THE GOVERNMENT OF KENYA

MINISTRY OF WATER, SANITATION AND IRRIGATION

AFRICAN DEVELOPMENT BANK

ATHI WATER WORKS DEVELOPMENT AGENCY

CONSULTANCY SERVICES FOR DETAILED DESIGN AND CONSTRUCTION SUPERVISION FOR REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWAGE TREATMENT PLANT (DESTP) INLET WORKS – COMPONENT 1: DESIGN AND TENDER DOCUMENTATION

DETAILED DESIGN DRAWINGS

MARCH 2022

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CIVIL WORKS

REHABILITATION AND DUPLICATION OF DESTP INLET WORKS

GENERAL	
FC/CE108/GL/01	Site Layout Plan
DUPLICATION OF DESTP INLET WORKS	
FC/CE108/PL/02	Layout Plan of Existing and Proposed Works
FC/CE108/PL/03	Layout Plan of Proposed Works
FC/CE108/DT/04	Marcerator Pumps Room and Sump Plan and Section
FC/CE108/DT/05	Cup Screens and Grit Trap Sections and Details
FC/CE108/DT/06	Cup Screens and Grit Trap Reinforcement Details
FC/CE108/DT/07	Inlet Channel, Grit Trap, Bypass Channel and Outlet Channel Sections and Details
FC/CE108/DT/08	Inlet Channel, Grit Trap, Bypass Channel and Outlet Channel Reinforcement Details
FC/CE108/CR/01	Control Room - Foundation Layout
FC/CE108/CR/02	Control Room - Ground Floor Layout
FC/CE108/CR/03	Control Room - Roof Floor Layout
FC/CE108/CR/04	Control Room - Roof Floor Reinforcement Layout
FC/CE108/PL/04	Layout Plan of Duplication of the Inlet Works for the Future Design Horizon (2032)

SITE ANCILLARY WORKS	
FC/CE108/PP/05	Stormwater Drainage Channel Plan and Profile (Sheet 1 of 3)
FC/CE108/PP/06	Stormwater Drainage Channel Plan and Profile (Sheet 2 of 3)
FC/CE108/PP/07	Stormwater Drainage Channel Plan and Profile (Sheet 3 of 3)
FC/CE108/TY/06	Masonry Boundary Wall - Plan, Sections and Details
FC/CE108/TY/06A	Masonry Boundary Wall Near Nairobi River (Area Prone to Flooding) Plan, Sections and Details
FC/CE108/TY/06B	Masonry Boundary Wall Near Nairobi River (Area Prone to Flooding) Plan, Sections and Details
FC/CE108/TY/07	Typical Concrete Posts Fence Details
FC/CE108/PL/09	Access Roads - Layout Plan
FC/CE108/TY/08	Access Roads - Typical Cross-Section

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Project
NAIROBI RIVERS BASIN REHABILITATION AND RESTORATION PROGRAMME: SEWERAGE IMPROVEMENT PROJECT PHASE II (NaRSIP II)

REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

Drawing Title
DANDORA ESTATE SEWAGE TREATMENT PLANT (DESTP)

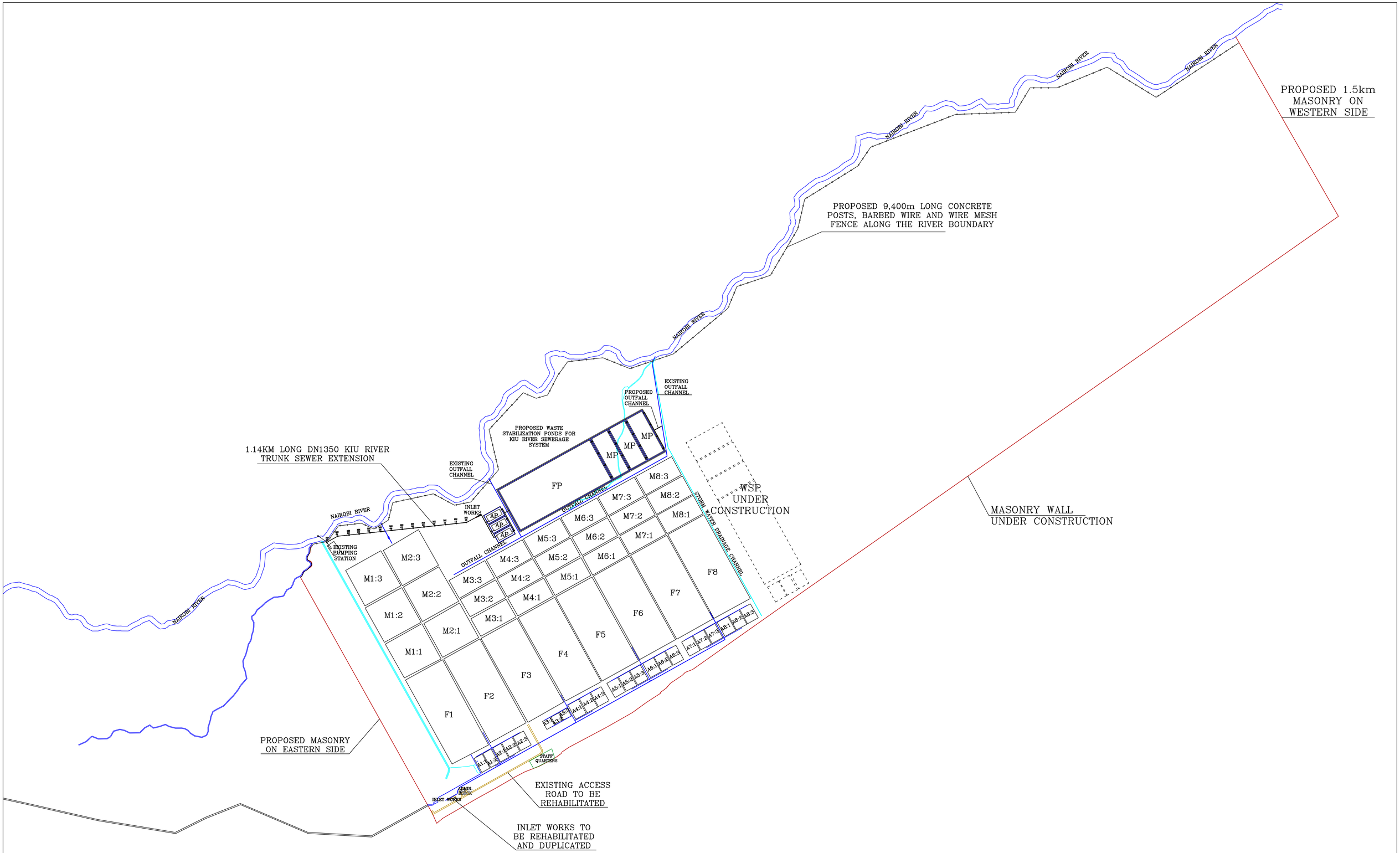
LIST OF DRAWINGS

NOTES

REV	REVISIONS	BY / CHECKED	SIGN	DATE	APPROVED
D		BY / CHECKED			
C		BY / CHECKED			
B		BY / CHECKED			
A		BY / CHECKED			

Designed by D.K		Drawn by D.K	
Checked by FMK		Approved by	
Scales 1:12500		Date: JULY 2021	
Job No. FC/CE108		ACAD File: CE108_GN_00	
P STATUS	DRG No. FC/CE108/GN/00		REV

GENERAL LAYOUT PLAN



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NAIROBI RIVERS BASIN REHABILITATION AND RESTORATION PROGRAMME: SEWERAGE IMPROVEMENT PROJECT PHASE II (NaRSIP II)

REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

Drawing Title

DANDORA ESTATE SEWAGE TREATMENT PLANT (DESTP)

GENERAL LAYOUT PLAN

NOTES
1. DRAWING TO SCALE ON A1 PAPER SIZE
2. DRAWING TO BE READ INCONJUCTION WITH OTHER RELEVANT DRAWINGS
3. ALL DIMENSIONS AND LEVELS TO CHECKED ON SITE BEFORE COMMENCING ANY WORK. ANY DISCREPANCY TO BE REPORTED TO THE ENGINEER
4. ONLY FIGURED DIMENSIONS TO BE TAKEN FROM THIS DRAWING

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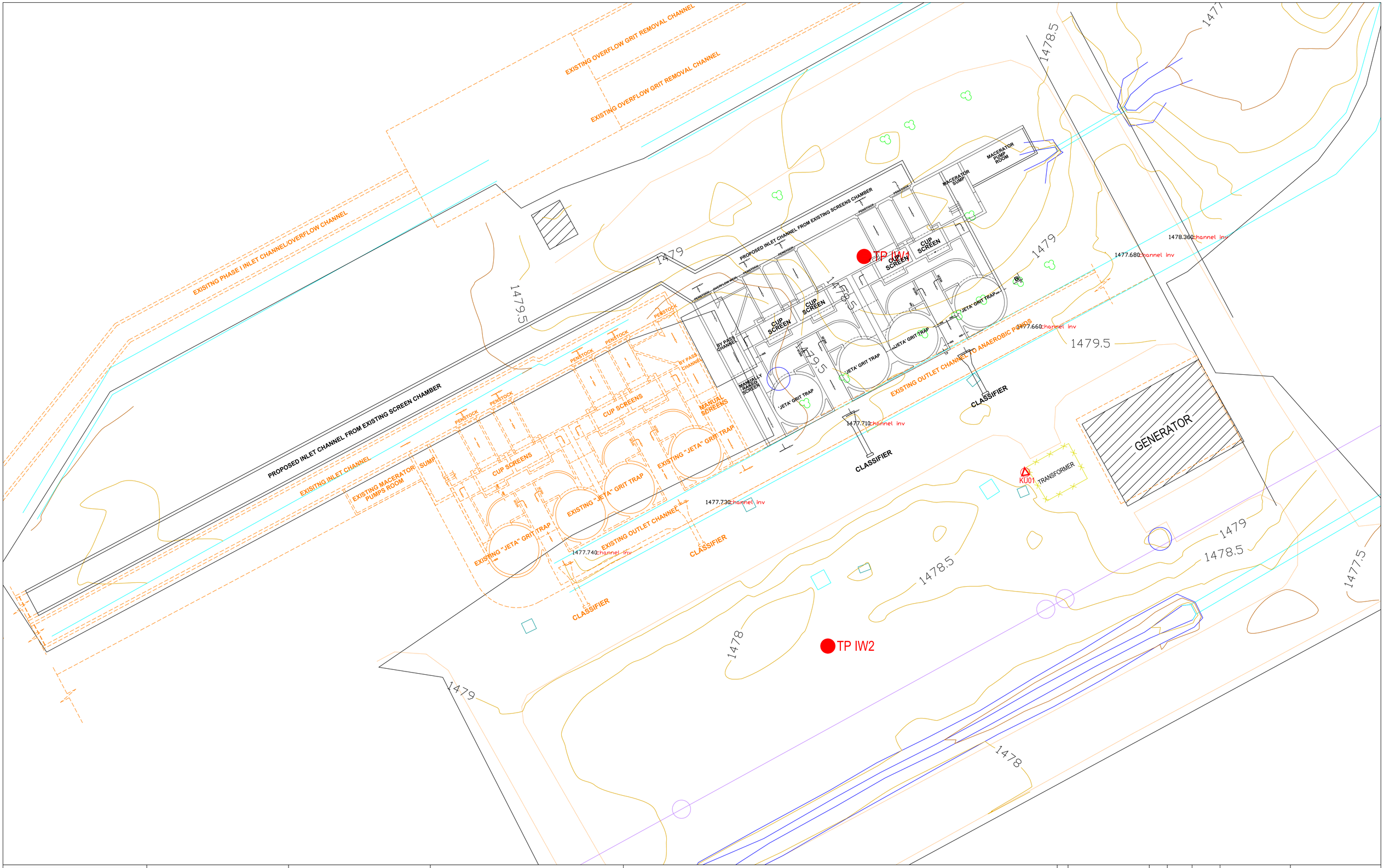
		CHECKED			

Designed by	D.K	Drawn by	D.K
Checked by	FMK	Approved by	
Scales	1:12500	Date:	OCTOBER 2021
Job No.	FC/CE108	ACAD File:	CE108_GL_01
STATUS: P	DRG No.	FC/CE108/GL/01	REV

DUPLICATION OF DESTP INLET WORKS



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Project

NAIROBI RIVERS BASIN REHABILITATION AND RESTORATION PROGRAMME: SEWERAGE IMPROVEMENT PROJECT PHASE II (NaRSIP II)

REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

Drawing Title

DANDORA ESTATE SEWAGE TREATMENT PLANT (DESTP)

LAYOUT PLAN OF EXISTING AND PROPOSED WORKS

NOTES
1. DRAWING TO SCALE ON A1 PAPER SIZE
2. DRAWING TO BE READ INCONJUCTION WITH OTHER RELEVANT CIVIL, STRUCTURAL, ELECTRICAL AND MECHANICAL DRAWINGS
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Checked by	FMK	Approved by	FMK
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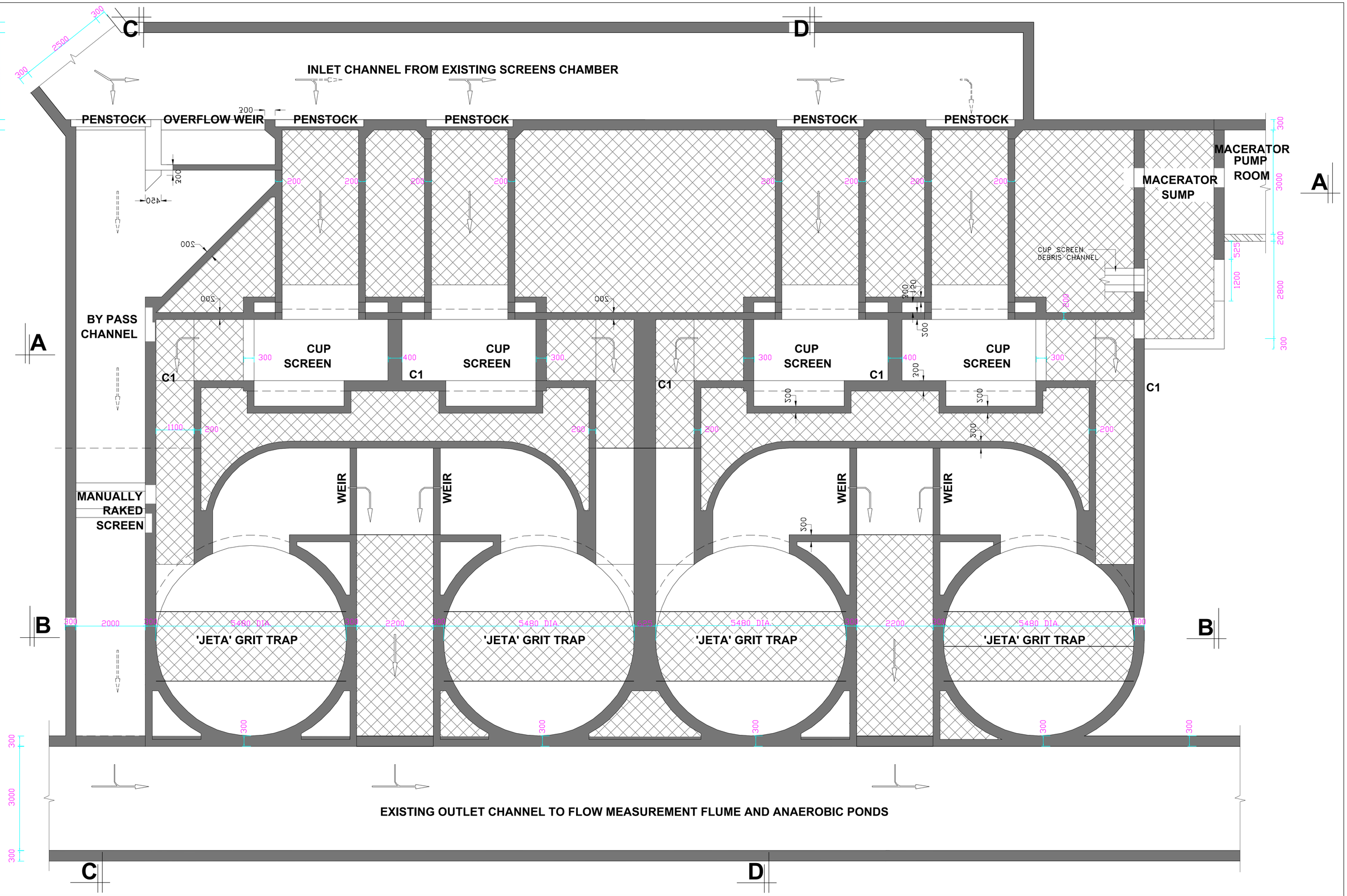

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NAIROBI RIVERS BASIN REHABILITATION AND RESTORATION PROGRAMME: SEWERAGE IMPROVEMENT PROJECT PHASE II (NaRSIP II)

REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

Drawing Title

DANDORA ESTATE SEWAGE TREATMENT PLANT (DESTP)

LAYOUT PLAN OF PROPOSED WORKS

NOTES
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Scales	1:50	Date:	OCTOBER 2021
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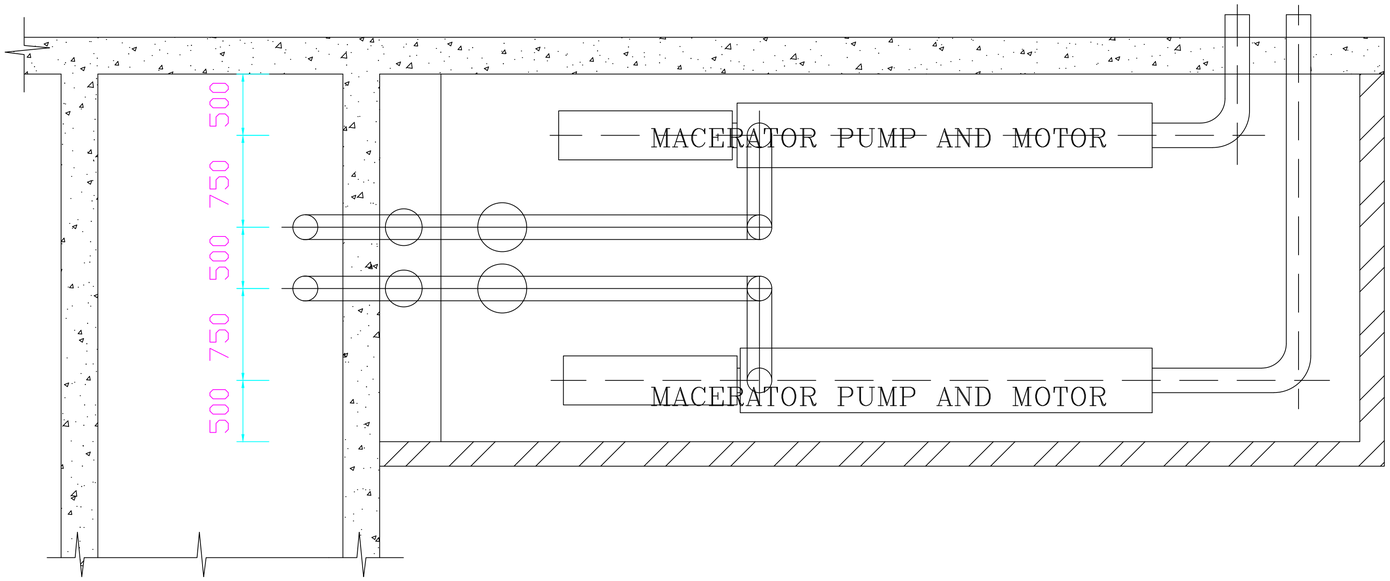
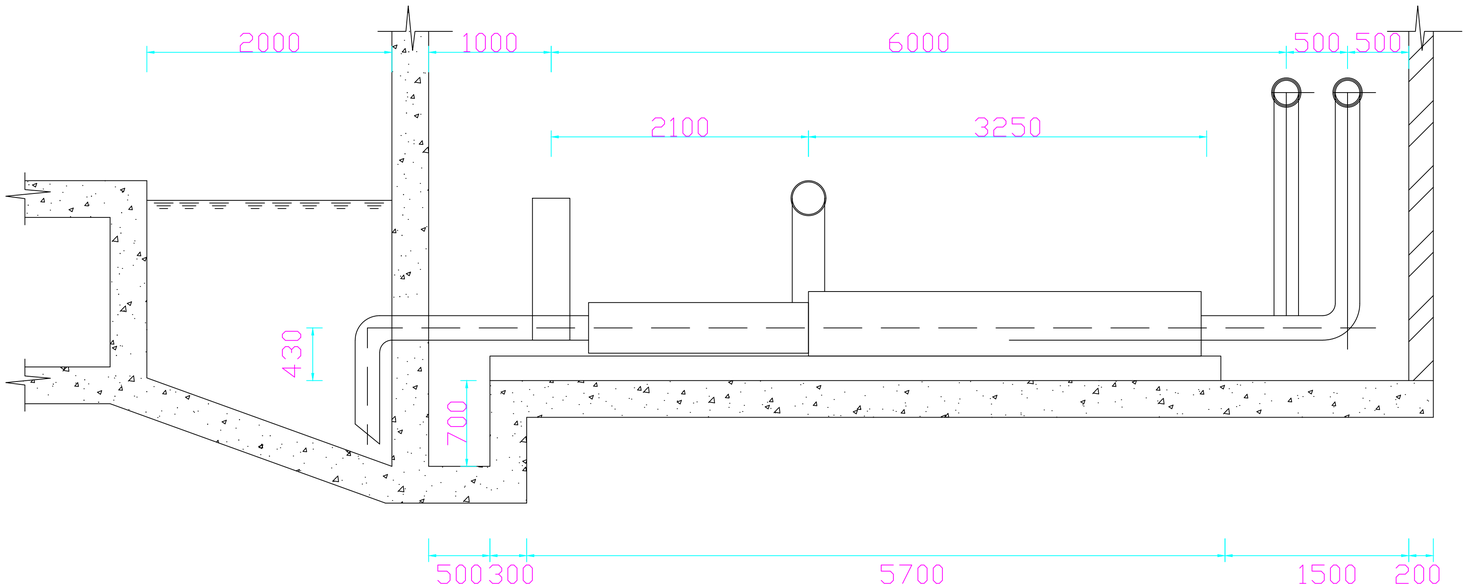
STATUS P	DRG No.	FC/CE108/PL/03	REV



LAYOUT PLAN



SECTION

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NAIROBI RIVERS BASIN REHABILITATION AND RESTORATION PROGRAMME: SEWERAGE IMPROVEMENT PROJECT PHASE II (NaRSIP II)

REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

Drawing Title
DANDORA ESTATE SEWAGE TREATMENT PLANT (DESTP)

MACERATOR PUMPS ROOM AND SUMP PLAN AND SECTION

NOTES
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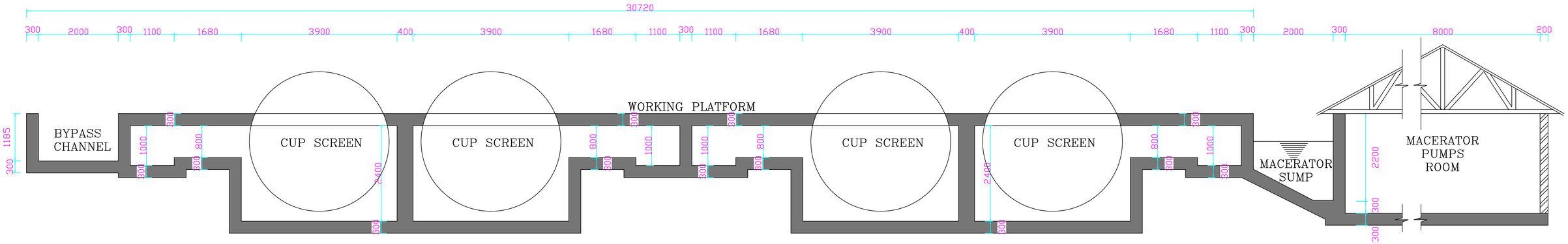
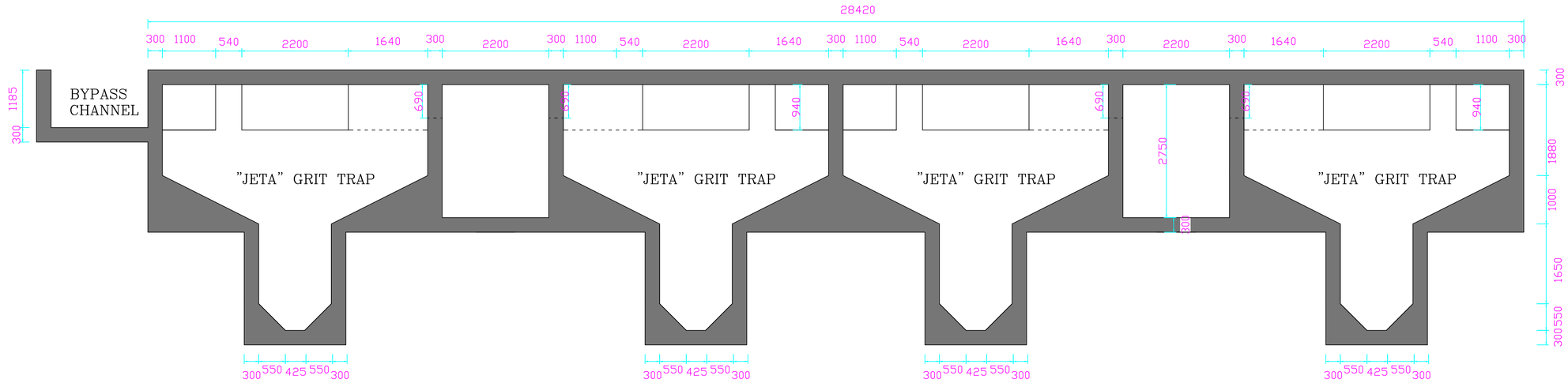


SECTION A–A
CUP SCREENS SECTION



SECTION B–B
GRIT TRAP SECTION

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Project
NAIROBI RIVERS BASIN REHABILITATION AND RESTORATION PROGRAMME: SEWERAGE IMPROVEMENT PROJECT PHASE II (NaRSIP II)

REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

Drawing Title
DANDORA ESTATE SEWAGE TREATMENT PLANT (DESTP)

CUP SCREENS AND GRIT TRAP SECTIONS AND DETAILS

NOTES
1. DRAWING TO SCALE ON A1 PAPER SIZE
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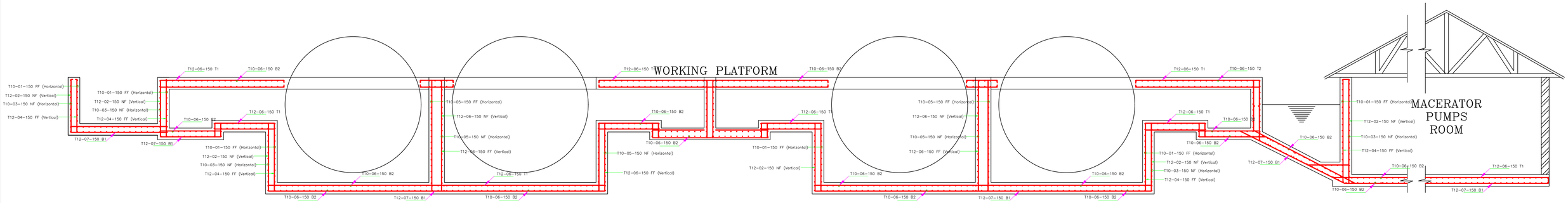
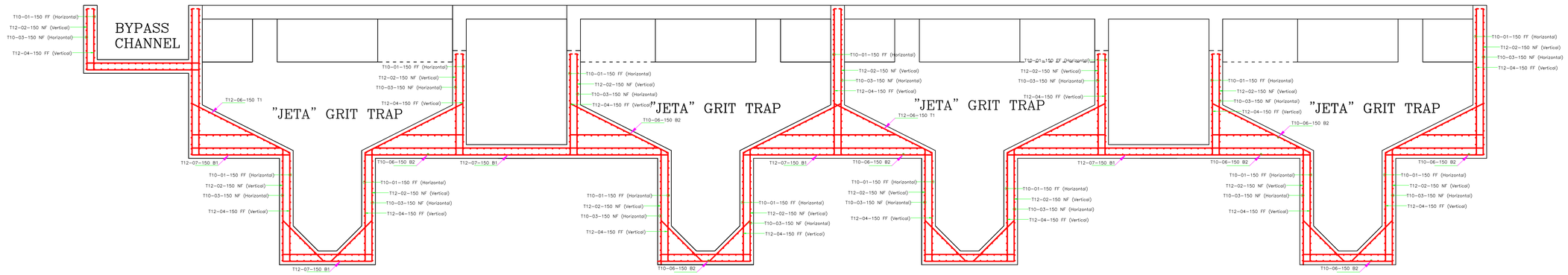
Designed by D.K | Drawn by D.K
Checked by FMK | Approved by
Scales 1:50 | Date: OCTOBER 2021
Job No. FC/CE108 | ACAD File: CE108_DT_05
STATUS P | DRG No. FC/CE108/DT/05 | REV



SECTION A–A
CUP SCREENS SECTION



SECTION B–B
GRIT TRAP SECTION

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Project
NAIROBI RIVERS BASIN REHABILITATION AND RESTORATION PROGRAMME: SEWERAGE IMPROVEMENT PROJECT PHASE II (NaRSIP II)

REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

Drawing Title
DANDORA ESTATE SEWAGE TREATMENT PLANT (DESTP)

CUP SCREENS AND GRIT TRAP REINFORCEMENT DETAILS

NOTES

1. Read this drawing in conjunction with relevant G.A., Services and Architectural drawings. Any descrepancy to be reported to the Engineer.
2. All dimensions are in millimetres unless specified otherwise.
3. All levels are indicated in mm unless specified otherwise.
4. All structural concrete to be Class 25 unless stated otherwise.
5. Minimum cover to all reinforcement to be:
   - Stairs, Slabs & Walls = 20mm
   - Beams (main bars) = 30mm
   - Columns (main bars) = 40mm
   - Foundations = 50mm
6. All high tensile (Y) and mild steel (R) bars to be in accordance with BS 4449 and fabric mesh to be made from cold worked steel bars in accordance with BS 4483.
7. Maximum tolerance on concrete cover is +/- 5mm.
8. Minimum laps to all bars to be 55Ø unless stated otherwise.
9. Assumed Bearing Pressure taken to be 150 KN/m².
10. Nominal aggregate size to be 20mm.

