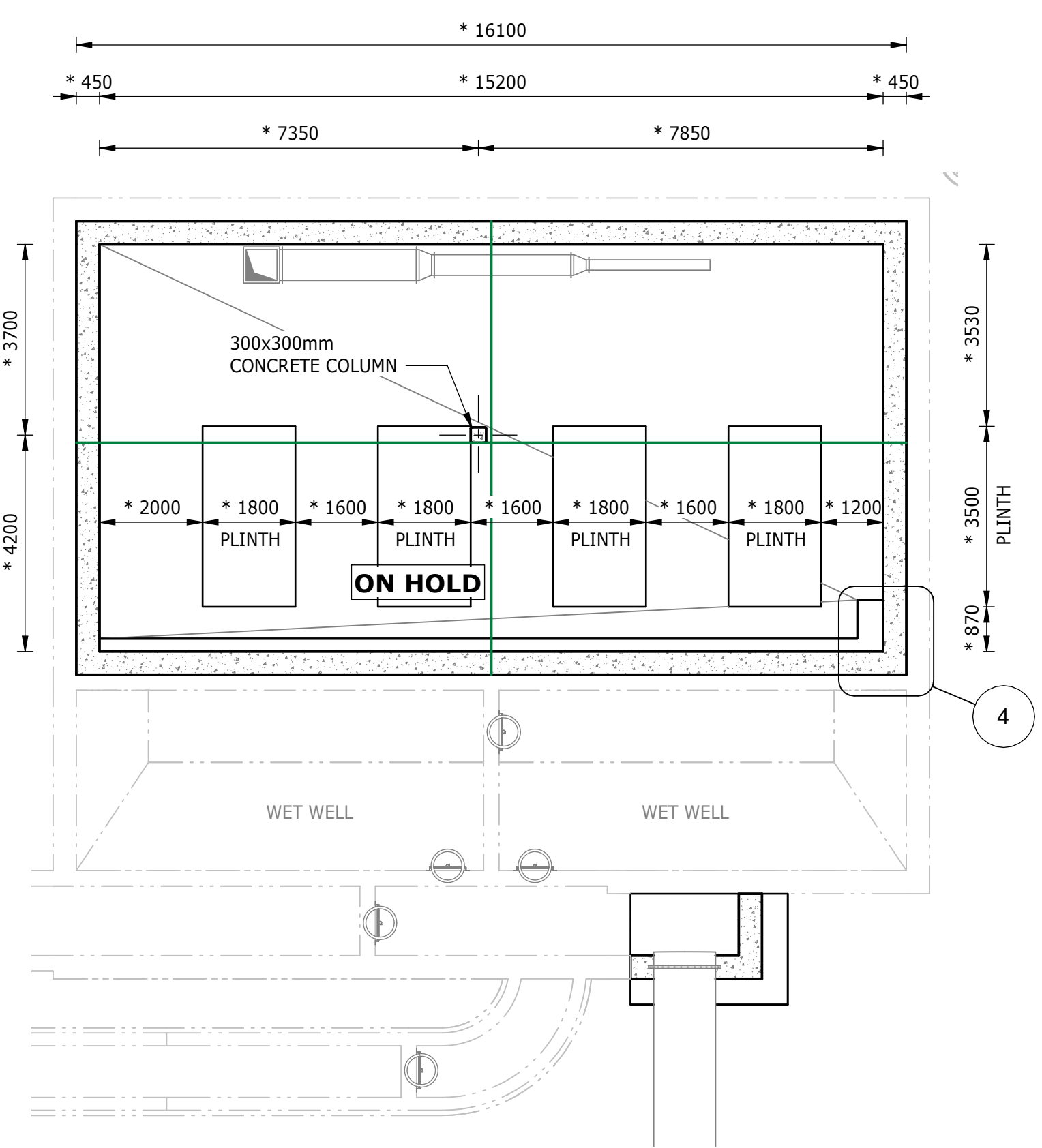
DEPARTMENT	APPROVED	DESIGNATION	DATE



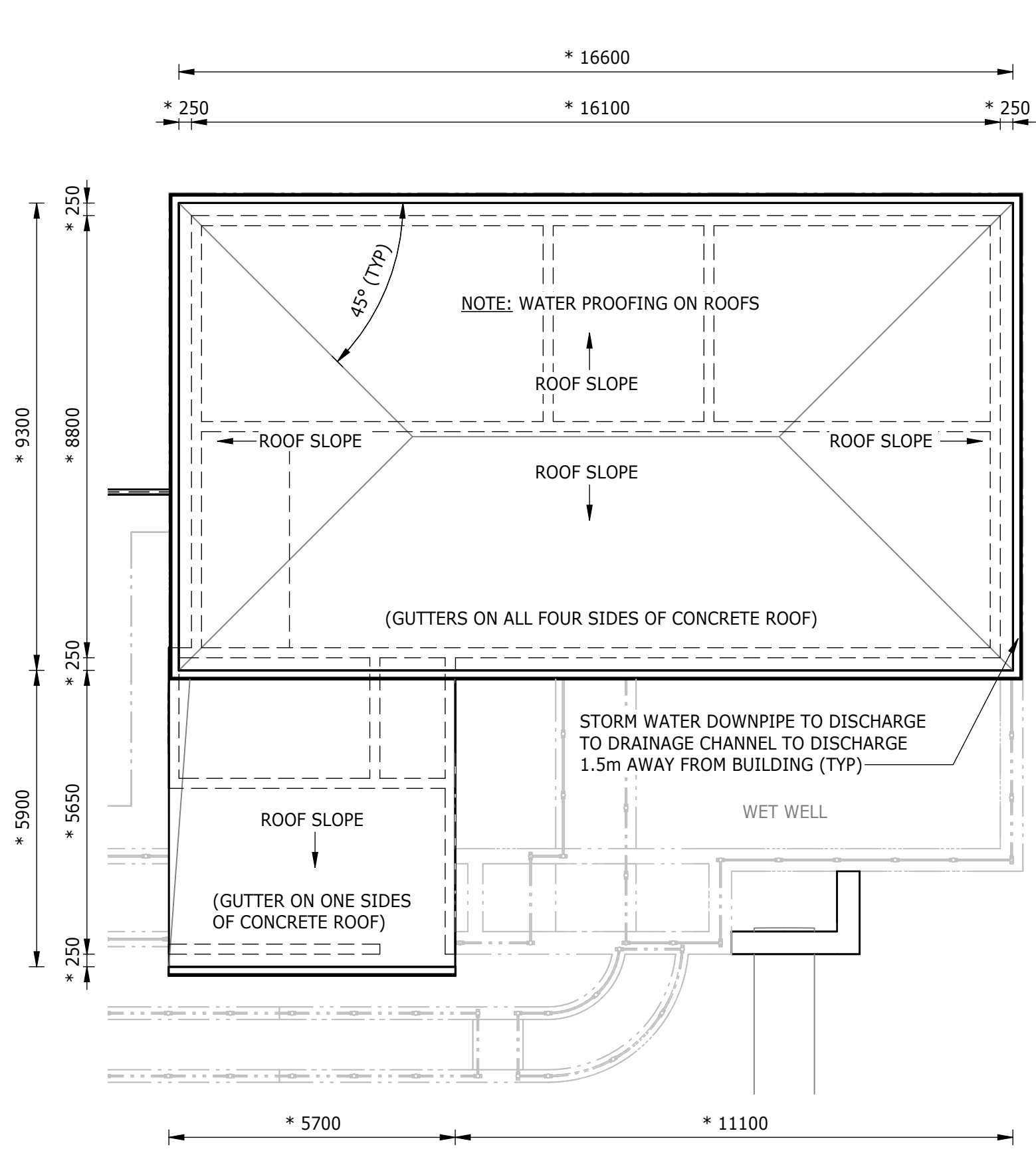
CONSULTING ENGINEERS		JOHANNESBURG WATER (SOC) LTD		CITY OF JOHANNESBURG		DESIGN MANAGER	SCALE	AMENDMENTS		APPROVED	DATE	DRAWING No.									
	Building No. 5 Country Club Estate 21 Woodlands Drive Woodmead 2191 PO Box 867 Gallo Manor 2052 Tel No. +27 11 798 6000	SURVEYED			TURBINE HALL 65 NTEMI PILISO STREET NEWTOWN JOHANNESBURG 2001 TEL: (011) 688-1400 FAX: (011) 688-1529			OLIFANTSVLEI WWTW: VAN WYKSRUST PUMP STATION INFRASTRUCTURE RENEWAL PLAN VAN WYKSRUST PUMP STATION VALVE CHAMBER GENERAL ARRANGEMENT AND SECTIONS	C01			ISSUED FOR INFORMATION	D. PHOGOLE	SEP 25	JW NUMBER						
		DESIGNED	L. NAICKER						C02			ISSUED FOR RE-TENDER	D. PHOGOLE	FEB 26	JW14466R-RHD-C1-02-D-C-0205						
		DRAWN	N. O'GORMAN						CONSULTANT'S NUMBER												
		CHECKED	L. NAICKER						BW1400-RHD-C1-02-D-C-0205												
		SERVICES CHECKED							FILE No												
		GEOTECHNICAL INVESTIGATION								C02											
		SERVITUDES																			
		APPROVED	DITHOLO PHOGOLE																		
		Pr. Eng.No.	20060098																		
		DATE																			



PLAN VIEW - SUPERSTRUCTURE FLOOR - LEVEL 1545.750
1 : 100



PLAN VIEW - BELOW WALKWAY - LEVEL 1541.000
1 : 100



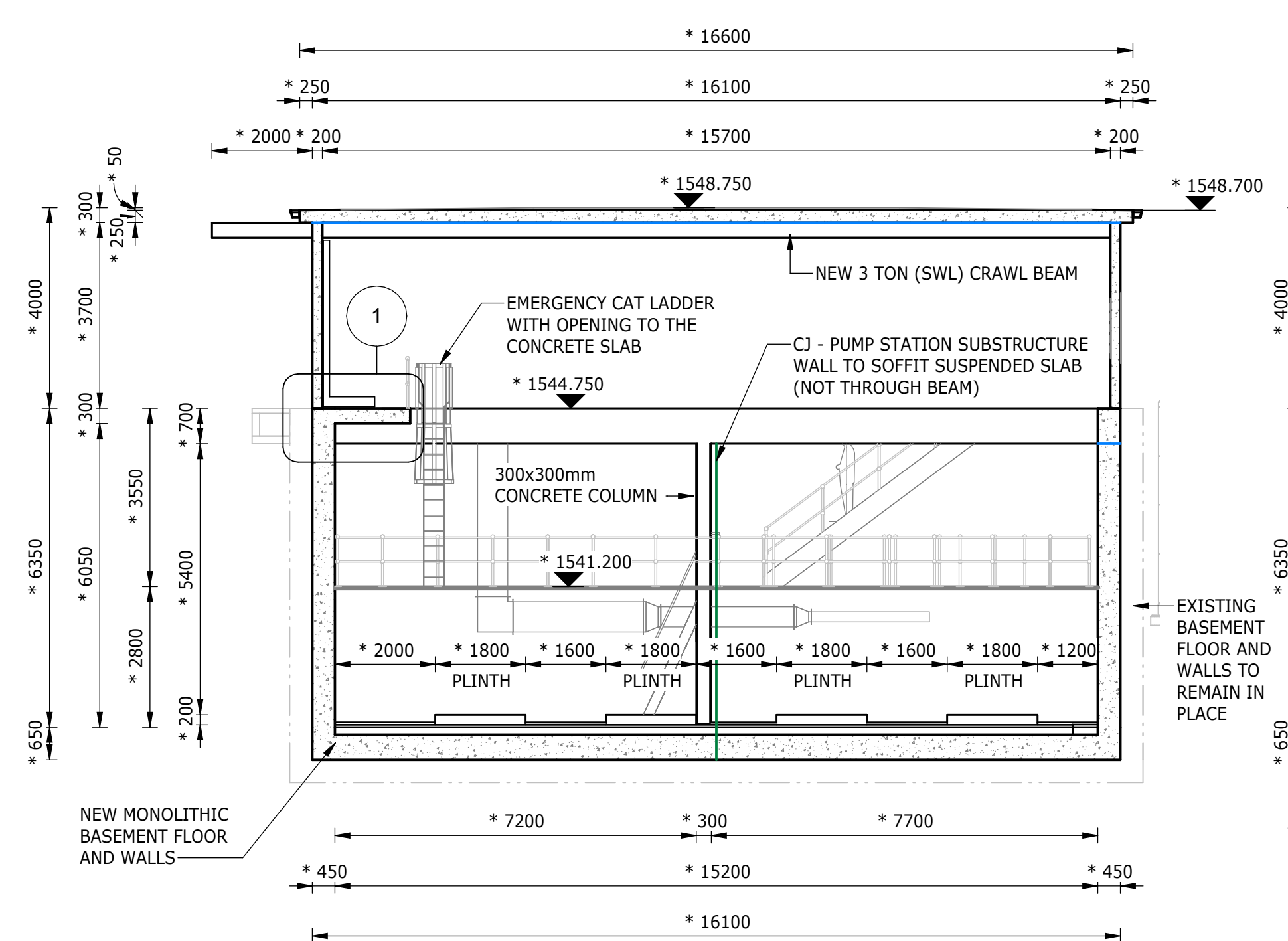
PLAN VIEW - ROOF - LEVEL 1548.750
1 : 100

- NOTES:**
- ALL DIMENSIONS AND LEVELS CONTAINING * ARE TO BE CONFIRMED ON SITE PRIOR TO COMMENCEMENT OF WORK. ANY DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER IMMEDIATELY.
 - BOTTOM OF BASE FOUNDATION TO BE INSPECTED FOR GROUND CONDITION BEFORE CONCRETE IS POURED.
 - EXISTING GROUND LEVELS TO BE RESTORED AFTER EXCAVATION AND BACKFILL.
 - EXCAVATION METHOD AND EXTENT TO ENSURE THAT THERE IS NO DAMAGE TO EXISTING INFRASTRUCTURE. AN EXCAVATION AND COMPACTION METHOD STATEMENT IS TO BE PROVIDED, FOR APPROVAL BY THE ENGINEER, PRIOR TO EXCAVATION.
 - SETTING-OUT POINTS ARE A GUIDE; FINAL EXCAVATION TO BE CONFIRMED ON SITE BY CONTRACTOR.
 - MECHANICAL EQUIPMENT INDICATED ON THIS DRAWING ARE SCHEMATIC.
 - CONCRETE EDGES TO HAVE A 25x25mm CHAMFER.
 - REFER TO DWG BW1400-RHD-C1-02-D-C-1001 FOR THE DOOR INFORMATION.
 - CONSTRUCTION TO BE IN ACCORDANCE WITH ALL RELEVANT CLAUSES AS PER SANS 1936 FOR DEVELOPMENT ON D3 DESIGNATED SITES.
 - GUTTERS, DOWNPIPES, ROOF SCREED, WATER-PROOFING, ETC. REQUIREMENTS, TBC ONCE SURVEYS AND ASSESSMENT OF CURRENT CONDITION HAS BEEN RECEIVED FROM THE CONTRACTOR.
 - "ON HOLD" ITEMS ARE SUBJECT TO FINAL DETAIL DESIGN BASED ON EQUIPMENT REQUIREMENTS TO BE PROVIDED BY THE CONTRACTOR.

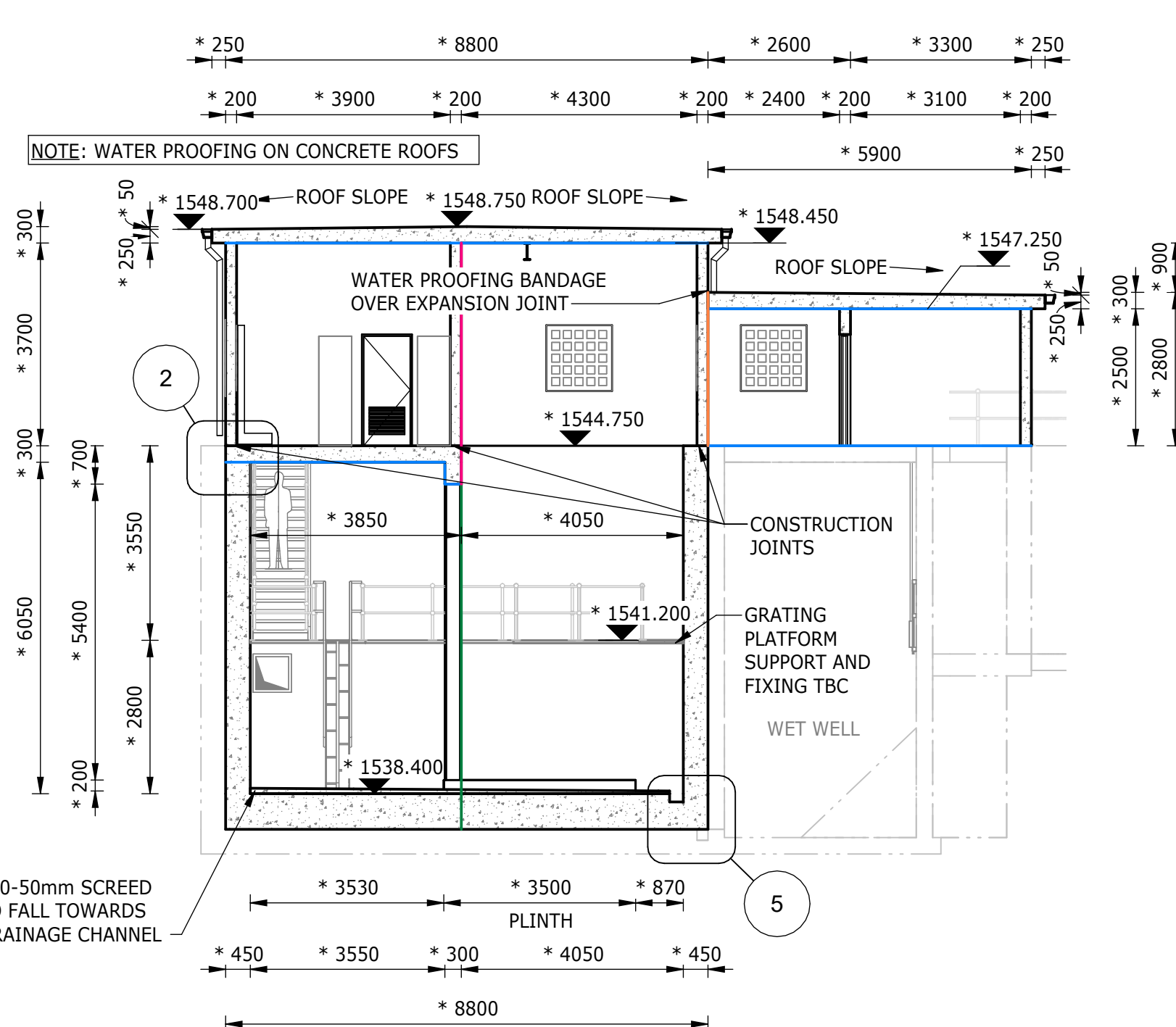
DOOR LEGEND			
No	OPENING WIDTH	OPENING HEIGHT	QTY
D01	*1600	*3500	1
D02	*1400	*2100	2

LEGEND:			
—	= CJ - CONTRACTION JOINT NEW RC SUBSTRUCTURE		
—	= CJ1 - CONTRACTION JOINT NEW RC SUPERSTRUCTURE		
—	= SJ - SLIP JOINT		
—	= IJ - ISOLATION JOINT		

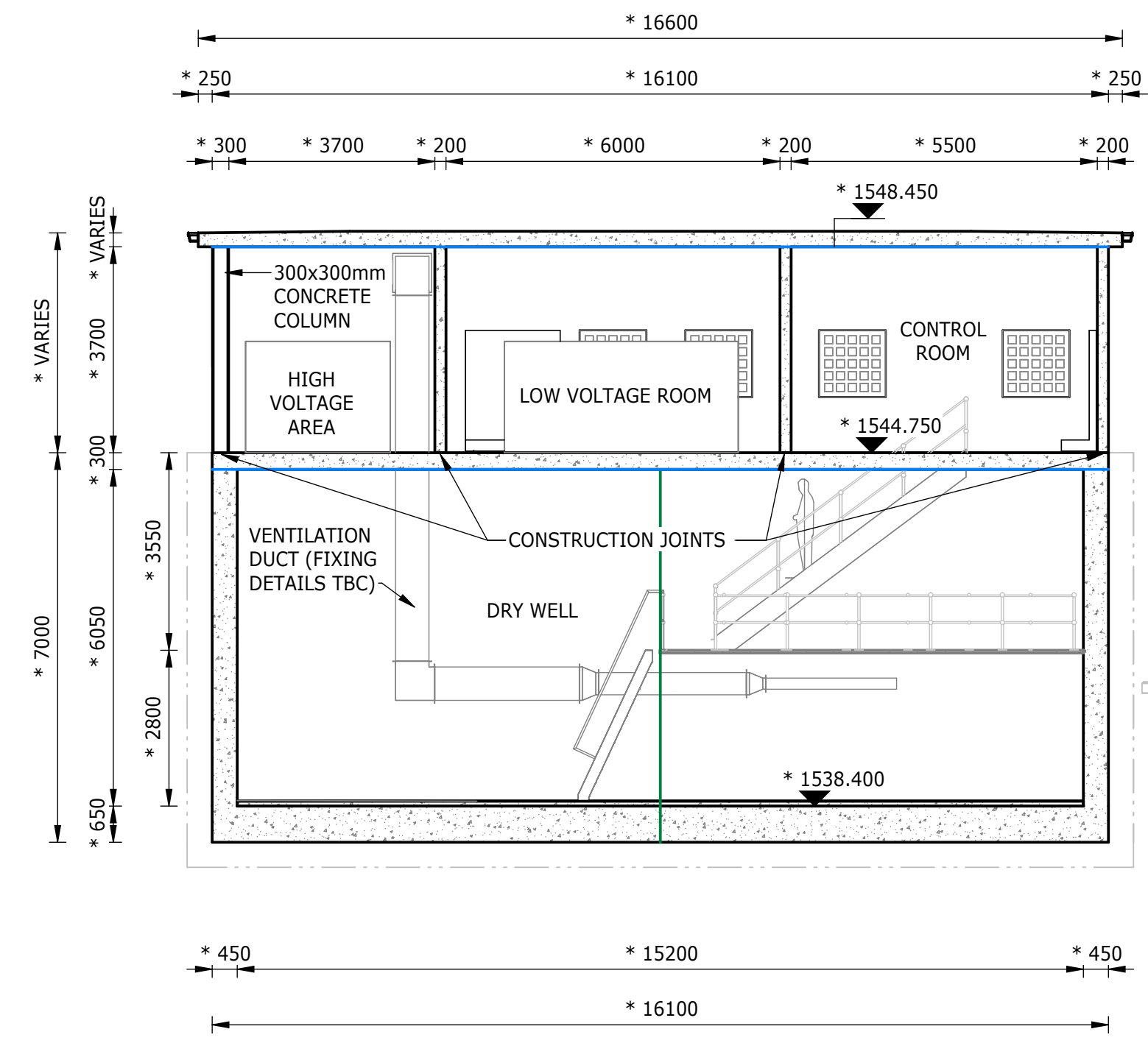
PIPEWORK NOT SHOWN FOR CLARITY, SEE DRAWING BW1400-RHD-C1-02-D-M-0241 FOR PIPEWORK GENERAL LAYOUT AND SECTIONS



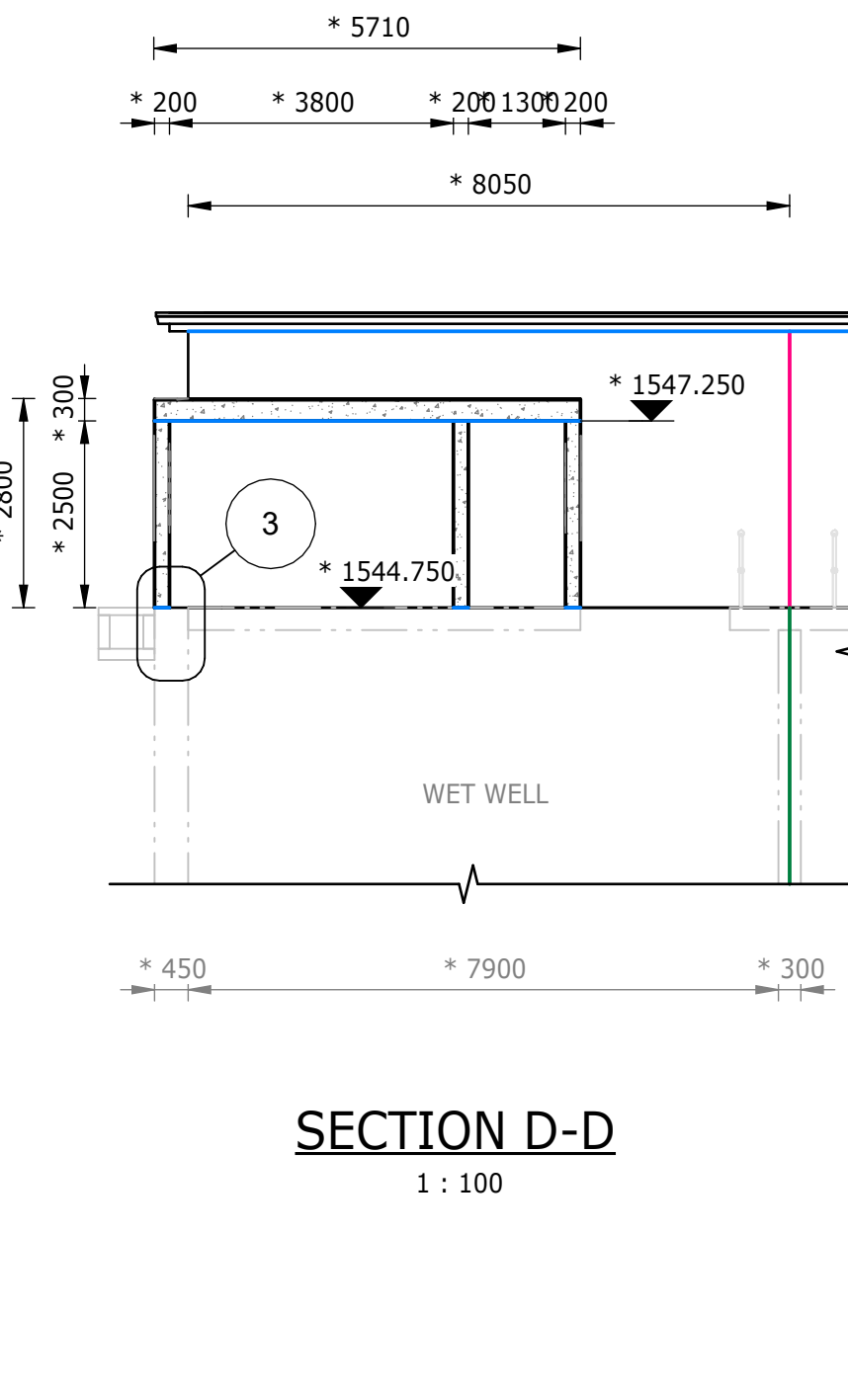
SECTION A-A
1 : 100



SECTION B-B
1 : 100

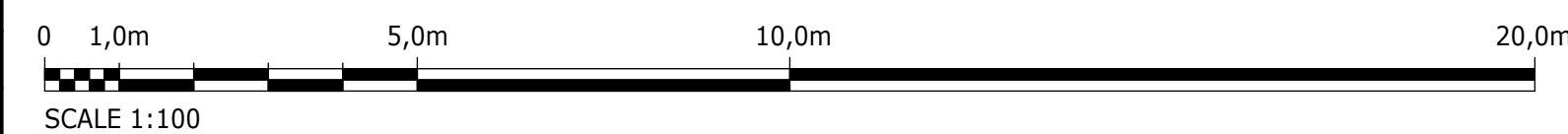


SECTION C-C
1 : 100

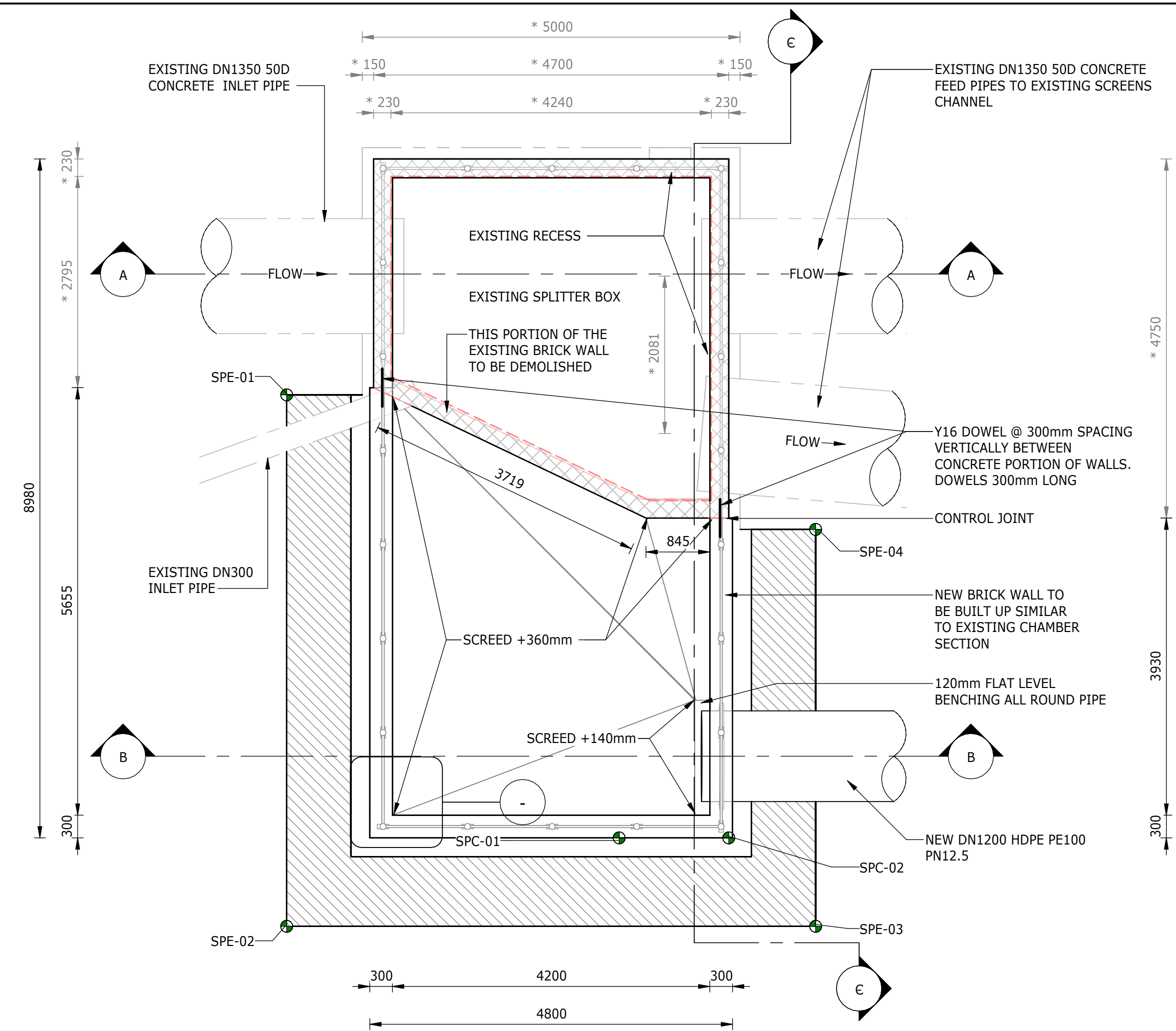


SECTION D-D
1 : 100

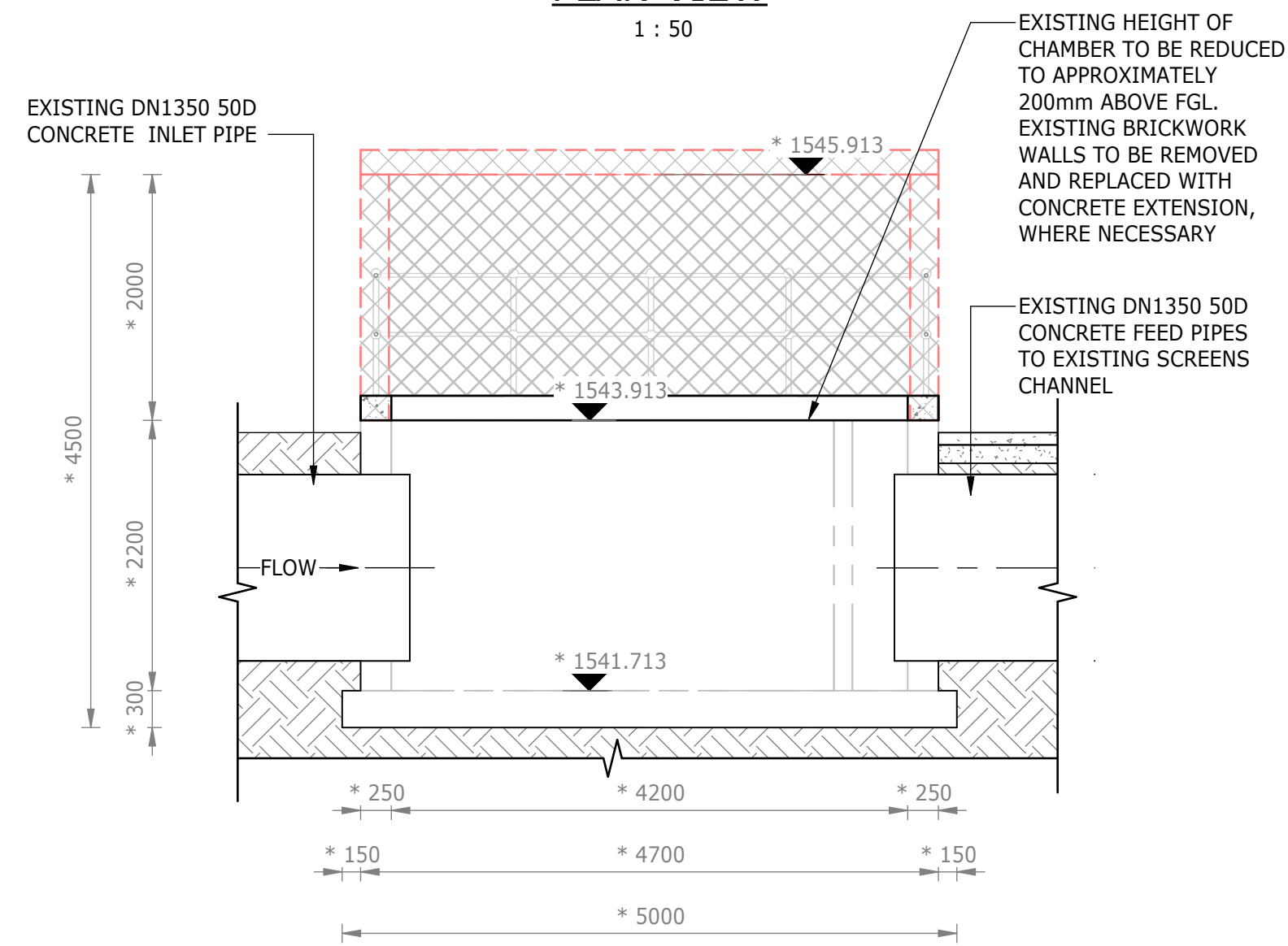
DEPARTMENT	APPROVED	DESIGNATION	DATE



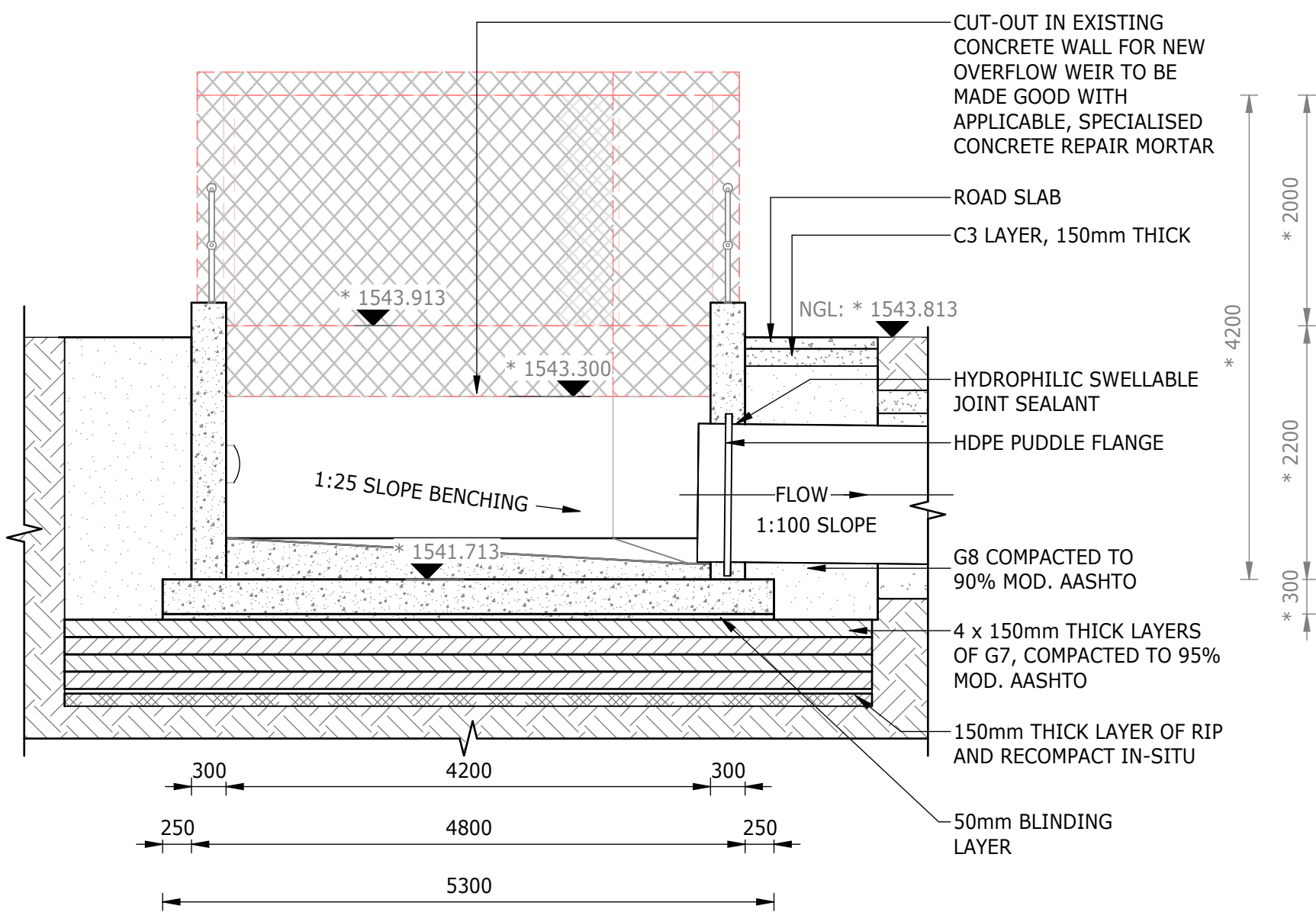
CONSULTING ENGINEERS		JOHANNESBURG WATER (SOC) LTD		CITY OF JOHANNESBURG		DESIGN MANAGER	SCALE	AMENDMENTS		APPROVED	DATE	DRAWING No.										
	Building No. 5 Country Club Estate 21 Woodlands Drive Woodmead 2191 PO Box 867 Gallo Manor 2052 Tel No. +27 11 798 6000	SURVEYED		 Johannesburg Water	TURBINE HALL 65 NTEMI PILISO STREET NEWTOWN JOHANNESBURG 2001 TEL: (011) 688-1400 FAX: (011) 688-1529			OLIFANTSVLEI WWTW: VAN WYKSURST PUMP STATION INFRASTRUCTURE RENEWAL PLAN VAN WYKSURST PUMP STATION NEW SUBSTRUCTURE AND SUPERSTRUCTURE GENERAL ARRANGEMENT AND SECTIONS	AS SHOWN			C01	ISSUED FOR RE-TENDER	D. PHOGOLE	JULY 26	JW NUMBER						
		DESIGNED	L. NAICKER								JW14466R-RHD-C1-02-D-C-0206											
		DRAWN	N. O'GORMAN								CONSULTANT'S NUMBER											
		CHECKED	L. NAICKER								BW1400-RHD-C1-02-D-C-0206											
		SERVICES CHECKED									FILE No											
		GEOTECHNICAL INVESTIGATION								DATE						C01						
		SERVITUDES																				
		APPROVED				DITHOLO PHOGOLE																
		Pr. Eng.No.				20060098																
		DATE																				



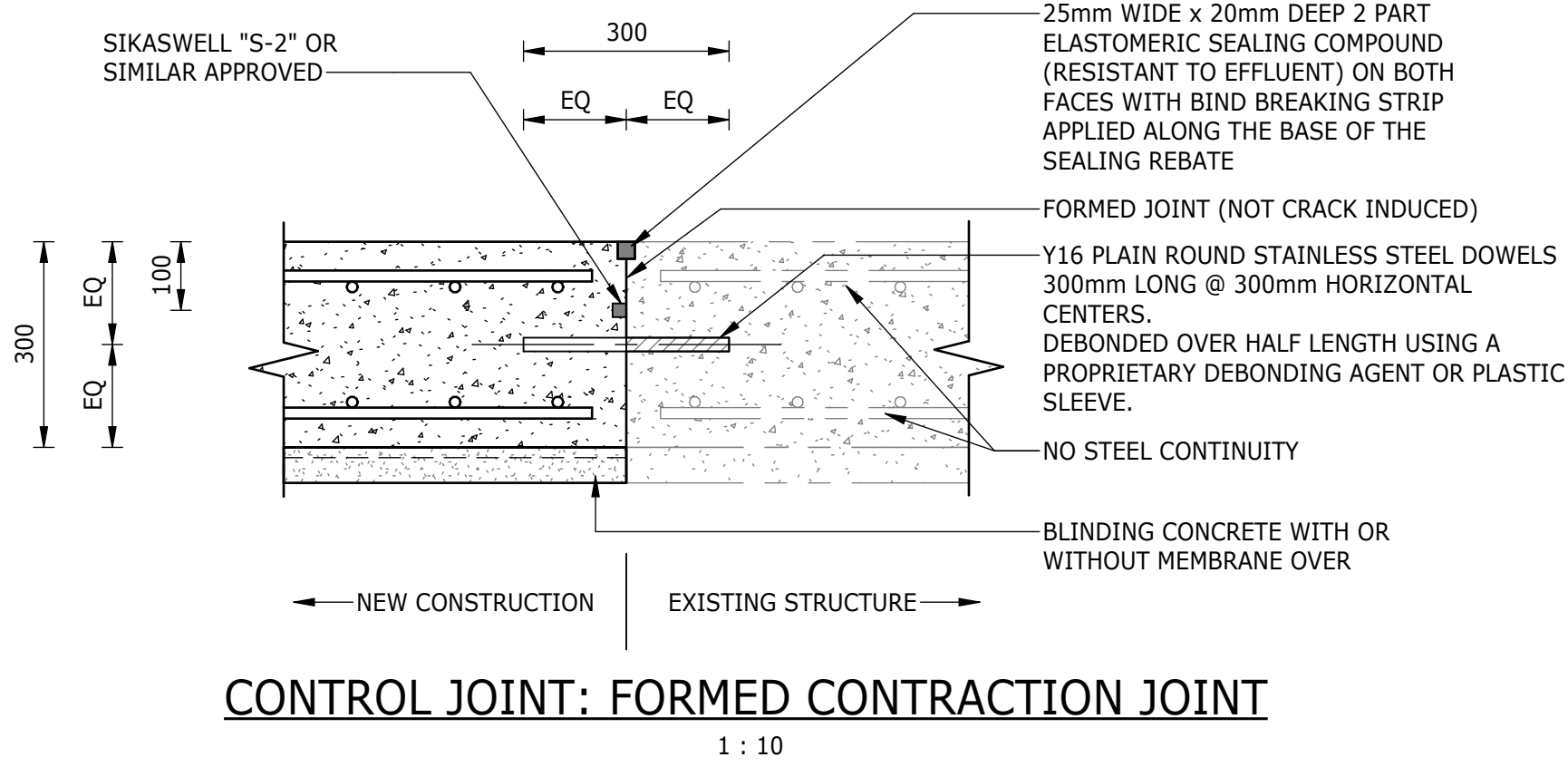
PLAN VIEW
1 : 50



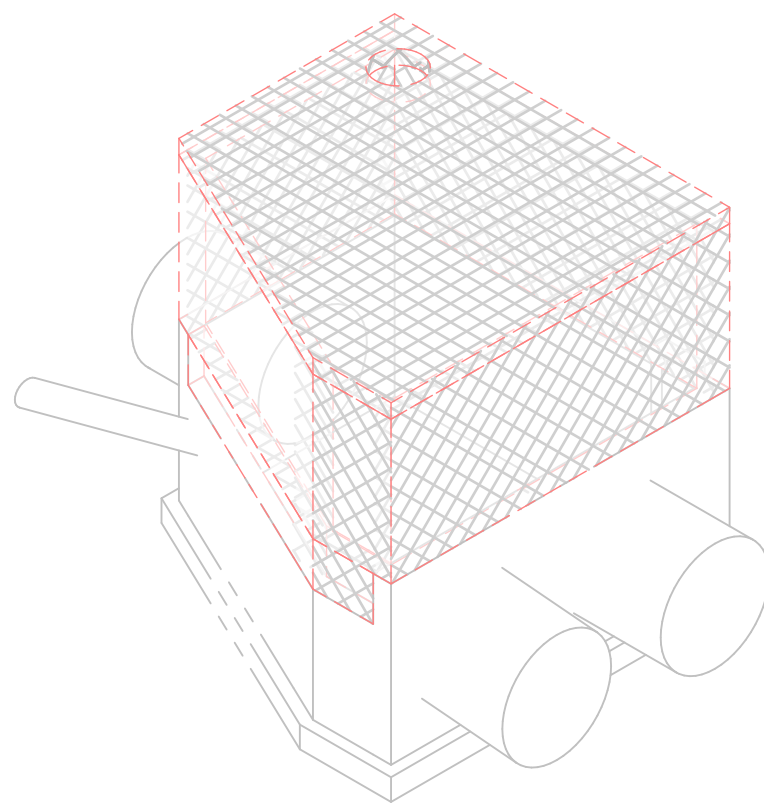
SECTION A-A
1 : 50



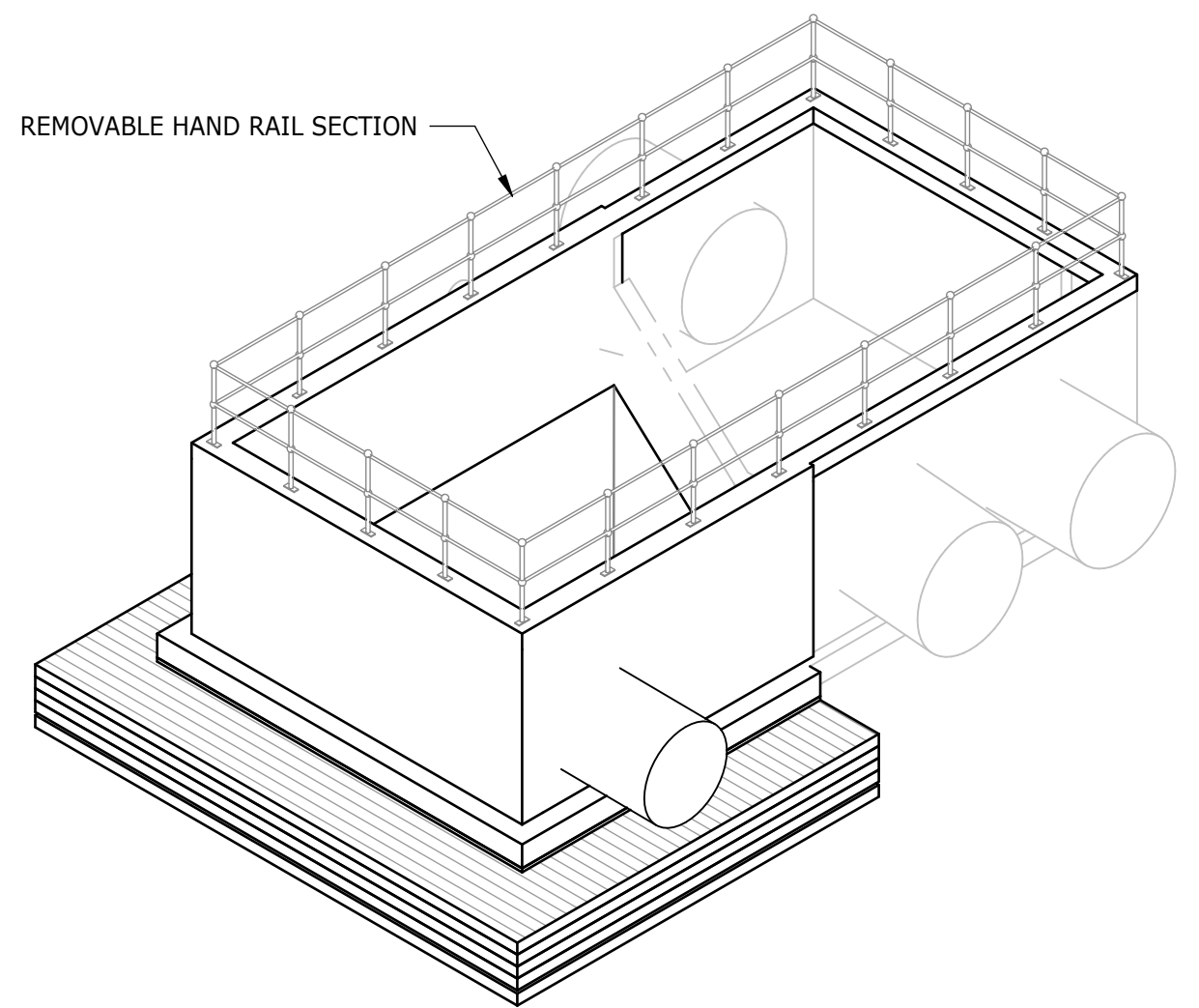
SECTION B-B
1 : 50



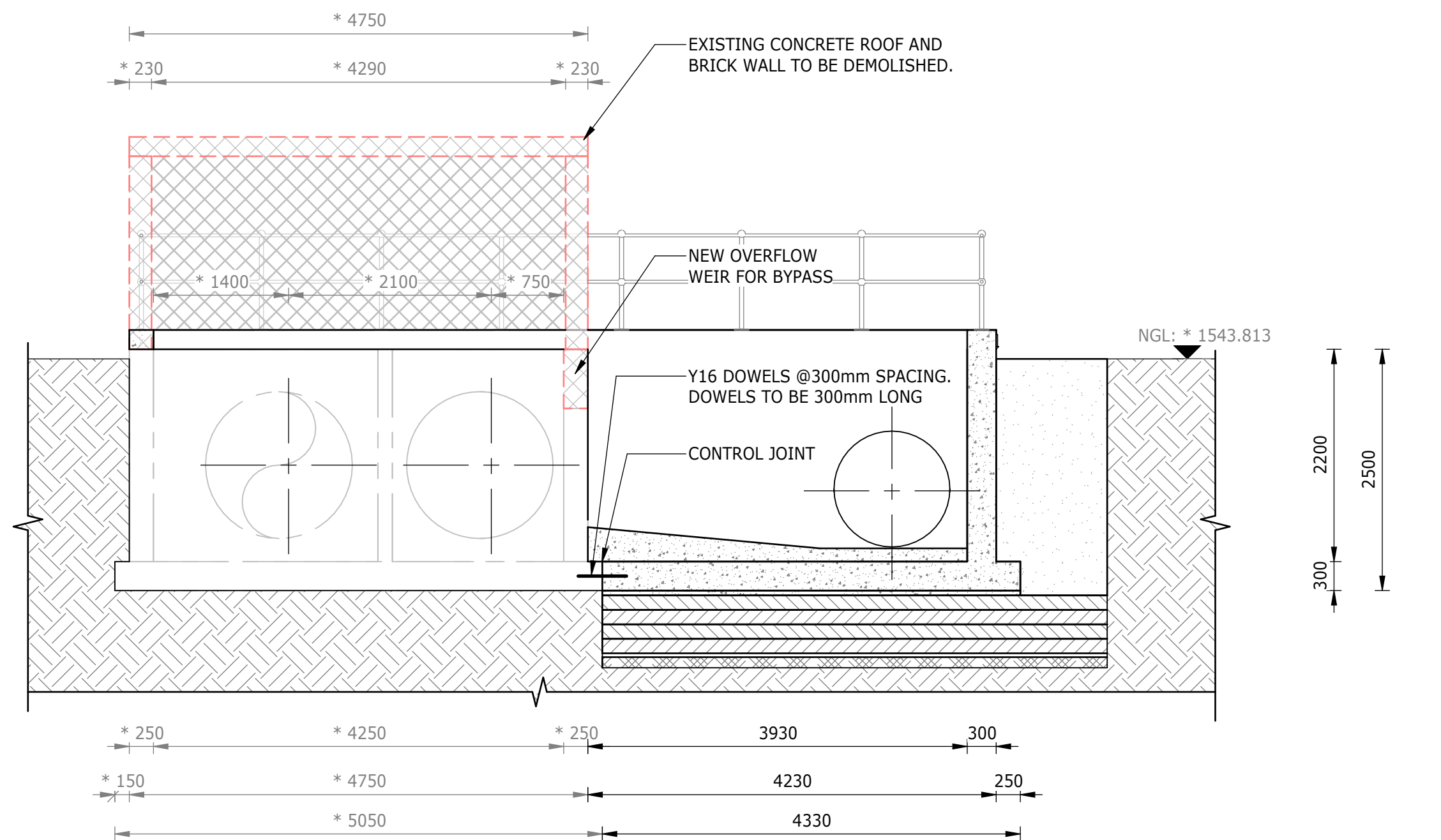
CONTROL JOINT: FORMED CONTRACTION JOINT
1 : 10



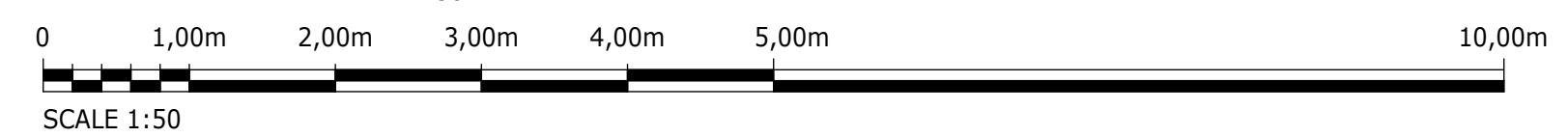
TYPICAL ISOMETRIC VIEW OF DEMOLITION WORK



TYPICAL ISOMETRIC VIEW OF EXTENSION



SECTION C-C
1 : 50



DEPARTMENT	APPROVED	DESIGNATION	DATE

CONSULTING ENGINEERS



Building No. 5 Country
Club Estate
21 Woodlands Drive
Woodmead
2191
PO Box 867
Gallo Manor
2052
Tel No. +27 11 798 6000

SURVEYED	
DESIGNED	L. NAICKER
DRAWN	N. O'GORMAN
CHECKED	L. NAICKER
SERVICES CHECKED	
GEOTECHNICAL INVESTIGATION	
SERVITUDES	
APPROVED	DITHOLO PHOGOLE
Pr. Eng.No.	20060098
DATE	

JOHANNESBURG WATER (SOC) LTD



TURBINE HALL
65 NTEMI PILISO STREET
NEWTOWN
JOHANNESBURG 2001

TEL: (011) 688-1400
FAX: (011) 688-1529

CITY OF JOHANNESBURG

OLIFANTSVLEI WWTW: VAN WYKSURST PUMP STATION
INFRASTRUCTURE RENEWAL PLAN
VAN WYKSURST PUMP STATION
EXISTING SPLITTER BOX EXTENSION
GENERAL ARRANGEMENT, SECTIONS & EARTHWORKS

