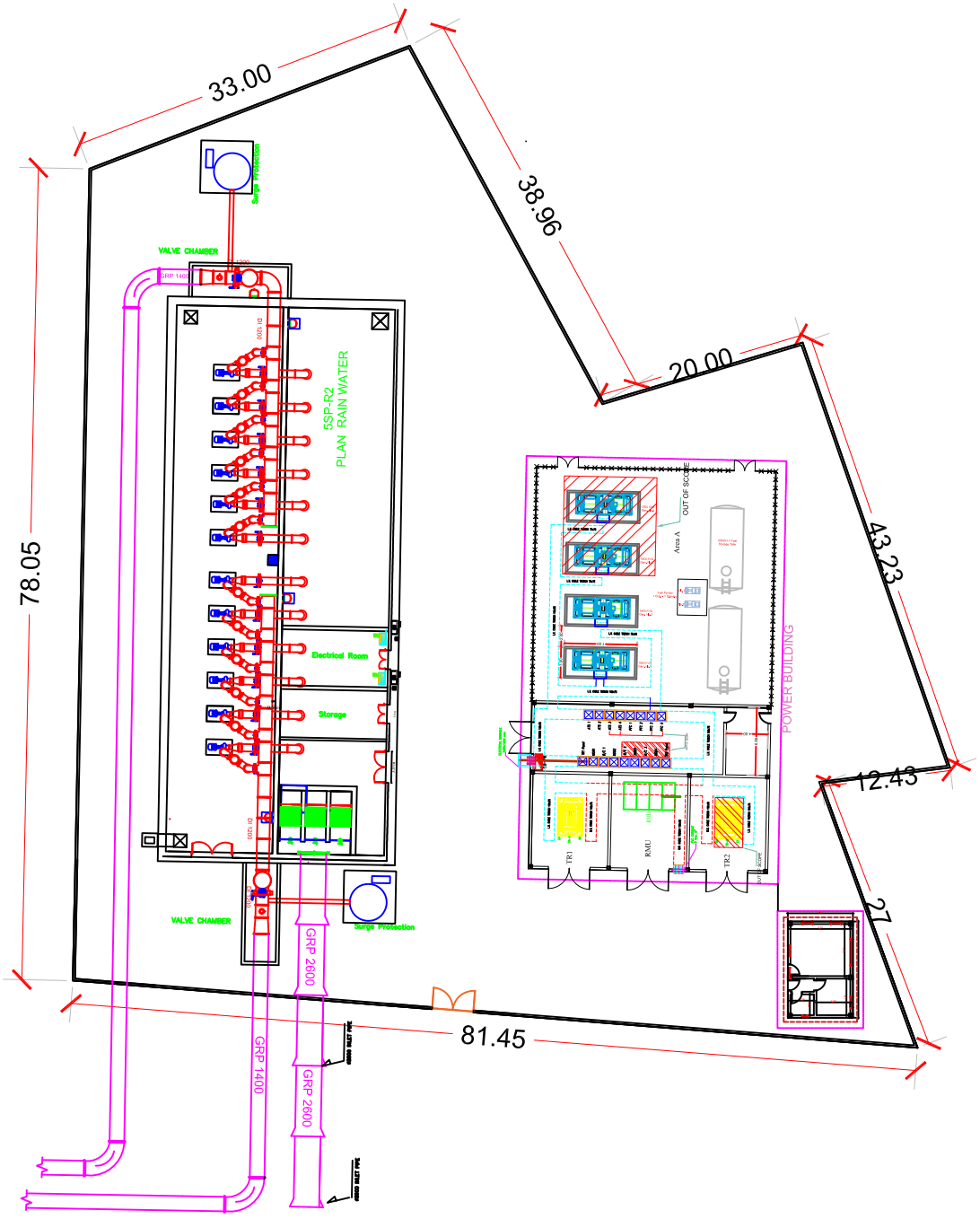

جمهورية العراق
وزارة الإعمار والإسكان والبلديات والأشغال العامة

MINISTRY OF CONSTRUCTION ,HOUSING,MUNICIPALITIES AND PUBLIC WORKS

Anbar Sewage DG
ANBAR GOVERNORATE

Design Checked by

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ENGINEERING CONSULTANS

Eng. Hamid Al Hayani
ENGINEERING CONSULTANS

NO.	DATE	DESCRIPTION	NO.
1	1\11\2019	Revision	1
2	18\01\2022	Revision	2

PROJECT TITLE

STORMWATER LIFT STATION-JUBAIL DISTRICT-FALLUJAH

KEY PLAN