REV	REVISIONS		SIGN	DATE	APPROVED
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Designed by	D.K	Drawn by	D.K
Checked by	FMK	Approved by	
Scales	1:50	Date:	OCTOBER 2021
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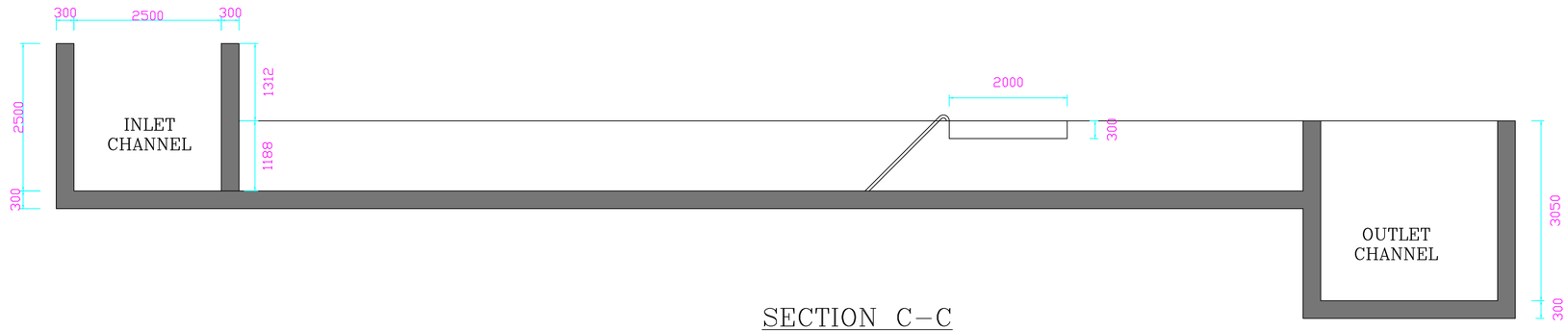
P STATUS	DRG No.	FC/CE108/DT/06	REV



SECTION C–C
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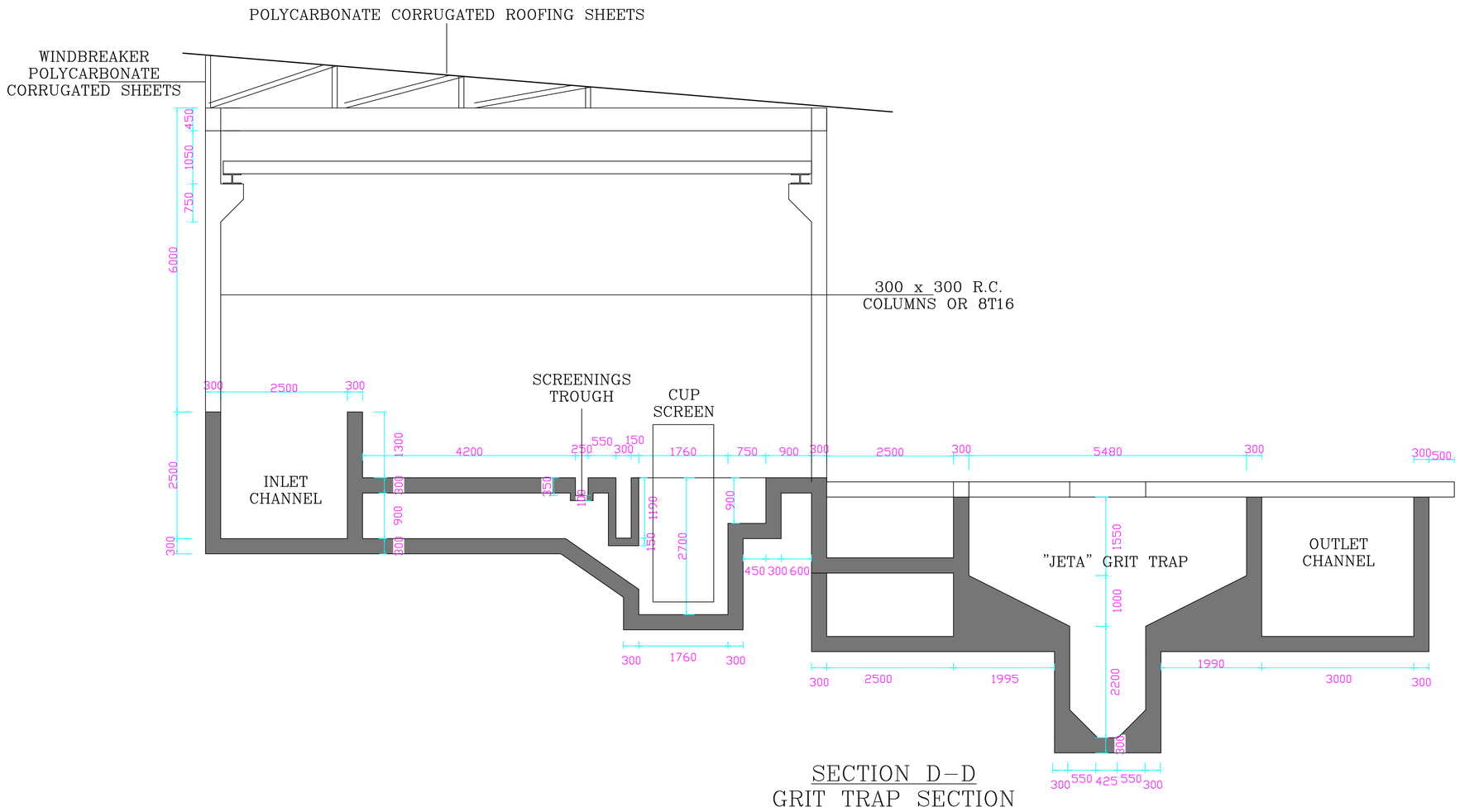

SECTION D–D
GRIT TRAP SECTION

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Project
NAIROBI RIVERS BASIN REHABILITATION AND RESTORATION PROGRAMME: SEWERAGE IMPROVEMENT PROJECT PHASE II (NaRSIP II)

REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

Drawing Title
DANDORA ESTATE SEWAGE TREATMENT PLANT (DESTP)

INLET CHANNEL, GRIT TRAP, BYPASS CHANNEL AND OUTLET CHANNEL SECTIONS AND DETAILS

NOTES
1. DRAWING TO SCALE ON A1 PAPER SIZE
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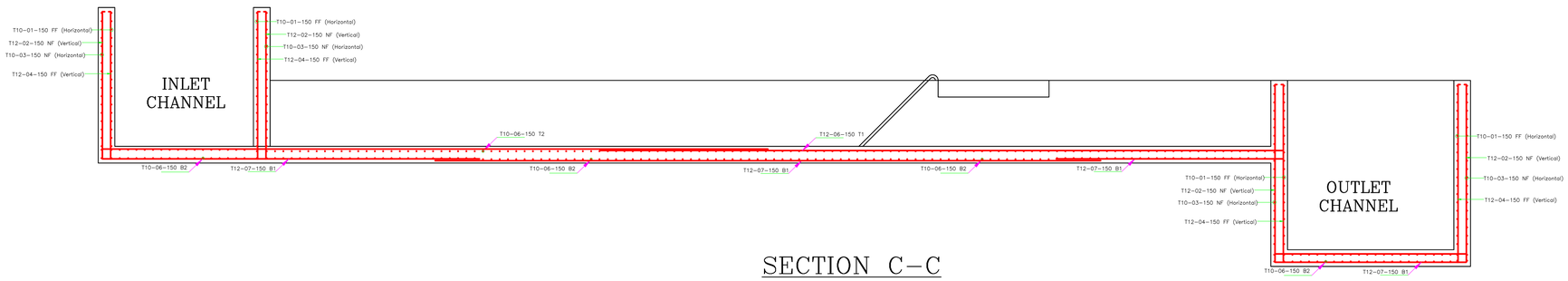

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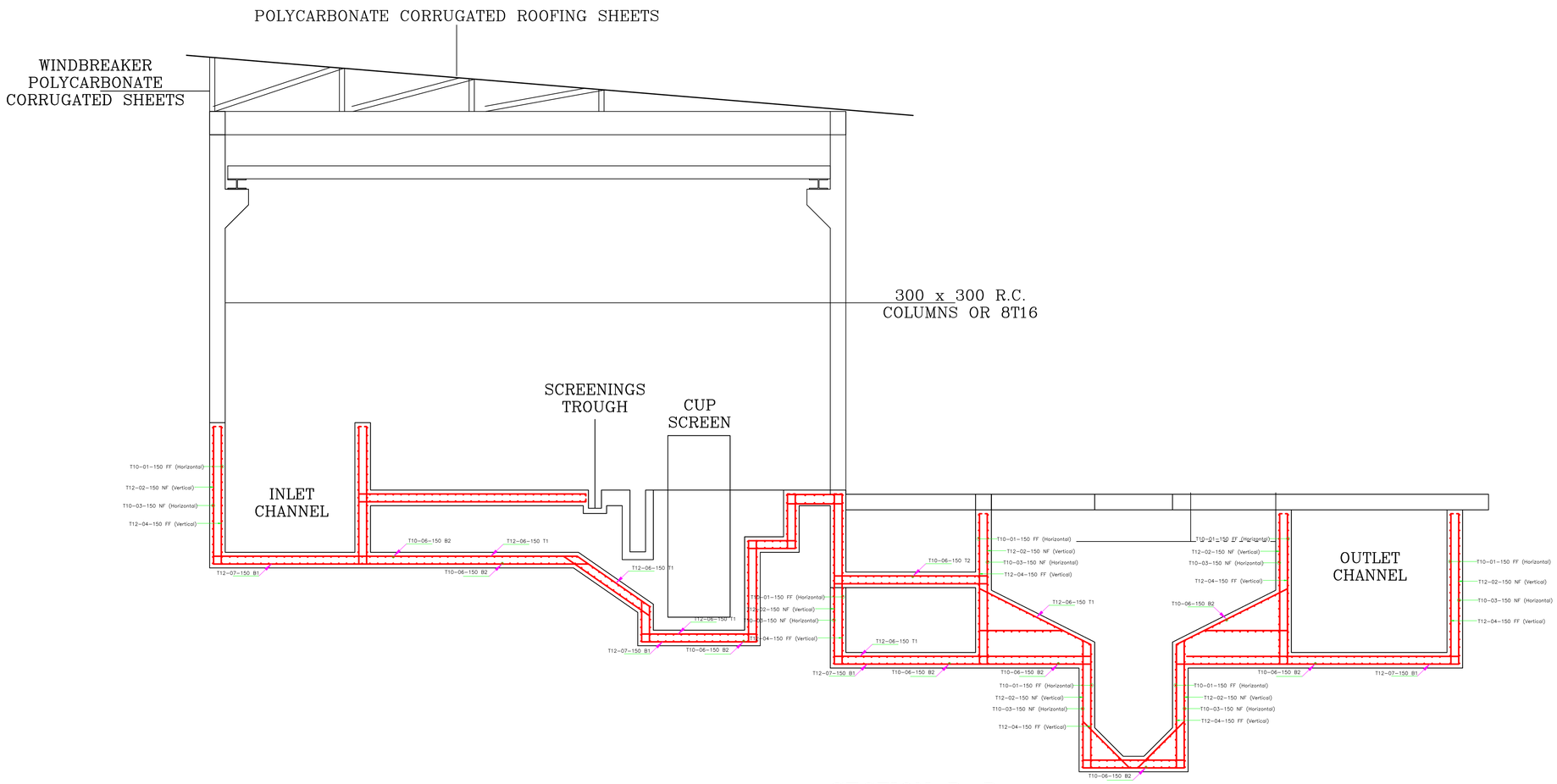

SECTION D–D
GRIT TRAP SECTION

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REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

Drawing Title

DANDORA ESTATE SEWAGE TREATMENT PLANT (DESTP)

INLET CHANNEL, GRIT TRAP, BYPASS CHANNEL AND OUTLET CHANNEL REINFORCEMENT DETAILS

NOTES

1. Read this drawing in conjunction with relevant G.A., Services and Architectural drawings. Any descrepancy to be reported to the Engineer.
2. All dimensions are in millimetres unless specified otherwise.
3. All levels are indicated in mm unless specified otherwise.
4. All structural concrete to be Class 25 unless stated otherwise.
5. Minimum cover to all reinforcement to be:
   - Stairs, Slabs & Walls = 20mm
   - Beams (main bars) = 30mm
   - Columns (main bars) = 40mm
   - Foundations = 50mm
6. All high tensile (Y) and mild steel (R) bars to be in accordance with BS 4449 and fabric mesh to be made from cold worked steel bars in accordance with BS 4483.
7. Maximum tolerance on concrete cover is +/- 5mm.
8. Minimum laps to all bars to be 55Ø unless stated otherwise.
9. Assumed Bearing Pressure taken to be 150 KN/m².
10. Nominal aggregate size to be 20mm.

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REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

Drawing Title

DANDORA ESTATE SEWAGE TREATMENT PLANT (DESTP)

LAYOUT PLAN OF DUPLICATION OF THE INLET WORKS FOR THE FUTURE DESIGN HORIZON (2032)

NOTES
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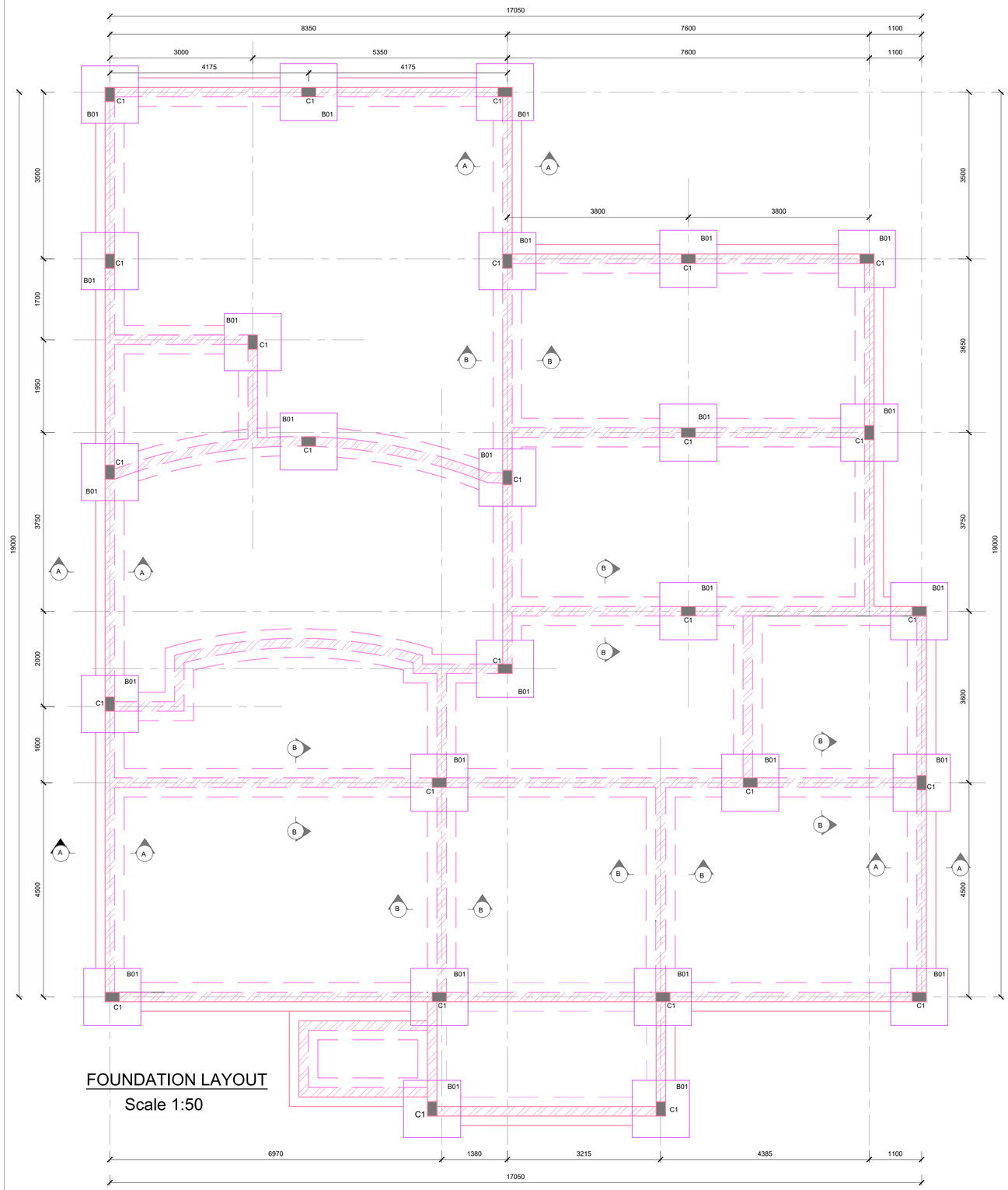
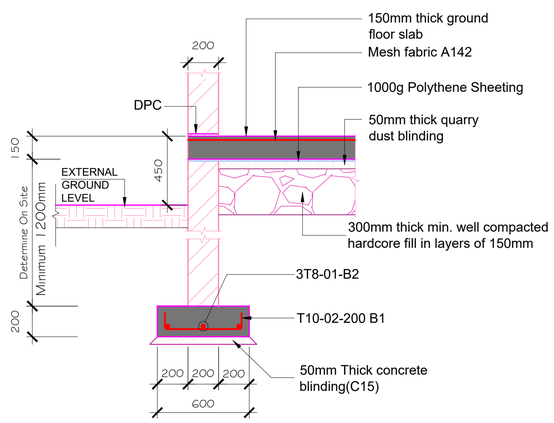
Designed by	D.K	Drawn by	D.K
Checked by	FMK	Approved by	FMK
Scales	1:150	Date:	OCTOBER 2021
Job No.	FC/CE108	ACAD File:	CE108_PL_04
P STATUS	DRG No.	FC/CE108/PL/04	REV



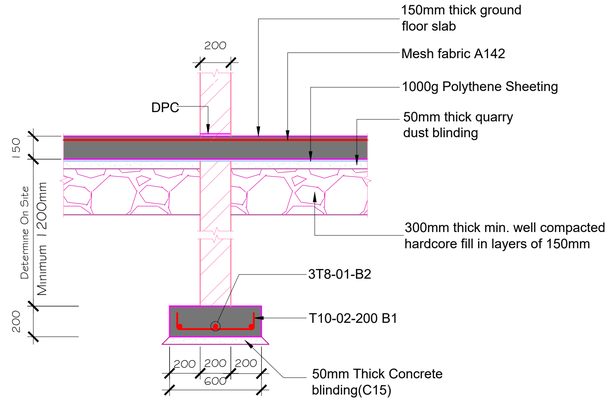
FOUNDATION LAYOUT

Scale 1:50



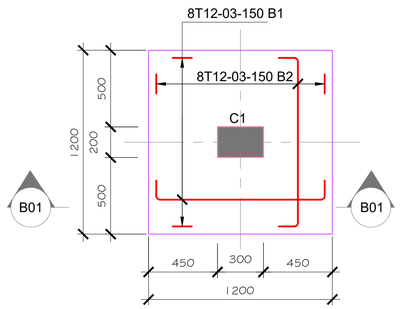
Section A-A through strip footing
(external walls)

Scale 1:25



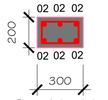
Section through strip footing B-B
(internal walls)

(Scale 1:25)



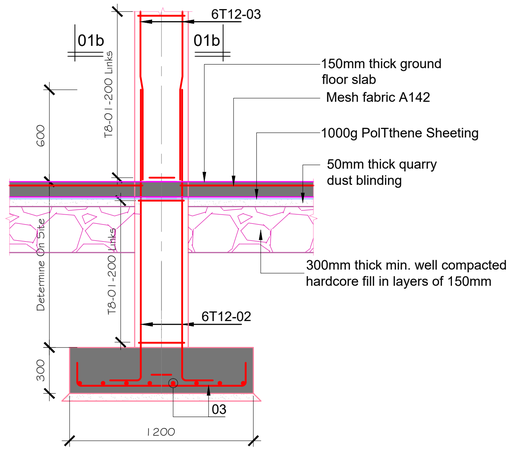
Base Type 'B1'

Scale 1:25



Sec-01a-01a

Scale 1:25



Section B01 - B01

Scale 1:25

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Project
NAIROBI RIVERS BASIN REHABILITATION AND RESTORATION PROGRAMME: SEWERAGE IMPROVEMENT PROJECT PHASE II (NaRSIP II)

REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

Drawing Title
DANDORA ESTATE SEWAGE TREATMENT PLANT (DESTP)

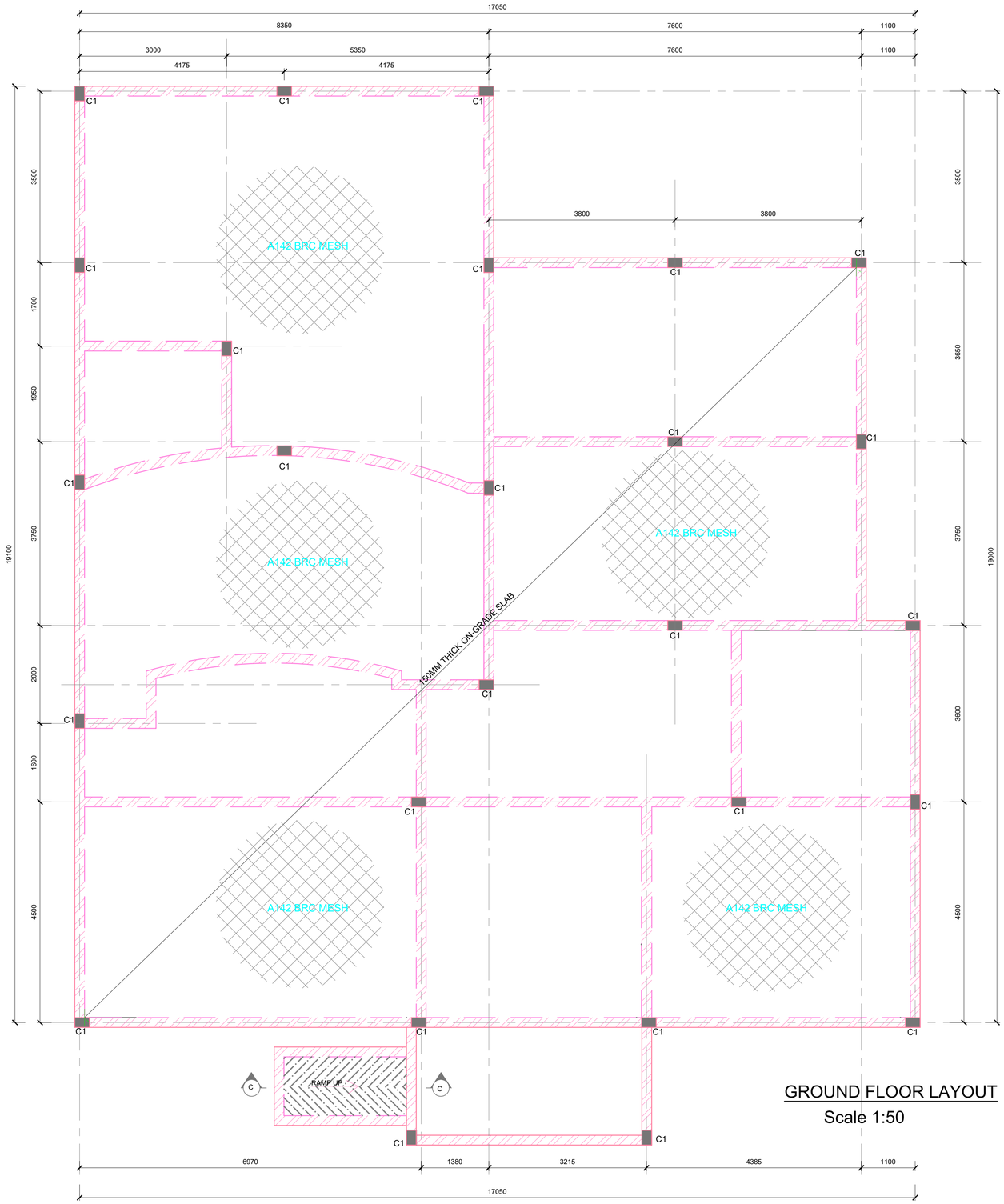
CONTROL ROOM
FOUNDATION LAYOUT

NOTES

1. Read this drawing in conjunction with relevant G.A., Services and Architectural drawings. Any descrepancy to be reported to the Engineer.
2. All dimensions are in millimetres unless specified otherwise.
3. All levels are indicated in mm unless specified otherwise.
4. All structural concrete to be Class 25 unless stated otherwise.
5. Minimum cover to all reinforcement to be:
   - Stairs, Slabs & Walls = 20mm
   - Beams (main bars) = 30mm
   - Columns (main bars) = 40mm
   - Foundations = 50mm
6. All high tensile (Y) and mild steel (R) bars to be in accordance with BS 4449 and fabric mesh to be made from cold worked steel bars in accordance with BS 4483.
7. Maximum tolerance on concrete cover is +/- 5mm.
8. Minimum laps to all bars to be 55Ø unless stated otherwise.
9. Assumed Bearing Pressure taken to be 150 KN/m².
10. Nominal aggregate size to be 20mm.

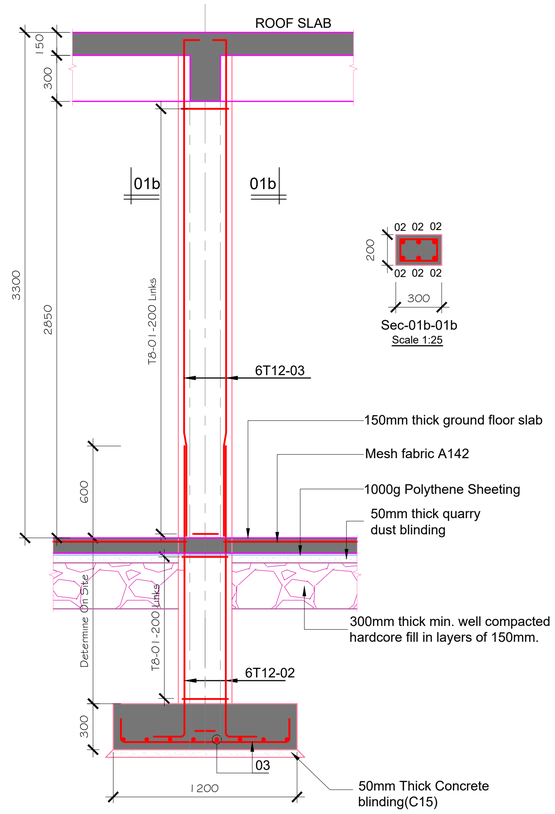
REV	REVISIONS		SIGN	DATE	APPROVED
D		BY / CHECKED			
C		BY / CHECKED			
B		BY / CHECKED			
A		BY / CHECKED			

Designed by	D.K.	Drawn by	D.K.
Checked by	FMK.	Approved by	FMK.
Scales	1:50	Date:	OCTOBER 2021
Job No.	FC/CE108	ACAD File:	CE108_CR_01
STATUS	DRG No.	FC/CE108/CR/01	REV



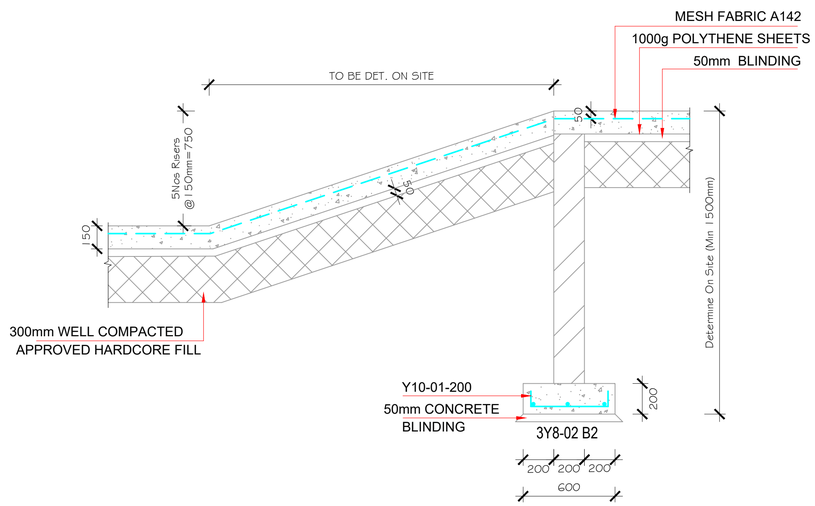
GROUND FLOOR LAYOUT

Scale 1:50



Section B01 - B01

Scale 1:25



RAMP_SECTION C-C

SCALE 1:25

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Project
NAIROBI RIVERS BASIN REHABILITATION AND RESTORATION PROGRAMME: SEWERAGE IMPROVEMENT PROJECT PHASE II (NaRSIP II)

REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

Drawing Title
DANDORA ESTATE SEWAGE TREATMENT PLANT (DESTP)

GROUND FLOOR LAYOUT

NOTES

1. Read this drawing in conjunction with relevant G.A., Services and Architectural drawings. Any descrepancy to be reported to the Engineer.
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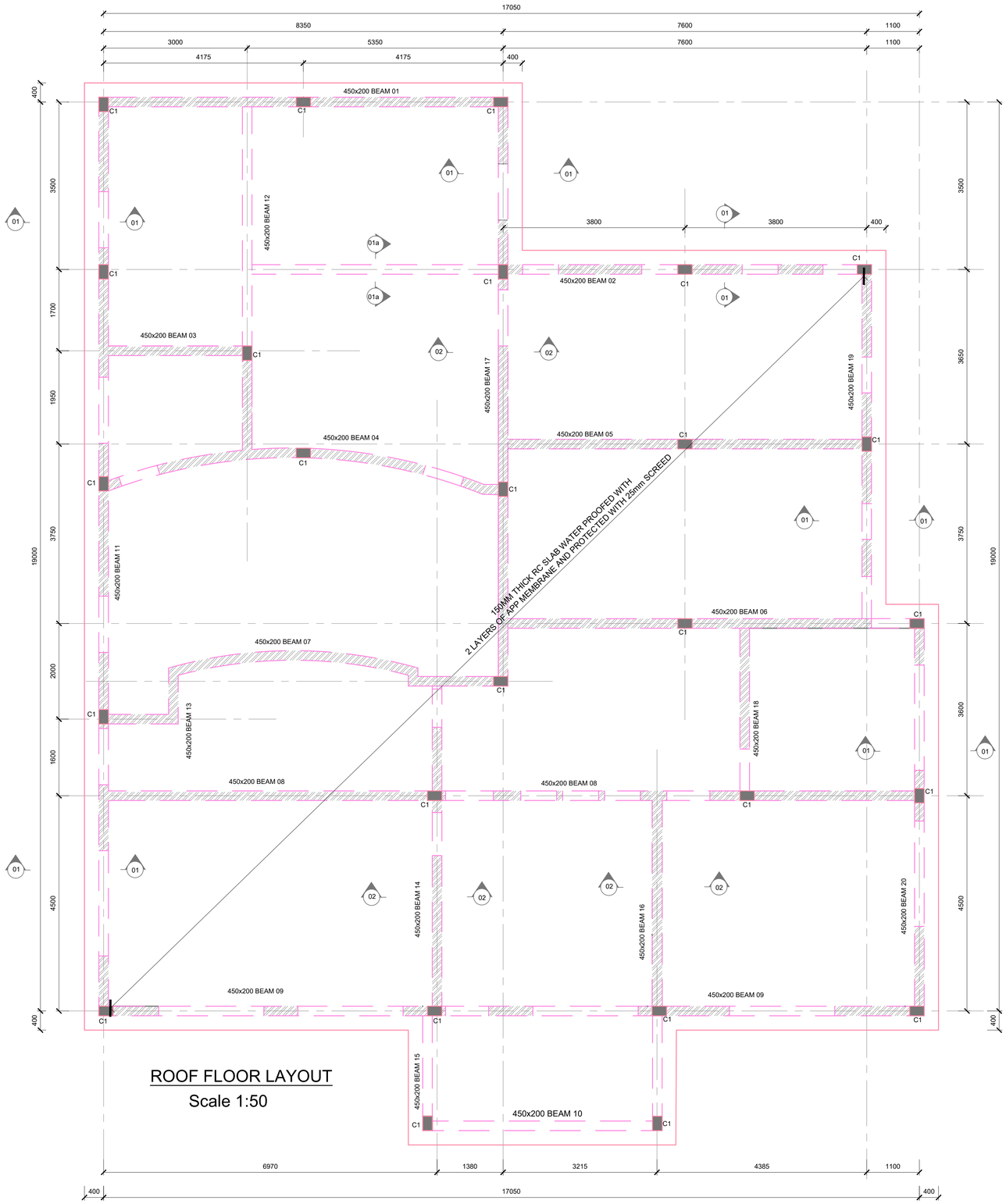
10. Nominal aggregate size to be 20mm.