DESIGN
MANAGER

DATE

SCALE

AS
SHOWN

AMENDMENTS

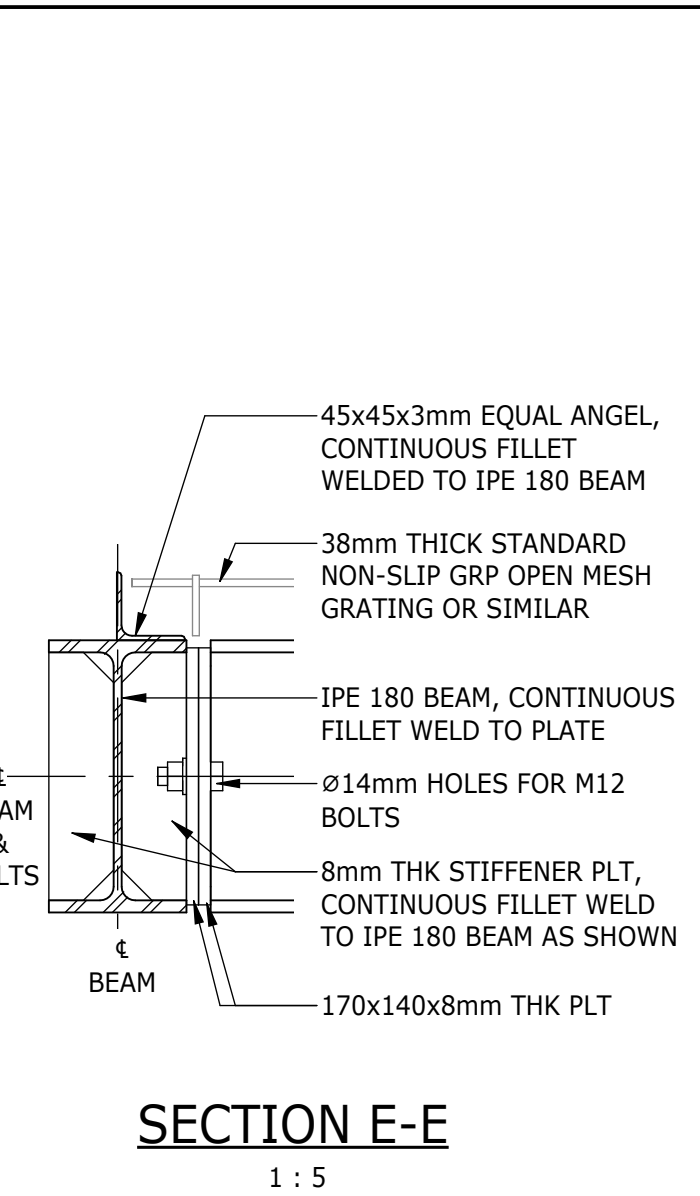
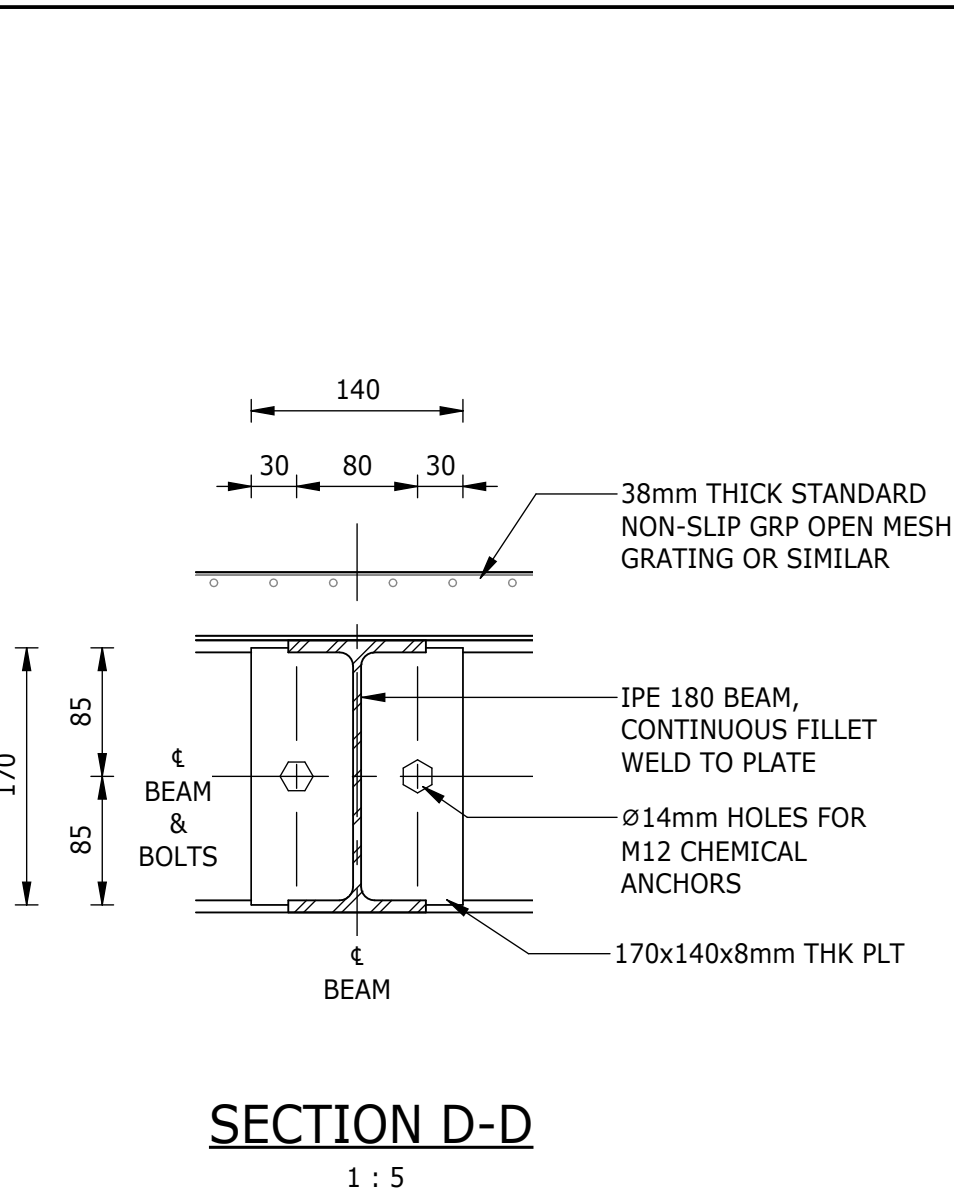
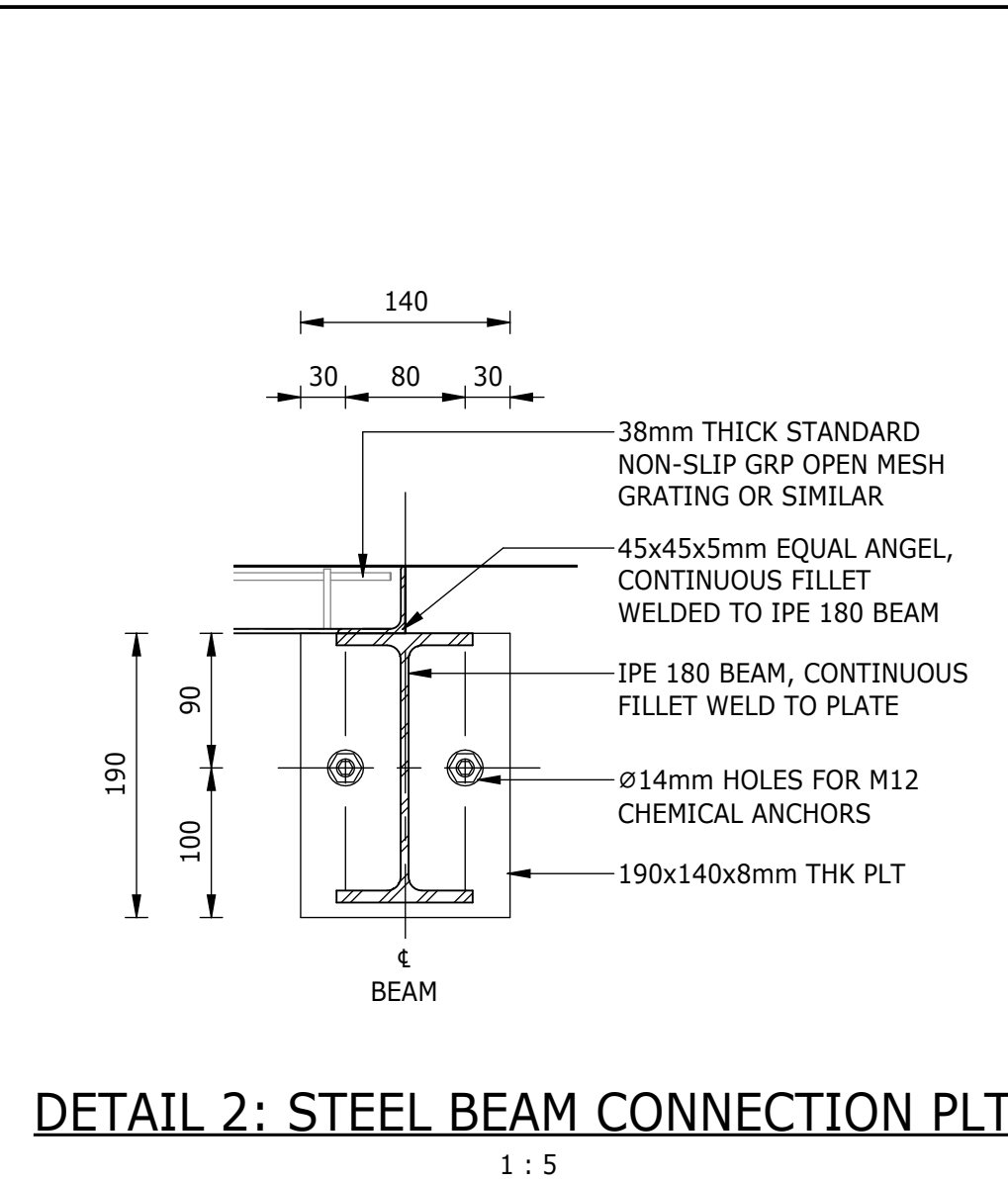
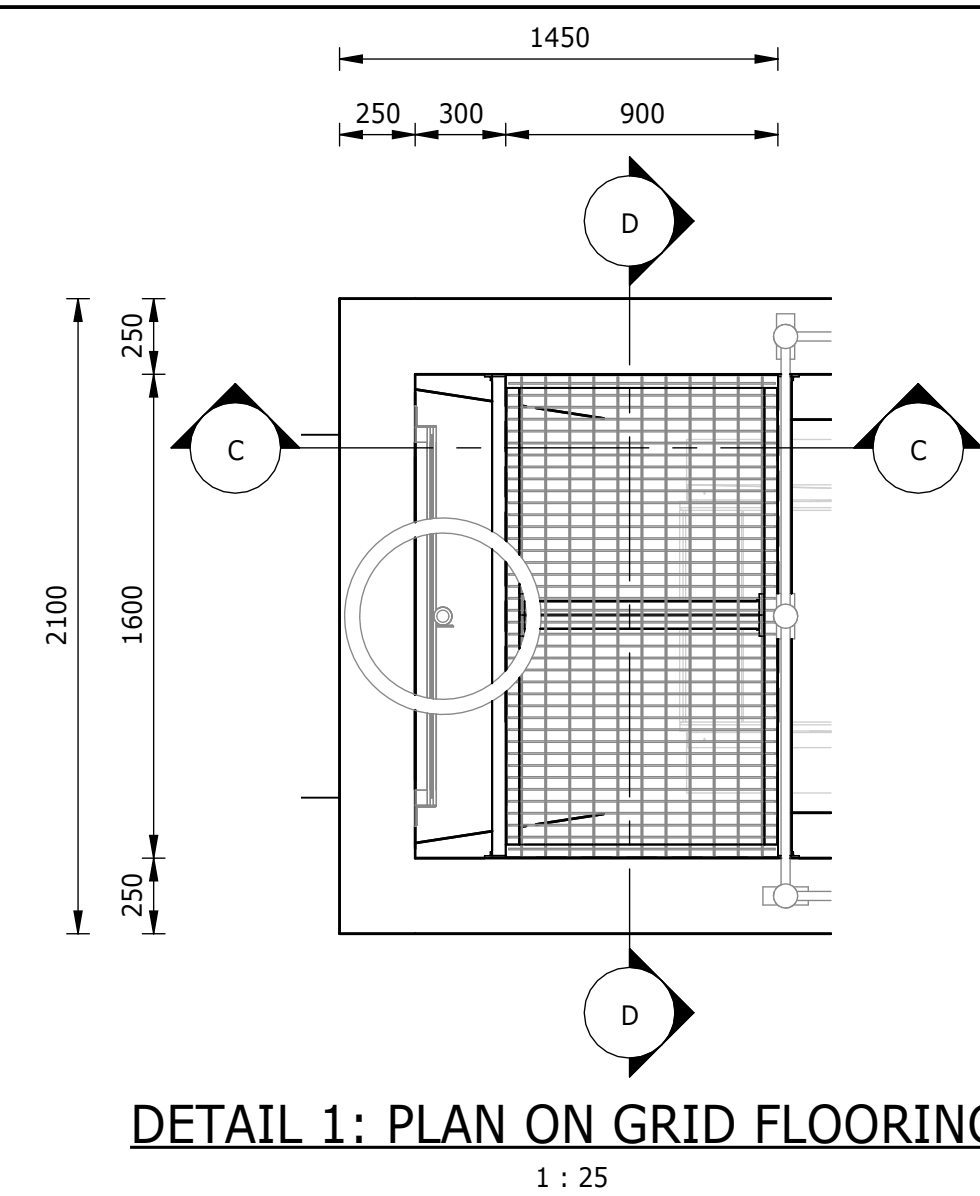
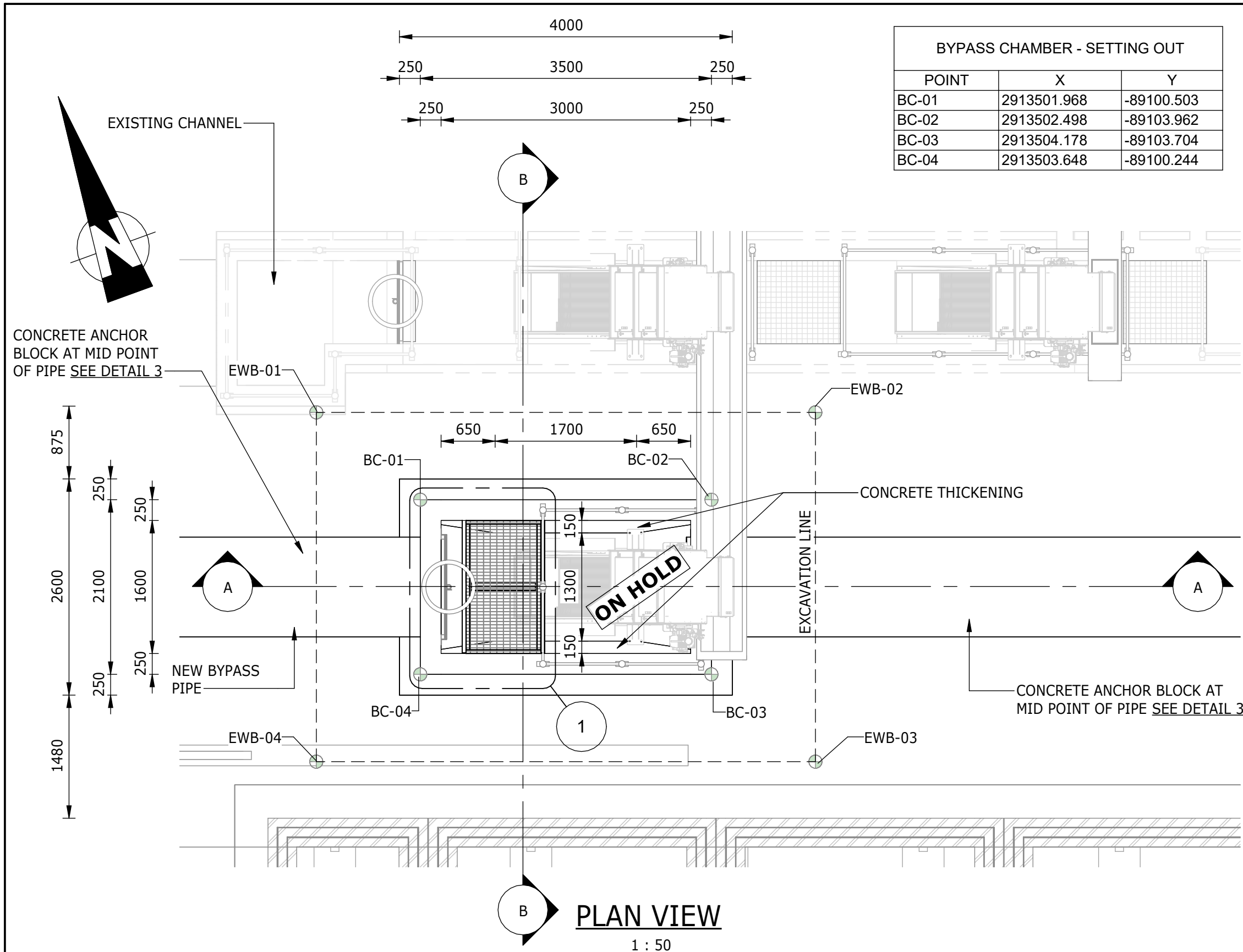
C01	ISSUED FOR TENDER	D. PHOGOLE	FEB 25
C02	ISSUED FOR RE-TENDER	D. PHOGOLE	FEB 26

APPROVED

DATE

DRAWING No.

JW NUMBER
JW14466R-RHD-C1-03-D-C-0301
CONSULTANT'S NUMBER
BW1400-RHD-C1-03-D-C-0301
FILE No

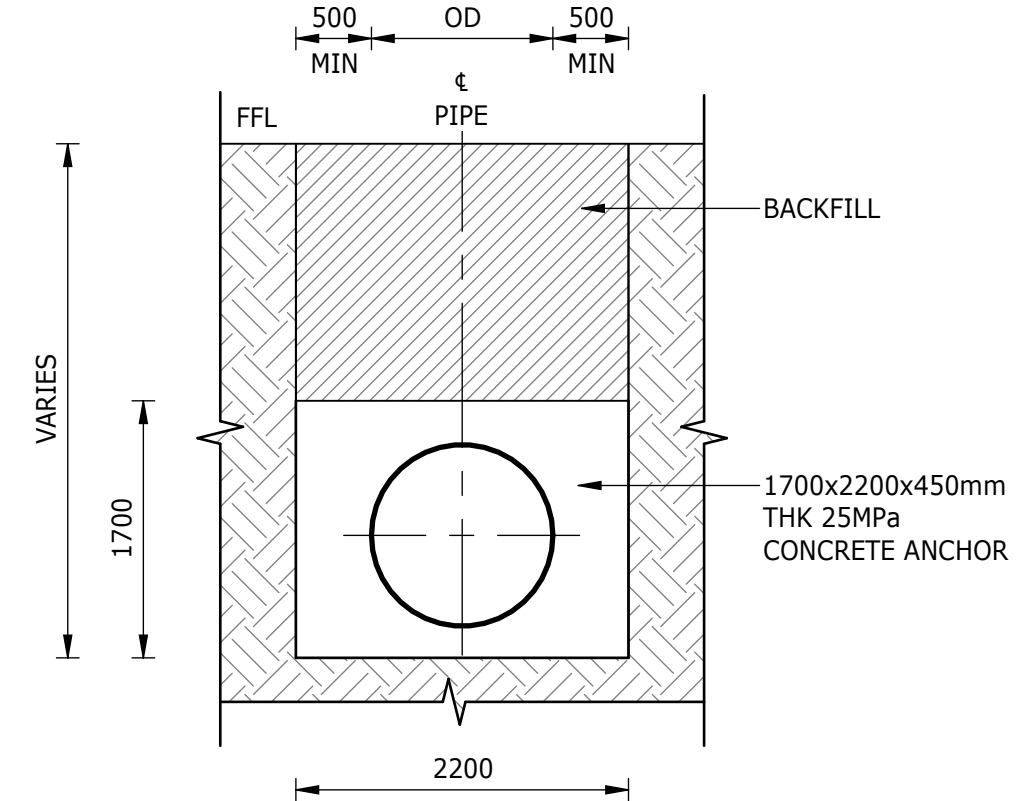
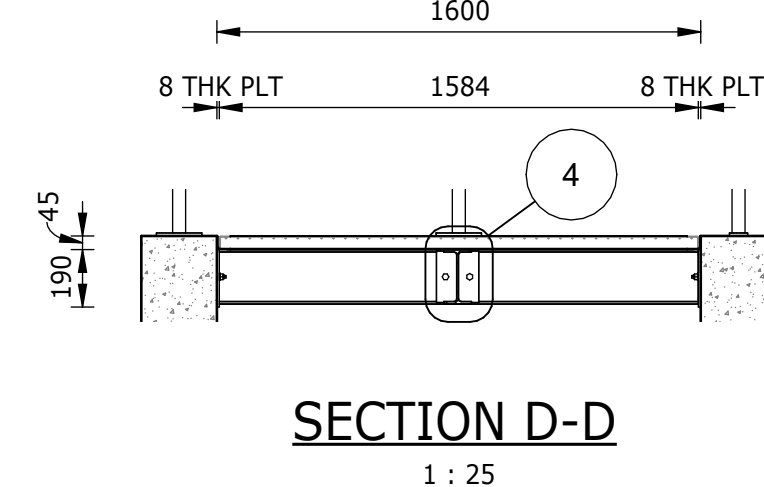
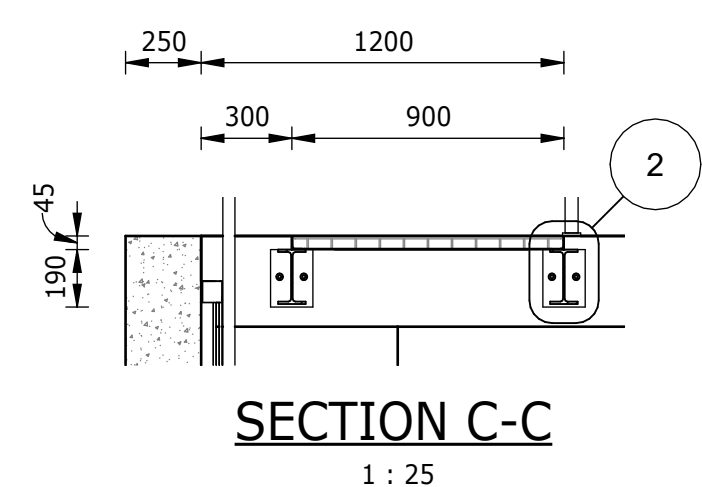


DETAIL 1: PLAN ON GRID FLOORING

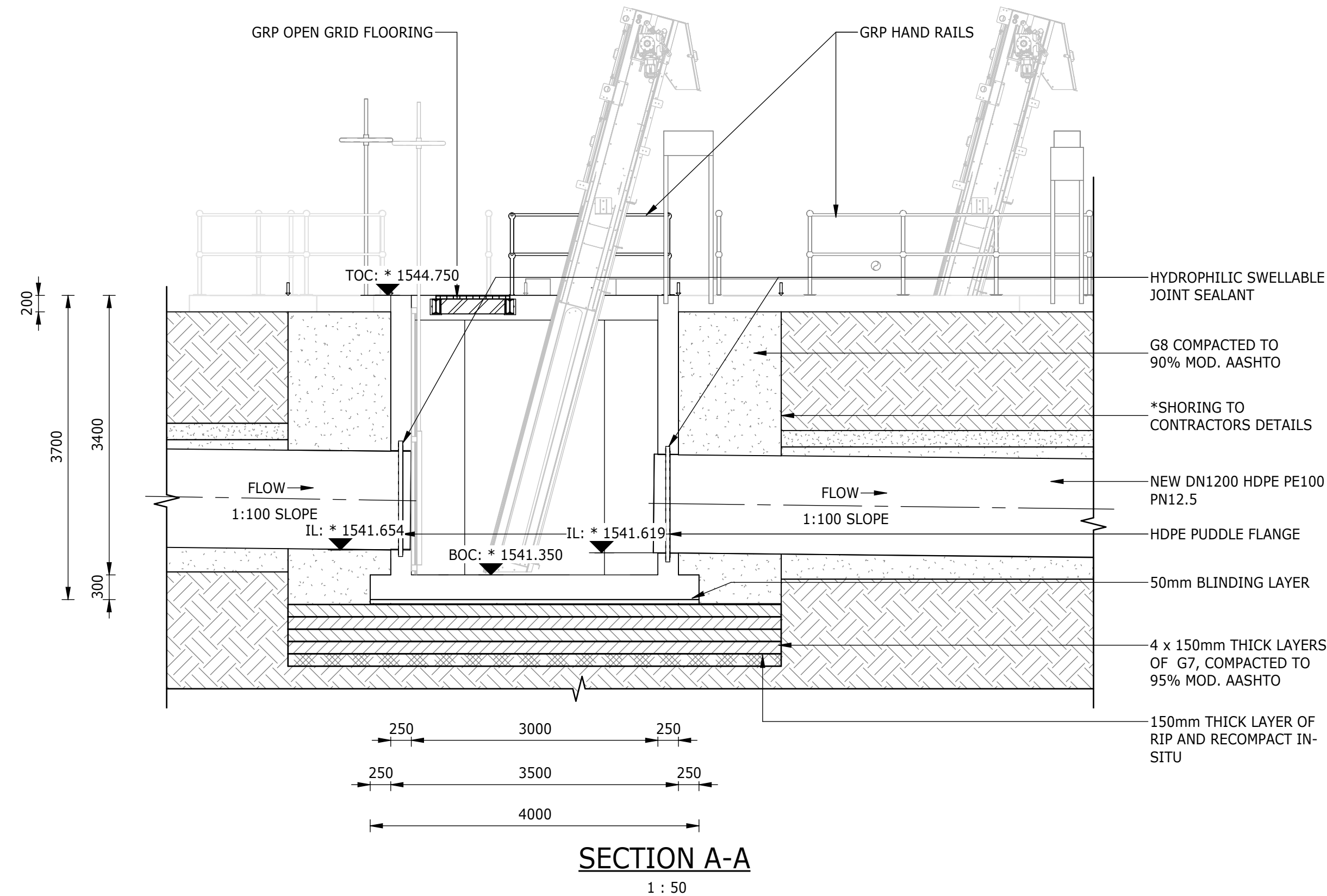
DETAIL 2: STEEL BEAM CONNECTION PLT

SECTION D-D

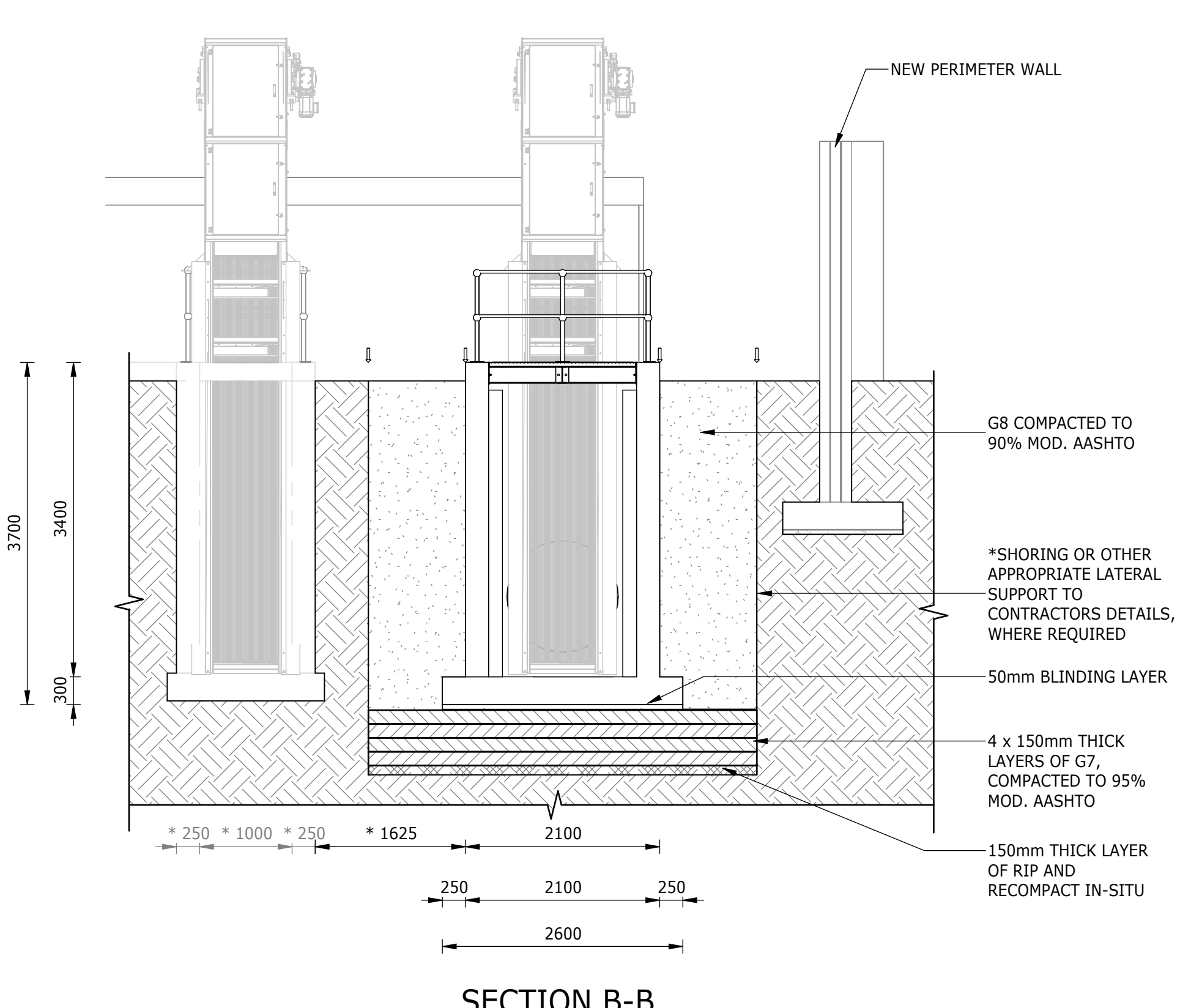
SECTION E-E



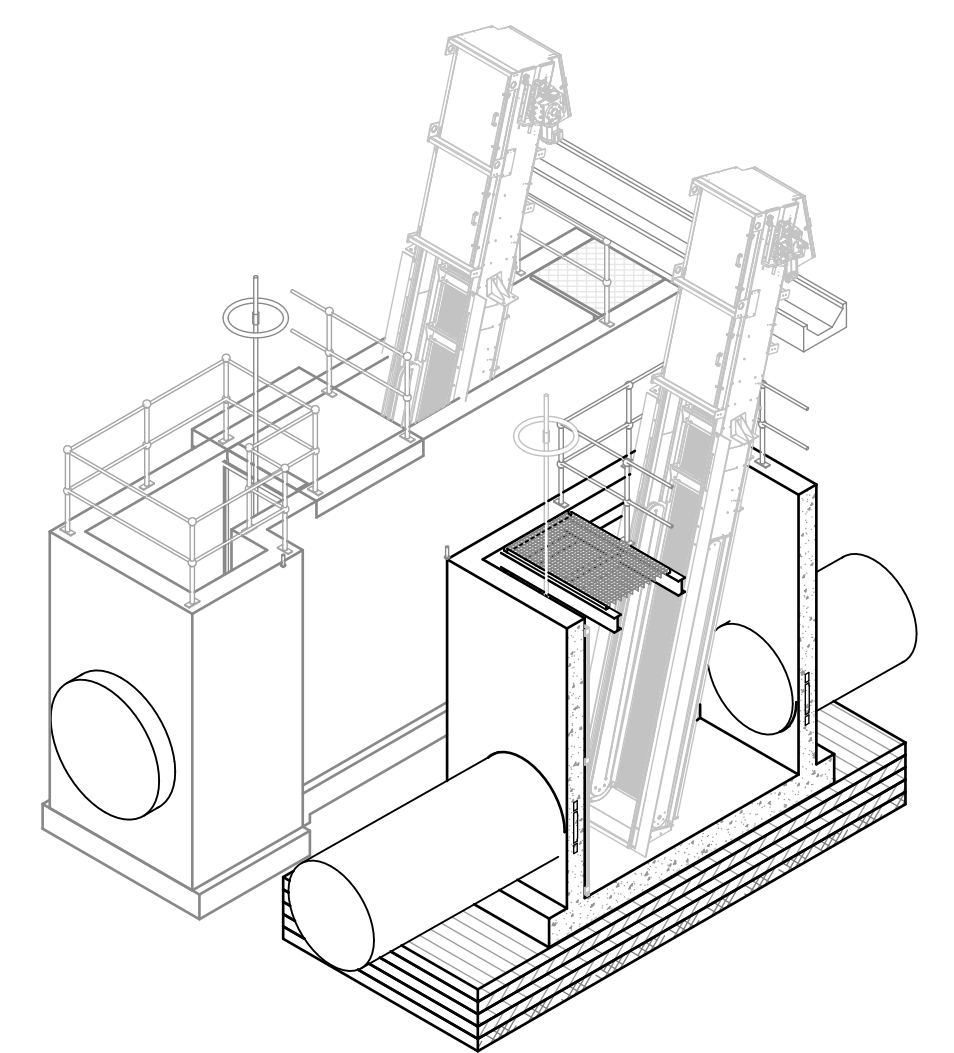
DETAIL 3: CONCRETE PIPE ANCHOR



SECTION A-A



SECTION B-B



TYPICAL ISOMETRIC VIEW

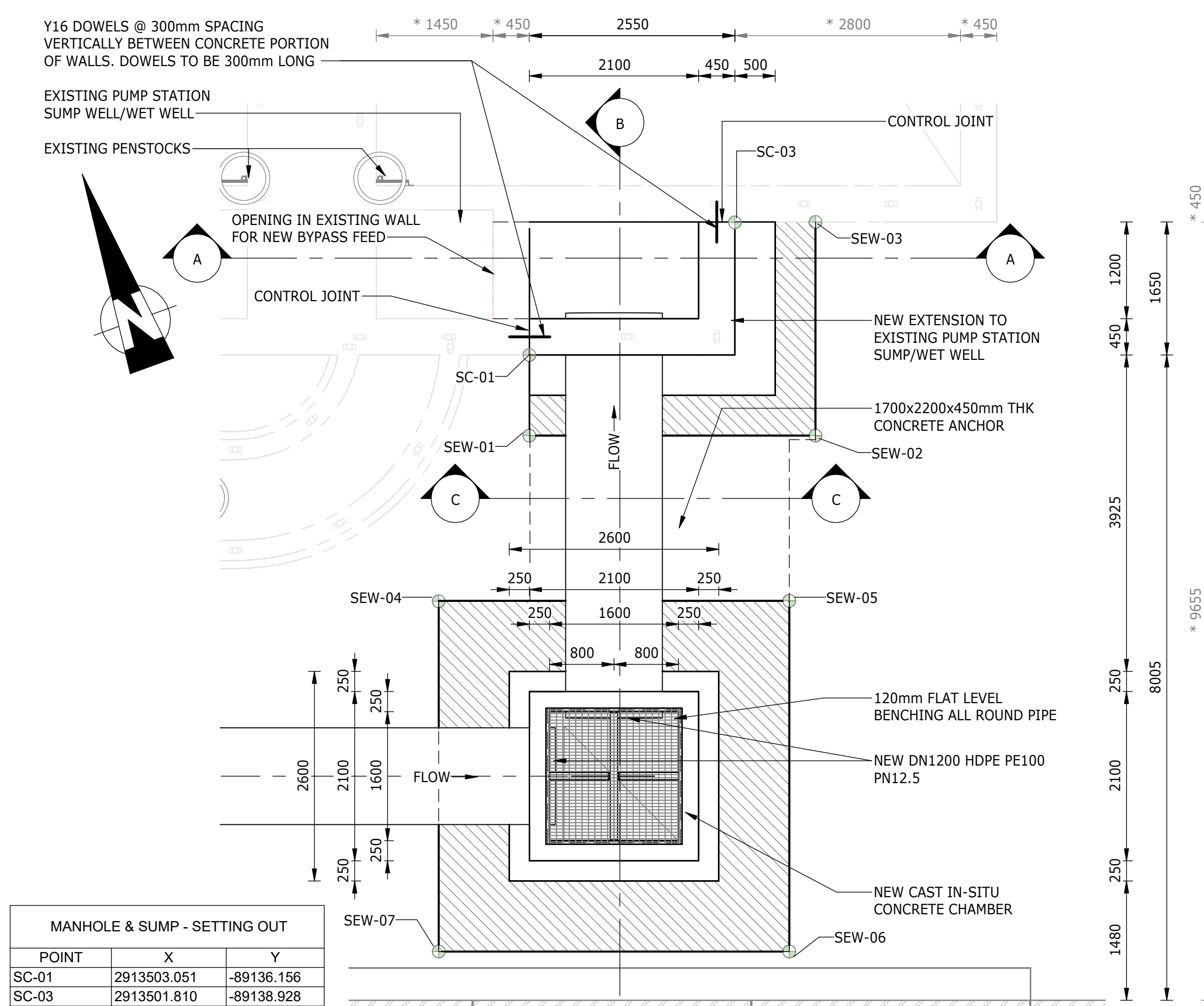
NOTES:

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9. CONSTRUCTION TO BE IN ACCORDANCE WITH ALL RELEVANT CLAUSES AS PER SANS 1936 FOR DEVELOPMENT ON D3 DESIGNATED SITES.
10. CONCRETE STRENGTH TO BE 35MPa FOR WATER-RETAINING STRUCTURES, UNLESS SPECIFIED OTHERWISE.
11. "ON HOLD" ITEMS ARE SUBJECT TO FINAL DETAIL DESIGN BASED ON EQUIPMENT REQUIREMENTS TO BE PROVIDED BY THE CONTRACTOR."

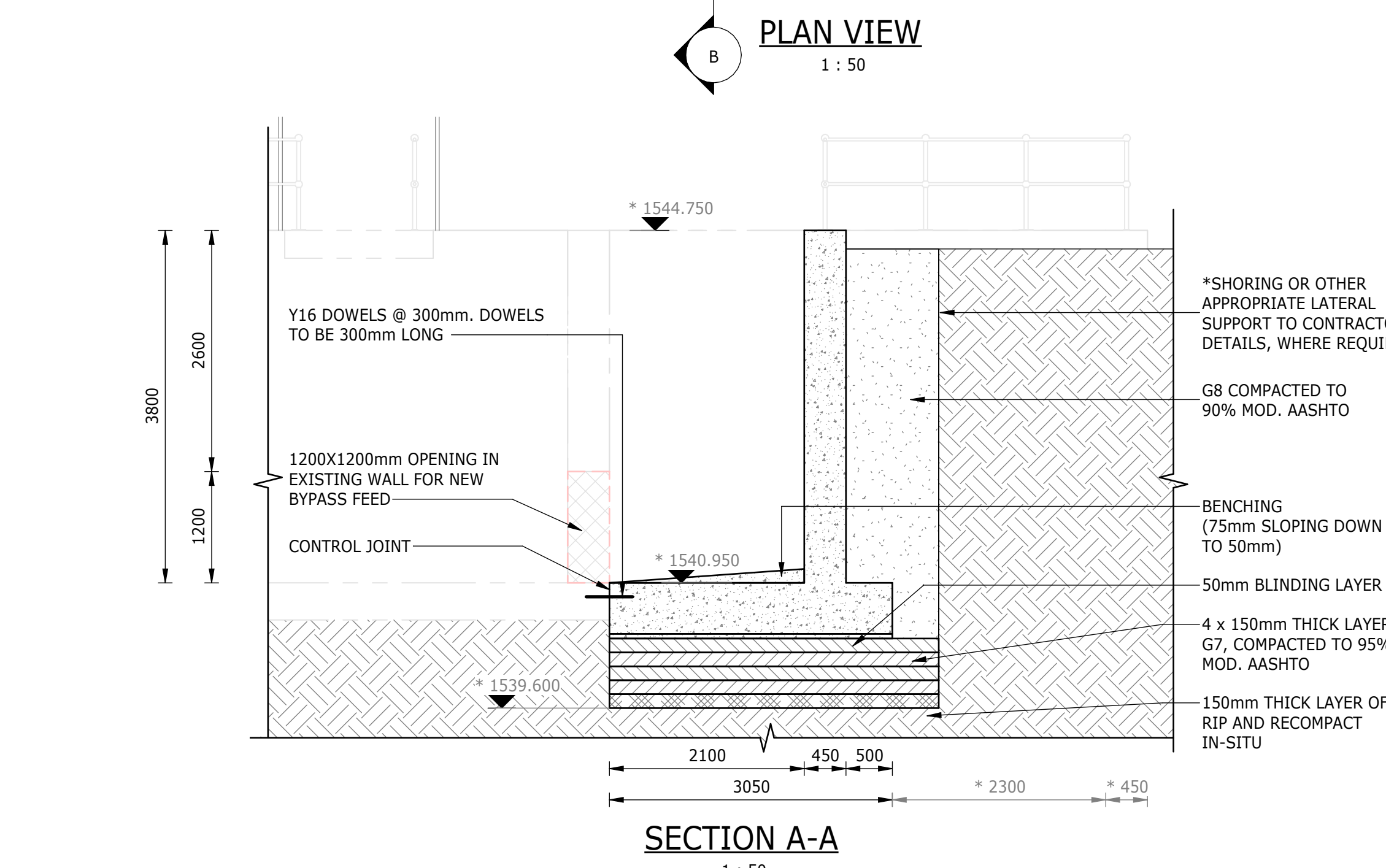
DEPARTMENT	APPROVED	DESIGNATION	DATE



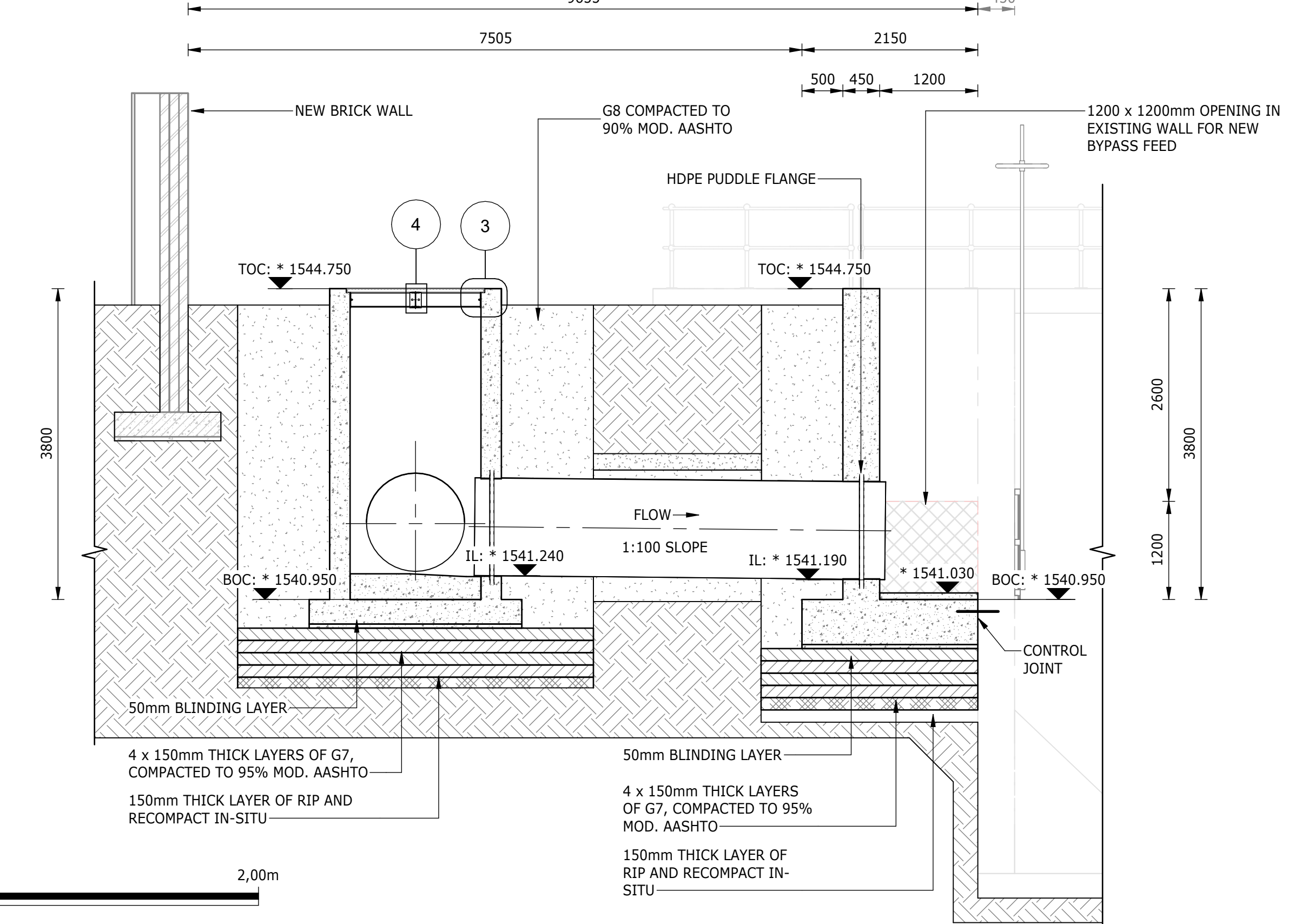
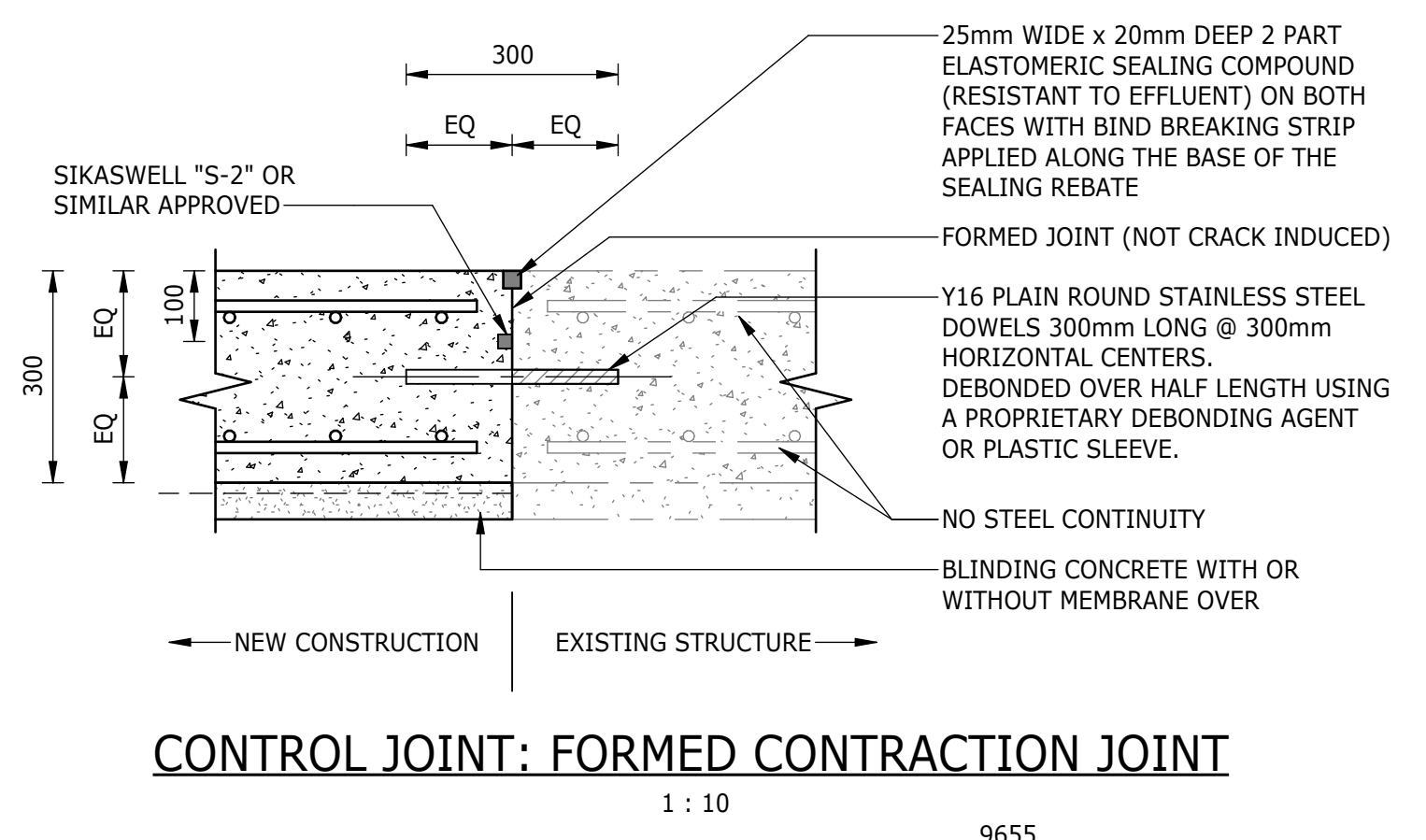
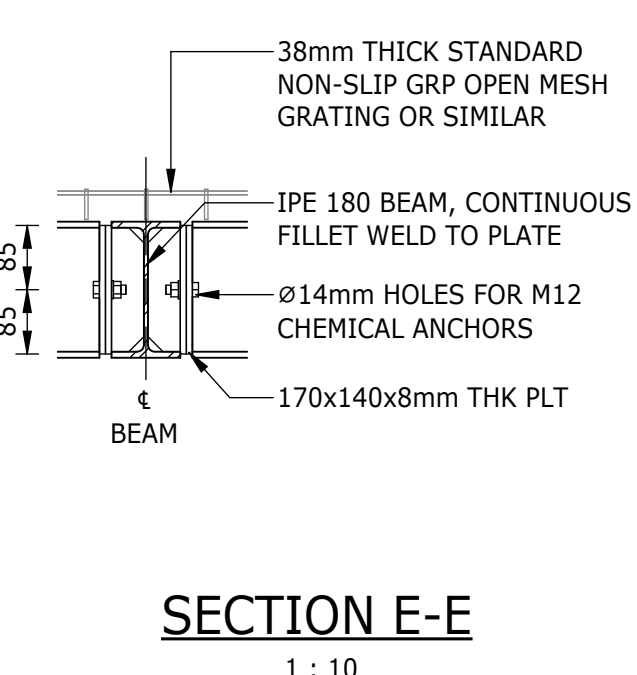
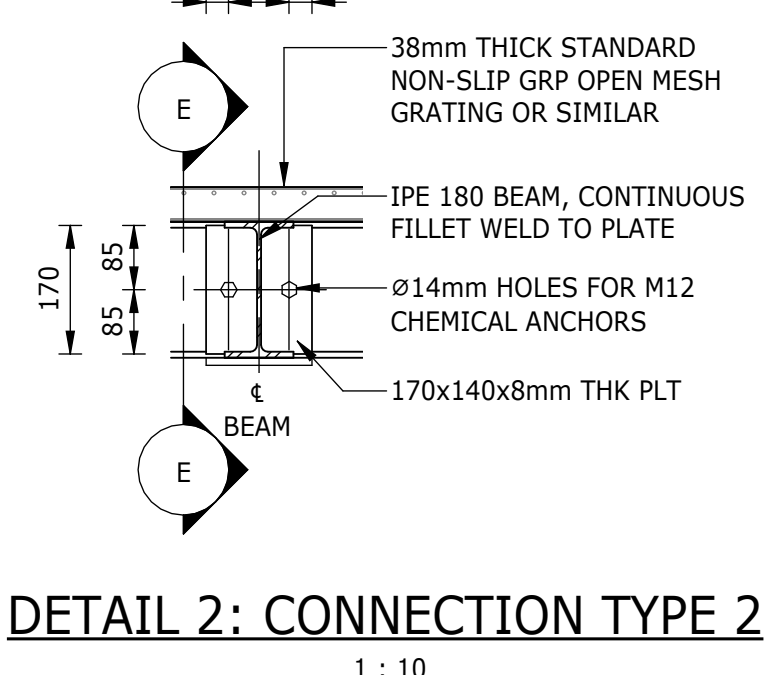
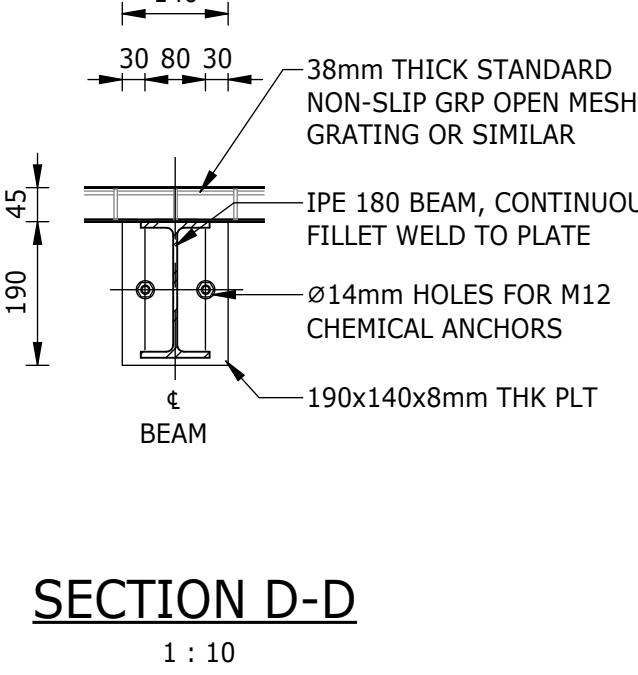
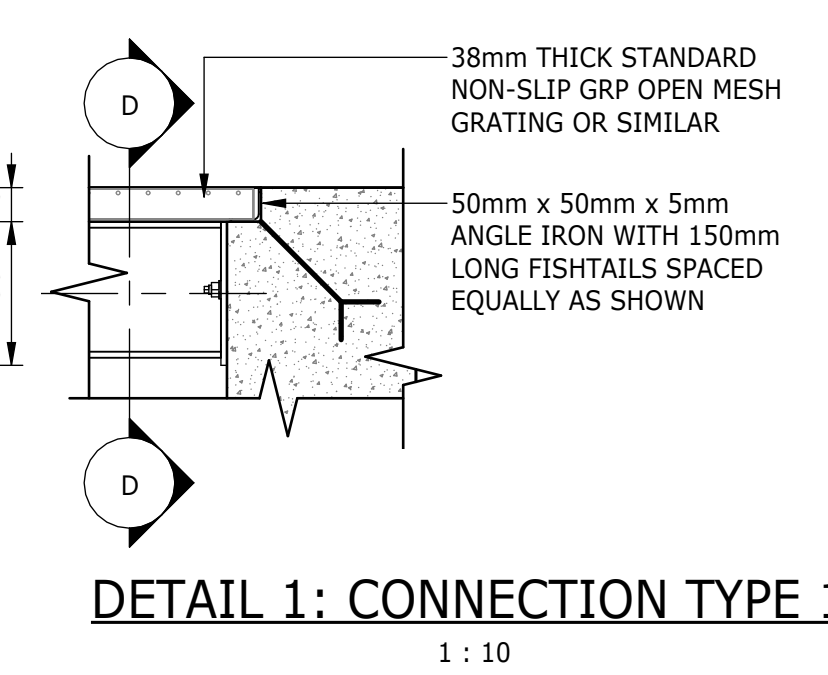
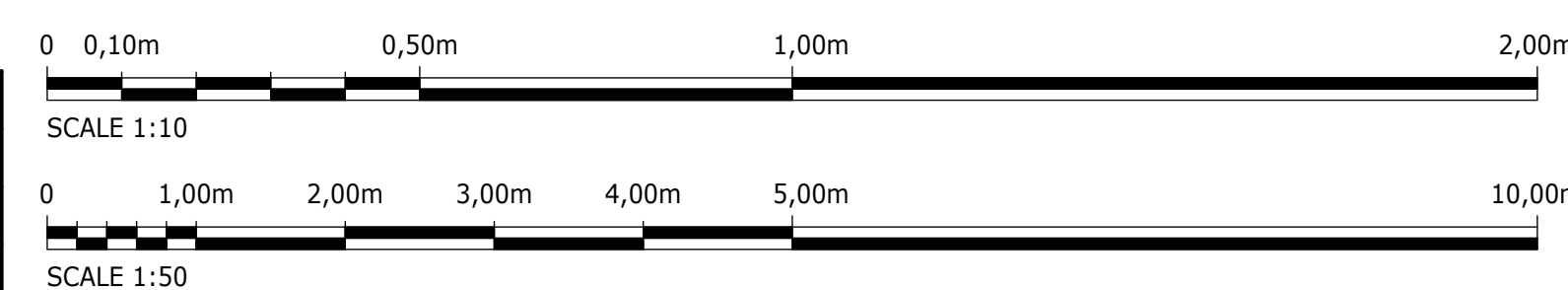
CONSULTING ENGINEERS			JOHANNESBURG WATER (SOC) LTD		CITY OF JOHANNESBURG		DESIGN MANAGER	SCALE	AMENDMENTS		APPROVED	DATE	DRAWING No.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
	Building No. 5 Country Club Estate 21 Woodlands Drive Woodmead 2191 PO Box 867 Gallo Manor 2052 Tel No. +27 11 798 6000	SURVEYED			TURBINE HALL 65 NTEMI PILISO STREET NEWTOWN JOHANNESBURG 2001 TEL: (011) 688-1400 FAX: (011) 688-1529	OLIFANTSVLEI WWTW: VAN WYKSURST PUMP STATION INFRASTRUCTURE RENEWAL PLAN VAN WYKSURST PUMP STATION BYPASS CHAMBER GENERAL ARRANGEMENT, SECTIONS & EARTHWORKS			AS SHOWN	C01	ISSUED FOR TENDER	D. PHOGOLE	FEB 25	JW NUMBER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
		DESIGNED	L. NAICKER				C02	ISSUED FOR RE- TENDER		D. PHOGOLE	FEB 26	JW14466R-RHD-C1-03-D-C-0302																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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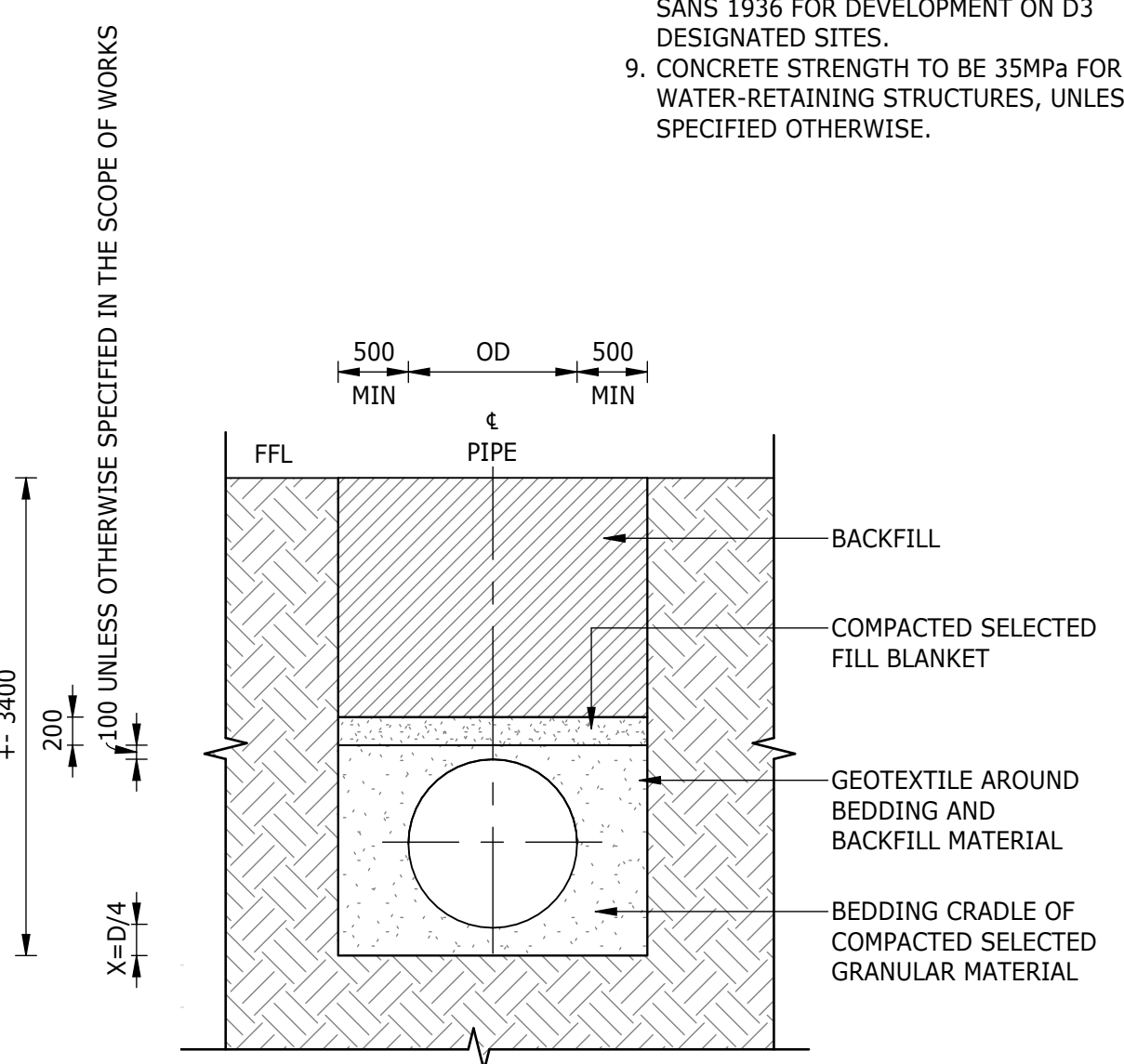
MANHOLE & SUMP - SETTING OUT			
POINT	X	Y	
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SC-03	2913501.810	-89138.928	



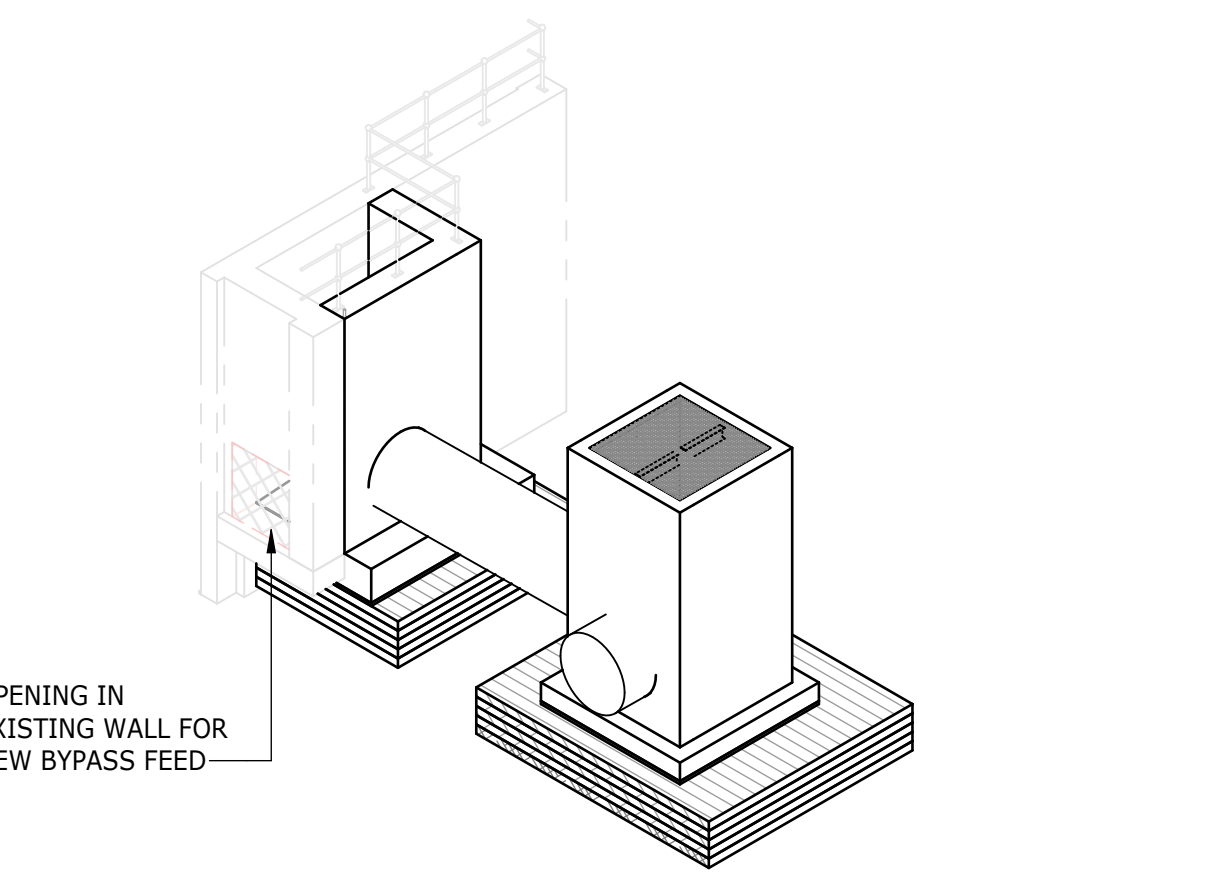
DEPARTMENT	APPROVED	DESIGNATION	DATE



SECTION B-B
1 : 50

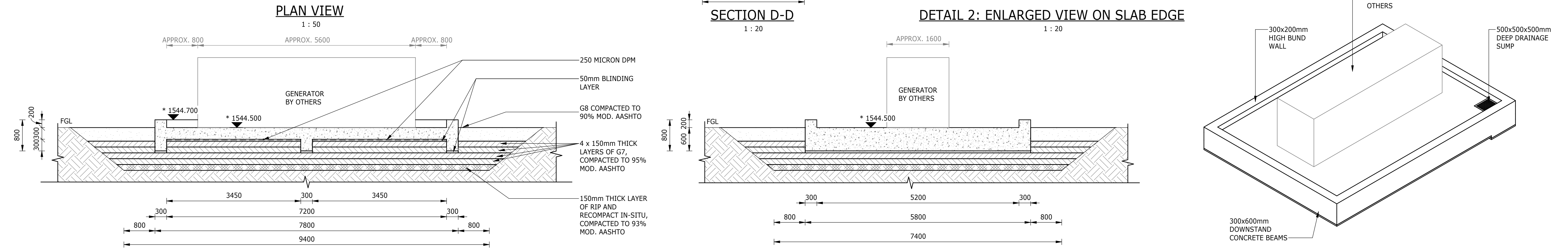
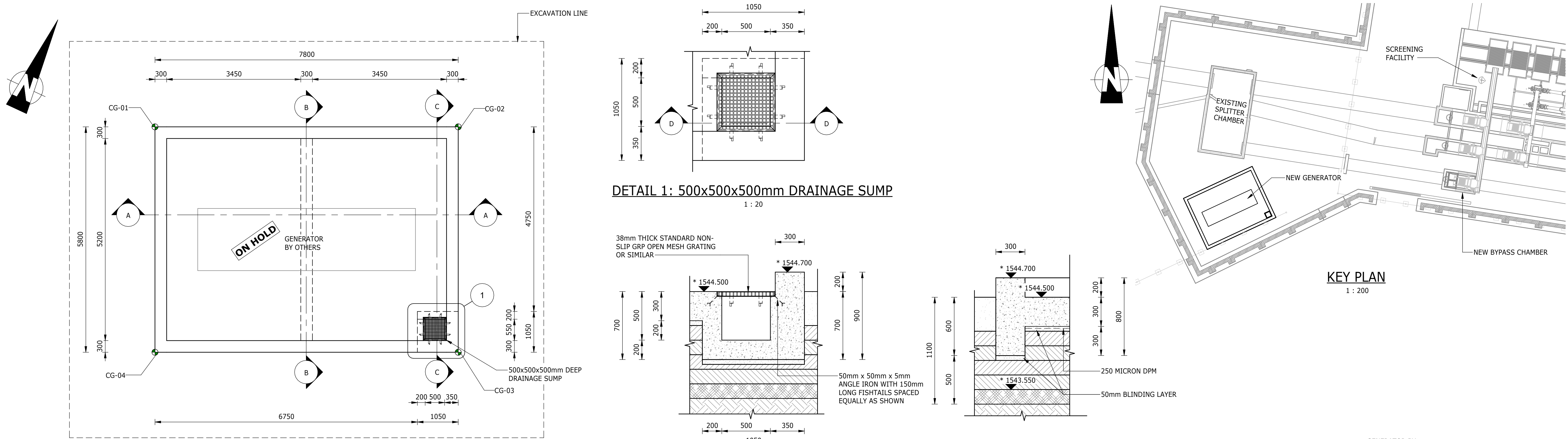


SECTION C-C: FLEXIBLE PIPE ON CLASS B BED
1 : 50



- NOTES:**
1. ALL DIMENSIONS AND LEVELS CONTAINING * ARE TO BE CONFIRMED ON SITE PRIOR TO COMMENCEMENT OF WORK. ANY DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER IMMEDIATELY.
 2. BOTTOM OF BASE FOUNDATION TO BE INSPECTED FOR GROUND CONDITION BEFORE CONCRETE IS POURED.
 3. EXISTING GROUND LEVELS TO BE RESTORED AFTER EXCAVATION AND BACKFILL.
 4. EXCAVATION METHOD AND EXTENT TO ENSURE THAT THERE IS NO DAMAGE TO EXISTING INFRASTRUCTURE. AN EXCAVATION AND COMPACTION METHOD STATEMENT IS TO BE PROVIDED, FOR APPROVAL BY THE ENGINEER, PRIOR TO EXCAVATION.
 5. SETTING-OUT POINTS ARE A GUIDE; FINAL EXCAVATION TO BE CONFIRMED ON SITE BY CONTRACTOR.
 6. CONCRETE EDGES TO HAVE A 25x25mm CHAMFER.
 7. SHORING OR OTHER APPROPRIATE LATERAL SUPPORT TO CONTRACTORS DETAILS, WHERE REQUIRED.
 8. CONSTRUCTION TO BE IN ACCORDANCE WITH ALL RELEVANT CLAUSES AS PER SANS 1936 FOR DEVELOPMENT ON D3 DESIGNATED SITES.
 9. CONCRETE STRENGTH TO BE 35MPa FOR WATER-RETAINING STRUCTURES, UNLESS SPECIFIED OTHERWISE.