DATE: 18/01/2022

DESIGNED

CKECKED

APPROVED

NOT FOR CONSTRUCTION ☐

RELASE FOR CONSTRUCTION ☒

AS- BUILT DRAWINGS ☐

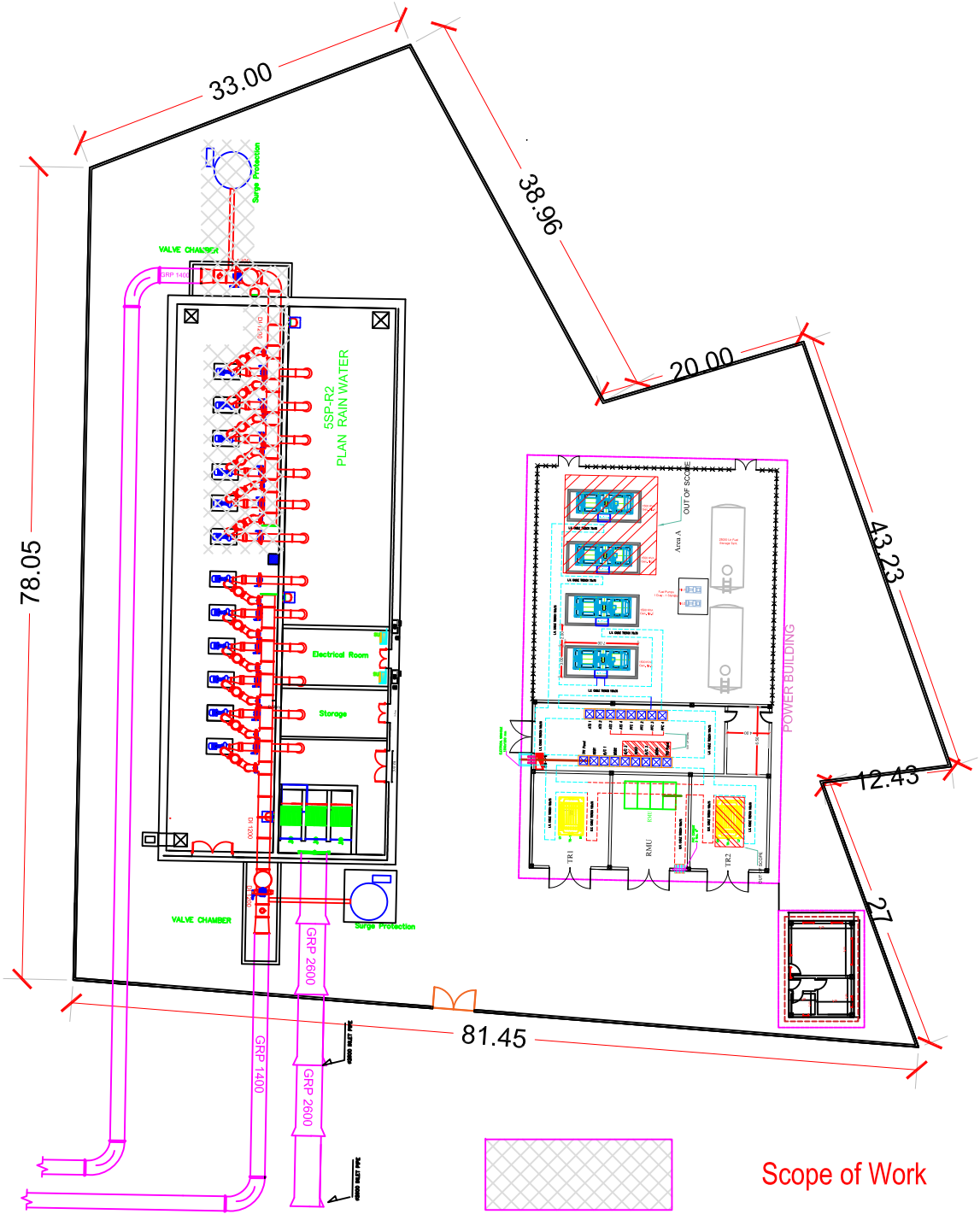
PROJ. NO.

DRAWING TITLE

GLC NO.

DRAWING NO.

ME-3



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PROJ. NO.

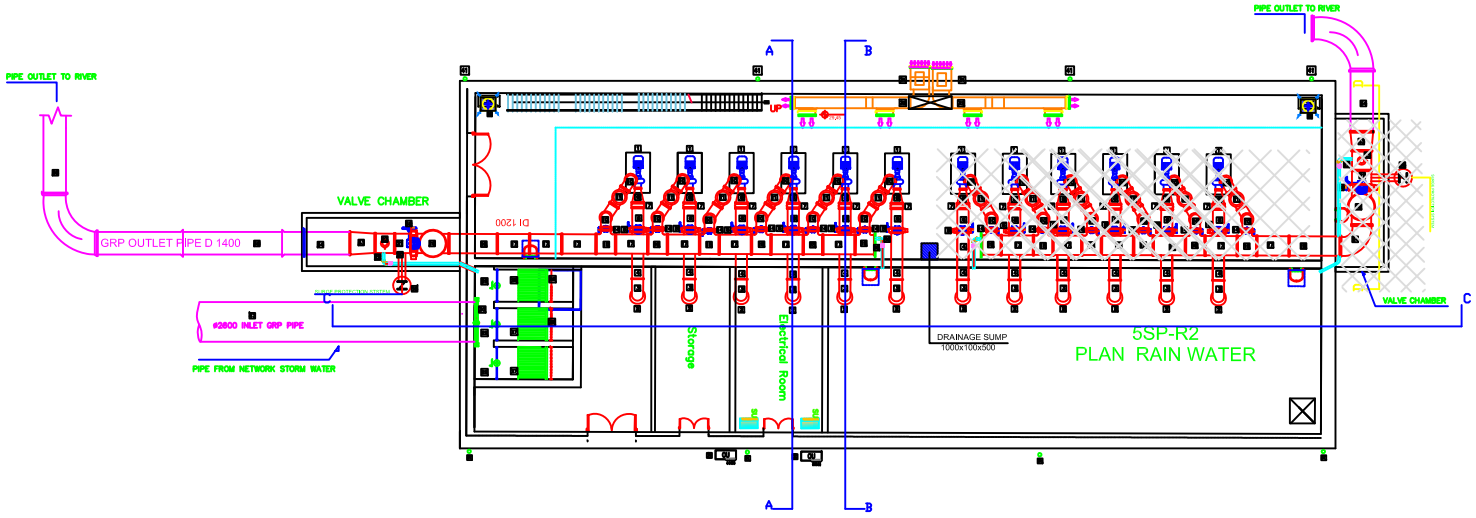
DRAWING TITLE

Pump & Pipe Room Section B-B

GLC NO.

DRAWING NO.

ME-4



Scope of Work

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AS- BUILT DRAWINGS ☐

PROJ. NO.