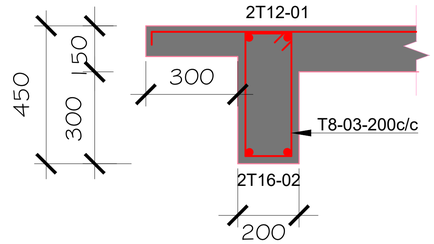
REV	REVISIONS		SIGN	DATE	APPROVED
D		BY			
		CHECKED			
C		BY			
		CHECKED			
B		BY			
		CHECKED			
A		BY			
		CHECKED			

Designed by	D.K.	Drawn by	D.K.
Checked by	FMK.	Approved by	FMK.
Scales	1:50	Date:	OCTOBER 2021
Job No.	FC/CE108	ACAD File:	CE108_CR_02
STATUS	DRG No.	FC/CE108/CR/02	REV



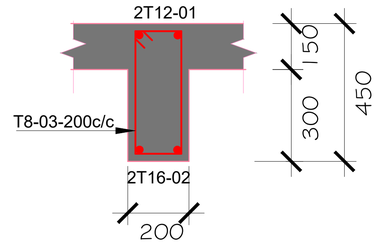
ROOF FLOOR LAYOUT

Scale 1:50



BEAMS 01, 02, 09, 11, 19, 20 SECTION

SCALE 1:25



BEAMS 03, 04, 05, 06 07, 08 SECTION

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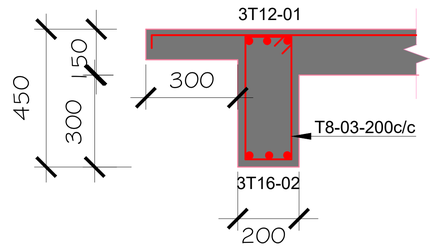
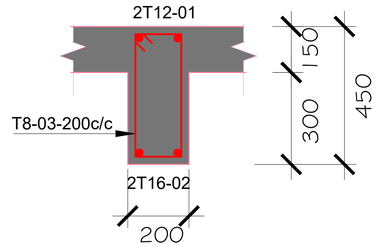


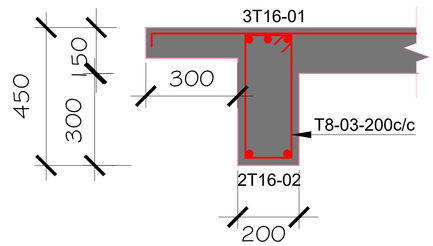
BEAM 10 SECTION

SCALE 1:25



BEAMS 13, 14, 15 16, 17, 18 SECTION

SCALE 1:25



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SECTION 01-01

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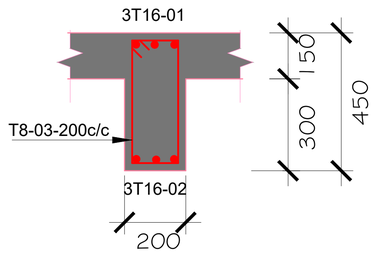

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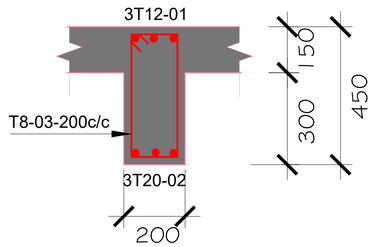
SECTION 01a-01a

SCALE 1:25



BEAMS 12 SECTION

SCALE 1:25

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Project

NAIROBI RIVERS BASIN REHABILITATION AND RESTORATION PROGRAMME: SEWERAGE IMPROVEMENT PROJECT PHASE II (NaRSIP II)

REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

Drawing Title

DANDORA ESTATE SEWAGE TREATMENT PLANT (DESTP)

ROOF FLOOR LAYOUT

NOTES

1. Read this drawing in conjunction with relevant G.A., Services and Architectural drawings. Any descrepancy to be reported to the Engineer.
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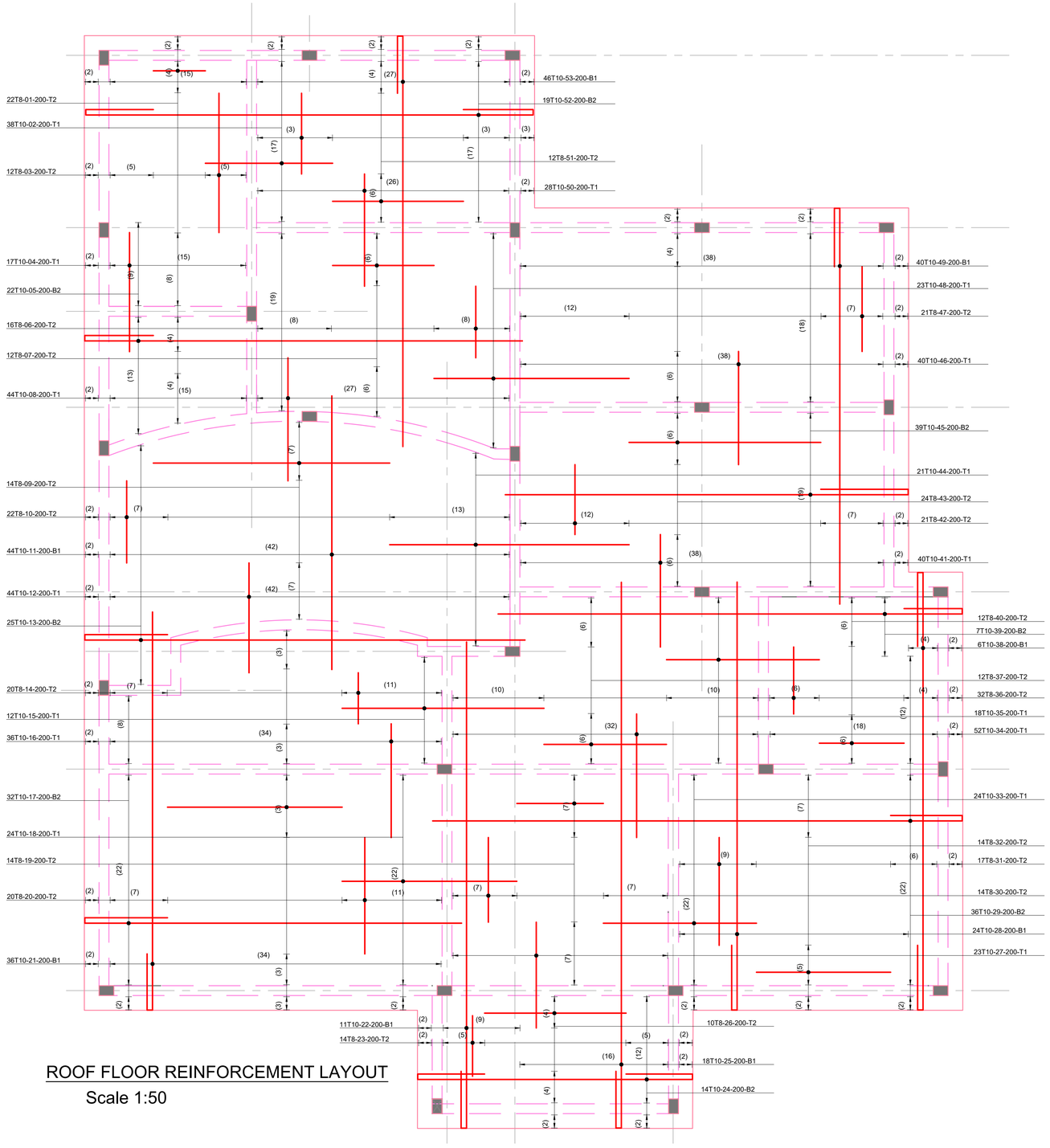
REV	REVISIONS		SIGN	DATE	APPROVED
D		BY			
		CHECKED			
C		BY			
		CHECKED			
B		BY			
		CHECKED			
A		BY			
		CHECKED			

Designed by D.K.		Drawn by D.K.	
Checked by FMK		Approved by FMK	
Scales 1:50		Date: OCTOBER 2021	
Job No. FC/CE108		ACAD File: CE108_CR_03	
STATUS	DRG No. FC/CE108/CR/03		REV



ROOF FLOOR REINFORCEMENT LAYOUT

Scale 1:50

Civil Engineer:
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Project

NAIROBI RIVERS BASIN REHABILITATION AND RESTORATION PROGRAMME: SEWERAGE IMPROVEMENT PROJECT PHASE II (NaRSIP II)

REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

Drawing Title

DANDORA ESTATE SEWAGE TREATMENT PLANT (DESTP)

ROOF FLOOR LAYOUT

NOTES

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REV	REVISIONS		SIGN	DATE	APPROVED
D		BY			
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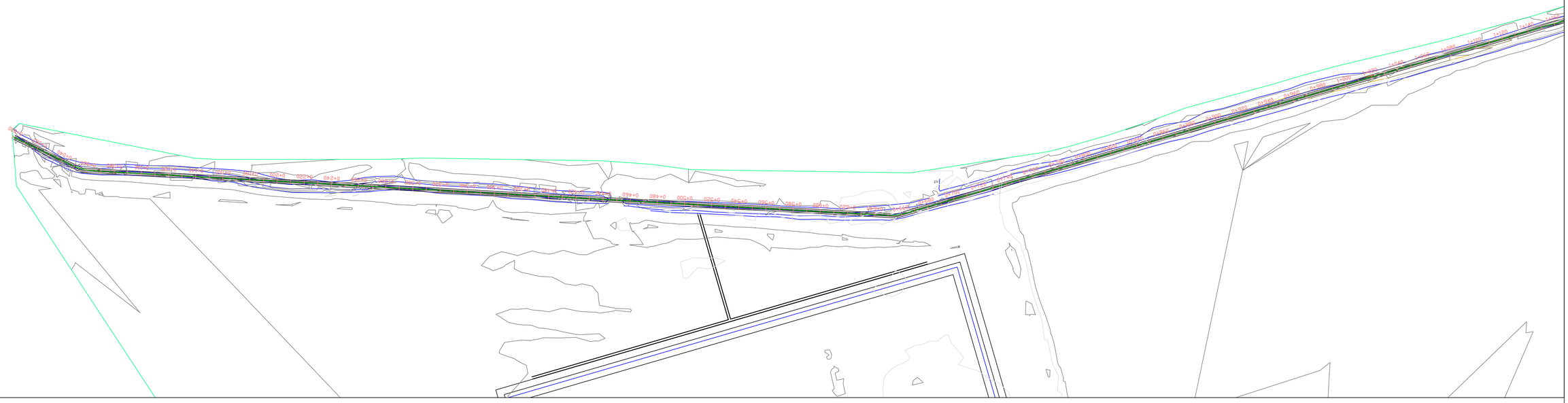
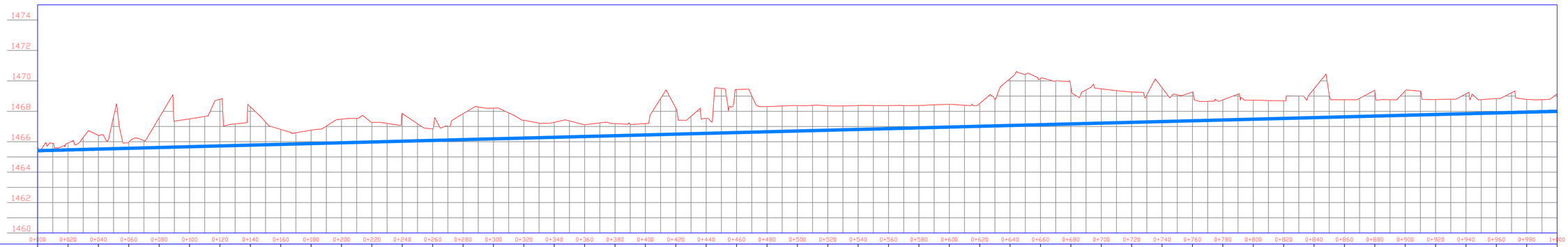
C		BY			
		CHECKED			
B		BY			
		CHECKED			
A		BY			
		CHECKED			

Designed by	D.K.	Drawn by	D.K.
Checked by	FMK.	Approved by	FMK.
Scales	1:50	Date:	OCTOBER 2021
Job No.	FC/CE108	ACAD File:	CE108_CR_04
STATUS P	DRG No.	FC/CE108/CR/04	REV

SITE ANCILLARY WORKS



STORMWATER DRAINAGE



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EXISTING GROUND LEVEL, m	1465.635	1465.911	1466.423	1465.973	1467.583	1467.502	1468.795	1468.296	1466.811	1466.759	1467.484	1467.270	1467.852	1466.838	1467.848	1468.208	1467.409	1467.279	1467.113	1467.188	1467.193	1468.209	1467.538	1469.435	1468.317	1468.374	1468.365	1468.383	1468.376	1468.383	1468.459	1468.515	1470.151	1470.168	1469.261	1469.475	1469.269	1469.548	1469.267	1468.753	1468.730	1468.693	1469.477	1468.761	1469.353	1469.345	1468.776	1469.149	1468.835	1468.783	1469.142
TRENCH INVERT LEVEL, m	1465.413	1465.465	1465.516	1465.568	1465.620	1465.671	1465.723	1465.775	1465.827	1465.878	1465.930	1465.982	1466.033	1466.085	1466.137	1466.188	1466.240	1466.292	1466.343	1466.395	1466.447	1466.498	1466.550	1466.602	1466.654	1466.705	1466.757	1466.809	1466.860	1466.912	1466.964	1467.015	1467.067	1467.119	1467.170	1467.222	1467.274	1467.326	1467.377	1467.429	1467.481	1467.532	1467.584	1467.636	1467.687	1467.739	1467.791	1467.842	1467.894	1467.946	1467.997
EXCAVATION DEPTH, m	0.22	0.45	0.91	0.41	1.96	1.83	3.07	2.52	0.98	0.88	1.55	1.29	1.82	0.75	1.71	2.02	1.17	0.99	0.77	0.79	0.75	1.71	0.99	2.83	1.66	1.67	1.61	1.57	1.52	1.47	1.50	1.50	3.08	3.05	2.45	2.25	1.99	2.22	1.89	1.32	1.25	1.16	1.89	1.13	1.67	1.61	0.99	1.31	0.94	0.84	1.14

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Project
NAIROBI RIVERS BASIN REHABILITATION AND RESTORATION PROGRAMME: SEWERAGE IMPROVEMENT PROJECT PHASE II (NaRSIP II)

REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

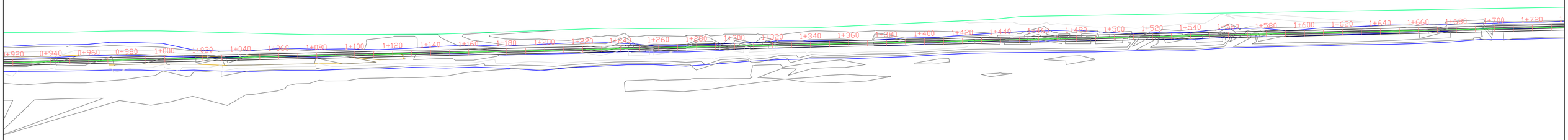
Drawing Title
DANDORA ESTATE SEWAGE TREATMENT PLANT (DESTP)

STORMWATER DRAINAGE CHANNEL
PLAN AND PROFILE
SHEET 1 OF 3

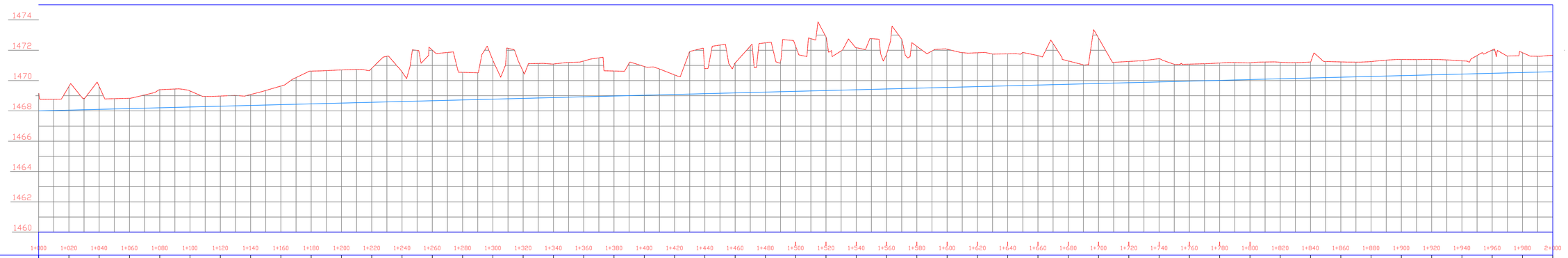
NOTES
1. DRAWING TO SCALE ON A1 PAPER SIZE
2. DRAWING TO BE READ INCONJUCTION WITH OTHER RELEVANT DRAWINGS
3. ALL DIMENSIONS AND LEVELS TO CHECKED ON SITE BEFORE COMMENCING ANY WORK. ANY DISCREPANCY TO BE REPORTED TO THE ENGINEER
4. ONLY FIGURED DIMENSIONS TO BE TAKEN FROM THIS DRAWING

REV	REVISIONS		SIGN	DATE	APPROVED
D		BY			
		CHECKED			
C		BY			
		CHECKED			
B		BY			
		CHECKED			
A		BY			
		CHECKED			

Designed by	D.K	Drawn by	D.K
Checked by	FMK	Approved by	
Scales	VERT – 1:200 HORI – 1:2000	Date:	OCTOBER 2021
Job No.	FC/CE108	ACAD File:	CE108_PP_05
P STATUS	DRG No.	FC/CE108/PP/05	REV



STORMWATER DRAINAGE



	1+000	1+020	1+040	1+060	1+080	1+100	1+120	1+140	1+160	1+180	1+200	1+220	1+240	1+260	1+280	1+300	1+320	1+340	1+360	1+380	1+400	1+420	1+440	1+460	1+480	1+500	1+520	1+540	1+560	1+580	1+600	1+620	1+640	1+660	1+680	1+700	1+720	1+740	1+760	1+780	1+800	1+820	1+840	1+860	1+880	1+900	1+920	1+940	1+960	1+980	2+000
EXISTING GROUND LEVEL, m	1469.142	1469.411	1469.611	1468.832	1469.398	1469.314	1468.979	1469.080	1469.639	1470.625	1470.701	1470.811	1470.577	1472.010	1470.542	1471.340	1470.598	1471.092	1471.291	1470.630	1470.930	1470.373	1470.787	1471.160	1472.489	1472.258	1472.860	1472.171	1471.747	1472.258	1472.070	1471.835	1471.763	1471.649	1471.295	1472.805	1471.259	1471.444	1471.082	1471.159	1471.173	1471.211	1471.224	1471.231	1471.255	1471.391	1471.395	1471.303	1472.017	1471.839	1471.642
TRENCH INVERT LEVEL, m	1467.997	1468.049	1468.101	1468.153	1468.204	1468.256	1468.308	1468.359	1468.411	1468.463	1468.314	1468.566	1468.618	1468.669	1468.721	1468.773	1468.824	1468.876	1468.928	1468.980	1469.031	1469.083	1469.135	1469.186	1469.238	1469.290	1469.341	1469.393	1469.445	1469.496	1469.548	1469.600	1469.652	1469.703	1469.755	1469.807	1469.858	1469.910	1469.962	1470.013	1470.065	1470.117	1470.168	1470.220	1470.272	1470.323	1470.375	1470.427	1470.479	1470.530	1470.582
EXCAVATION DEPTH, m	1.14	1.56	1.51	0.68	1.19	1.06	0.67	0.72	1.23	2.16	2.19	2.24	1.96	3.34	1.82	2.57	1.77	2.22	2.36	1.65	1.90	1.29	1.65	1.97	3.25	2.97	3.54	2.78	2.30	2.76	2.52	2.23	2.11	1.95	1.54	3.00	1.40	1.53	1.12	1.15	1.11	1.09	1.06	1.01	0.98	1.07	1.02	0.88	1.54	1.31	1.00

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Project
NAIROBI RIVERS BASIN REHABILITATION AND RESTORATION PROGRAMME: SEWERAGE IMPROVEMENT PROJECT PHASE II (NaRSIP II)

REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

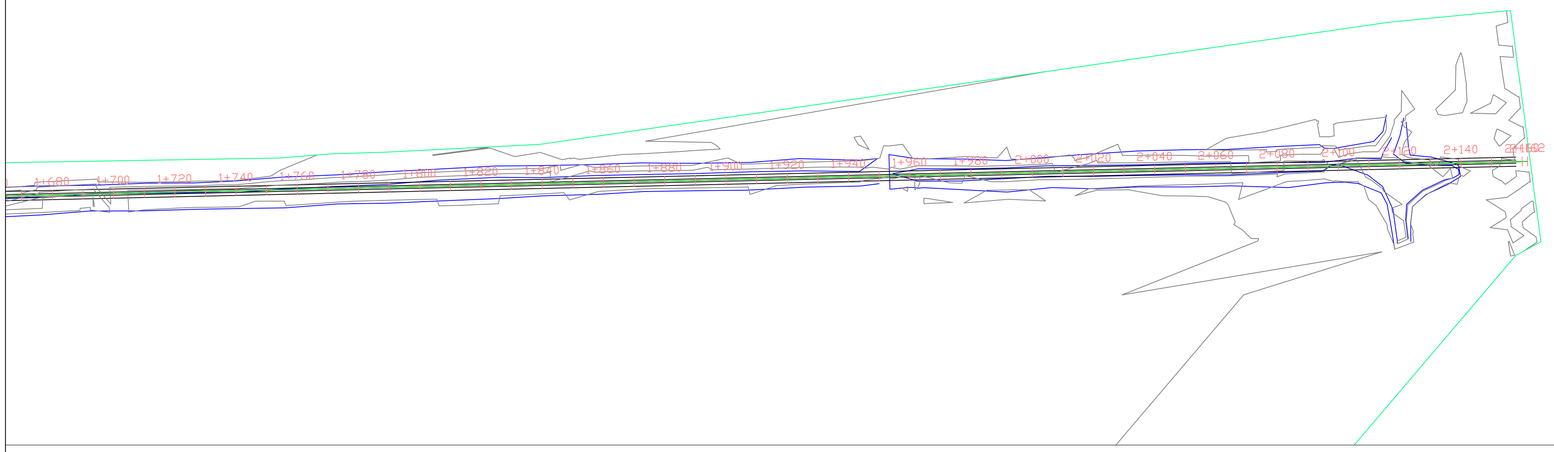
Drawing Title
DANDORA ESTATE SEWAGE TREATMENT PLANT (DESTP)

STORMWATER DRAINAGE CHANNEL
PLAN AND PROFILE
SHEET 2 OF 3

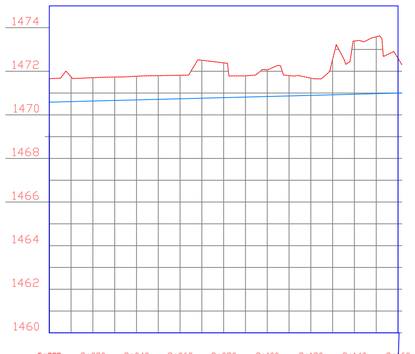
NOTES
1. DRAWING TO SCALE ON A1 PAPER SIZE
2. DRAWING TO BE READ INCONJUCTION WITH OTHER RELEVANT DRAWINGS
3. ALL DIMENSIONS AND LEVELS TO CHECKED ON SITE BEFORE COMMENCING ANY WORK. ANY DISCREPANCY TO BE REPORTED TO THE ENGINEER
4. ONLY FIGURED DIMENSIONS TO BE TAKEN FROM THIS DRAWING

REV	REVISIONS		SIGN	DATE	APPROVED
D		BY			
		CHECKED			
C		BY			
		CHECKED			
B		BY			
		CHECKED			
A		BY			
		CHECKED			

Designed by	D.K	Drawn by	D.K
Checked by	FMK	Approved by	
Scales	VERT – 1:200 HORI – 1:2000	Date:	OCTOBER 2021
Job No.	FC/CE108	ACAD File:	CE108_PP_06
P STATUS	DRG No.	FC/CE108/PP/06	REV



STORM WATER DRAINAGE



	2+000	2+020	2+040	2+060	2+080	2+100	2+120	2+140	2+160
EXISTING GROUND LEVEL, m	1469.642	1471.705	1471.771	1471.816	1472.386	1472.062	1471.684	1473.386	1472.591
TRENCH INVERT LEVEL, m	1468.992	1470.634	1470.685	1470.737	1470.769	1470.840	1470.892	1470.944	1470.995
EXCAVATION DEPTH, m	1.65	1.07	1.09	1.08	1.60	1.22	0.79	2.44	1.60

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Project
NAIROBI RIVERS BASIN REHABILITATION AND RESTORATION PROGRAMME: SEWERAGE IMPROVEMENT PROJECT PHASE II (NaRSIP II)

REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

Drawing Title
DANDORA ESTATE SEWAGE TREATMENT PLANT (DESTP)

STORMWATER DRAINAGE CHANNEL
PLAN AND PROFILE
SHEET 3 OF 3

NOTES
1. DRAWING TO SCALE ON A1 PAPER SIZE
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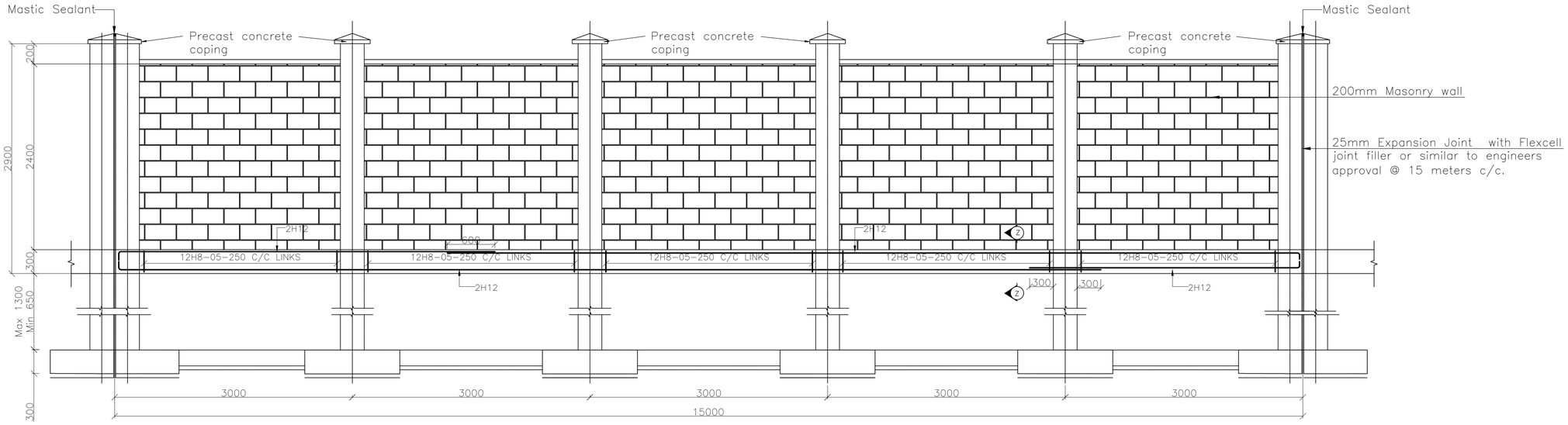
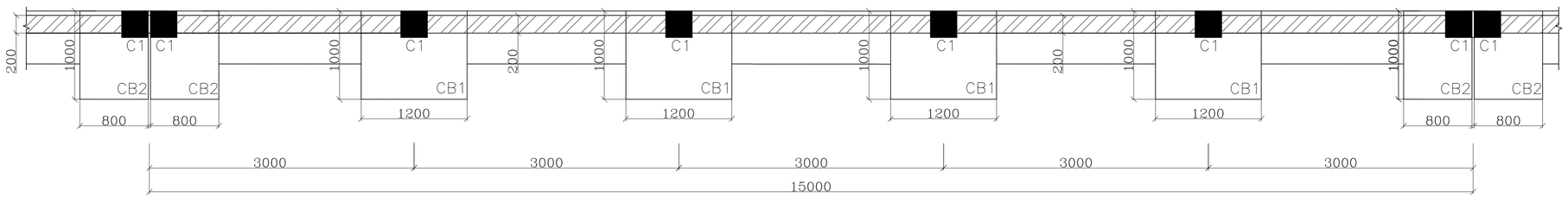
REV	REVISIONS		SIGN	DATE	APPROVED
D		BY / CHECKED			
C		BY / CHECKED			
B		BY / CHECKED			
A		BY / CHECKED			