CONSULTING ENGINEERS			JOHANNESBURG WATER (SOC) LTD		CITY OF JOHANNESBURG		DESIGN MANAGER	SCALE	AMENDMENTS		APPROVED	DATE	DRAWING No.						
 ATANA Legacy Awaits	Building No. 5 Country Club Estate 21 Woodlands Drive Woodmead 2191 PO Box 867 Gallo Manor 2052 Tel No. +27 11 798 6000		 Johannesburg Water	TURBINE HALL 65 NTEMI PILISO STREET NEWTOWN JOHANNESBURG 2001 TEL: (011) 688-1400 FAX: (011) 688-1529		OLIFANTSVLEI WWTW: VAN WYKSURST PUMP STATION INFRASTRUCTURE RENEWAL PLAN VAN WYKSURST PUMP STATION BYPASS FACILITY MANHOLE & SUMP GENERAL ARRANGEMENT, SECTIONS & EARTHWORKS			AS SHOWN	C01			ISSUED FOR TENDER	D. PHOGOLE	FEB 25	JW NUMBER			
	DESIGNED			L. NAICKER						C02	ISSUED FOR RE- TENDER	D. PHOGOLE	FEB 26	JW14466R-RHD-C1-03-D-C-0303					
	DRAWN			N. O'GORMAN										CONSULTANT'S NUMBER					
	CHECKED			L. NAICKER										BW1400-RHD-C1-03-D-C-0303					
	SERVICES CHECKED													FILE No					
	GEOTECHNICAL INVESTIGATION																		
	SERVITUDES																		
APPROVED		DITHOLO PHOGOLE						DATE											
Pr. Eng.No.		20060098																	



NOTES:

- ALL DIMENSIONS AND LEVELS CONTAINING * ARE TO BE CONFIRMED ON SITE PRIOR TO COMMENCEMENT OF WORK. ANY DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER IMMEDIATELY.
- BOTTOM OF BASE FOUNDATION TO BE INSPECTED FOR GROUND CONDITION BEFORE CONCRETE IS POURED.
- EXISTING GROUND LEVELS TO BE RESTORED AFTER EXCAVATION AND BACKFILL.
- EXCAVATION METHOD AND EXTENT TO ENSURE THAT THERE IS NO DAMAGE TO EXISTING INFRASTRUCTURE. AN EXCAVATION AND COMPACTION METHOD STATEMENT IS TO BE PROVIDED, FOR APPROVAL BY THE ENGINEER, PRIOR TO EXCAVATION.
- SETTING -OUT POINTS ARE A GUIDE; FINAL EXCAVATION TO BE CONFIRMED ON SITE BY CONTRACTOR.
- CONCRETE EDGES TO HAVE A 25x25mm CHAMFER.
- GENERATOR SIZE AND CLEARANCE REQUIREMENTS DEPENDENT ON FINAL EQUIPMENT APPROVAL DURING CONSTRUCTION.
- CONSTRUCTION TO BE IN ACCORDANCE WITH ALL RELEVANT CLAUSES AS PER SANS 1936 FOR DEVELOPMENT ON D3 DESIGNATED SITES.
- CONCRETE STRENGTH TO BE 30MPa AND BLINDING TO BE 15MPa.
- "ON HOLD" ITEMS ARE SUBJECT TO FINAL DETAIL DESIGN BASED ON EQUIPMENT REQUIREMENTS TO BE PROVIDED BY THE CONTRACTOR.

GENERATOR SLAB - SETTING OUT		
POINT	X	Y
CG-01	2913505.341	-89074.093
CG-02	2913502.171	-89080.890
CG-03	2913505.343	-89082.369
CG-04	2913508.513	-89075.572

DEPARTMENT	APPROVED	DESIGNATION	DATE

CONSULTING ENGINEERS



Building No. 5 Country
Club Estate
21 Woodlands Drive
Woodmead
2191
PO Box 867
Gallo Manor
2052
Tel No. +27 11 798 6000

SURVEYED	
DESIGNED	L. NAICKER
DRAWN	N. O'GORMAN
CHECKED	L. NAICKER
SERVICES CHECKED	
GEOTECHNICAL INVESTIGATION	
SERVITUDES	
APPROVED	DITHOLO PHOGOLE
Pr. Eng.No.	20060098
DATE	

JOHANNESBURG WATER (SOC) LTD



TURBINE HALL
65 NTEMI PILISO STREET
NEWTOWN
JOHANNESBURG 2001

TEL: (011) 688-1400
FAX: (011) 688-1529

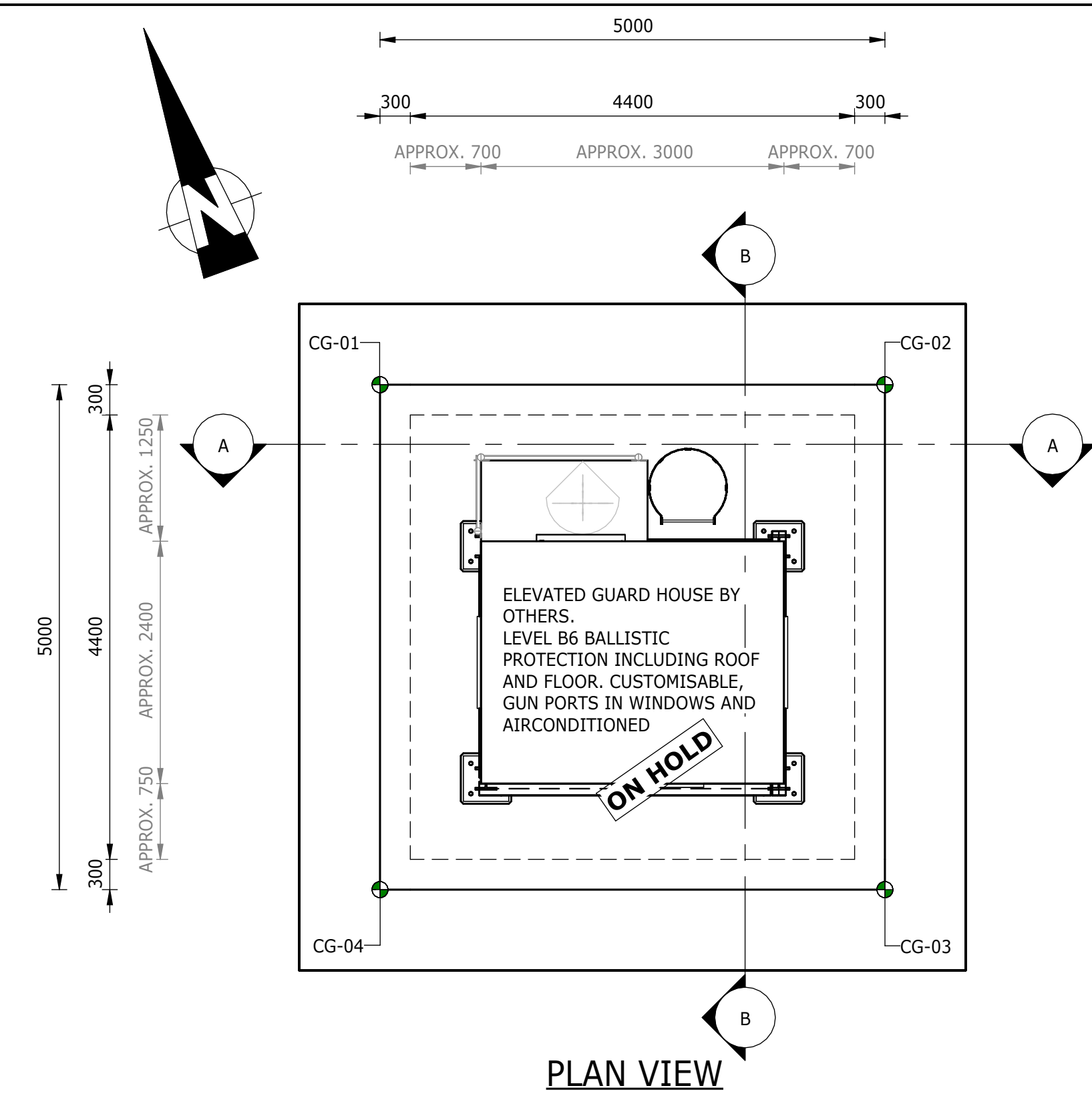
CITY OF JOHANNESBURG

OLIFANTSVLEI WWTW: VAN WYKSURST PUMP STATION
INFRASTRUCTURE RENEWAL PLAN
VAN WYKSURST PUMP STATION
GENERATOR SLAB
GENERAL ARRANGEMENT, DETAILS & EARTHWORKS

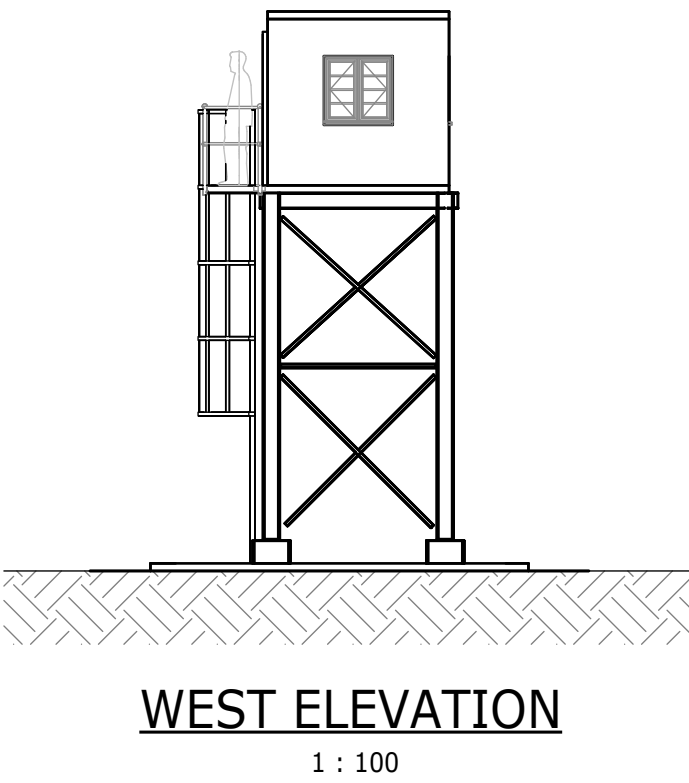
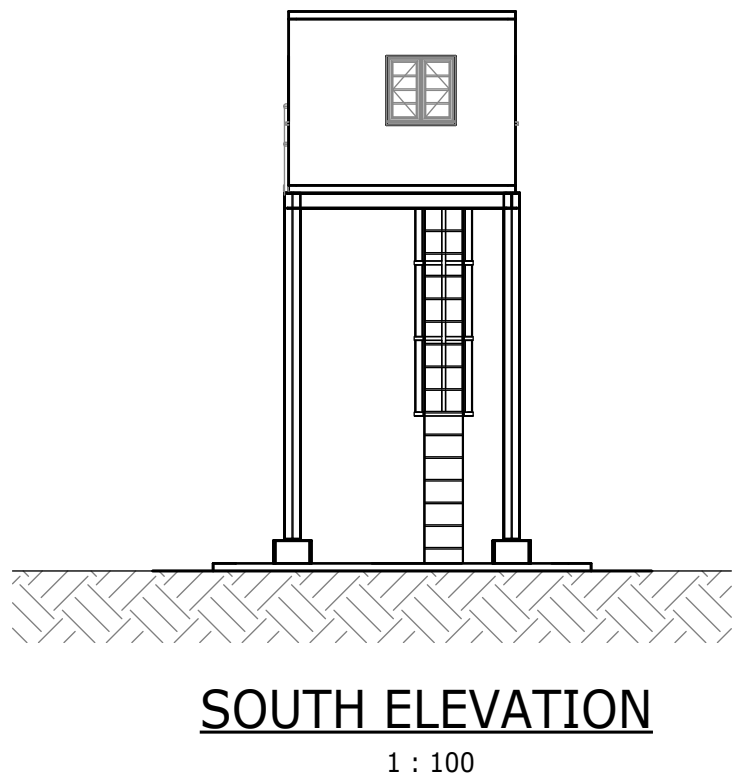
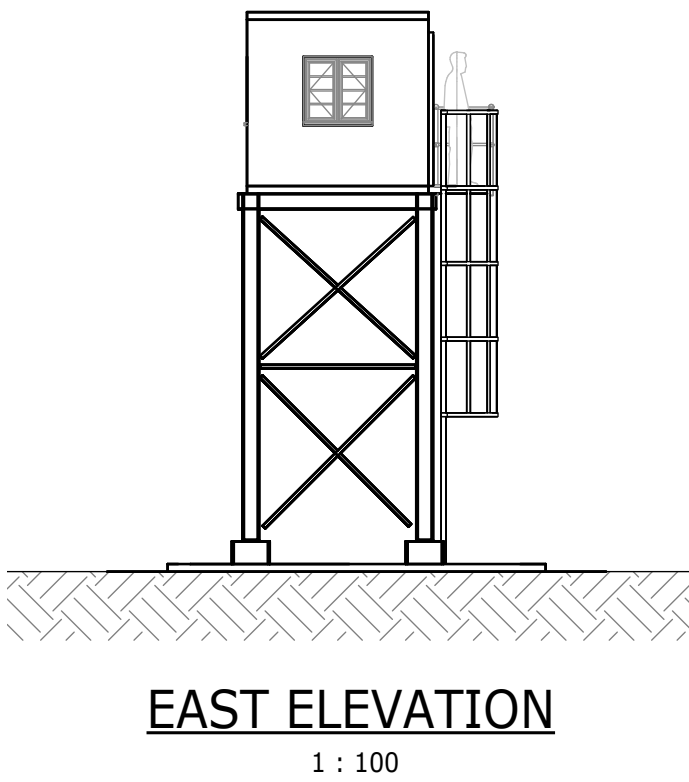
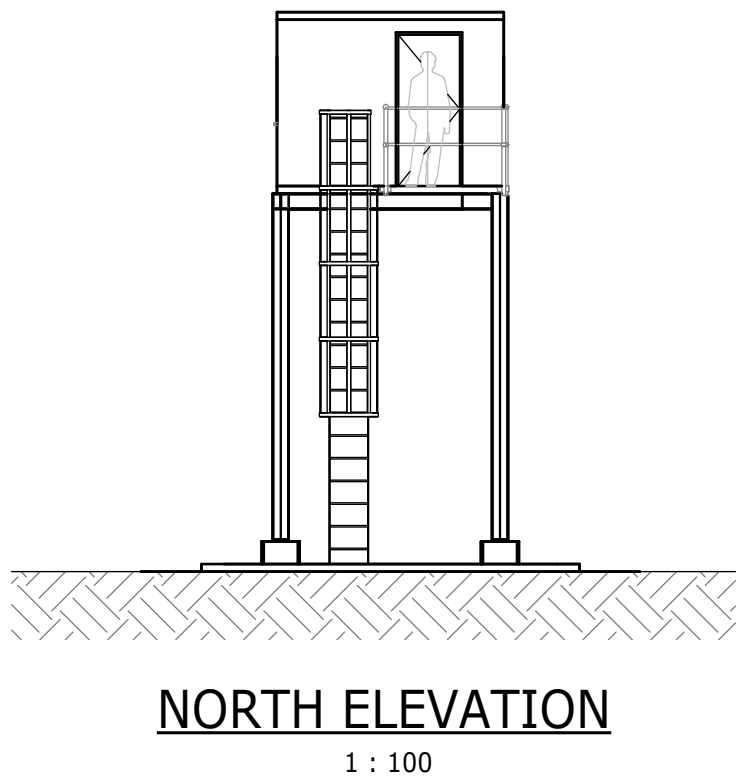
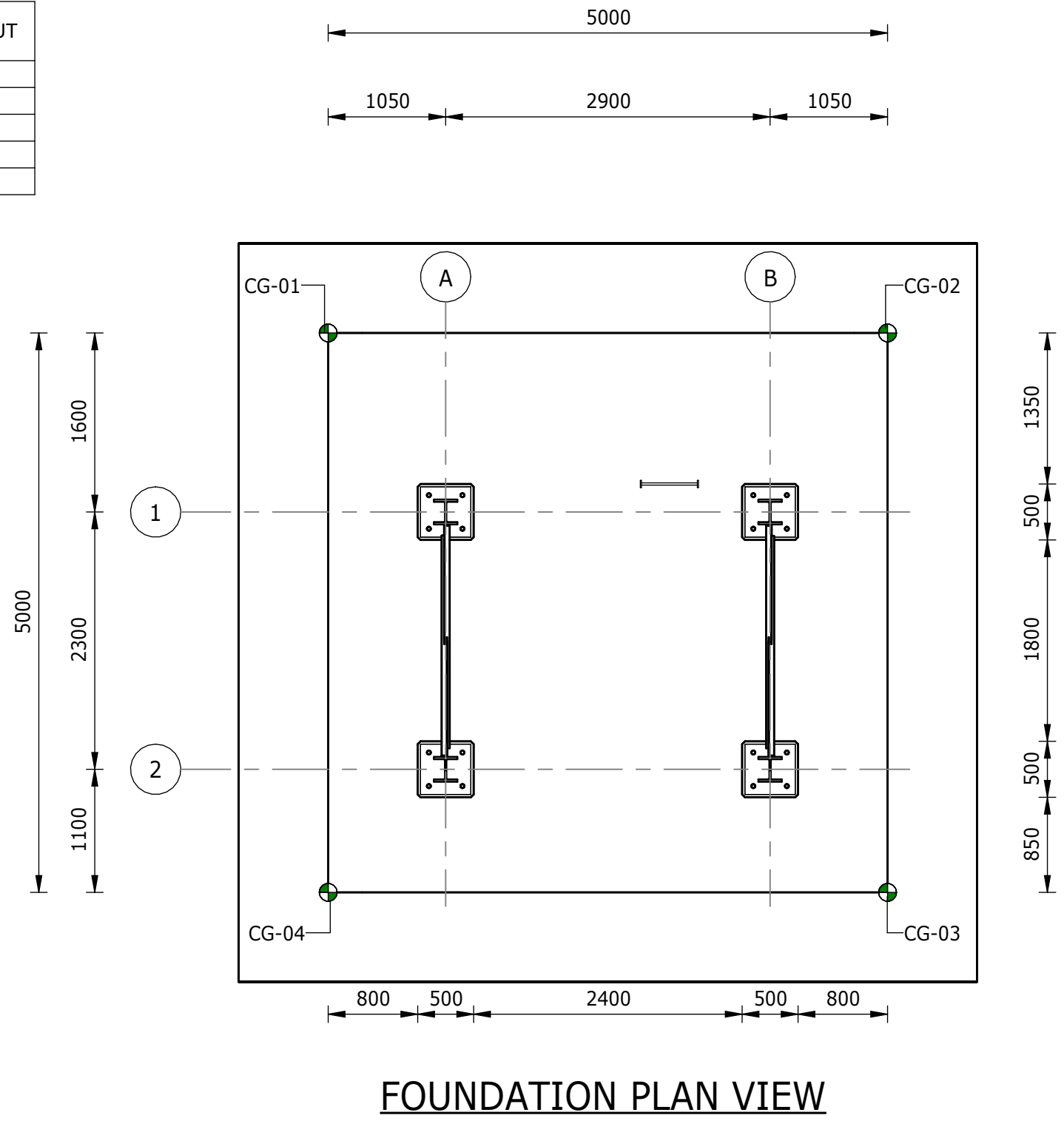
DESIGN
MANAGER

DATE

SCALE	AMENDMENTS	APPROVED	DATE	DRAWING No.
AS SHOWN	C01 ISSUED FOR TENDER	D. PHOGOLE	FEB 25	JW NUMBER
	C02 ISSUED FOR RE- TENDER	D. PHOGOLE	FEB 26	JW14466R-RHD-C1-04-D-C-0401
				CONSULTANT'S NUMBER
				BW1400-RHD-C1-04-D-C-0401
				FILE No
				C02

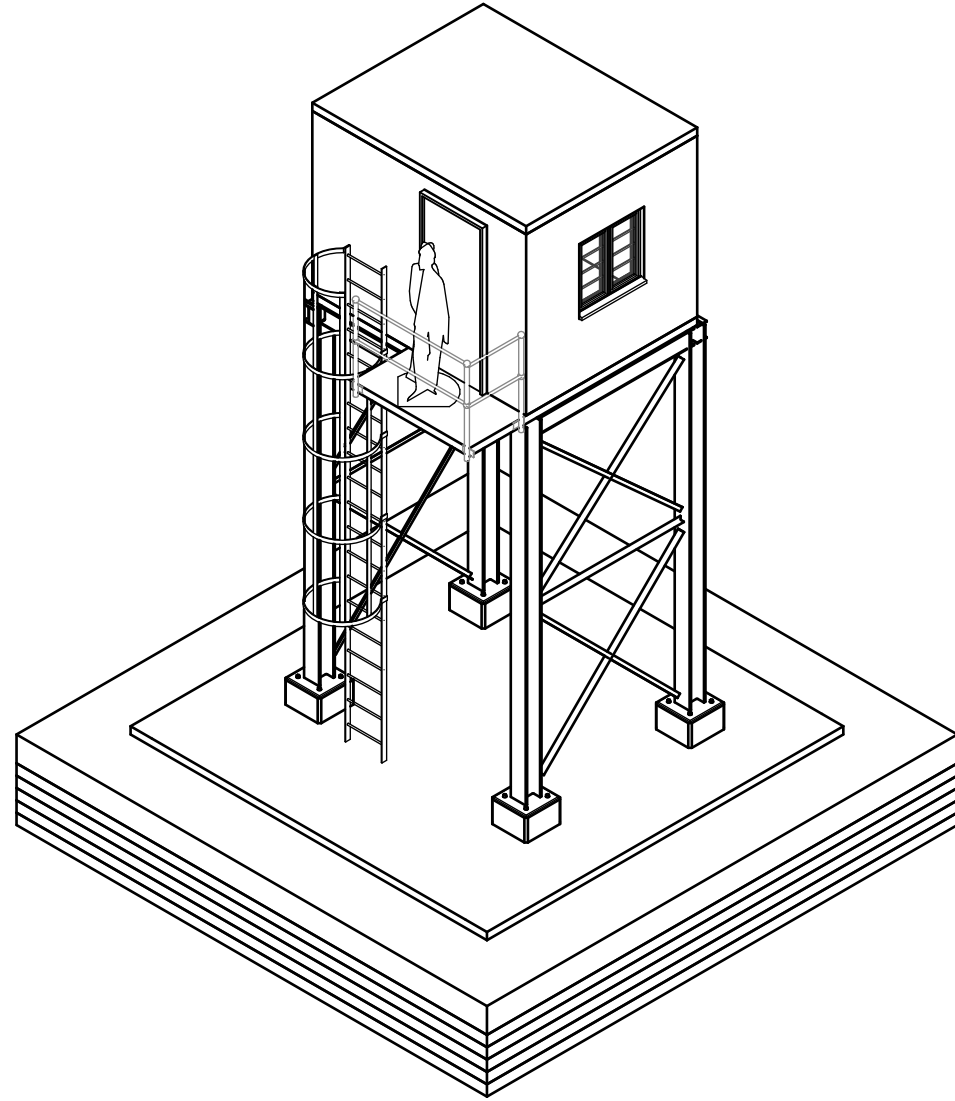
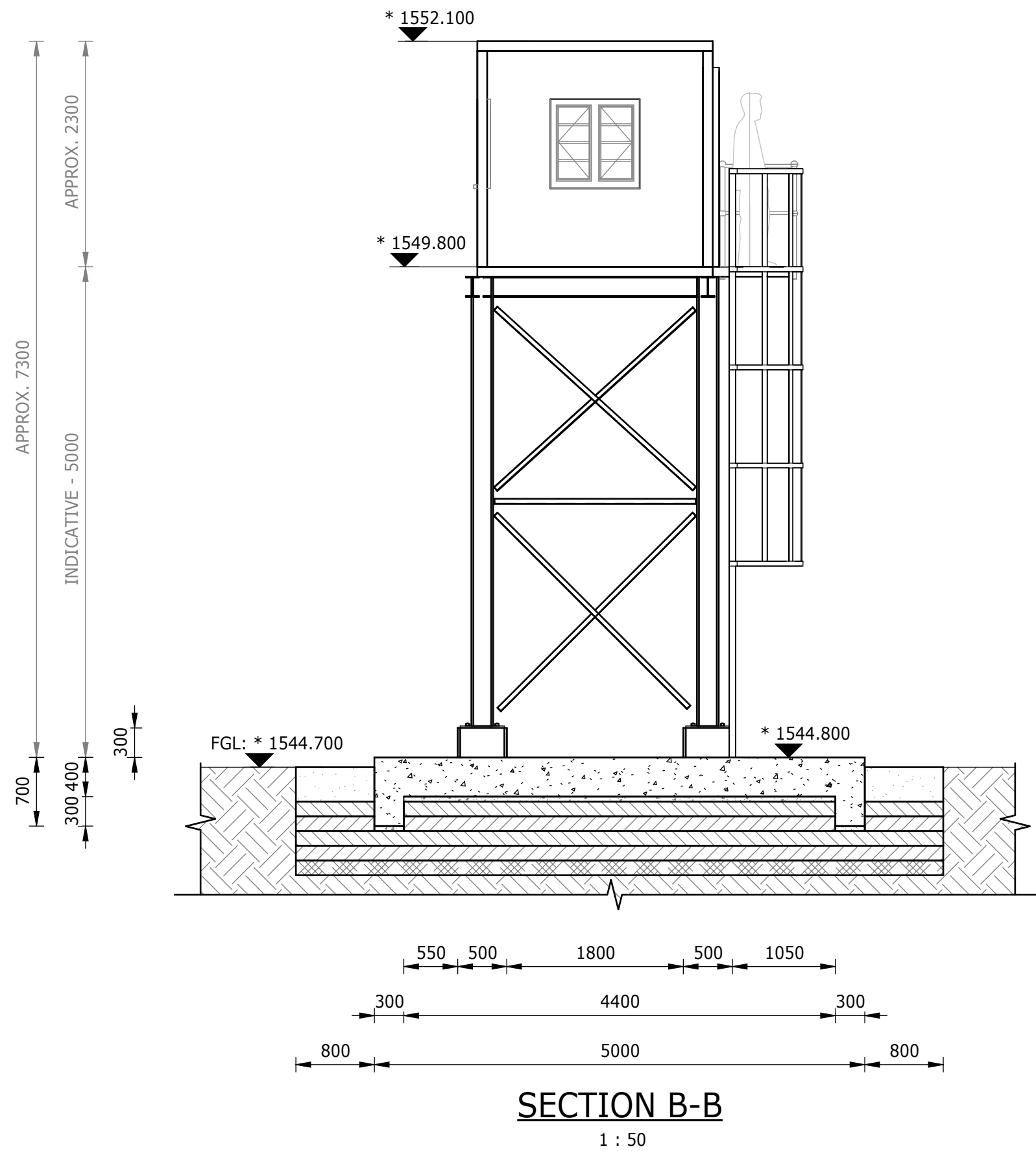
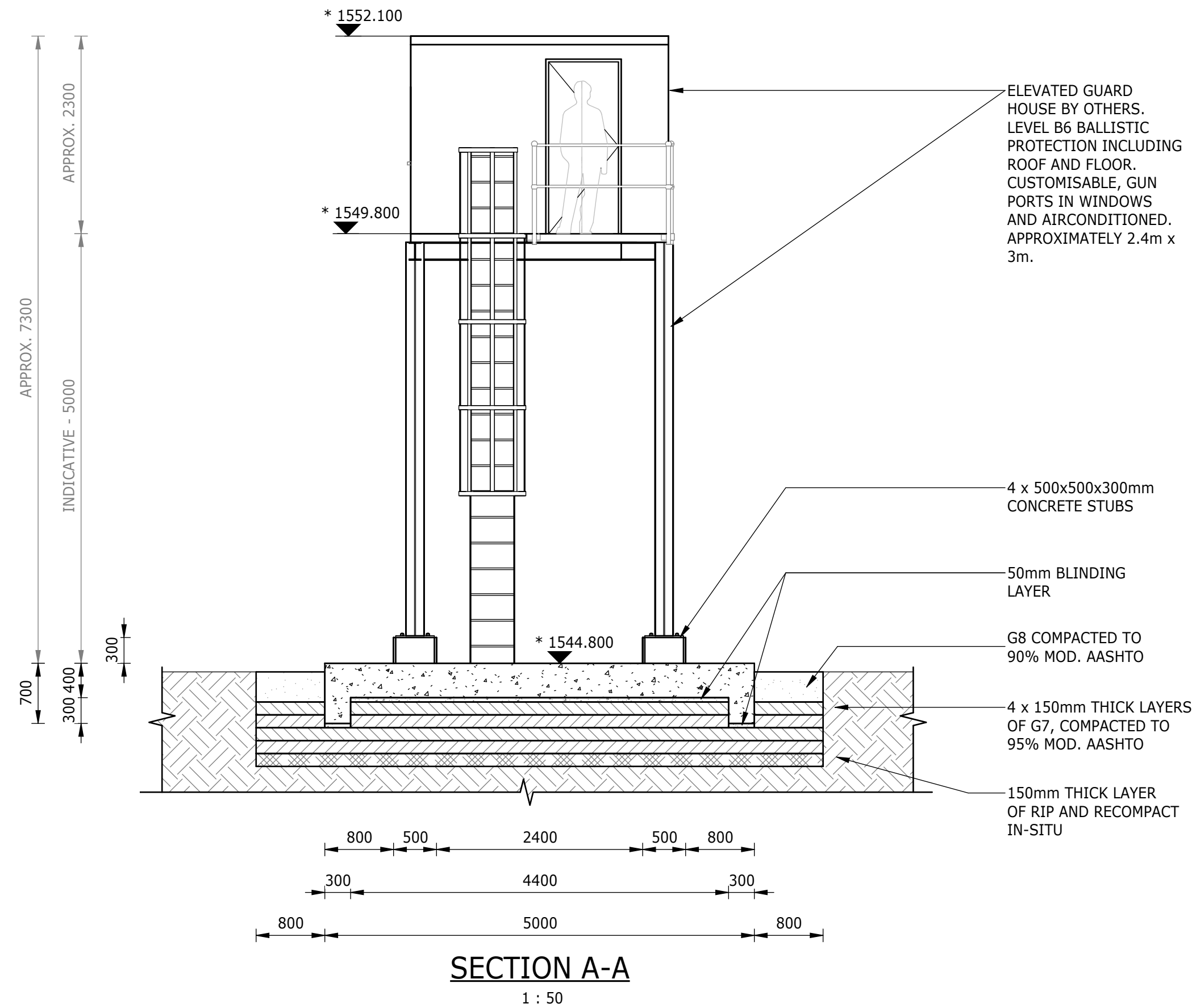


ELEVATED GUARD HOUSE - SETTING OUT		
POINT	X	Y
CG-01	2913505.440	-89144.438
CG-02	2913506.203	-89149.380
CG-03	2913511.145	-89148.616
CG-04	2913510.381	-89143.675



NOTES:

1. ALL DIMENSIONS AND LEVELS CONTAINING * ARE TO BE CONFIRMED ON SITE PRIOR TO COMMENCEMENT OF WORK. ANY DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER IMMEDIATELY.
2. BOTTOM OF BASE FOUNDATION TO BE INSPECTED FOR GROUND CONDITION BEFORE CONCRETE IS POURED.
3. EXISTING GROUND LEVELS TO BE RESTORED AFTER EXCAVATION AND BACKFILL.
4. EXCAVATION METHOD AND EXTENT TO ENSURE THAT THERE IS NO DAMAGE TO EXISTING INFRASTRUCTURE. AN EXCAVATION AND COMPACTION METHOD STATEMENT IS TO BE PROVIDED, FOR APPROVAL BY THE ENGINEER, PRIOR TO EXCAVATION.
5. SETTING -OUT POINTS ARE A GUIDE; FINAL EXCAVATION TO BE CONFIRMED ON SITE BY CONTRACTOR.
6. CONCRETE EDGES TO HAVE A 25x25mm CHAMFER.
7. SIZE OF SLAB TBC, BASED ON DETAILS OF ELEVATED GUARD-HOUSE, TO BE PROVIDED BY OTHERS.
8. CONSTRUCTION TO BE IN ACCORDANCE WITH ALL RELEVANT CLAUSES AS PER SANS 1936 FOR DEVELOPMENT ON D3 DESIGNATED SITES.
9. CONCRETE STRENGTH TO BE 30MPa.
10. "ON HOLD" ITEMS ARE SUBJECT TO FINAL DETAIL DESIGN BASED ON EQUIPMENT REQUIREMENTS TO BE PROVIDED BY THE CONTRACTOR.



DEPARTMENT	APPROVED	DESIGNATION	DATE

CONSULTING ENGINEERS

Building No. 5 Country Club Estate
21 Woodlands Drive Woodmead
2191
PO Box 867 Gallo Manor
2052
Tel No. +27 11 798 6000

SURVEYED	
DESIGNED	L. NAICKER
DRAWN	N. O'GORMAN
CHECKED	L. NAICKER
SERVICES CHECKED	
GEOTECHNICAL INVESTIGATION	
SERVITUDES	
APPROVED	DITHOLO PHOGOLE
Pr. Eng.No.	20060098
DATE	

JOHANNESBURG WATER (SOC) LTD

TURBINE HALL
65 NTEMI PILISO STREET
NEWTOWN
JOHANNESBURG 2001

TEL: (011) 688-1400
FAX: (011) 688-1529

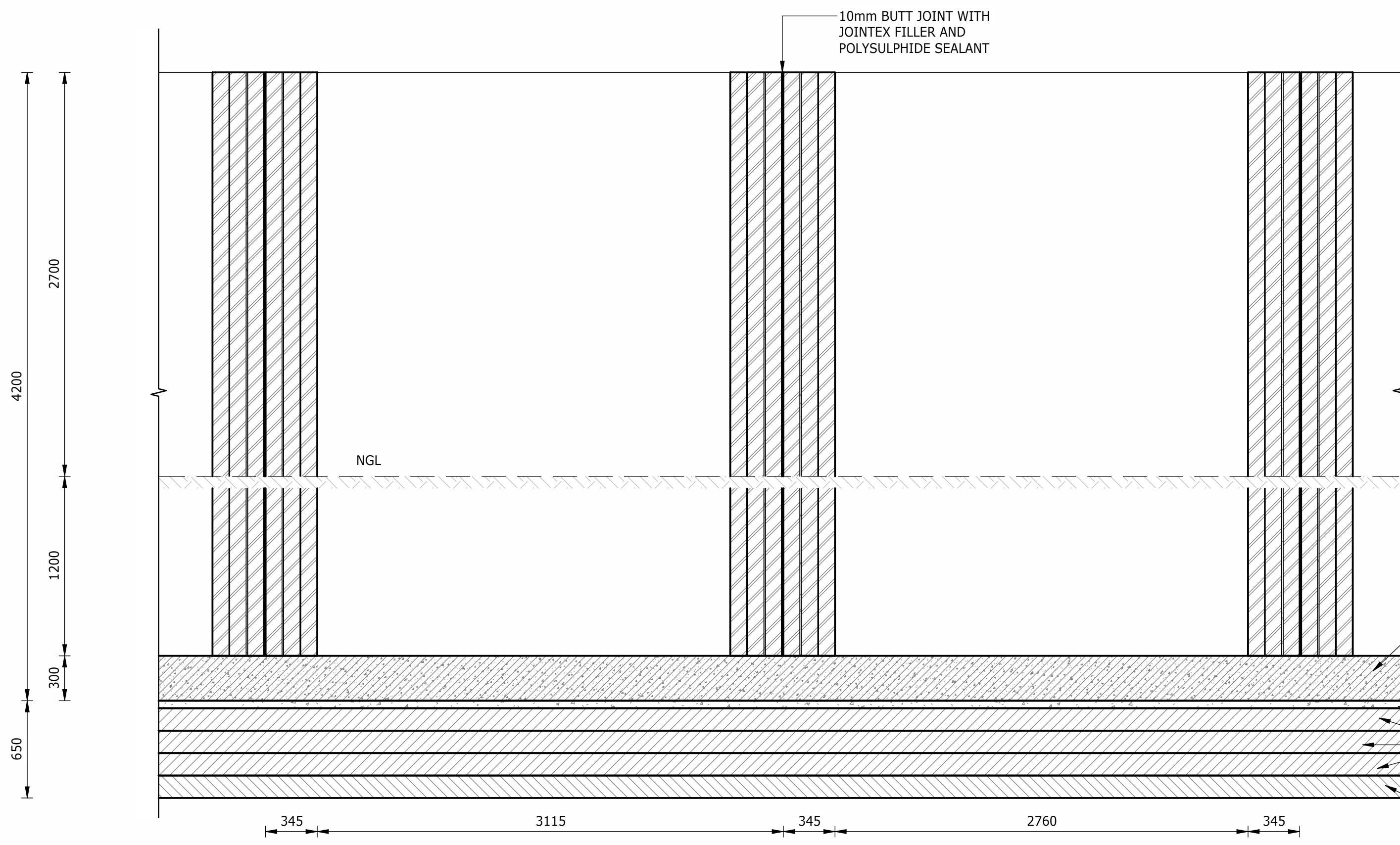
CITY OF JOHANNESBURG

OLIFANTSVLEI WWTW: VAN WYKRUST PUMP STATION

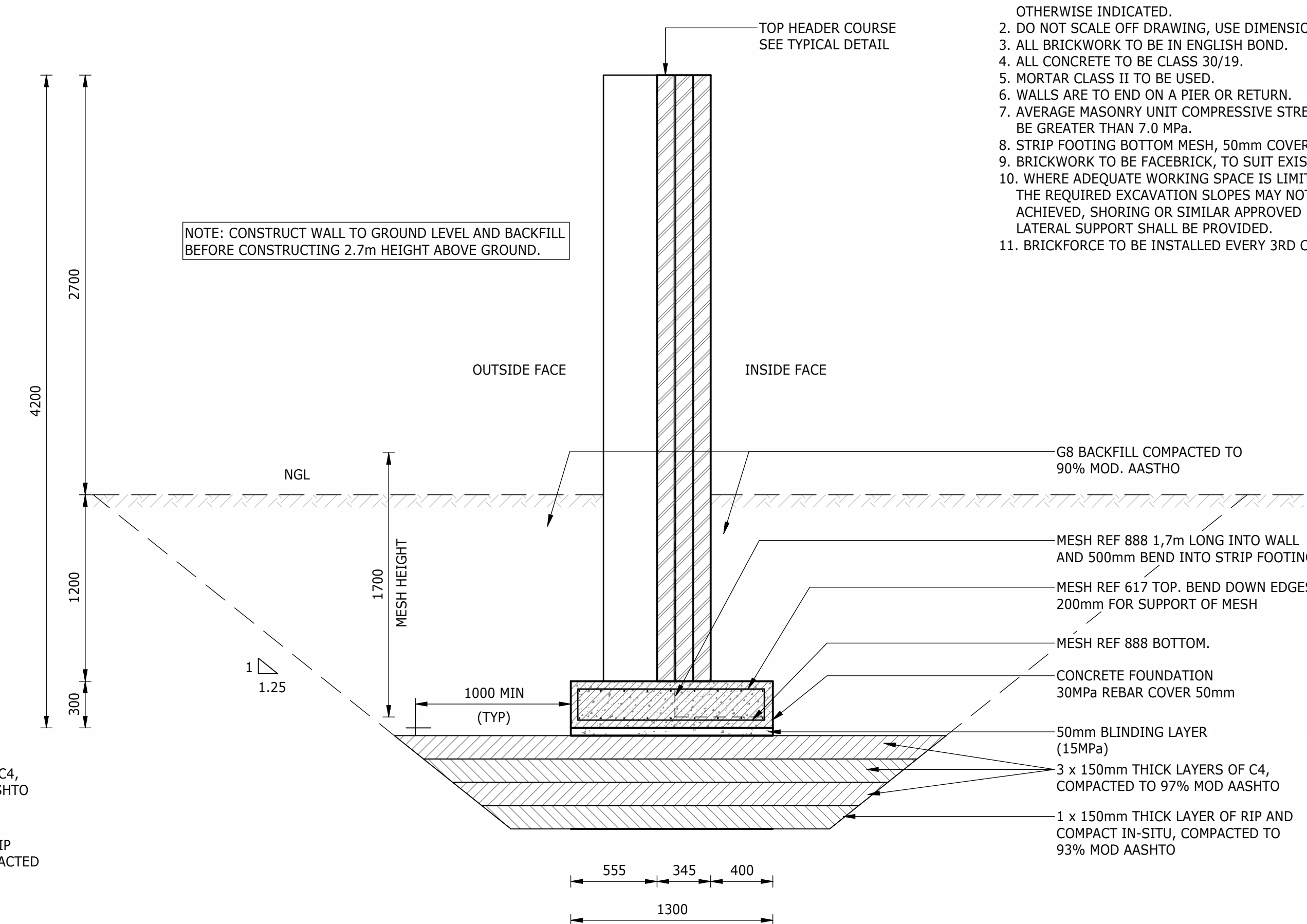
INFRASTRUCTURE RENEWAL PLAN

VAN WYKRUST PUMP STATION
ELEVATED GUARD HOUSE
GENERAL ARRANGEMENT AND SECTIONS

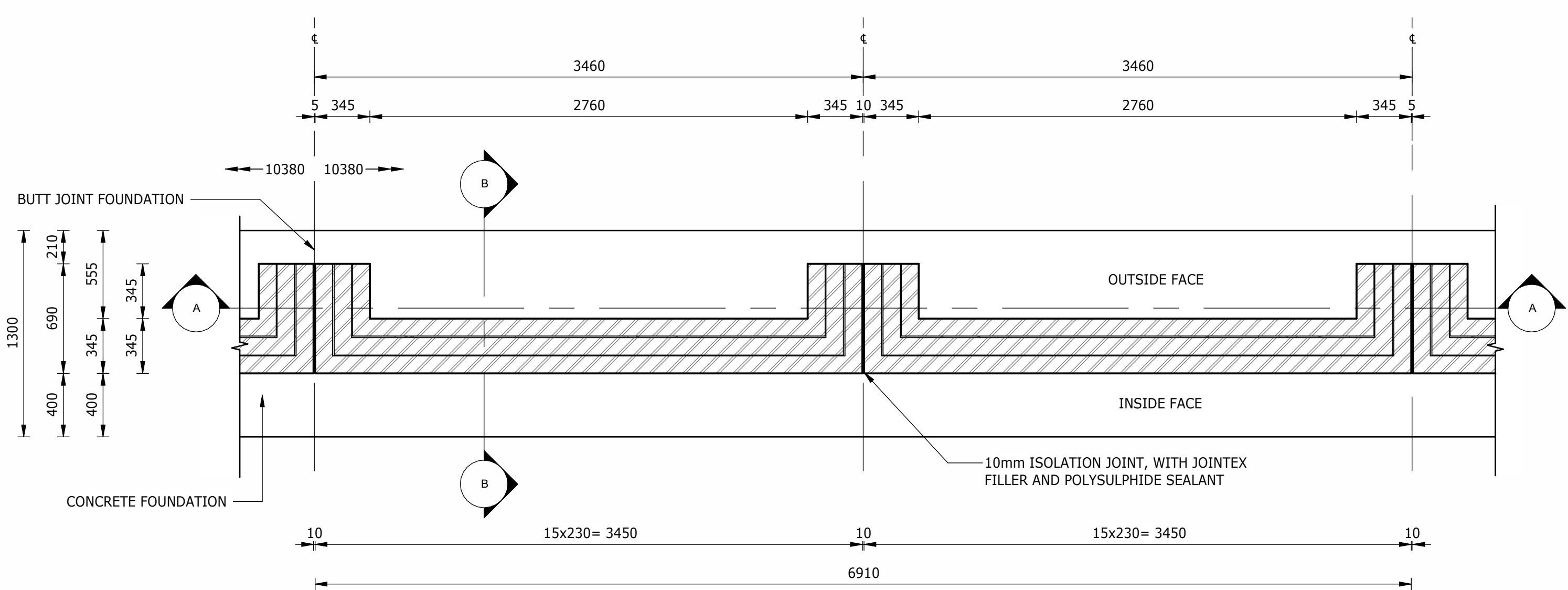
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		C02 ISSUED FOR RE-TENDER	D. PHOGOLE	FEB 26	JW14466R-RHD-C1-05-D-C-0501
					CONSULTANT'S NUMBER
					BW1400-RHD-C1-05-D-C-0501
					FILE No
					C02



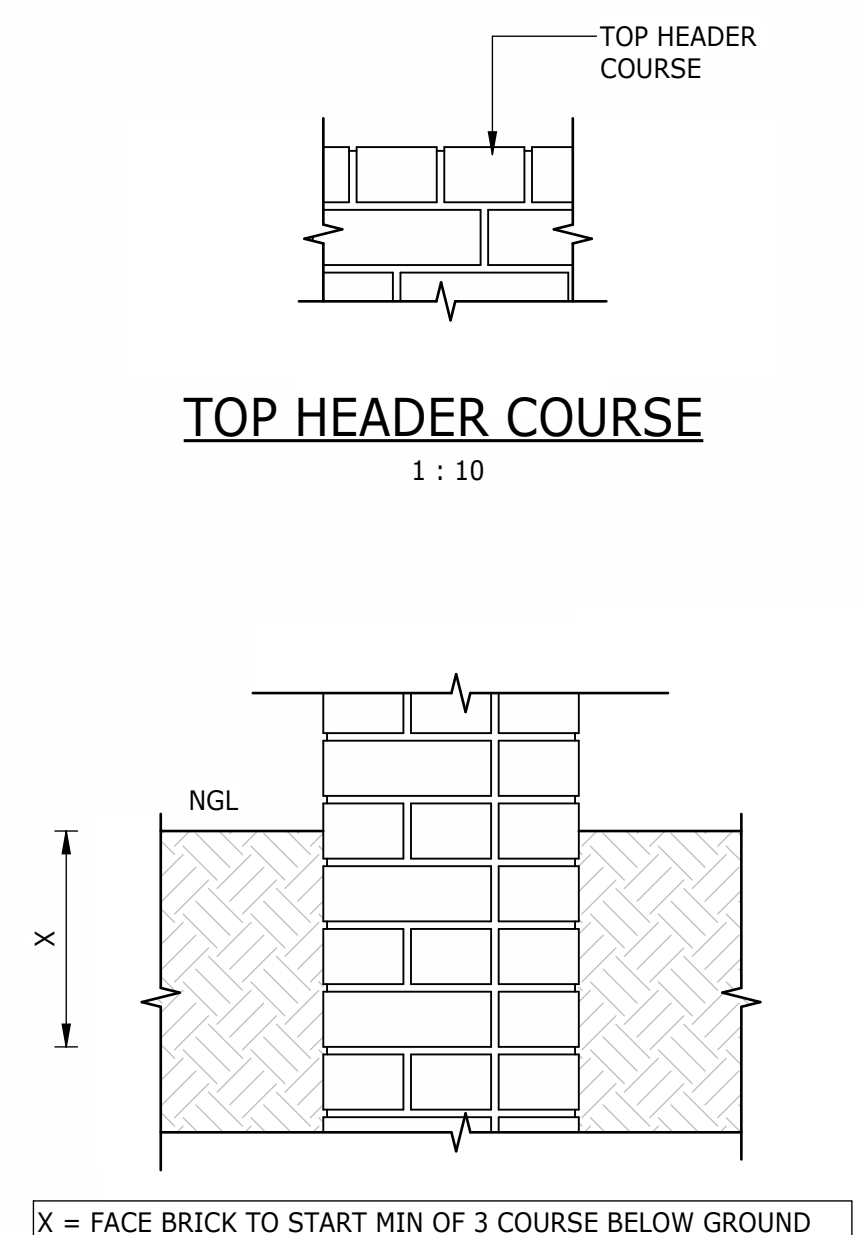
SECTION A-A
1 : 25



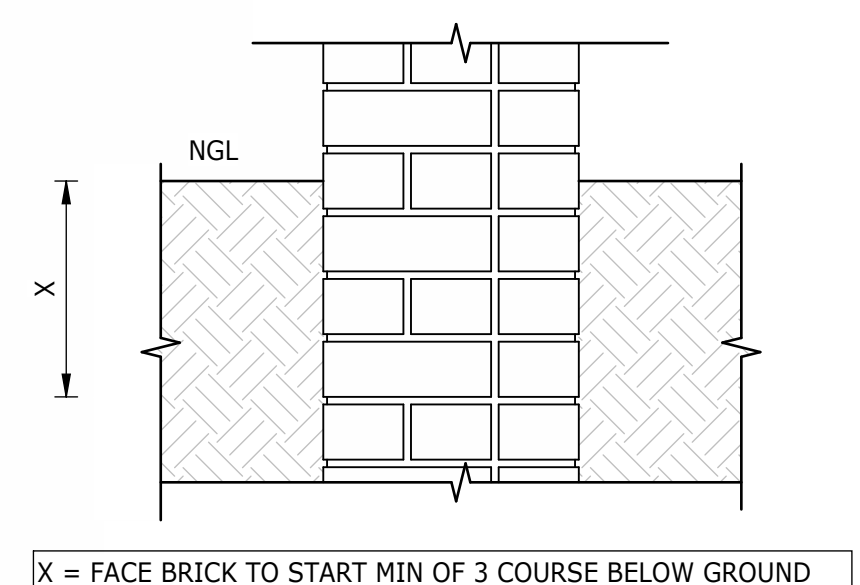
SECTION B-B
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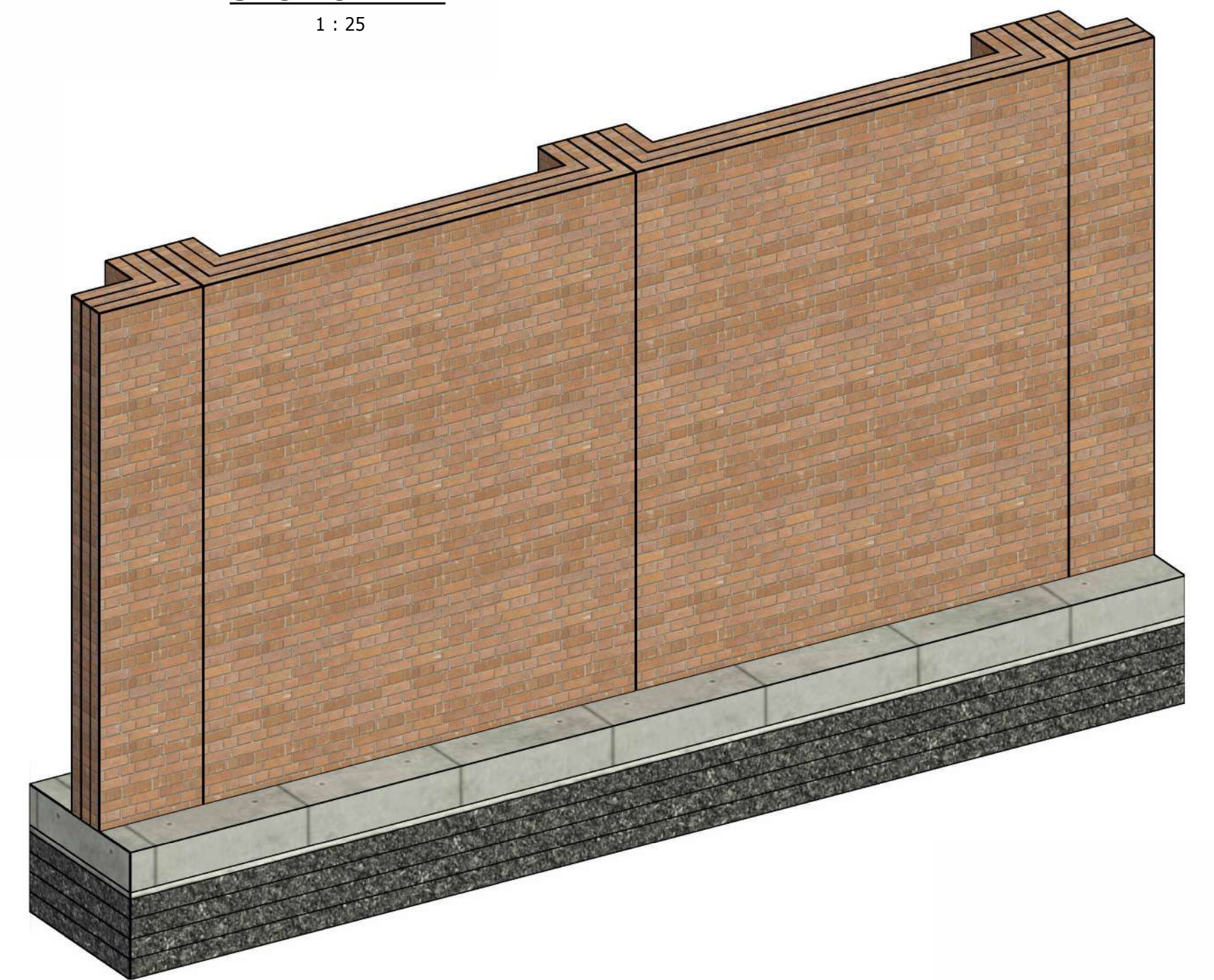
PLAN VIEW
1 : 25



TOP HEADER COURSE
1 : 10



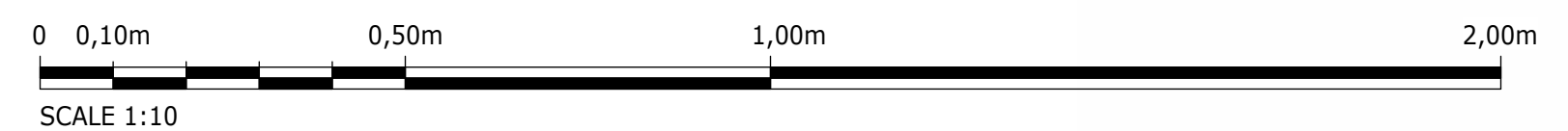
BELOW GROUND COURSE
1 : 10



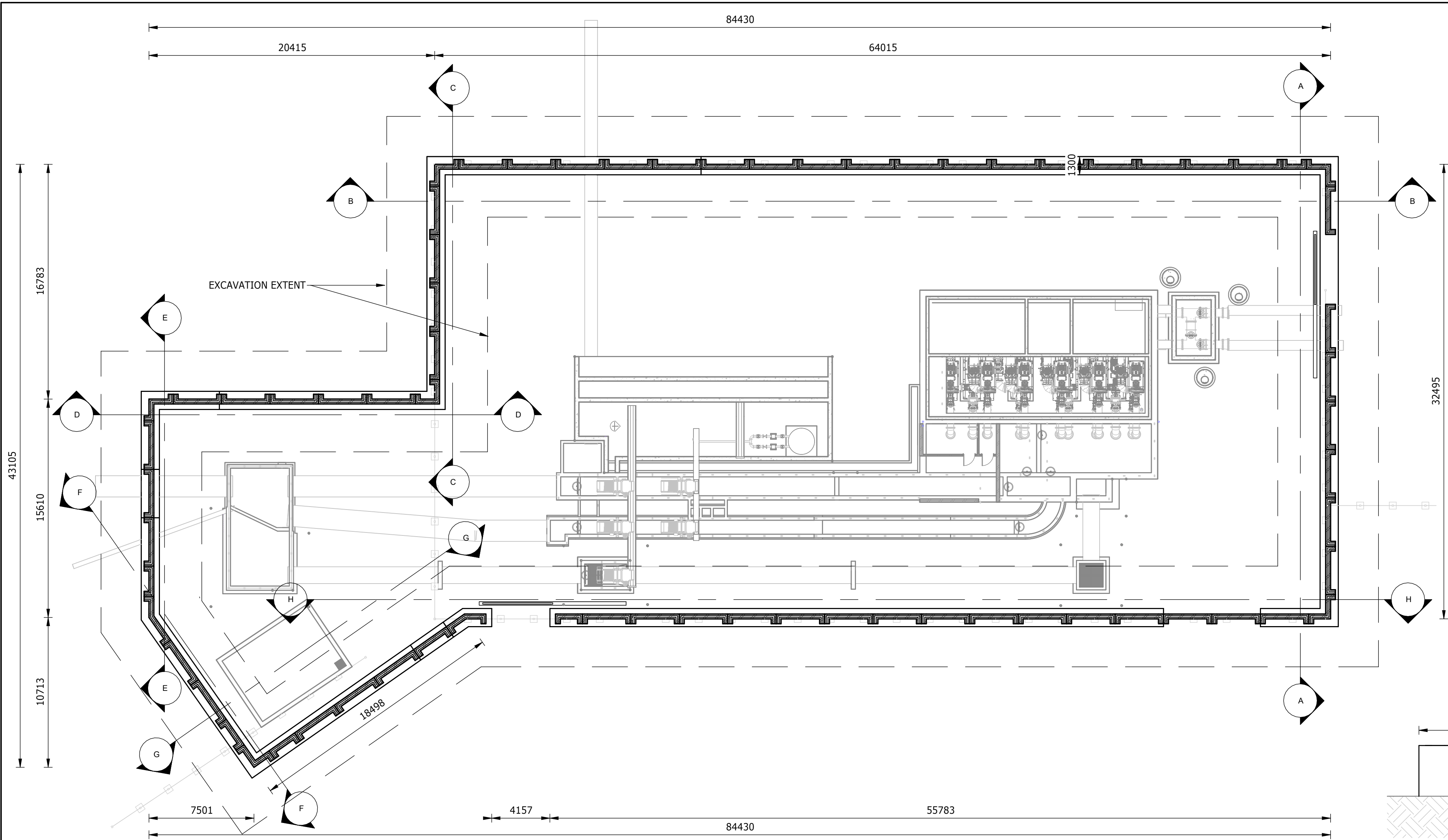
ISOMETRIC VIEW

- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.
 2. DO NOT SCALE OFF DRAWING, USE DIMENSIONS ONLY.
 3. ALL BRICKWORK TO BE IN ENGLISH BOND.
 4. ALL CONCRETE TO BE CLASS 30/19.
 5. MORTAR CLASS II TO BE USED.
 6. WALLS ARE TO END ON A PIER OR RETURN.
 7. AVERAGE MASONRY UNIT COMPRESSIVE STRENGTH TO BE GREATER THAN 7.0 MPa.
 8. STRIP FOOTING BOTTOM MESH, 50mm COVER.
 9. BRICKWORK TO BE FACEBRICK, TO SUIT EXISTING.
 10. WHERE ADEQUATE WORKING SPACE IS LIMITED AND THE REQUIRED EXCAVATION SLOPES MAY NOT BE ACHIEVED, SHORING OR SIMILAR APPROVED MEANS OF LATERAL SUPPORT SHALL BE PROVIDED.
 11. BRICKFORCE TO BE INSTALLED EVERY 3RD COURSE.