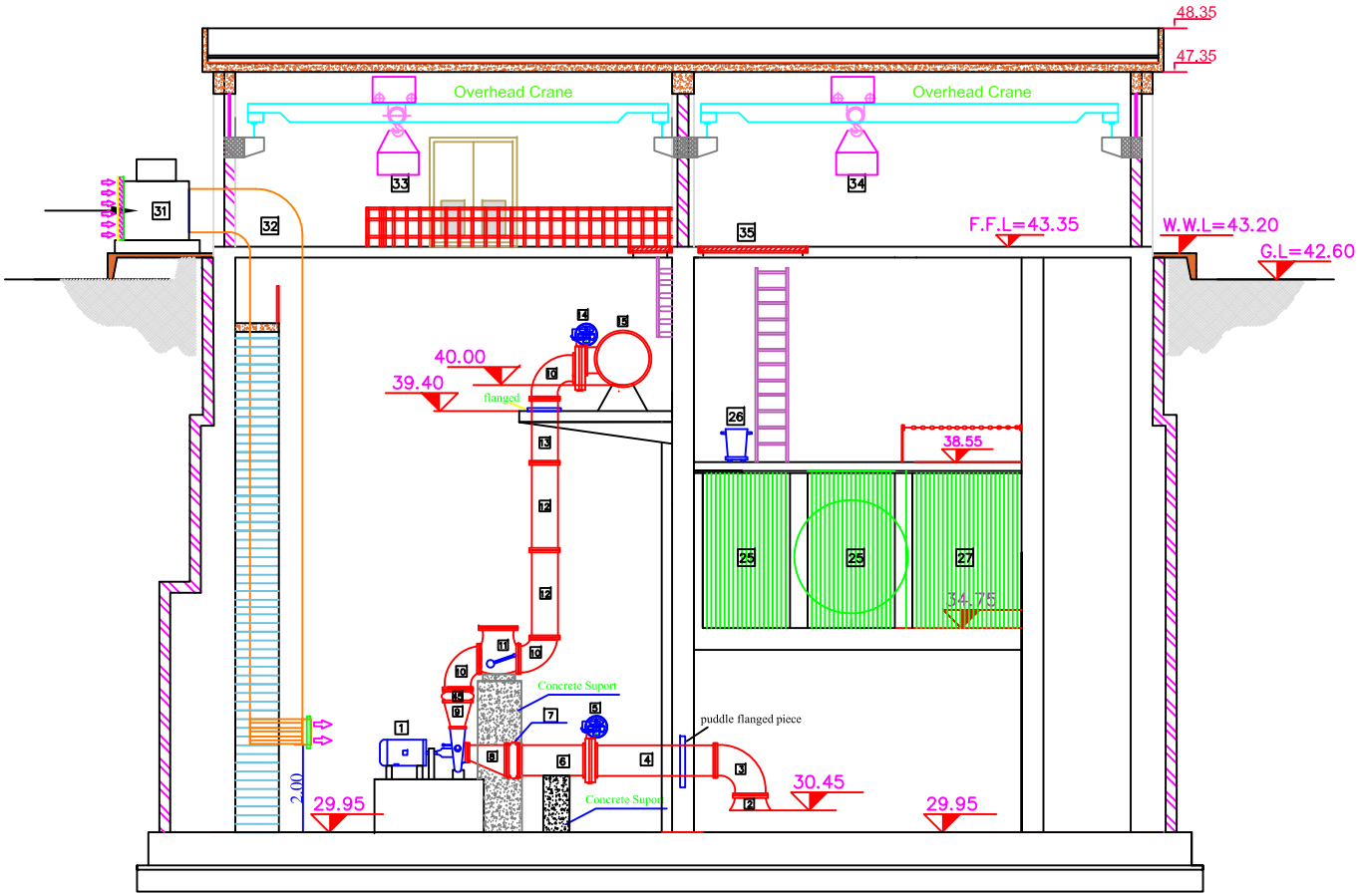
DRAWING TITLE

Valves Chamber & Pump details

GLC NO.

DRAWING NO.

ME-6



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AS- BUILT DRAWINGS ☐

PROJ. NO.

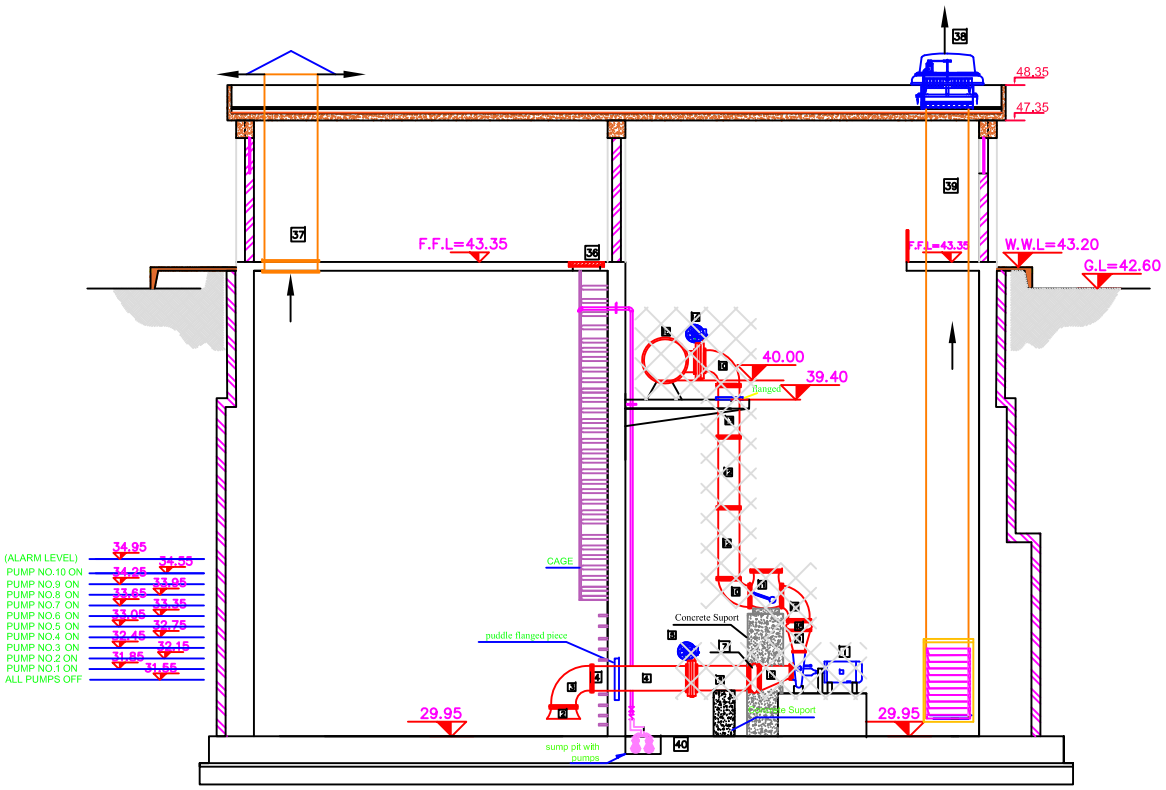
DRAWING TITLE

Thrust for Pipe Details

GLC NO.

DRAWING NO.

ME-8



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AS- BUILT DRAWINGS ☐

PROJ. NO.

DRAWING TITLE

Cover Plan

GLC NO.

DRAWING NO.

