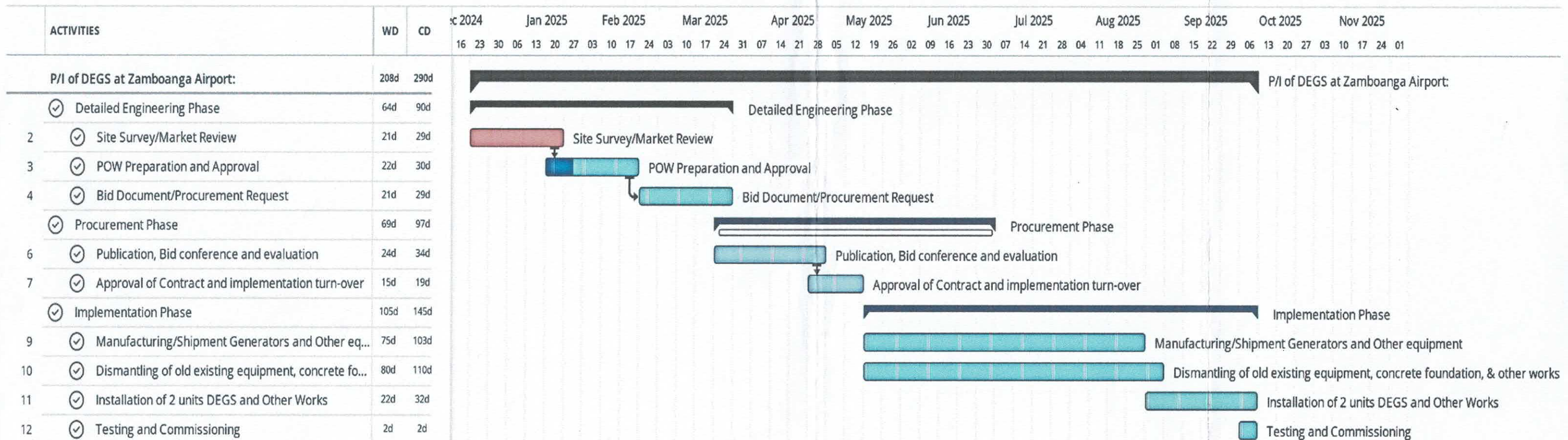




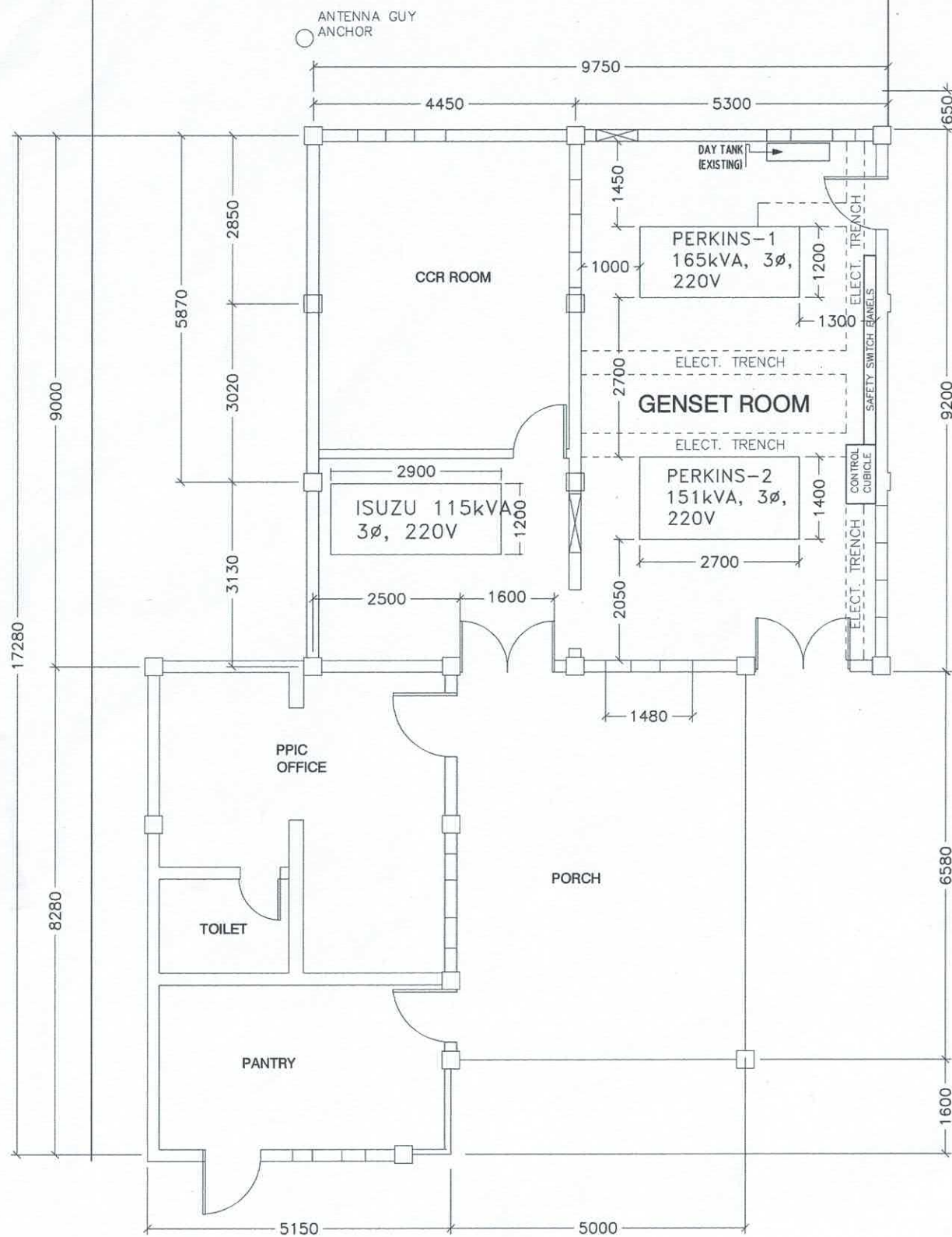
Republic of the Philippines
CIVIL AVIATION AUTHORITY OF THE PHILIPPINES