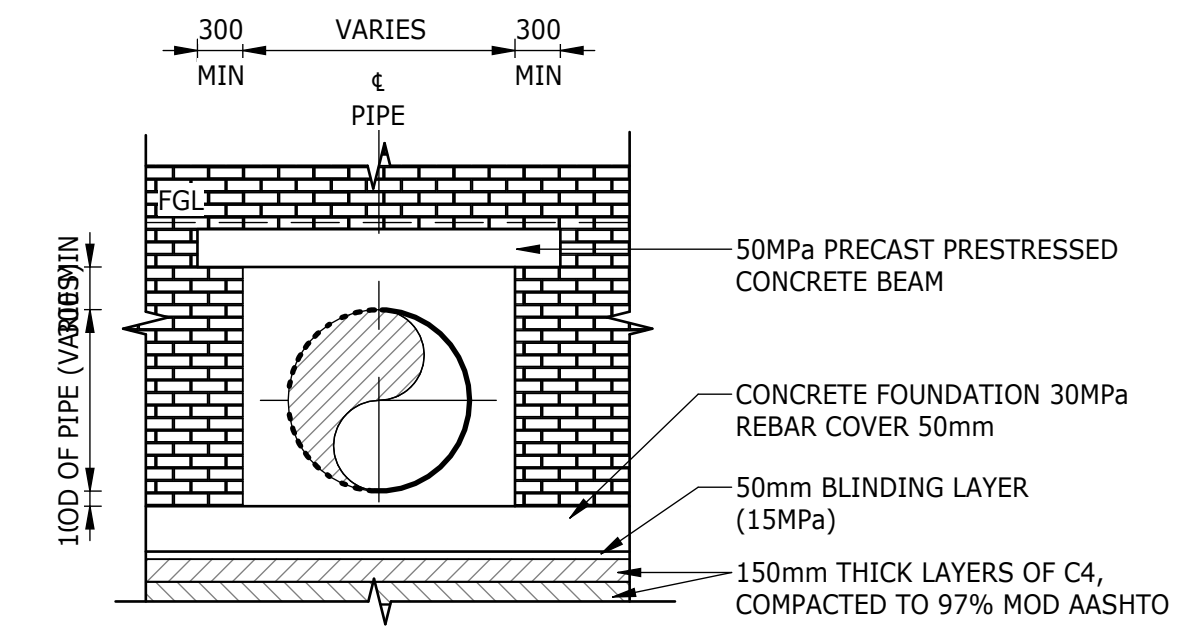
DEPARTMENT	APPROVED	DESIGNATION	DATE



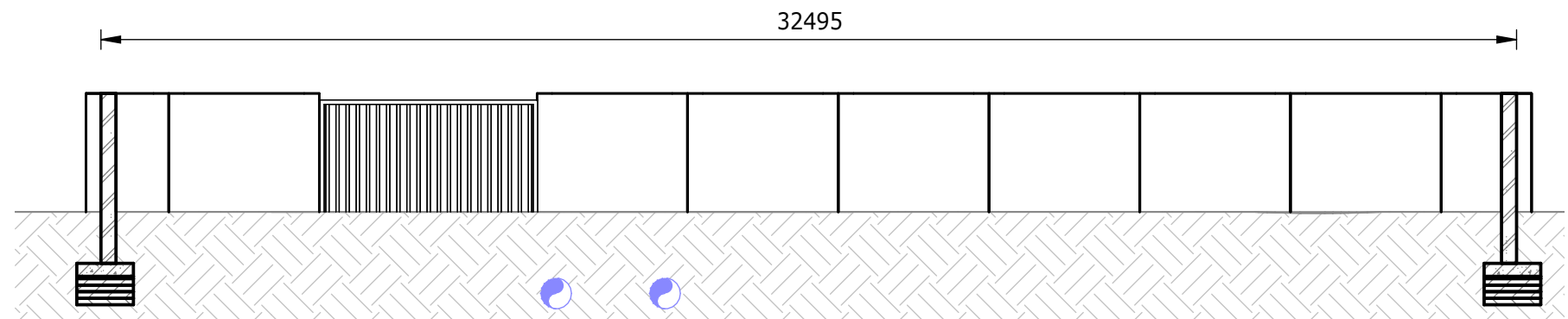
CONSULTING ENGINEERS			JOHANNESBURG WATER (SOC) LTD		CITY OF JOHANNESBURG		DESIGN MANAGER	SCALE	AMENDMENTS		APPROVED	DATE	DRAWING No.							
	Building No. 5 Country Club Estate 21 Woodlands Drive Woodmead 2191 PO Box 867 Gallo Manor 2052 Tel No. +27 11 798 6000	SURVEYED			TURBINE HALL 65 NTEMI PILISO STREET NEWTOWN JOHANNESBURG 2001 TEL: (011) 688-1400 FAX: (011) 688-1529				AS SHOWN	C01			ISSUED FOR TENDER	D. PHOGOLE	FEB 25	JW NUMBER				
		DESIGNED	L. NAICKER							C02			ISSUED FOR RE-TENDER	D. PHOGOLE	FEB 26	JW14466R-RHD-C1-06-D-C-0601				
		DRAWN	N. O'GORMAN													CONSULTANT'S NUMBER				
		CHECKED	L. NAICKER													BW1400-RHD-C1-06-D-C-0601				
		SERVICES CHECKED														FILE No				
		GEOTECHNICAL INVESTIGATION					DATE	C02												
		SERVITUDES																		
		APPROVED		DITHOLO PHOGOLE																
		Pr. Eng.No.		20060098																
		DATE																		



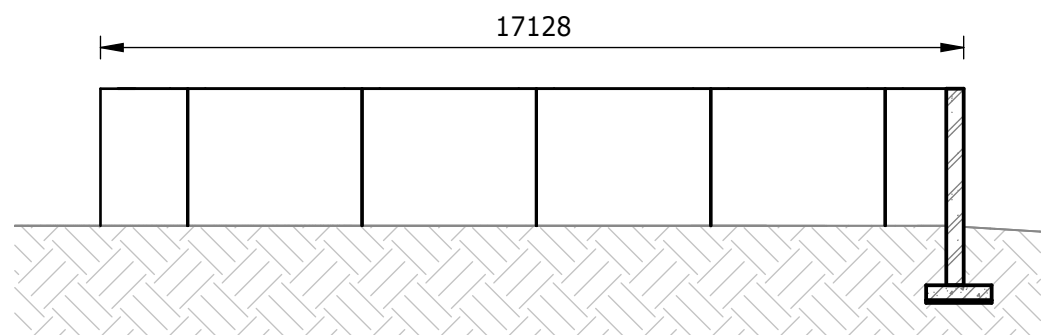
PLAN VIEW
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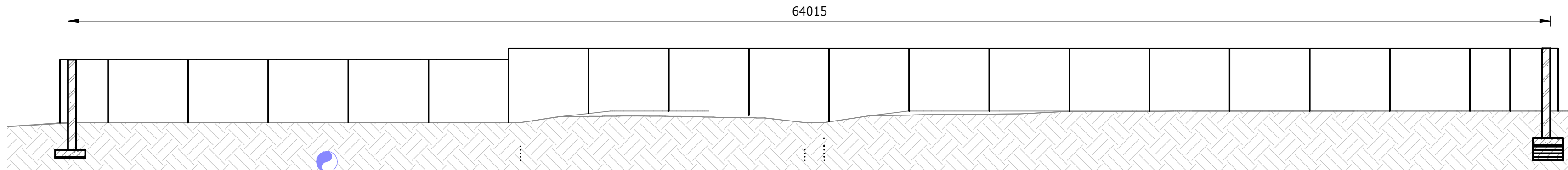
TYPICAL PIPE CROSSING THROUGH WALL DETAIL
1 : 50



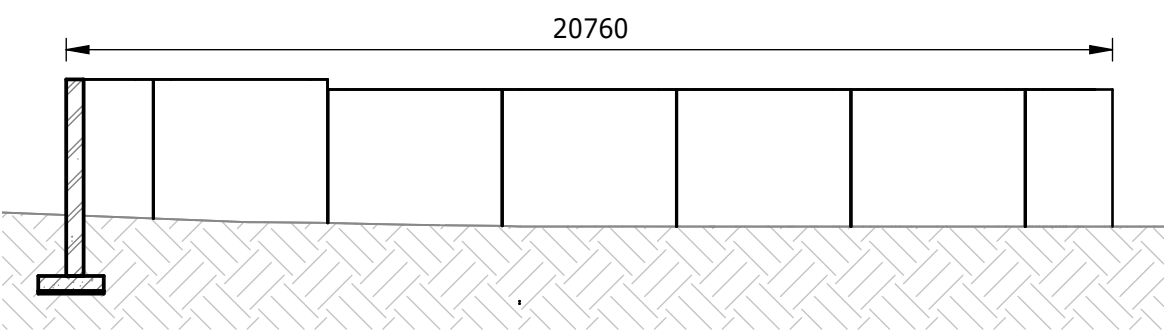
SECTION A-A
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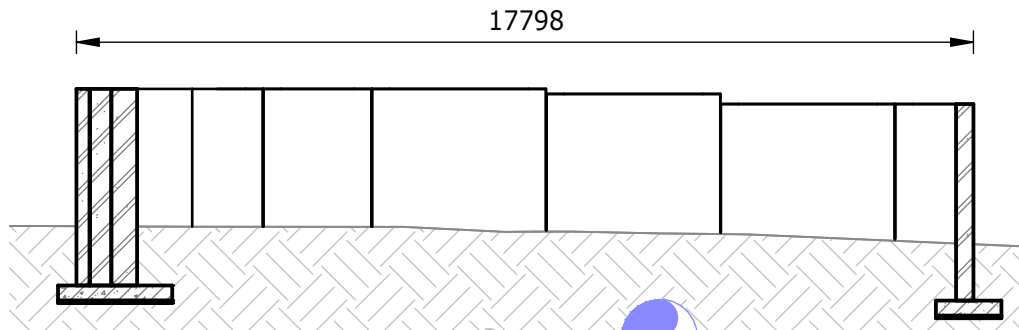
SECTION C-C
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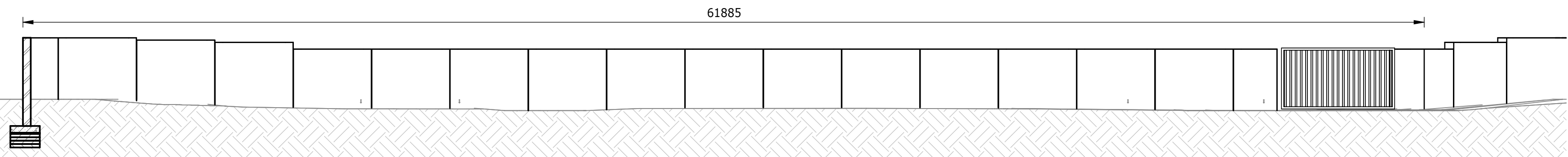
SECTION B-B
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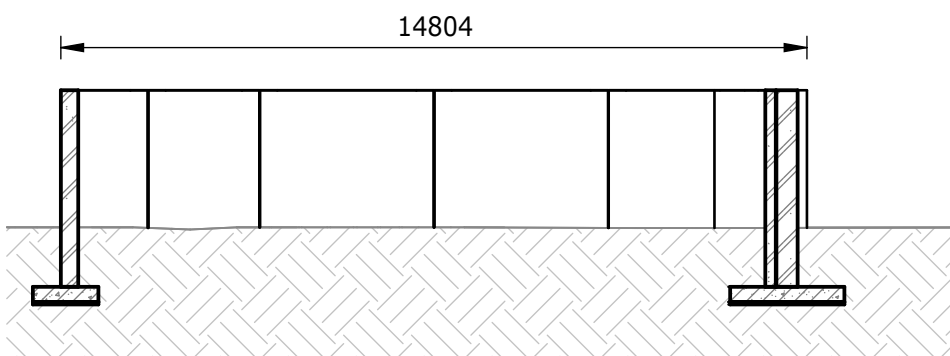
SECTION D-D
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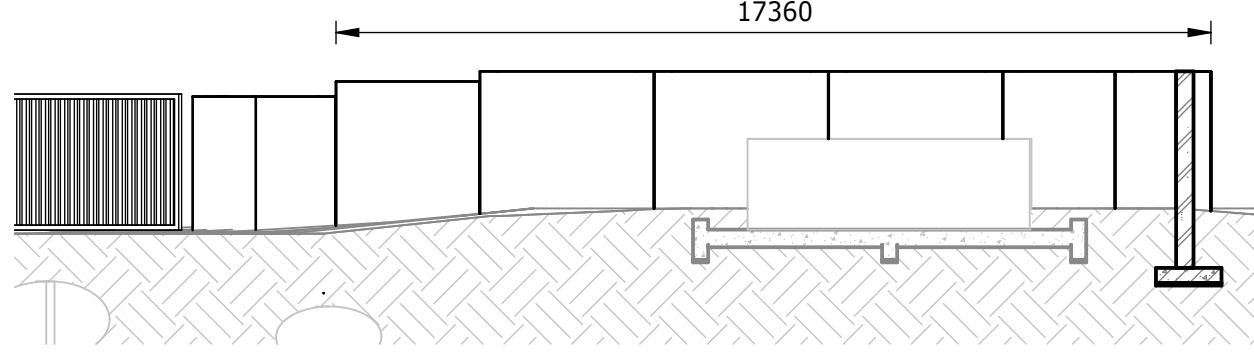
SECTION E-E
1 : 150



SECTION H-H
1 : 150

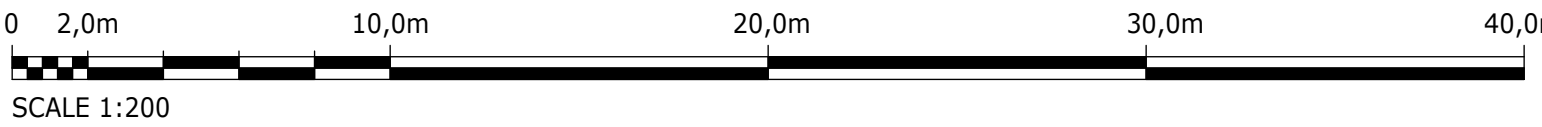


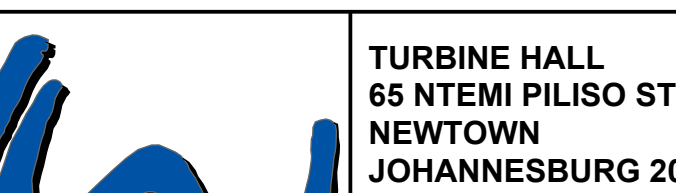
SECTION F-F
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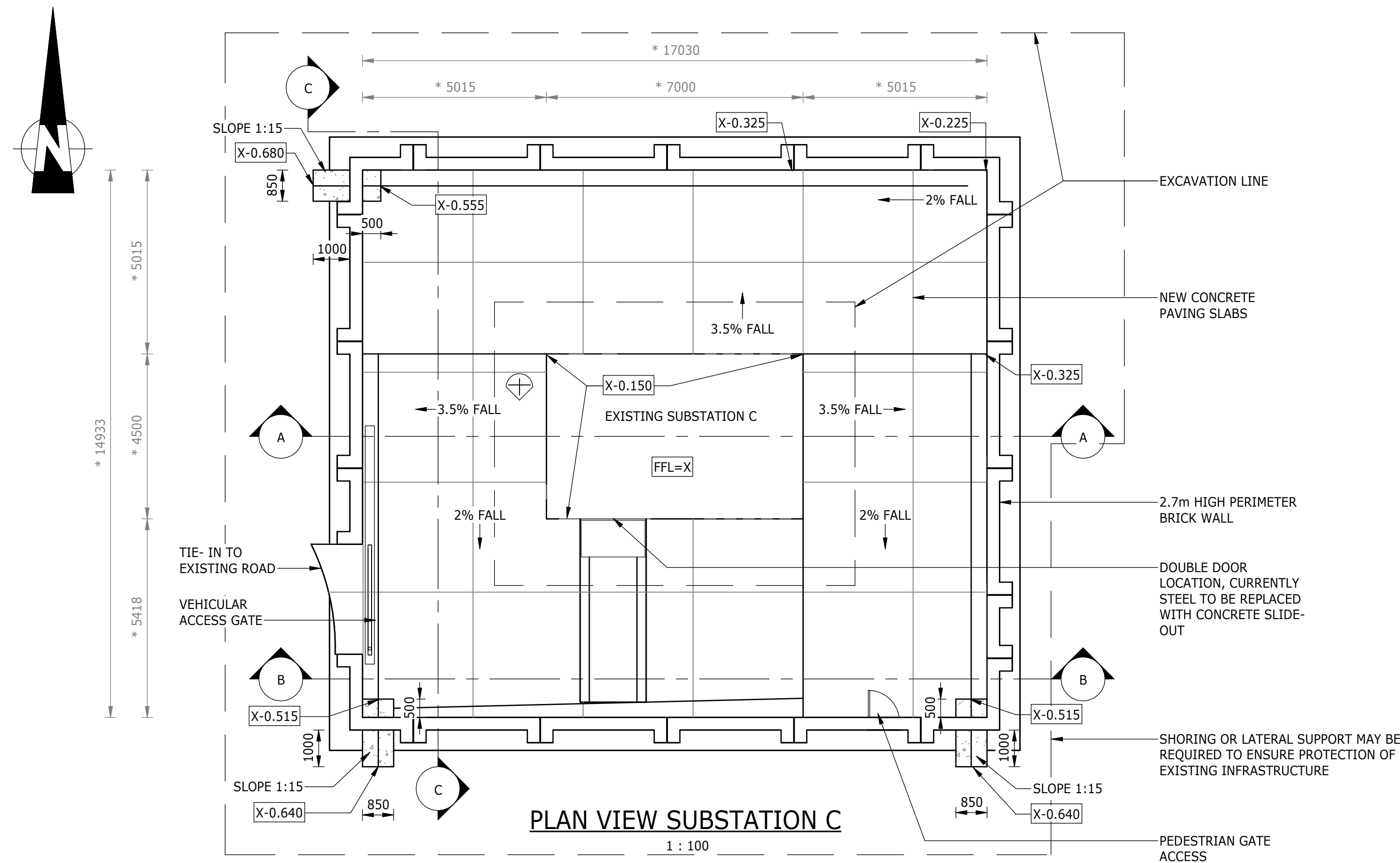


SECTION G-G
1 : 150

DEPARTMENT	APPROVED	DESIGNATION	DATE

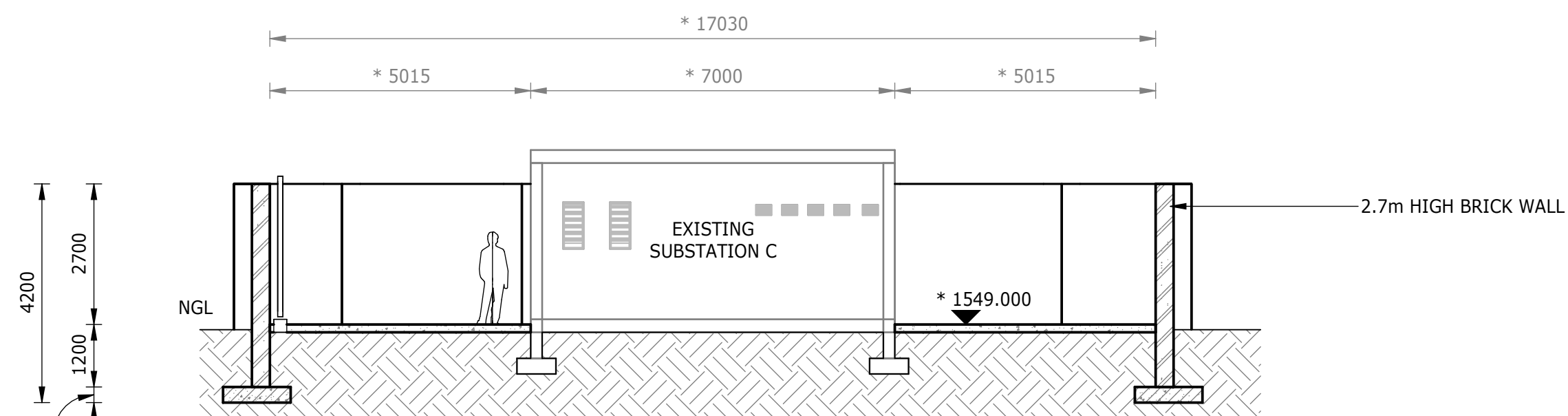


CONSULTING ENGINEERS		SURVEYED		JOHANNESBURG WATER (SOC) LTD		CITY OF JOHANNESBURG		DESIGN MANAGER	SCALE	AMENDMENTS		APPROVED	DATE	DRAWING No.				
	Building No. 5 Country Club Estate 21 Woodlands Drive Woodmead 2191 PO Box 867 Gallo Manor 2052 Tel No. +27 11 798 6000	DESIGNED	L. NAICKER		TURBINE HALL 65 NTEMI PILISO STREET NEWTOWN JOHANNESBURG 2001	OLIFANTSVLEI WWTW: VAN WYKS RUST PUMP STATION	INFRASTRUCTURES RENEWAL PLAN VAN WYKS RUST PUMP STATION PERIMETER WALL SECTIONS			AS SHOWN	P01			ISSUED FOR INFORMATION	D. PHOGOLE	FEB 25	JW NUMBER	
		DRAWN	N. O'GORMAN								C02			ISSUED FOR RE-TENDER	D. PHOGOLE	FEB 26	JW14466R-RHD-C1-06-D-C-0602	
		CHECKED	L. NAICKER											CONSULTANT'S NUMBER				
		SERVICES CHECKED												BW1400-RHD-C1-06-D-C-0602				
		GEOTECHNICAL INVESTIGATION												FILE No				
				SERVITUDES														
				APPROVED	DITHOLO PHOGOLE			DATE										
				Pr. Eng.No.	20060098													
				DATE														



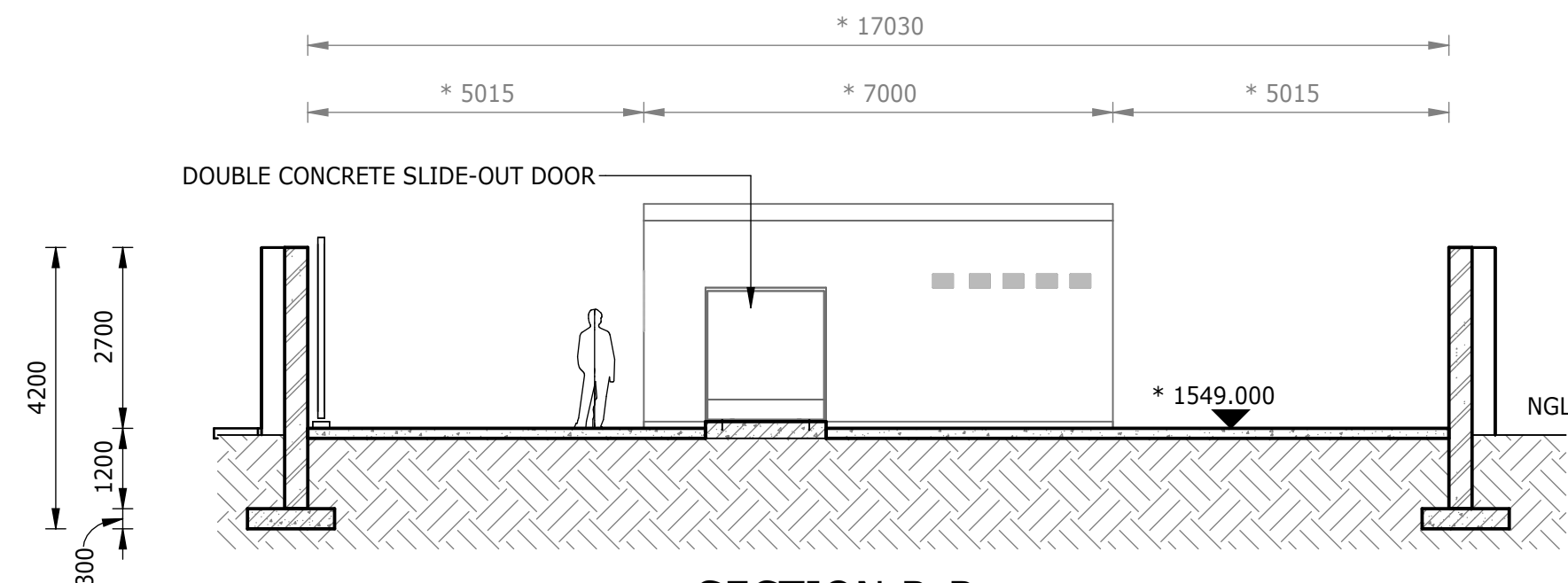
PLAN VIEW SUBSTATION C

1 : 100



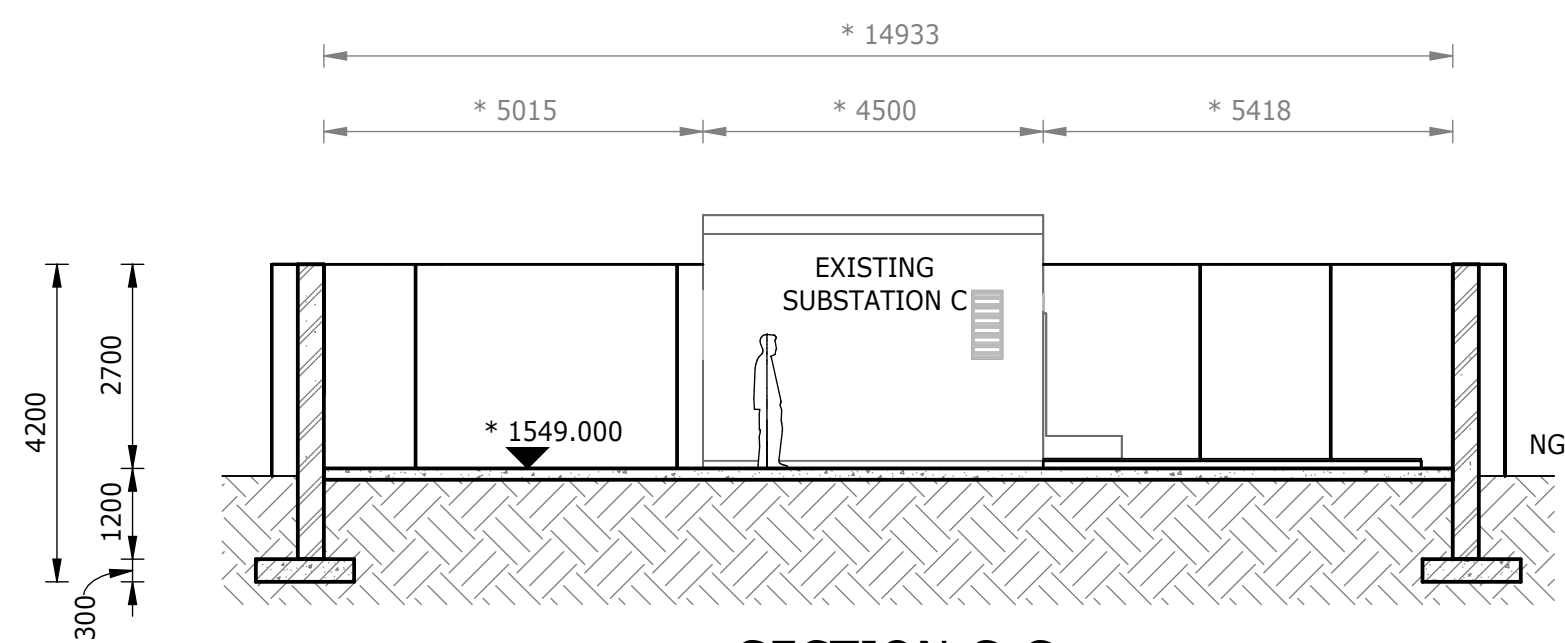
SECTION A-A

1 : 100



SECTION B-B

1 : 100



SECTION C-C

1 : 100



PLAN VIEW SUBSTATION C

1 : 250

NOTES:

1. ALL DIMENSIONS AND LEVELS CONTAINING * ARE TO BE CONFIRMED ON SITE PRIOR TO COMMENCEMENT OF WORK. ANY DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER IMMEDIATELY.
2. SETTING-OUT DETAILS TO BE CONFIRMED ONCE THE ENGINEER IS IN RECEIPT OF THE CONTRACTORS SURVEYS (BOTH GPR AND TOPOGRAPHICAL).
3. CONSTRUCTION ACTIVITIES TO ENSURE NO DAMAGE TO EXISTING INFRASTRUCTURE. METHOD STATEMENTS REQUIRED PRIOR TO COMMENCEMENT OF SUCH ACTIVITIES.
4. SEE DRAWING BW1400-RHD-C1-06-D-C-0601 FOR PERIMETER WALL DETAIL.
5. SEE DRAWING BW1400-RHD-C1-12-D-C-1201 FOR TYPICAL PAVEMENT DETAILS.
6. SEE DRAWING BW1400-RHD-C1-12-D-C-1201 FOR DOOR INFORMATION.
7. SHORING OR OTHER APPROPRIATE LATERAL SUPPORT TO CONTRACTORS DETAILS, WHERE REQUIRED.
8. CONSTRUCTION TO BE IN ACCORDANCE WITH ALL RELEVANT CLAUSES AS PER SANS 1936 FOR DEVELOPMENT ON D3 DESIGNATED SITES.



EXISTING SUBSTATION C

DEPARTMENT	APPROVED	DESIGNATION	DATE



Building No. 5 Country
Club Estate
21 Woodlands Drive
Woodmead
2191
PO Box 867
Gallo Manor
2052
Tel No. +27 11 798 6000

SURVEYED	
DESIGNED	L. NAICKER
DRAWN	N. O'GORMAN
CHECKED	L. NAICKER
SERVICES CHECKED	
GEOTECHNICAL INVESTIGATION	
SERVITUDES	
APPROVED	DITHOLO PHOGOLE
Pr. Eng.No.	20060098
DATE	

JOHANNESBURG WATER (SOC) LTD



TURBINE HALL
65 NTEMI PILISO STREET
NEWTOWN
JOHANNESBURG 2001

TEL: (011) 688-1400
FAX: (011) 688-1529

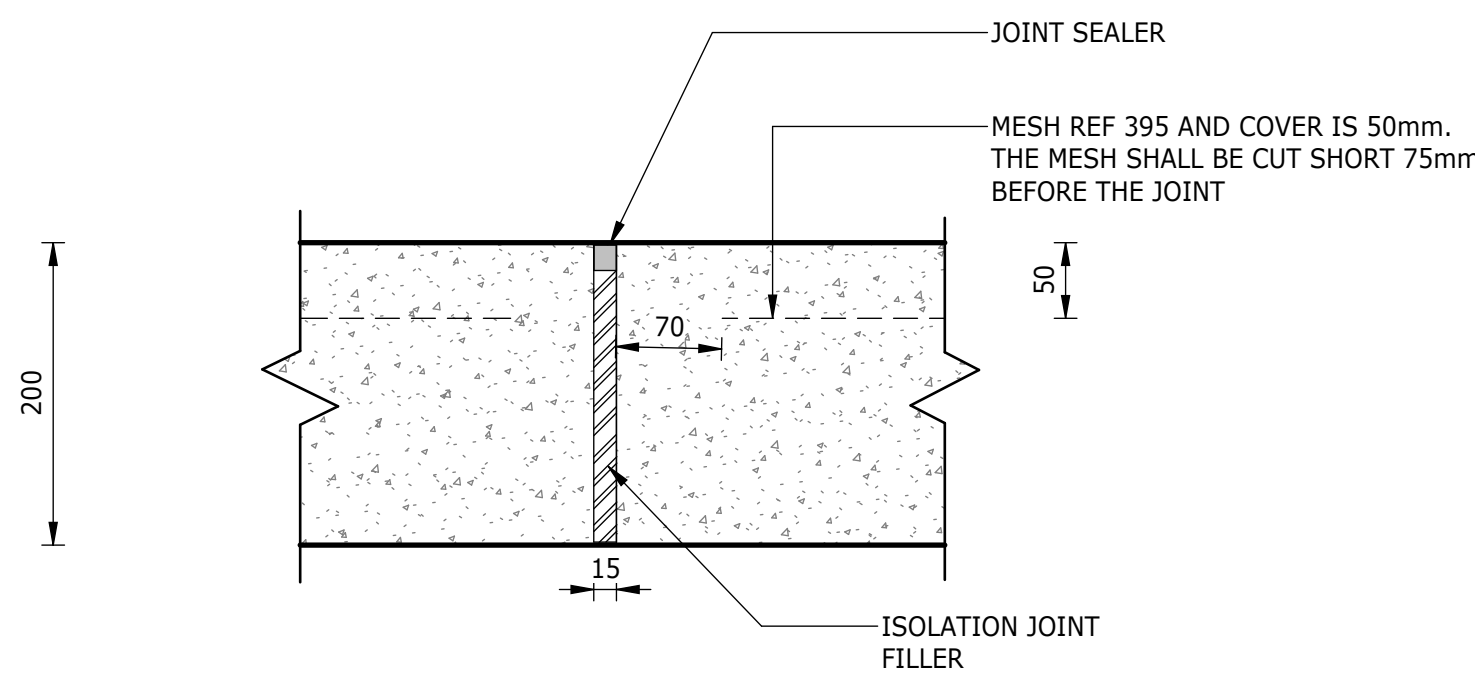
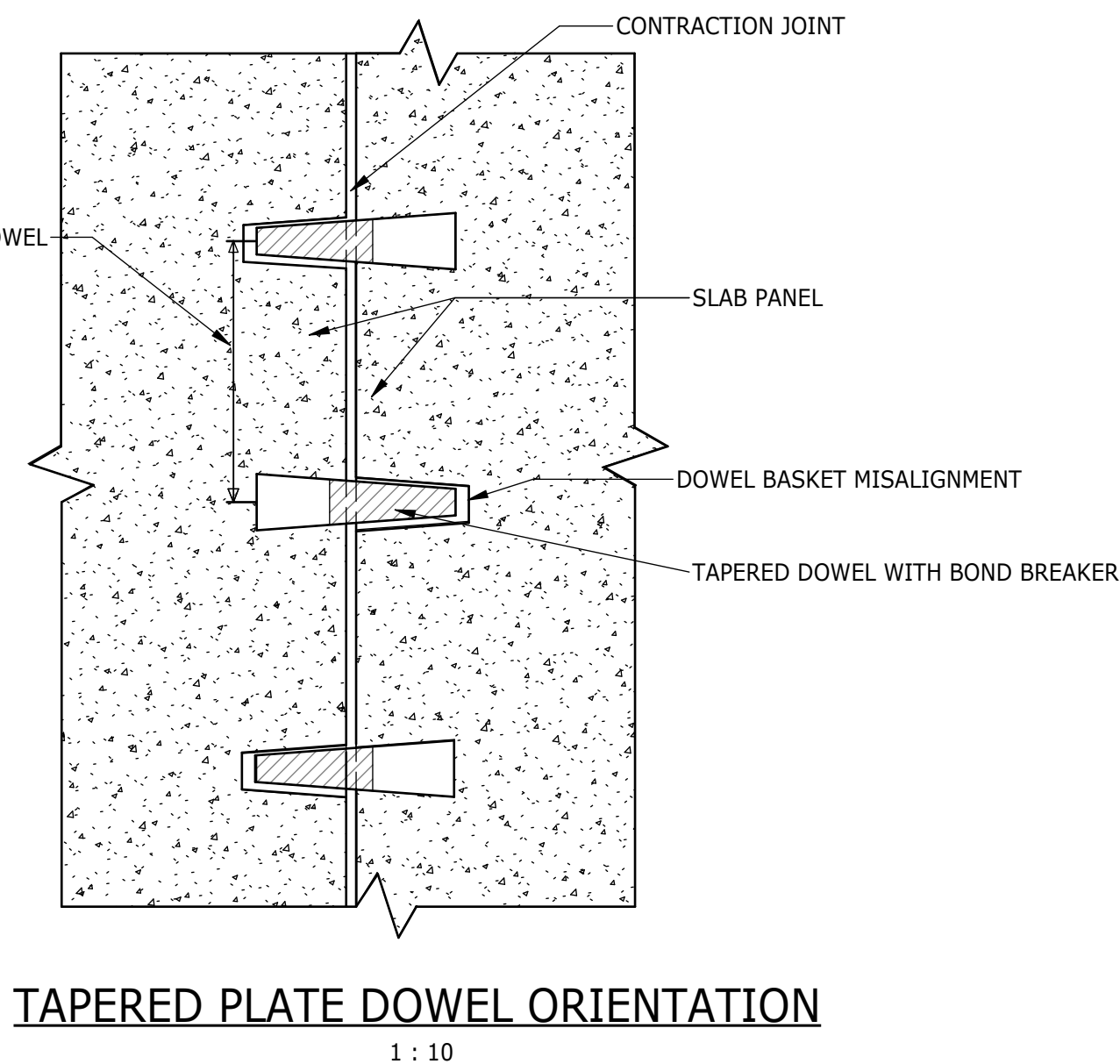
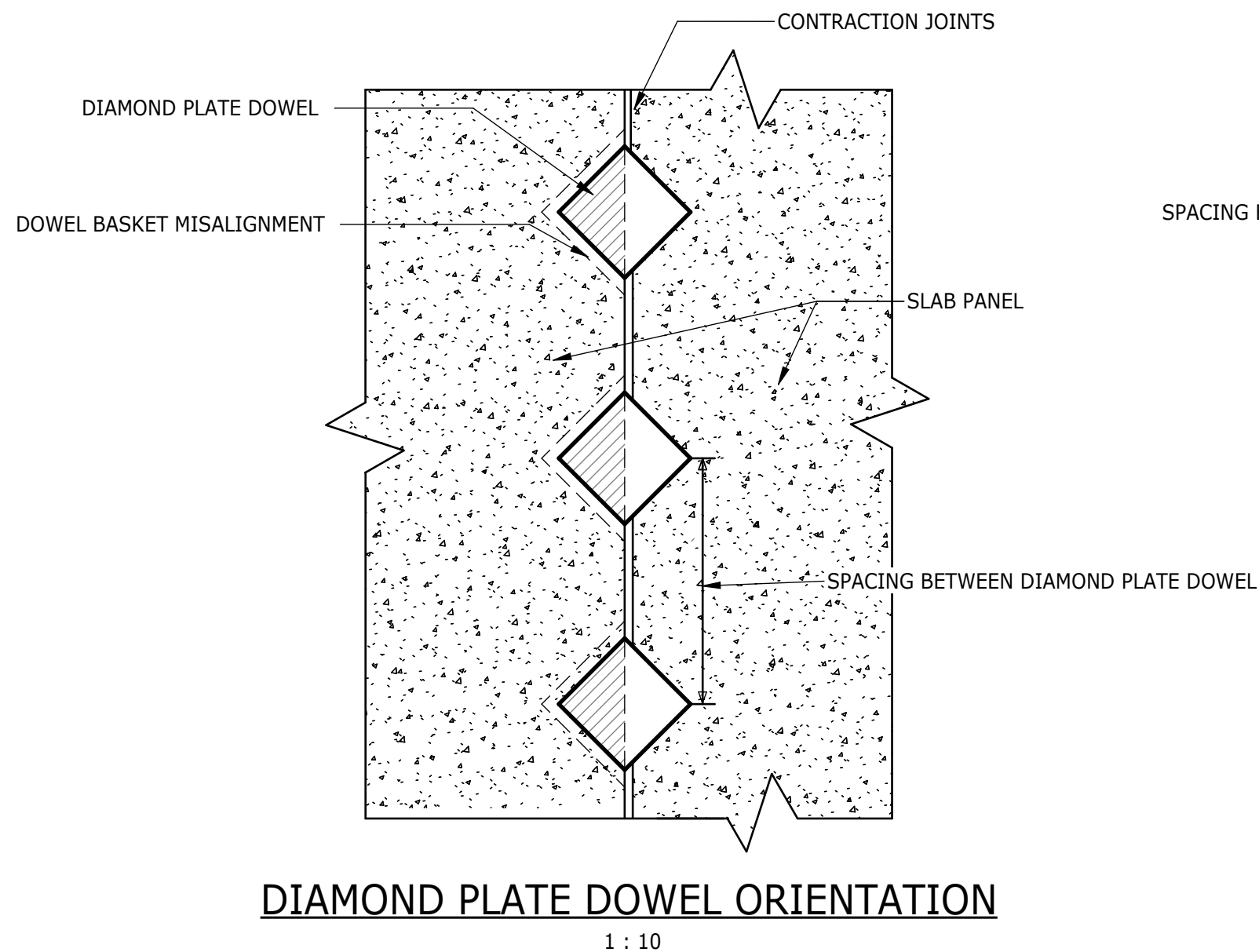
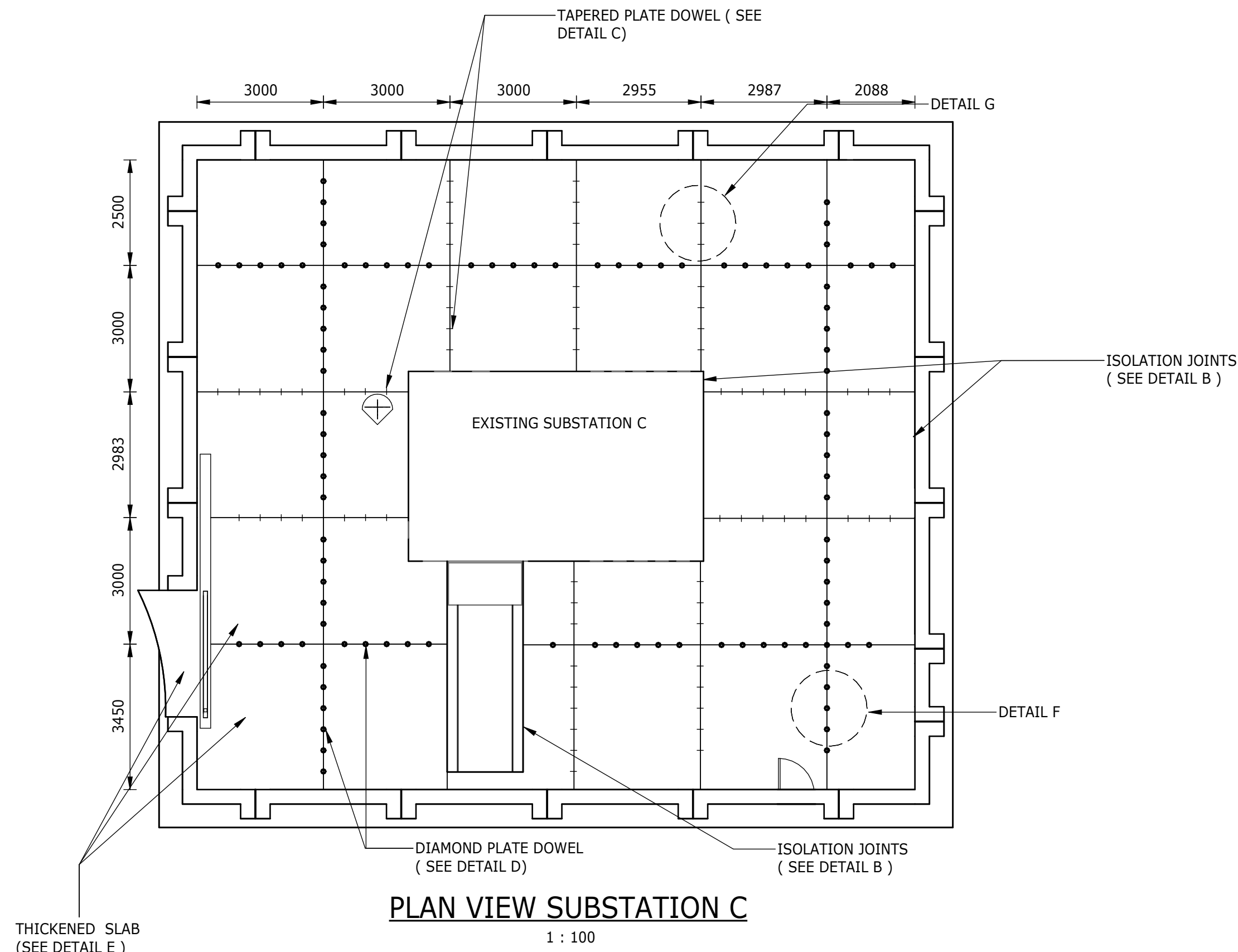
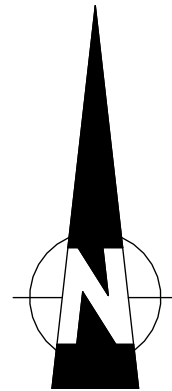
CITY OF JOHANNESBURG

OLIFANTSVLEI WWTW: VAN WYKSURST PUMP STATION
INFRASTRUCTURE RENEWAL PLAN
GENERAL LAYOUT OF
SUBSTATION C

DESIGN
MANAGER

DATE

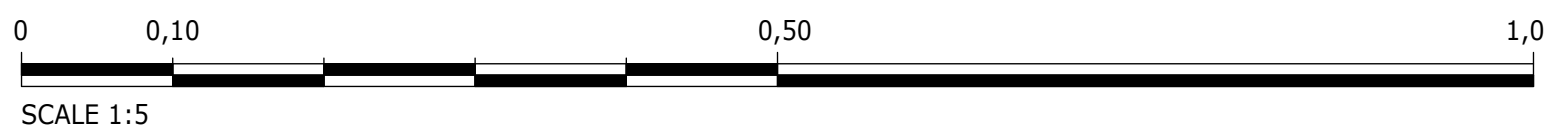
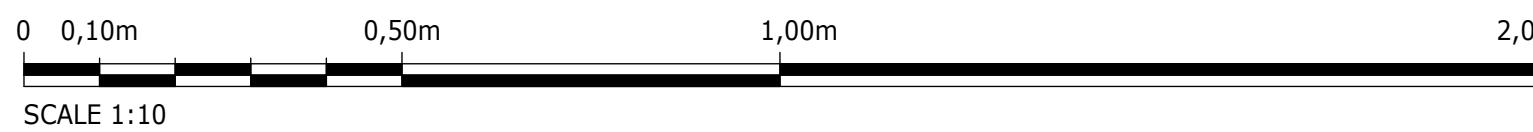
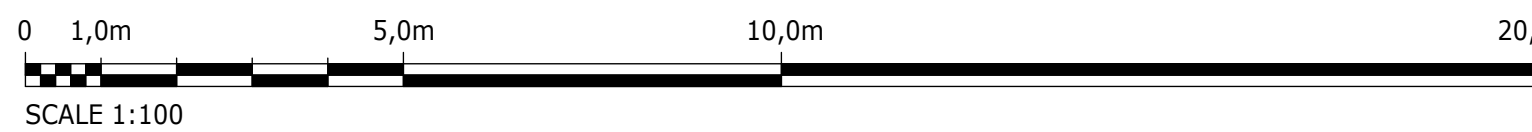
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AS SHOWN	C01 ISSUED FOR TENDER	D. PHOGOLE	FEB 25	JW NUMBER
	C02 ISSUED FOR RE-TENDER	D. PHOGOLE	FEB 25	JW14466R-RHD-C1-07-D-C-0701
				CONSULTANT'S NUMBER
				BW1400-RHD-C1-07-D-C-0701
				FILE No
				C02



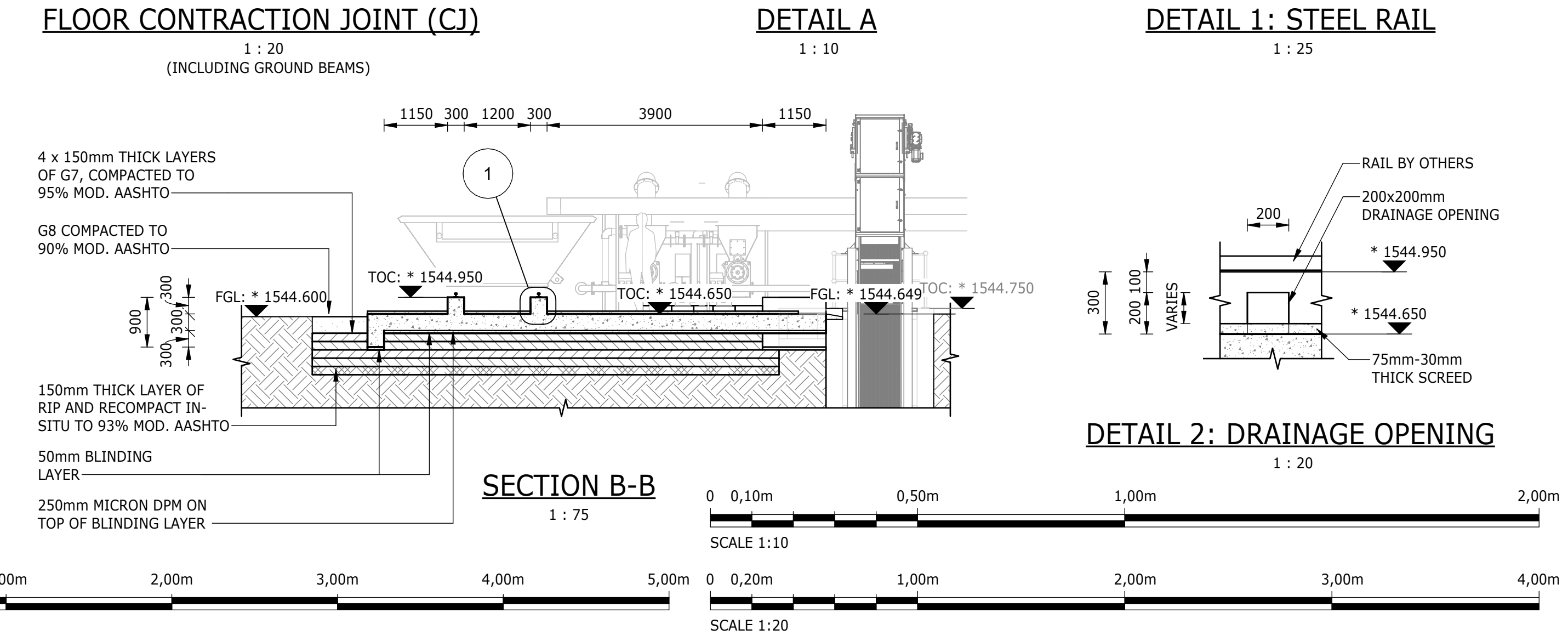
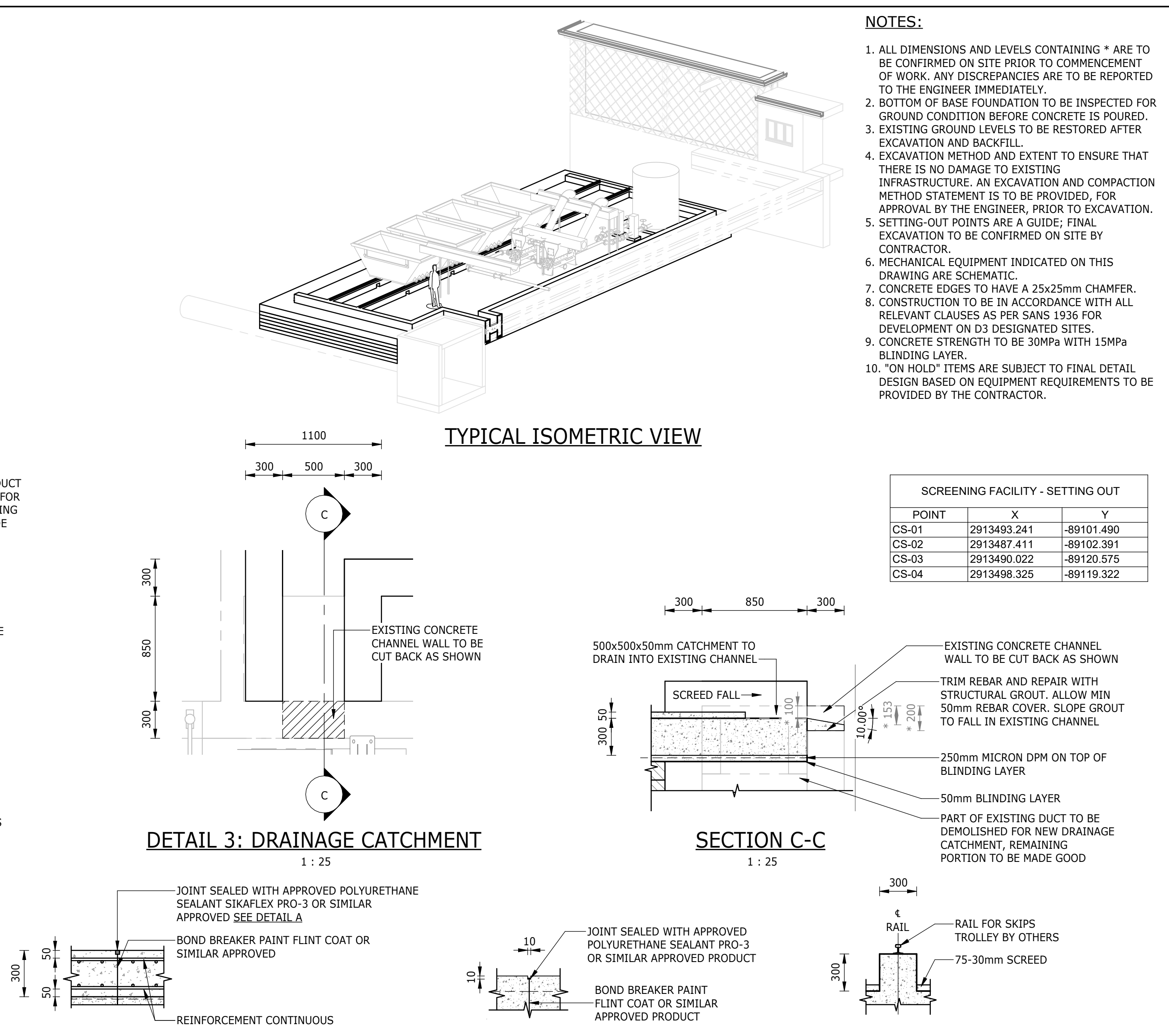
NOTES ON DOWEL JOINTED PLAIN CONCRETE (DJPC) CONSTRUCTION

- SEE DRAWING BW1400-RHD-C1-12-D-C-1201 FOR TYPICAL PAVEMENT DETAILS.
- - REPRESENTS TAPERED PLATE DOWEL (SEE DETAIL C)
- - REPRESENTS DIAMOND PLATE DOWEL (SEE DETAIL D)
- JOINTS MUST BE DRY AND DUST FREE, LOOSE MATERIAL MUST BE BLOWN AWAY WITH COMPRESSED AIR, BEFORE IT IS SEALED.
- INSERT BACKING CHORD TO REQUIRED DEPTH, PREFERABLY USING A DEPTH-GAUGE TOOL TO ENSURE EVEN JOINT.
- JOINT MUST BE SEALED WITH THE SPECIFIED SILICON SEALANT. THE SEALANT MUST BE POURED INTO THE JOINT, ENSURING THAT THE JOINT IS COMPLETELY FILLED.
- JOINT SURFACE MUST BE TOOLED WITH A CONCAVE SMOOTHING TOOL AND ANY EXCESS SEALANT REMOVED. (IF SO REQUIRED BY THE SEALANT MANUFACTURER'S TECHNICAL SPECIFICATIONS.
- JOINTS SHOULD NOT BE STRESSED FOR AT LEAST 48 HOURS AFTER SEALING. TRAFFIC SHOULD BE KEPT OFF THE CONCRETE SLABS FOR AT LEAST 48 HOURS.
- THE THICKNESS OF THE SILICON SEALANT SHOULD NEVER EXCEED THE WIDTH OF THE JOINT. SILICON SEALANTS SHALL NOT BE POURED IN THICKNESS EXCEEDING 20mm. SILICON SEALANTS SHALL TO BE PERFORMED AS PER MANUFACTURER'S SPECIFICATIONS.
- ALL CONCRETE FINISHED BY BROOMING (TEST PANEL TO BE CAST AND APPROVED BY CLIENT).
- ALL CONCRETE MUST BE PROPERLY CURED TO PREVENT MOISTURE LOSS AND EXCESSIVE SHRINKAGE. CURING COMPOUND TO BE PRESENTED TO THE ENGINEER AT LEAST 7 DAYS PRIOR TO CONSTRUCTION FOR APPROVAL.
- CONCRETE QUALITY, STRENGTH AND COMPOSITION SHALL COMPLY WITH THE REQUIREMENTS OF CLAUSE 7103.
- ALL CONCRETE COMPONENTS TO COMPLY WITH PROJECT SPECIFICATIONS.
- DETAIL "TAPERED PLATE DOWELED TRANSVERSE CONTRACTION JOINT" DOWELS FOR THE 150mm CONCRETE SLAB HAVE DIMENSIONS 85x300x40x15 AT 500mm SPACING. A SAWN JOINT IS REQUIRED FOR THE CONTRACTION JOINT. BOND BREAKER DETAILS TO BE SUBMITTED TO ENGINEER FOR APPROVAL AT LEAST 14 DAYS BEFORE APPLICATION. DETAIL "A" SAW CUTS TO BE DONE AS SOON AS POSSIBLE WITHOUT DAMAGE TO SURROUNDING CONCRETE SURFACE.
- THE SUBBASE SHOULD BE PRIMED TO CURE THE SUBBASE AND TO BIND THE FINES NEAR THE TOP OF THE SURFACE AS TO INCREASE THE DURABILITY OF THE MATERIAL. THE SUBBASE SHOULD BE FREE FROM DUST AND STRUCTURALLY SOUND PRIOR TO CASTING OF CONCRETE. AREA SHOULD BE DAMP PRIOR TO CASTING OF CONCRETE.
- COMMITTEE OF LAND AND TRANSPORT OFFICIALS (COLTO) 1998, STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE WORKS FOR STATE ROAD AUTHORITIES WILL APPLY TO THE CONSTRUCTION OF THE RELATED WORKS. MORE SPECIFICALLY COLTO SECTION 7100 FOR THE RELATED CONCRETE WORKS.
- STEEL FOR PLATE DOWELS SHALL COMPLY WITH SANS SPECIFICATIONS FOR CLAUSE 7102 (F) OF COLTO FOR DOWELS. EDGES SHALL BE SAWN AND TRIMMED SMOOTH.