ME-9

ITEM No.	EQUIPMENT SCHEDULE	QTY	QTY
1	HORIZONTAL CENTRIFUGAL STORM WATER PUMP,Q =2520/h,Hm=24m,P=315 kW Pump Efficiency > 80%, (10 working and 2 standby)	6	6
2	Bellmouth pn16 flanged	12	0
3	700 DI 90° BEND. PN16 FLANGED	12	0
4	700 DI PIPE, ALL PN16 FLANGED, L=2700 mm(puddle flanged piece)	12	0
5	DN700 PN16 butterfly valve WITH REDUCTION GEAR (FLANGED)	6	6
6	700 DI PIPE, PN16 FLANGED, L=2700 mm	6	6
7	700 di flexible couplings, pn16 flanged	6	6
8	700DN 400 dn Double flanged flat taper(eccentric) PN16 FLANGED	6	6
9	600DN 450 dn Double flanged concentric taper PN16 FLANGED	6	6
10	600 90° BEND. PN16 FLANGED	24	24
11	DN600 PN16 CHECK VALVE (FLANGED)	6	6
12	600 PIPE, PN16 FLANGED, L=2000 mm	12	12
13	600 DI PIPE, PN16 FLANGED, L=1500 mm(puddle flanged piece)	6	6
14	DN600 PN16 BUTTERFLY VALVE WITH REDUCTION GEAR (FLANGED)	6	6
15	1200–600 I TEE, PN16 FLANGED	6	6
16	DN1200 BLANK FLANGED PN16	1	1
17	DN1200 PIPE, PN16 FLANGED, L=2000 mm	7	7
18	DN1200 PIPE, PN16 FLANGED, L=3000 mm (puddle flanged piece)	1	1
19	DN1200 PN16 CHECK VALVE (FLANGED)	1	1
20	DN1200 PN16 BUTTERFLY VALVE WITH REDUCTION GEAR (FLANGED)	1	1
21	DN1200 PIPE, PN16 FLANGED, L=1000 mm	1	1
22	1200–200 DI TEE, PN16 FLANGED	1	1
23	DN200 PN16 combination vacuum relief–air inlet & air release valve anti hammer type with gate valve (ductile flanged)	1	1
24	1200 DI 90° BEND. PN16 E FLANGED	0	1
25	MANUALLY RAKED VERTICAL BAR SCREEN; Bar Size:10x50 mm; Element Spacing:50 mm; All AISI304 SS Channel Width:2500 mm; Screen Panel Width:2400 mm Channel Height:3500mm; Inclination Angle:60° with Horizontal; w/ Raking Bar and 200x400x800 mm Screenings Collection Box (t=2 mm)	2	0
26	SCREENINGS CONTAINER w/ 4 nos. of POLYPROPYLENE SWIVEL WHEELS (D=100 mm) AND A HINGED LIFTING HANDLE SUITABLE FOR LIFTING BY MONORAIL HOIST; Plan Width: 500 mm;	2	0
27	MANUALLY RAKED VERTICAL BAR SCREEN; Bar Size:10x50 mm; Element Spacing:50 mm; All AISI304 SS Channel Width:2500 mm; Screen Panel Width:2400 mm Channel Height:3500mm; Inclination Angle:60° with Horizontal; w/ Raking Bar and 200x400x800 mm Screenings Collection Box (t=2 mm)	1	0
28	2500x2500 mm stainless steel aisi304 ss slide gate with hand wheel	1	0
29	2000x2000 mm stainless steel aisi304 ss slide gate with hand wheel	2	0

ITEM No.	EQUIPMENT SCHEDULE	QTY	QTY
30	2800x2800 mm MANUALLY PENSTOCK FOR CLOSING INCOMING SEWER WITH GEAR–BOX Frame,Gate & Stem should be of stainless steel AISI304 SS; Screw AISI420 SS; Anchors Bolts &Nuts CL A2 SS; H(From the Center of Orifice to Head stock Base)=2600 mm	1	
31	Belt Drive Square 20000m³/hr Centrifugal Duct Fan ,670r.p.m 5hp, sp=100 pa (with intake louver&bird screen)	2	
32	(1200*600)mm Galvanized steel supply (1mm)thickness duct L=40m with outlet No.6 dimension (600*600)mm	1	
33	ELECTRIC MONORAIL OVERHEAD HOIST w/EPOXY COATED IPE 200 MONORAIL (L=55m);Lifting Capacity: 5 tons ; Lifting Height: 17 m & Width 10m;	1	
34	ELECTRIC MONORAIL OVERHEAD HOIST w/EPOXY COATED IPE 200 MONORAIL (L=12 m);Lifting Capacity: 3 tons ; Lifting Height: 10 m & Width 10m;	1	
35	SURGE PROTECTION STSTEM	1	1
36	(1000*1000)mm chequer plate cover (6mm) thickness with frame and hinges	3	
37	(1500*1500)mm Galvanized steel Ventlation duct L=6m with cover	1	
38	Roof Ventilator Air Flow 20000m³/hr 1750 r.p.m, 3 hp ,sps=100pa	2	
39	(1200*600)mm Galvanized steel (1mm thickness) Exhaust duct L=25m with intake louver No.2 dimension (1200*1200)mm	1	
40	submersible sewage pump, q =10 m3/h, hm=20m, p =2.2 kw n=1400 rpm, (one working and one standby) with ø65mm pipe pn16 total length = 25mm with ø65 gate and check valve & galvanized pipe (A)	1	0
41	ø100 DUCTILE IRON RAIN WATER PIPE L=4.5m	8	
42	WALL MOUNTED ACCESS LADDER WITH CAGE; Clear Width: 600 mm; Step Height: 250 mm; Total Length =75 m; Material: stainless steel	1	
43	1400DN–1200DN Double flanged concentric taper PN16 DUCTILE FLANGED	1	1
44	DN1400 PIPE, PN16 flanged Socket piece GRP flanged, L=2000 mm	1	0
45	600 di stainless steel flexible Joint pn16 double flanged	6	6
46	D150mm Gate Valve Normally Closed No.2 and D150mm Washout pipe 24m	1	
47	DN2600 PIPE, PN16 Socket piece GRP , L=6m	48 m	
48	DN1400 PIPE, PN16 Socket piece GRP , L=6m	1600 m	
49	DN1200 Flange Adaptor	1	1
50	SPILT UNIT	9	
51	DN700 DUCTILE BLANK FLANGED PN16	6	