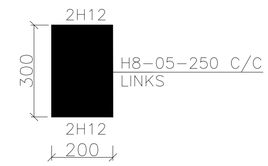
Designed by D.K | Drawn by D.K
Checked by FMK | Approved by
Scales VERT – 1:200 HORI – 1:2000 | Date: OCTOBER 2021
Job No. FC/CE108 | ACAD File: CE108_PP_07
P STATUS | DRG No. FC/CE108/PP/07 | REV



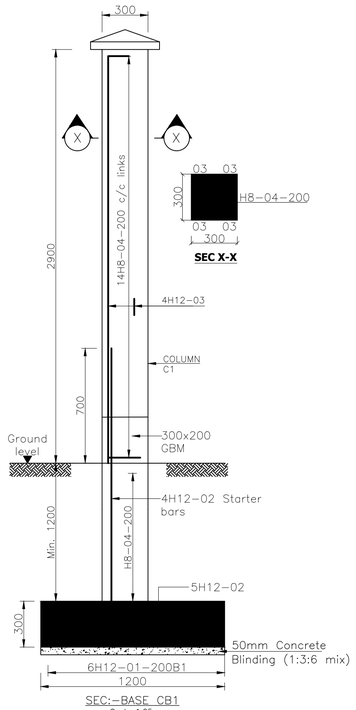
BOUNDARY WALL ELEVATION
Scale 1:50



BOUNDARY WALL PLAN
Scale 1:50

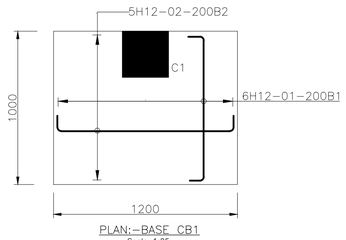


SEC: Z-Z
BOUNDARY WALL GROUND BEAM
(TO BE CAST WHERE HEIGHT OF WALL IS ABOVE 3M)
SCALE 1:15

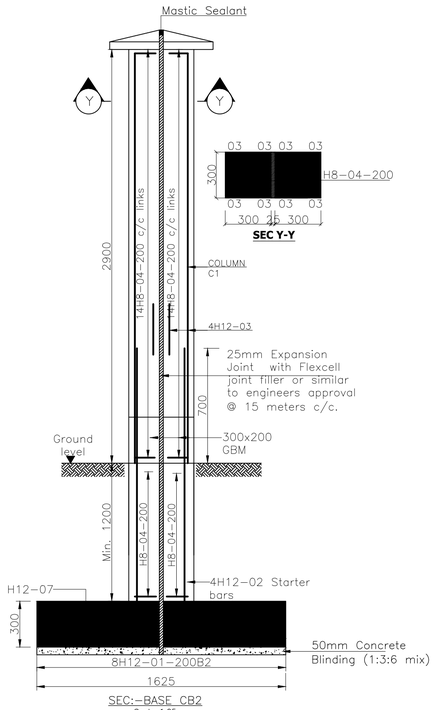


SEC X-X

SEC:-BASE CB1
Scale 1:25

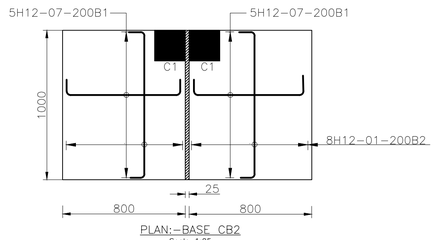


PLAN:-BASE CB1
Scale 1:25



SEC Y-Y

SEC:-BASE CB2
Scale 1:25



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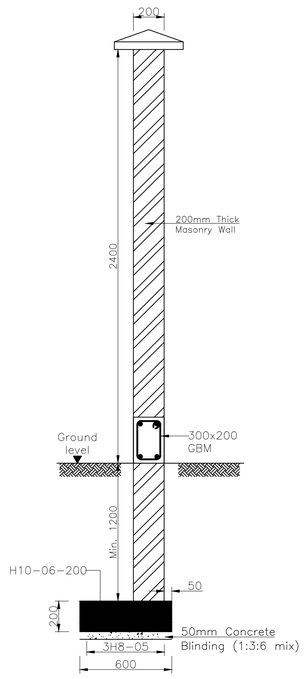
Scale 1:25



BOUNDARY WALL STRIP FOOTING
Scale 1:25

NOTES

1. Read this drawing in conjunction with relevant G.A., Services and Architectural drawings. Any discrepancy to be reported to the Engineer.
2. All dimensions are in millimeters unless specified otherwise.
3. All levels are indicated in mm unless specified otherwise.
4. All structural concrete to be Class 20 unless stated otherwise.
5. Minimum cover to all reinforcement to be:
   - Stairs, Slabs & Walls = 20mm
   - Beams (main bars) = 30mm
   - Columns (main bars) = 40mm
   - Foundations = 50mm
6. All high tensile (Y) and mild steel (R) bars to be in accordance with BS 4449 and fabric mesh to be made from cold worked steel bars in accordance with BS 4483.
7. Maximum tolerance on concrete cover is +/- 5mm.
8. Minimum laps to all bars to be 55Ø unless stated otherwise.
9. Assumed Bearing Pressure taken to be 150 KN/m².
10. Nominal aggregate size to be 20mm
11. Hoop Iron to be used to tie Masonry wall to columns after every two alternate courses.
12. Masonry wall to be 200mm with minimum compressive strength 7.0kN/m²

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Project
NAIROBI RIVERS BASIN REHABILITATION AND RESTORATION PROGRAMME: SEWERAGE IMPROVEMENT PROJECT PHASE II (NaRSIP II)

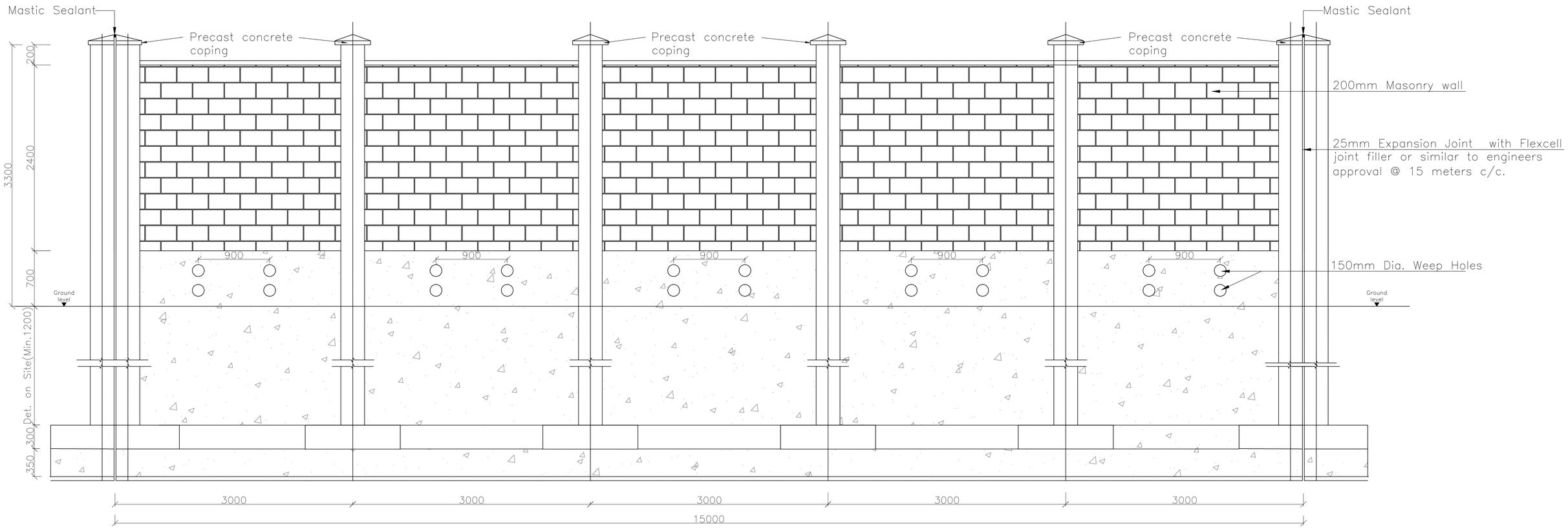
REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

Drawing Title
DANDORA ESTATE SEWAGE TREATMENT PLANT (DESTP)

MASONRY BOUNDARY WALL - PLAN, SECTIONS AND DETAILS

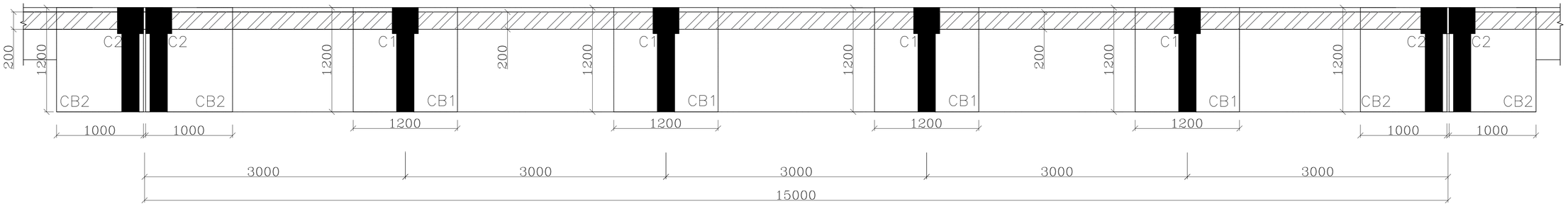
REV	REVISIONS		SIGN	DATE	APPROVED
D		BY			
		CHECKED			
C		BY			
		CHECKED			
B		BY			
		CHECKED			
A		BY			
		CHECKED			

Designed by D.K		Drawn by D.K	
Checked by FMK		Approved by	
Scales 1:50		Date: OCTOBER 2021	
Job No. FC/CE108		ACAD File: CE108_TY_06	
P STATUS	DRG No. FC/CE108/TY/06		REV



BOUNDARY WALL ELEVATION

Scale 1:50



BOUNDARY WALL PLAN

Scale 1:50

Civil Engineer:

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Project

NAIROBI RIVERS BASIN REHABILITATION AND RESTORATION PROGRAMME: SEWERAGE IMPROVEMENT PROJECT PHASE II (NaRSIP II)

REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

Drawing Title

DANDORA ESTATE SEWAGE TREATMENT PLANT (DESTP)

MASONRY BOUNDARY WALL NEAR NAIROBI RIVER(AREA PRONE TO FLOODING) - PLAN, SECTIONS AND DETAILS

NOTES

1. Read this drawing in conjunction with relevant G.A., Services and Architectural drawings. Any discrepancy to be reported to the Engineer.
2. All dimensions are in millimeters unless specified otherwise.
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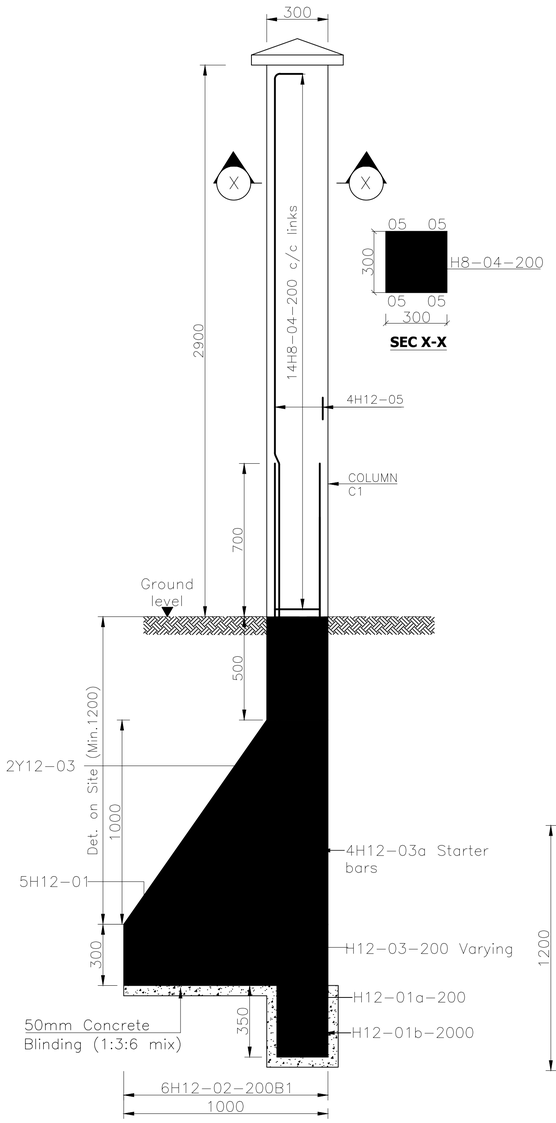
6. All high tensile (Y) and mild steel (R) bars to be in accordance with BS 4449 and fabric mesh to be made from cold worked steel bars in accordance with BS 4483.
7. Maximum tolerance on concrete cover is +/- 5mm.
8. Minimum laps to all bars to be 55Ø unless stated otherwise.
9. Assumed Bearing Pressure taken to be 150 KN/m².
10. Nominal aggregate size to be 20mm
11. Hoop Iron to be used to tie Masonry wall to columns after every two alternate courses.
12. Masonry wall to be 200mm with minimum compressive strength 7.0kN/m²

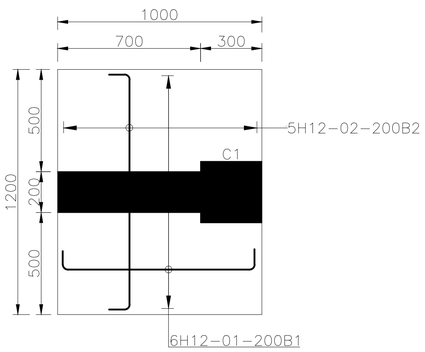
REV	REVISIONS		SIGN	DATE	APPROVED
D		BY			
		CHECKED			
C		BY			
		CHECKED			
B		BY			
		CHECKED			
A		BY			
		CHECKED			

Designed by	D.K	Drawn by	D.K
Checked by	FMK	Approved by	
Scales	1:50	Date:	OCTOBER 2021
Job No.	FC/CE108	ACAD File:	CE108_TY_06A
STATUS	DRG No.	FC/CE108/TY/06A	REV



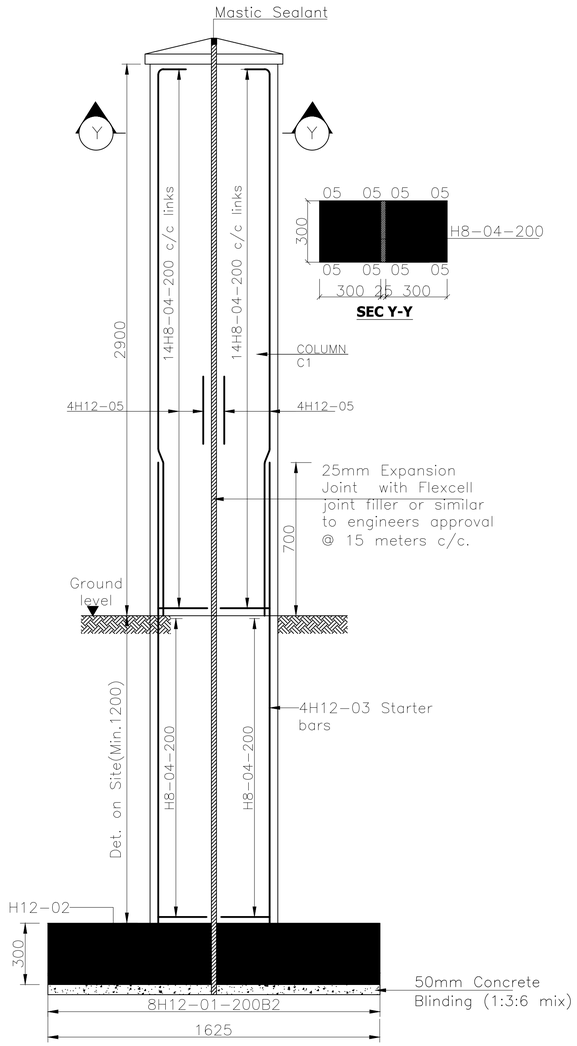
SEC:-BASE CB1

Scale 1:25



PLAN:-BASE CB1

Scale 1:25



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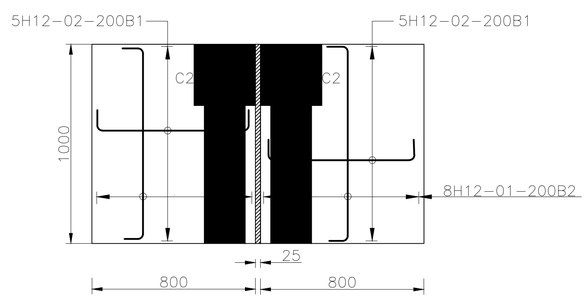
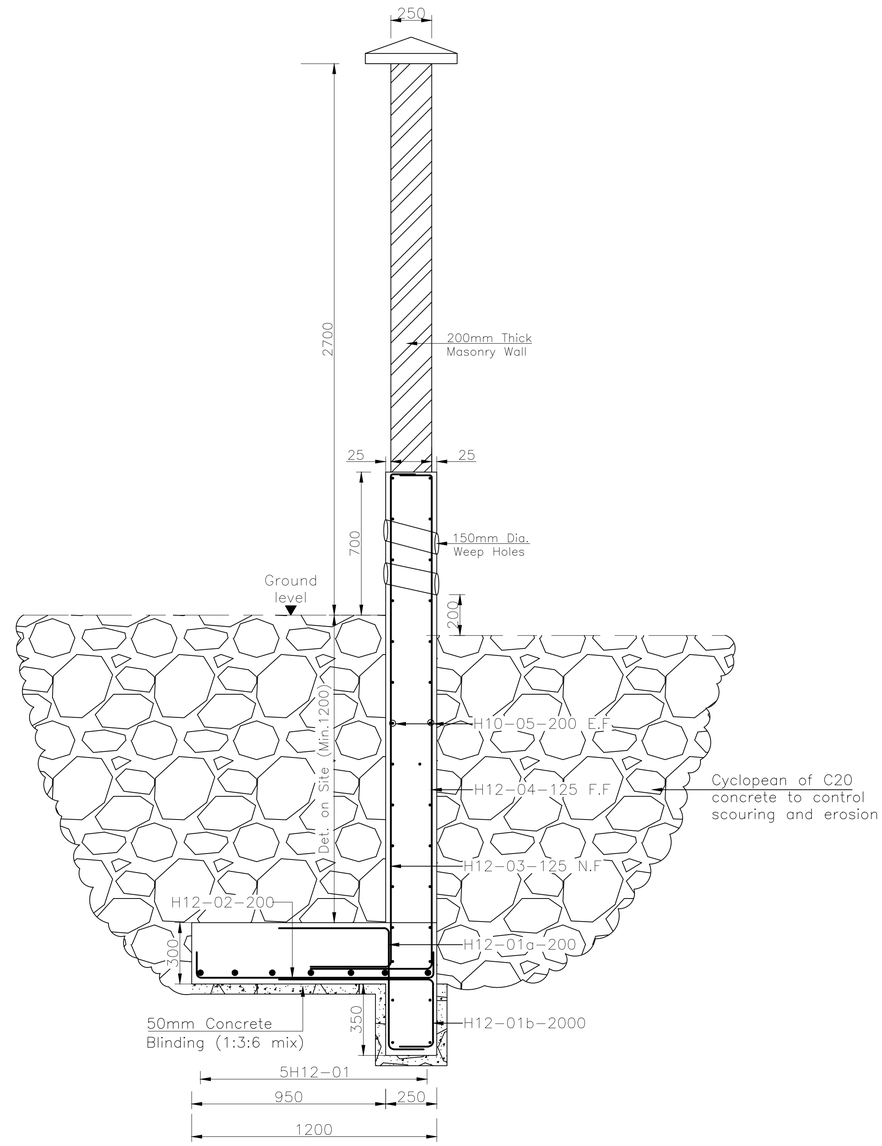
Scale 1:25



PLAN:-BASE CB2

Scale 1:25



BOUNDARY WALL STRIP FOOTING

Scale 1:25

Civil Engineer:

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Project

NAIROBI RIVERS BASIN REHABILITATION AND RESTORATION PROGRAMME: SEWERAGE IMPROVEMENT PROJECT PHASE II (NaRSIP II)

REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

Drawing Title

DANDORA ESTATE SEWAGE TREATMENT PLANT (DESTP)

MASONRY BOUNDARY WALL NEAR NAIROBI RIVER(AREA PRONE TO FLOODING) - PLAN, SECTIONS AND DETAILS

NOTES

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B		BY			
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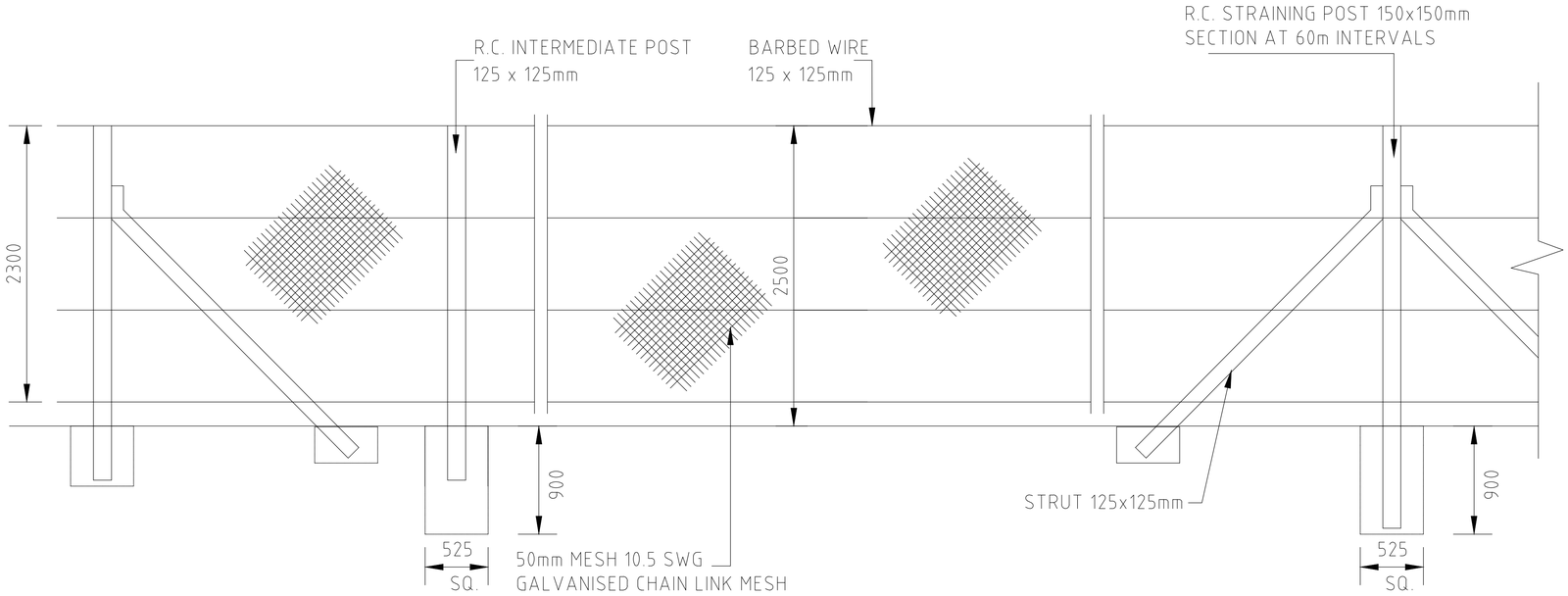
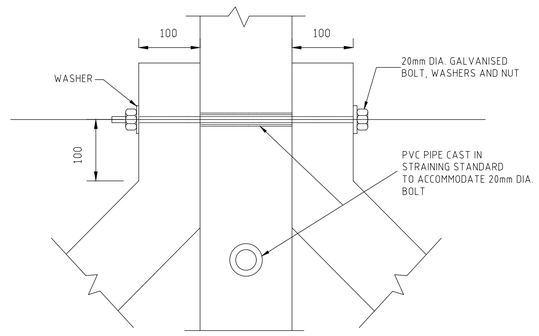
Designed by D.K		Drawn by D.K	
Checked by FMK		Approved by	
Scales 1:50		Date: OCTOBER 2021	
Job No. FC/CE108		ACAD File: CE108_TY_06B	
P STATUS	DRG No. FC/CE108/TY/06B		REV



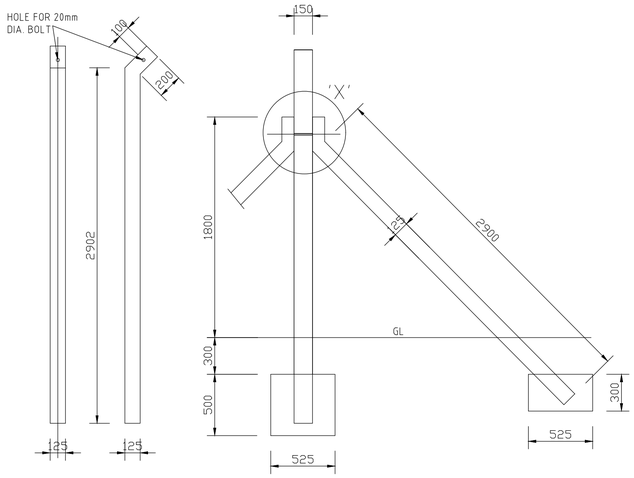
DETAIL OF SECURITY FENCE ALONG THE NAIROBI RIVER BOUNDARY

Scale 1:25



DETAIL `X'

Scale 1:5

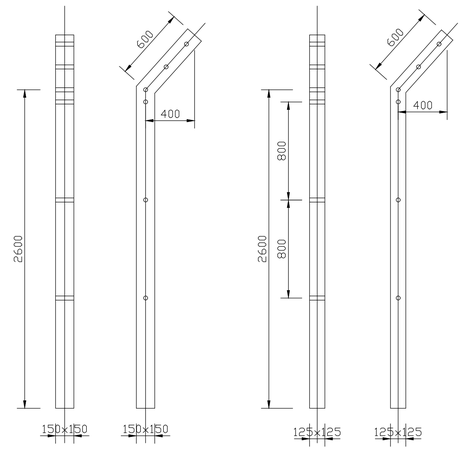


STRAINING STRUT

Scale 1:25

STRAINING POST AND
STRUTS ARRANGEMENT

Scale 1:25

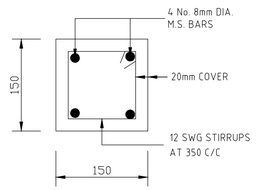


STRAINING POST

Scale 1:25

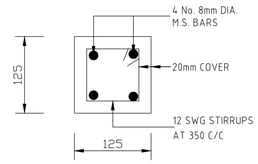
INTERMEDIATE POST

Scale 1:25



TYPICAL SECTION
THROUGH STRAINING POST

Scale 1:5



TYPICAL SECTION
THROUGH INTERMEDIATE POST

Scale 1:5

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Project

NAIROBI RIVERS BASIN REHABILITATION AND RESTORATION PROGRAMME: SEWERAGE IMPROVEMENT PROJECT PHASE II (NaRSIP II)

REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

Drawing Title

DANDORA ESTATE SEWAGE TREATMENT PLANT (DESTP)

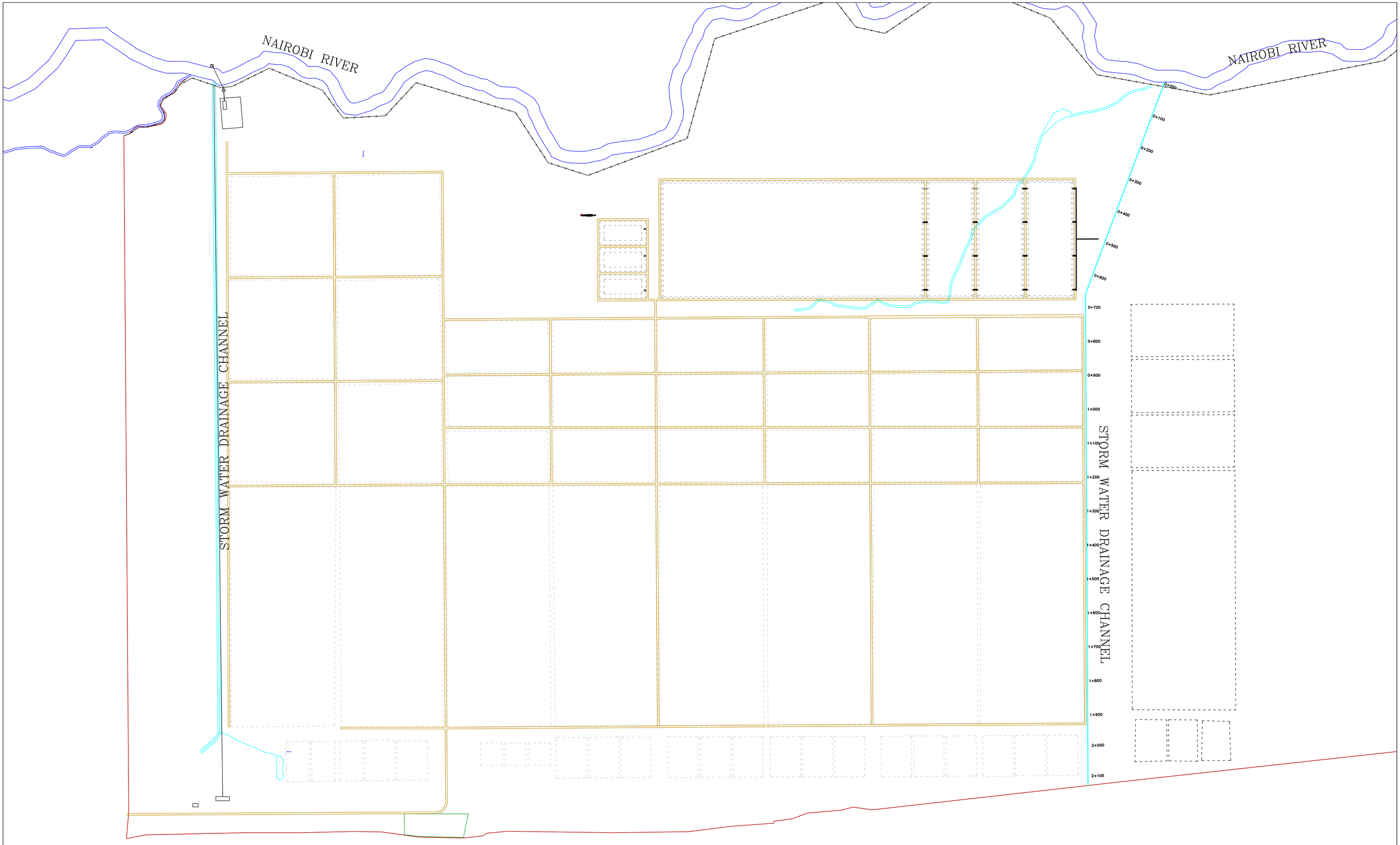
TYPICAL CONCRETE POSTS FENCE DETAILS

NOTES

1. DRAWING TO SCALE ON A1 PAPER SIZE
2. DRAWING TO BE READ INCONJUCTION WITH OTHER RELEVANT DRAWINGS
3. ALL DIMENSIONS AND LEVELS TO CHECKED ON SITE BEFORE COMMENCING ANY WORK. ANY DISCREPANCY TO BE REPORTED TO THE ENGINEER
4. ONLY FIGURED DIMENSIONS TO BE TAKEN FROM THIS DRAWING