PURCHASE/INSTALLATION OF DEGS AT ZAMBOANGA AIRPORT
Schedule of Activities

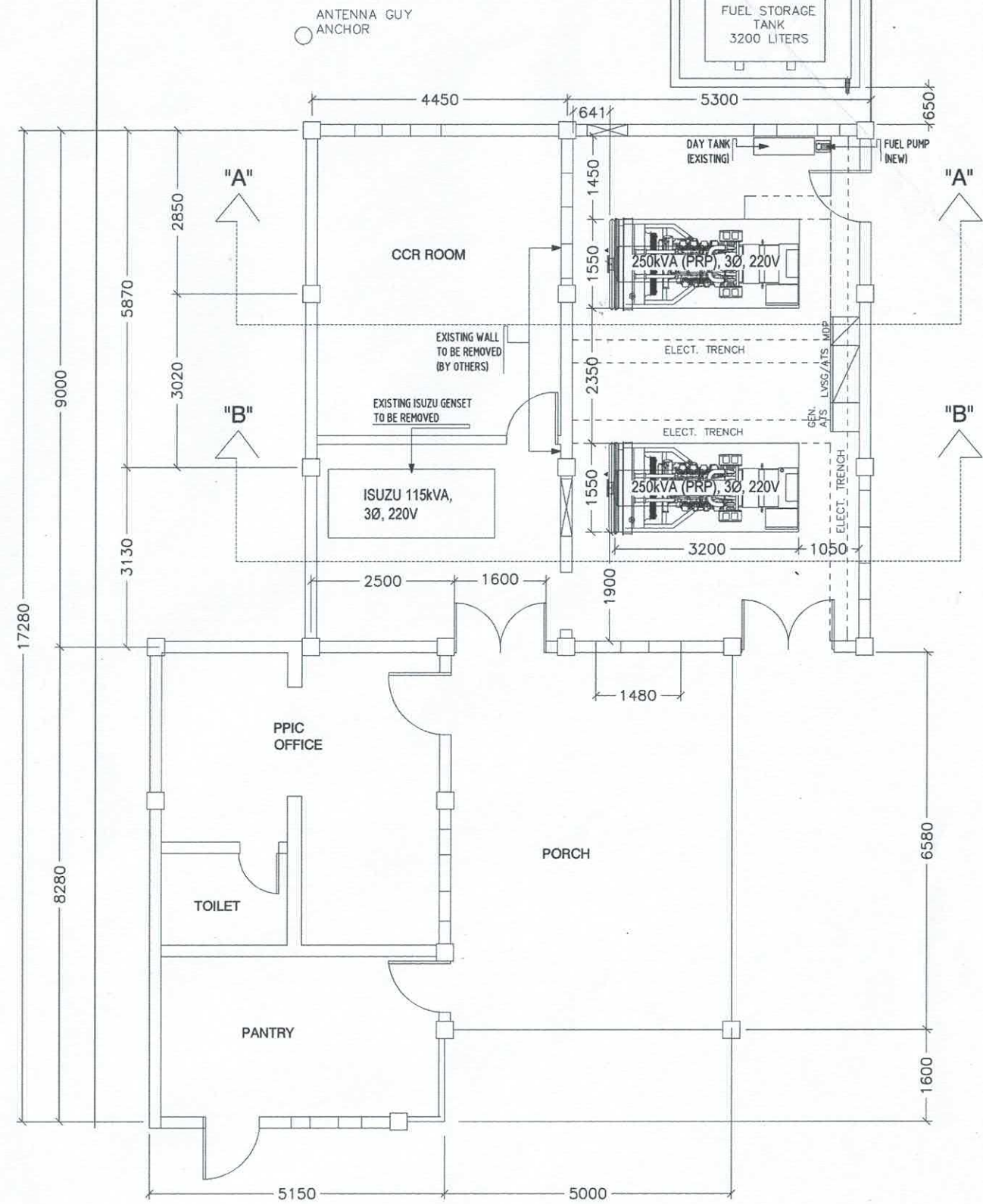


PREPARED BY:


RODERICK D. VEGA
Division Chief III, ANPPDD/EMD

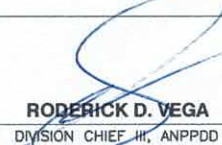


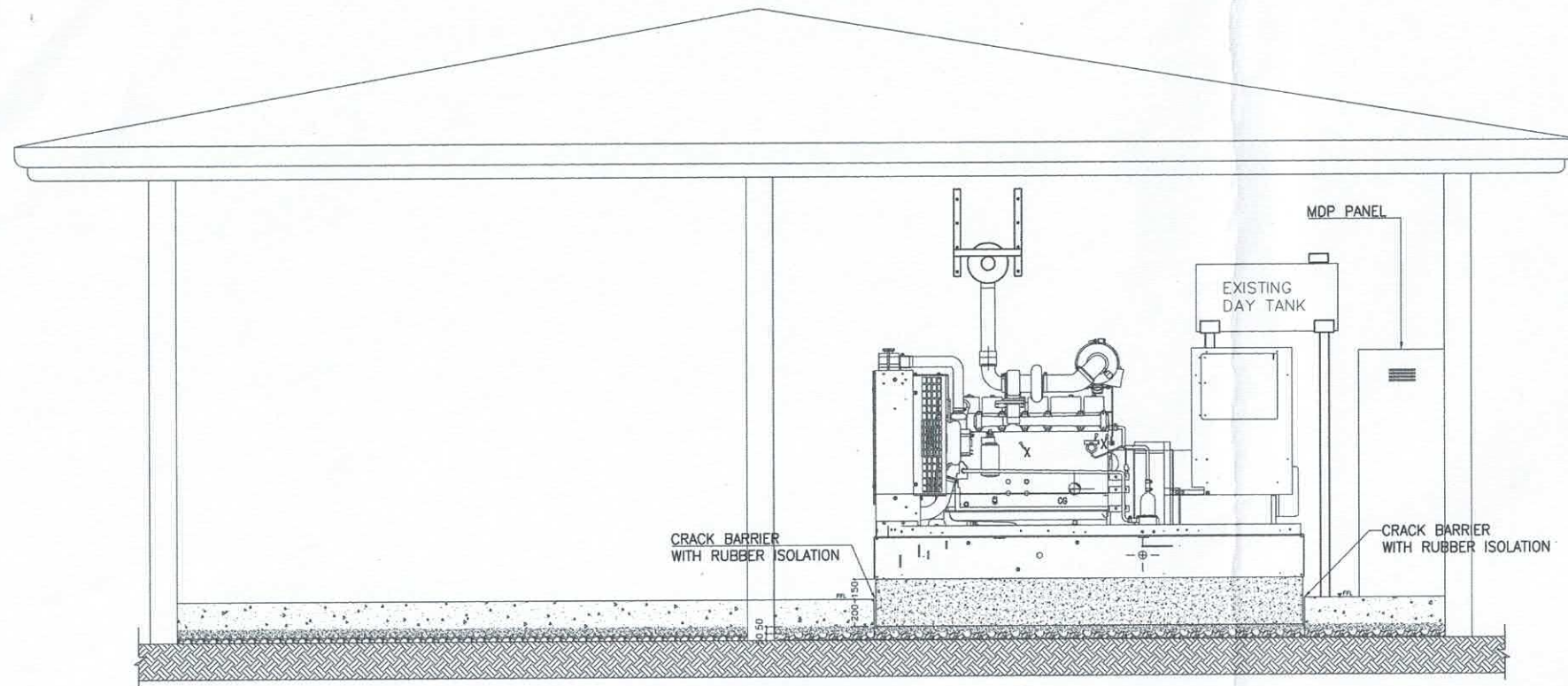
1 EXISTING LAYOUT PLAN



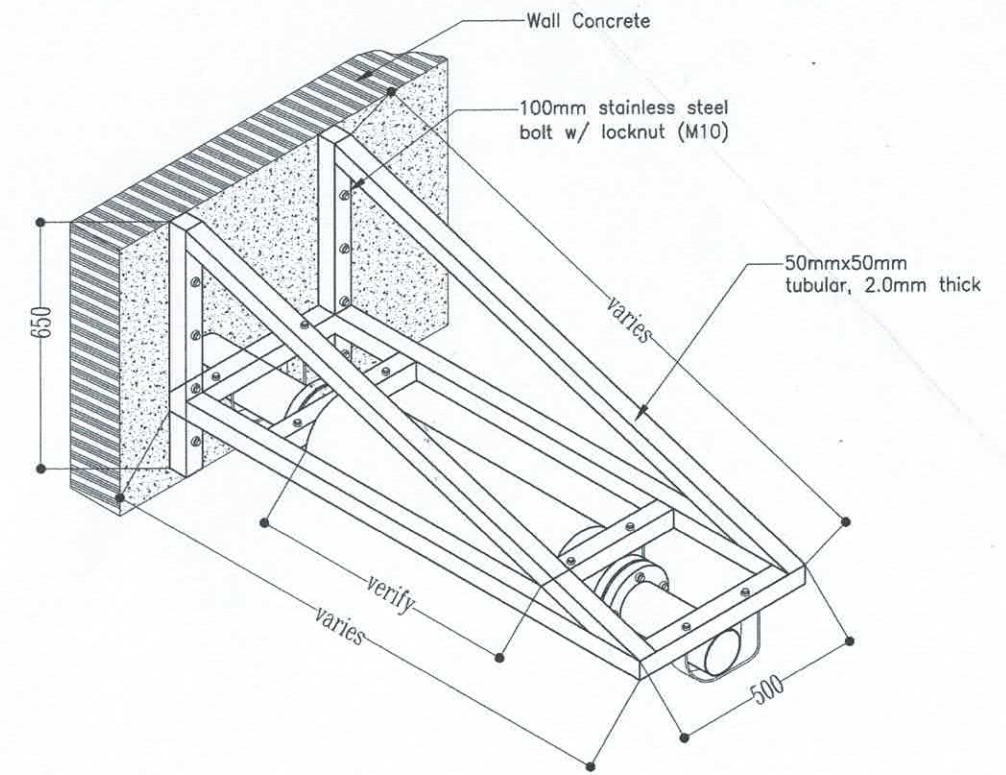
2 PROPOSED NEW LAYOUT PLAN

1
E 1 POWERHOUSE LAYOUT PLAN
SCALE: 1:100 MTS

CIVIL AVIATION AUTHORITY OF THE PHILIPPINES	TITLE:	PREPARED BY:	CHECKED BY:	REVIEWED BY:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET NO.:
	PURCHASE/INSTALLATION OF DIESEL ENGINE GENERATOR SET (DEGS) AT ZAMBOANGA AIRPORT	 ERNEE C. CAJURAO ACTING CNSSO I, ANPPDD	 RODERICK D. VEGA DIVISION CHIEF III, ANPPDD	 JOSUE R. SUGUI ACTING DEPARTMENT MANAGER III, ANQMD	 LEANDRO R. VARQUEZ DEPARTMENT MANAGER III, ANPPDD	 GARY M. JADIE ACTING CHIEF, AIR NAVIGATION SERVICE	 CAPT. MANUEL ANTONIO L. TAMAYO DIRECTOR GENERAL	01/05 DATE: 08 AUGUST 2024

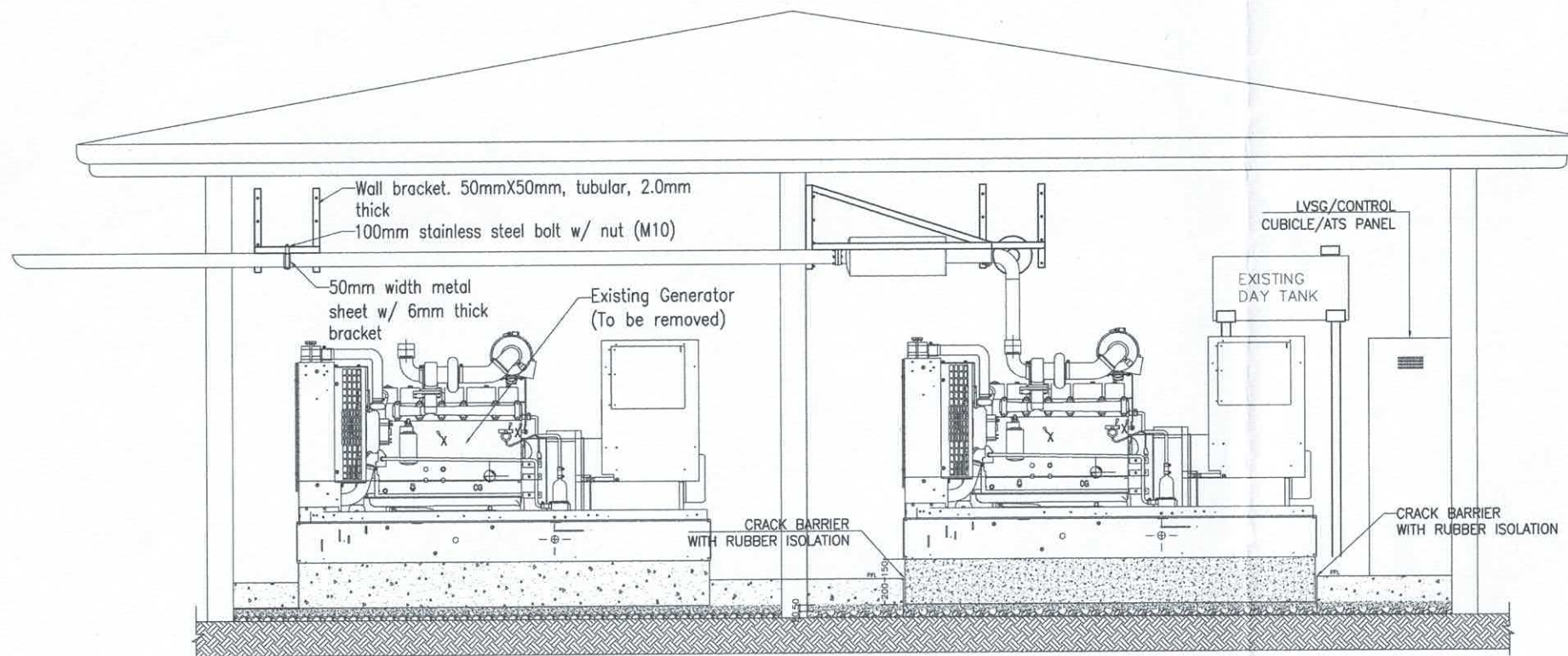


SECTION "A" - "A"