Scope of Work

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STORMWATER LIFT STATION-JUBAIL DISTRICT-FALLUJAH

KEY PLAN

DATE: 18/01/2022

DESIGNED

CKECKED

APPROVED

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RELASE FOR CONSTRUCTION ☒

AS- BUILT DRAWINGS ☐

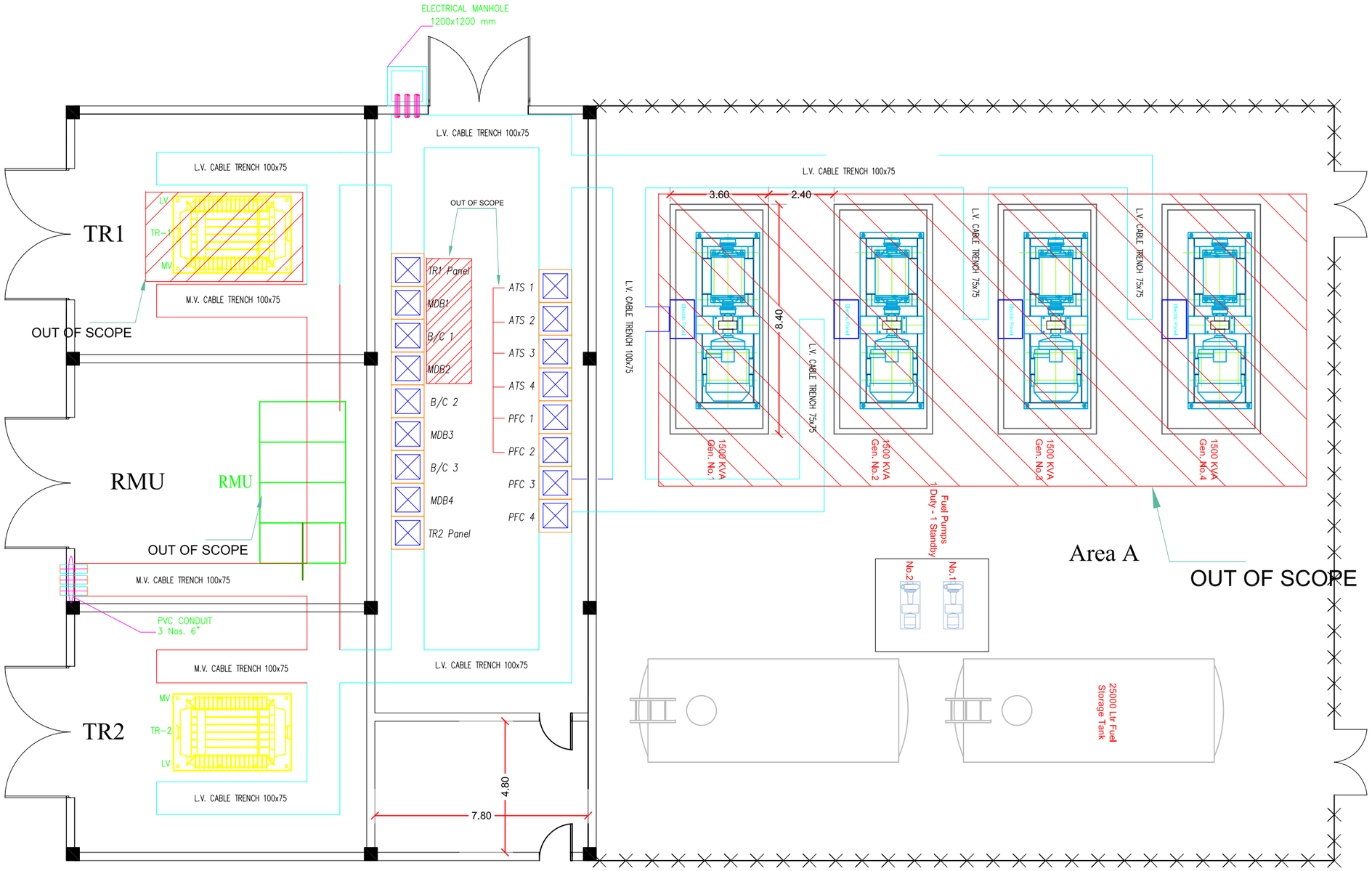
PROJ. NO.

DRAWING TITLE

GLC NO.

DRAWING NO.

ME-17



POWER BUILDING

جمهورية العراق
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STORMWATER LIFT STATION-JUBAIL DISTRICT-FALLUJAH

KEY PLAN

OUT OF CONTRACTOR SCOPE

DATE: 18/01/2022

DESIGNED

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RELASE FOR CONSTRUCTION ☒

AS- BUILT DRAWINGS ☐

PROJ. NO.

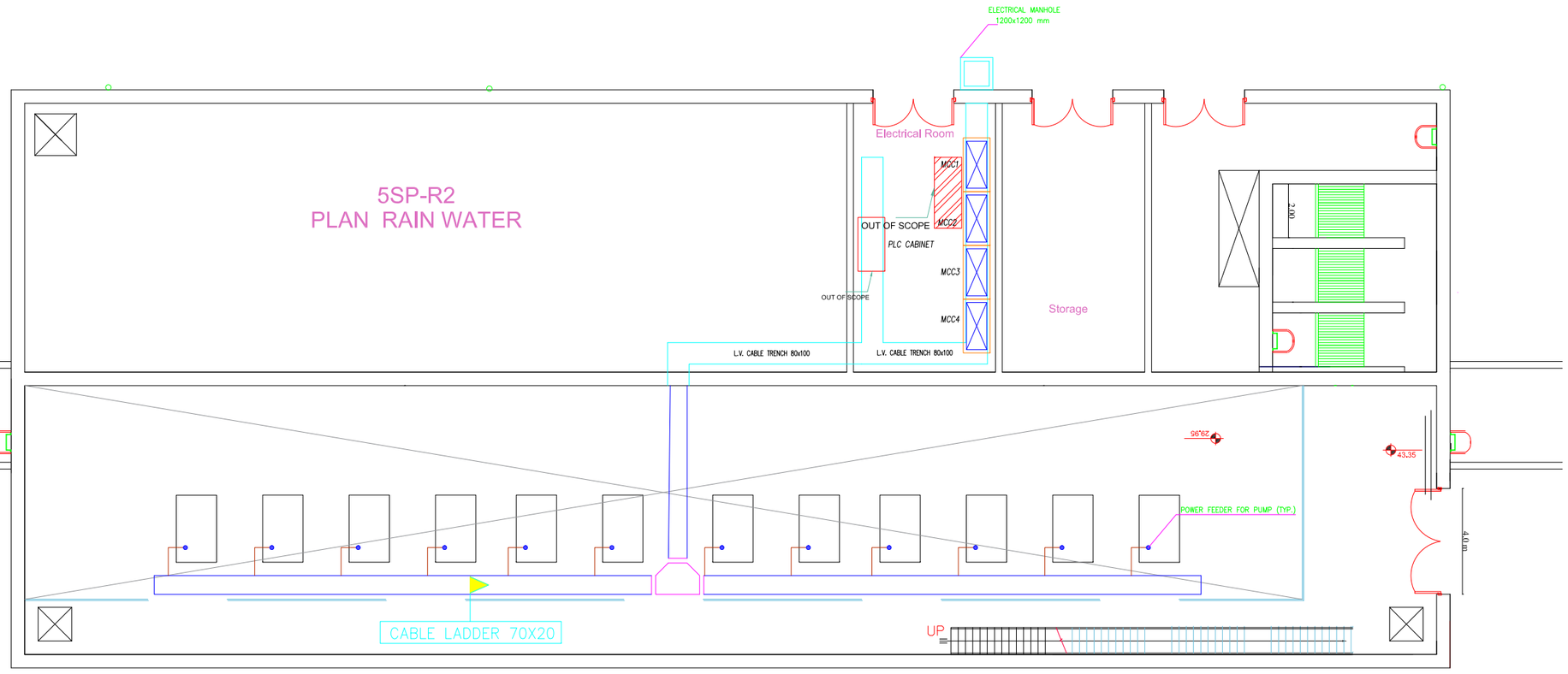
DRAWING TITLE

Power Building Cable Tranch & Equipments layout

GLC NO.