REV	REVISIONS		SIGN	DATE	APPROVED
D		BY			
		CHECKED			
C		BY			
		CHECKED			
B		BY			
		CHECKED			
A		BY			
		CHECKED			

Designed by	D.K	Drawn by	D.K
Checked by	FMK	Approved by	
Scales	AS SHOWN	Date:	OCTOBER 2021
Job No.	FC/CE108	ACAD File:	CE108_TY_07
P STATUS	DRG No.	FC/CE108/TY/07	REV



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Client:

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Project

NAIROBI RIVERS BASIN REHABILITATION AND RESTORATION PROGRAMME: SEWERAGE IMPROVEMENT PROJECT PHASE II (NaRSIP II)

REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

Drawing Title

DANDORA ESTATE SEWAGE TREATMENT PLANT (DESTP)

ACCESS ROADS - LAYOUT PLAN

NOTES
1. DRAWING TO SCALE ON A1 PAPER SIZE
2. DRAWING TO BE READ INCONJUCTION WITH OTHER RELEVANT CIVIL, STRUCTURAL, ELECTRICAL AND MECHANICAL DRAWINGS
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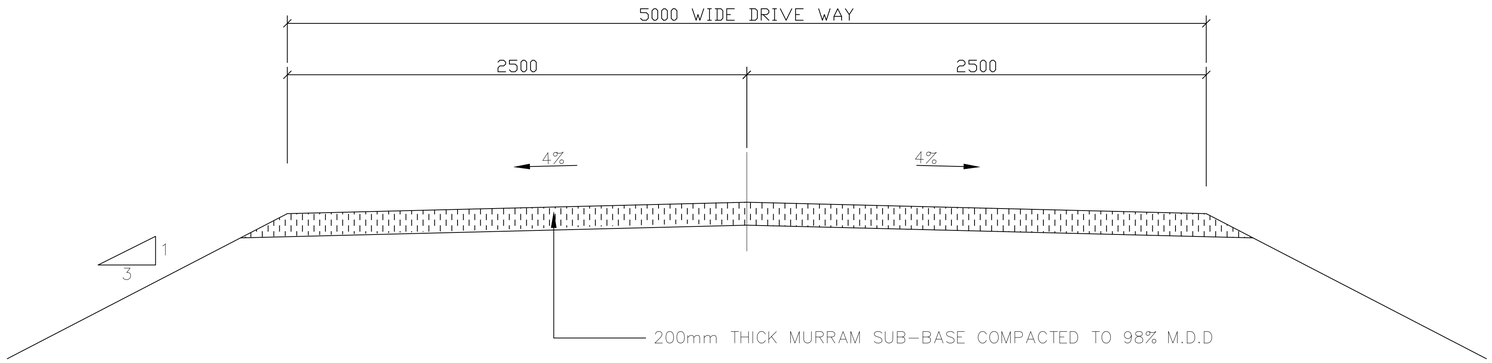
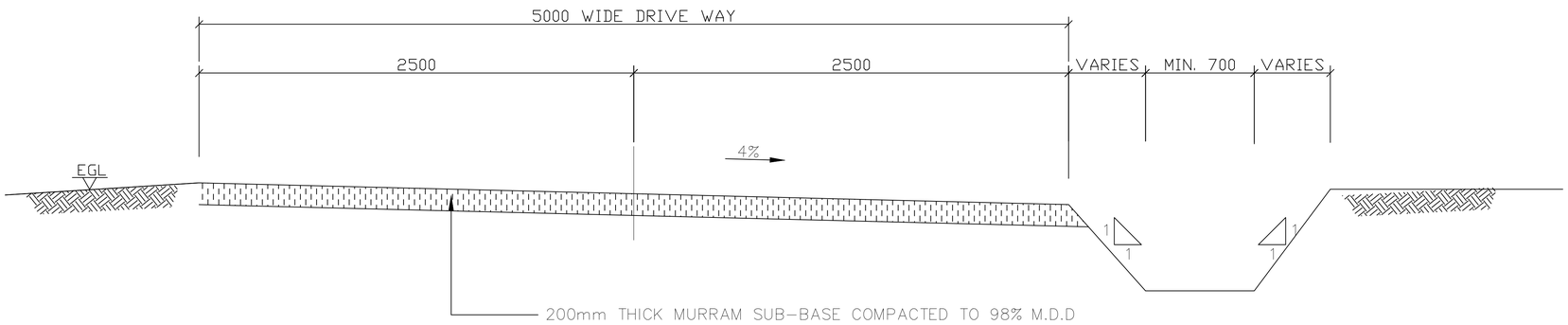
D		BY / CHECKED			
C		BY / CHECKED			
B		BY / CHECKED			
A		BY / CHECKED			

Designed by	D.K	Drawn by	D.K
Checked by	FMK	Approved by	
Scales	1:5000	Date:	OCTOBER 2021
Job No.	FC/CE108	ACAD File:	CE108_PL_09
STATUS P	DRG No.	FC/CE108/PL/09	REV



TYPICAL ACCESS ROAD CROSS-SECTION ON PONDS EMBANKMENT
(COMPACTED TO 98% M.D.D)

SCALE 1:25



TYPICAL ACCESS ROAD CROSS-SECTION ON NORMAL GROUND
(COMPACTED TO 98% M.D.D)

SCALE 1:25

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Project
NAIROBI RIVERS BASIN REHABILITATION AND RESTORATION PROGRAMME: SEWERAGE IMPROVEMENT PROJECT PHASE II (NaRSIP II)

REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

Drawing Title
DANDORA ESTATE SEWAGE TREATMENT PLANT (DESTP)

ACCESS ROADS - TYPICAL CROSS-SECTION

NOTES
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A		BY			
		CHECKED			

Designed by D.K		Drawn by D.K	
Checked by FMK		Approved by	
Scales NTS		Date: OCTOBER 2021	
Job No. FC/CE108		ACAD File: CE108_TY_09	
P STATUS	DRG No. FC/CE108/TY/09		REV

ELECTROMECHANICAL WORKS

FIELD	DR.	DRAWING–TITLE
EM	FC/CE108/EM/01	LIST OF DRAWINGS
M	FC/CE108/EM/02	INTERMEDIATE SCREENING DESIGN LAYOUT
M	FC/CE108/EM/03	CUP SCREEN DESIGN LAYOUT
E	E01/40–1	INLET WORKS MAIN LV BOARD
E	E01/40–2	INLET WORKS RAKES AND COMPACTORS SCHEMATICS
E	E01/40–3	ROTOR STRAINER ELECTRICAL SCHEMATICS
E	E01/40–4	CUP SCREEN ELECTRICAL SCHEMATICS
E	E01/40–5	FEEDER PUMPS ELECTRICAL SCHEMATICS
E	E01/40–6	JET SPRAY PUMPS ELECTRICAL SCHEMATICS
E	E01/40–7	FLASH PUMPS ELECTRICAL SCHEMATICS
E	E01/40–8	AIR BLOWERS ELECTRICAL SCHEMATICS
E	E01/40–9	JETA DRIVES ELECTRICAL SCHEMATICS
E	E01/40–10	GRIT REMOVAL ELECTRICAL SCHEMATICS
E	E01/40–11	SCREW CLASSIFIERS ELECTRICAL SCHEMATICS
E	E01/40–12	PENSTOCK ACTUATORS ELECTRICAL SCHEMATICS
E	E01/40–13	KIU TREATMENT PLANT MAIN LB BOARD ELECTRICAL SCHEMATICS
M	E01/40–14	DESTP INLET WORKS PROPOSED FIRE FIGHTING LAYOUT
M	DESTPE01/15	KILN INCINERATOR
M	DESTPE01/16	PROPOSED CONTROL ROOM PLUMBING LAYOUT
M	DESTPE01/17	PROPOSED CONTROL ROOM DRAINAGE LAYOUT

FIELD	DR.	DRAWING–TITLE
M	E01/40–18	PROPOSED CONTROL ROOM ROOF TOP PLAN PLUMBING LAYOUT
M	E01/40–19	PROPOSED CONTROL ROOM AC LAYUOT
M	E01/40–20	PROPOSED CONTROL FIRE FIGHTING LAYOUT
E	E01/40–21	INLET WORKS–PROPOSED CONTROL ROOM LIGHTING LAYOUT
E	E01/40–22	INLET WORKS–PROPOSED CONTROL ROOM ELECTRICAL POWER LAYOUT

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Project
NAIROBI RIVERS BASIN REHABILITATION AND RESTORATION PROGRAMME: SEWERAGE IMPROVEMENT PROJECT PHASE II (NaRSIP II)

REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

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Drawing Title
LIST OF DRAWINGS

NOTES
1. DRAWING TO SCALE ON A1 PAPER SIZE
2. DRAWING TO BE READ INCONJUCTION WITH OTHER RELEVANT CIVIL, STRUCTURAL, ELECTRICAL AND MECHANICAL DRAWINGS
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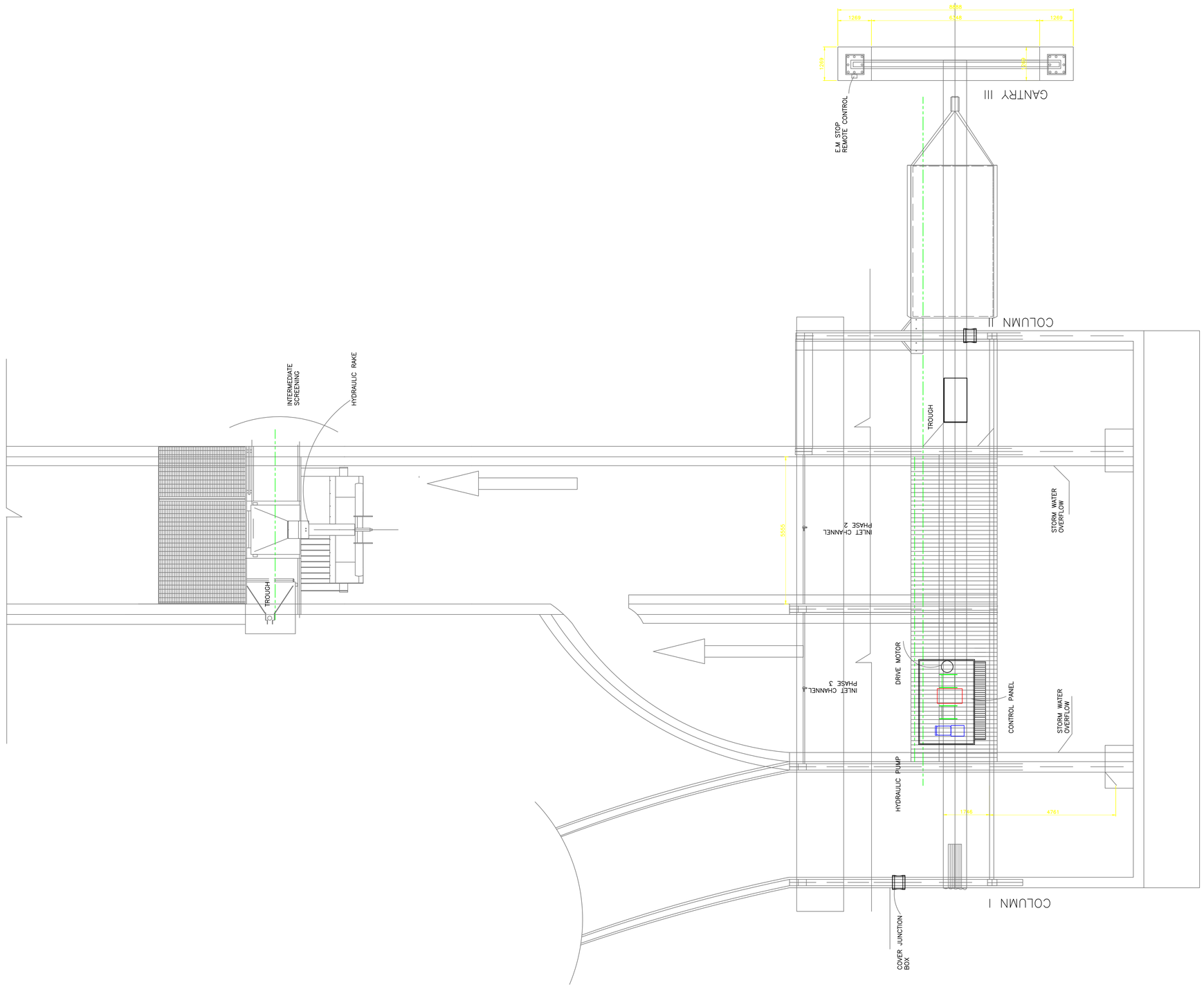
		CHECKED			

Designed by	L.O	Drawn by	L.O
Checked by	DON	Approved by	DON
Scales	NTS	Date:	JULY 2021
Job No.		ACAD File:	CE108_EM_01
P STATUS	DRG No. FC/CE108/EM/01		REV



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Project
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REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

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Drawing Title
INTERMEDIATE SCREENING

NOTES
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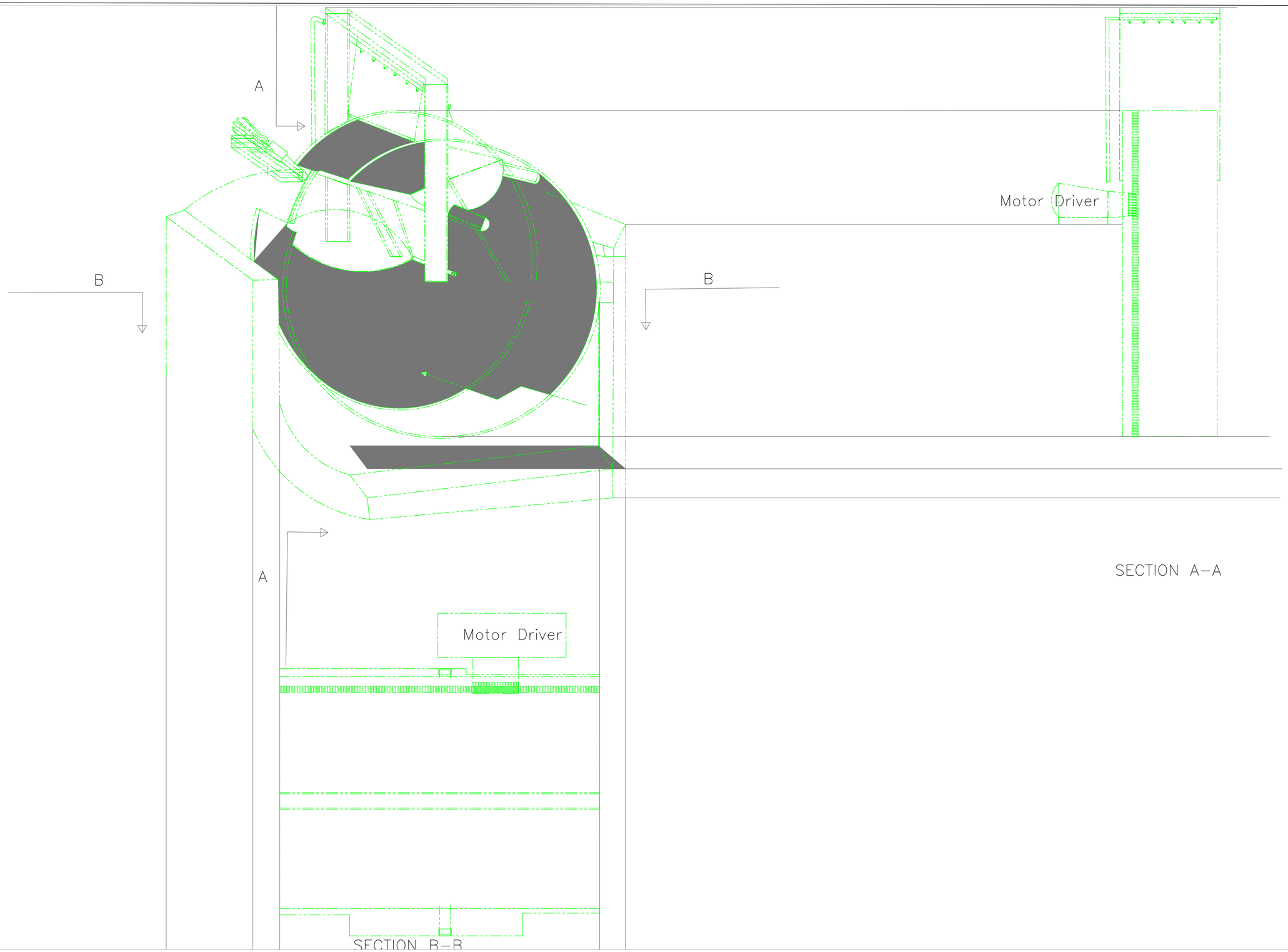
Designed by	P.K	Drawn by	P.K
Checked by	DON	Approved by	DON
Scales	NTS	Date:	JULY 2021
Job No.		ACAD File:	CE108_PL_02
P STATUS	DRG No.	FC/CE108/PL/01	REV



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NAIROBI RIVERS BASIN REHABILITATION AND RESTORATION PROGRAMME: SEWERAGE IMPROVEMENT PROJECT PHASE II (NaRSIP II)

REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

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Drawing Title
CUP SCREEN AND ITS SECTIONS

NOTES
1. DRAWING TO SCALE ON A1 PAPER SIZE
2. DRAWING TO BE READ INCONJUCTION WITH OTHER RELEVANT CIVIL, STRUCTURAL, ELECTRICAL AND MECHANICAL DRAWINGS
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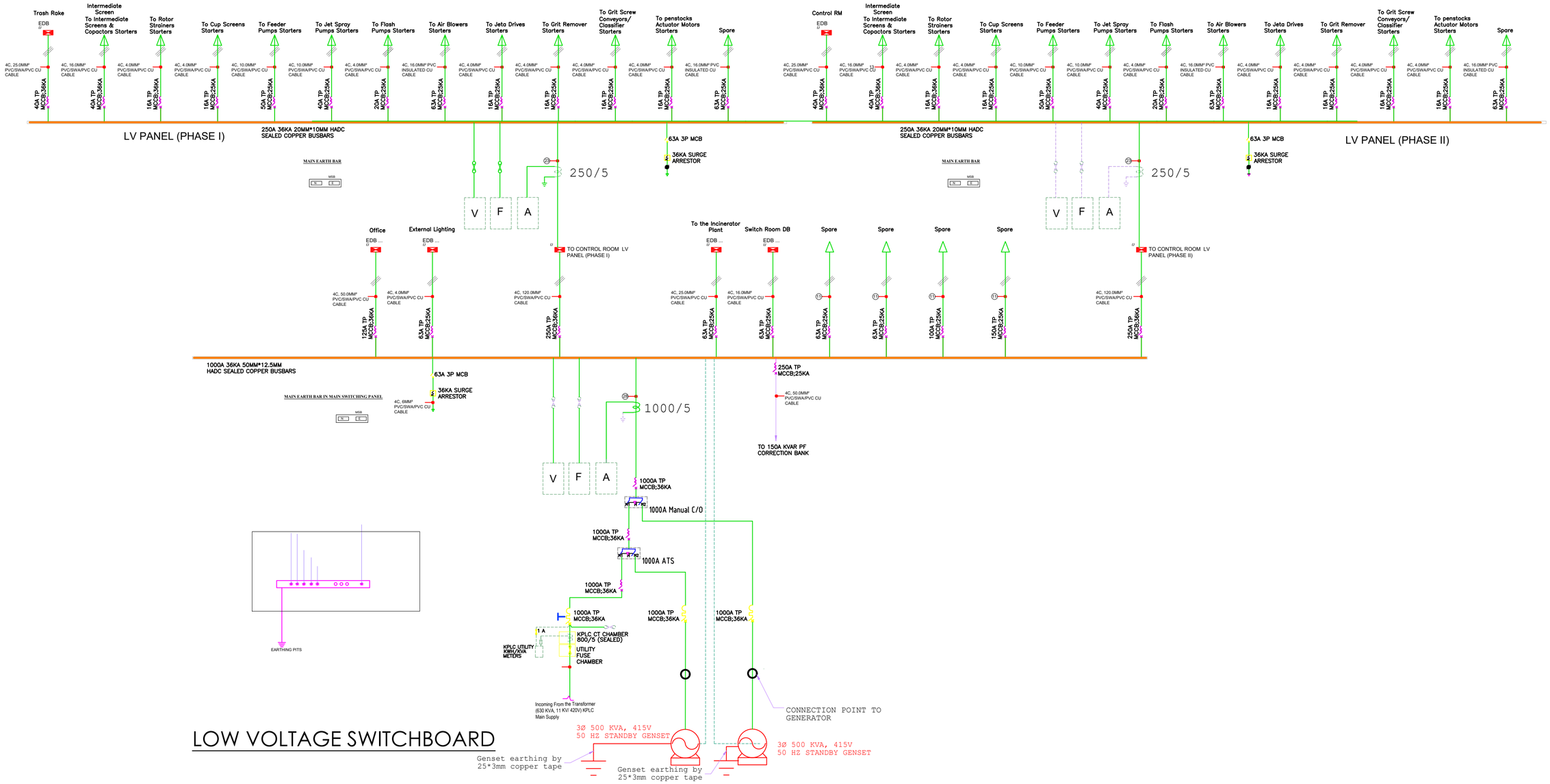
B		BY			
		CHECKED			
A		BY	P.K	6/8/2021	
		CHECKED	DON	6/8/2021	

Designed by	P.K	Drawn by	P.K
Checked by	DON	Approved by	DON
Scales	NTS	Date:	JULY 2021
Job No.	DESTP-A-10	ACAD File:	CE108_PL_02
STATUS P	DRG No.	FC/CE108/PL/02	REV



LOW VOLTAGE SWITCHBOARD

PRELIMINARY AND DRAFT DESIGN

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Project:
NAIROBI RIVERS BASIN REHABILITATION AND RESTORATION PROGRAMME: SEWERAGE IMPROVEMENT PROJECT PHASE II (NaRSIP II) REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT WORKS (DESTW) INLET WORKS

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Drawing Title:
PHASE 1 MAIN LV BOARD SCHEMATICS

NOTES

1. DRAWING NOT TO SCALE
2. DRAWING TO BE READ IN CONJUCTION WITH OTHER RELEVANT CIVIL STRUCTURE, ELECTRICAL AND MECHANICAL DRAWINGS
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B		BY / CHECKED			
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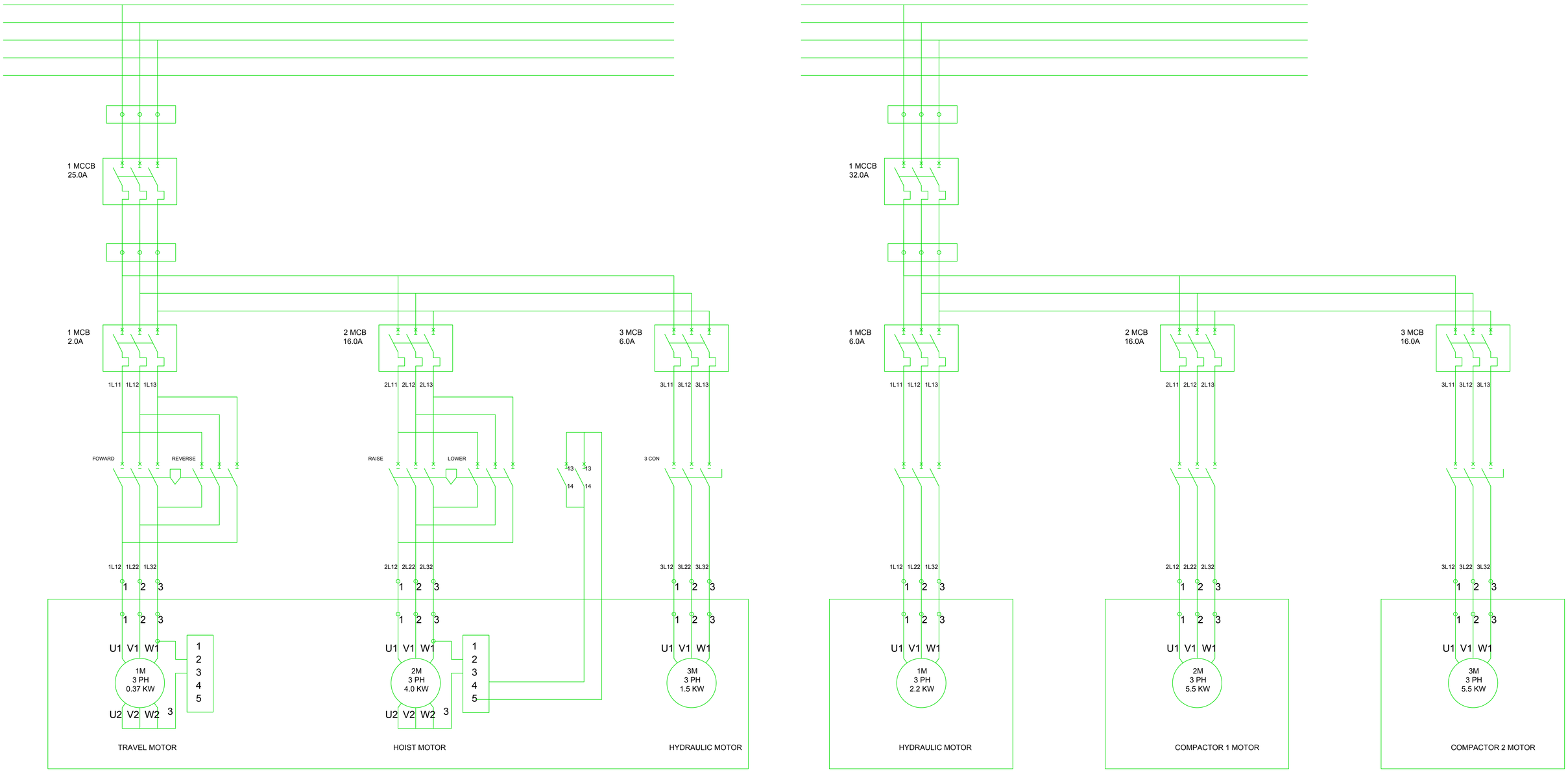
Designed by DON		Drawn by E.M	
Checked by P.M		Approved by DON	
Scales NTS		Date: JULY 2021	
Job No.		ACAD File:CE108_PL_02	
STATUS P	DRG No. E01/40-1		REV



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Project:
NAIROBI RIVERS BASIN REHABILITATION AND RESTORATION PROGRAMME: SEWERAGE IMPROVEMENT PROJECT PHASE II (NaRSIP II) REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

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Drawing Title:

TRASH RAKE & COMPACTORS ELECTRICAL SCHEMATICS

NOTES

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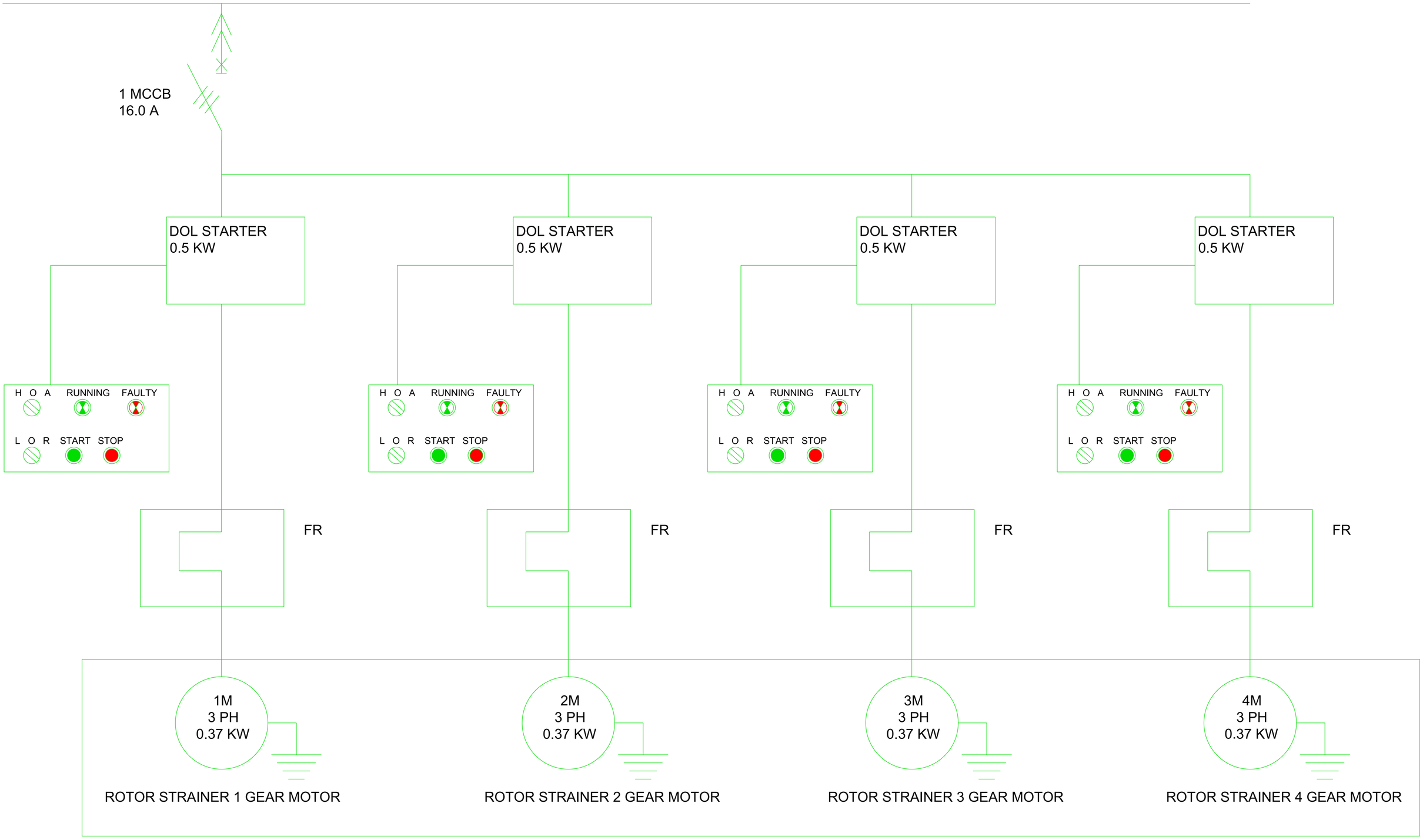
Designed by DON		Drawn by E.M	
hecked by P.M		Approved by DON	
Scales NTS		Date: SEPT 2021	
Job No.		ACAD File:CE108_PL_02	
P STATUS	DRG No. E01/40-2		REV