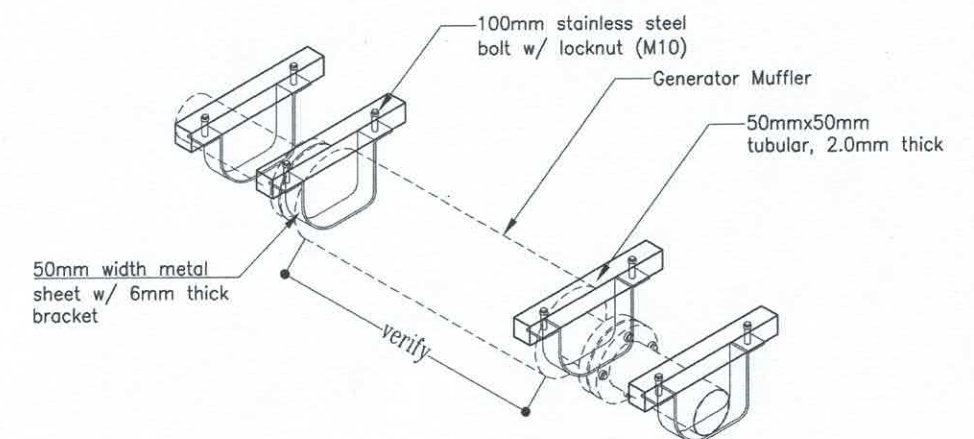


EXHAUST MUFFLER BRACKET

SCALE: 1:20 MTS



SECTION "B" - "B"



INSTALLATION DETAILS

SCALE: 1:20 MTS



GENERATOR LAYOUT SECTION

SCALE: 1:50 MTS

CIVIL AVIATION AUTHORITY
OF THE PHILIPPINES



AIR NAVIGATION SERVICE

TITLE:

**PURCHASE/INSTALLATION OF DIESEL
ENGINE GENERATOR SET (DEGS) AT
ZAMBOANGA AIRPORT**

PREPARED BY:

ERNEE C. CAJURAO
ACTING CNSSO I, ANPPDD

CHECKED BY:

RODERICK D. VEGA
DIVISION CHIEF III, ANPPDD

REVIEWED BY:

JOSUE R. GUGUI
ACTING DEPARTMENT MANAGER III,
ANPPDD

SUBMITTED BY:

LEANDRO R. VARQUEZ
DEPARTMENT MANAGER III, ANPPDD

RECOMMENDING APPROVAL:

GARY M. JADIE
ACTING CHIEF,
AIR NAVIGATION SERVICE

APPROVED BY:

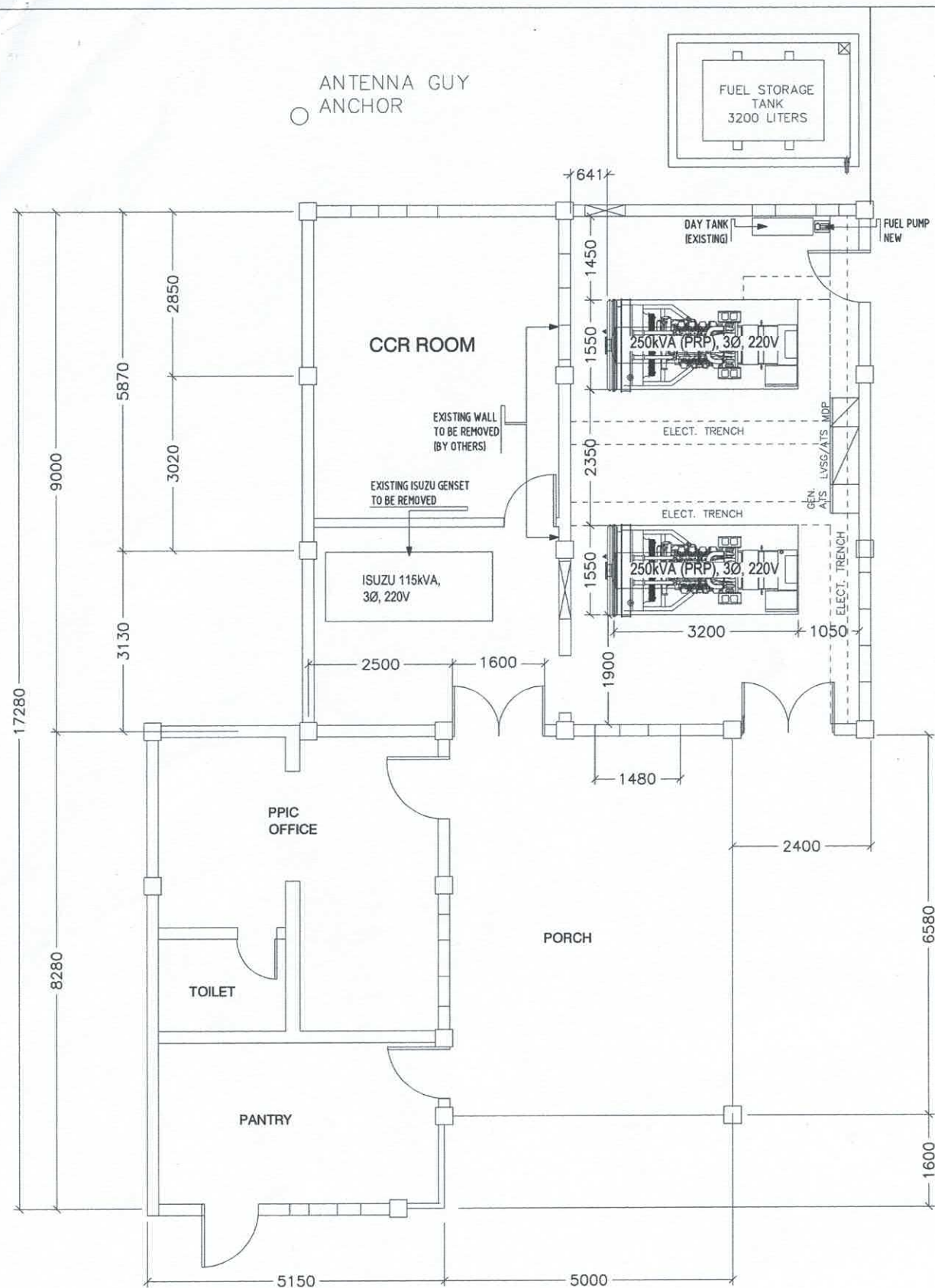
CAPT. MANUEL ANTONIO L. TAMAYO
DIRECTOR GENERAL

SHEET NO.:

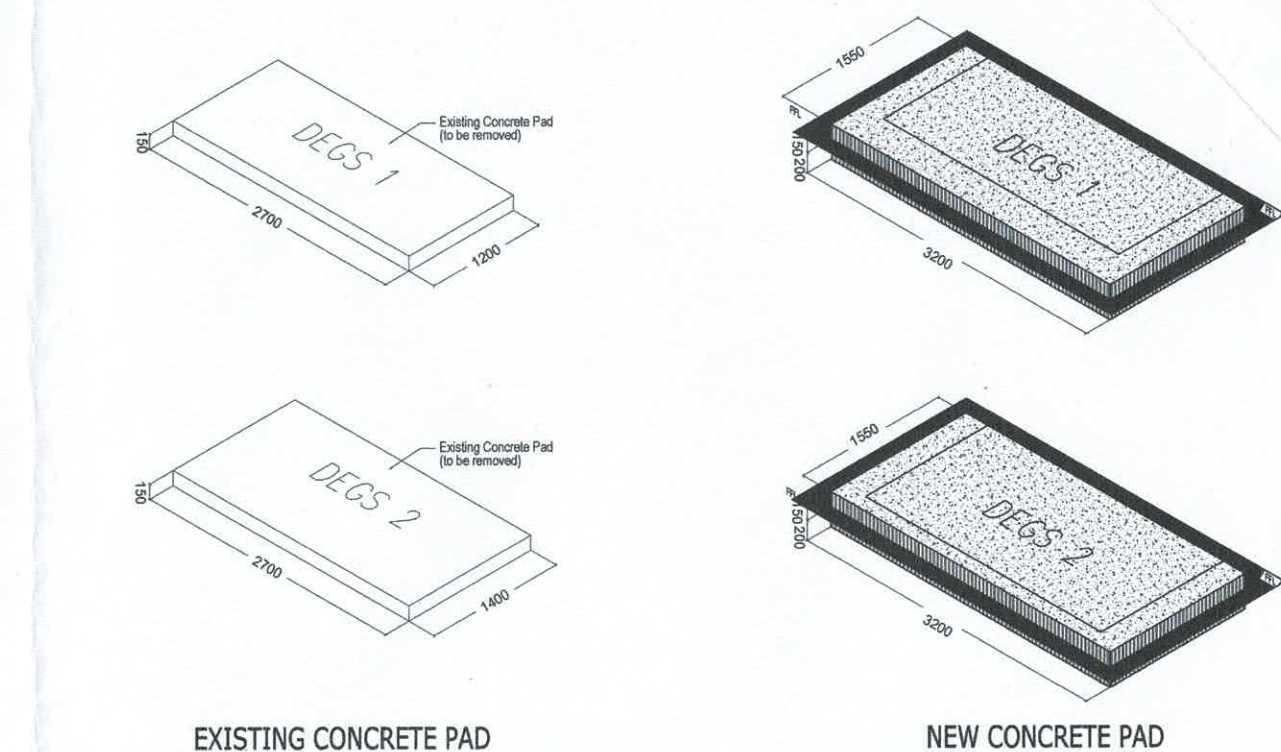
02/05

DATE:

08 AUGUST 2024

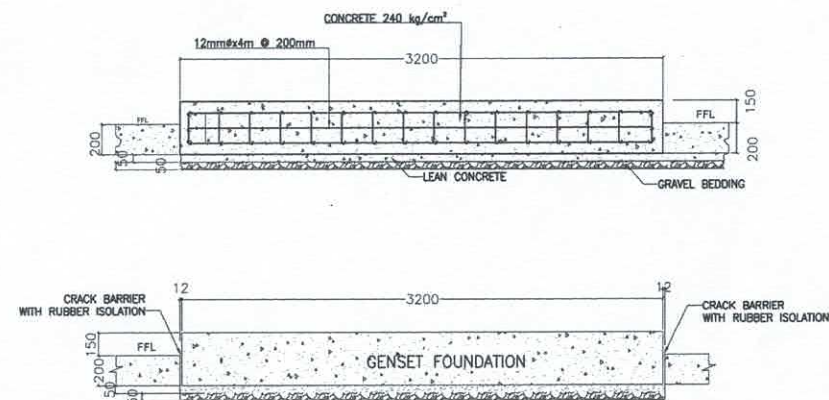
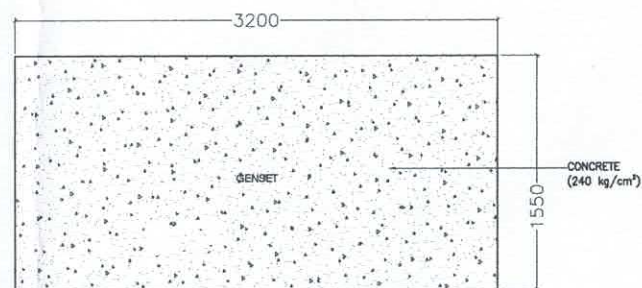


1 PROPOSED NEW LAYOUT PLAN
SCALE: 1:100 MTS.



EXISTING CONCRETE PAD

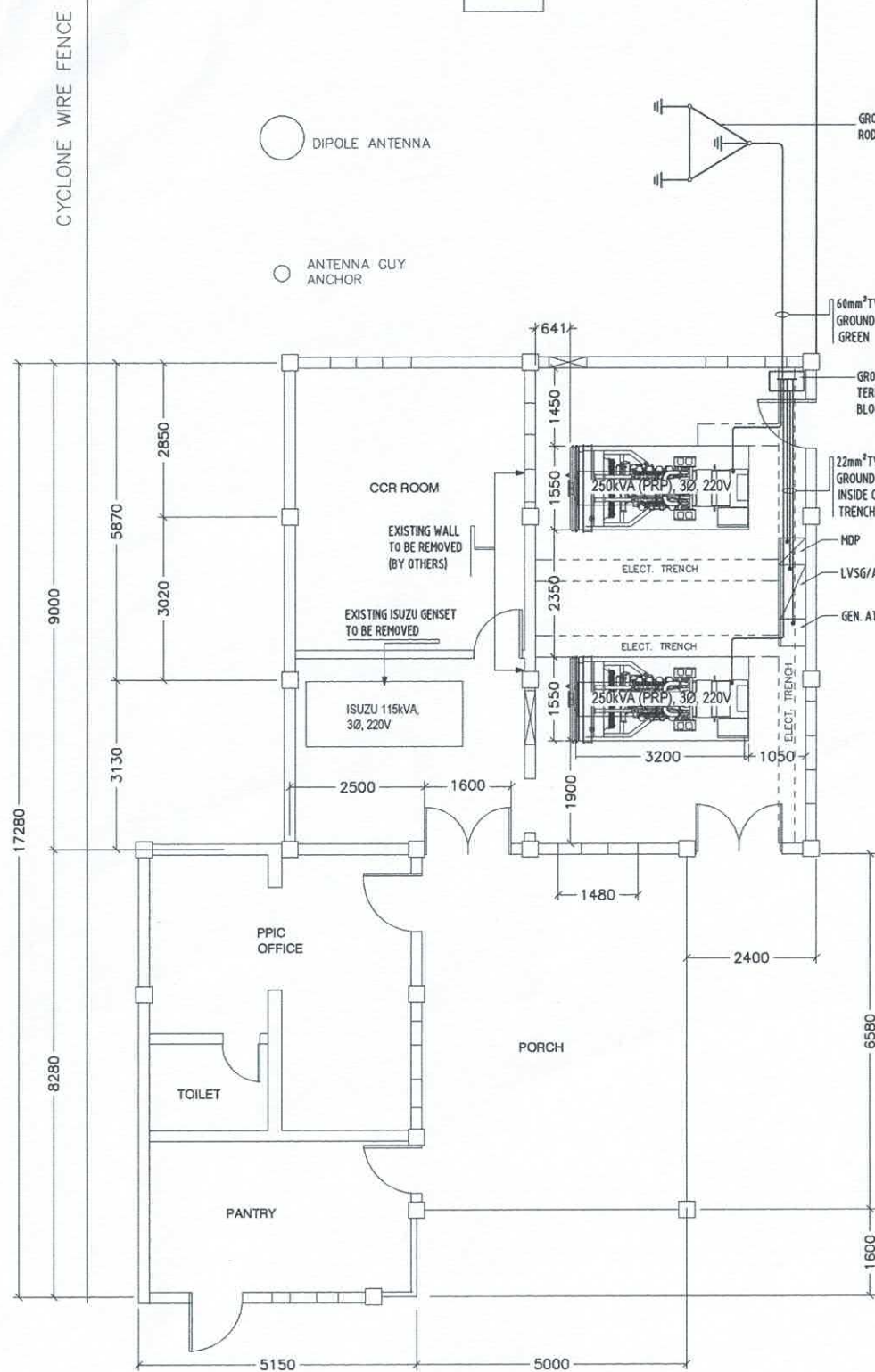
2 GENERATOR SETS CONCRETE PAD
SCALE: 1:75 MTS.