DRAWING NO.

EL - 07



PUMP STATION

جمهورية العراق
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KEY PLAN

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RELASE FOR CONSTRUCTION ☒

AS- BUILT DRAWINGS ☐

PROJ. NO.

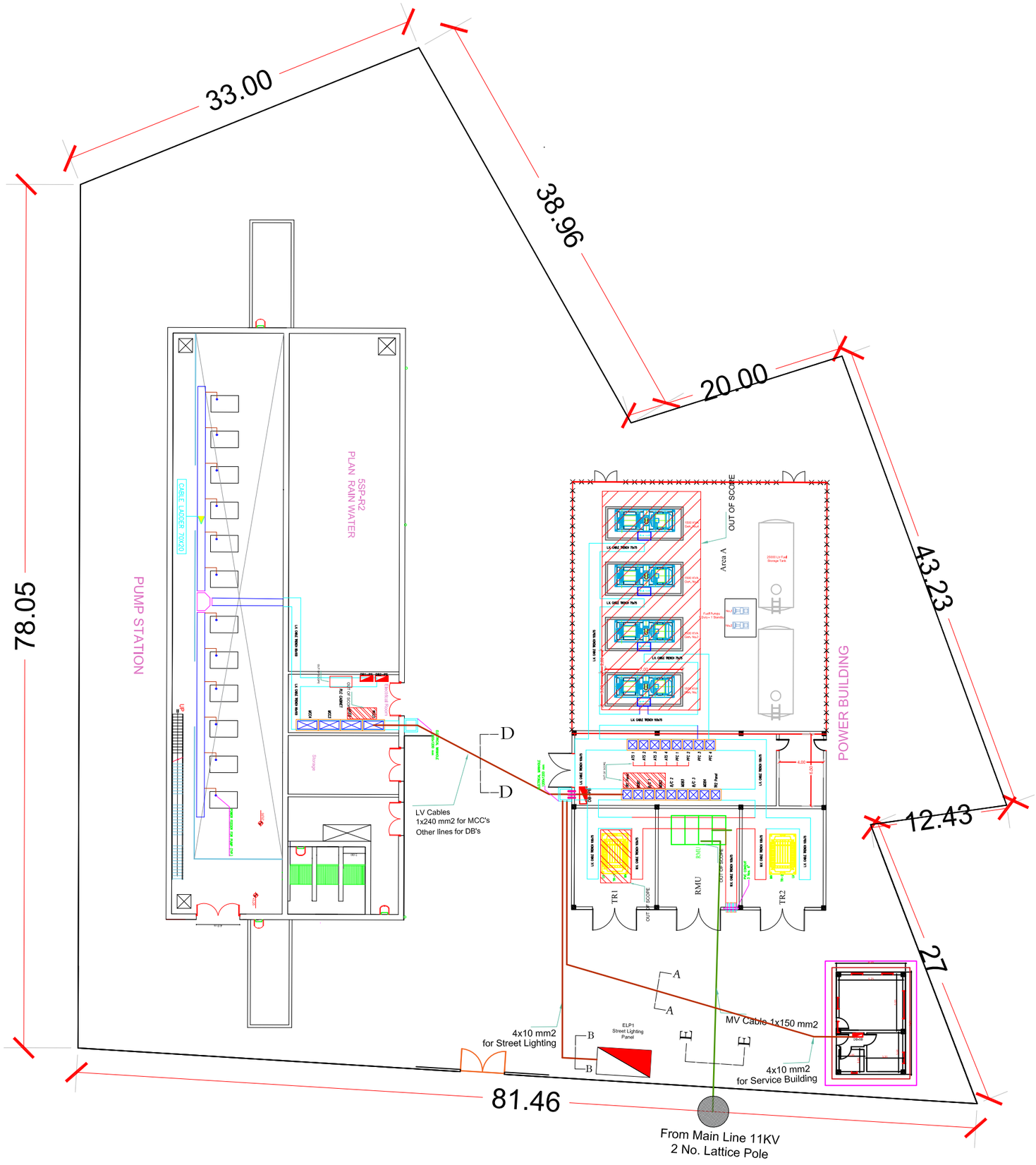
DRAWING TITLE

PUMP Building Cable Tranch & Equipments layout

GLC NO.

DRAWING NO.

EL - 08



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STORMWATER LIFT STATION-JUBAIL DISTRICT-FALLUJAH

KEY PLAN

LV Cable
MV Cable

DATE: 18/01/2022

DESIGNED

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RELASE FOR CONSTRUCTION ☒
AS- BUILT DRAWINGS ☐

PROJ. NO.