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Project:
NAIROBI RIVERS BASIN REHABILITATION AND RESTORATION PROGRAMME: SEWERAGE IMPROVEMENT PROJECT PHASE II (NaRSIP II) REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

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Drawing Title:

ROTOR STRAINERS ELECTRICAL SCHEMATICS

NOTES

1. DRAWING NOT TO SCALE
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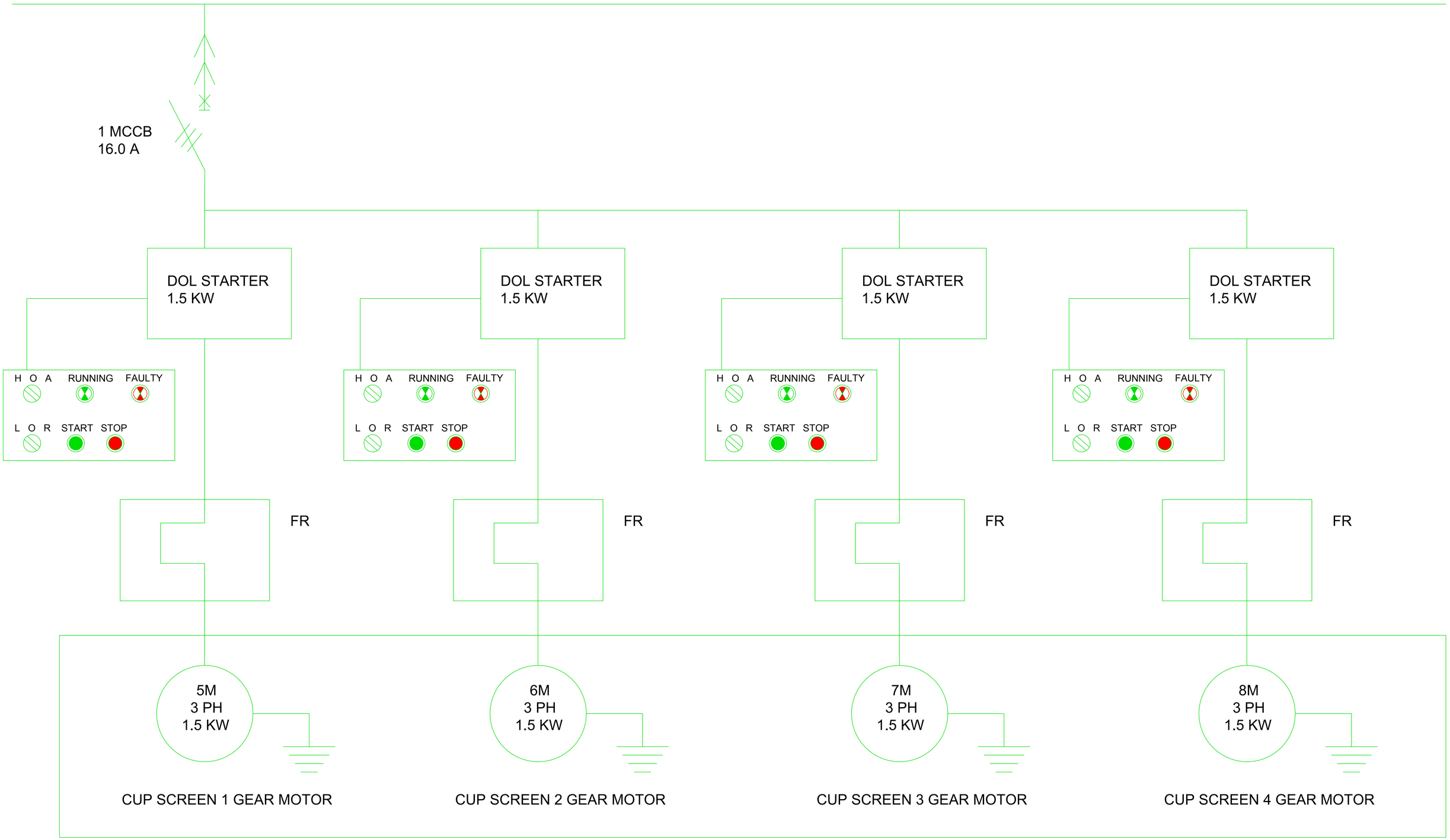
Designed by DON		Drawn by E.M	
Checked by P.M		Approved by DON	
Scales NTS		Date: SEPT 2021	
Job No.		ACAD File:CE108_PL_02	
STATUS P	DRG No. E01/40-3		REV



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NAIROBI RIVERS BASIN REHABILITATION AND RESTORATION PROGRAMME: SEWERAGE IMPROVEMENT PROJECT PHASE II (NaRSIP II) REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

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Drawing Title:

CUP SCREEN ELECTRICAL SCHEMATICS

NOTES

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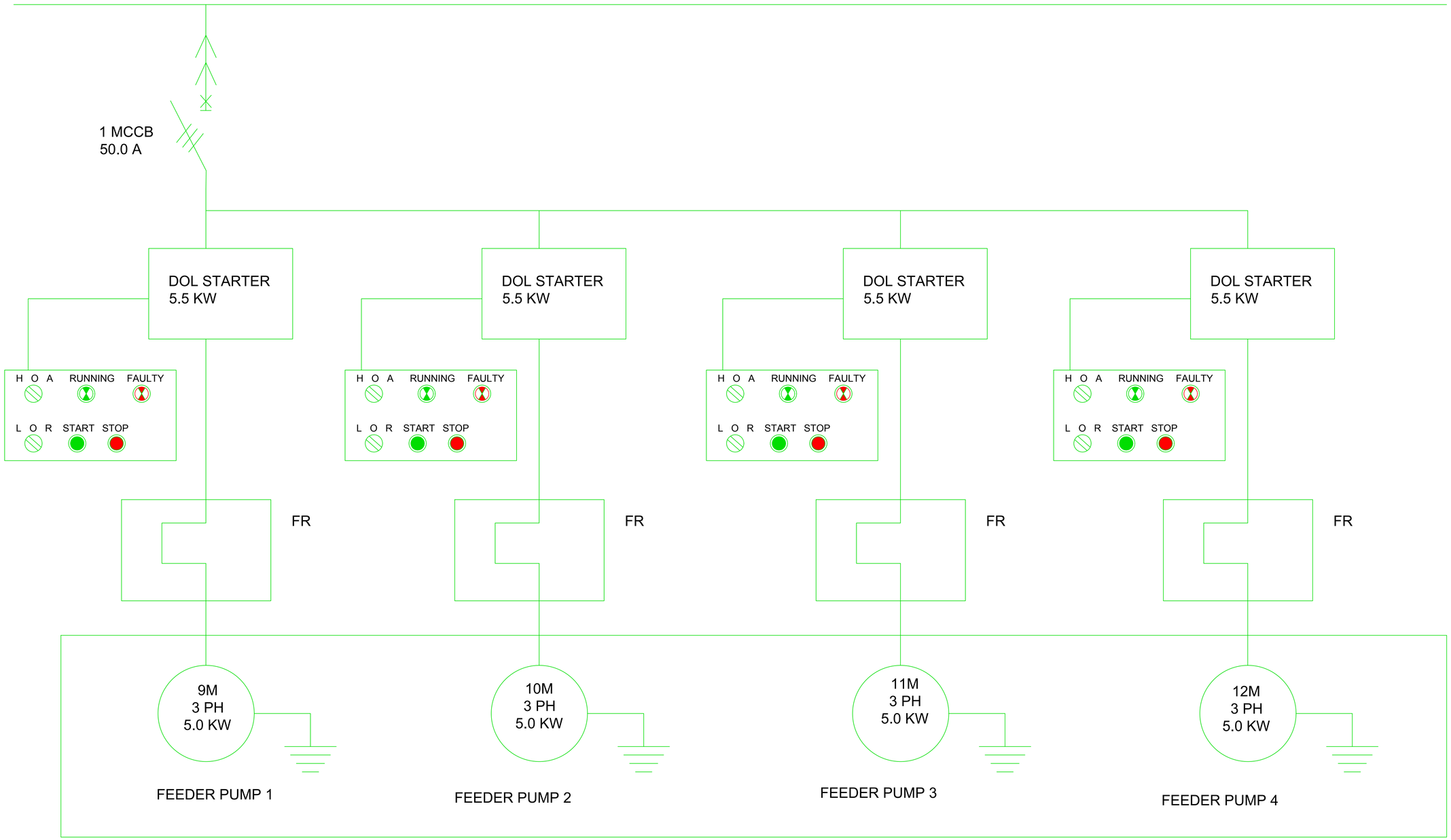
Designed by DON		Drawn by E.M	
Checked by P.M		Approved by DON	
Scales NTS		Date: SEPT 2021	
Job No.		ACAD File:CE108_PL_02	
STATUS P	DRG No. E01/40-4		REV



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Project:
NAIROBI RIVERS BASIN REHABILITATION AND RESTORATION PROGRAMME: SEWERAGE IMPROVEMENT PROJECT PHASE II (NaRSIP II) REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

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Drawing Title:

FEEDER PUMPS ELECTRICAL SCHEMATICS

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REV	REVISIONS		SIGN	DATE	APPROVED
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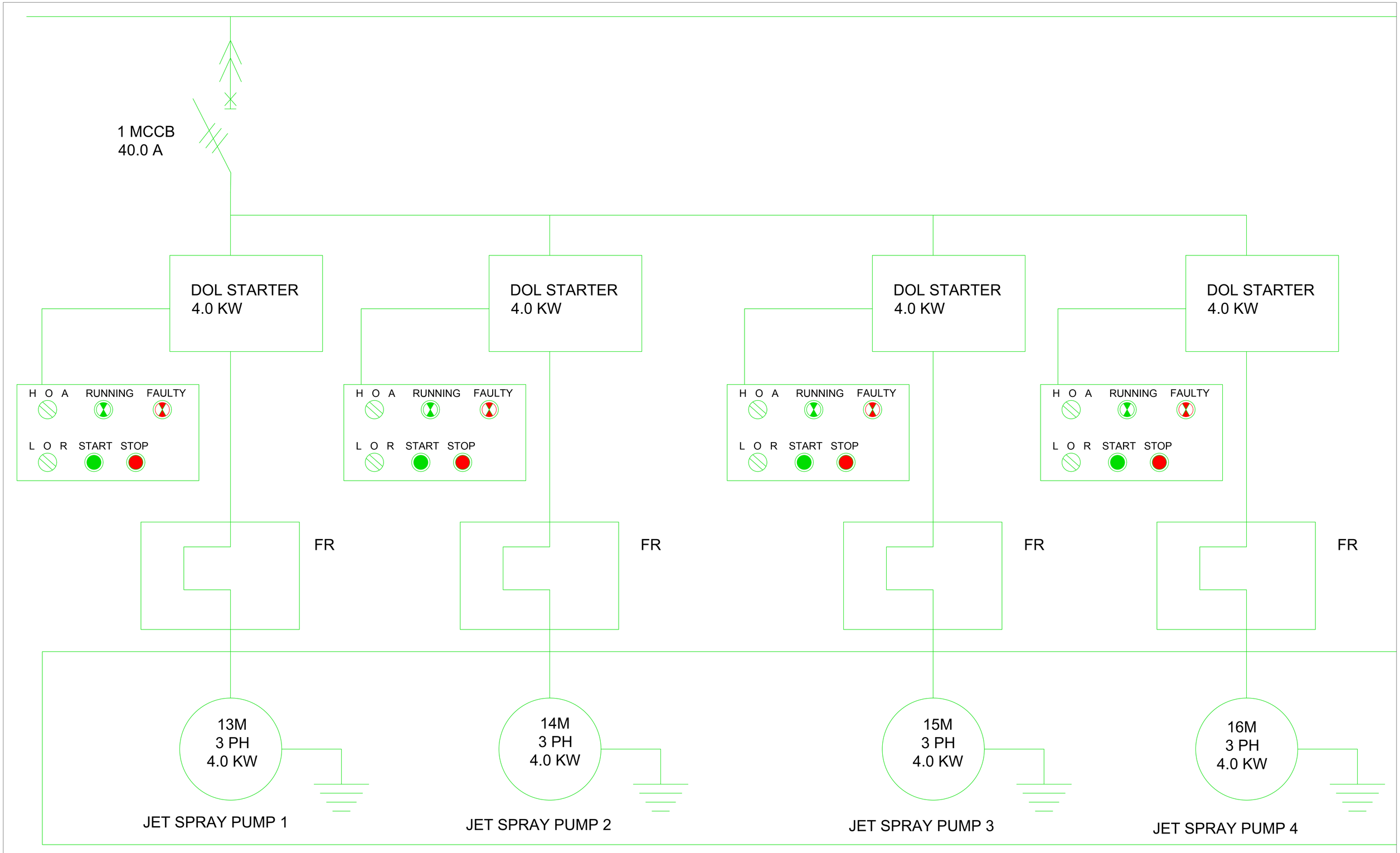
A		BY			
		CHECKED			

Designed by DON		Drawn by E.M	
Checked by P.M		Approved by DON	
Scales NTS		Date: SEPT 2021	
Job No.		ACAD File:CE108_PL_02	
P STATUS	DRG No. E01/40-5		REV



Civil Engineer:
FCL
Frame Consultants Ltd
P.O. BOX 58624-00200, NAIROBI.
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E-mail:info@frameconsultants.com

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ATHI WATER WORK DEVELOPMENT AGENCY
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Tel: +254 (0) 274292/3
Email: info@awwda.go.ke

Project:
NAIROBI RIVERS BASIN REHABILITATION AND RESTORATION PROGRAMME: SEWERAGE IMPROVEMENT PROJECT PHASE II (NaRSIP II) REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

SERVICES ENGINEER:
ditech
Ditech Engineering Limited
Electro mechanical Turn-key engineers
P.O BOX 231-00507,NAIROBI
Tel:+254 728162245
Email: design@ditech.co.ke

Drawing Title:
JET SPRAY PUMPS ELECTRICAL SCHEMATICS

NOTES
1. DRAWING NOT TO SCALE
2. DRAWING TO BE READ IN CONJUCTION WITH OTHER RELEVANT CIVIL STRUCTURE, ELECTRICAL AND MECHANICAL DRAWINGS
3. ALL DIMENSIONS AND LEVELS TO BE CHECKED ON SITE BEFORE COMMENCING ANY WORK. ANY DISCREPANCY TO BE REPORTED TO THE ENGINEER
4. ONLY FIGURED IMENSIONS TO BE TAKEN FROM THIS DRAWING

REV	REVISIONS		SIGN	DATE	APPROVED
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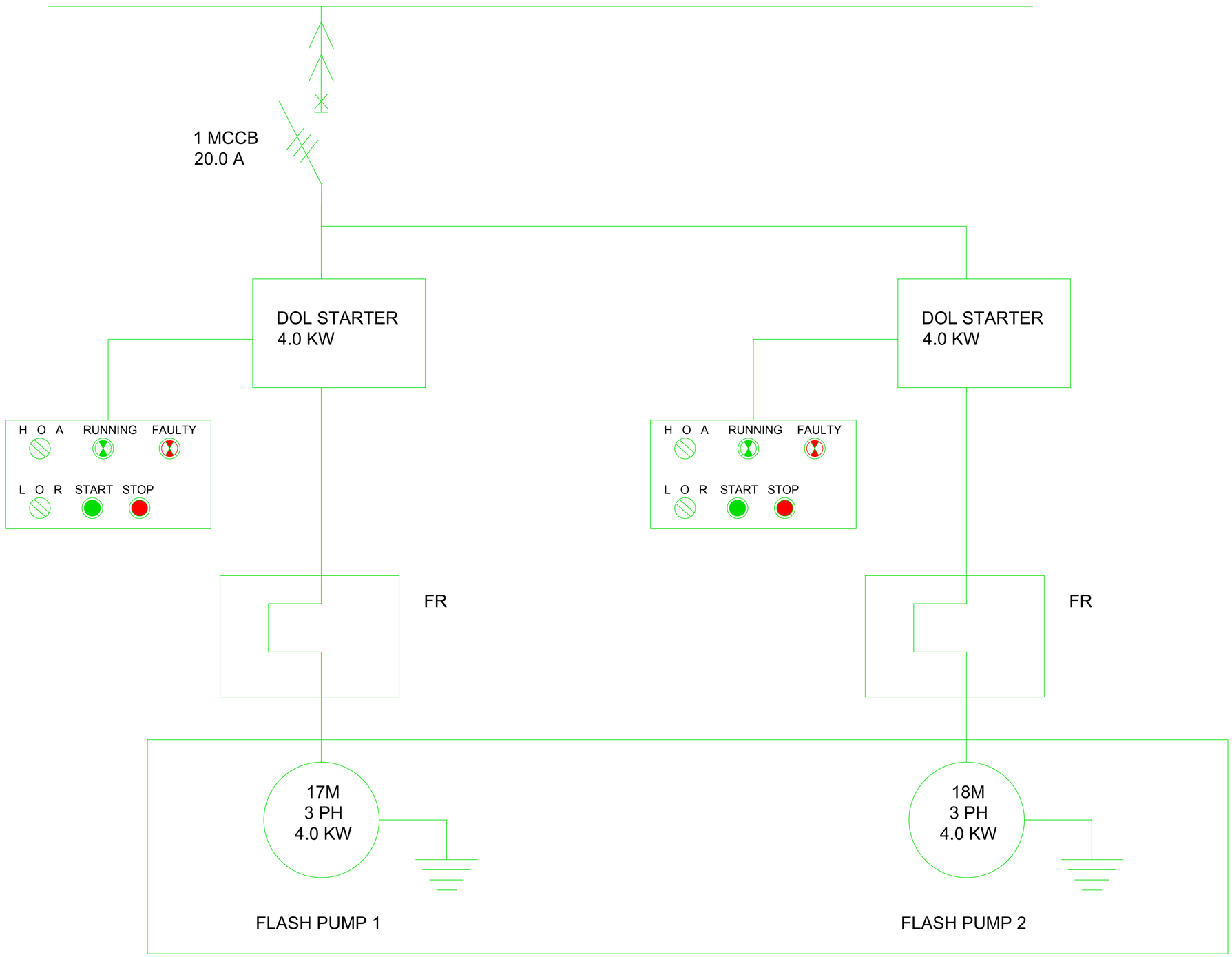
Designed by DON | Drawn by E.M
Checked by P.M | Approved by DON
Scales NTS | Date: SEPT 2021
Job No. | ACAD File:CE108_PL_02
STATUS P | DRG No. E01/40-6 | REV



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Project:
NAIROBI RIVERS BASIN REHABILITATION AND RESTORATION PROGRAMME: SEWERAGE IMPROVEMENT PROJECT PHASE II (NaRSIP II) REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

SERVICES ENGINEER:
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Electro mechanical Turn-key engineers
P.O BOX 231-00507,NAIROBI
Tel.+254 728162245
Email: designs@ditech.co.ke

Drawing Title:
FLASH PUMPS ELECTRICAL SCHEMATICS

NOTES
1. DRAWING NOT TO SCALE
2. DRAWING TO BE READ IN CONJUCTION WITH OTHER RELEVANT CIVIL STRUCTURE, ELECTRICAL AND MECHANICAL DRAWINGS
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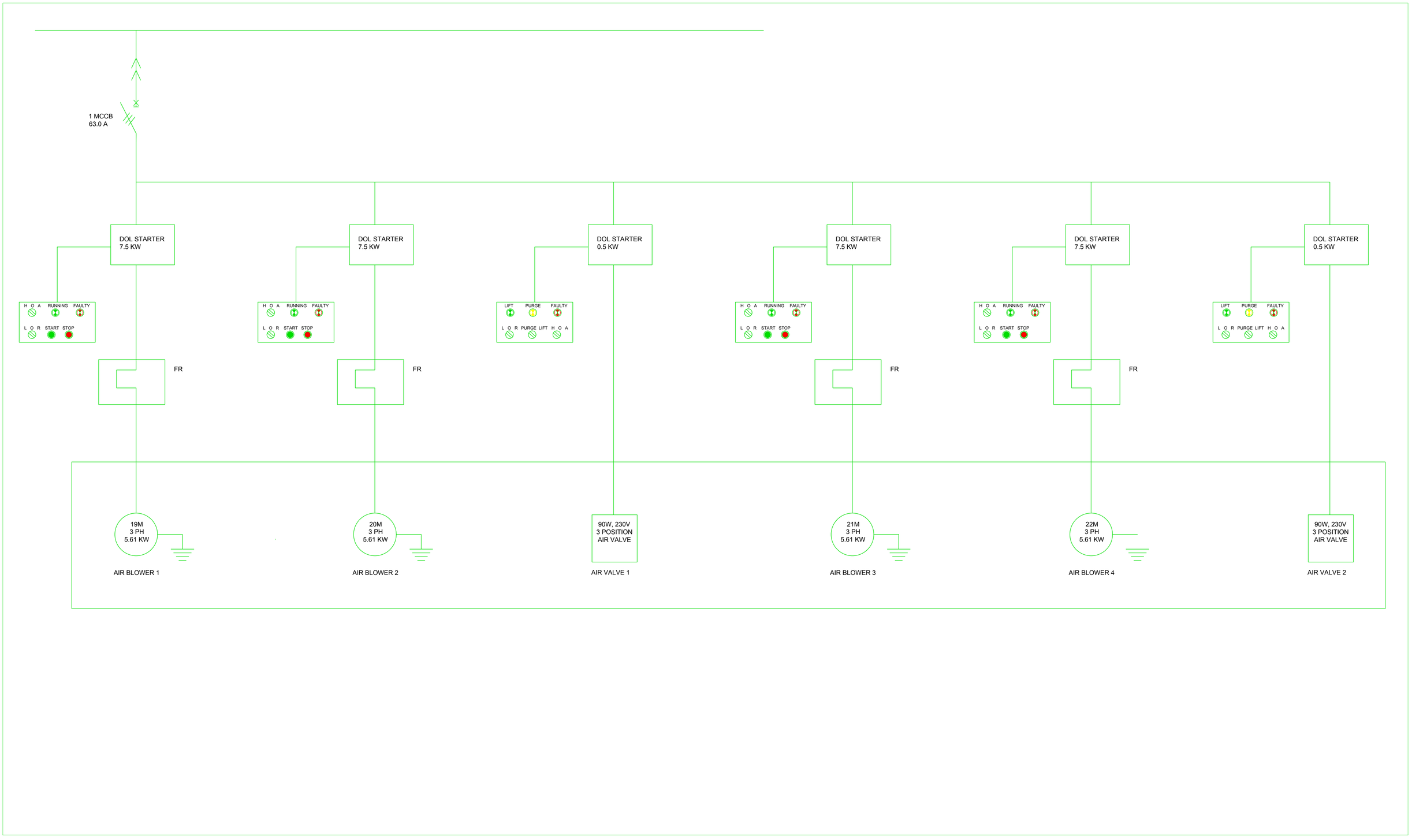
Designed by DON		Drawn by E.M	
Checked by P.M		Approved by DON	
Scales NTS		Date: SEPT 2021	
Job No.		ACAD File:CE108_PL_02	
STATUS P	DRG No. E01/40-7		REV



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Project:
NAIROBI RIVERS BASIN REHABILITATION AND RESTORATION PROGRAMME: SEWERAGE IMPROVEMENT PROJECT PHASE II (NaRSIP II) REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

SERVICES ENGINEER:
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Tel +254 728162245
Email: design@ditech.co.ke

Drawing Title:
AIR BLOWERS ELECTRICAL SCHEMATICS

NOTES
1. DRAWING NOT TO SCALE
2. DRAWING TO BE READ IN CONJUCTION WITH OTHER RELEVANT CIVIL STRUCTURE, ELECTRICAL AND MECHANICAL DRAWINGS
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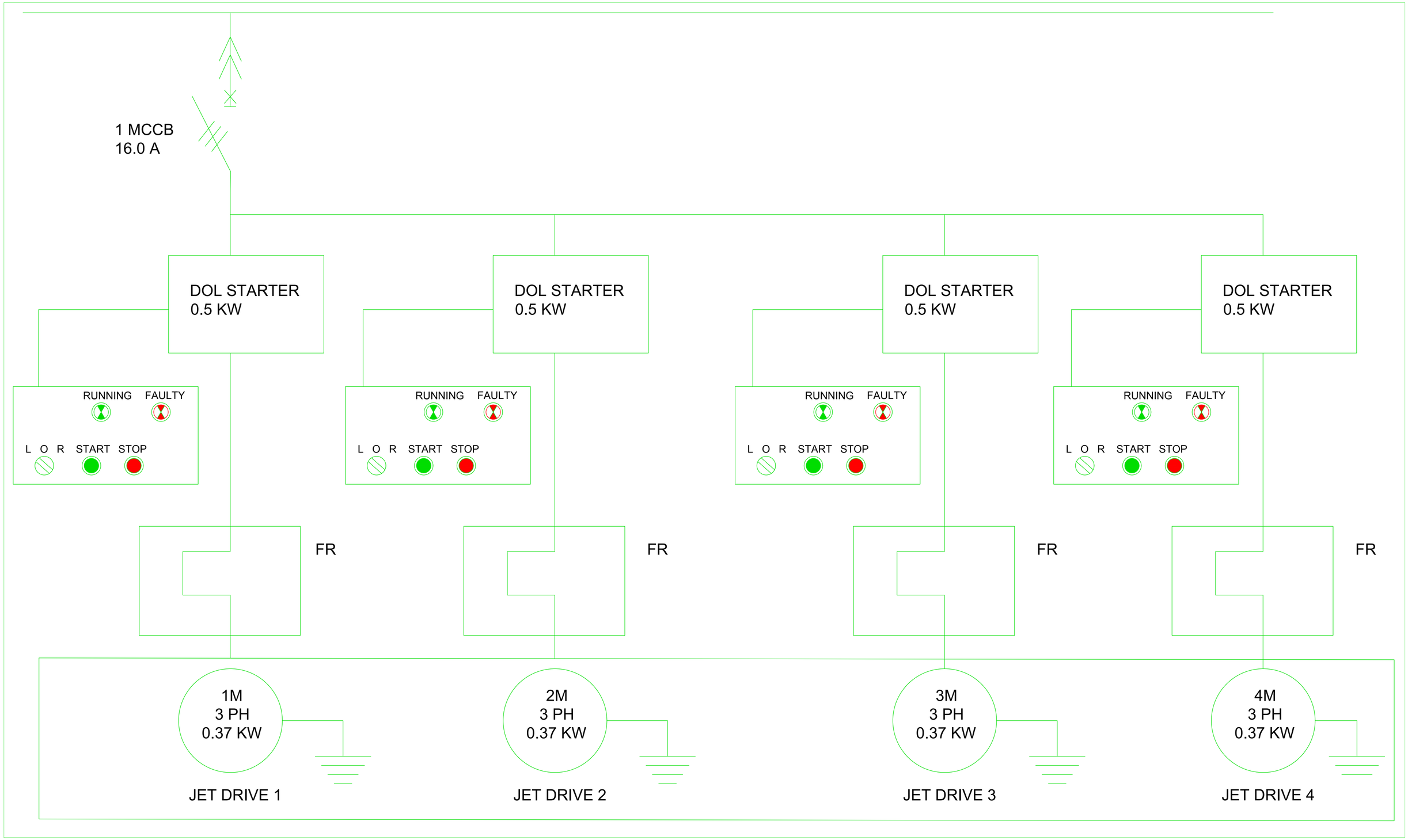
Designed by DON		Drawn by E.M	
Checked by P.M		Approved by DON	
Scales NTS		Date: SEPT 2021	
Job No.		ACAD File:CE108_PL_02	
P STATUS	DRG No. E01/40-8		REV



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Project:
NAIROBI RIVERS BASIN REHABILITATION AND RESTORATION PROGRAMME: SEWERAGE IMPROVEMENT PROJECT PHASE II (NaRSIP II) REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

SERVICES ENGINEER:
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Drawing Title:

JET DRIVE ELECTRICAL SCHEMATICS

NOTES

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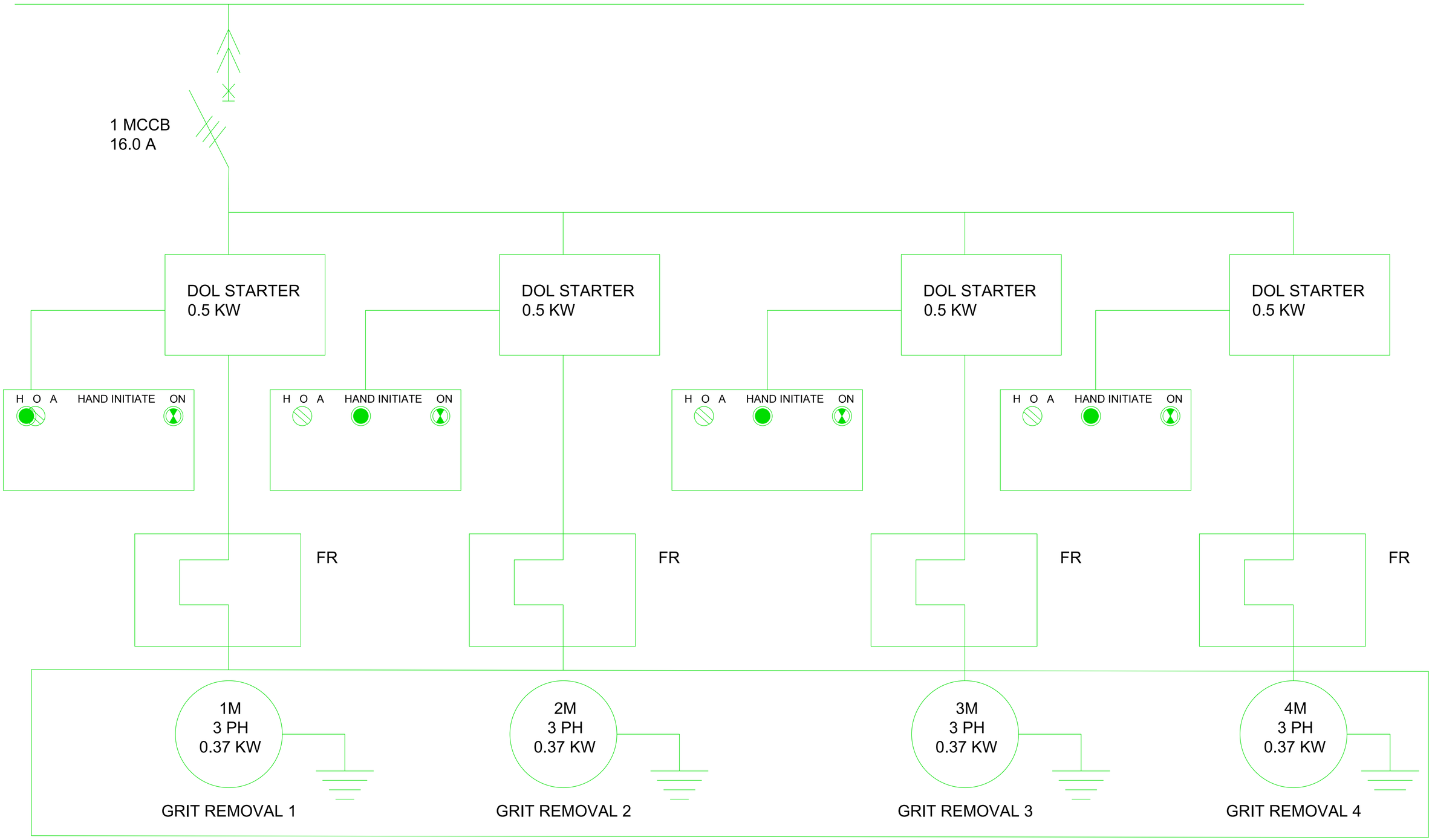
Designed by DON	Drawn by E.M
Checked by P.M	Approved by DON
Scales NTS	Date: SEPT 2021
Job No.	ACAD File:CE108_PL_02
STATUS P	DRG No. E01/40-9
	REV



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Project:
NAIROBI RIVERS BASIN REHABILITATION AND RESTORATION PROGRAMME: SEWERAGE IMPROVEMENT PROJECT PHASE II (NaRSIP II) REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

SERVICES ENGINEER:
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Ditech Engineering Limited
Electro mechanical Turn-key engineers
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Tel :+254 728162245
Email: design@ditech.co.ke

Drawing Title:

GRIT REMOVER ELECTRICAL SCHEMATICS

NOTES

1. DRAWING NOT TO SCALE
2. DRAWING TO BE READ IN CONJUCTION WITH OTHER RELEVANT CIVIL STRUCTURE, ELECTRICAL AND MECHANICAL DRAWINGS
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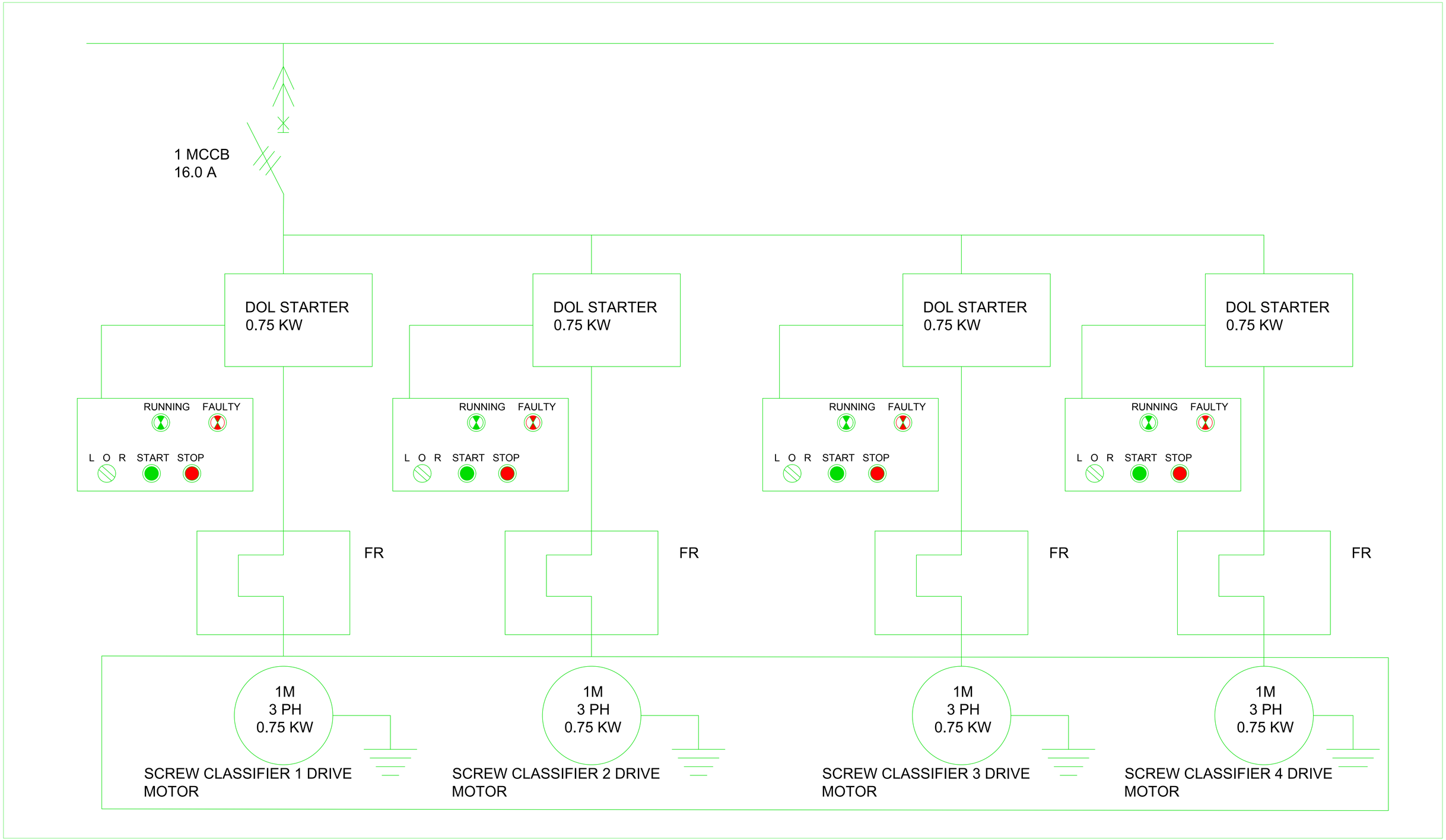
Designed by DON		Drawn by E.M	
hecked by P.M		Approved by DON	
Scales NTS		Date: SEPT 2021	
Job No.		ACAD File:CE108_PL_02	
P STATUS	DRG No. E01/40-10		REV



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Project:
NAIROBI RIVERS BASIN REHABILITATION AND RESTORATION PROGRAMME: SEWERAGE IMPROVEMENT PROJECT PHASE II (NaRSIP II) REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

SERVICES ENGINEER:
ditech
Ditech Engineering Limited
Electro mechanical Turn-key engineers
P.O BOX 231-00507,NAIROBI
Tel :+254 728162245
Email: design@ditech.co.ke

Drawing Title:

SCREW CLASSIFIER ELECTRICAL SCHEMATICS

NOTES

1. DRAWING NOT TO SCALE
2. DRAWING TO BE READ IN CONJUCTION WITH OTHER RELEVANT CIVIL STRUCTURE, ELECTRICAL AND MECHANICAL DRAWINGS
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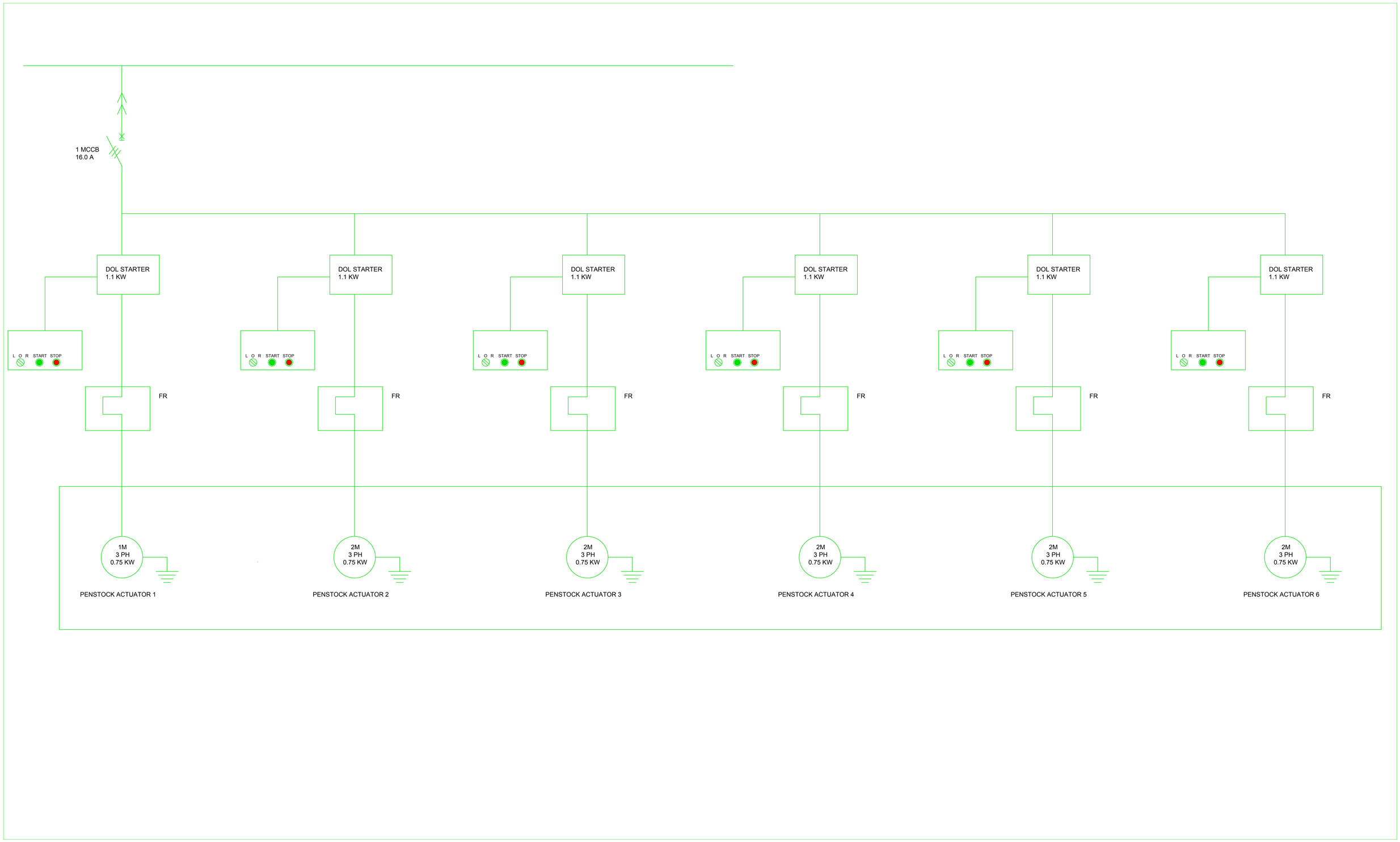
Designed by DON		Drawn by E.M	
Checked by P.M		Approved by DON	
Scales NTS		Date: SEPT 2021	
Job No.		ACAD File:CE108_PL_02	
P STATUS	DRG No. E01/40-11		REV



Civil Engineer:
Frame Consultants Ltd
P.O. BOX 58624-00200, NAIROBI.
TEL: 2213744, 2251505, 0720523850
E-mail:info@frameconsultants.com

Client:
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Project:
NAIROBI RIVERS BASIN REHABILITATION AND RESTORATION PROGRAMME: SEWERAGE IMPROVEMENT PROJECT PHASE II (NaRSIP II) REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

SERVICES ENGINEER:
ditech
Ditech Engineering Limited
Electro mechanical Turn-key engineers
P.O BOX 231-00507,NAIROBI
Tel.+254 728162245
Email: design@ditech.co.ke

Drawing Title:
LOW VOLTAGE SWITCHBOARD

NOTES
1. DRAWING NOT TO SCALE
2. DRAWING TO BE READ IN CONJUCTION WITH OTHER RELEVANT CIVIL STRUCTURE, ELECTRICAL AND MECHANICAL DRAWINGS
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REV	REVISIONS		SIGN	DATE	APPROVED
D		BY / CHECKED			
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B		BY / CHECKED			
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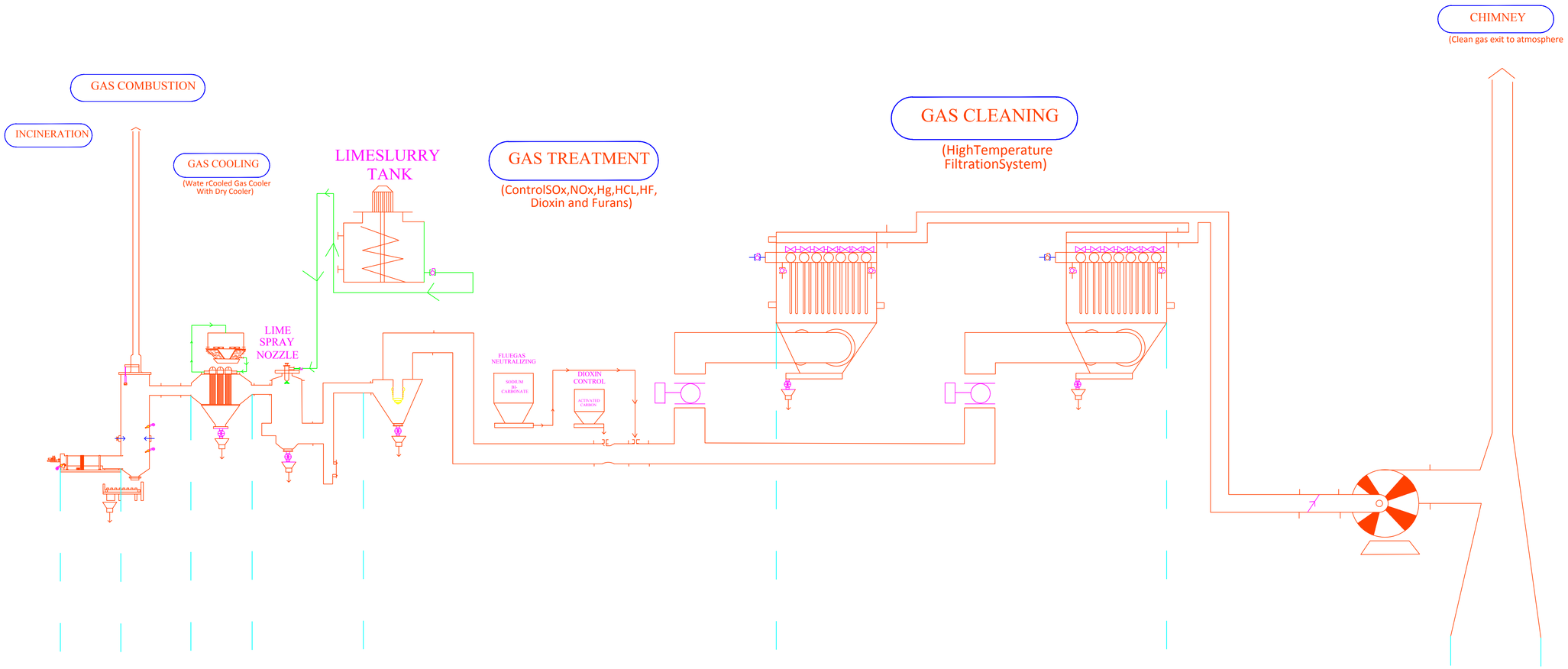
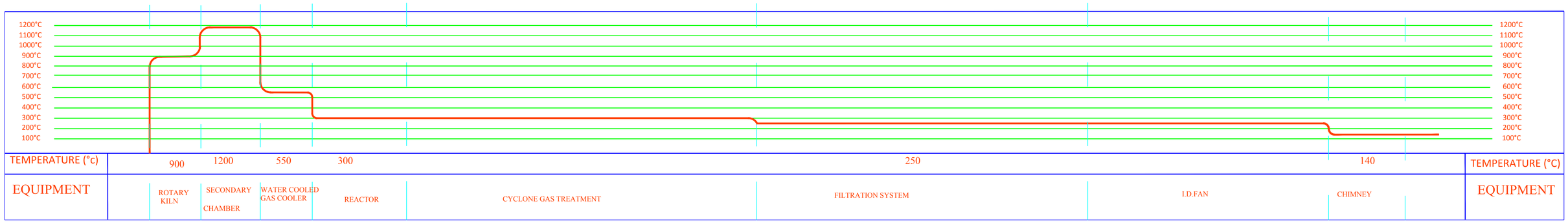
Designed by DON	Drawn by E.M
Checked by P.M	Approved by DON
Scales NTS	Date: JULY 2021
Job No.	ACAD File:CE108_PL_02
P STATUS	DRG No. E01/40-12 REV





SCHEMATIC REPRESENTATION OF ROTARY KILN INCINERATOR WITH FLUE GAS TREATMENT

Civil Engineer:
FCL
Frame Consultants Ltd.
P.O. BOX 58624-00200, NAIROBI.
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Client:
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Project
NAIROBI RIVERS BASIN REHABILITATION AND RESTORATION PROGRAMME: SEWERAGE IMPROVEMENT PROJECT PHASE II (NaRSIP II)

REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

ditech
Ditech Engineering Limited
Electro mechanical Turn-key engineers
P.O BOX 231-00507,NAIROBI
Tel:+254 728162245
Email: design@ditech.co.ke

Drawing Title
ROTARY KILN INCINERATOR

NOTES
1. DRAWING TO SCALE ON A1 PAPER SIZE
2. DRAWING TO BE READ INCONJUCTION WITH OTHER RELEVANT CIVIL, STRUCTURAL, ELECTRICAL AND MECHANICAL DRAWINGS
3. ALL DIMENSIONS AND LEVELS TO CHECKED ON SITE BEFORE COMMENCING ANY WORK. ANY DISCREPANCY TO BE REPORTED TO THE ENGINEER
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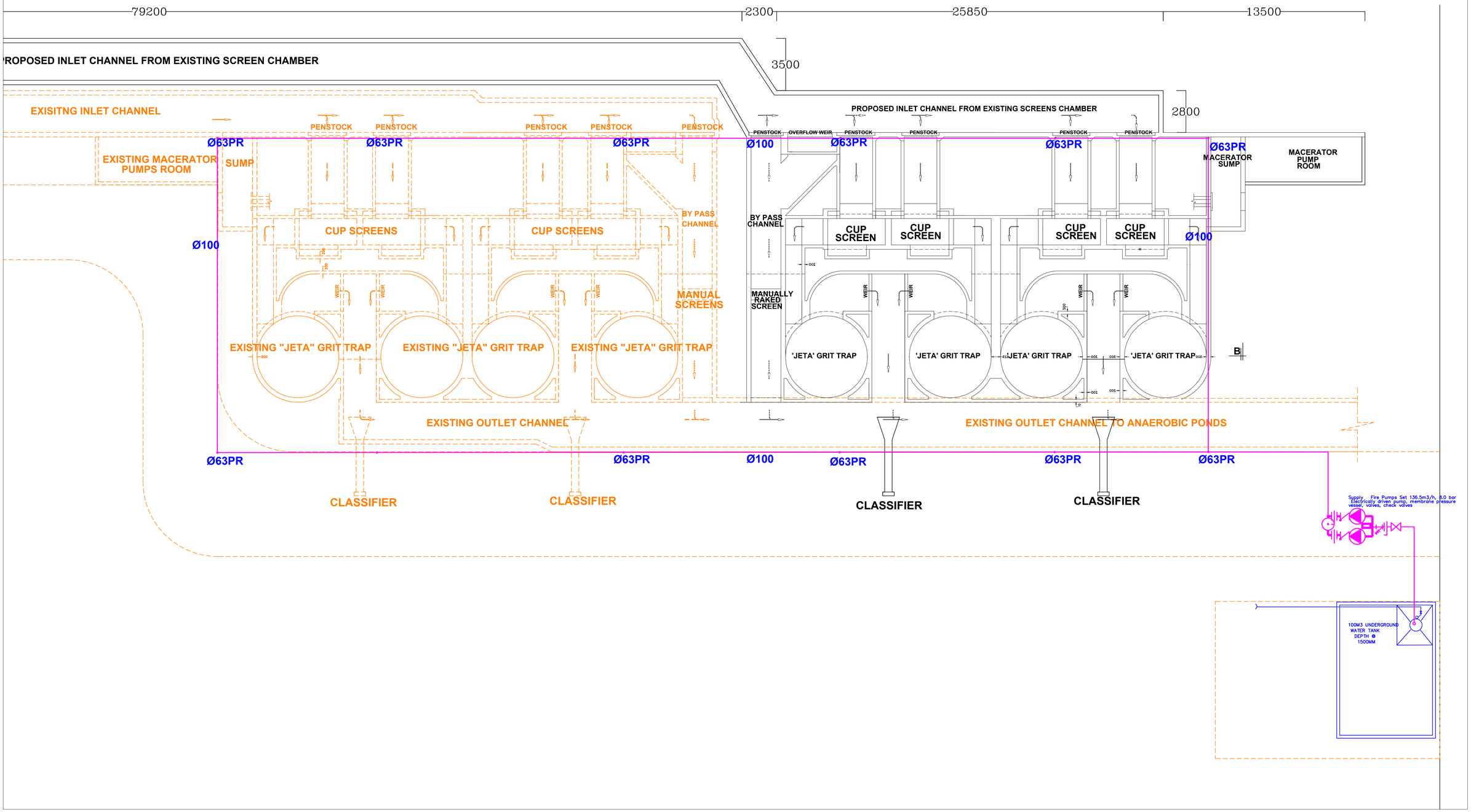
Designed by	L.O	Drawn by	L.O
Checked by	DON	Approved by	DON
Scales	NTS	Date:	AUGUST 2021
Job No.	DESTP-A-11	ACAD File:	CE108/PL/03
STATUS P	DRG No.	DESTP E01/15	REV



Civil Engineer:
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TEL: 2213744, 2251505, 0720523850
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Email: info@awwda.go.ke

Project:
NAIROBI RIVERS BASIN REHABILITATION AND RESTORATION PROGRAMME: SEWERAGE IMPROVEMENT PROJECT PHASE II (NaRSIP II) REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

SERVICES ENGINEER:
ditech
Ditech Engineering Limited
Electro mechanical Turn-key engineers
P.O BOX 231-00507,NAIROBI
Tel.+254 728162245
Email: design@ditech.co.ke

Drawing Title:
DESTP PROPOSED FIRE HYDRANTS LAYOUT

NOTES
1. DRAWING NOT TO SCALE
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Designed by DON	Drawn by E.M
Checked by P.M	Approved by DON
Scales NTS	Date: SEPT 2021
Job No.	ACAD File:CE108_PL_02
P STATUS	DRG No. E01/40-14
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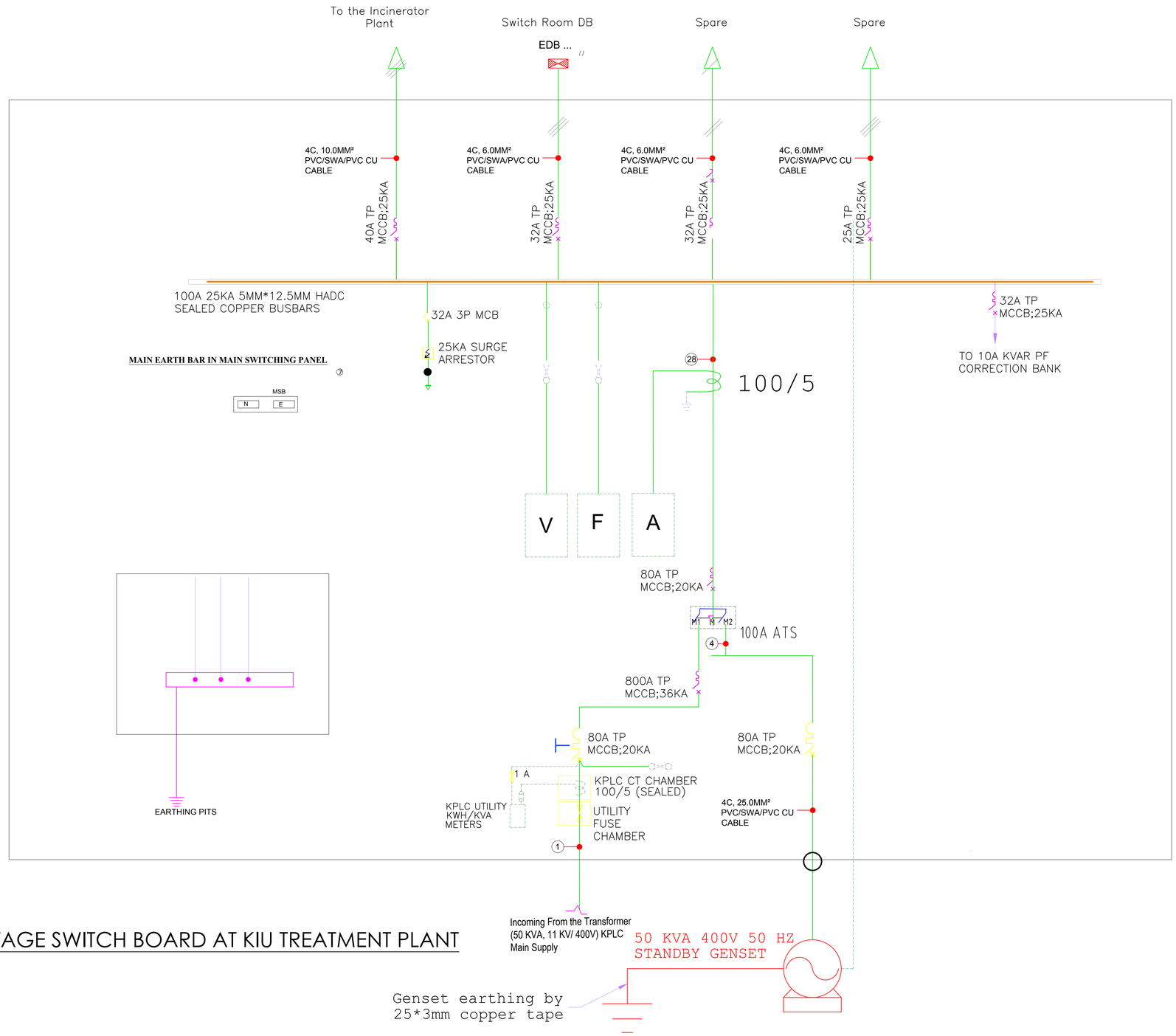

LOW VOLTAGE SWITCH BOARD AT KIU TREATMENT PLANT

Civil Engineer:
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Email: info@awwda.go.ke

Project:
NAIROBI RIVERS BASIN REHABILITATION AND RESTORATION PROGRAMME: SEWERAGE IMPROVEMENT PROJECT PHASE II (NaRSIP II) REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

SERVICES ENGINEER:
ditech
Ditech Engineering Limited
Electro mechanical Turn-key engineers
P.O BOX 231-00507,NAIROBI
Tel +254 728162245
Email: design@ditech.co.ke

Drawing Title:

KIU TREATMENT PLANT MAIN LV BOARD

NOTES

1. DRAWING NOT TO SCALE
2. DRAWING TO BE READ IN CONJUCTION WITH OTHER RELEVANT CIVIL STRUCTURE, ELECTRICAL AND MECHANICAL DRAWINGS
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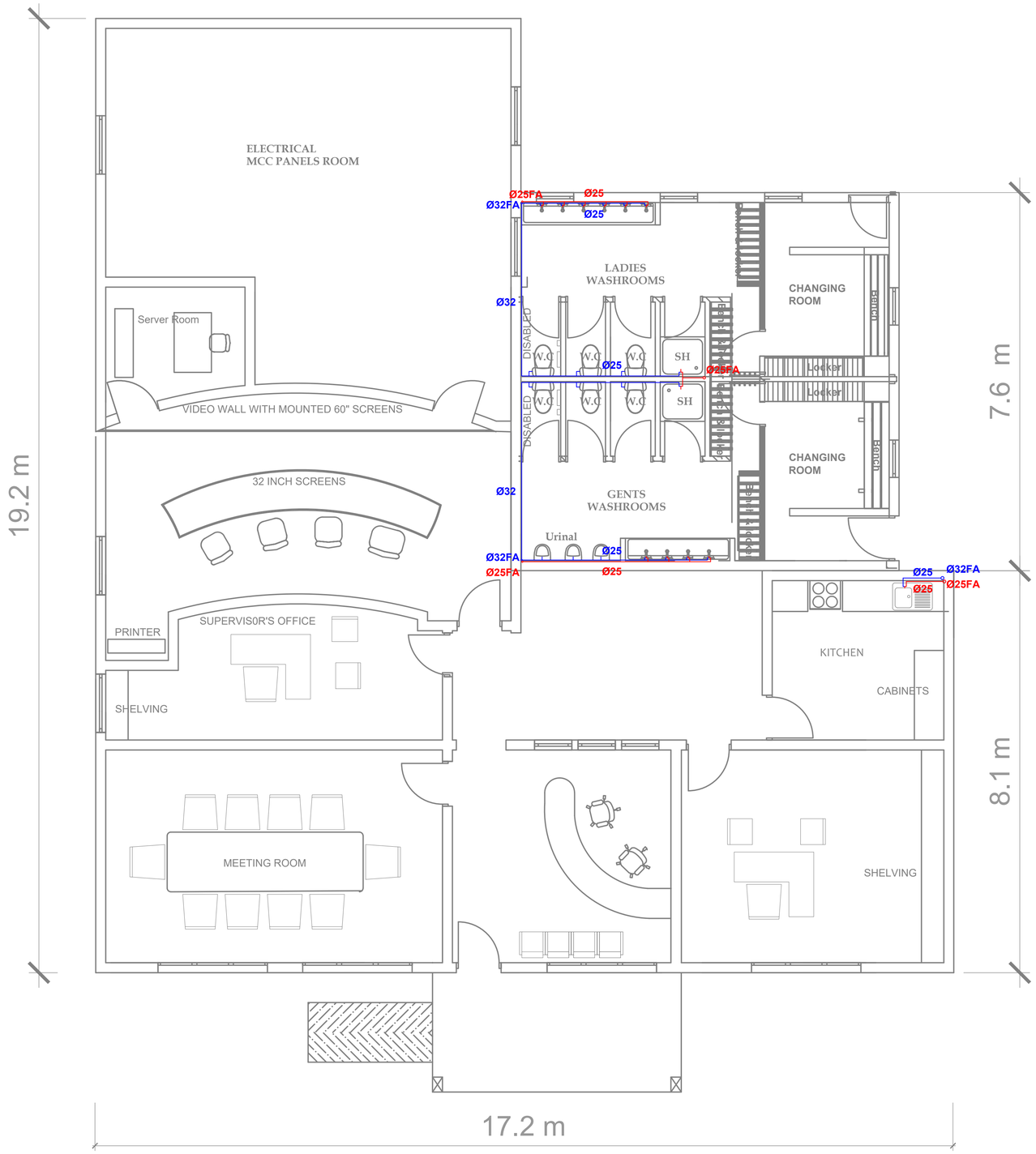
Checked by P.M		Approved by DON	
Scales NTS		Date: SEPT 2021	
Job No.		ACAD File:CE108_PL_02	
P STATUS	DRG No. E01/40-13		REV



Civil Engineer:

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E-mail:info@frameconsultants.com

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Project:
NAIROBI RIVERS BASIN REHABILITATION AND RESTORATION PROGRAMME: SEWERAGE IMPROVEMENT PROJECT PHASE II (NaRSIP II) REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

SERVICES ENGINEER:

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Electro mechanical Turn-key engineers
P.O BOX 231-00507, NAIROBI
Tel.+254 728162245
Email: design@ditech.co.ke

Drawing Title:

PROPOSED CONTROL ROOM PLUMBING LAYOUT

NOTES

1. DRAWING NOT TO SCALE
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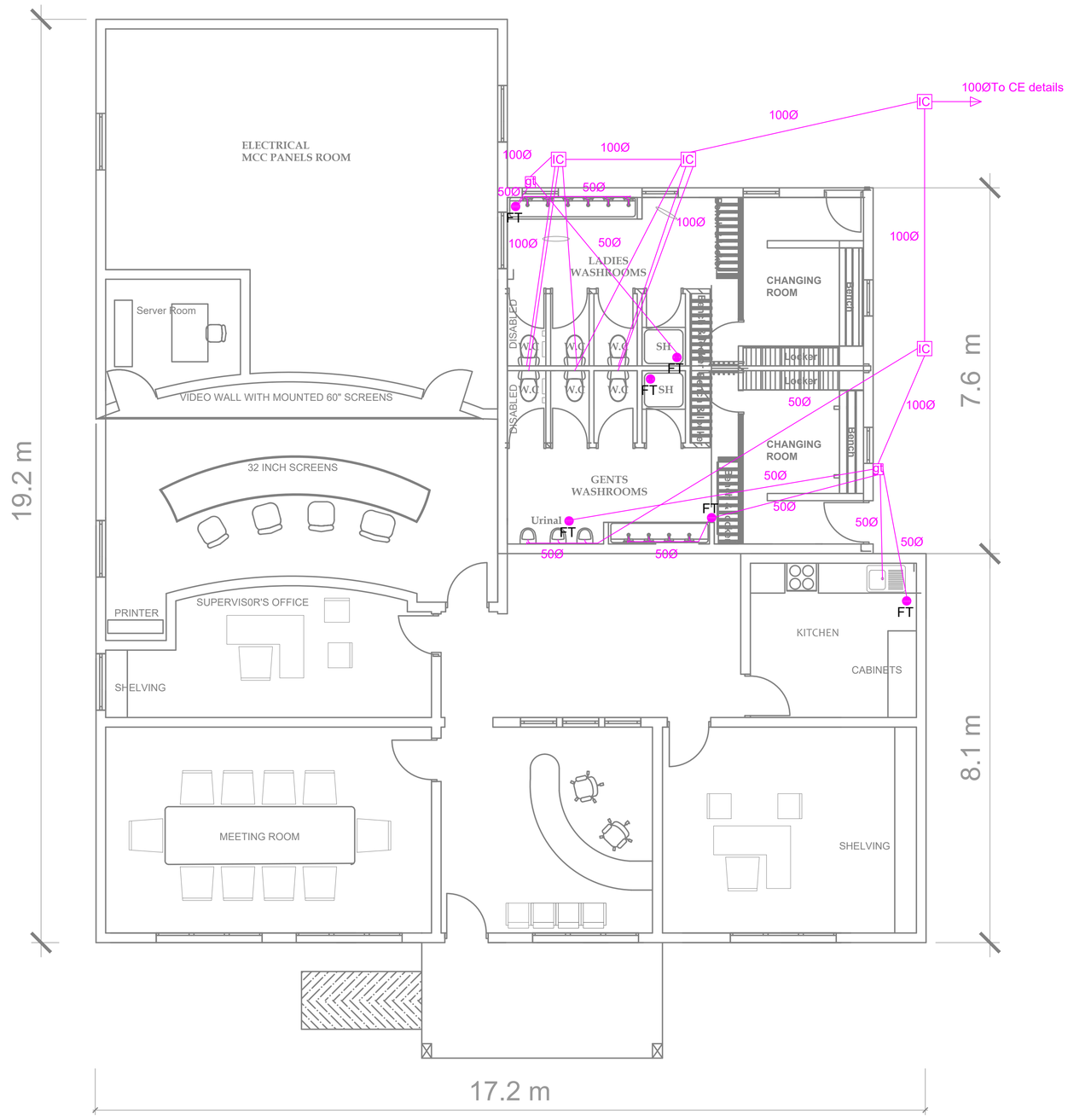
Designed by DON		Drawn by K.M	
Checked by P.M		Approved by DON	
Scales NTS		Date: SEPT 2021	
Job No.		ACAD File:CE108_PL_02	
STATUS P	DRG No. E01/40-16		REV



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Project:
NAIROBI RIVERS BASIN REHABILITATION AND RESTORATION PROGRAMME: SEWERAGE IMPROVEMENT PROJECT PHASE II (NaRSIP II) REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

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Drawing Title:
PROPOSED CONTROL ROOM DRAINAGE LAYOUT

NOTES
1. DRAWING NOT TO SCALE
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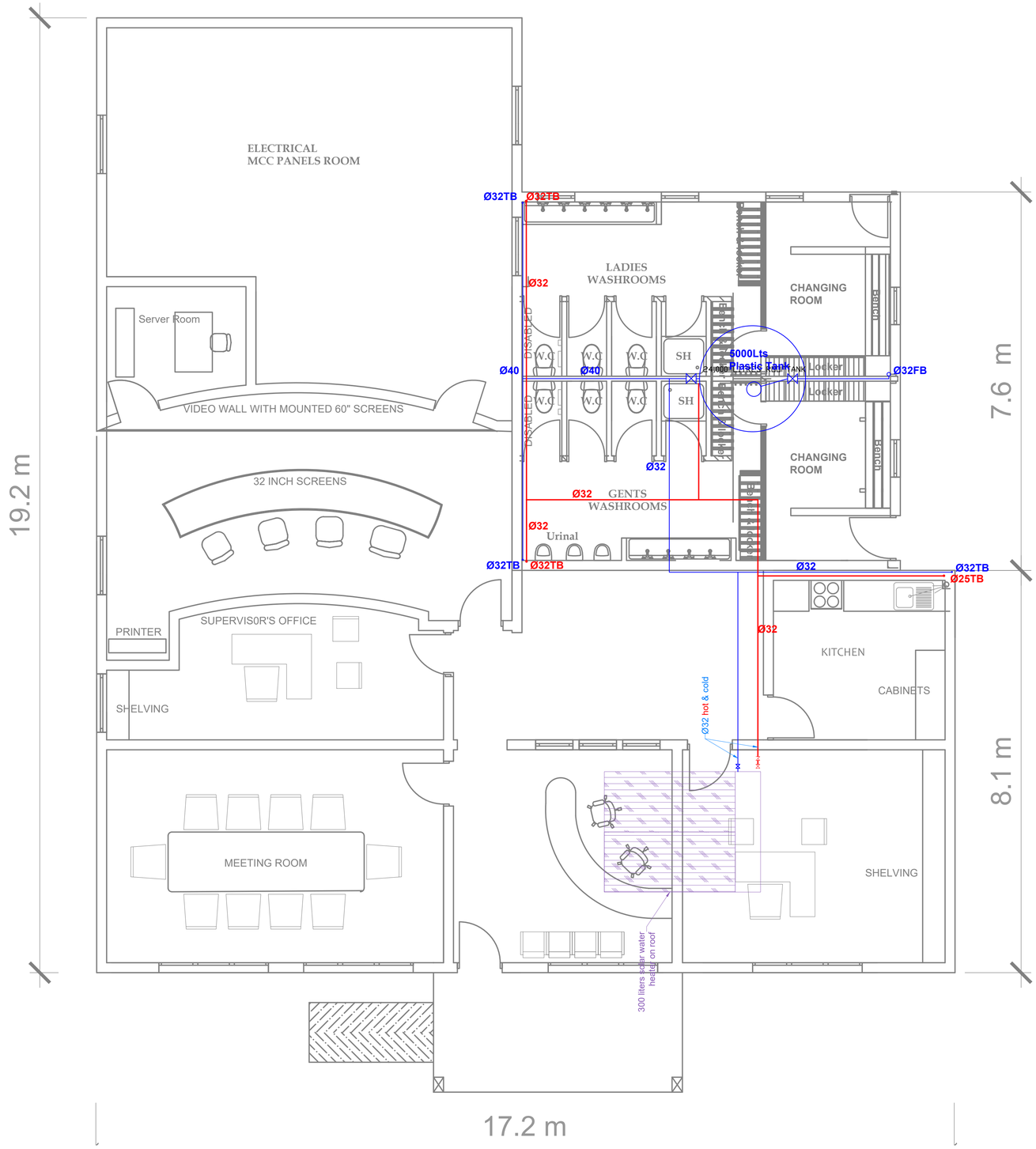

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Drawing Title:
PROPOSED CONTROL ROOM ROOF TOP PLAN PLUMBING LAYOUT

NOTES
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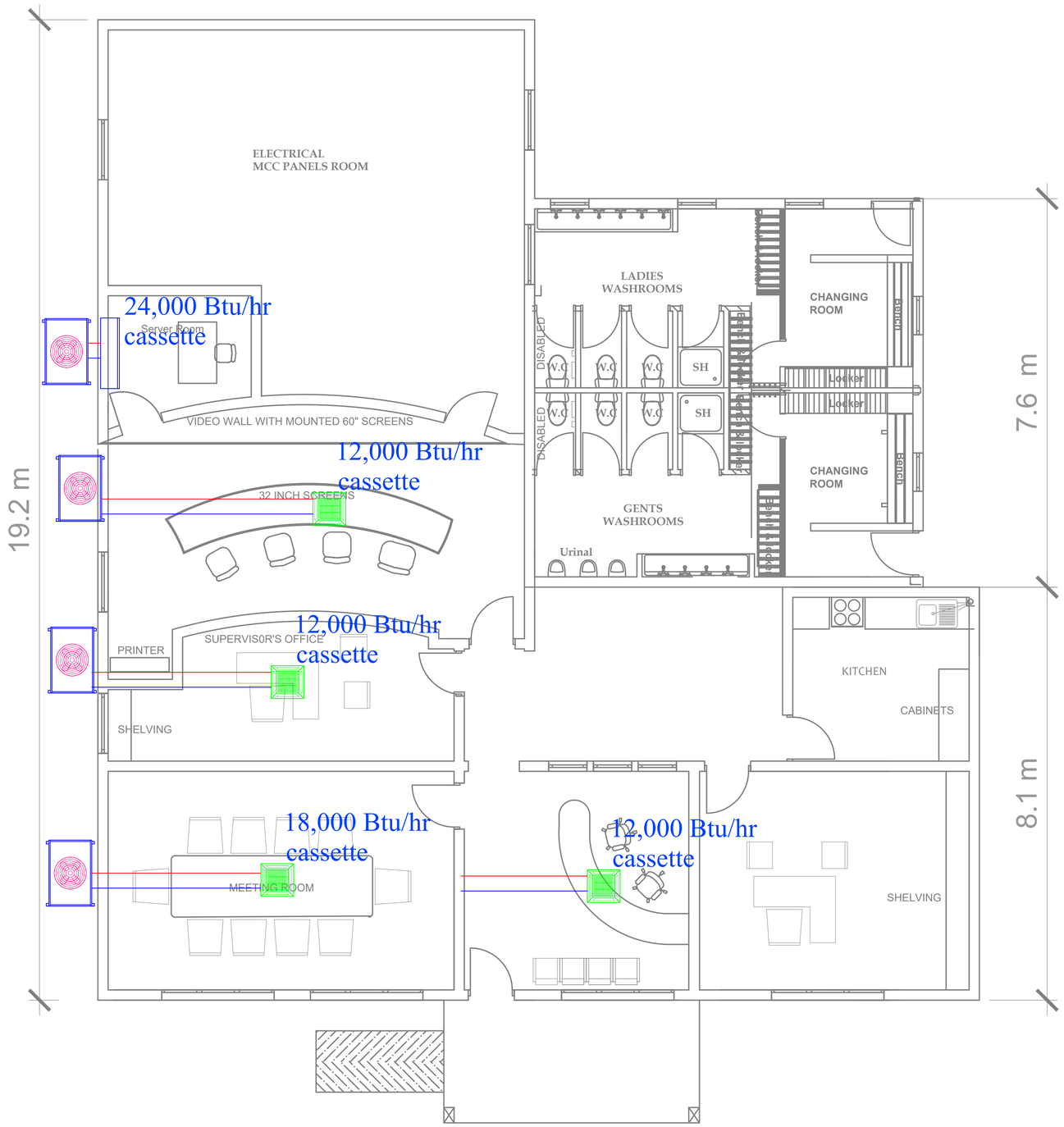

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Drawing Title:

PROPOSED CONTROL ROOM AC LAYOUT

NOTES

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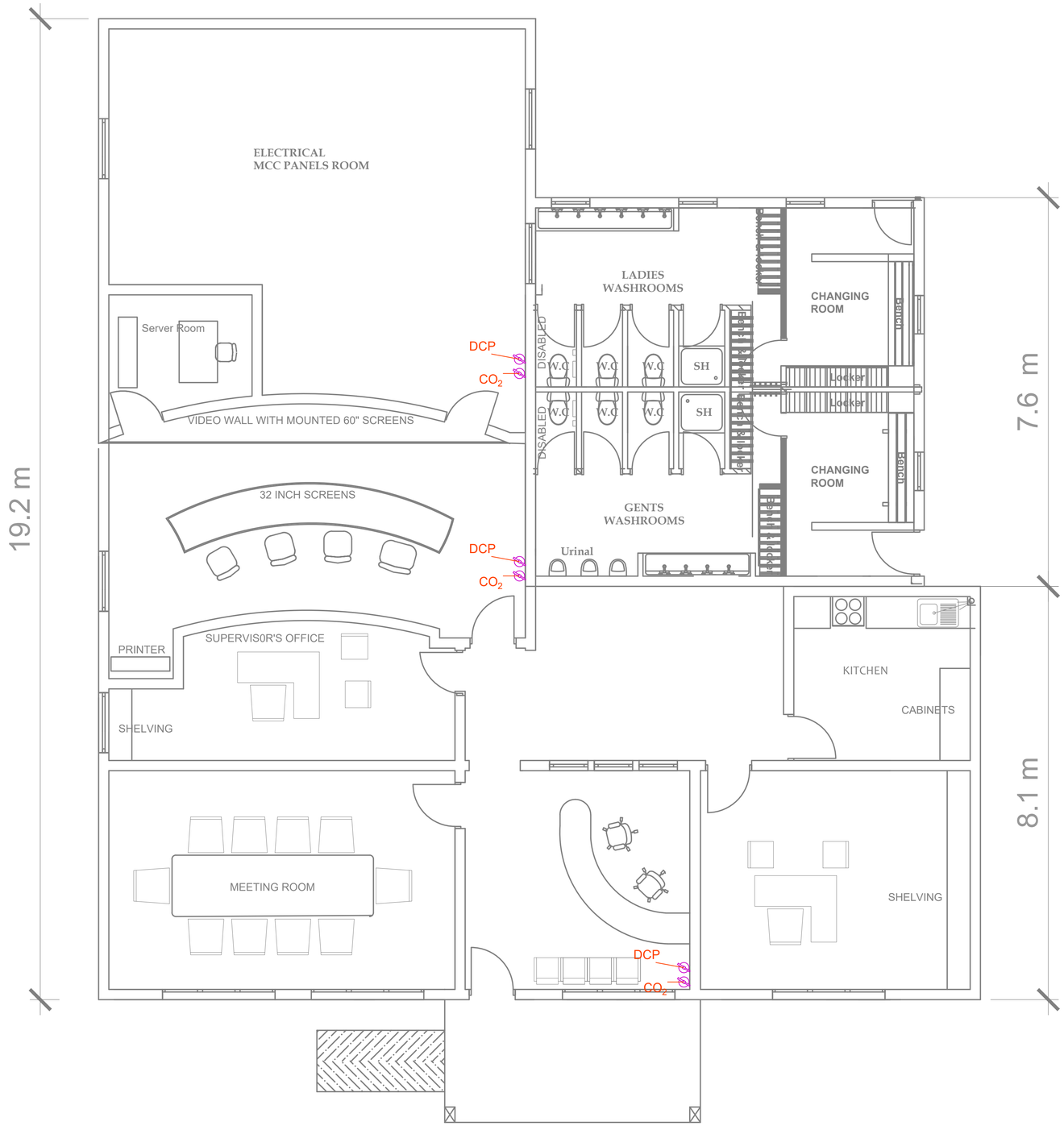

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NAIROBI RIVERS BASIN REHABILITATION AND RESTORATION PROGRAMME: SEWERAGE IMPROVEMENT PROJECT PHASE II (NaRSIP II) REHABILITATION AND EXPANSION OF DANDORA ESTATE SEWERAGE TREATMENT PLANT (DESTP) INLET WORKS

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Drawing Title:

INLET WORKS PROPOSED CONTROL ROOM FIRE FIGHTING LAYOUT

NOTES

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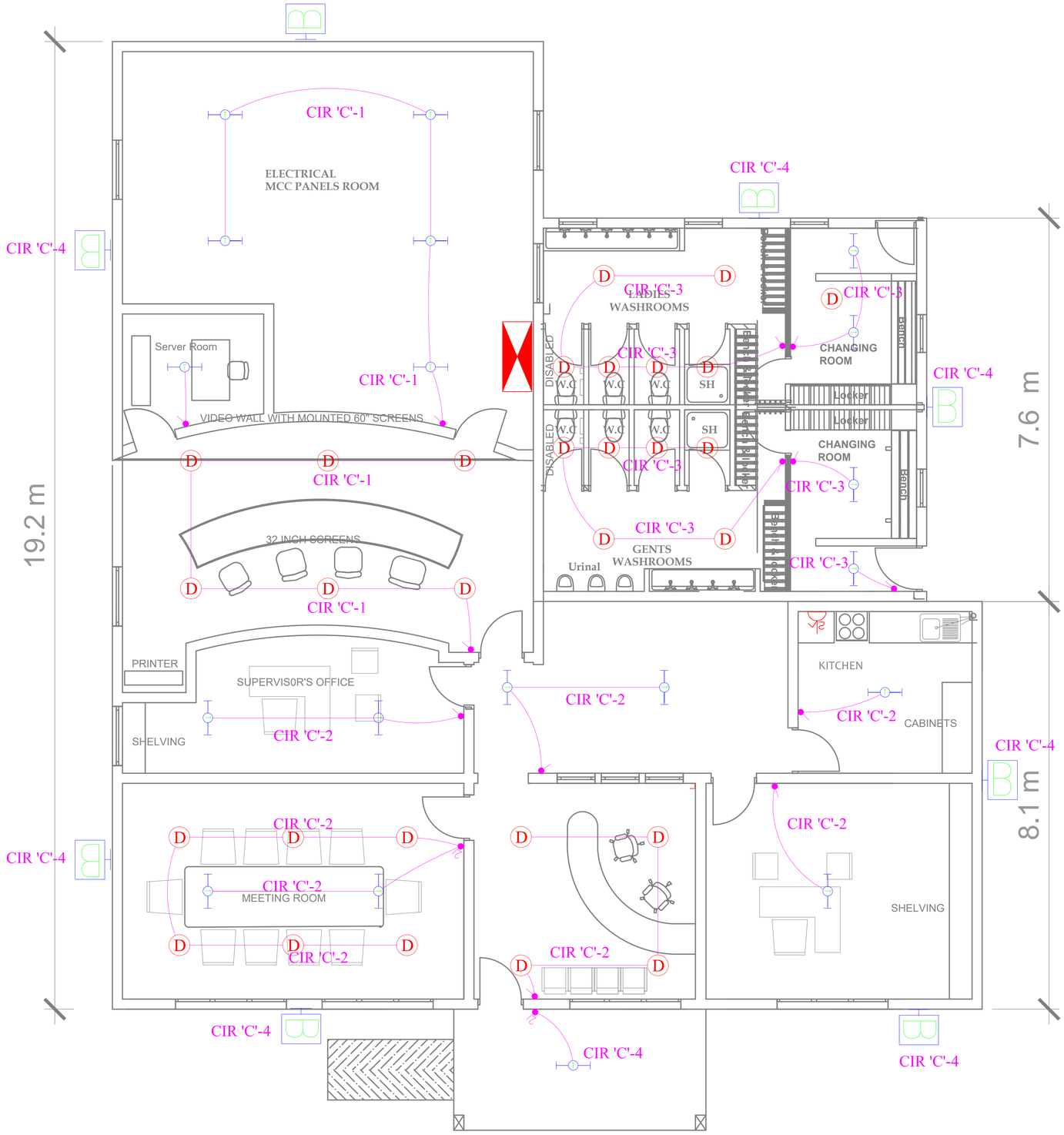

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Drawing Title:
INLET WORKS PROPOSED CONTROL ROOM LIGHTING LAYOUT

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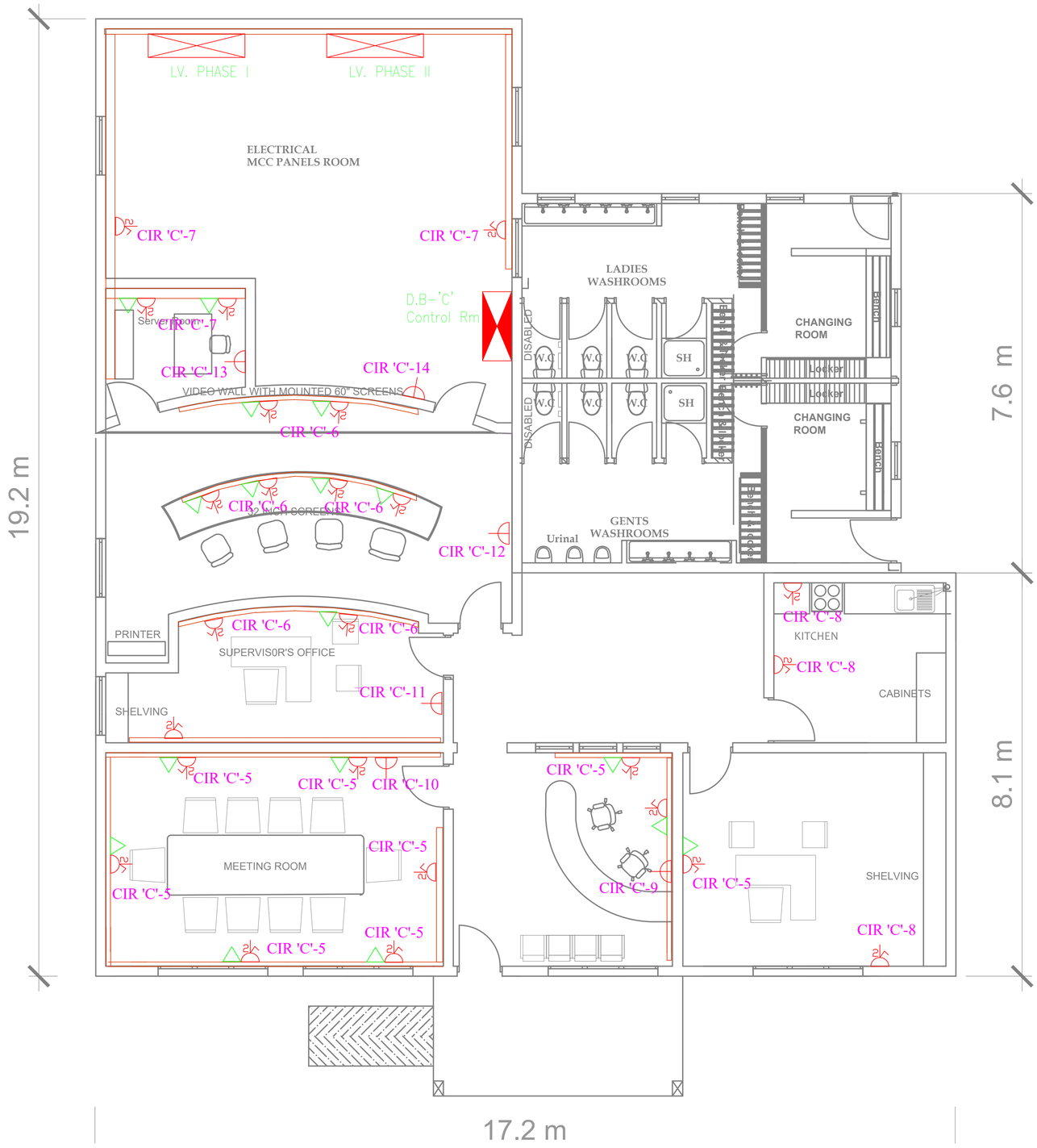

SCHEDULE OF ELECTRICAL LIGHTING SYMBOLS

ITEM NO.	SYMBOL	DESCRIPTION	MANUFACTURER	MOUNTING HEIGHT
1.		1200mm 1x36W SINGLE FLUORESCENT BATTEN	THORN	CEILING
2.	D	12 W SURFACE MOUNTED ROUND LED DOWN LIGHT	PHILIP[S OR APPROVED EQUIVALENT	CEILING
3.		50W LED SURFACE MOUNTED FLOOD LIGHT-IP 65	THORN	2700MM
4.		600mm 1x18W SINGLE FLUORESCENT BATTEN	THORN	CEILING
5.		1200MM 1x36W SINGLE FLUORESCENT BATTEN WITH ECONOMY OPAL DIFFUSER	PHILIPS	CEILING
6.		1200mm 2x36W TWIN FLUORESCENT BATTEN	THORN	CEILING
7.		10A ONE GANG ONE WAY LIGHTING SWITCH.	CRABTREE	1400mm
8.		10A TWO GANG ONE WAY LIGHTING SWITCH.	CRABTREE	1400mm
9.		10A ONE GANG TWO WAY LIGHTING SWITCH.	CRABTREE	1400mm
10.		10A TWO GANG TWO WAY LIGHTING SWITCH.	CRABTREE	1400mm

SCHEDULE OF ELECTRICAL POWER SYMBOLS

ITEM NO.	SYMBOL	DESCRIPTION	MANUFACTURER	CAT No.	MOUNTING HEIGHT
1.		13A STANDARD/ WATER PROOF SINGLE SWITCHED SOCKET OUTLET.	CRABTREE	4304	300mm / 1400mm
2.		13A STANDARD/ WATER PROOF TWIN SWITCHED SOCKET OUTLET.	CRABTREE	4306	300mm / 1400mm
3		20A DP SWITCH FITTED WITH NEON INDICATOR FOR HAND DRIER.	CRABTREE	-.	1400mm
4		20A DP SWITCH FITTED WITH NEON INDICATOR FOR ACs.	CRABTREE	4015/31	1400mm
5		32A TP INDUSTRIAL SOCKET OUTLET.	CRABTREE	-	1400mm
6	C.U.	CONSUMER UNIT.	CRABTREE	-	1800mm
7	D.B.	DISTRIBUTION BOARD	CRABTREE	-	1800mm
8	LV.	SUB-MAIN LV SWITCH BOARD	-	-	FLOOR MOUNT
9		45A DP COOKER CONTROL UNIT	CRABTREE	4520/31	1400mm
10		SPN/ TPN WALL MOUNT ISOLATOR	-	-	1800mm
11	CP	PUMP CONTROL PANEL TO DETAILS	-	-	FLOOR MOUNT
12	AB	ADAPTOR BOX/ DRAW OUT BOX	-	-	400mm
13	DANGER	1000 X 1000 X 1000MM (L X W X D) POWER MANHOLE C/W COVER	-	-	GROUND
14		16MM DIA X 1500MM COPPER EARTHING ROD COMPLETE WITH CLAMP	-	-	GROUND
15.	M	ELECTRICITY ENERGY METER	-	-	1800MM
16.		MCCB / MCB	-	-	-
17.		RJ 45 DATA OUTLET	CRABTREE		300MM
18.		LIGHTING ARRESTOR AIR TERMINAL C/W	FURSE	-	
19.		PVC SKIRTING TRUNKING			
20.		CABLE TRAY/ TRUNKING			

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Drawing Title:

INLET WORKS PROPOSED CONTROL ROOM ELECTRICAL POWER LAYOUT

NOTES

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