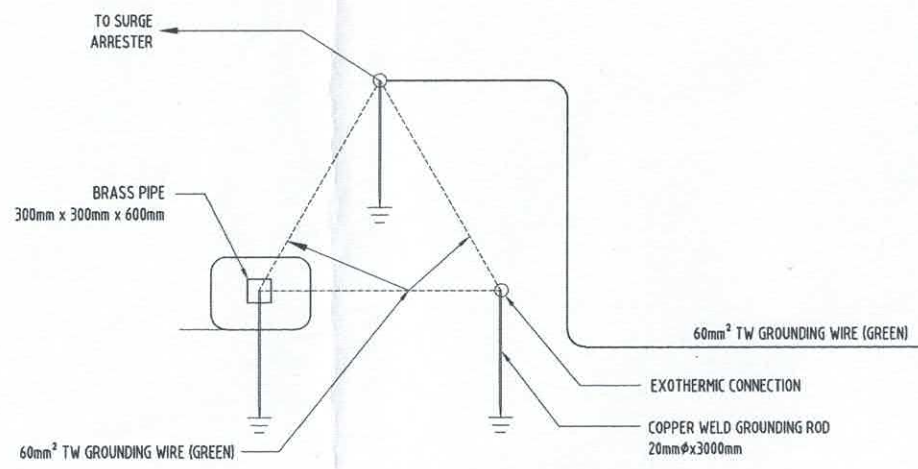
3 CONCRETE PAD FOUNDATION DETAILS
SCALE: 1:50 MTS.

1 E 3 GENERATOR SETS PAD FOUNDATION PLAN

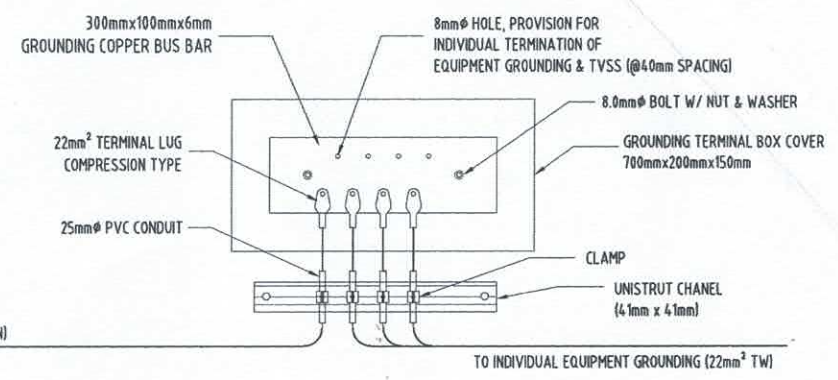
CIVIL AVIATION AUTHORITY OF THE PHILIPPINES	TITLE:	PREPARED BY:	CHECKED BY:	REVIEWED BY:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET NO.:
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AIR NAVIGATION SERVICE								DATE: 08 AUGUST 2024



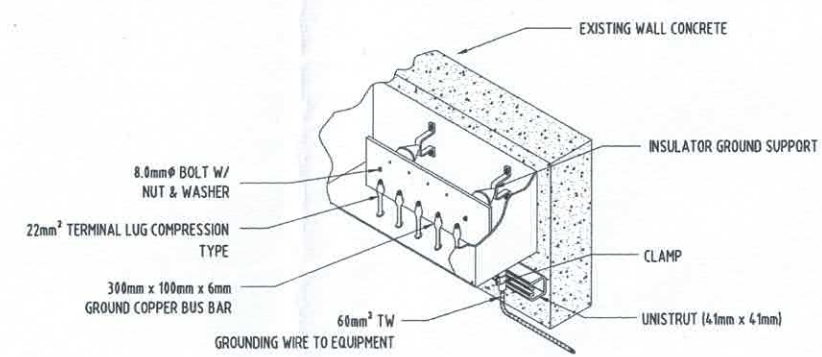
1 PROPOSED NEW LAYOUT PLAN
SCALE: 1:125 MTS.



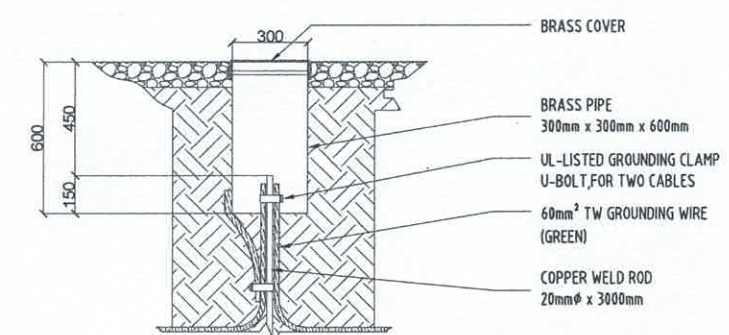
2 GROUNDING ROD PLAN
SCALE: 1:10 MTS.