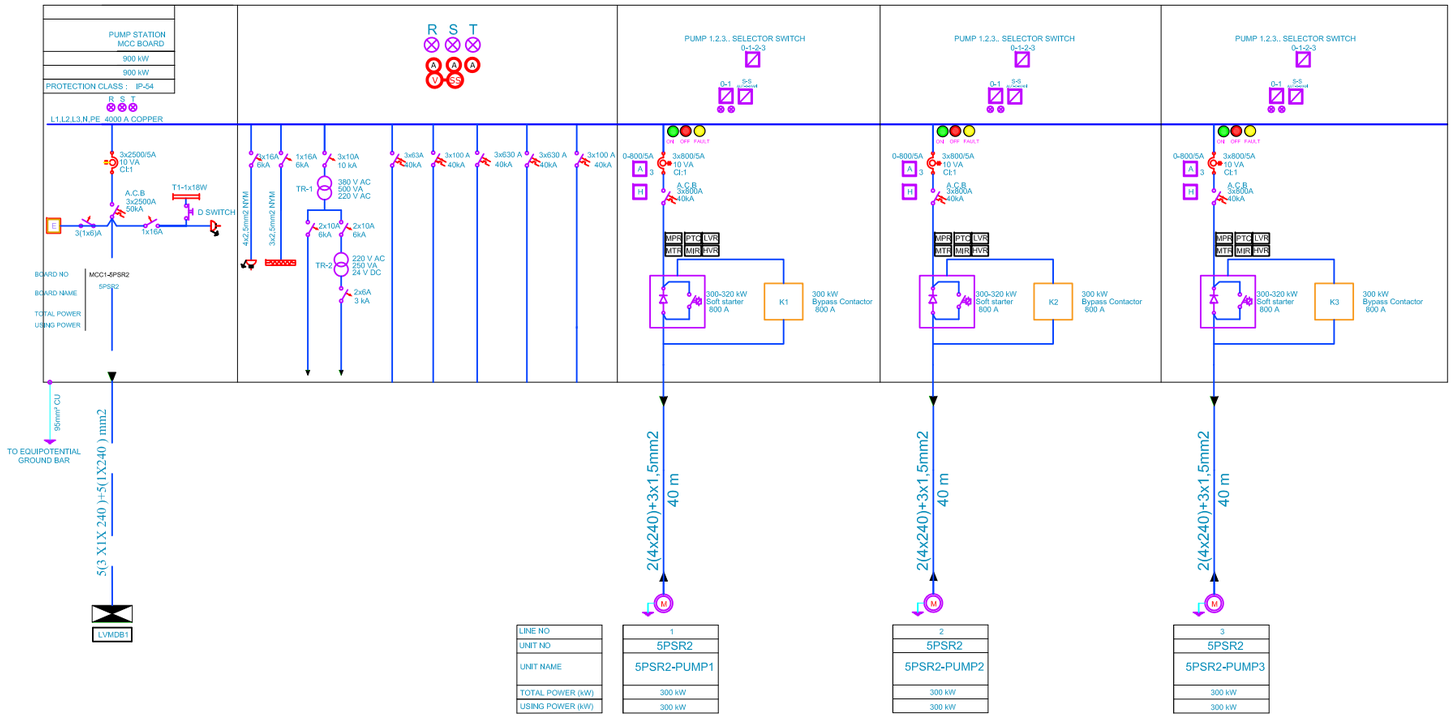
DRAWING TITLE

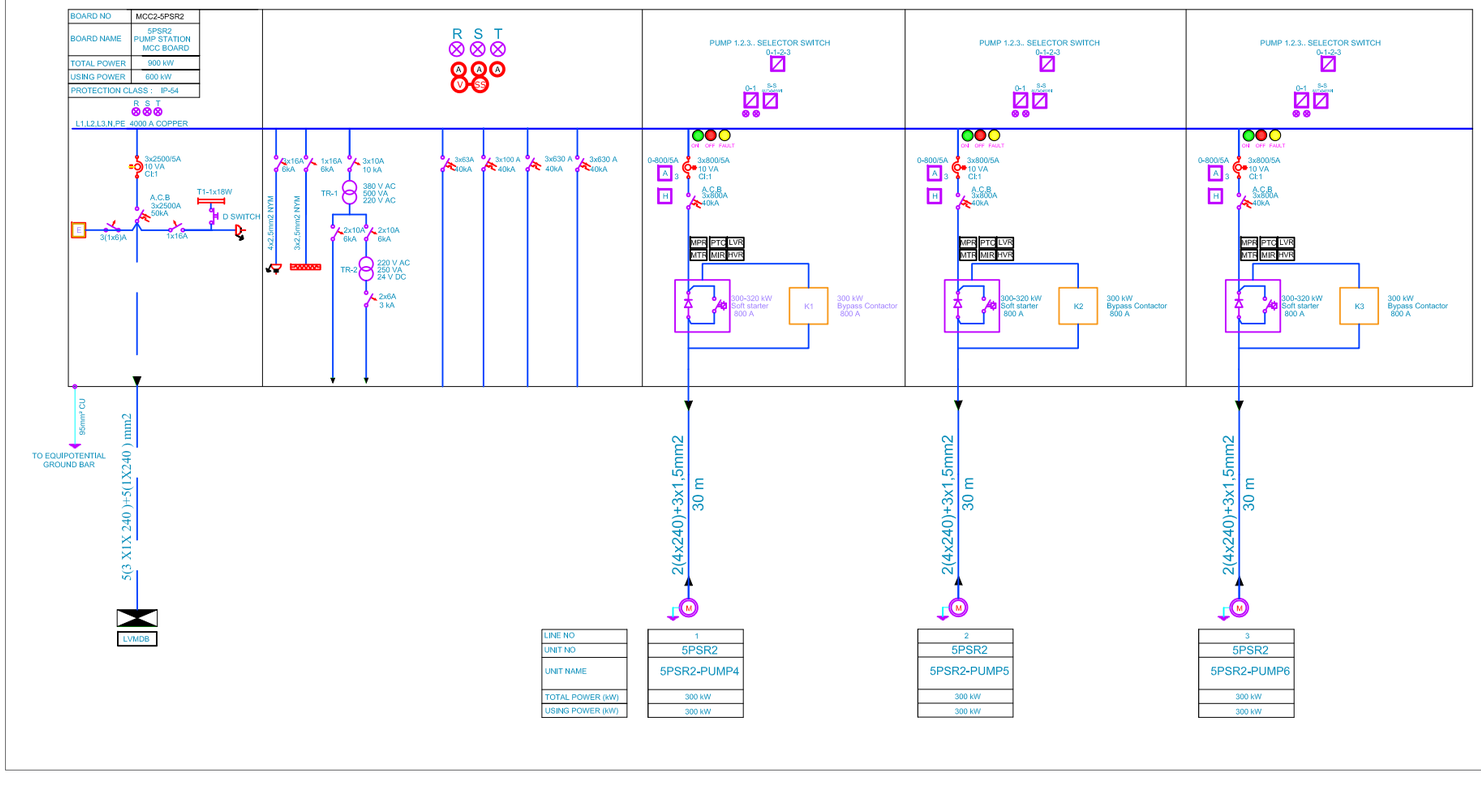
Power Cable Layout

GLC NO.

DRAWING NO.

EL - 09





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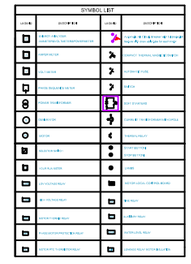

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PROJ. NO.

DRAWING TITLE

Motor Control Center (MCC) Single Line Digram

GLC NO.

DRAWING NO.