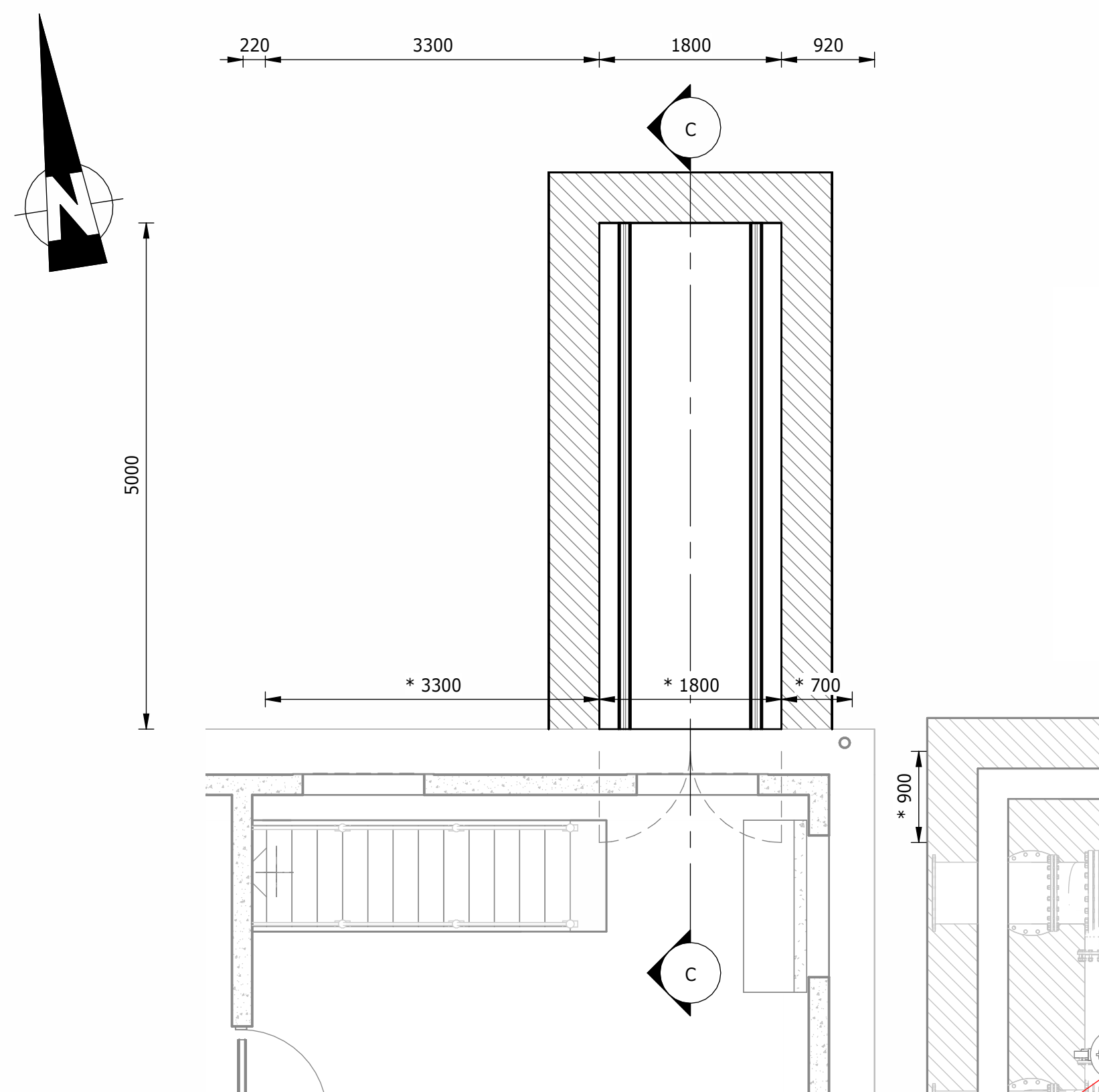
DEPARTMENT	APPROVED	DESIGNATION	DATE



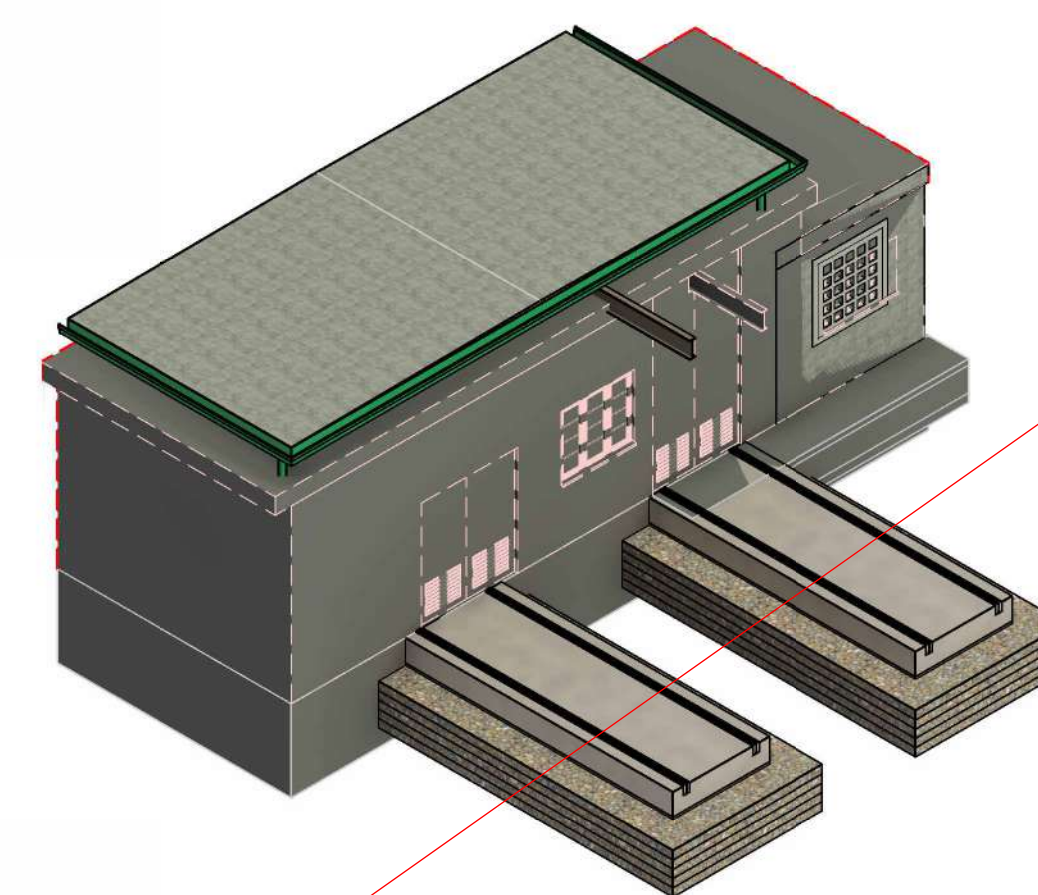
CONSULTING ENGINEERS		SURVEYED		JOHANNESBURG WATER (SOC) LTD		CITY OF JOHANNESBURG		DESIGN MANAGER	SCALE	AMENDMENTS		APPROVED	DATE	DRAWING No.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
 ATANA Legacy Awaits	Building No. 5 Country Club Estate 21 Woodlands Drive Woodmead 2191 PO Box 867 Gallo Manor 2052 Tel No. +27 11 798 6000	DESIGNED	T. MOETI	 Johannesburg Water	TURBINE HALL 65 NTEMI PILISO STREET NEWTOWN JOHANNESBURG 2001 TEL: (011) 688-1400 FAX: (011) 688-1529	OLIFANTSVLEI WWTW: VAN WYKS RUST PUMP STATION INFRASTRUCTURE RENEWAL PLAN GENERAL PAVEMENT LAYOUT AND DETAILS OF SUBSTATION C	AS SHOWN			C01	ISSUED FOR INFORMATION			D. PHOGOLE	SEP 25	JW NUMBER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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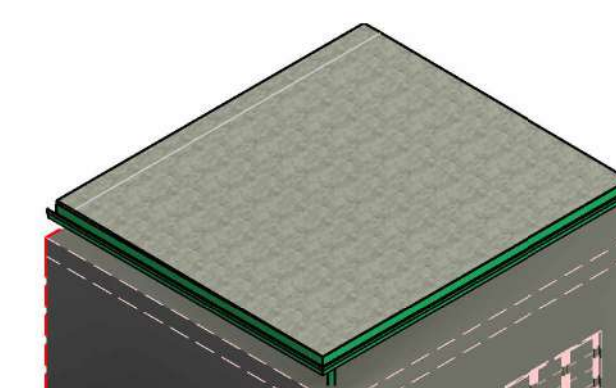
CONSULTING ENGINEERS			JOHANNESBURG WATER (SOC) LTD		CITY OF JOHANNESBURG			DESIGN MANAGER	SCALE	AMENDMENTS		APPROVED	DATE	DRAWING No.						
	Building No. 5 Country Club Estate 21 Woodlands Drive Woodmead 2191 PO Box 867 Gallo Manor 2052 Tel No. +27 11 798 6000	SURVEYED		 Johannesburg Water	TURBINE HALL 65 NTEMI PILISO STREET NEWTOWN JOHANNESBURG 2001 TEL: (011) 688-1400 FAX: (011) 688-1529	OLIFANTSVLEI WWTW: VAN WYKSrust PUMP STATION INFRASTRUCTURE RENEWAL PLAN VAN WYKSrust PUMP STATION SCREENINGS SLAB GENERAL ARRANGEMENT, DETAILS & EARTHWORKS	DATE			AS SHOWN	C01			ISSUED FOR TENDER	D. PHOGOLE	FEB 25	JW NUMBER			
		C02	ISSUED FOR RE-TENDER					D. PHOGOLE	FEB 26		JW14466R-RHD-C1-09-D-C-0901									
								CONSULTANT'S NUMBER												
								BW1400-RHD-C1-09-D-C-0901												
								FILE No												
													C02							



- NOTES:**
1. DETAILS TO FINALISED IN CONSULTATION WITH THE MANUFACTURER BASED ON INPUT TO BE VERIFIED ON SITE (EXISTING BUILDING OPENINGS, CLEARANCE, ETC.).
 2. ALL DIMENSIONS AND LEVELS CONTAINING * ARE TO BE CONFIRMED ON SITE PRIOR TO COMMENCEMENT OF WORK. ANY DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER IMMEDIATELY.
 3. CONSTRUCTION TO BE IN ACCORDANCE WITH ALL RELEVANT CLAUSES AS PER SANS 1936 FOR DEVELOPMENT ON D3 DESIGNATED SITES.

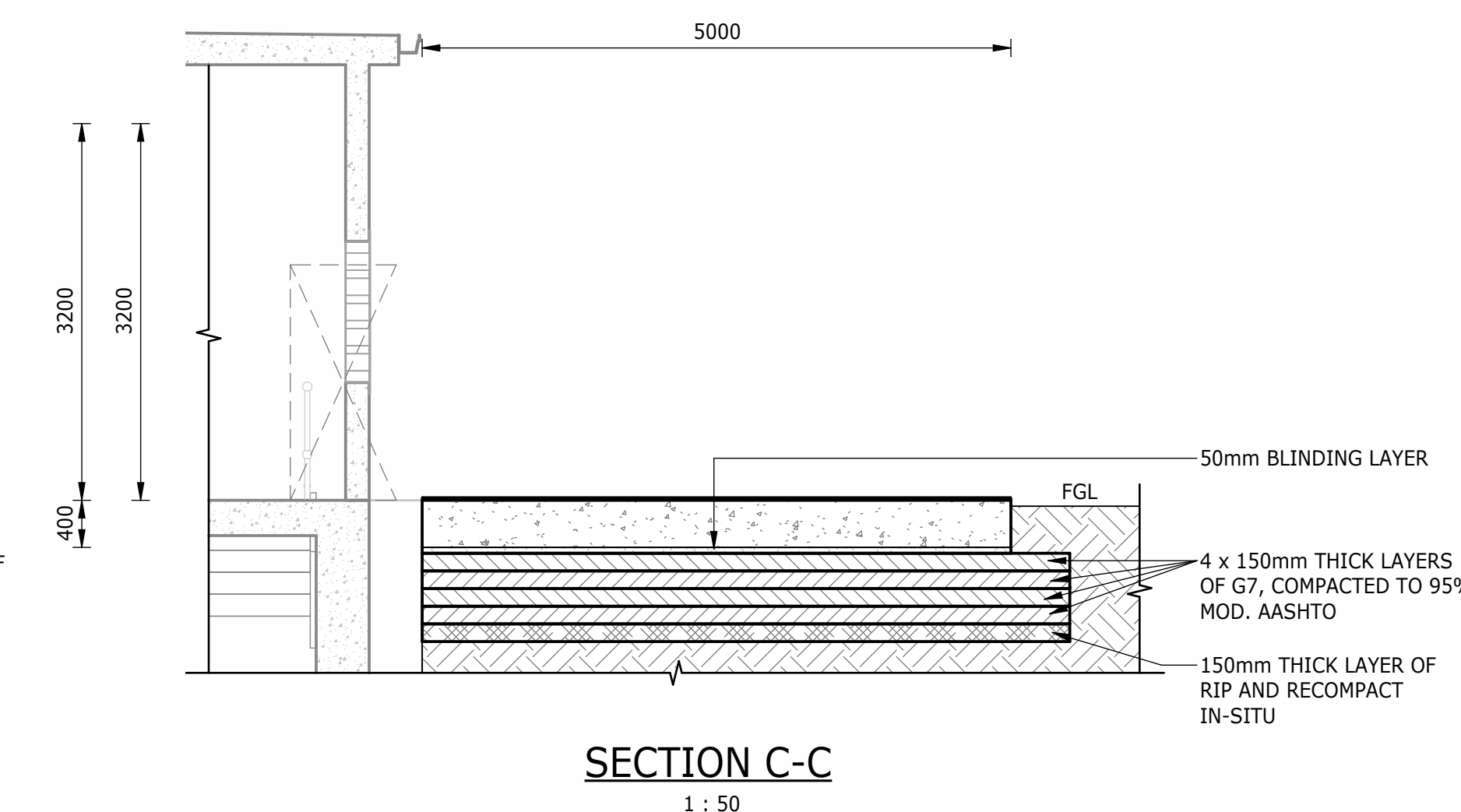
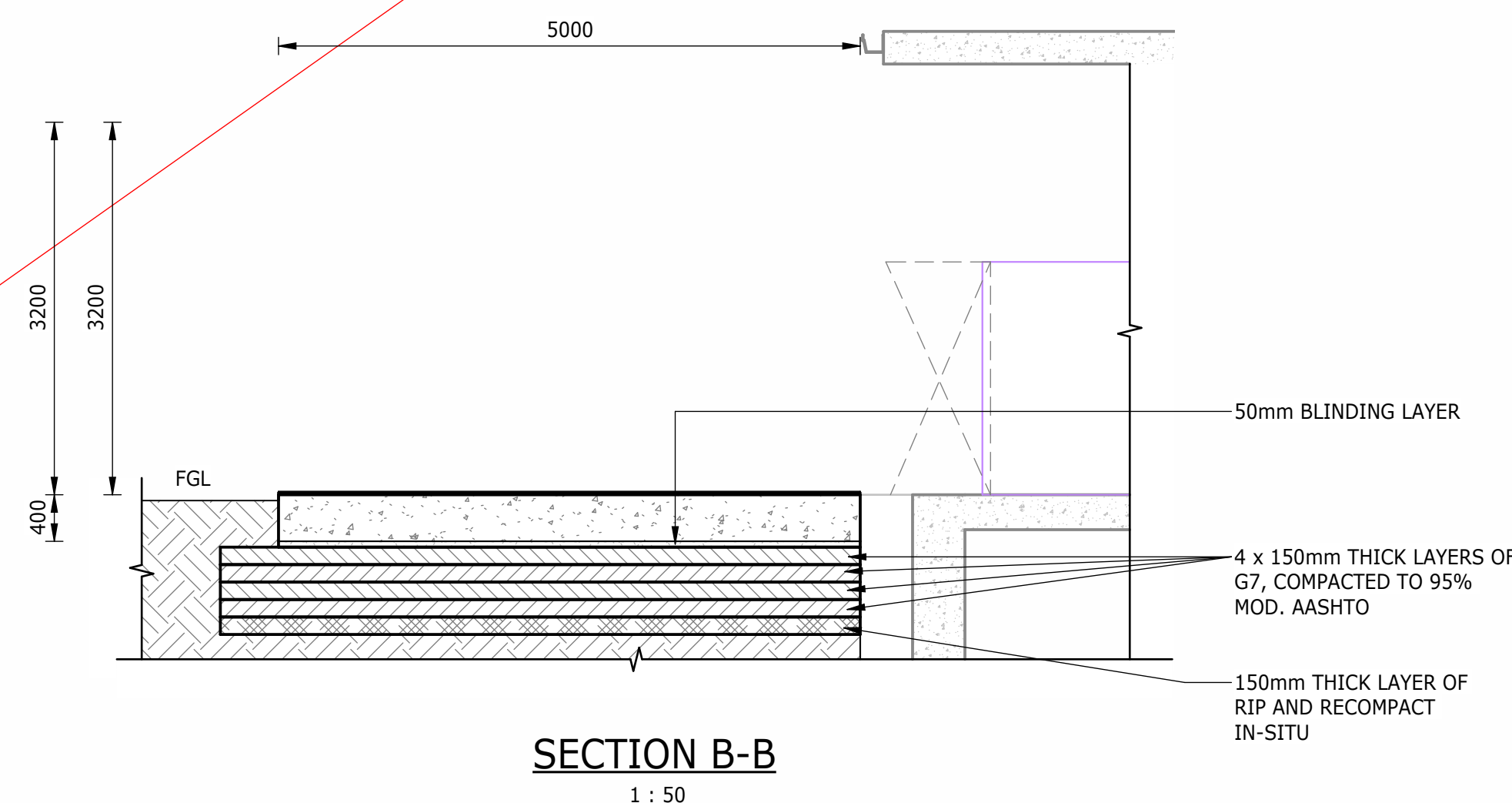
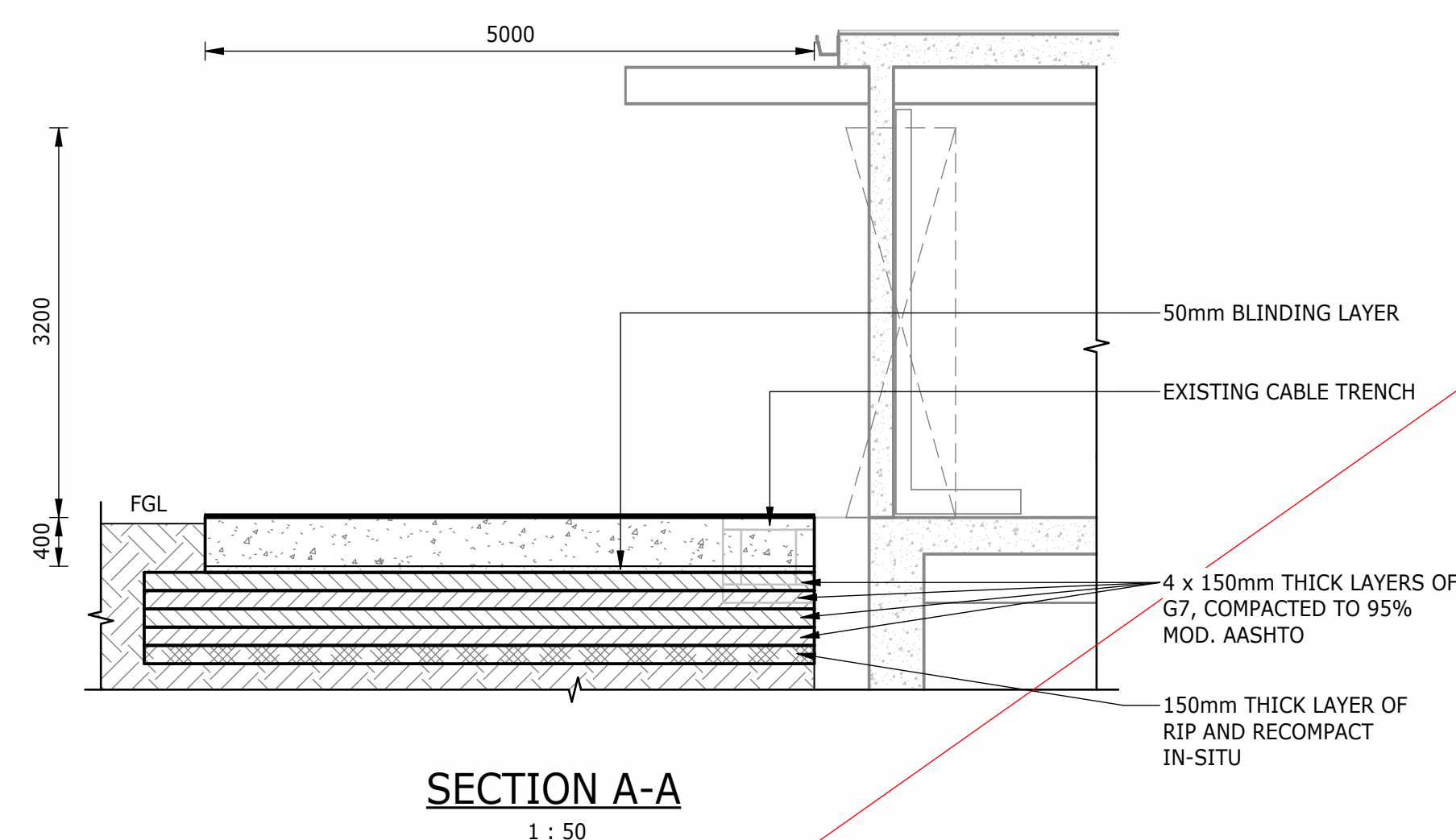


PUMP STATION GALLERY AND MCC ROOM AREA- TYPICAL ISOMETRIC VIEW



PUMP STATION

DRAWING OMITTED



DEPARTMENT	APPROVED	DESIGNATION	DATE

CONSULTING ENGINEERS



**Building No. 5 Country
Club Estate
21 Woodlands Drive
Woodmead
2191
PO Box 867
Gallo Manor
2052
Tel No. +27 11 798 6000**

SURVEYED		
DESIGNED	A. MUJINGA	
DRAWN	N. O'GORMAN	
CHECKED	L. NAICKER	
SERVICES CHECKED		
GEOTECHNICAL INVESTIGATION		
SERVITUDES		
APPROVED	DITHOLO PHOGOLE	
Pr. Eng.No.	20060098	
DATE		

JOHANNESBURG WATER (SOC) LTD



**TURBINE HALL
65 NTEMI PILISO STREET
NEWTOWN
JOHANNESBURG 2001**

TEL: (011) 688-1400
FAX: (011) 688-1529

CITY OF JOHANNESBURG

OLIFANTSVLEI WWTW: VAN WYKSRUST PUMP STATION
INFRASTRUCTURE RENEWAL PLAN
VAN WYKSRUST PUMP STATION
CONCRETE DOOR AND SLAB
GENERAL LAYOUT, SECTIONS AND DETAILS

**DESIGN
MANAGER**

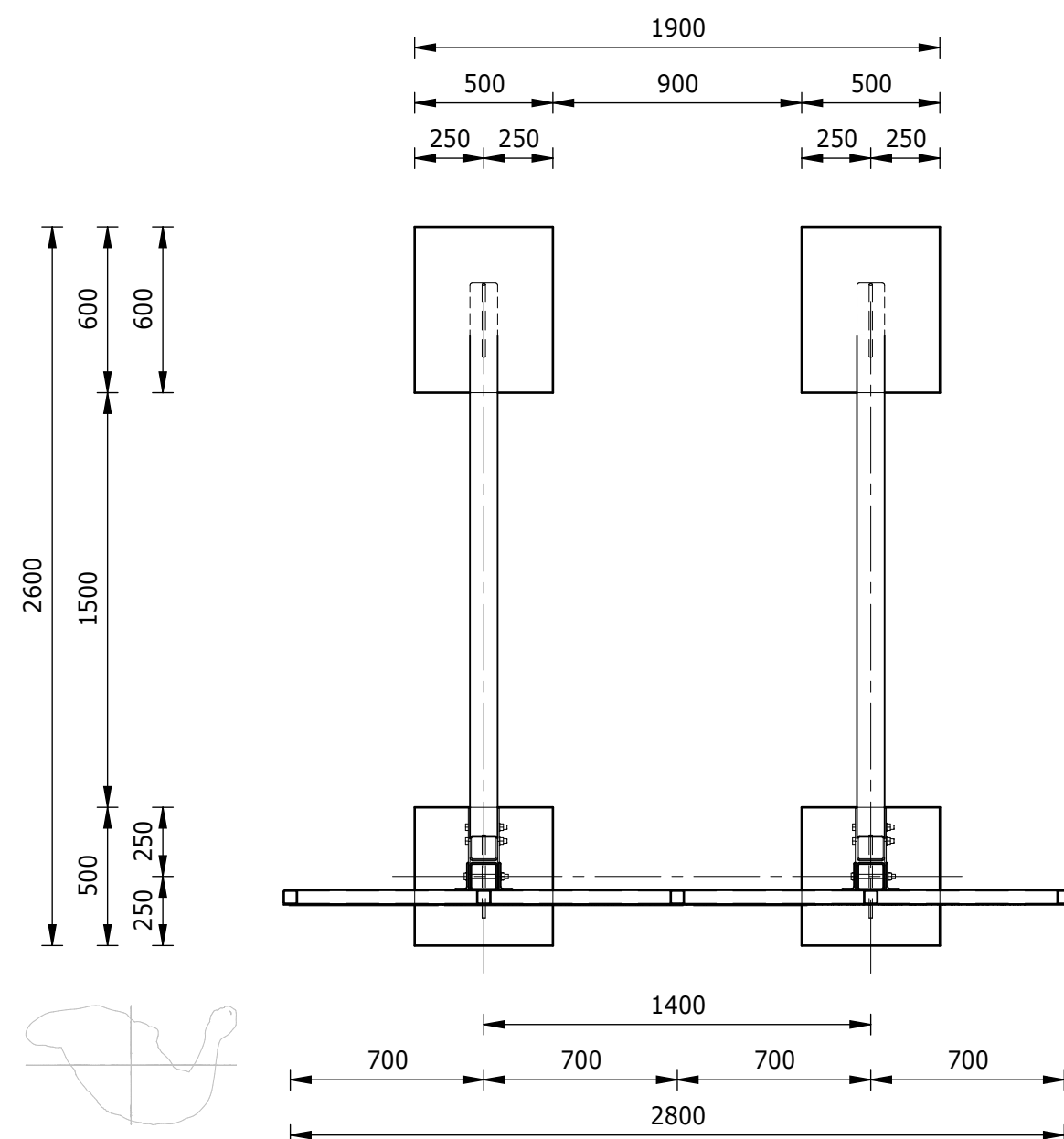
DATE _____

SCALE

AS
SHOWN

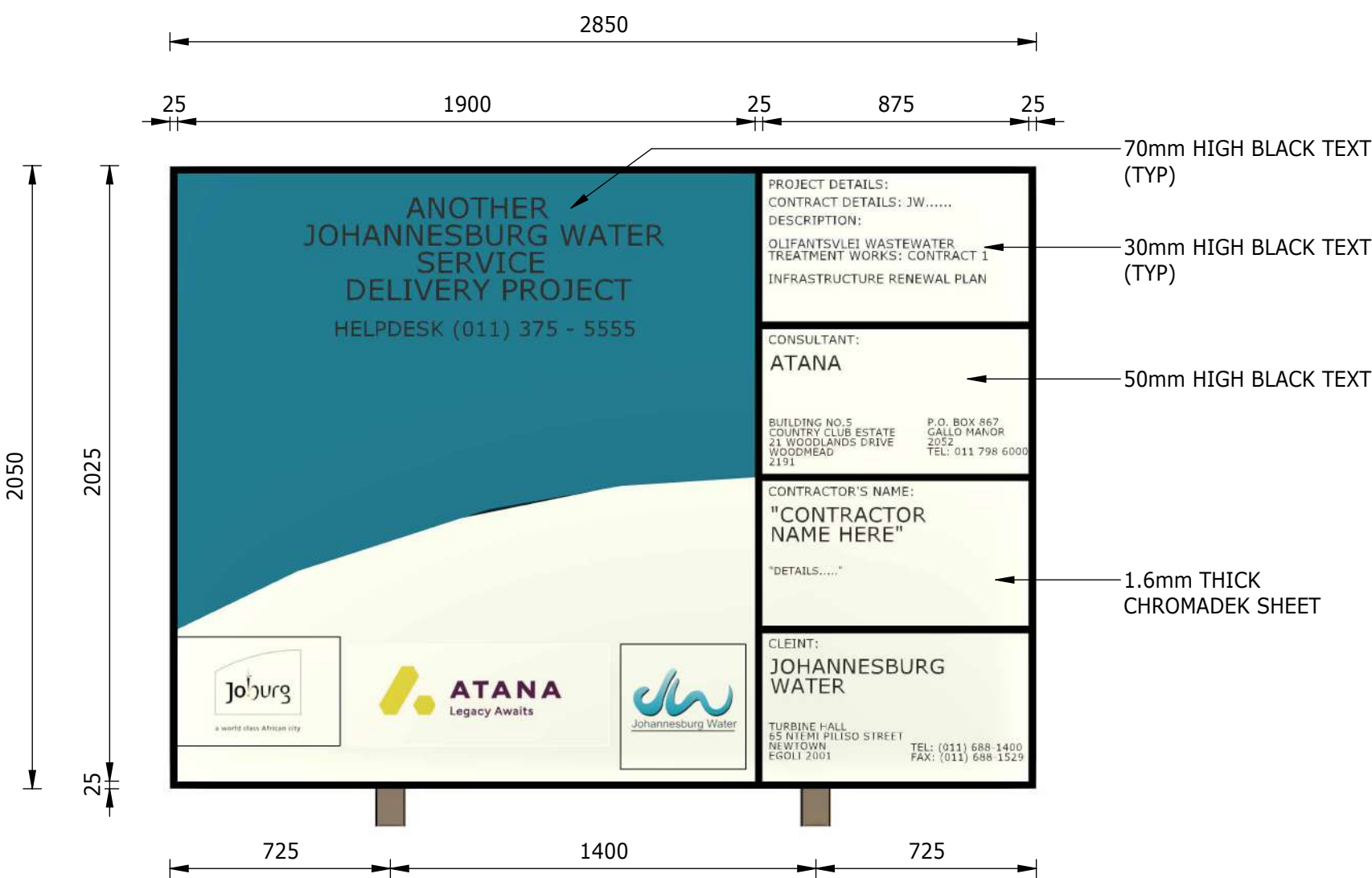
AMENDMENTS

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				CONSULTANT'S NUMBER						
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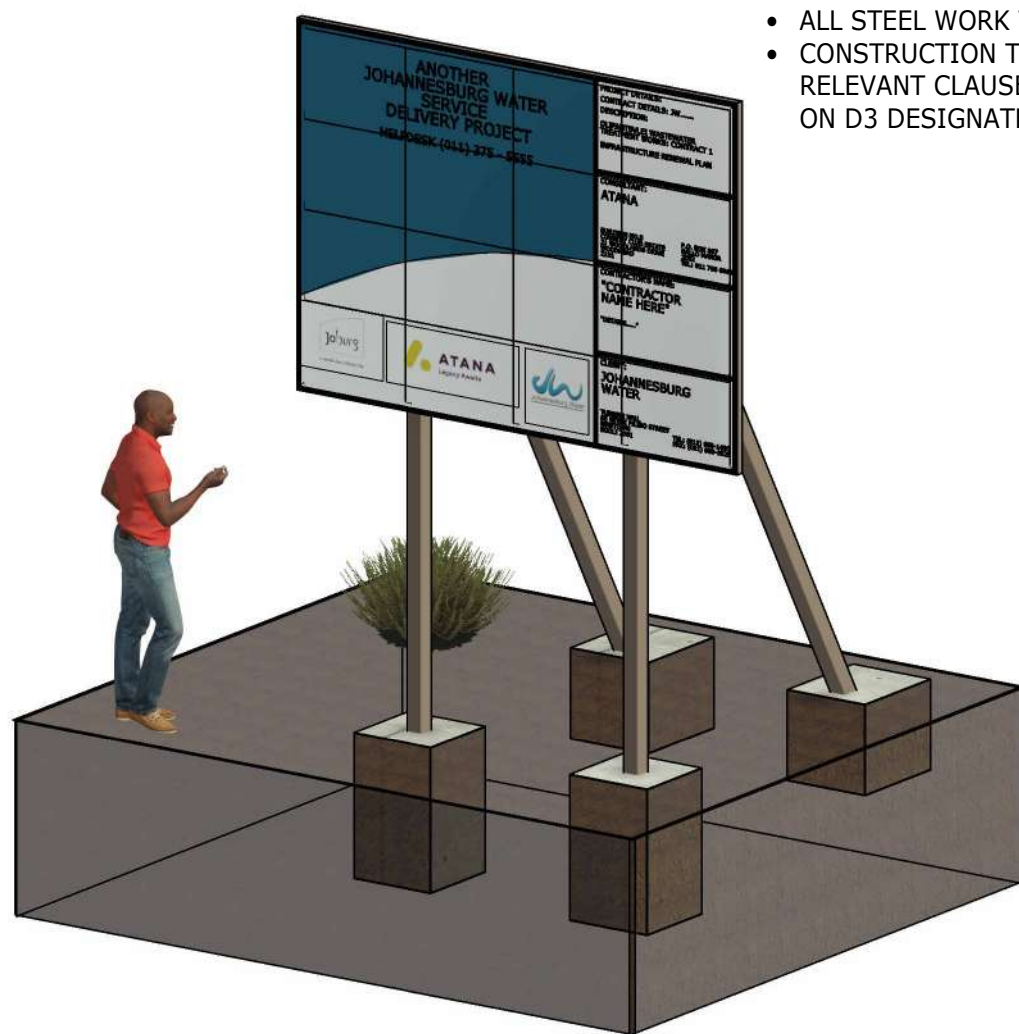
PLAN VIEW

1 : 25



ENLARGED VIEW - X

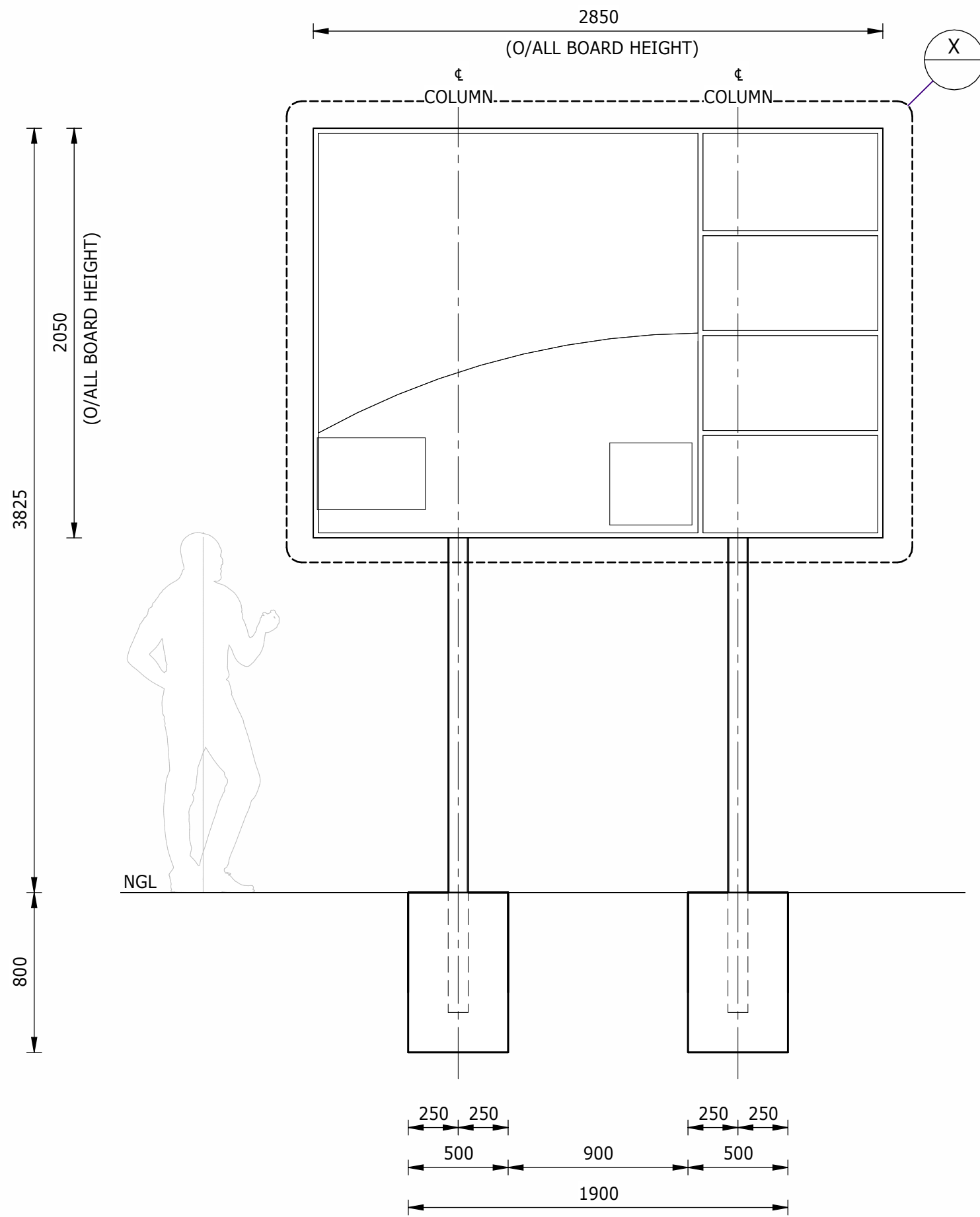
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TYPICAL ISOMETRIC VIEW

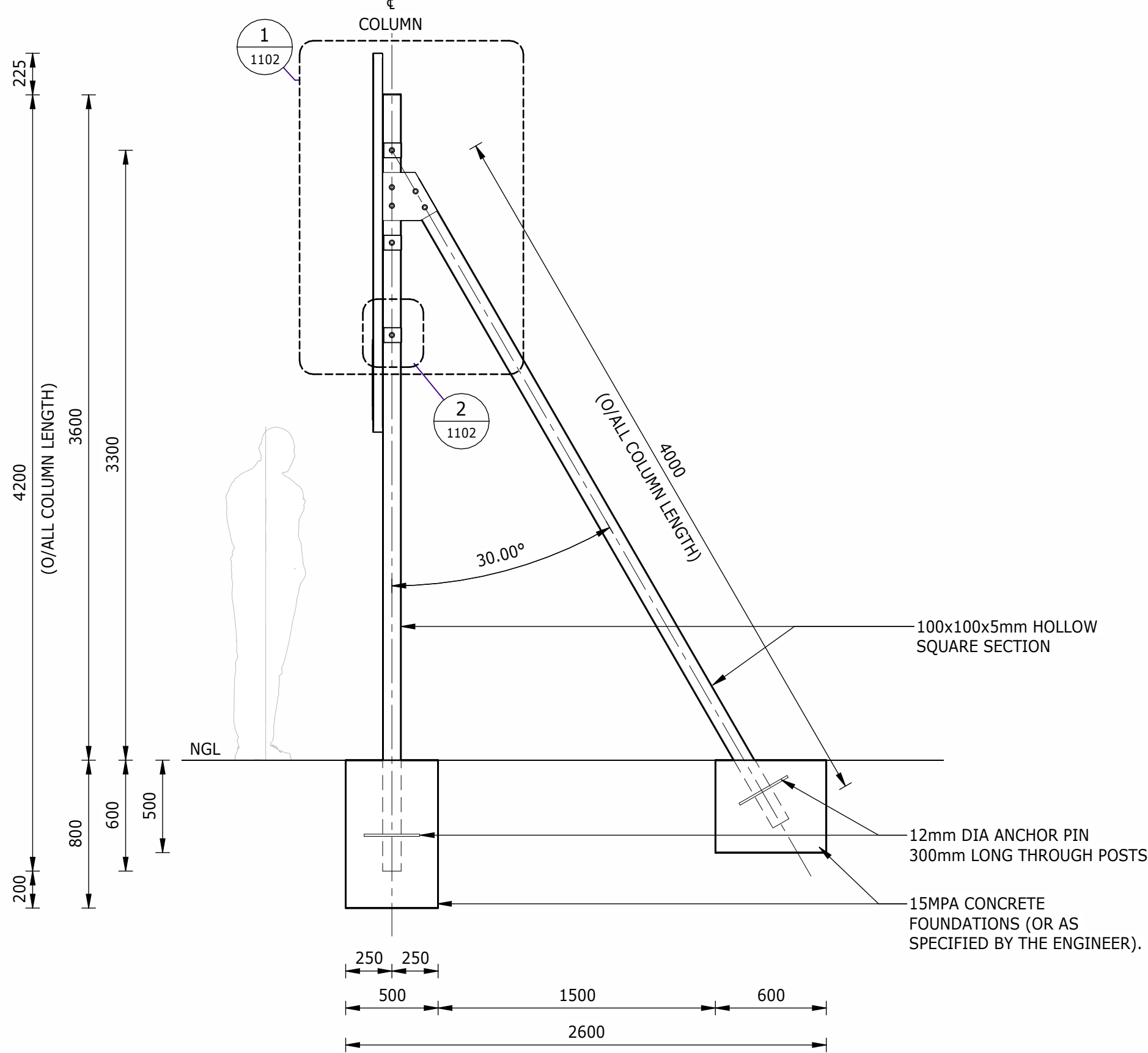
NOTES:

- ALL WELDING, RIVETING, FIXING AND PAINTING TO BE APPROVED BY ENGINEER ON SITE.
- ALL LETTERING TO BE CAPITALISED.
- FOUNDATIONS TO BE FOUNDED ON MINIMUM 1 x 150mm G7 MATERIAL COMPACTED TO 95% MOD AASHTO.
- ALL STEEL WORK TO BE GALVANISED MILD STEEL.
- CONSTRUCTION TO BE IN ACCORDANCE WITH ALL RELEVANT CLAUSES AS PER SANS 1936 FOR DEVELOPMENT ON D3 DESIGNATED SITES.



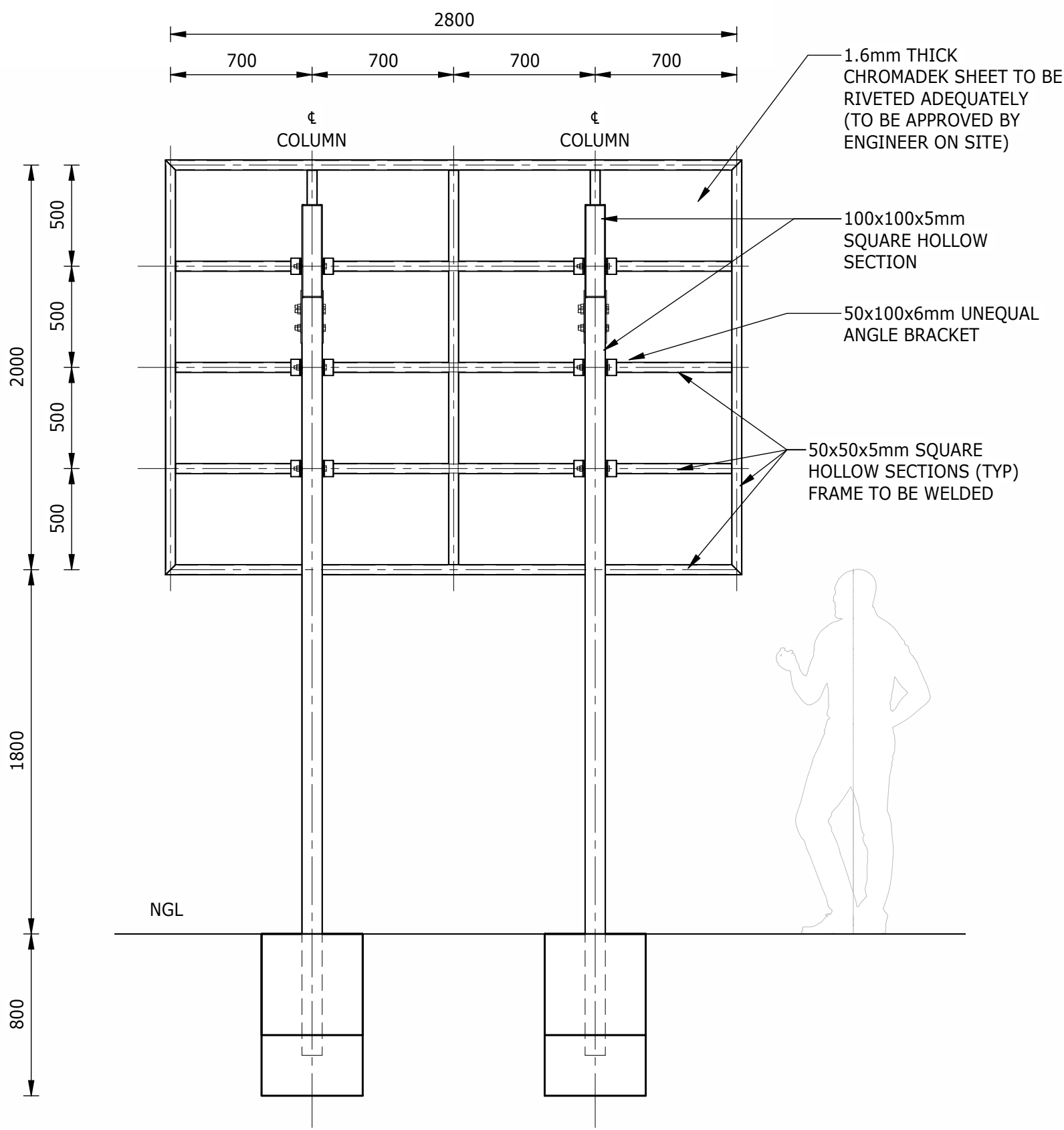
FRONT ELEVATION

1 : 25



SIDE ELEVATION

1 : 25



BACK ELEVATION

1 : 25



DEPARTMENT	APPROVED	DESIGNATION	DATE

CONSULTING ENGINEERS

**ATANA**
Legacy Awaits

Building No. 5 Country Club Estate
21 Woodlands Drive
Woodmead
2191
PO Box 867
Gallo Manor
2052
Tel No. +27 11 798 6000

SURVEYED	
DESIGNED	N. O'GORMAN
DRAWN	N. O'GORMAN
CHECKED	L. NAICKER
SERVICES CHECKED	
GEOTECHNICAL INVESTIGATION	
SERVITUDES	
APPROVED	DITHOLO PHOGOLE
Pr. Eng.No.	20060098
DATE	

JOHANNESBURG WATER (SOC) LTD

**Johannesburg Water**

TURBINE HALL
65 NTEMI PILISO STREET
NEWTOWN
JOHANNESBURG 2001

TEL: (011) 688-1400
FAX: (011) 688-1529

CITY OF JOHANNESBURG

OLIFANTSVLEI WWTW: VAN WYKSURST PUMP STATION

INFRASTRUCTURE RENEWAL PLAN

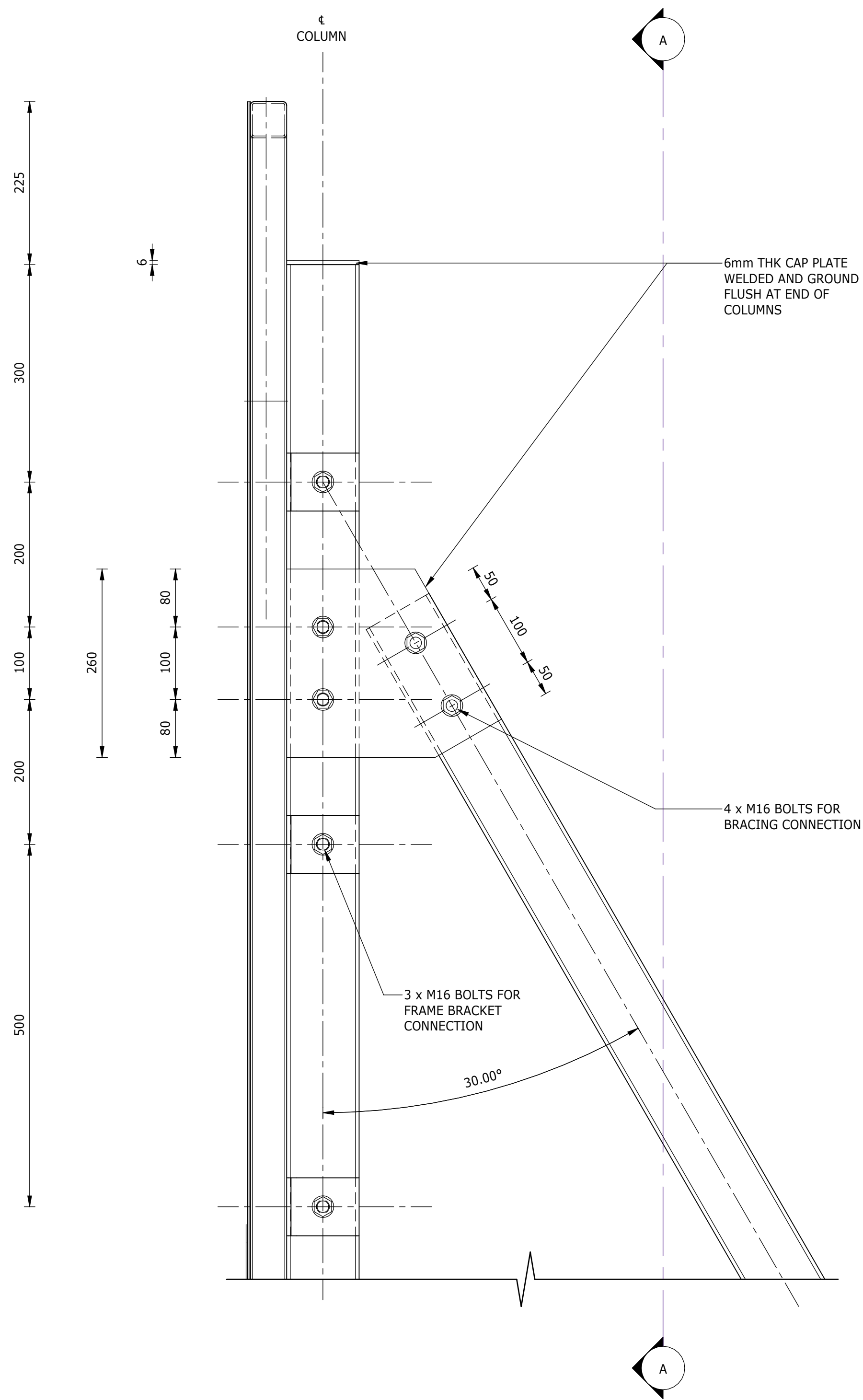
NAMEBOARD

GENERAL ARRANGEMENT AND DETAILS

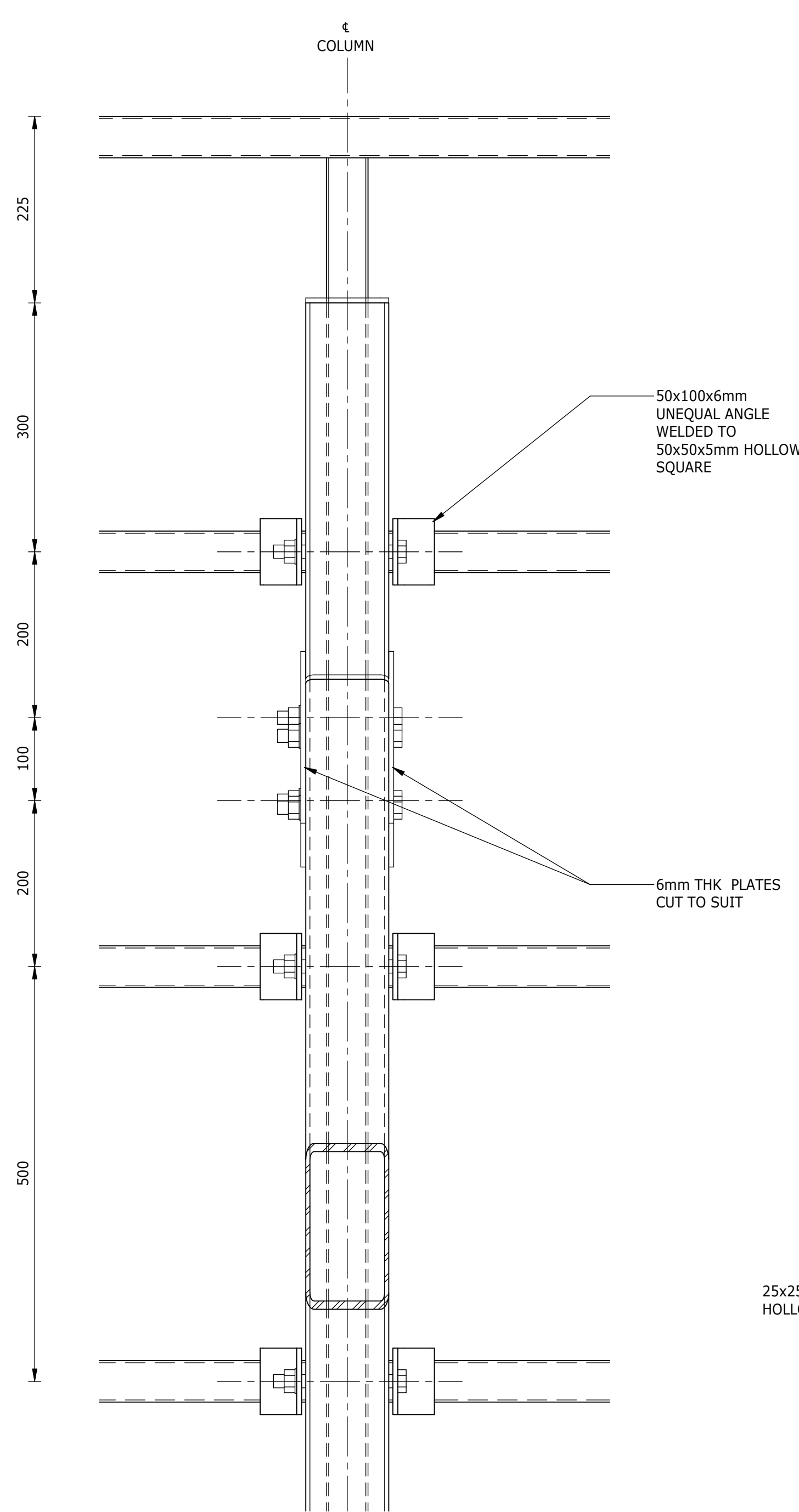
DESIGN MANAGER

DATE

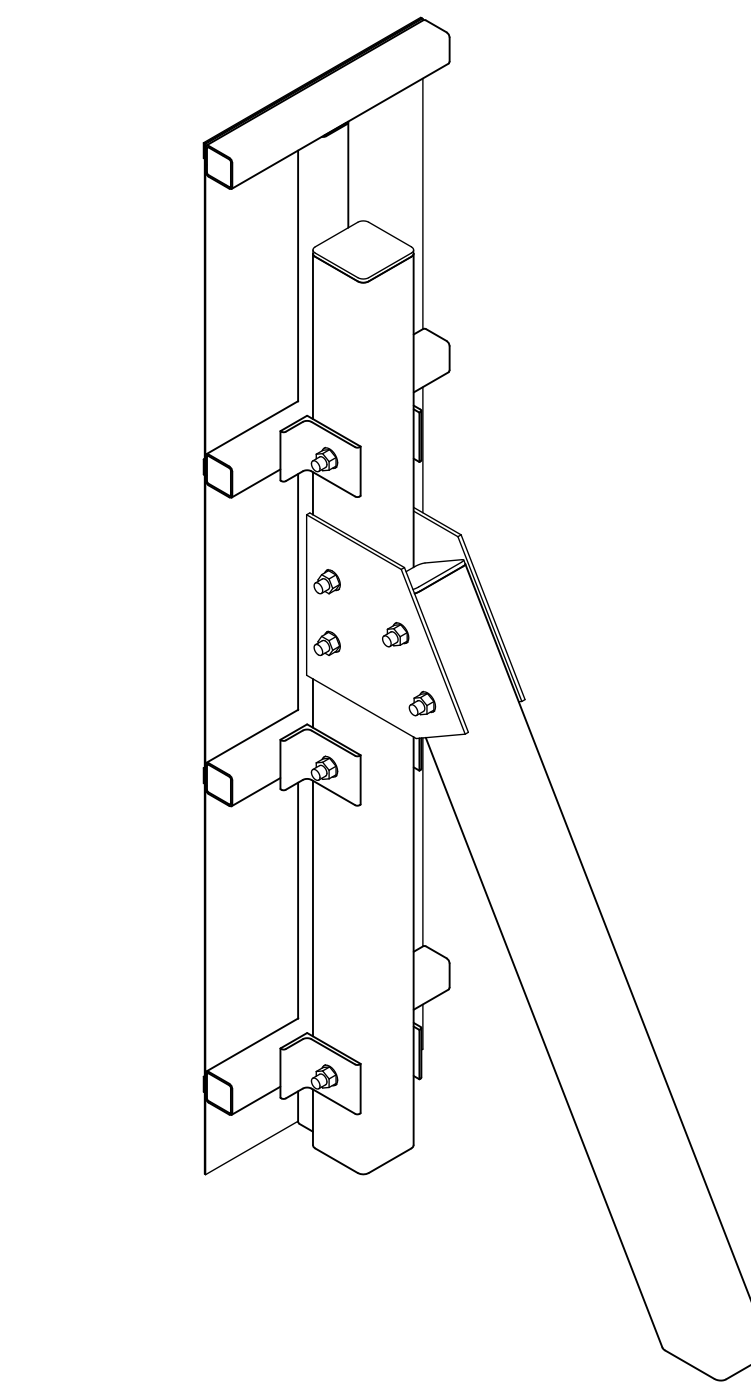
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AS SHOWN	C01 ISSUED FOR TENDER	D. PHOGOLE	FEB 25	JW NUMBER
	C02 ISSUED FOR RE-TENDER	D. PHOGOLE	FEB 26	JW14466R-RHD-C1-11-D-C-1101
				CONSULTANT'S NUMBER
				BW1400-RHD-C1-11-D-C-1101
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				C02



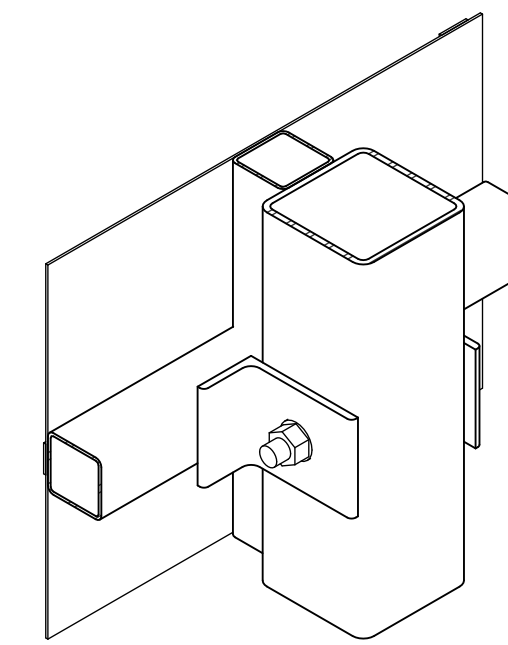
DETAIL 1: BRACING CONNECTION
1 : 5
(2 - SETS REQUIRED AS SHOWN)



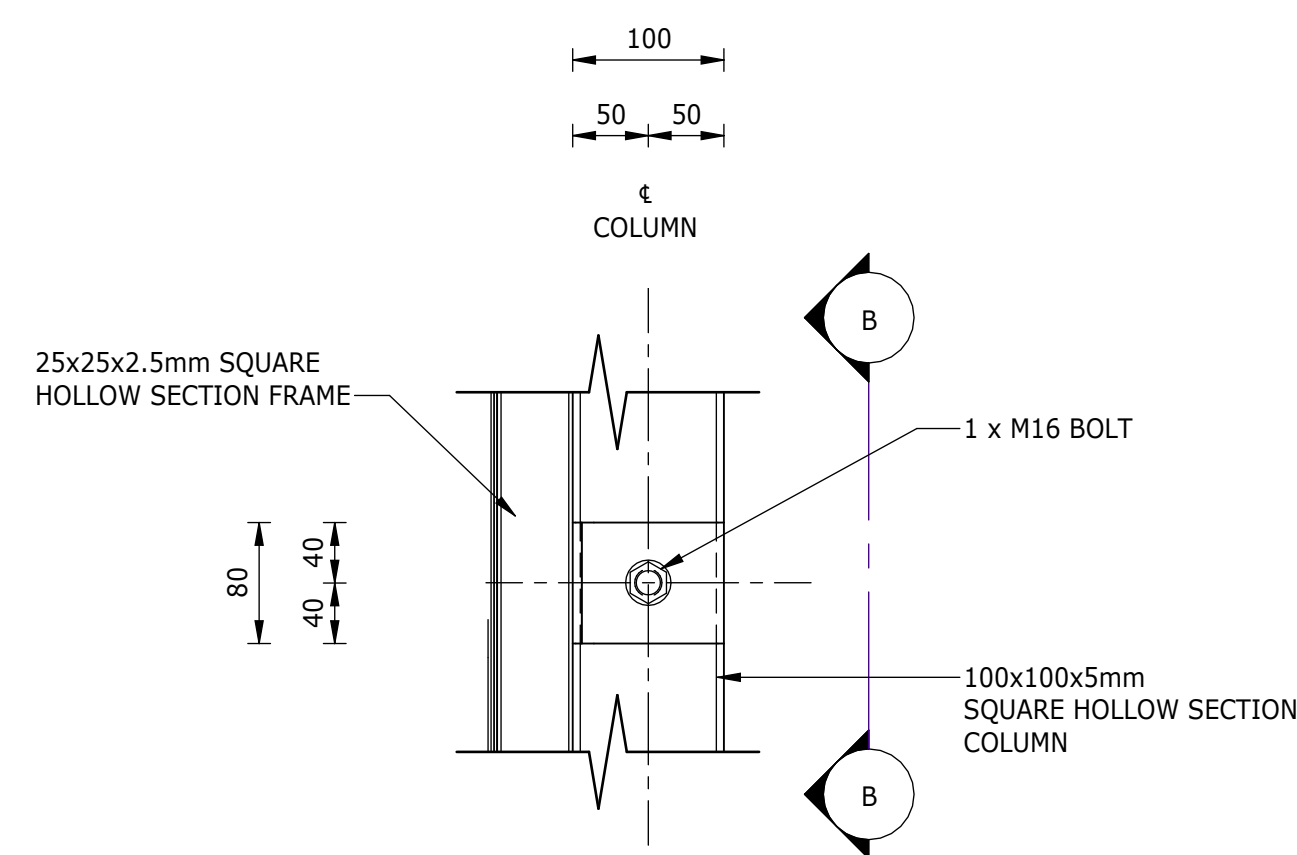
SECTION A-A
1 : 5



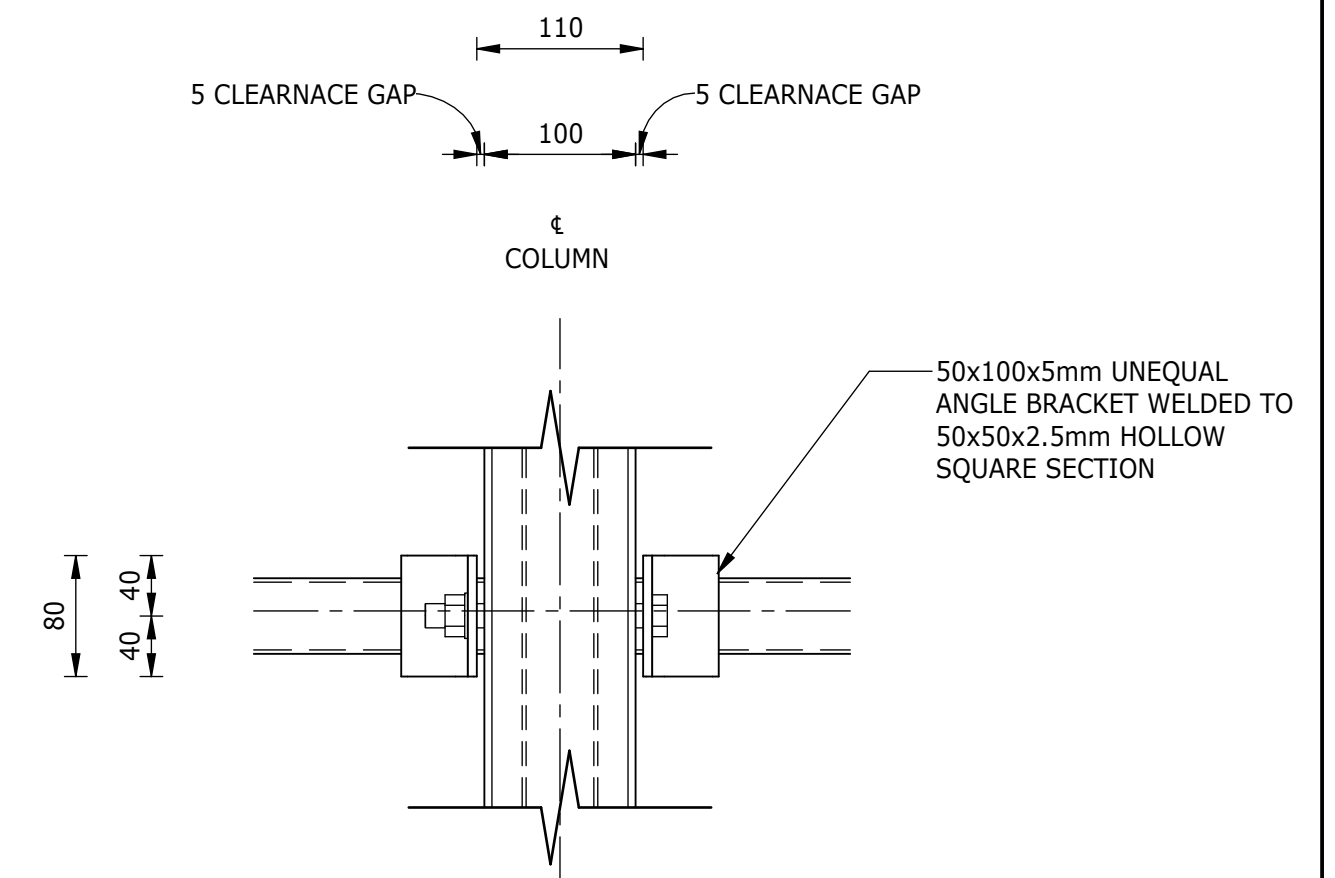
BRACING CONNECTION ISOMETRIC VIEW



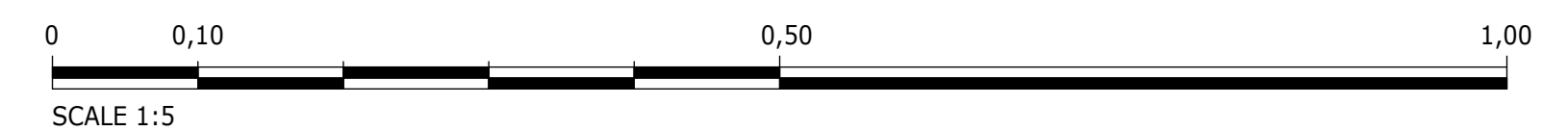
FRAME BRACKET CONNECTION ISOMETRIC VIEW



DETAIL 2: FRAME BRACKET CONNECTION
1 : 5
(6 - SETS REQUIRED AS SHOWN)