3 GROUNDING WIRE TERMINAL BLOCK
SCALE: 1:10 MTS.



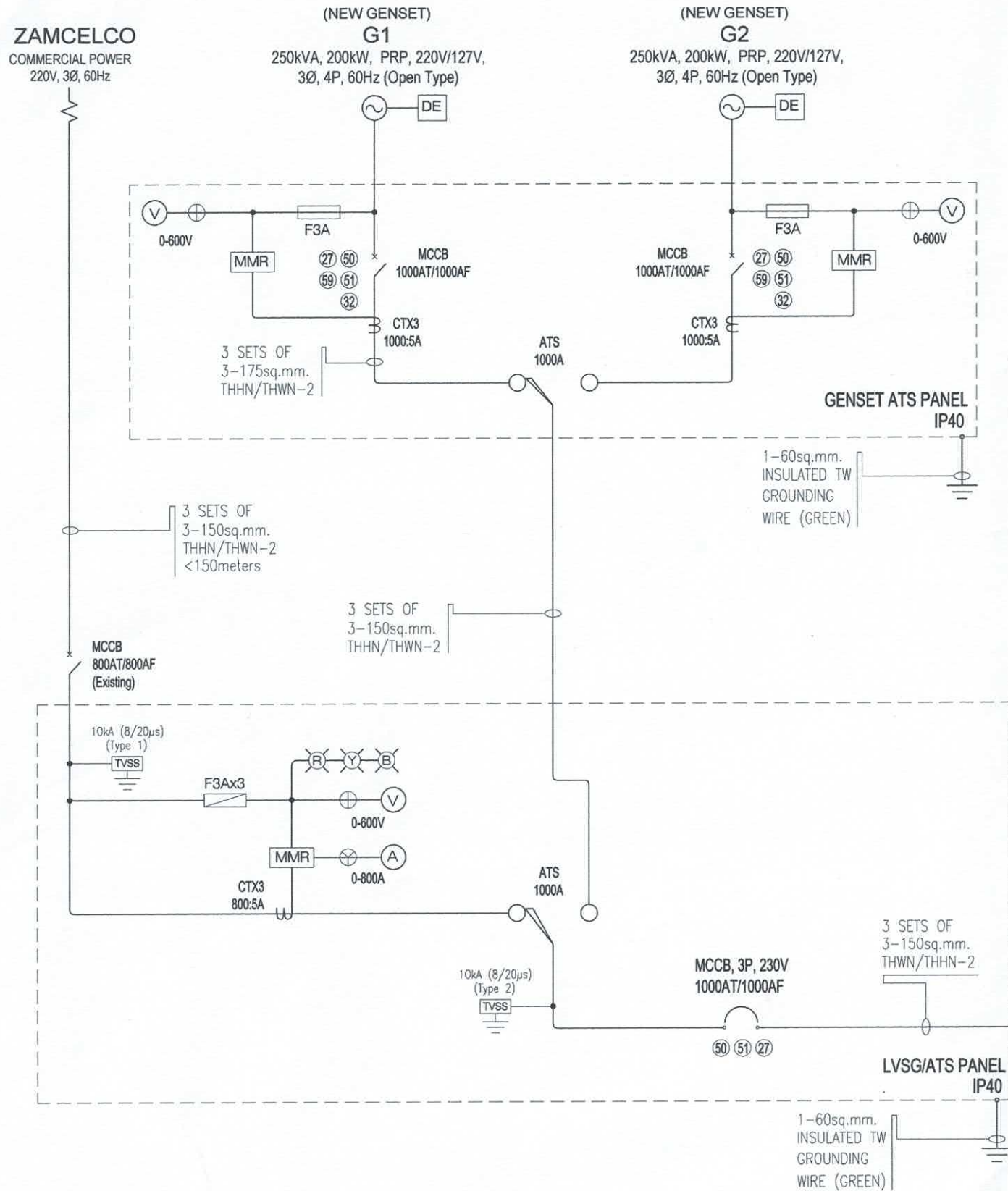
4 ISOMETRIC VIEW
SCALE: 1:16 MTS.



5 DETAIL OF GROUNDING TEST PIT
SCALE: 1:30 MTS.

1 GENERATOR/EQUIPMENT GROUNDING SYSTEM

CIVIL AVIATION AUTHORITY OF THE PHILIPPINES	TITLE:	PREPARED BY:	CHECKED BY:	REVIEWED BY:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET NO.:
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AIR NAVIGATION SERVICE								DATE: 08 AUGUST 2024



1
E 5
POWER SINGLE LINE DIAGRAM
SCALE: NTS

SCHEDULE OF LOADS

CKT. NO.	LOAD DESCRIPTION	TOTAL VA	SYSTEM VOLTAGE (V)	AMPERE LOAD			SETTING OF						REMARKS
				AB	BC	CA	3Ø	CONDUCTOR	CONDUIT	OVER CURRENT DEVICE			
										AT	AF	P	
1	CONTROL TOWER	25,000	220				65.6	3 - 60mm² (Existing)	-	150	250	3	EXISTING CONDUCTOR & CONDUITS TO BE USED
2	CCR ROOM	85,000	220				223.0	3-125mm² THHN / THWN-2, 600V	-	250	250	3	EXISTING CONDUITS TO BE USED, NEW CONDUCTORS
3	FSS FACILITY DP	23,000	220				60.4	3 - 30mm² (Existing)	-	100	250	3	EXISTING CONDUCTOR & CONDUITS TO BE USED
4	FSS EQUIPMENT	14,400	220				37.8	3 - 22mm² (Existing)	-	60	100	3	EXISTING CONDUCTOR & CONDUITS TO BE USED
5	SPARE	15,000	220				39.4	-	-	60	100	3	-
6	POWERPLANT OFFICE	7,000	220		31.2			2 - 14mm² (Existing)	-	60	100	2	EXISTING CONDUCTOR & CONDUITS TO BE USED
7	DVOR	10,000	220			45.5		2 - 30mm² (Existing)	-	100	100	2	EXISTING CONDUCTOR & CONDUITS TO BE USED
8	SPACE	-	-	-	-	-	-	-	-	-	-	-	-
9	SPARE	1,800	220	8.2				-	-	30	50	2	EXISTING CONDUCTOR & CONDUITS TO BE USED
10	SPARE	1,800	220	8.2				-	-	30	50	2	EXISTING CONDUCTOR & CONDUITS TO BE USED
TOTAL		183,000	220	16.4	31.2	45.5	413.0	-	-				
MAIN CIRCUIT BREAKER								-	-	1000	1000	3	MCCB, 25kAIC
MAIN FEEDER							3-SET OF 3C-150mm² THHN / THWN-2, 600V + 50mm² TW (E)			-	EXISTING ELECTRICAL TRENCH TO BE USED		

MINIMUM FEEDER AMPACITY:

$$I_c = \frac{(\text{Total VA} \times \text{DF}) + (25\% \text{ of HMR})}{(\sqrt{3} \times 220\text{V})} + I_{3\phi}$$

$$I_c = \frac{(183,000 \times 0.8) + (25\% \times 0)}{(\sqrt{3} \times 220\text{V})} + 413 \text{ A}$$