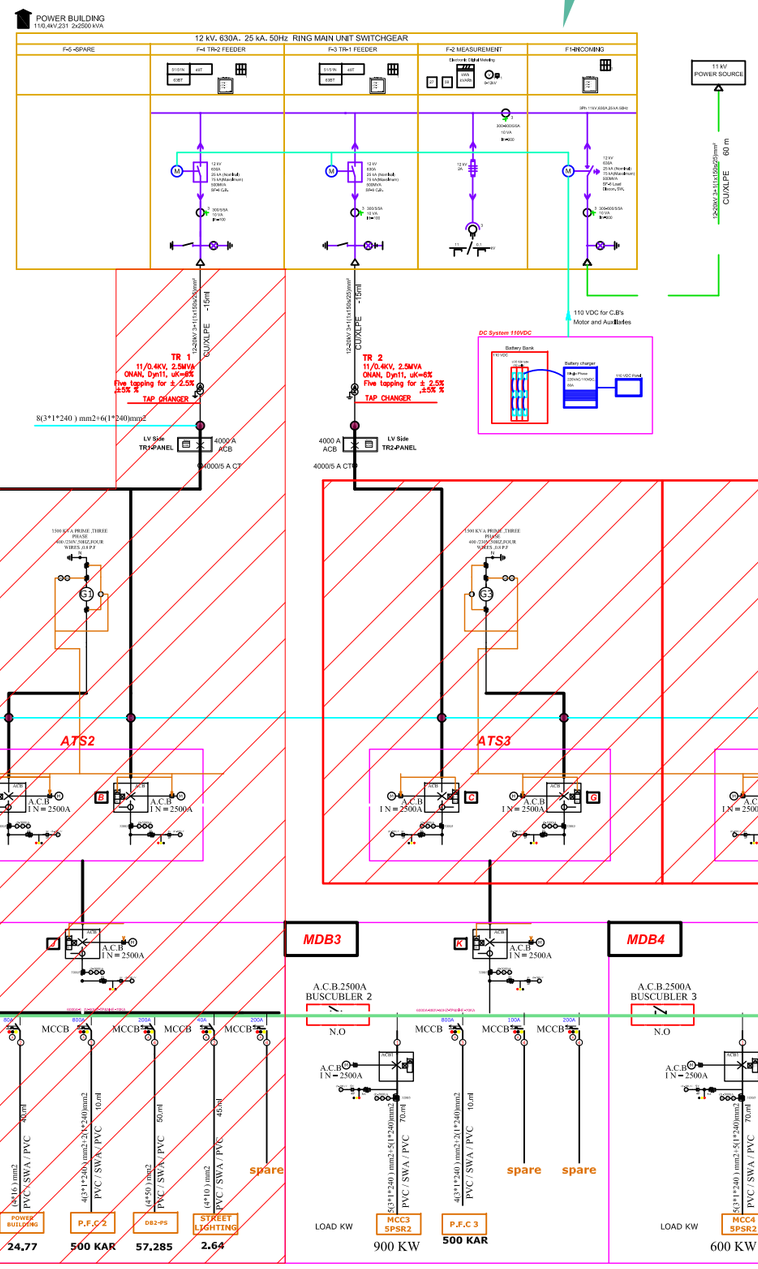
EL - 19

OUT OF SCOPE

OUT OF SCOPE

OUT OF SCOPE

EXPLAIN OF PROTECTION RELAYS			
LEGEND	DESCRIPTION	LEGEND	DESCRIPTION
59	OVER VOLTAGE RELAY	51/51N	OVER CURRENT AND EATH FAULT RELAY
27	UNDER VOLTAGE RELAY	63BT	BUCHHOLZ RELAY
49T	TRANSFORMER THERMAL IMAGE RELAY		



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PROJ. NO.

DRAWING TITLE

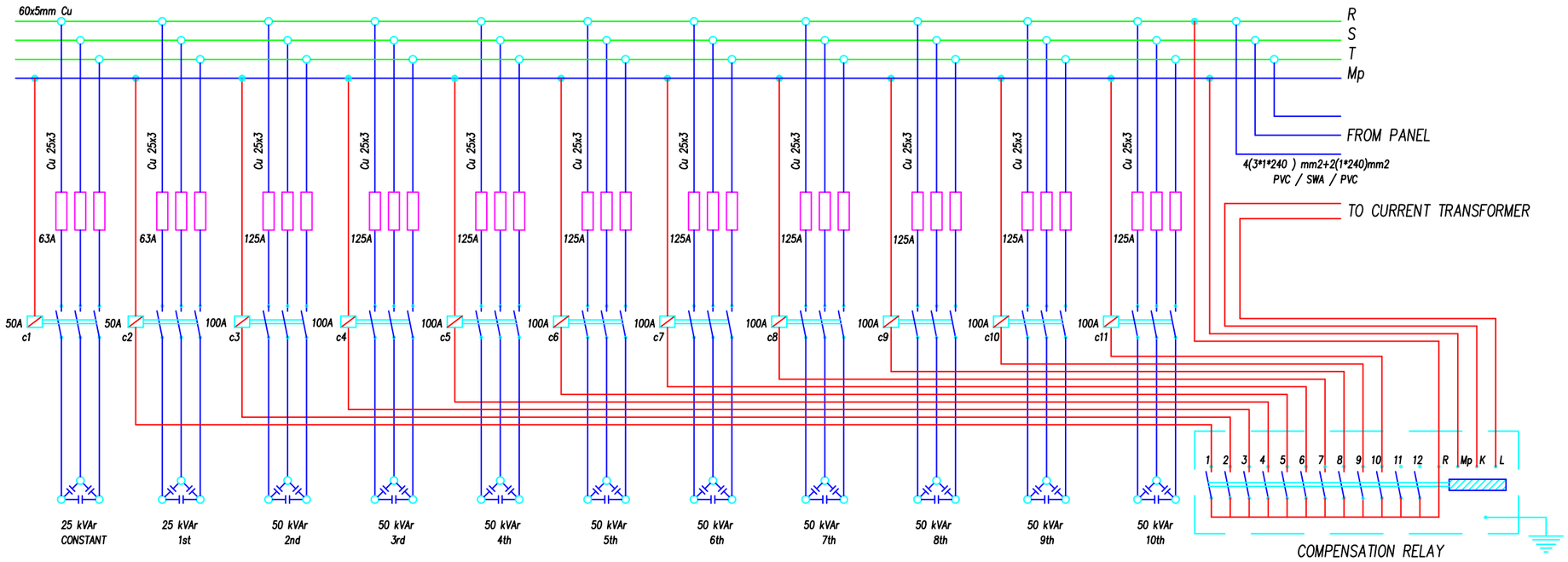
Overall MV/LV Single Line Digram

GLC NO.

DRAWING NO.

EL - 20

AUTOMATIC COMPENSATION GROUP P.F.C (500kVAR)



Note

1. All contactors shall be controlled by push buttons on the electrical panels.
2. All equipment technical characteristics shall be re-controlled during the installation according to valid regulations.

COMPENSATION POWER CALCULATION

TOTAL POWER = 942.7 KW FOR (MDB1)
DEMAND POWER = 942.7 kW
CosQ= 0.8
FINAL CosQ= 0.95 k= 0.42
942.7x0,42 = 395,93 kVAr
WITH SAFETY = 395,93x1.25 =494.91 KVAr
SO, WE SELECT PFC 500 KVAr

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PROJ. NO.

DRAWING TITLE

Power Factor Panel

GLC NO.

DRAWING NO.

EL - 22