SECTION B-B
1 : 5



DEPARTMENT	APPROVED	DESIGNATION	DATE

**ATANA**
Legacy Awaits

Building No. 5 Country Club Estate
21 Woodlands Drive Woodmead
2191
PO Box 867 Gallo Manor
2052
Tel No. +27 11 798 6000

SURVEYED	
DESIGNED	N. O'GORMAN
DRAWN	N. O'GORMAN
CHECKED	L. NAICKER
SERVICES CHECKED	
GEOTECHNICAL INVESTIGATION	
SERVITUDES	
APPROVED	DITHOLO PHOGOLE
Pr. Eng.No.	20060098
DATE	

**Johannesburg Water**

JOHANNESBURG WATER (SOC) LTD

TURBINE HALL
65 NTEMI PILISO STREET
NEWTOWN
JOHANNESBURG 2001

TEL: (011) 688-1400
FAX: (011) 688-1529

CITY OF JOHANNESBURG

OLIFANTSVLEI WWTW: VAN WYKSrust PUMP STATION

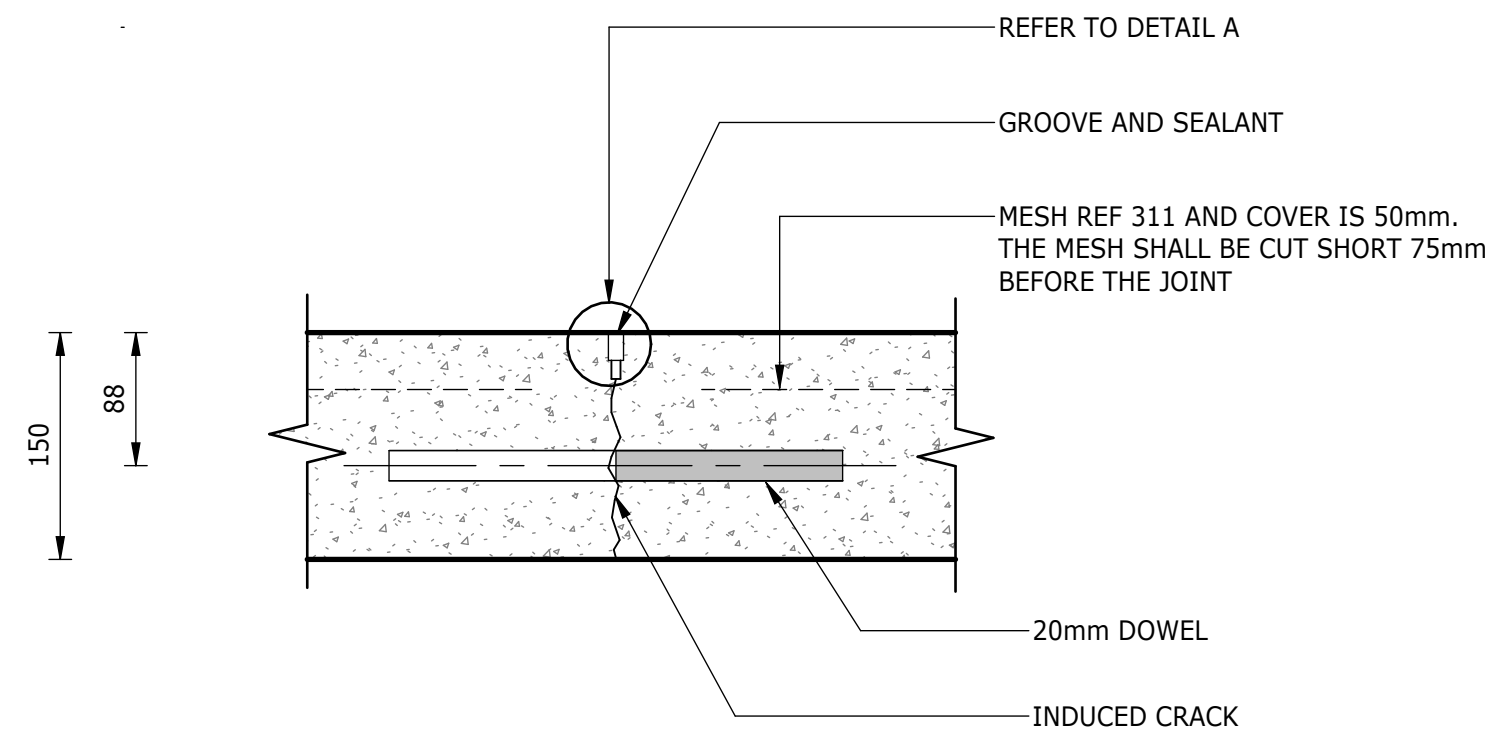
INFRASTRUCTURE RENEWAL PLAN

NAMEBOARD
DETAILS

DESIGN
MANAGER

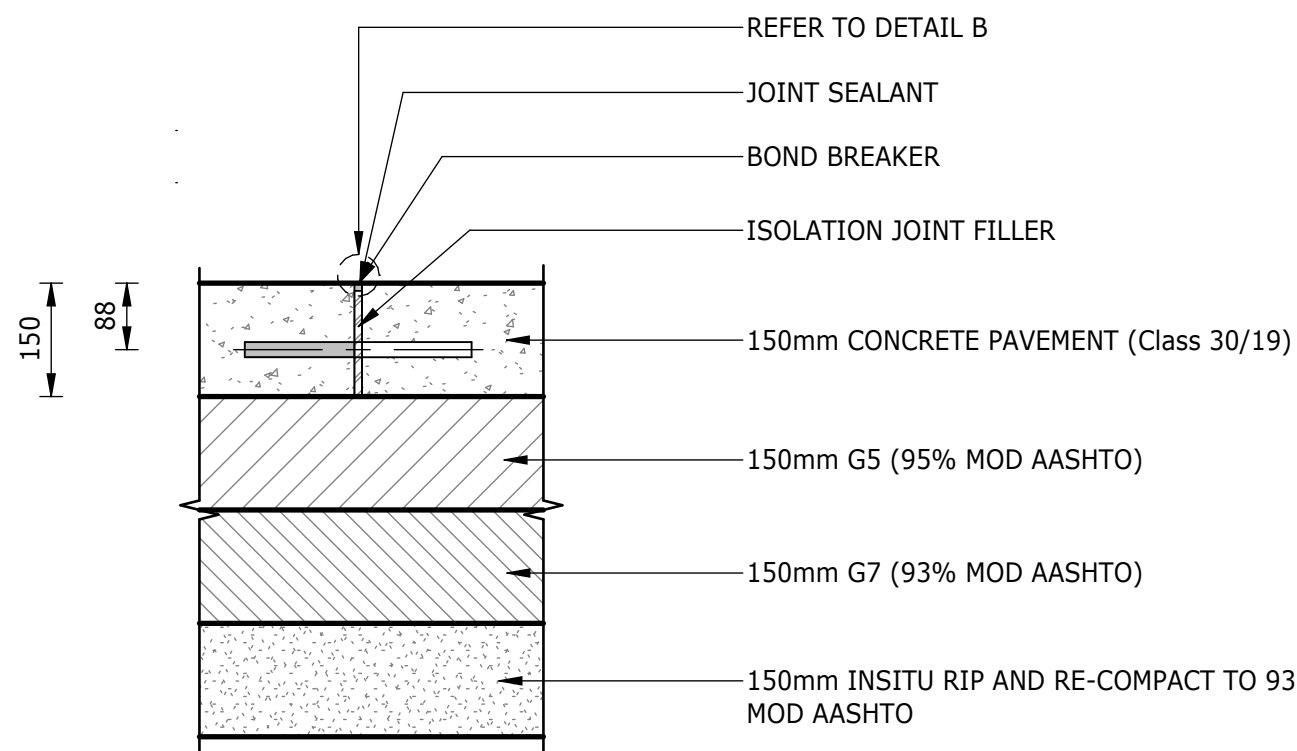
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AS SHOWN	C01 ISSUED FOR TENDER	D. PHOGOLE	FEB 25	JW NUMBER
	C02 ISSUED FOR RE-TENDER	D. PHOGOLE	FEB 26	JW14466R-RHD-C1-11-D-C-1102
				CONSULTANT'S NUMBER
				BW1400-RHD-C1-11-D-C-1102
				FILE No
				C02

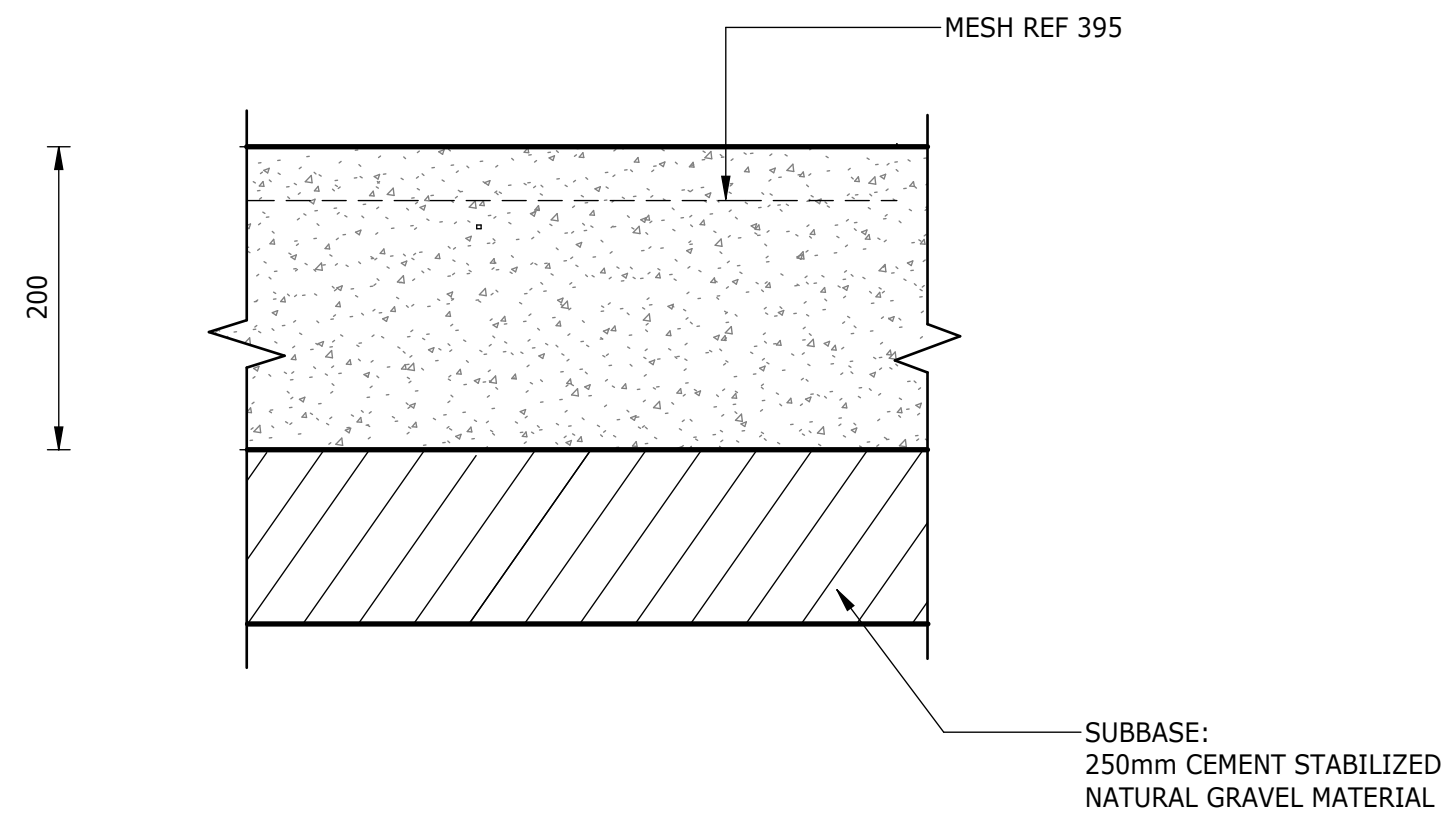


TAPERED PLATE DOWELED TRANSVERSE CONTRACTION JOINT
1 : 5

MATERIAL REQUIREMENTS										
LAYER No.	DESCRIPTION	THICKNESS mm	TRH14 MATERIAL TYPE	COLTO OF SPECIFICATION	COMPACTION (% OF MOD. AASHTO)	P.I. (MAX)	Min CBR AT % MOD. AASHTO	Min UCS (MPa) AT % MOD. AASHTO	Min ITS (kPa) AT % MOD. AASHTO	COMMENTS
1	CONCRETE PAVEMENT (35MPa), MESH TYPE 311	150	CP	7100	-	-	-	-	-	CONCRETE PROPERTIES AS REF SECTION 7103 OF COLTO SPECIFICATION
2	NATURAL GRAVEL LAYER (IMPORTED)	150	C3	3400	97	10	45 @ 95	-	-	
3	FILL LAYER	VARIES (MIN:150mm)	G7	3400	93	12	15 @ 93	-	-	
4	RIP AND RE-COMPACT EXISTING LAYER	150	MIN: G9	3400	93	12	7 @ 93	-	-	

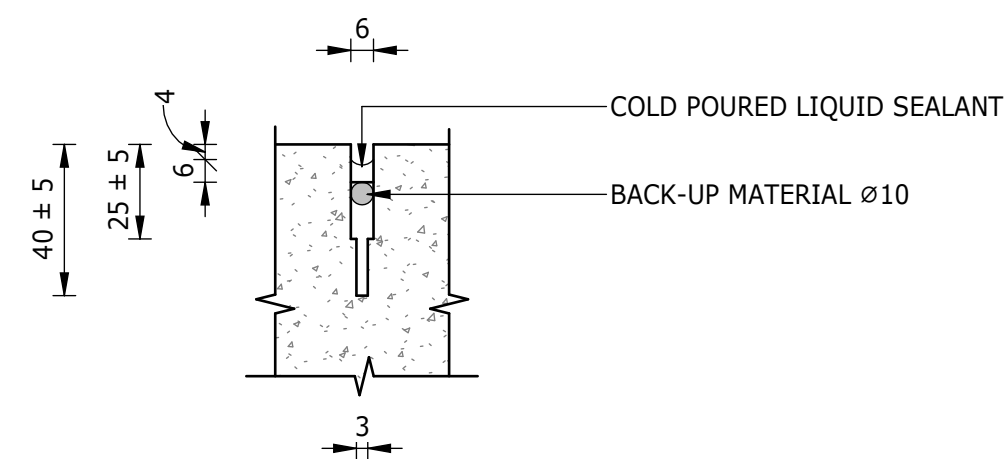


PAVEMENT DETAILS		
STEEL BASE	DIAMOND PLATE DOWEL	TAPERED PLATE DOWEL
TYPE		
SLAB THICKNESS (mm)	150	150
THICKNESS (mm)	20	15
L = LENGTH (mm)	115	300
S = SPACING (mm)	500	500



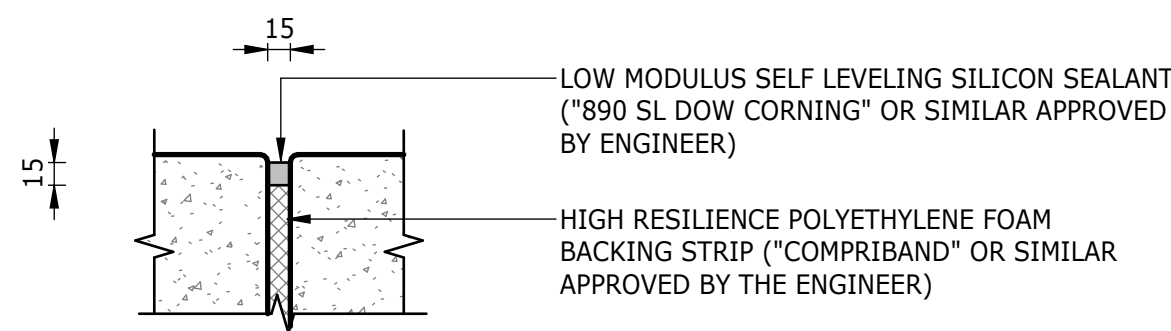
DETAIL OF THICKENED SLAB
1 : 5

CONSTRUCTION JOINTS WITH DIAMOND PLATE DOWELS AND CONCRETE PAVEMENT LAYERWORKS
1 : 10

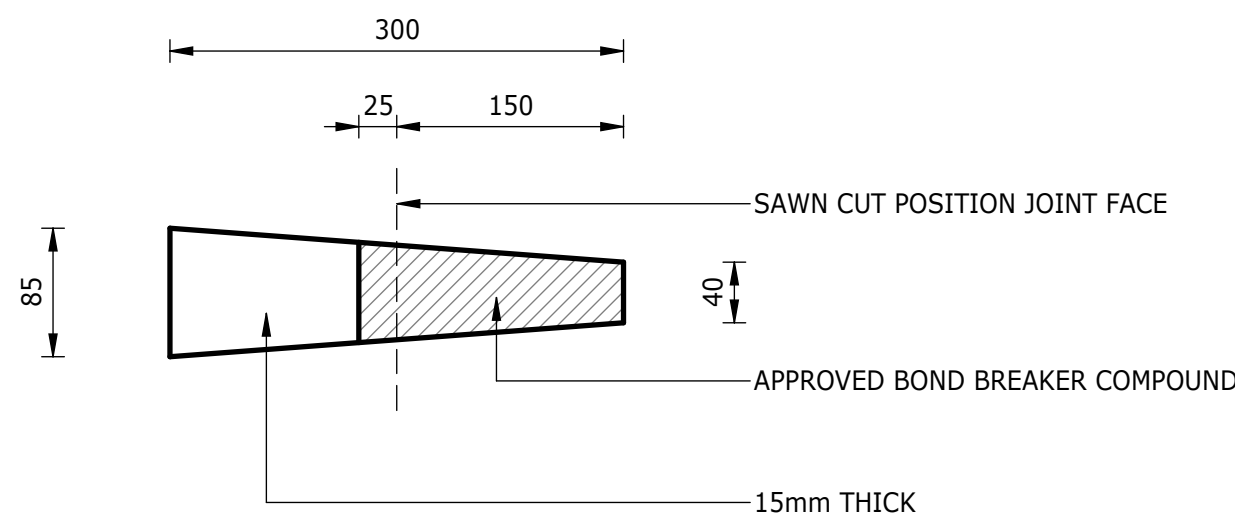


STAGE 1: CUT WIDTH + 3, CUT DEPTH = 60 ± 5.
STAGE 2: CUT WIDTH + 6, CUT DEPTH = 35 ± 5.
STAGE 3: CUTTING OF JOINTS TO WIDTHS 6mm or AS INSTRUCTED BY THE ENGINEER. INSTALLATION OF JOINT PRIMER TO JOINT FACES. INSTALLATION OF BACK-UP MATERIAL. INSTALLATION OF LIQUID SEALANT.

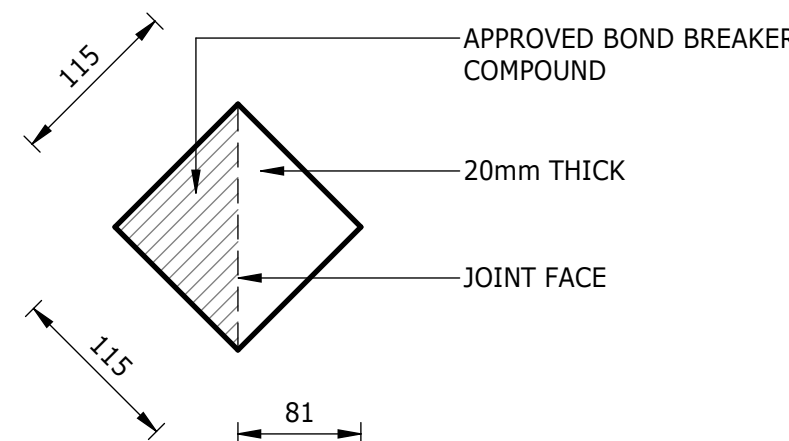
DETAIL A: GROVE AND SEALANT
1 : 2



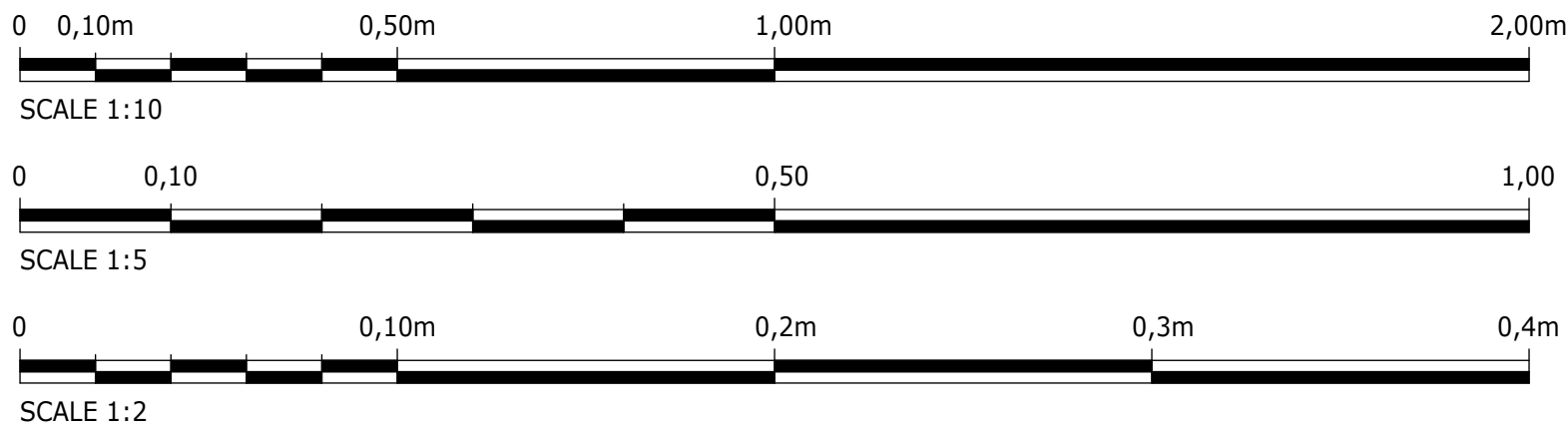
DETAIL B: ISOLATION JOINT
1 : 5



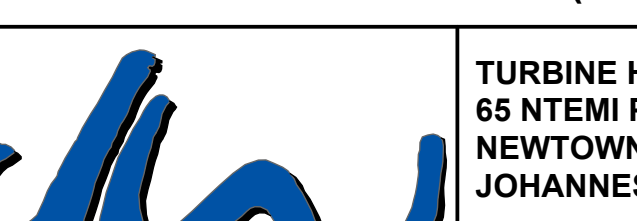
DETAIL C: TAPERED PLATE DOWEL
1 : 5

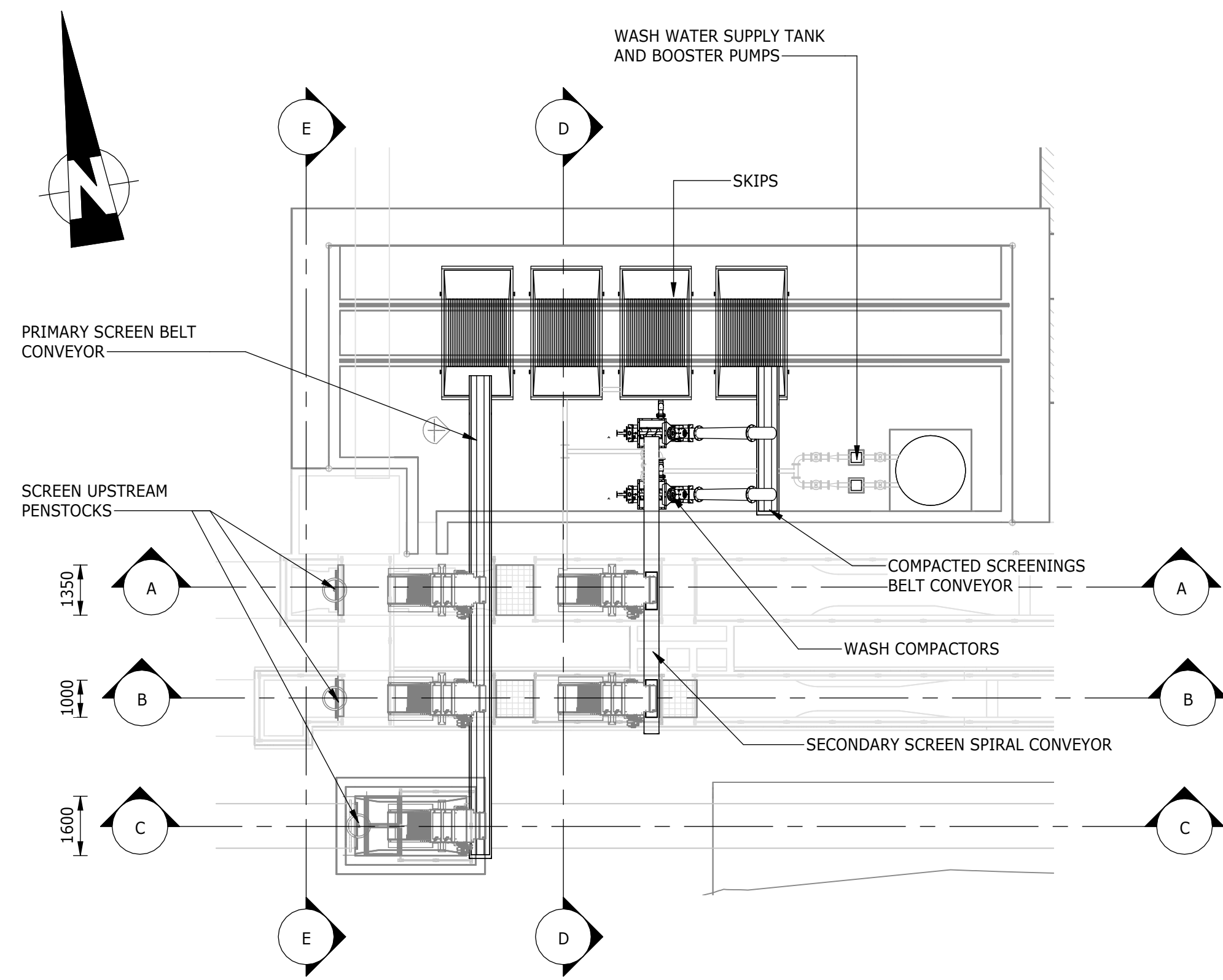


DETAIL D: DIAMOND PLATE DOWEL
1 : 5

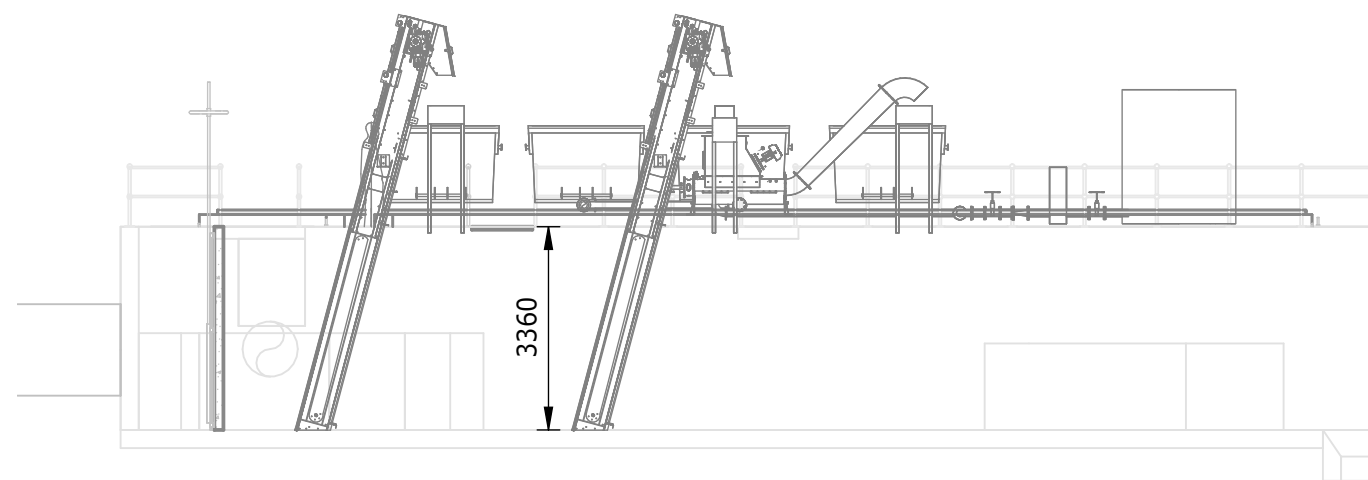


DEPARTMENT	APPROVED	DESIGNATION	DATE

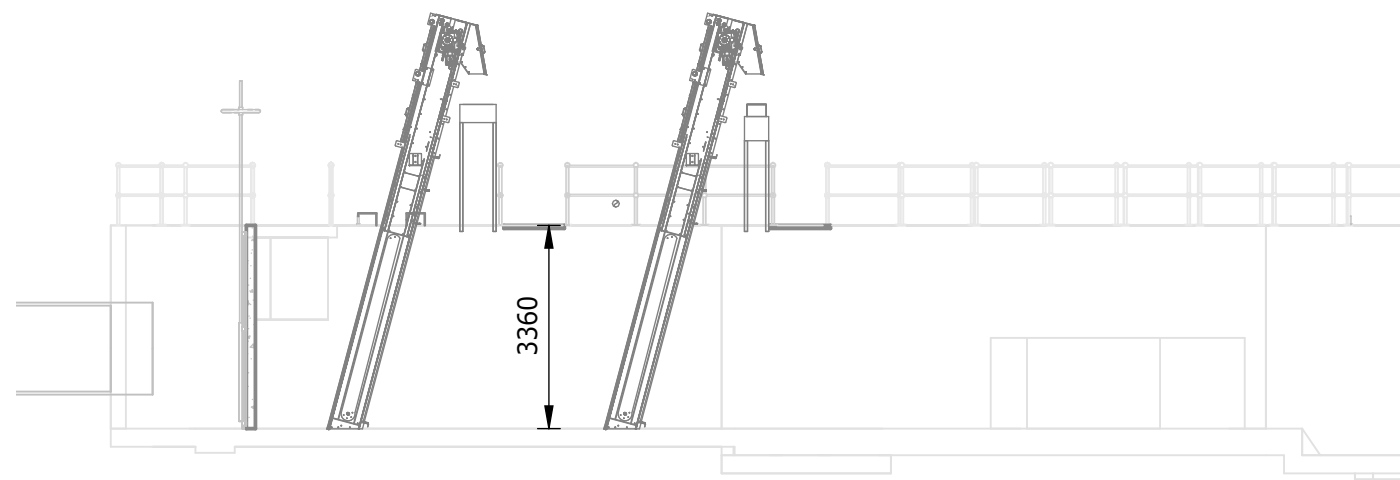
CONSULTING ENGINEERS		SURVEYED		JOHANNESBURG WATER (SOC) LTD		CITY OF JOHANNESBURG		DESIGN MANAGER	SCALE	AMENDMENTS		APPROVED	DATE	DRAWING No.						
	Building No. 5 Country Club Estate 21 Woodlands Drive Woodmead 2191 PO Box 867 Gallo Manor 2052 Tel No. +27 11 798 6000	DESIGNED	T. MOETI		TURBINE HALL 65 NTEMI PILISO STREET NEWTOWN JOHANNESBURG 2001 TEL: (011) 688-1400 FAX: (011) 688-1529	OLIFANTSVLEI WWTW: VAN WYKS RUST PUMP STATION INFRASTRUCTURE RENEWAL PLAN TYPICAL PAVEMENT DETAILS				AS SHOWN	C01	ISSUED FOR TENDER	D. PHOGOGE	FEB 25	JW NUMBER					
		C02	ISSUED FOR RE-TENDER								D. PHOGOGE	FEB 26	JW14466R-RHD-C1-12-D-C-1201							
		CONSULTANT'S NUMBER																		
		BW1400-RHD-C1-12-D-C-1201																		
		FILE No																		
											C02									
APPROVED		DITHOLO PHOGOGE																		
Pr. Eng.No.		20060098																		
DATE																				



SITE LAYOUT
1 : 125

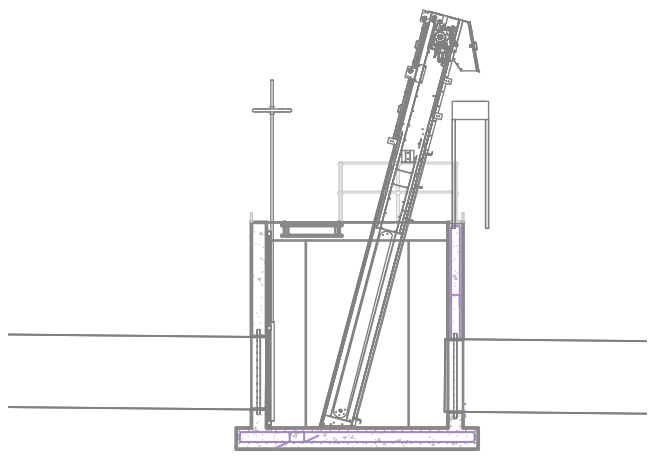
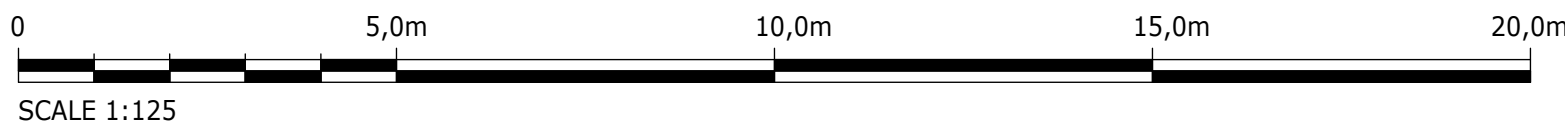


SECTION A-A
1 : 125

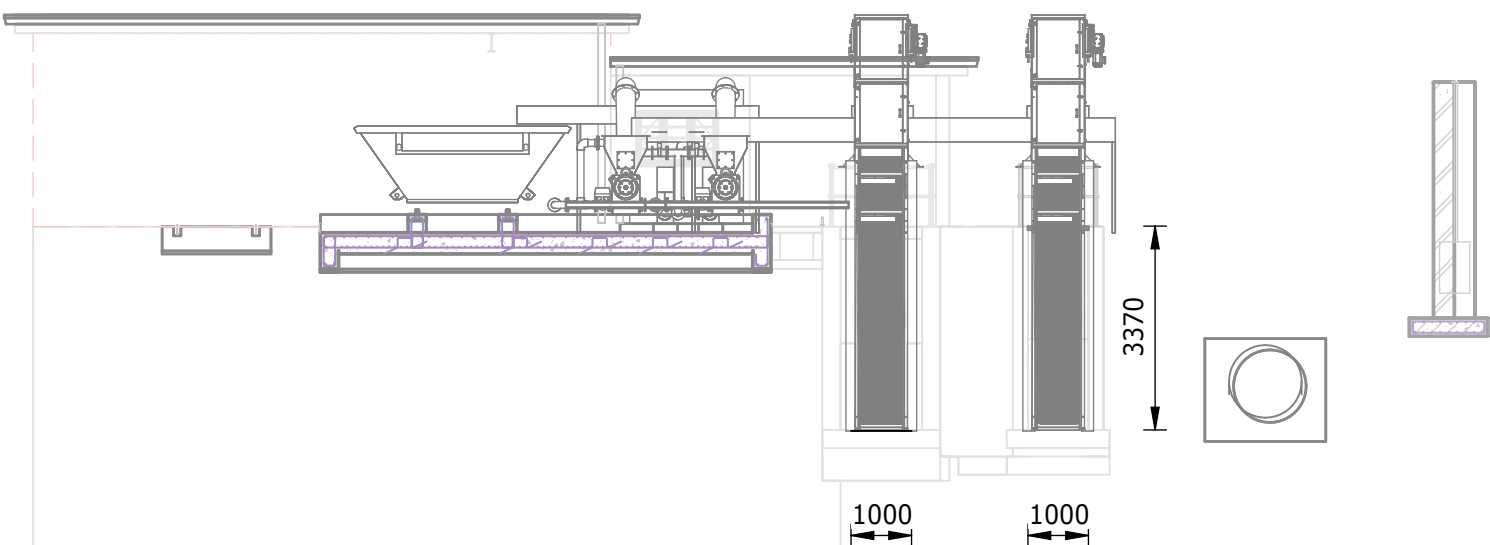


SECTION B-B

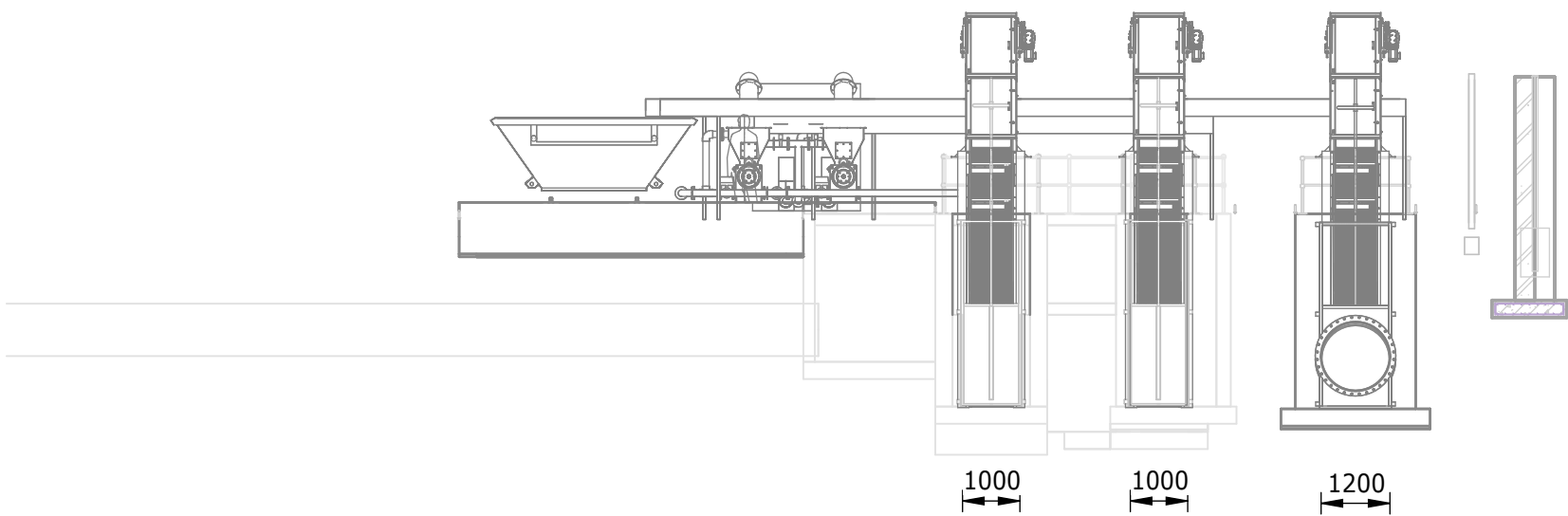
1 : 125



SECTION C-C
1 : 125



SECTION D-D
1 : 125



SECTION E-E

1 : 125

DEPARTMENT	APPROVED	DESIGNATION	DATE

**ATANA**
Legacy Awaits

Building No. 5 Country Club Estate
21 Woodlands Drive Woodmead
2191
PO Box 867 Gallo Manor
2052
Tel No. +27 11 798 6000

SURVEYED	
DESIGNED	E. NAIDOO
DRAWN	N. O'GORMAN
CHECKED	E. NAIDOO
SERVICES CHECKED	
GEOTECHNICAL INVESTIGATION	
SERVITUDES	
APPROVED	DITHOLO PHOGOLE
Pr. Eng.No.	20060098
DATE	

JOHANNESBURG WATER (SOC) LTD


Johannesburg Water

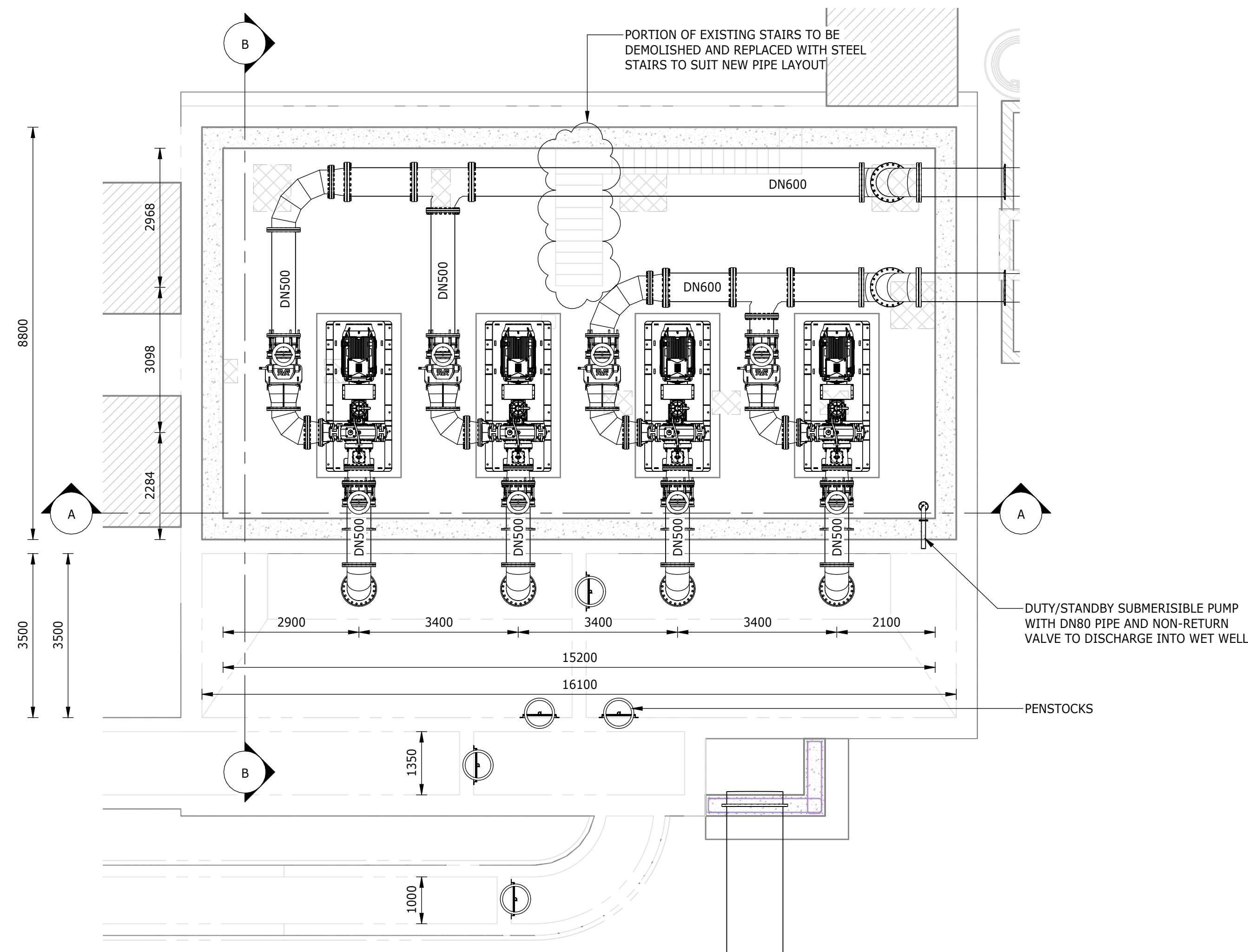
TURBINE HALL
65 NTEMI PILISO STREET
NEWTOWN
JOHANNESBURG 2001

TEL: (011) 688-1400
FAX: (011) 688-1529

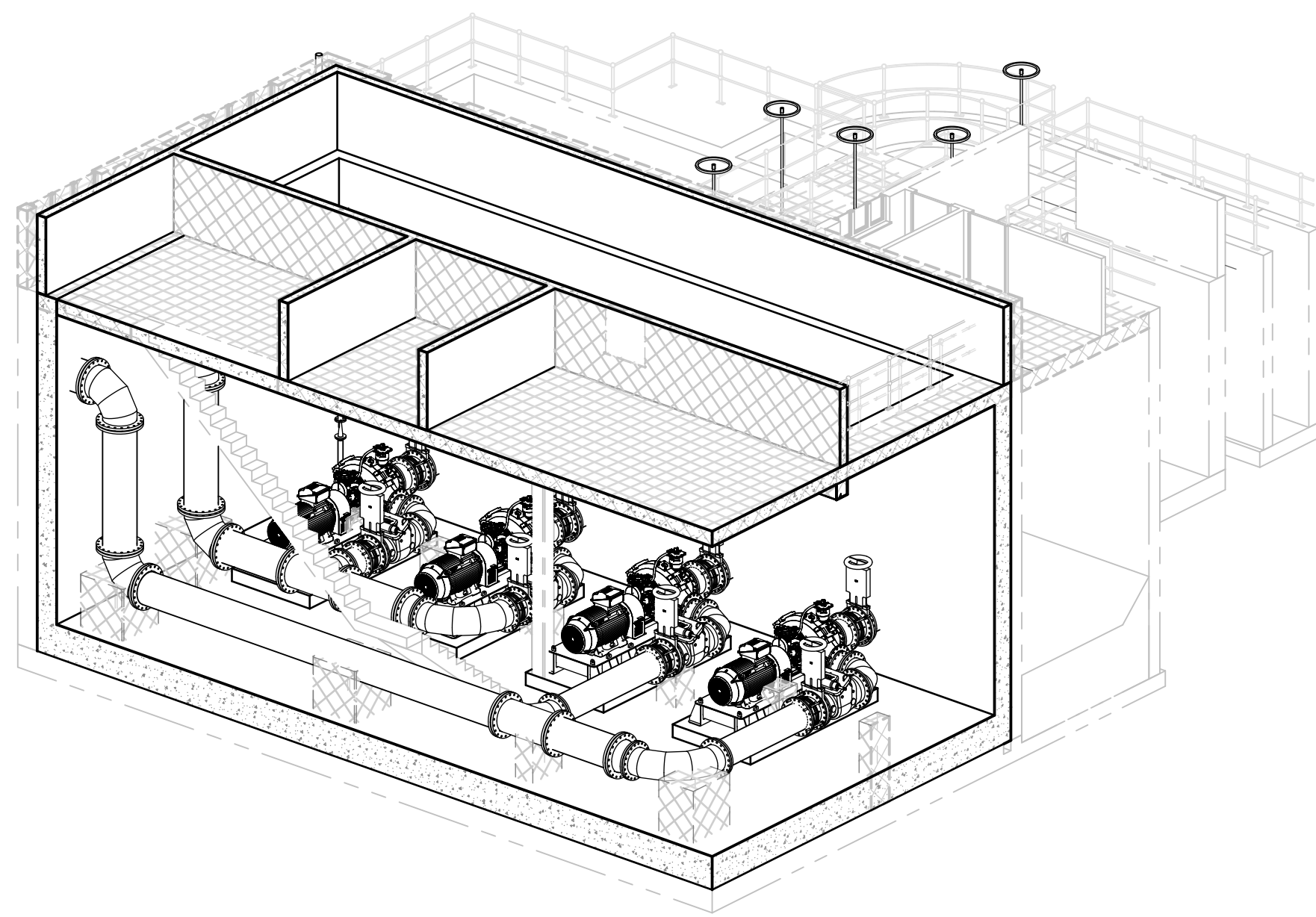
CITY OF JOHANNESBURG

OLIFANTSVLEI WWTW: VAN WYKRUST PUMP STATION
INFRASTRUCTURE RENEWAL PLAN
VAN WYKRUST PUMP STATION
SCREENINGS CHANNEL MECHANICAL LAYOUT

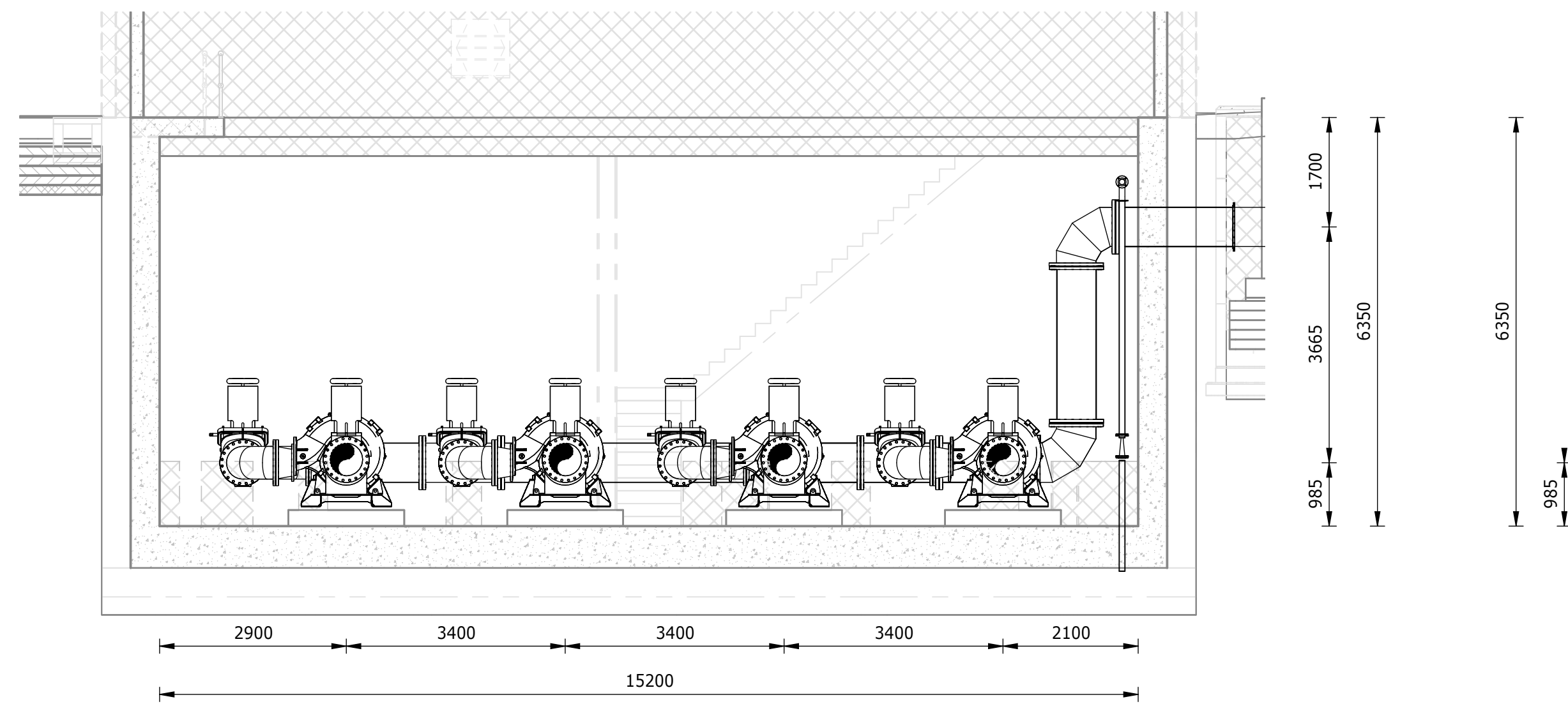
DESIGN MANAGER	SCALE		AMENDMENTS	APPROVED	DATE	DRAWING No.						
	AS SHOWN	C01	ISSUED FOR TENDER	D. PHOGOLE	FEB 25	JW NUMBER						
		C02	ISSUED FOR RE-TENDER	D. PHOGOLE	FEB 26	JW14466R-RHD-C1-01-D-M-0141						
						CONSULTANT'S NUMBER						
						BW1400-RHD-C1-01-D-M-0141						
						FILE No						
DATE						C02						



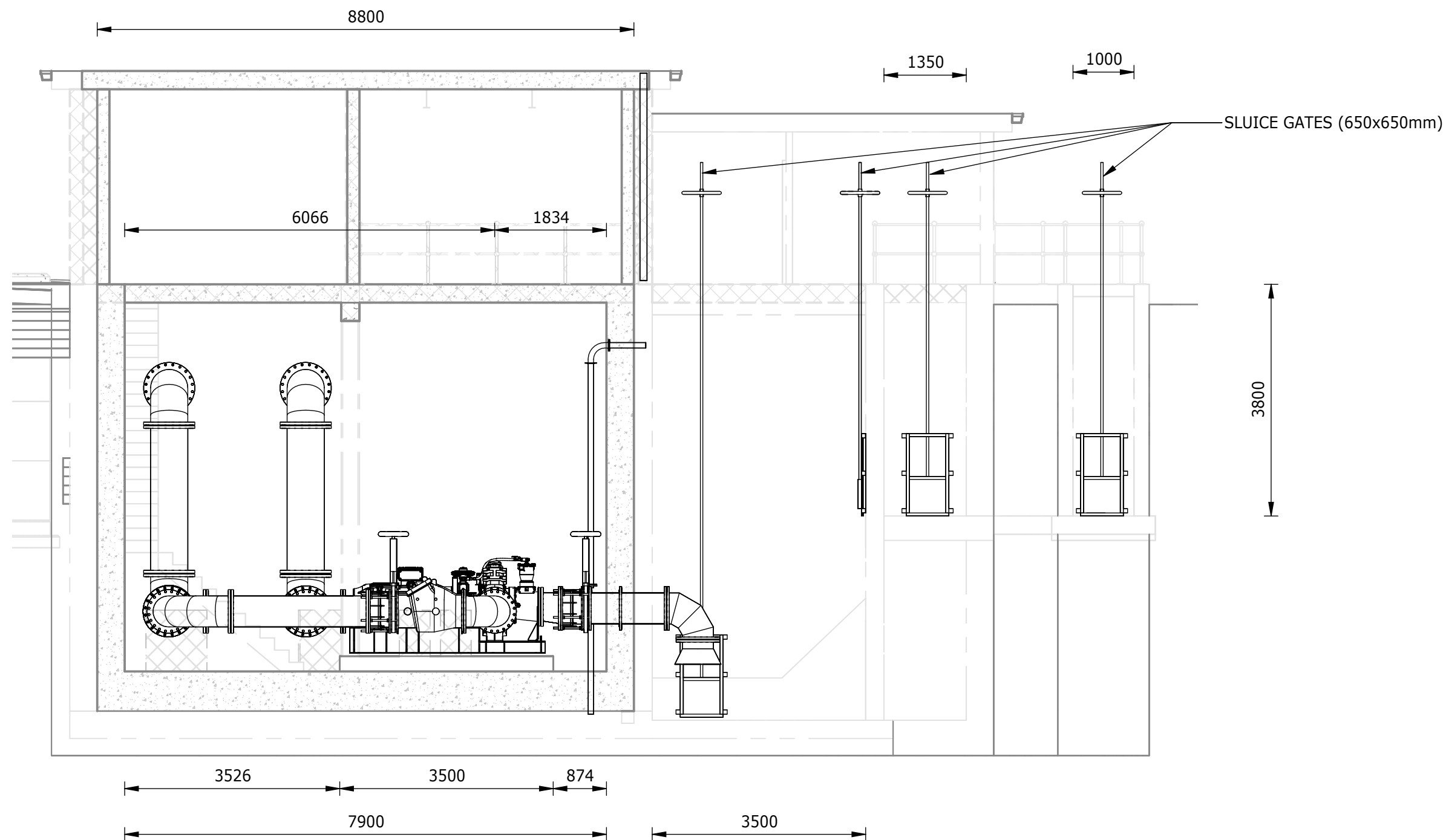
PLAN VIEW ON PUMPS
1 : 75



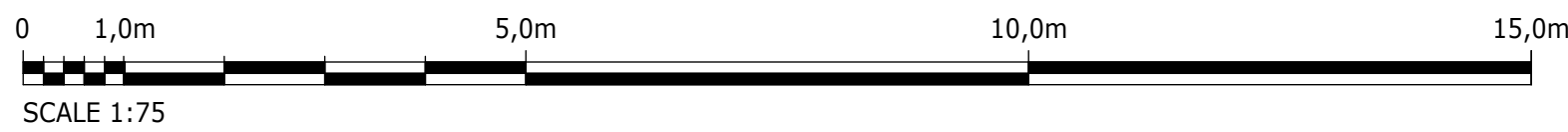
TYPICAL ISOMETRIC VIEW



SECTION A-A
1 : 75



SECTION B-B
1 : 75



DEPARTMENT	APPROVED	DESIGNATION	DATE

CONSULTING ENGINEERS



Building No. 5 Country
Club Estate
21 Woodlands Drive
Woodmead
2191
PO Box 867
Gallo Manor
2052
Tel No. +27 11 798 6000

SURVEYED	
DESIGNED	E. NAIDOO
DRAWN	N. O'GORMAN
CHECKED	L. NAICKER
SERVICES CHECKED	
GEOTECHNICAL INVESTIGATION	
SERVITUDES	
APPROVED	DITHOLO PHOGOLE
Pr. Eng.No.	20060098
DATE	

JOHANNESBURG WATER (SOC) LTD



TURBINE HALL
65 NTEMI PILISO STREET
NEWTOWN
JOHANNESBURG 2001

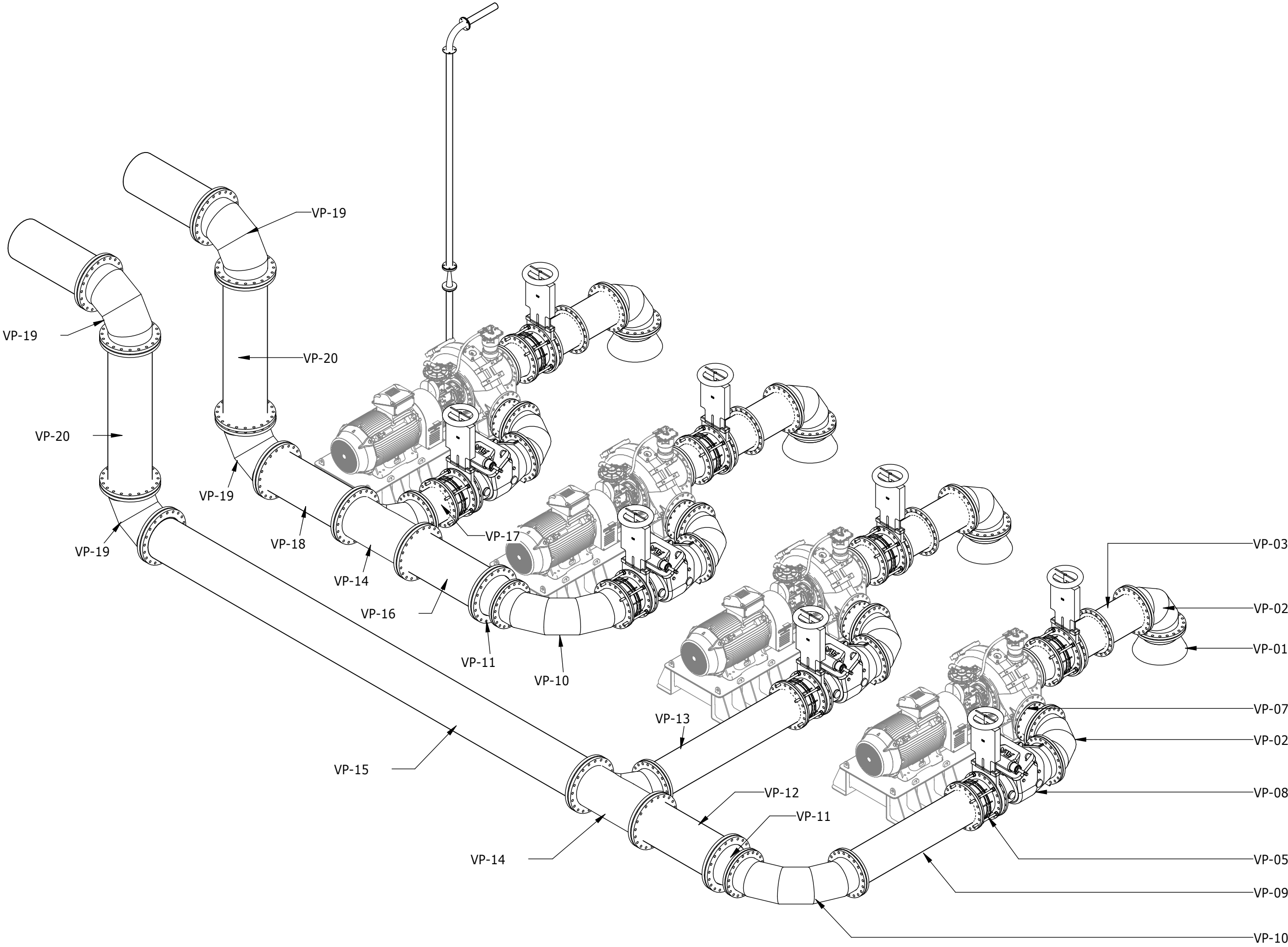
TEL: (011) 688-1400
FAX: (011) 688-1529

CITY OF JOHANNESBURG

OLIFANTSVLEI WWTW: VAN WYKRUST PUMP STATION
INFRASTRUCTURE RENEWAL PLAN
VAN WYKRUST PUMP STATION
GENERAL ARRANGEMENT AND SECTIONS

DESIGN MANAGER	SCALE	AMENDMENTS	APPROVED	DATE	DRAWING No.
DATE	AS SHOWN	C01 ISSUED FOR TENDER	D. PHOGOLE	FEB 25	JW NUMBER
		C02 ISSUED FOR RE-TENDER	D. PHOGOLE	FEB 26	JW14466R-RHD-C1-02-D-M-0241
					CONSULTANT'S NUMBER
					BW1400-RHD-C1-02-D-M-0241
					FILE No
					C02

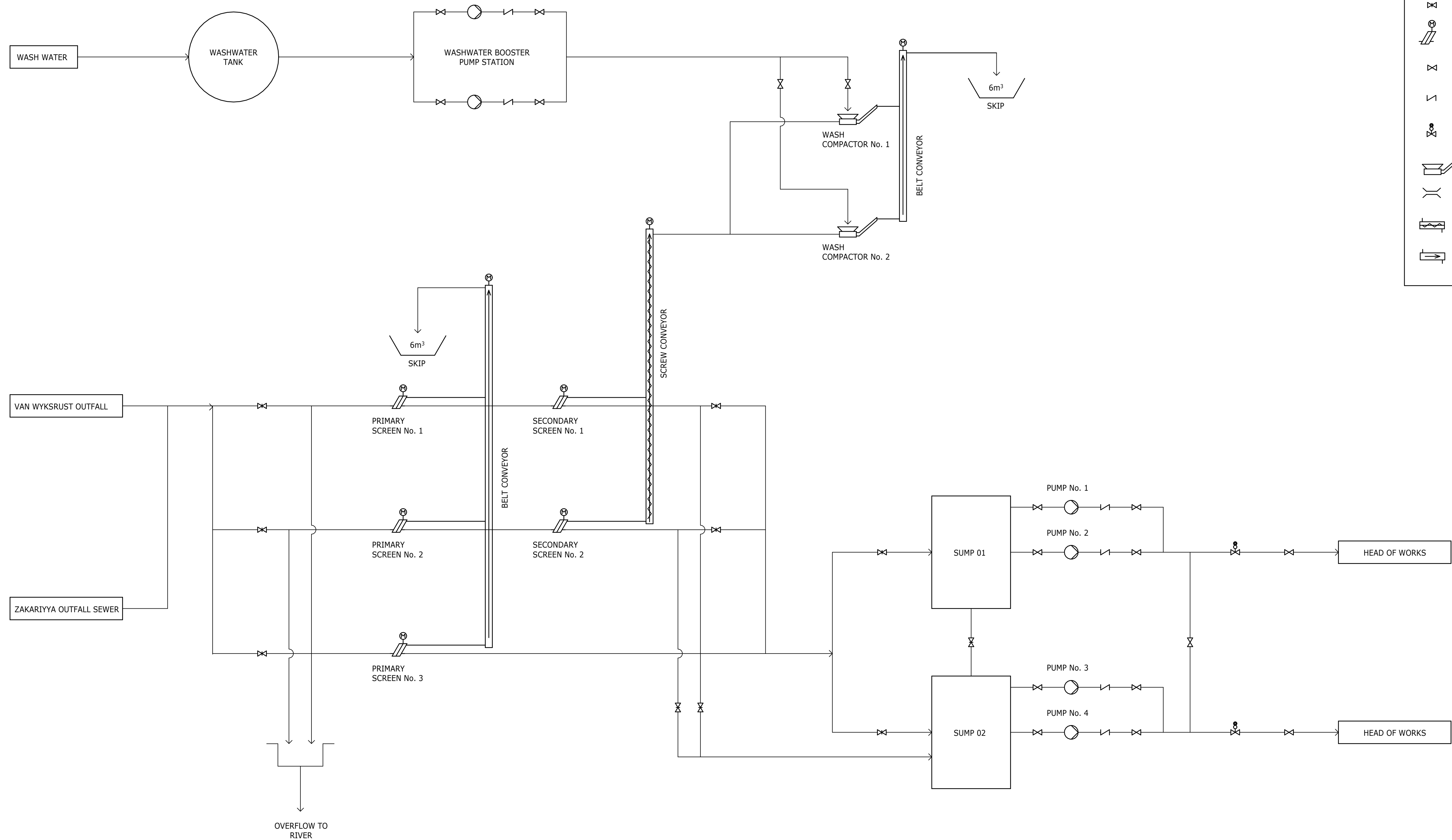
VAN WYKSRUST PUMP STATION PIPE SCHDULE				
ITEM No	DESCRIPTION	MATERIAL	PIPE ENDS	QTY
VP-01	DN500 BELL MOUTH	SANS 719, GRADE B, 8mm	FLANGE ONE SIDE, SANS 1123 1000/3	4
VP-02	DN500 90 DEG SHORT RADIUS BEND	SANS 719, GRADE B, 8mm	FLANGE BOTH SIDE, SANS 1123 1000/3	8
VP-03	DN500 PUDDLE PIPE, 1680mm LONG	SANS 719, GRADE B, 8mm	FLANGE BOTH SIDE WITH PUDDLE FLANGE, SANS 1123 1000/3	4
VP-04	DN500 KNIFE GATE VALVE	AS PER SPECIFICATIONS	FLANGE BOTH SIDE, SANS 1123 1000/3	8
VP-05	DN500 DISMANTLING JOINT	AS PER SPECIFICATIONS	FLANGE BOTH SIDE, SANS 1123 1000/3	8
VP-06	DN450-DN500 ESSENTRIC ENLARGER	AS PER SPECIFICATIONS	FLANGE BOTH SIDE, SANS 1123 1000/3	4
VP-07	DN400-DN500 CONCENTRIC ENLARGER	SANS 719, GRADE B, 8mm	FLANGE BOTH SIDE, SANS 1123 1000/3	4
VP-08	DN500 NON-RETURN SWING CHECK VALVE	AS PER SPECIFICATIONS	FLANGE BOTH SIDE, SANS 1123 1000/3	4
VP-09	DN500 STRAIGHT PIPE, 2260mm LONG	SANS 719, GRADE B, 8mm	FLANGE BOTH SIDE, SANS 1123 1000/3	1
VP-10	DN500 90 DEG MEDIUM RADIUS BEND	SANS 719, GRADE B, 8mm	FLANGE BOTH SIDE, SANS 1123 1000/3	2
VP-11	DN500-DN600 CONCENTRIC ENLARGER	SANS 719, GRADE B, 8mm	FLANGE BOTH SIDE, SANS 1123 1000/3	2
VP-12	DN600 STRAIGHT PIPE, 1430mm LONG	SANS 719, GRADE B, 8mm	FLANGE BOTH SIDE, SANS 1123 1000/3	1
VP-13	DN500 STRAIGHT PIPE, 2660mm LONG	SANS 719, GRADE B, 8mm	FLANGE BOTH SIDE, SANS 1123 1000/3	1
VP-14	DN600 SWEEP TEE	SANS 719, GRADE B, 8mm	FLANGE ALL SIDES, SANS 1123 1000/3	2
VP-15	DN600 STRAIGHT PIPE, 8320mm LONG	SANS 719, GRADE B, 8mm	FLANGE BOTH SIDE, SANS 1123 1000/3	1
VP-16	DN600 STRAIGHT PIPE, 1440mm LONG	SANS 719, GRADE B, 8mm	FLANGE BOTH SIDE, SANS 1123 1000/3	1
VP-17	DN500 STRAIGHT PIPE, 420mm LONG	SANS 719, GRADE B, 8mm	FLANGE BOTH SIDE, SANS 1123 1000/3	1
VP-18	DN600 STRAIGHT PIPE, 1510mm LONG	SANS 719, GRADE B, 8mm	FLANGE BOTH SIDE, SANS 1123 1000/3	1
VP-19	DN600 90 DEG SHORT RADIUS BEND	SANS 719, GRADE B, 8mm	FLANGE BOTH SIDE, SANS 1123 1000/3	4
VP-20	DN600 STRAIGHT PIPE, 2430mm LONG	SANS 719, GRADE B, 8mm	FLANGE BOTH SIDE, SANS 1123 1000/3	2



TYPICAL ISOMETRIC VIEW

DEPARTMENT	APPROVED	DESIGNATION	DATE

CONSULTING ENGINEERS		SURVEYED		JOHANNESBURG WATER (SOC) LTD		CITY OF JOHANNESBURG		DESIGN MANAGER	SCALE	AMENDMENTS		APPROVED	DATE	DRAWING No.								
	Building No. 5 Country Club Estate 21 Woodlands Drive Woodmead 2191 PO Box 867 Gallo Manor 2052 Tel No. +27 11 798 6000	DESIGNED	E. NAIDOO	 Johannesburg Water	TURBINE HALL 65 NTEMI PILISO STREET NEWTOWN JOHANNESBURG 2001 TEL: (011) 688-1400 FAX: (011) 688-1529	OLIFANTSVLEI WWTW: VAN WYKSrust PUMP STATION INFRASTRUCTURE RENEWAL PLAN VAN WYKSrust PUMP STATION PIPE SCHEDULE	DATE			AS SHOWN	C01			ISSUED FOR TENDER	D. PHOGOLE	FEB 25	JW NUMBER					
		DRAWN	N. O'GORMAN								C02			ISSUED FOR RE-TENDER	D. PHOGOLE	FEB 26	JW14466R-RHD-C1-02-D-M-0242					
		CHECKED	E. NAIDOO								CONSULTANT'S NUMBER											
		SERVICES CHECKED									BW1400-RHD-C1-02-D-M-0242											
		GEOTECHNICAL INVESTIGATION									FILE No											
		SERVITUDES																				
		APPROVED	DITHOLO PHOGOLE																			
Pr. Eng.No.	20060098																					
DATE																						
														C02								



DEPARTMENT	APPROVED	DESIGNATION	DATE

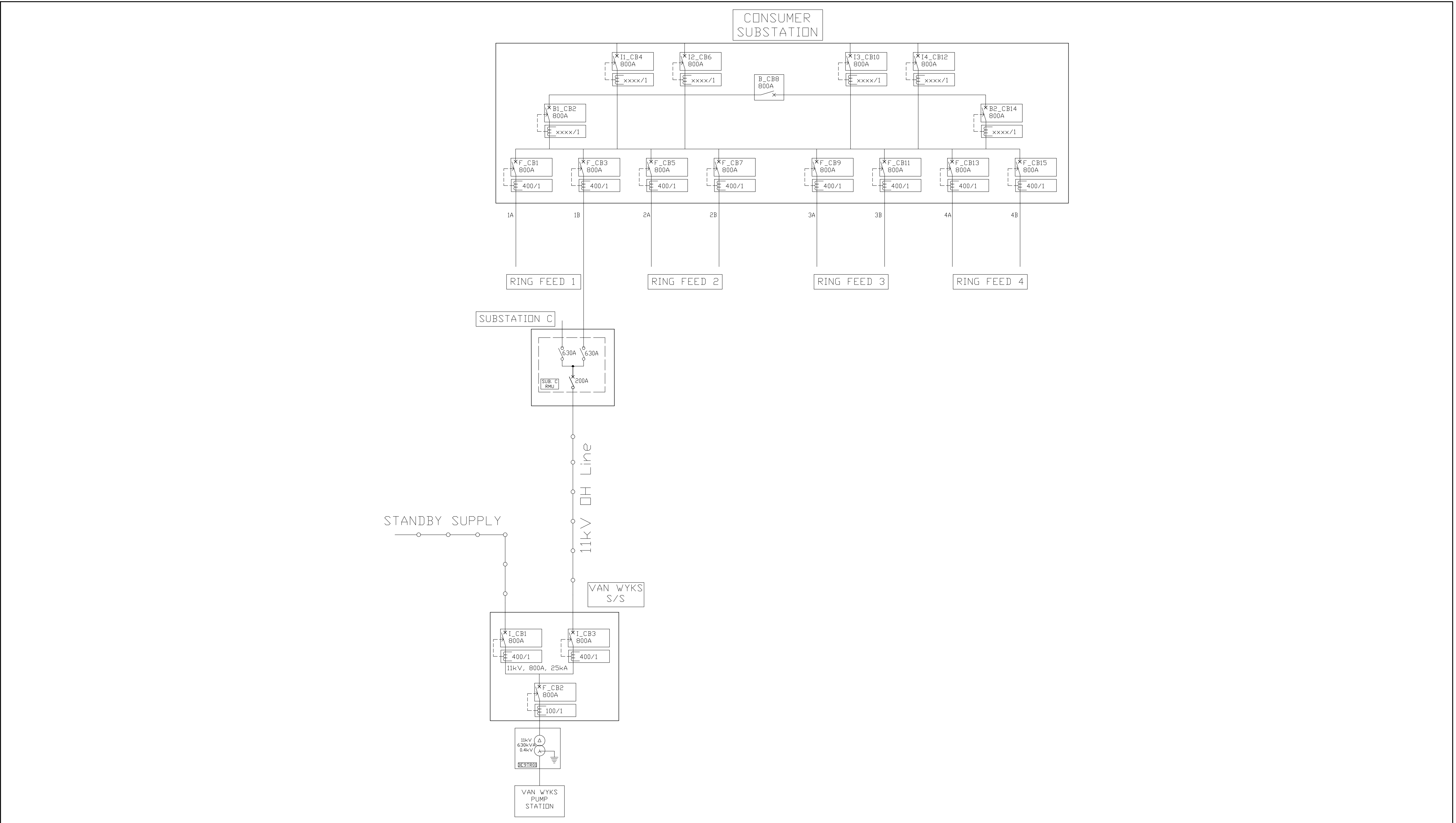
CONSULTING ENGINEERS		SURVEYED		JOHANNESBURG WATER (SOC) LTD		CITY OF JOHANNESBURG		DESIGN MANAGER	SCALE	AMENDMENTS		APPROVED	DATE	DRAWING No.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
 ATANA Legacy Awaits	Building No. 5 Country Club Estate 21 Woodlands Drive Woodmead 2191 PO Box 867 Gallo Manor 2052 Tel No. +27 11 798 6000	DESIGNED		T. RAMASHAPA		 Johannesburg Water	TURBINE HALL 65 NTEMI PILISO STREET NEWTOWN JOHANNESBURG 2001 TEL: (011) 688-1400 FAX: (011) 688-1529			OLIFANTSVLEI WWTW: VAN WYKS RUST PUMP STATION INFRASTRUCTURE RENEWAL PLAN VAN WYKS RUST PUMP STATION PROCESS FLOW DIAGRAM		C01	ISSUED FOR TENDER	D. PHOGOLE	FEB 25	JW NUMBER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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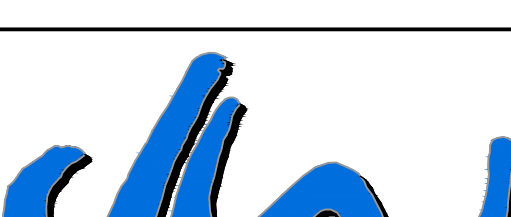


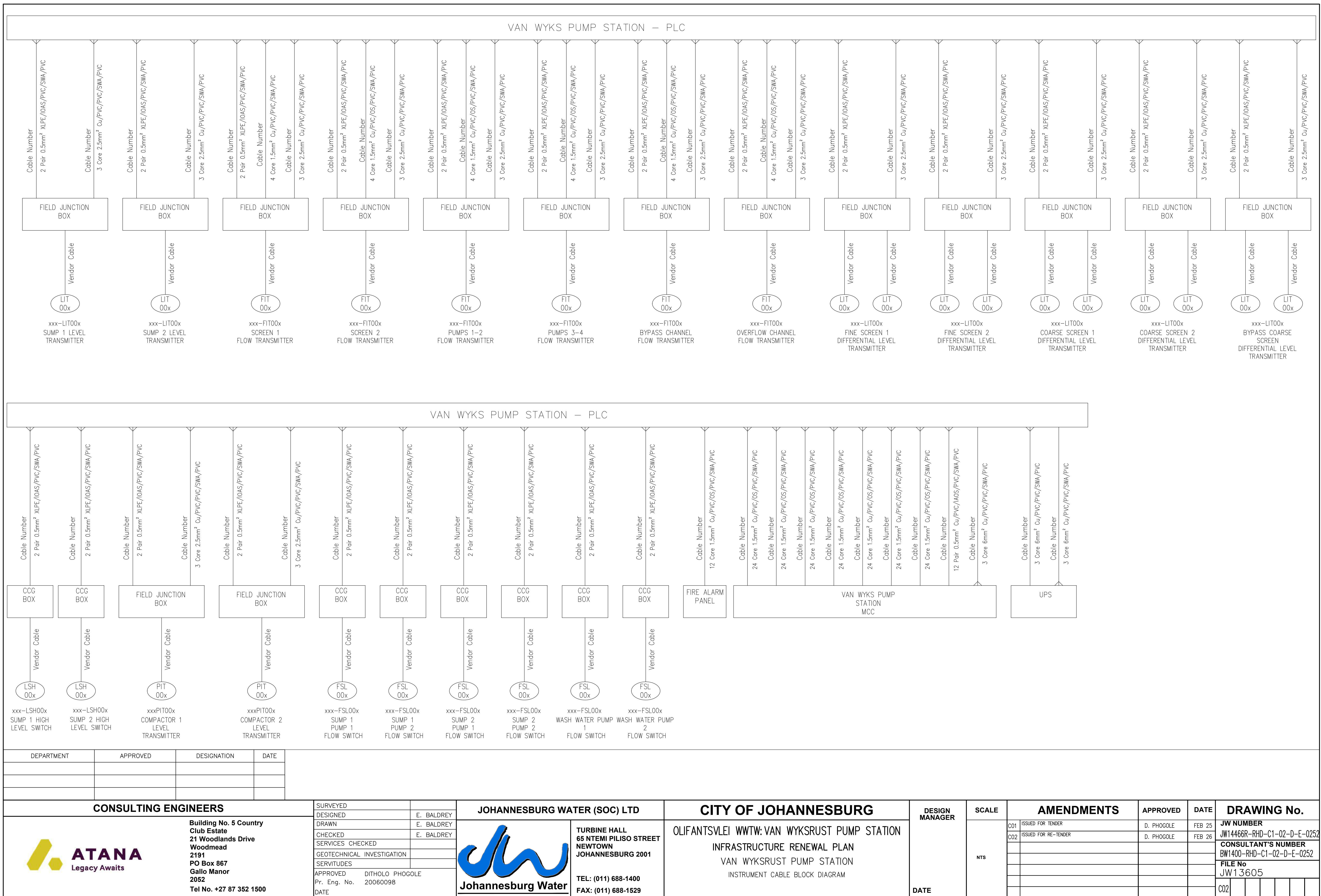
DEPARTMENT		APPROVED		DESIGNATION		DATE																													
CONSULTING ENGINEERS								SURVEYED				JOHANNESBURG WATER (SOC) LTD				CITY OF JOHANNESBURG				DESIGN MANAGER		SCALE		AMENDMENTS		APPROVED		DATE		DRAWING No.					
 Building No. 5 Country Club Estate 21 Woodlands Drive Woodmead 2191 PO Box 867 Gallo Manor 2052 Tel No. +27 87 352 1500								DESIGNED		E. BALDREY				TURBINE HALL 65 NTEMI PILISO STREET NEWTOWN JOHANNESBURG 2001 TEL: (011) 688-1400 FAX: (011) 688-1529				OLIFANTSVLEI WWTW: VAN WYKSrust PUMP STATION INFRASTRUCTURE RENEWAL PLAN COMMUNICATIONS FIBRE OPTIC RETICULATION CABLE ROUTING				DATE		NTS		C01		ISSUED FOR TENDER		D. PHOGOLE		FEB 25		JW NUMBER	
								DRAWN		E. BALDREY																C02		ISSUED FOR RE-TENDER		D. PHOGOLE		FEB 26		CONSULTANT'S NUMBER	
								CHECKED		E. BALDREY																								BW1400-RHD-C1-00-D-E-0051	
								SERVICES CHECKED																										FILE No	
								GEOTECHNICAL INVESTIGATION																										JW 13605	
								SERVITUDES														C02													
								APPROVED		DITHOLO PHOGOLE																									
Pr. Eng. No.		20060098																																	
DATE																																			

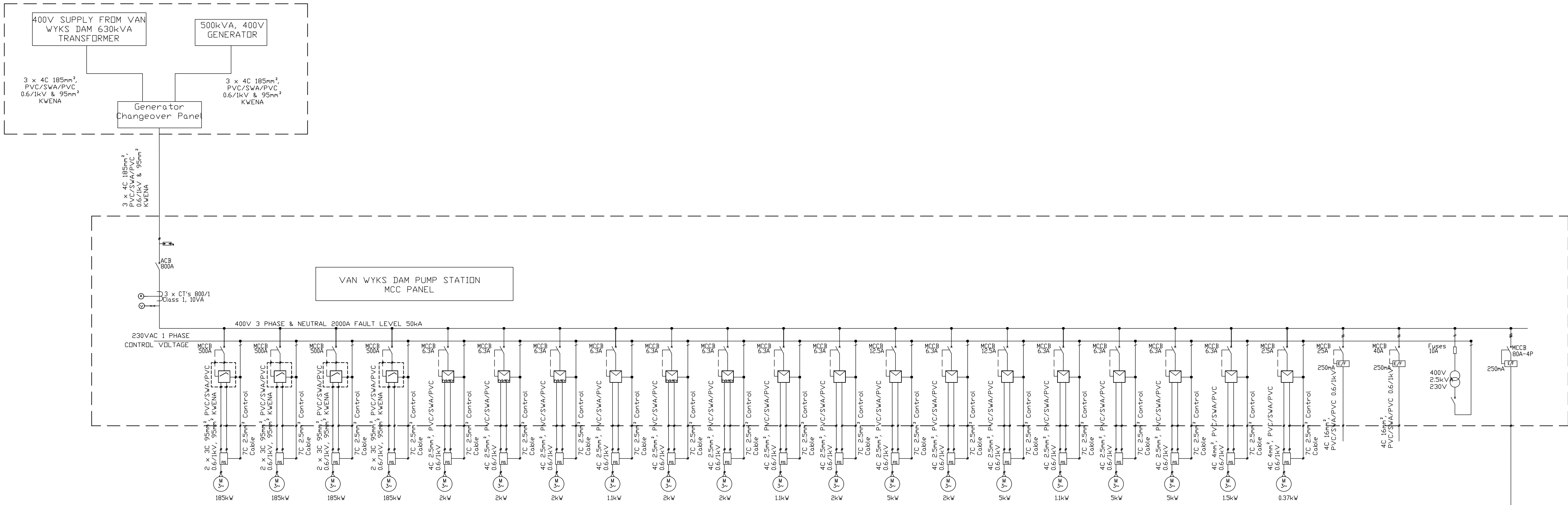


DEPARTMENT		APPROVED		DESIGNATION		DATE																															
CONSULTING ENGINEERS								SURVEYED				JOHANNESBURG WATER (SOC) LTD				CITY OF JOHANNESBURG				DESIGN MANAGER		SCALE		AMENDMENTS		APPROVED		DATE		DRAWING No.							
 Building No. 5 Country Club Estate 21 Woodlands Drive Woodmead 2191 PO Box 867 Gallo Manor 2052 Tel No. +27 87 352 1500								DESIGNED		E. BALDREY		 Johannesburg Water		TURBINE HALL 65 NTEMI PILISO STREET NEWTOWN JOHANNESBURG 2001 TEL: (011) 688-1400 FAX: (011) 688-1529				OLIFANTSVLEI WWTW: VAN WYKSrust PUMP STATION INFRASTRUCTURE RENEWAL PLAN ELECTRICAL MEDIUM VOLTAGE RETICULATION CABLE ROUTING				DATE		NTS		C01		ISSUED FOR TENDER		D. PHOGOLE		FEB 25		JW NUMBER			
								C02		ISSUED FOR RE-TENDER																D. PHOGOLE		FEB 26		CONSULTANT'S NUMBER							
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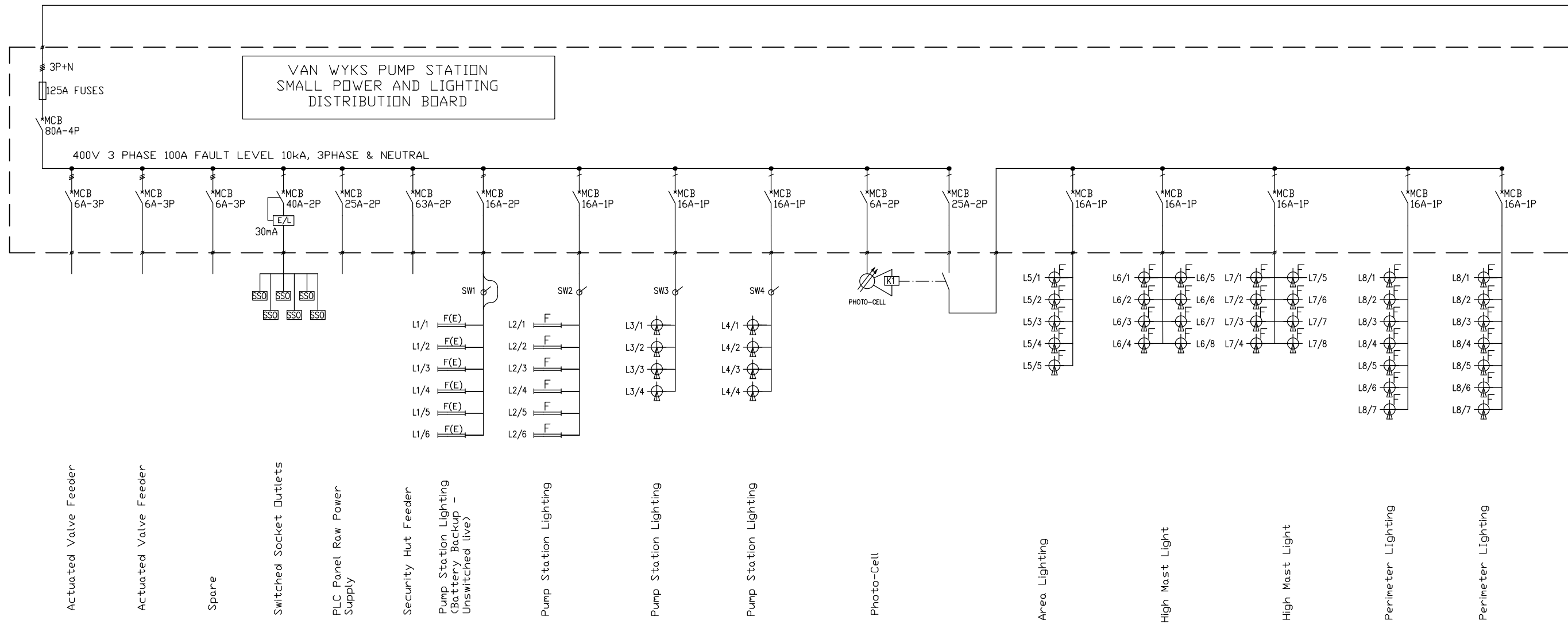


DEPARTMENT		APPROVED	DESIGNATION	DATE														
CONSULTING ENGINEERS					SURVEYED		JOHANNESBURG WATER (SOC) LTD		CITY OF JOHANNESBURG		DESIGN MANAGER	SCALE	AMENDMENTS		APPROVED	DATE	DRAWING No.	
 Building No. 5 Country Club Estate 21 Woodlands Drive Woodmead 2191 PO Box 867 Gallo Manor 2052 Tel No. +27 87 352 1500	DESIGNED	E. BALDREY	 TURBINE HALL 65 NTEMI PILISO STREET NEWTOWN JOHANNESBURG 2001 TEL: (011) 688-1400 FAX: (011) 688-1529	OLIFANTSVLEI WWTW:VAN WYKSRUST PUMP STATION INFRASTRUCTURE RENEWAL PLAN ELECTRICAL MEDIUM VOLTAGE RETICULATION VAN WYKSRUST PUMP STATION MV SINGLE LINE DIAGRAM		DATE	NTS	C01	ISSUED FOR TENDER	D. PHOGOLE			FEB 25	JW NUMBER				
	DRAWN	E. BALDREY		C02	ISSUED FOR RE-TENDER			D. PHOGOLE	FEB 26	JW14466R-RHD-C1-02-D-E-0251								
	CHECKED	E. BALDREY						CONSULTANT'S NUMBER										
	SERVICES CHECKED							BW1400-RHD-C1-02-D-E-0251										
	GEOTECHNICAL INVESTIGATION							FILE No										
	SERVITUDES							JW13605										
	APPROVED	DITHOLO PHOGOLE																
	Pr. Eng. No.	20060098																
DATE								C02										



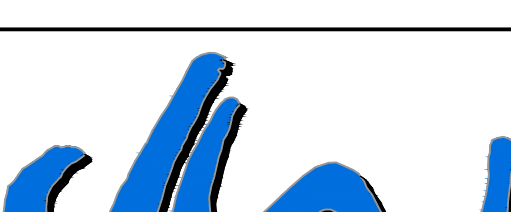


DESCRIPTION	Incomer	Sump Pump No. 1	Sump Pump No. 2	Sump Pump No. 3	Sump Pump No. 4	Coarse Screen 1 Drive	Coarse Screen 2 Drive	BYPASS Channel Coarse Screen Drive	Coarse Screens Discharge Conveyor	Fine Screen Drive	Fine Screen 2 Drive	Screen Press 1	Screen Press Washer	Screen Press 2	Screen Press Washer	Fine Screens Discharge Conveyor 2	Wash Water Pump 1	Wash Water Pump 2	Pump Station Sump Pump	Pump Station Blower Fan	Electric Hoist Feeder	Welding Socket Feeder	Control Transformer	
CUBICLE NUMBER		185kW	185kW	185kW	185kW	2kW	2kW	2kW	11kW	2kW	2kW	11kW	2.2kW	5kW	2.2kW	5kW	11kW	3kW	3kW	1.5kW	0.37kW	10kW	10kW	2.5kVA
kW		185kW	185kW	185kW	185kW	2kW	2kW	2kW	11kW	2kW	2kW	11kW	2.2kW	5kW	2.2kW	5kW	11kW	3kW	3kW	1.5kW	0.37kW	10kW	10kW	2.5kVA
F.I.C.	800A	311A	311A	311A	311A	3.4A	3.4A	3.4A	1.9A	3.4A	3.4A	1.9A	3.8A	8.2A	3.8A	1.9A	4.9A	4.9A	3A	1A	17A	17A	3.4A	
CIRCUIT BREAKER	800A	500A	500A	500A	500A	6.3A	6.3A	6.3A	6.3A	6.3A	6.3A	6.3A	12.5A	12.5A	12.5A	6.3A	6.3A	6.3A	3A	2.5A	25A	40A	N/A	
EARTH FAULT FUSE (A)		375mA (E1sec-T)	375mA (E1sec-T)	375mA (E1sec-T)	375mA (E1sec-T)	250mA (E1sec-X)	250mA (E1sec-X)	250mA (E1sec-X)	250mA (E1sec-X)	250mA (E1sec-X)	250mA (E1sec-X)	250mA (E1sec-X)	250mA (E1sec-X)	250mA (E1sec-X)	250mA (E1sec-X)	250mA (E1sec-X)	250mA (E1sec-X)	250mA (E1sec-X)	250mA (E1sec-X)	250mA (E1sec-X)	250mA (E1sec-X)	250mA (E1sec-X)	10A	
CONTACTOR		400A	400A	400A	400A	32A	32A	32A	32A	32A	32A	32A	32A	32A	32A	32A	32A	32A	32A	9A	N/A	N/A	40A	



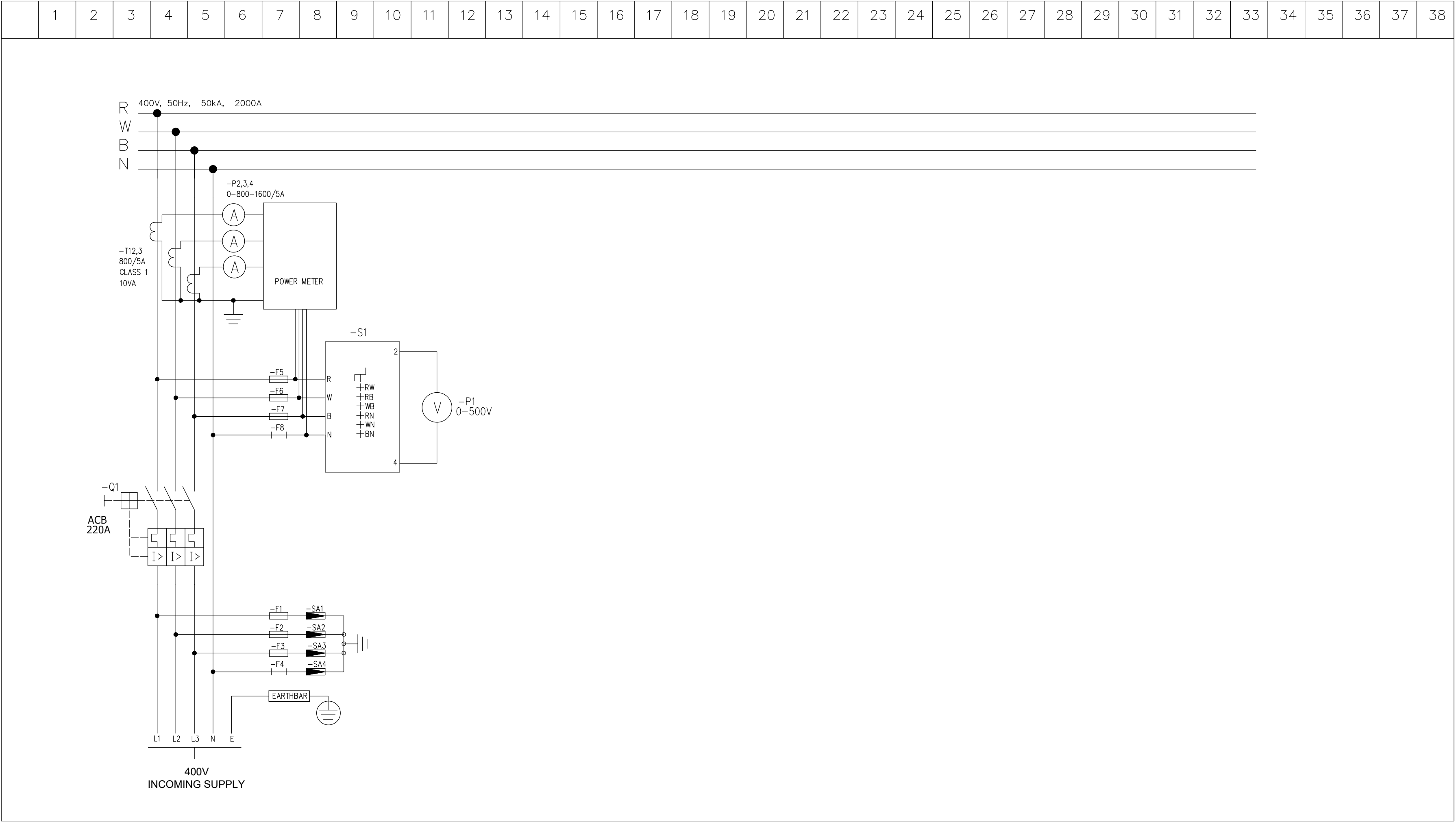
KEY PLAN	
	CIRCUIT BREAKER WITH EARTH FAULT
	DIRECT ON LINE STARTER
	VARIABLE SPEED DRIVE
	STAR/DELTA STARTER
	SOFT STARTER
	FIELD ISOLATOR STATION
	EMERGENCY STOP STATION
	3 PHASE MOTOR
	TRANSFORMER
	FIELD STATION
	E-STOP & STOP/START
	CURRENT TRANSFORMER
	AMMETER
	VOLTMETER
	SURGE ARRESTER
	1200mm 2x25W LED
	FLOOD LIGHT - LED 220W
	PHOTO CELL DAYLIGHT SWITCH
	LED BULKHEAD FITTING-50W
	SINGLE LIGHT SWITCH

NOTES SUMMARY – Van Wyksdrift Pump Station MCC
FORM: 3B
TYPE 2 CO-ORDINATION
BUSBAR RATING: 2000A
FAULT LEVEL: 50KA
IAC – REQUIRED AS PER SANS SPECIFICATIONS
COLOUR: ELECTRIC ORANGE
LENGTH: TBC mm
HEIGHT: TBC mm
DEPTH: 600 mm
MATERIAL: 2mm MILD STEEL
MOUNTING: FREE STANDING
FRONT ACCESS
CABLE ENTRY: BOTTOM
INSTALLATION: SUBSTATION
RATING: IP44
DRIVE CONTROL & MONITORING: CONVENTIONAL
COMMUNICATION: ETHERNET

DEPARTMENT		APPROVED		DESIGNATION		DATE																															
CONSULTING ENGINEERS								SURVEYED				JOHANNESBURG WATER (SOC) LTD				CITY OF JOHANNESBURG				DESIGN MANAGER		SCALE		AMENDMENTS		APPROVED		DATE		DRAWING No.							
 Building No. 5 Country Club Estate 21 Woodlands Drive Woodmead 2191 PO Box 867 Gallo Manor 2052 Tel No. +27 87 352 1500								DESIGNED		E. BALDREY		 Johannesburg Water		TURBINE HALL 65 NTEMI PILISO STREET NEWTOWN JOHANNESBURG 2001 TEL: (011) 688-1400 FAX: (011) 688-1529				OLIFANTSVLEI WWTW: VAN WYKS RUST PUMP STATION INFRASTRUCTURE RENEWAL PLAN VAN WYKS RUST PUMP STATION MOTOR CONTROL CENTRE SINGLE LINE DIAGRAM				DATE		NTS		C01		ISSUED FOR TENDER		D. PHOGOLE		FEB 25		JW NUMBER			
								DRAWN		E. BALDREY																C02		ISSUED FOR RE-TENDER		D. PHOGOLE		FEB 26		JW14466R-RHD-C1-02-D-E-0253			
								CHECKED		E. BALDREY																								CONSULTANT'S NUMBER			
								SERVICES CHECKED																										BW1400-RHD-C1-02-D-E-0253			
								GEOTECHNICAL INVESTIGATION																										FILE No			
								SERVITUDES														JW13605															
								APPROVED		DITHOLO PHOGOLE																											
Pr. Eng. No.		20060098																																			
DATE																																					

NOTES:

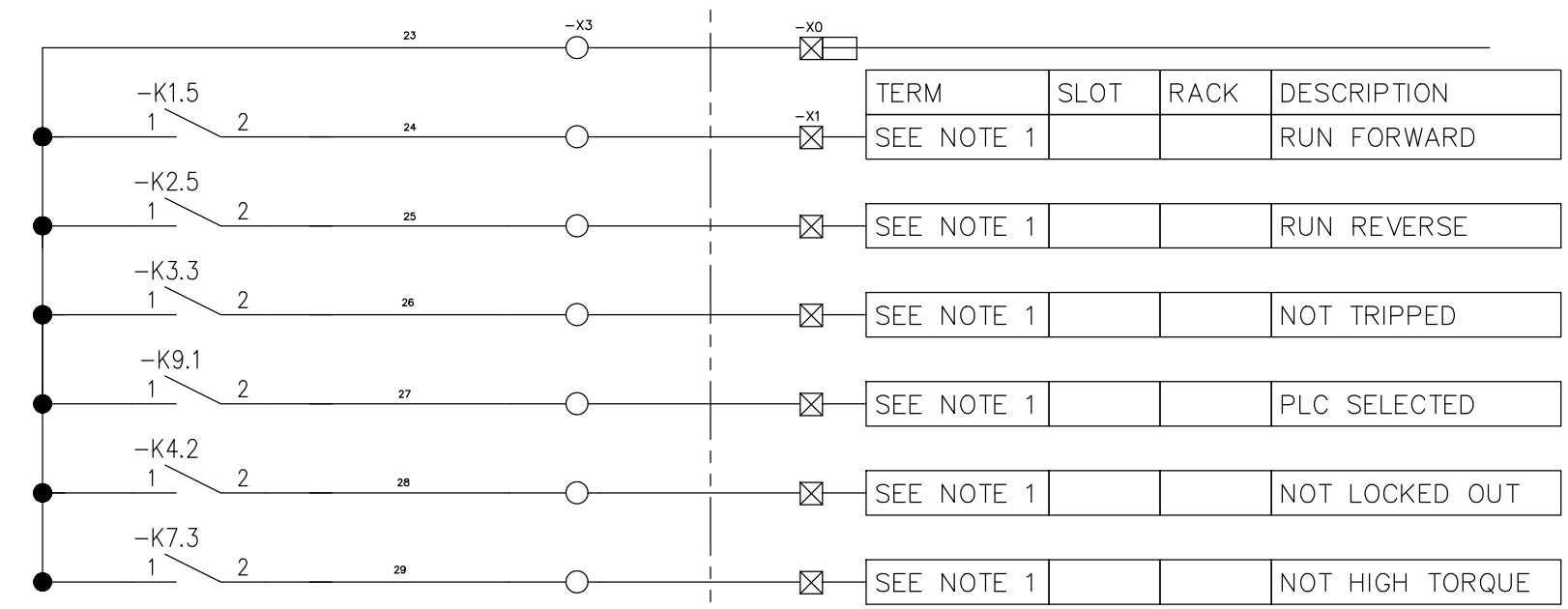
TYPICAL DRAWINGS, THE CONTRACTOR IS REQUIRED TO PROVIDE A COMPLETE SET OF DETAILED MCC SCHEMATICS, TO BE ISSUED TO THE CLIENT FOR APPROVAL, PRIOR TO PANEL MANUFACTURE.



DEPARTMENT	APPROVED	DESIGNATION	DATE

CONSULTING ENGINEERS		SURVEYED		JOHANNESBURG WATER (SOC) LTD		CITY OF JOHANNESBURG		DESIGN MANAGER	SCALE	AMENDMENTS	APPROVED	DATE	DRAWING No.					
	Building No. 5 Country Club Estate 21 Woodlands Drive Woodmead 2191 PO Box 867 Gallo Manor 2052 Tel No. +27 87 352 1500	DESIGNED	E. BALDREY		TURBINE HALL 65 NTEMI PILISO STREET NEWTOWN JOHANNESBURG 2001 TEL: (011) 688-1400 FAX: (011) 688-1529	OLIFANTSVLEI WWTW: VAN WYKSURST PUMP STATION INFRASTRUCTURE RENEWAL PLAN VAN WYKSURST PUMP STATION MCC SCHEMATIC DIAGRAM INCOMER (Sht 1 of 11)												
		DRAWN	E. BALDREY					C01	ISSUED FOR TENDER	D. PHOGOLE	FEB 25	JW NUMBER JW14466R-RHD-C1-02-D-E-0254						
		CHECKED	E. BALDREY						C02	ISSUED FOR RE-TENDER	D. PHOGOLE		FEB 26	CONSULTANT'S NUMBER BW1400-RHD-C1-02-D-E-0254				
		SERVICES CHECKED											FILE No JW13605					
		GEOTECHNICAL INVESTIGATION										C02						
		SERVITUDES																
		APPROVED	DITHOLO PHOGOLE									DATE						
		Pr. Eng. No.	20060098															
DATE																		

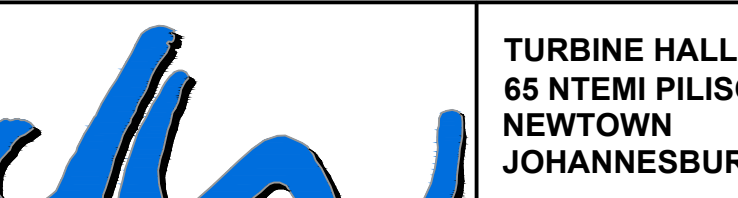
TYPICAL DRAWINGS, THE CONTRACTOR IS REQUIRED TO PROVIDE A COMPLETE SET OF DETAILED MCC SCHEMATICS, TO BE ISSUED TO THE CLIENT FOR APPROVAL, PRIOR TO PANEL MANUFACTURE.



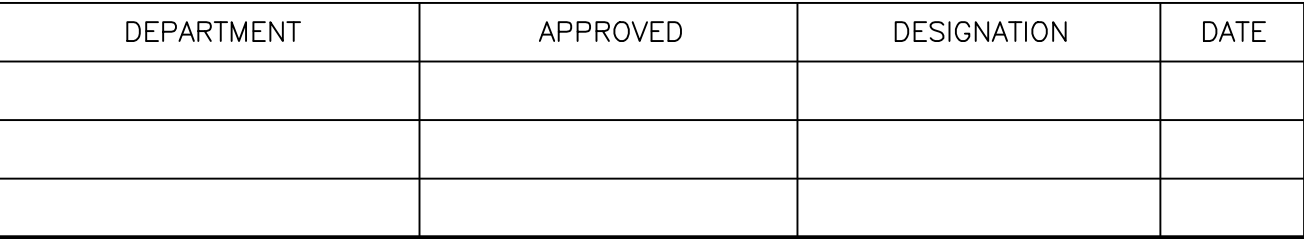
DIGITAL OUTPUT CARD

TERM	SLOT	RACK	DESCRIPTION
			START FORWARD
			COMMON
			START REVERSE
			COMMON
			TORQUE RESET
			COMMON

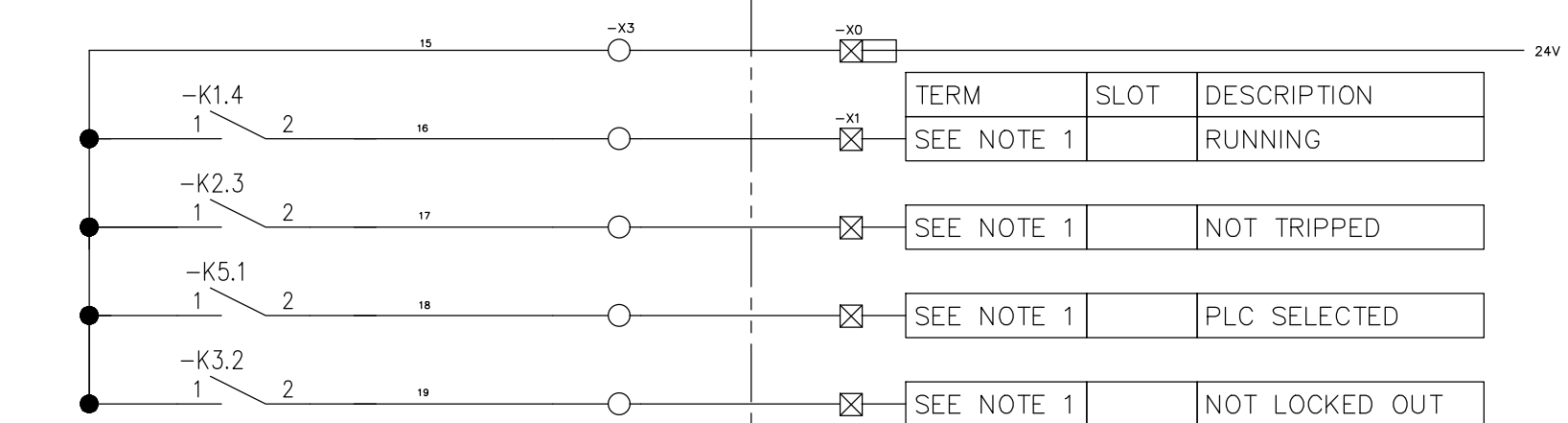
DEPARTMENT	APPROVED	DESIGNATION	DATE

CONSULTING ENGINEERS		SURVEYED		JOHANNESBURG WATER (SOC) LTD		CITY OF JOHANNESBURG		DESIGN MANAGER	SCALE	AMENDMENTS		APPROVED	DATE	DRAWING No.					
 ATANA Legacy Awaits	Building No. 5 Country Club Estate 21 Woodlands Drive Woodmead 2191 PO Box 867 Gallo Manor 2052 Tel No. +27 87 352 1500	DESIGNED	E. BALDREY	 Johannesburg Water	TURBINE HALL 65 NTEMI PILISO STREET NEWTOWN JOHANNESBURG 2001 TEL: (011) 688-1400 FAX: (011) 688-1529	OLIFANTSVLEI WWTW: VAN WYKSRUST PUMP STATION INFRASTRUCTURE RENEWAL PLAN VAN WYKSRUST PUMP STATION MCC SCHEMATIC DIAGRAM SCREEN FORWARD/REVERSE DOL STARTER (Sht 2 of 11)	NTS			C01	ISSUED FOR TENDER	D. PHOGOLE	FEB 25	JW NUMBER					
		C02	ISSUED FOR RE-TENDER							D. PHOGOLE	FEB 26	JW14466R-RHD-C1-02-D-E-0255							
												CONSULTANT'S NUMBER							
												BW1400-RHD-C1-02-D-E-0255							
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												JWC13605							
				C02															

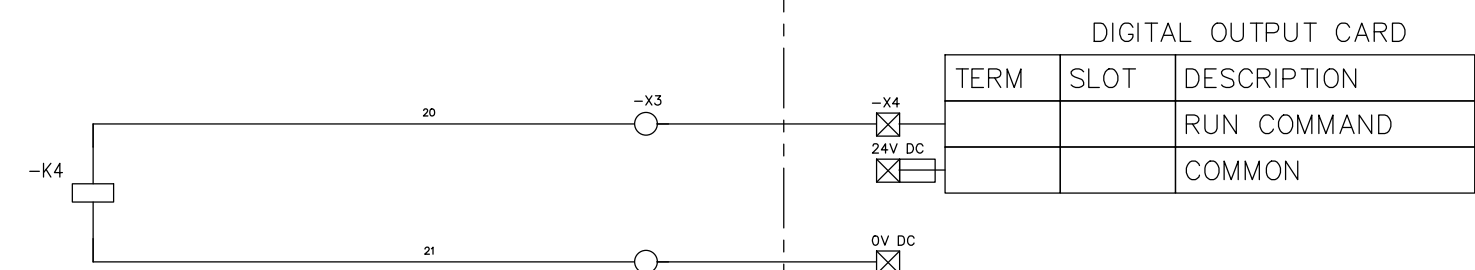
USUAL DRAWINGS, THE CONTRACTOR IS REQUIRED TO PROVIDE A COMPLETE SET OF DETAILED MCC SCHEMATICS, TO BE ISSUED TO THE CLIENT FOR APPROVAL, PRIOR TO PANEL MANUFACTURE.

[illegible]

TYPICAL DRAWINGS, THE CONTRACTOR IS REQUIRED TO PROVIDE A COMPLETE SET OF DETAILED MCC SCHEMATICS, TO BE ISSUED TO THE CLIENT FOR APPROVAL, PRIOR TO PANEL MANUFACTURE.

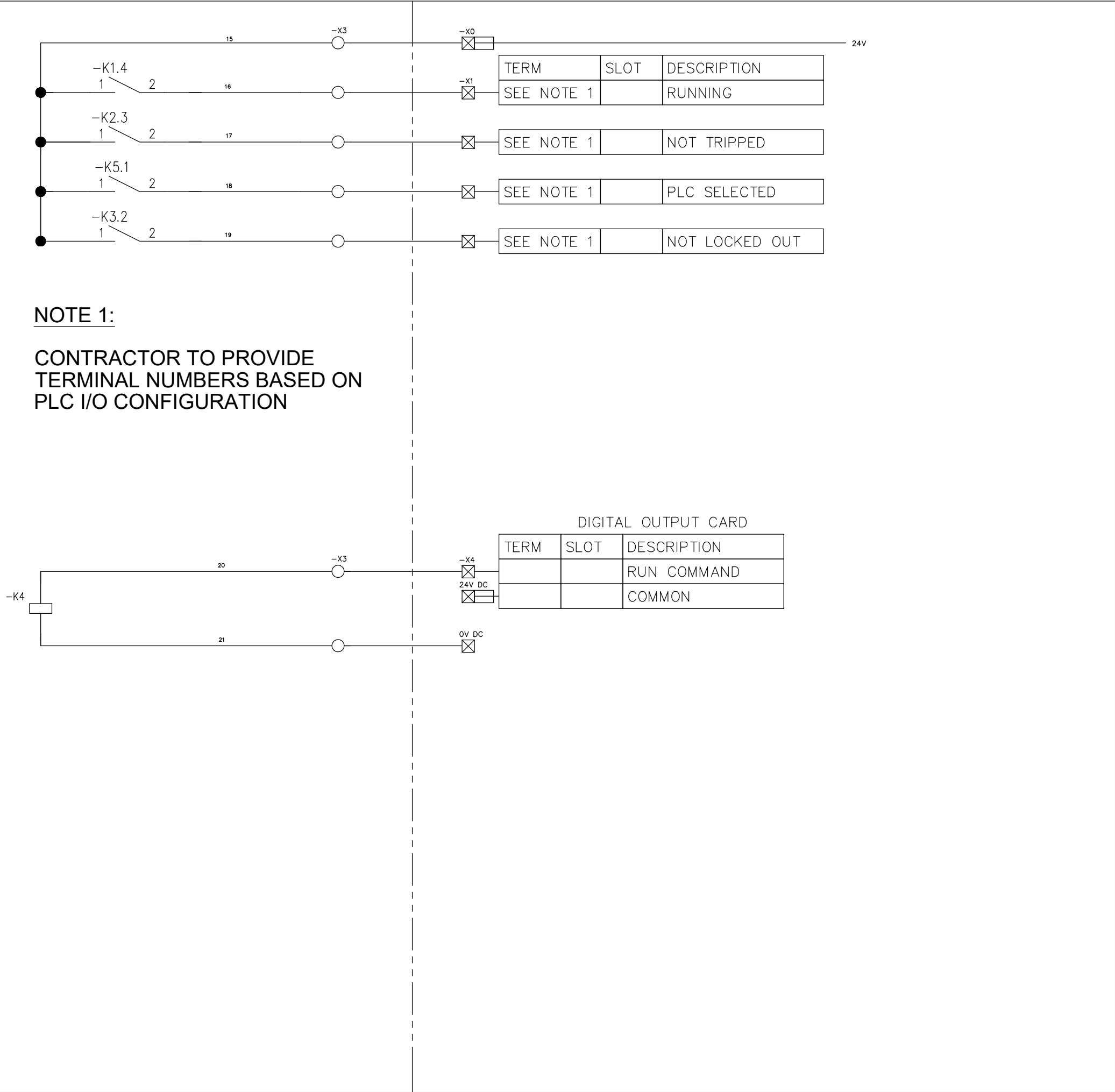
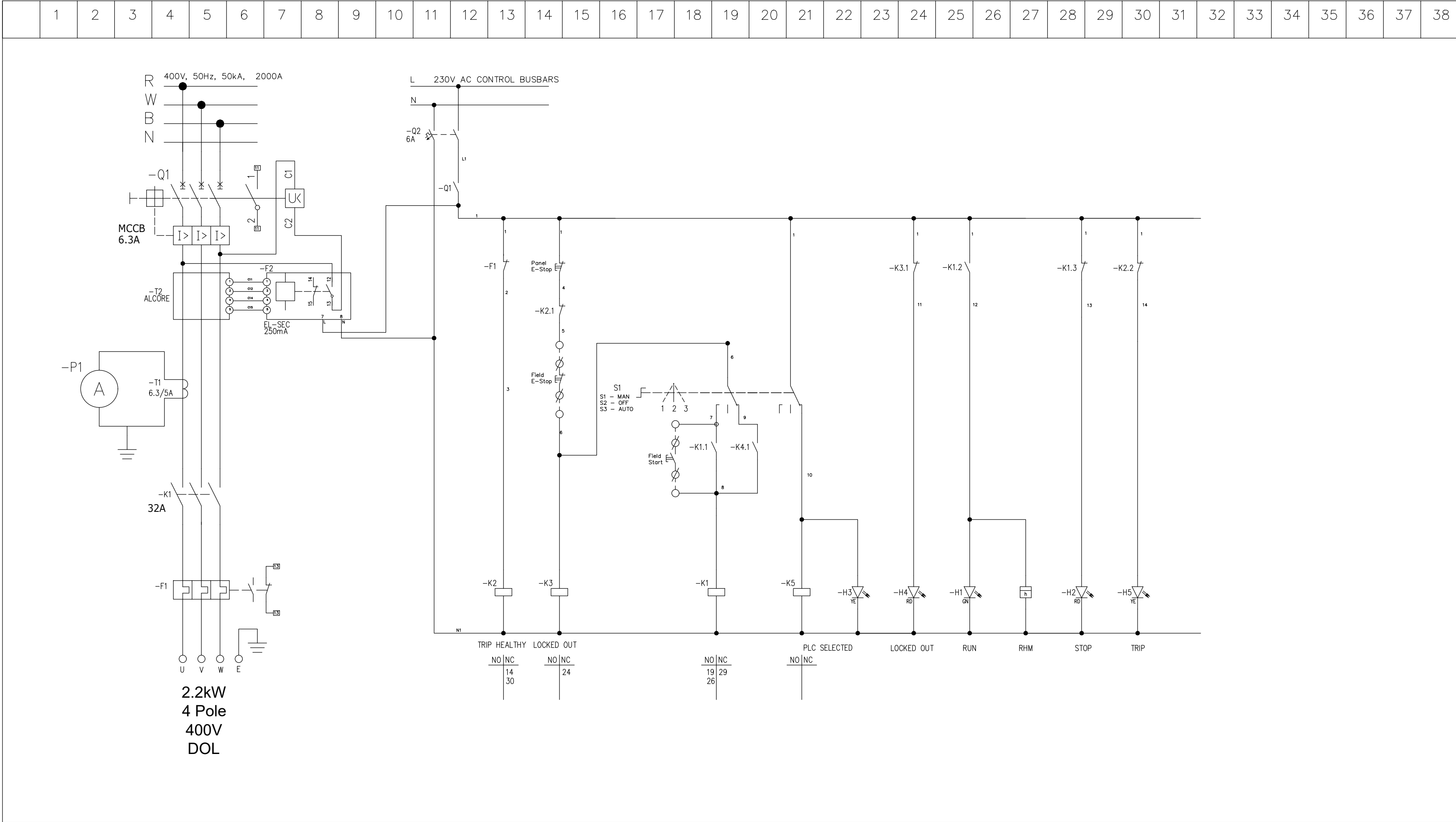


CONTRACTOR TO PROVIDE
TERMINAL NUMBERS BASED ON
PLC I/O CONFIGURATION

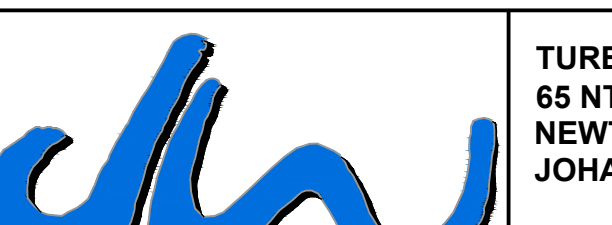
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NOTES:

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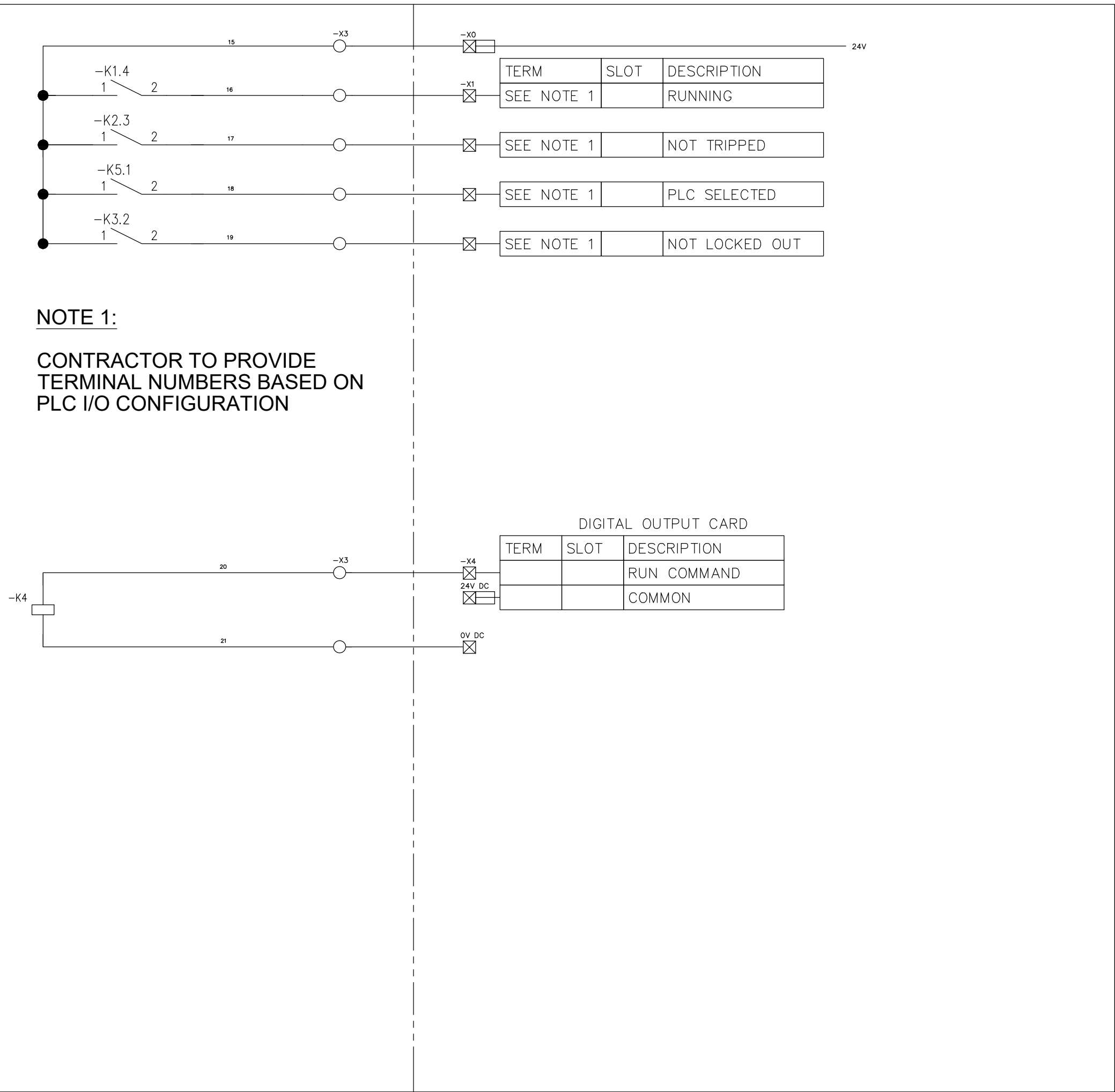
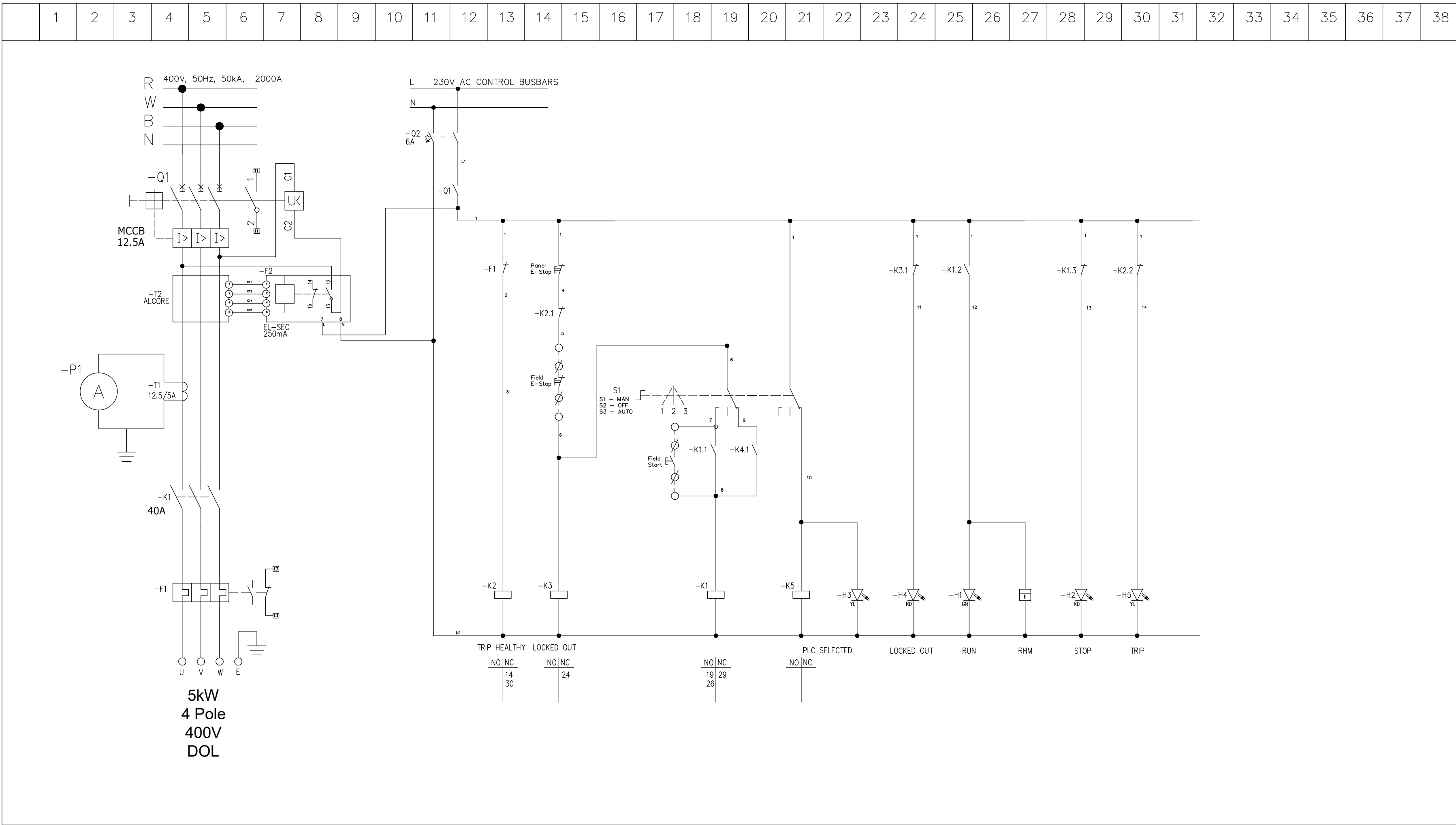


DEPARTMENT	APPROVED	DESIGNATION	DATE

CONSULTING ENGINEERS		JOHANNESBURG WATER (SOC) LTD		CITY OF JOHANNESBURG		DESIGN MANAGER	SCALE	AMENDMENTS		APPROVED	DATE	DRAWING No.	
ATANA Legacy Awaits	Building No. 5 Country Club Estate 21 Woodlands Drive Woodmead 2191 PO Box 867 Gallo Manor 2052 Tel No. +27 87 352 1500	SURVEYED		 Johannesburg Water	TURBINE HALL 65 NTEMI PILISO STREET NEWTOWN JOHANNESBURG 2001 TEL: (011) 688-1400 FAX: (011) 688-1529			OLIFANTSVLEI WWTW:VAN WYKSRUST PUMP STATION INFRASTRUCTURE RENEWAL PLAN VAN WYKSRUST PUMP STATION MCC SCHEMATIC DIAGRAM SCREENING PRESS DOL STARTER (Sht 5 of 11)	NTS			C01	ISSUED FOR TENDER
		C02	ISSUED FOR RE-TENDER			D. PHOGOLE	FEB 26			JW14466R-RHD-C1-02-D-E-0258			
										CONSULTANT'S NUMBER			
										BW1400-RHD-C1-02-D-E-0258			
										FILE No			
										JW13605			
										C02			

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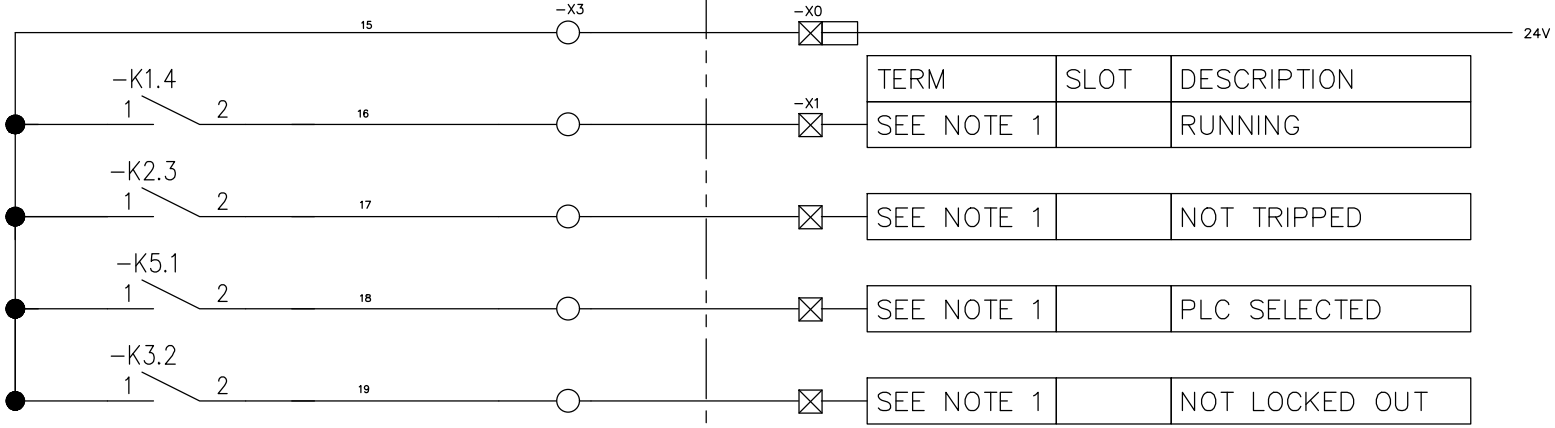
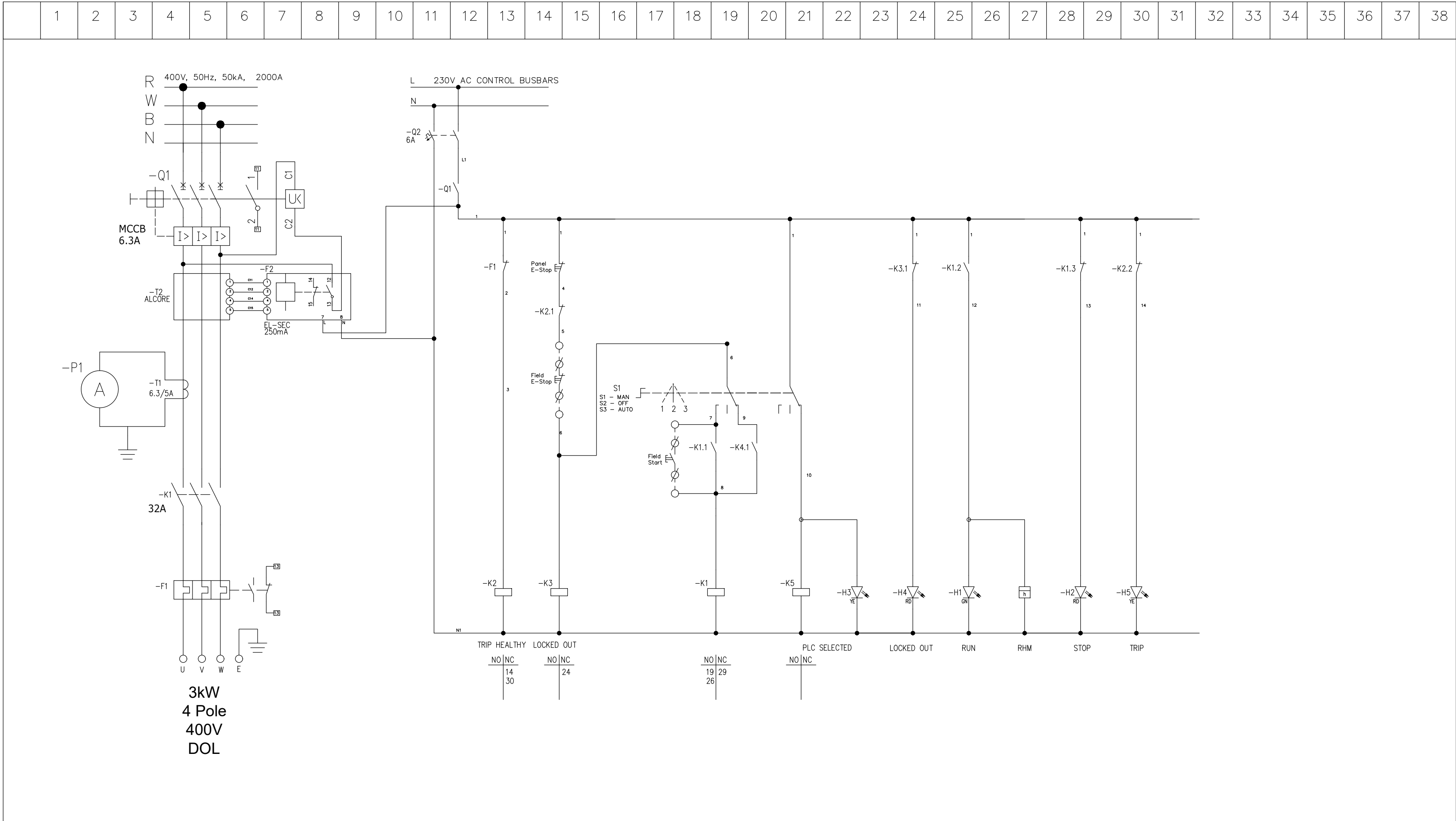


DEPARTMENT	APPROVED	DESIGNATION	DATE

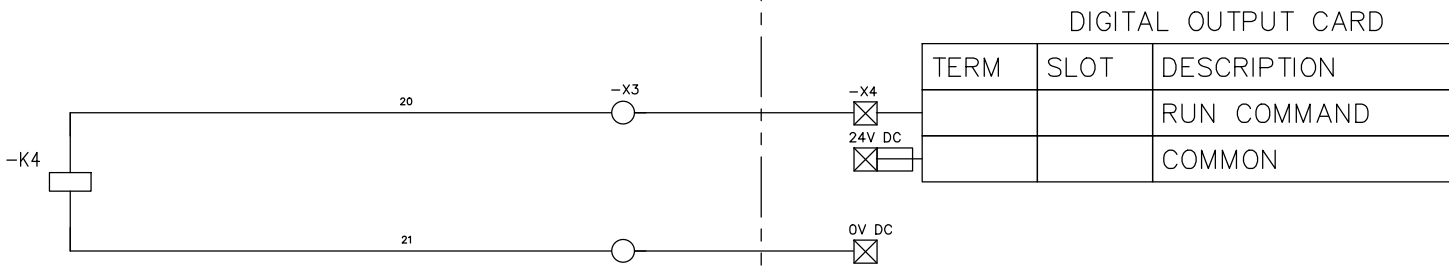
CONSULTING ENGINEERS			JOHANNESBURG WATER (SOC) LTD		CITY OF JOHANNESBURG		DESIGN MANAGER	SCALE	AMENDMENTS		APPROVED	DATE	DRAWING No.				
	Building No. 5 Country Club Estate 21 Woodlands Drive Woodmead 2191 PO Box 867 Gallo Manor 2052 Tel No. +27 87 352 1500	SURVEYED		 Johannesburg Water	TURBINE HALL 65 NTEMI PILISO STREET NEWTOWN JOHANNESBURG 2001 TEL: (011) 688-1400 FAX: (011) 688-1529	OLIFANTSVLEI WWTW: VAN WYKSRUST PUMP STATION INFRASTRUCTURE RENEWAL PLAN VAN WYKSRUST PUMP STATION MCC SCHEMATIC DIAGRAM SCREENING PRESS WASHER DOL STARTER (Sht 6 of 11)											
		DESIGNED	E. BALDREY				NTS	C01	ISSUED FOR TENDER	D. PHOGOLE	FEB 25	JW NUMBER					
		DRAWN	E. BALDREY					C02	ISSUED FOR RE-TENDER	D. PHOGOLE	FEB 26	JW14466R-RHD-C1-02-D-E-0259					
		CHECKED	E. BALDREY									CONSULTANT'S NUMBER					
		SERVICES CHECKED										BW1400-RHD-C1-02-D-E-0259					
		GEOTECHNICAL INVESTIGATION										FILE No					
		SERVITUDES										JW13605					
		APPROVED	DITHOLO PHOGOLE									C02					
		Pr. Eng. No.	20060098														
		DATE															

NOTES:

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NOTE 1:
CONTRACTOR TO PROVIDE
TERMINAL NUMBERS BASED ON
PLC I/O CONFIGURATION

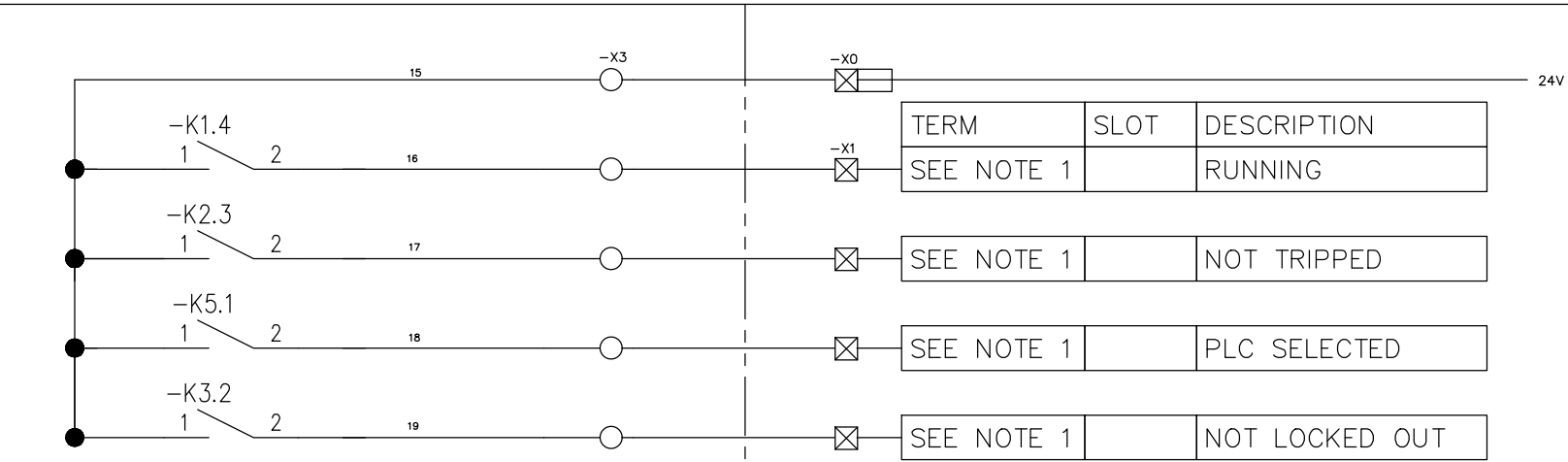
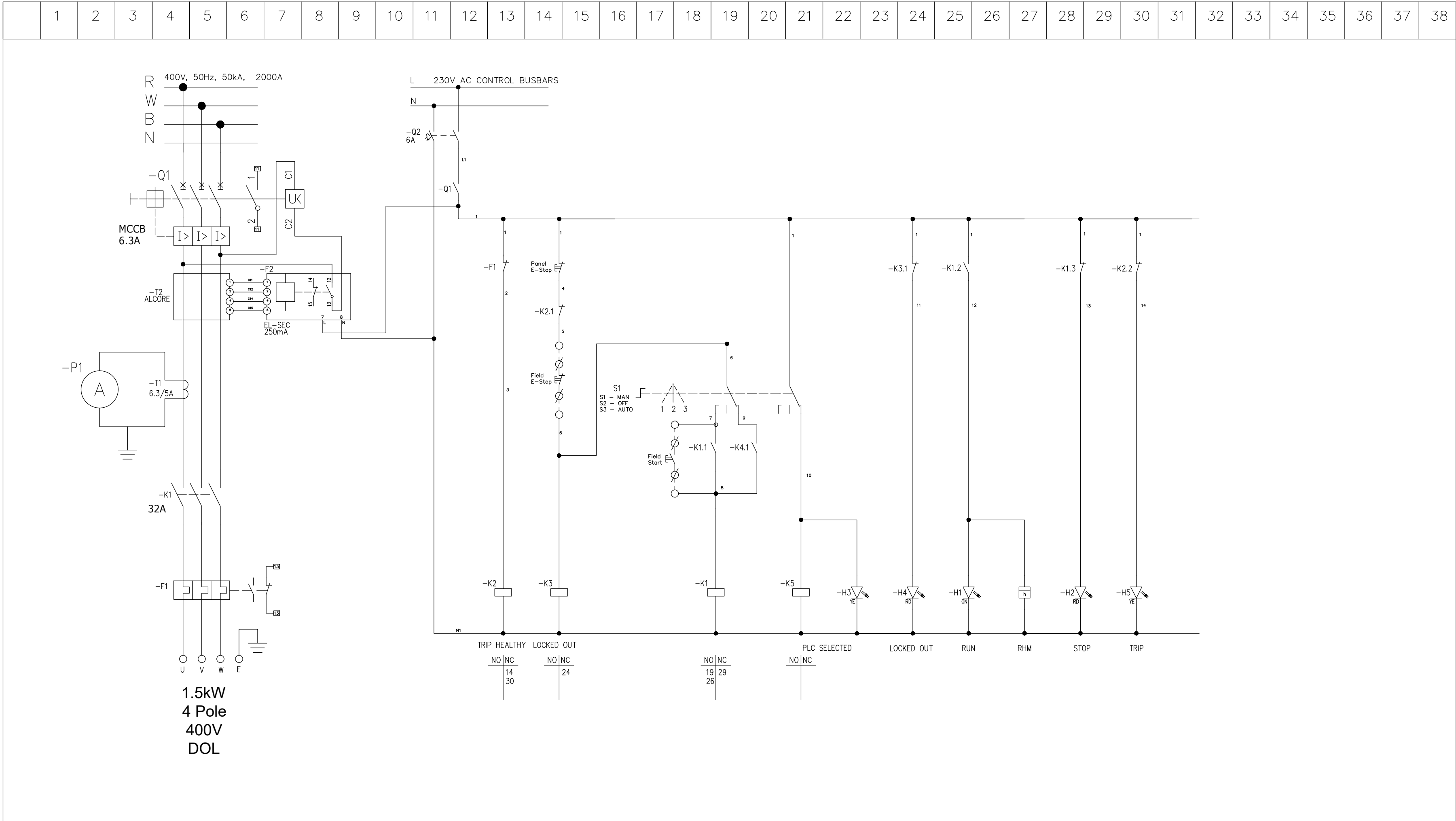


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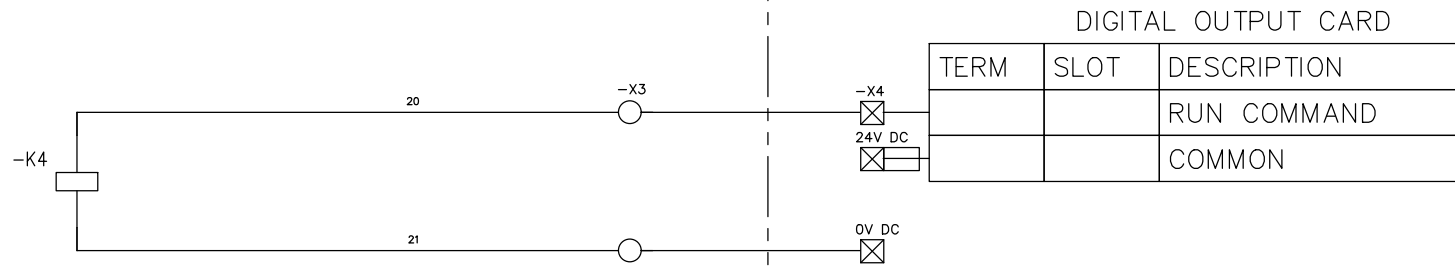
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	Building No. 5 Country Club Estate 21 Woodlands Drive Woodmead 2191 PO Box 867 Gallo Manor 2052 Tel No. +27 87 352 1500	SURVEYED			TURBINE HALL 65 NTEMI PILISO STREET NEWTOWN JOHANNESBURG 2001 TEL: (011) 688-1400 FAX: (011) 688-1529	OLIFANTSVLEI WWTW: VAN WYKSRUST PUMP STATION INFRASTRUCTURE RENEWAL PLAN VAN WYKSRUST PUMP STATION MCC SCHEMATIC DIAGRAM WASH WATER PUMP DOL STARTER (Sht 7 of 11)			NTS	C01			
		DESIGNED	E. BALDREY				C02	ISSUED FOR RE-TENDER		D. PHOGOLE	FEB 26	JW14466R-RHD-C1-02-D-E-0260	
		DRAWN	E. BALDREY									CONSULTANT'S NUMBER	
		CHECKED	E. BALDREY									BW1400-RHD-C1-02-D-E-0260	
		SERVICES CHECKED										FILE No	
		GEOTECHNICAL INVESTIGATION										JW13605	
		SERVITUDES										C02	
		APPROVED	DITHOLO PHOGOLE										
		Pr. Eng. No.	20060098										
		DATE											

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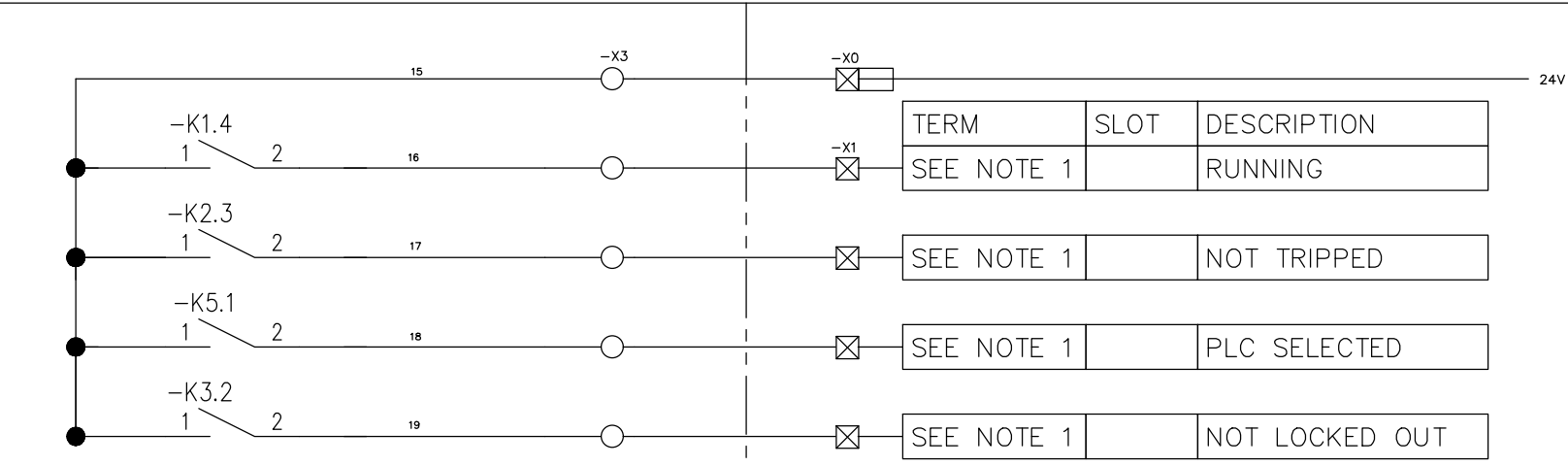
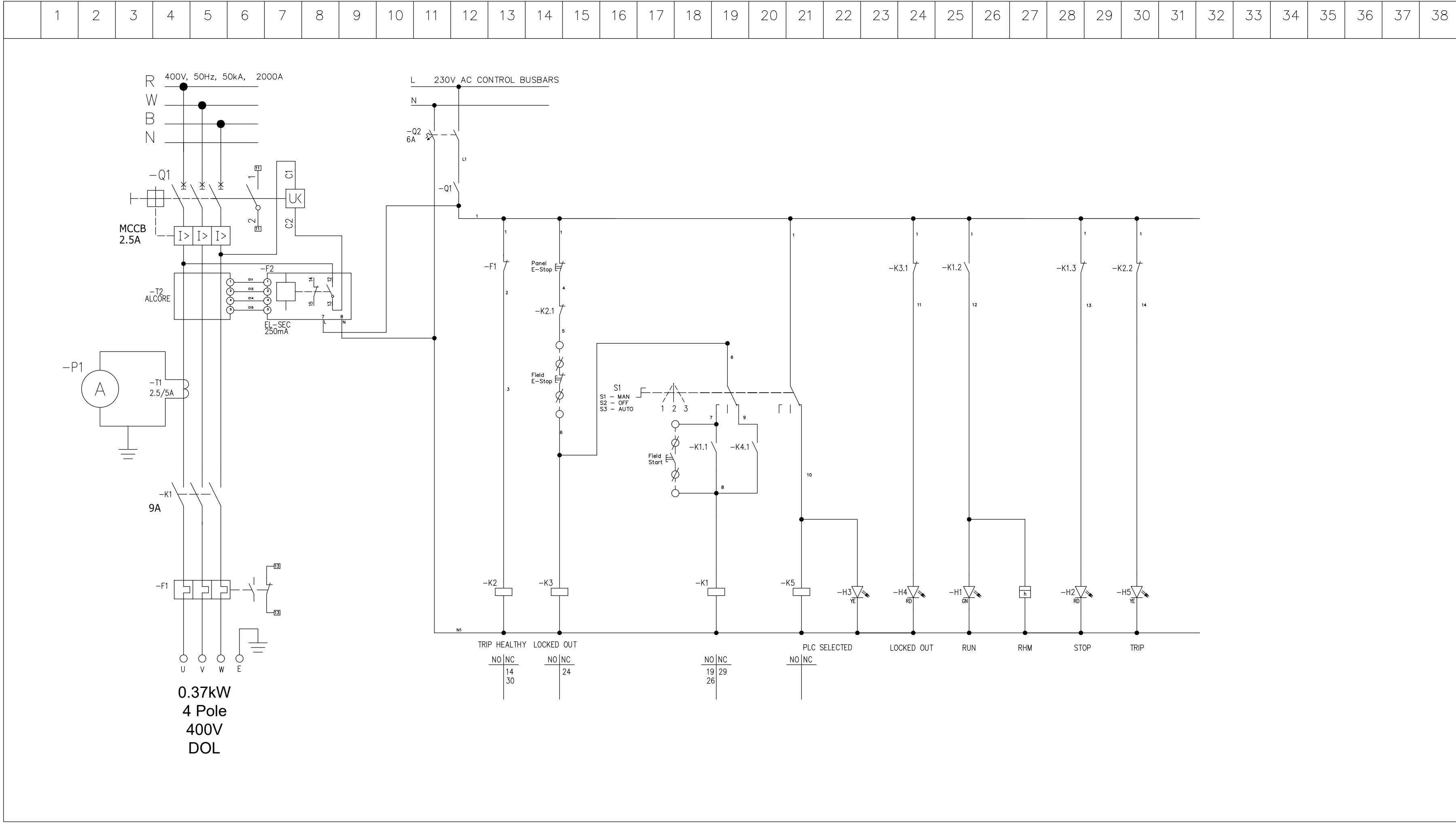


DEPARTMENT	APPROVED	DESIGNATION	DATE

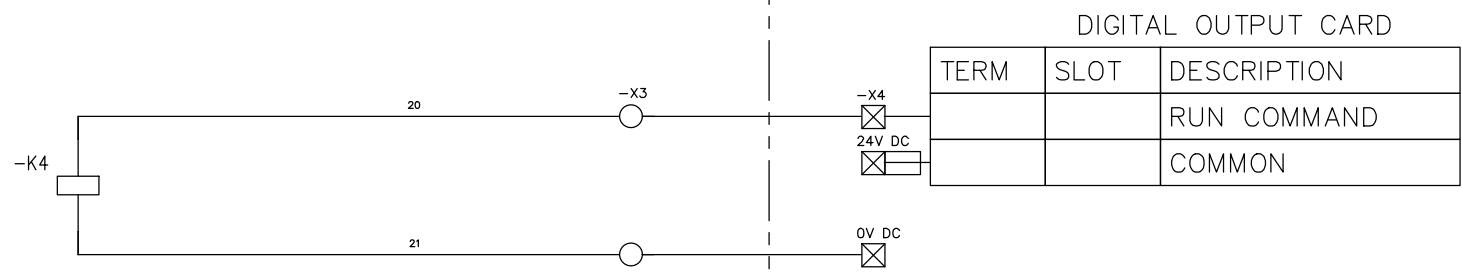
CONSULTING ENGINEERS			SURVEYED		JOHANNESBURG WATER (SOC) LTD		CITY OF JOHANNESBURG		DESIGN MANAGER	SCALE	AMENDMENTS		APPROVED	DATE	DRAWING No.	
	Building No. 5 Country Club Estate 21 Woodlands Drive Woodmead 2191 PO Box 867 Gallo Manor 2052 Tel No. +27 87 352 1500	DESIGNED	E. BALDREY		TURBINE HALL 65 NTEMI PILISO STREET NEWTOWN JOHANNESBURG 2001 TEL: (011) 688-1400 FAX: (011) 688-1529	OLIFANTSVLEI WWTW:VAN WYKSURST PUMP STATION INFRASTRUCTURE RENEWAL PLAN VAN WYKSURST PUMP STATION MCC SCHEMATIC DIAGRAM PUMP STATION SUMP PUMP DOL STARTER (Sht 8 of 11)	DATE	NTS			C01	ISSUED FOR TENDER			D. PHOGOLE	FEB 25
		DRAWN	E. BALDREY						C02	ISSUED FOR RE-TENDER	D. PHOGOLE	FEB 26	JW14466R-RHD-C1-02-D-E-0261			
		CHECKED	E. BALDREY										CONSULTANT'S NUMBER			
		SERVICES CHECKED											BW1400-RHD-C1-02-D-E-0261			
		GEOTECHNICAL INVESTIGATION											FILE No			
		SERVITUDES											JW13605			
		APPROVED DITHOLO PHOGOLE								C02						
		Pr. Eng. No. 20060098														
		DATE														

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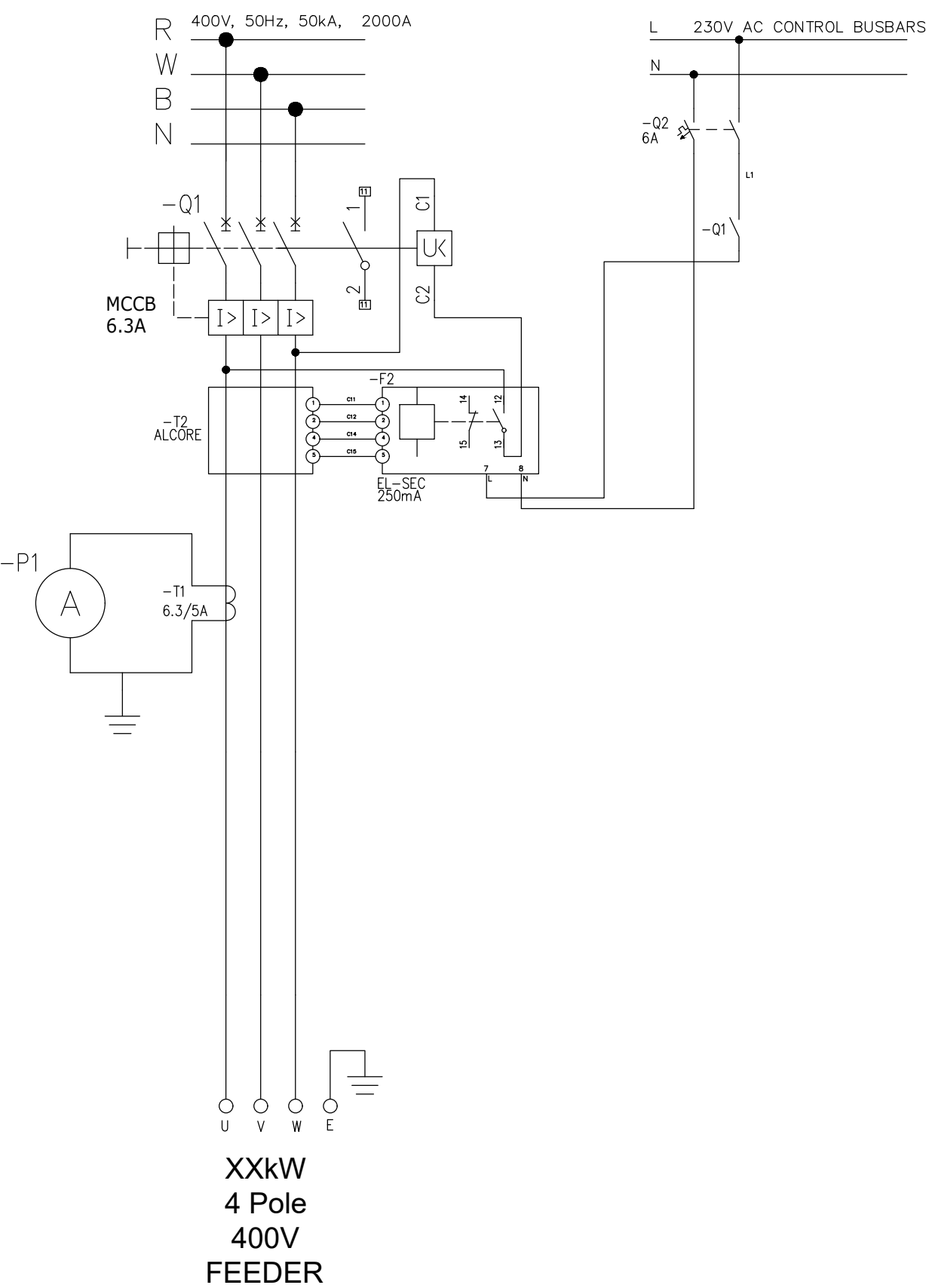
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CONSULTING ENGINEERS			JOHANNESBURG WATER (SOC) LTD		CITY OF JOHANNESBURG		DESIGN MANAGER	SCALE	AMENDMENTS	APPROVED	DATE	DRAWING No.
 ATANA Legacy Awaits	Building No. 5 Country Club Estate 21 Woodlands Drive Woodmead 2191 PO Box 867 Gallo Manor 2052 Tel No. +27 87 352 1500	SURVEYED		 Johannesburg Water	TURBINE HALL 65 NTEMI PILISO STREET NEWTOWN JOHANNESBURG 2001 TEL: (011) 688-1400 FAX: (011) 688-1529	OLIFANTSVLEI WWTW:VAN WYKSURST PUMP STATION INFRASTRUCTURE RENEWAL PLAN VAN WYKSURST PUMP STATION MCC SCHEMATIC DIAGRAM PUMP STATION EXTRACTION FAN DOL STARTER (Sht 9 of 11)						
		DESIGNED	E. BALDREY									
		DRAWN	E. BALDREY									
		CHECKED	E. BALDREY									
		SERVICES CHECKED										
		GEOTECHNICAL INVESTIGATION										
		SERVITUDES										
		APPROVED	DITHOLO PHOGOLE									
		Pr. Eng. No.	20060098									
		DATE										

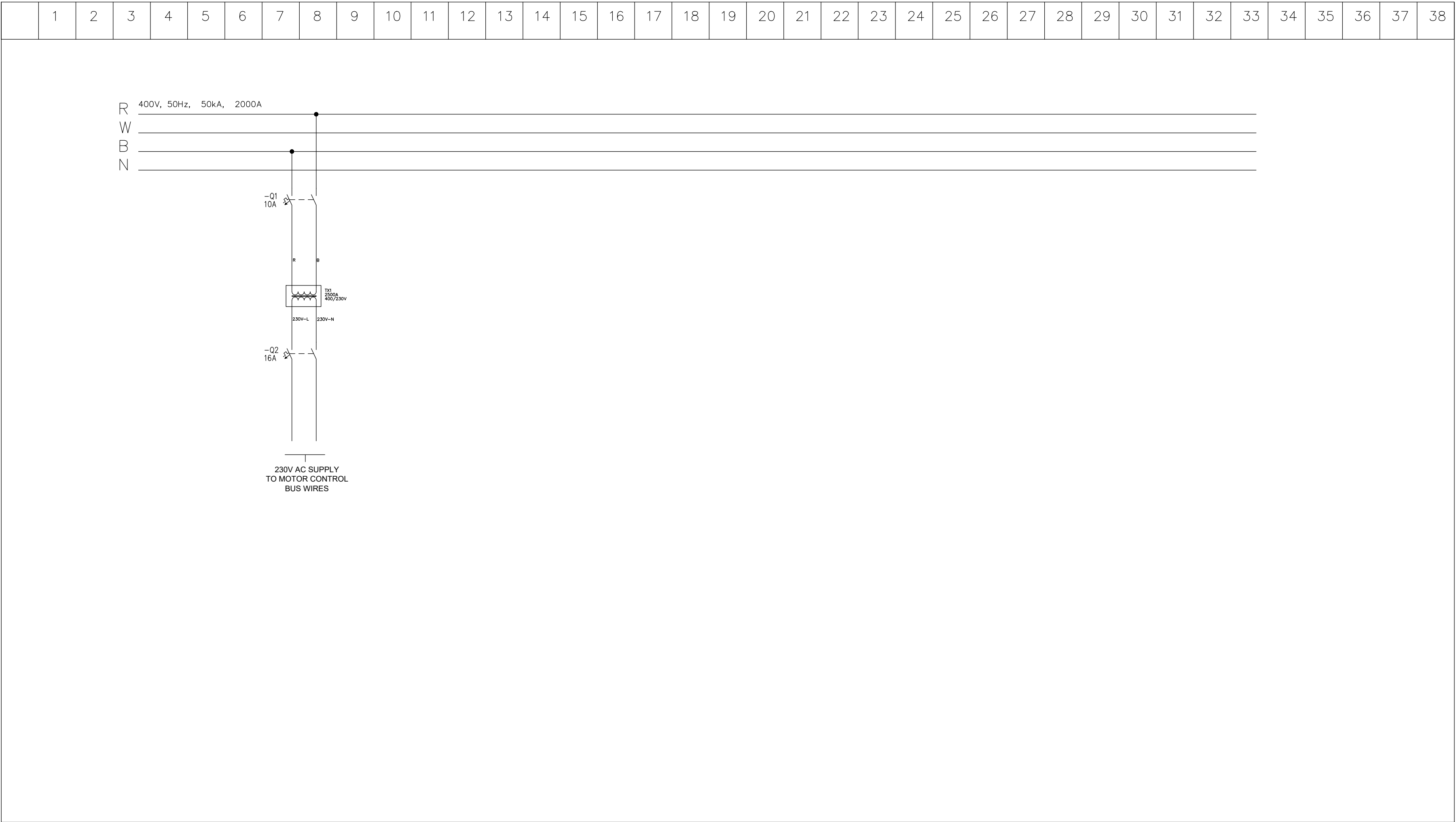
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CONSULTING ENGINEERS		SURVEYED		JOHANNESBURG WATER (SOC) LTD		CITY OF JOHANNESBURG		DESIGN MANAGER	SCALE	AMENDMENTS	APPROVED	DATE	DRAWING No.										
 ATANA Legacy Awaits	Building No. 5 Country Club Estate 21 Woodlands Drive Woodmead 2191 PO Box 867 Gallo Manor 2052 Tel No. +27 87 352 1500	DESIGNED	E. BALDREY	 Johannesburg Water	TURBINE HALL 65 NTEMI PILISO STREET NEWTOWN JOHANNESBURG 2001 TEL: (011) 688-1400 FAX: (011) 688-1529	OLIFANTSVLEI WWTW:VAN WYKSRUST PUMP STATION INFRASTRUCTURE RENEWAL PLAN VAN WYKSRUST PUMP STATION MCC SCHEMATIC DIAGRAM TYPICAL FEEDER SCHEMATIC (Sht 10 of 11)	DATE						NTS	C01	ISSUED FOR TENDER	D. PHOGOLE	FEB 25	JW NUMBER					
		C02	ISSUED FOR RE-TENDER											D. PHOGOLE	FEB 26	JW14466R-RHD-C1-02-D-E-0263							
		CONSULTANT'S NUMBER																					
		BW1400-RHD-C1-02-D-E-0263																					
		FILE No																					
		JW13605																					
		C02																					

NOTES:

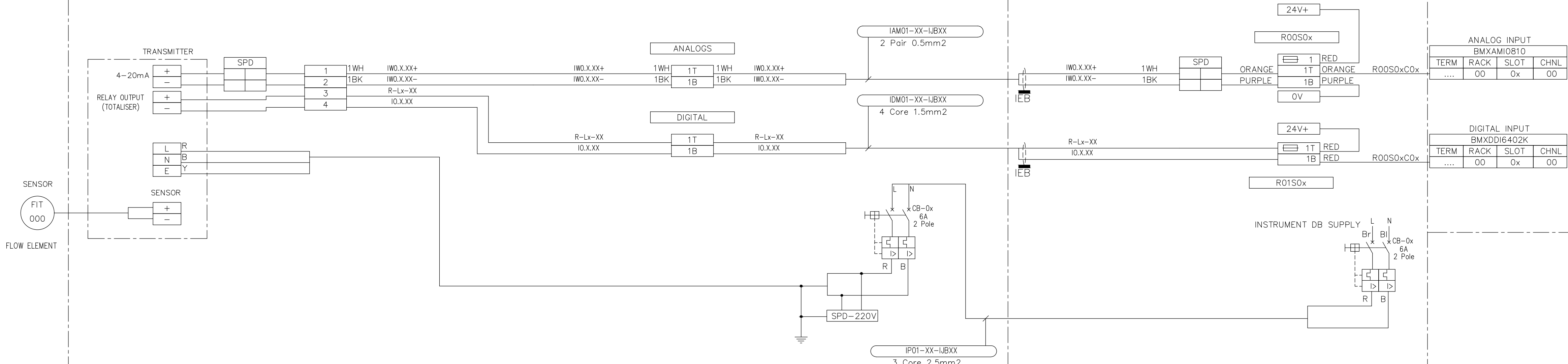
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DEPARTMENT	APPROVED	DESIGNATION	DATE

CONSULTING ENGINEERS			SURVEYED		JOHANNESBURG WATER (SOC) LTD		CITY OF JOHANNESBURG		DESIGN MANAGER	SCALE	AMENDMENTS			APPROVED	DATE	DRAWING No.								
	Building No. 5 Country Club Estate 21 Woodlands Drive Woodmead 2191 PO Box 867 Gallo Manor 2052 Tel No. +27 87 352 1500	DESIGNED	E. BALDREY		TURBINE HALL 65 NTEMI PILISO STREET NEWTOWN JOHANNESBURG 2001	OLIFANTSVLEI WWTW:VAN WYKSrust PUMP STATION INFRASTRUCTURE RENEWAL PLAN VAN WYKSrust PUMP STATION MCC SCHEMATIC DIAGRAM CONTROL TRANSFORMER SCHEMATIC (Sht 11 of 11)	DATE	NTS			C01	ISSUED FOR TENDER	D. PHOGOLE			FEB 25	JW NUMBER							
		DRAWN	E. BALDREY								C02	ISSUED FOR RE-TENDER	D. PHOGOLE			FEB 26	JW14466R-RHD-C1-02-D-E-0264							
		CHECKED	E. BALDREY														CONSULTANT'S NUMBER							
		SERVICES CHECKED															BW1400-RHD-C1-02-D-E-0264							
		GEOTECHNICAL INVESTIGATION															FILE No							
		SERVITUDES															JW13605							
		APPROVED	DITHOLO PHOGOLE																					
		Pr. Eng. No.	20060098																					
DATE																								

TYPICAL DRAWINGS, THE CONTRACTOR IS REQUIRED TO PROVIDE A COMPLETE SET OF INSTRUMENT LOOP DRAWINGS, TO BE ISSUED TO THE CLIENT FOR APPROVAL PRIOR TO INSTALLATION.

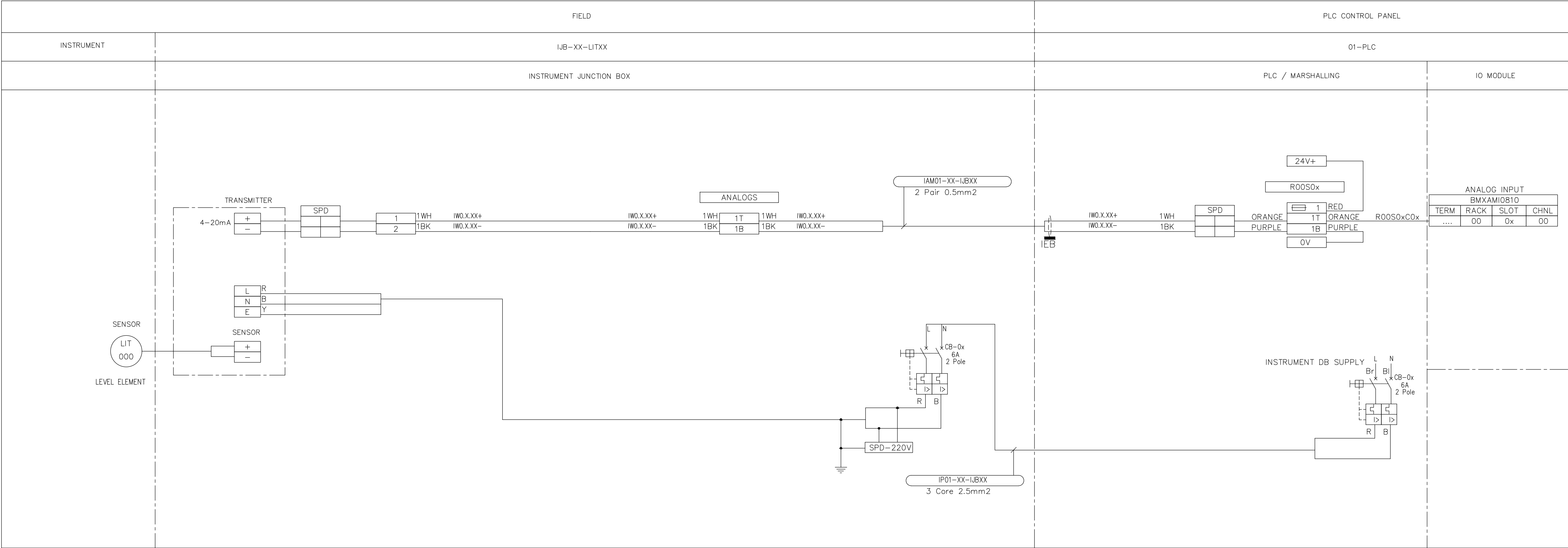


DEPARTMENT	APPROVED	DESIGNATION	DATE

CONSULTING ENGINEERS		SURVEYED		JOHANNESBURG WATER (SOC) LTD		CITY OF JOHANNESBURG		DESIGN MANAGER	SCALE	AMENDMENTS	APPROVED	DATE	DRAWING No.											
 ATANA Legacy Awaits	Building No. 5 Country Club Estate 21 Woodlands Drive Woodmead 2191 PO Box 867 Gallo Manor 2052 Tel No. +27 87 352 1500	DESIGNED	E. BALDREY	 Johannesburg Water	TURBINE HALL 65 NTEMI PILISO STREET NEWTOWN JOHANNESBURG 2001 TEL: (011) 688-1400 FAX: (011) 688-1529	OLIFANTSVLEI WWTW: VAN WYKSRUST PUMP STATION INFRASTRUCTURE RENEWAL PLAN TYPICAL INSTRUMENT LOOP DIAGRAMS FLOW TRANSMITTER (Sht 1 of 5)	C01						ISSUED FOR TENDER	D. PHOGOLE	FEB 25	JW NUMBER								
		DRAWN	E. BALDREY				C02						ISSUED FOR RE-TENDER	D. PHOGOLE	FEB 26	JW14466R-RHD-C1-02-D-E-0265								
		CHECKED	E. BALDREY										CONSULTANT'S NUMBER											
		SERVICES CHECKED											FILE No											
		GEOTECHNICAL INVESTIGATION											JW13605											
		SERVITUDES											C02											
		APPROVED	DITHOLO PHOGOLE																					
Pr. Eng. No.	20060098																							
		DATE																						

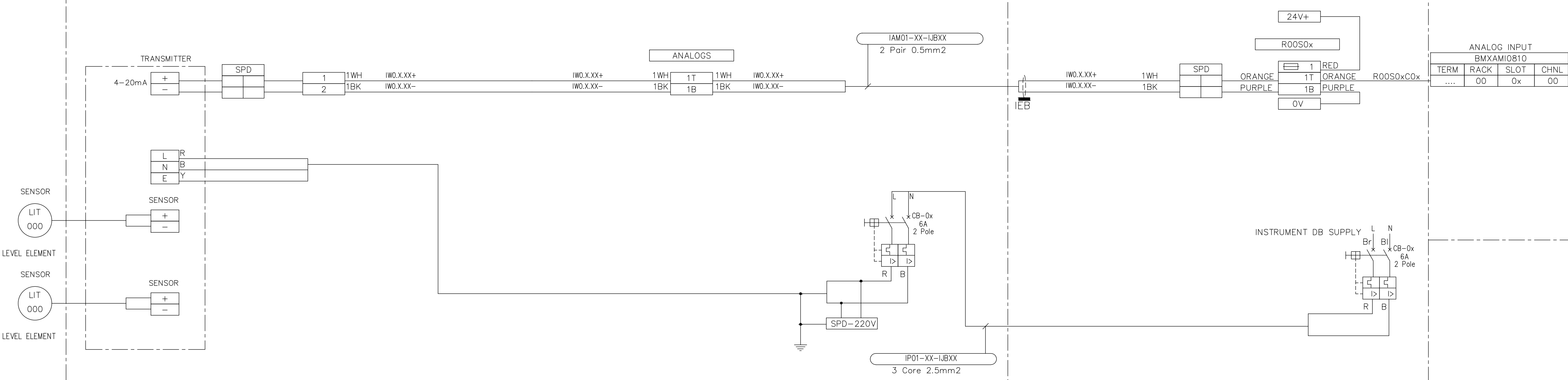
NOTES:

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DEPARTMENT		APPROVED		DESIGNATION		DATE																													
CONSULTING ENGINEERS								SURVEYED				JOHANNESBURG WATER (SOC) LTD				CITY OF JOHANNESBURG				DESIGN MANAGER		SCALE		AMENDMENTS		APPROVED		DATE		DRAWING No.					
 Building No. 5 Country Club Estate 21 Woodlands Drive Woodmead 2191 PO Box 867 Gallo Manor 2052 Tel No. +27 87 352 1500								DESIGNED		E. BALDREY		 TURBINE HALL 65 NTEMI PILISO STREET NEWTOWN JOHANNESBURG 2001 TEL: (011) 688-1400 FAX: (011) 688-1529				OLIFANTSVLEI WWTW:VAN WYKS RUST PUMP STATION INFRASTRUCTURE RENEWAL PLAN TYPICAL INSTRUMENT LOOP DIAGRAMS LEVEL TRANSMITTER (Sht 2 of 5)				DATE				C01		ISSUED FOR TENDER		D. PHOGOLE		FEB 25		JW NUMBER			
								C02		ISSUED FOR RE-TENDER														D. PHOGOLE		FEB 26		JW14466-RHD-C1-02-D-E-0266							
																												CONSULTANT'S NUMBER							
																												BW1400-RHD-C1-02-D-E-0266							
																												FILE No							
																				JW13605															
								APPROVED		DITHOLO PHOGOLE																									
								Pr. Eng. No.		20060098																									
								DATE																											

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CONSULTING ENGINEERS	
 ATANA Legacy Awaits	Building No. 5 Country Club Estate 21 Woodlands Drive Woodmead 2191 PO Box 867 Gallo Manor 2052 Tel No. +27 87 352 1500

JOHANNESBURG WATER



Johannesburg Water

CITY OF JOHANNESBURG

OLIFANTSVLEI WWTW: VAN WYKSRUST PUMP STATION

INFRASTRUCTURE RENEWAL PLAN

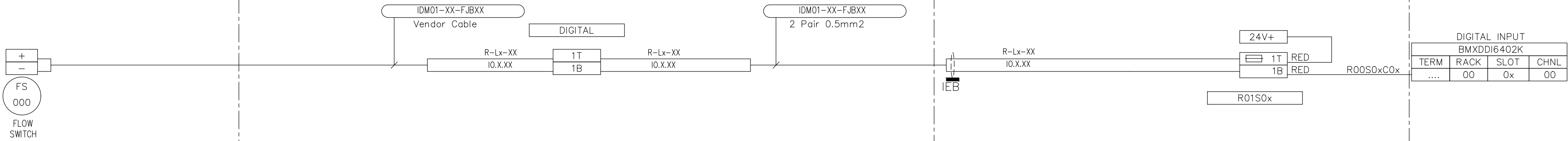
TYPICAL INSTRUMENT LOOP DIAGRAMS

SCREEN DIFFERENTIAL LEVEL TRANSMITTER (Sht 3 of 5)

SCALE

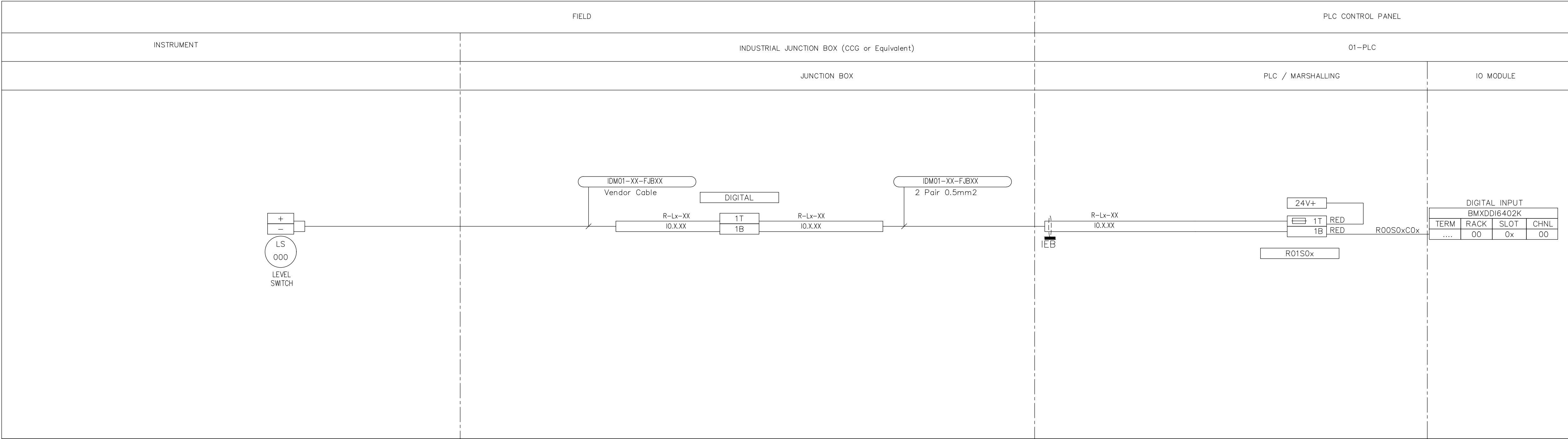
AMENDMENTS		APPROVED	DATE	DRAWING No.					
C01	ISSUED FOR TENDER	D. PHOGOLE	FEB 25	JW NUMBER JW14466-RHD-C1-02-D-E-0267					
C02	ISSUED FOR RE-TENDER	D. PHOGOLE	FEB 26	CONSULTANT'S NUMBER BW1400-RHD-C1-02-D-E-0267					
				FILE No JW13605					
				C02					

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