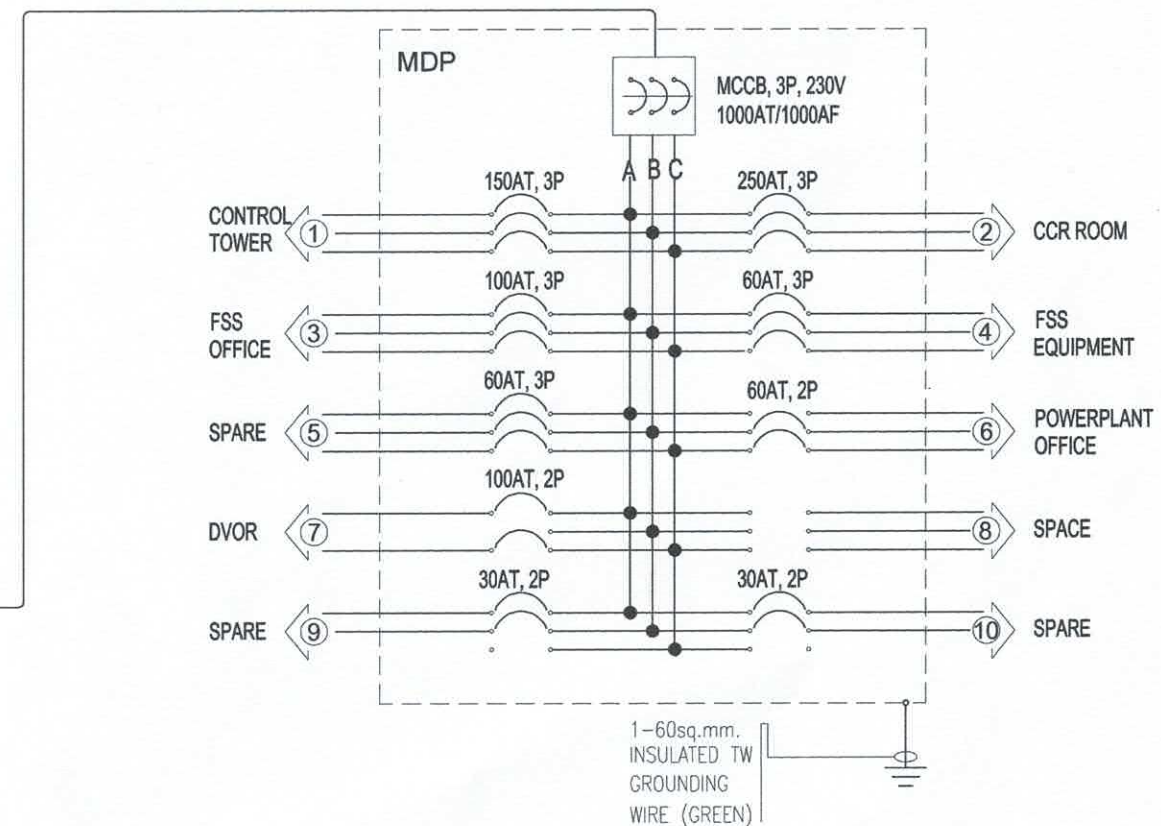
$$I_c = 797.2 \text{ A}$$

MAIN CIRCUIT BREAKER RATING:

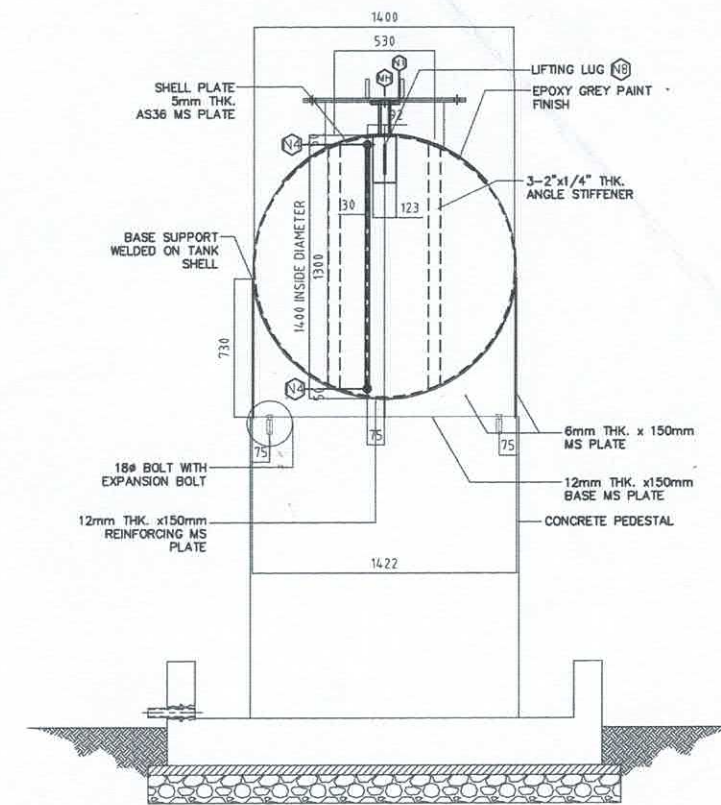
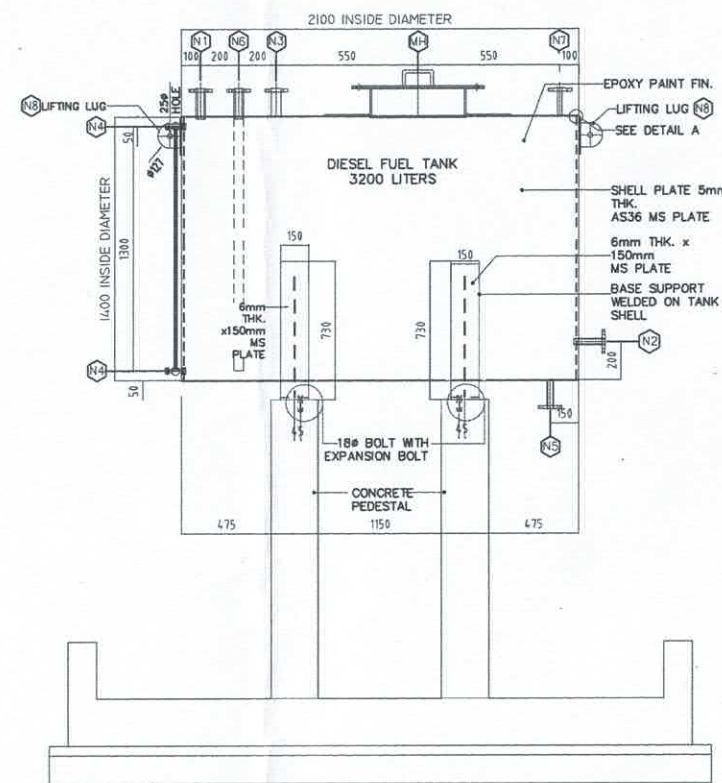
$$I_{CB} = \frac{((\text{Total VA} - \text{HMR}) \times \text{DF}) + (250\% \text{ of HMR})}{(\sqrt{3} \times 220\text{V})} + I_{3\phi}$$

$$I_{CB} = \frac{((183,000 - 0) \times 0.8) + (250\% \times 0)}{(\sqrt{3} \times 220\text{V})} + 413 \text{ A}$$

$$I_{CB} = 797.2 \text{ A}$$



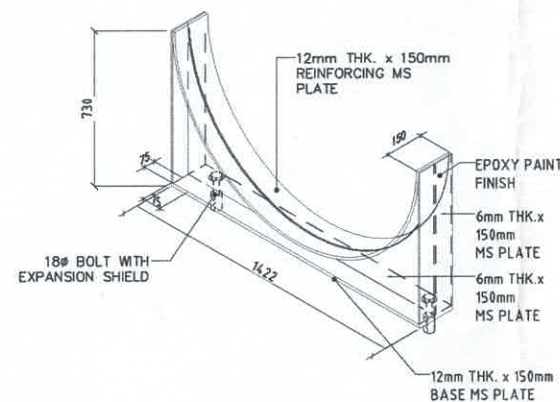
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AIR NAVIGATION SERVICE								DATE: 08 AUGUST 2024



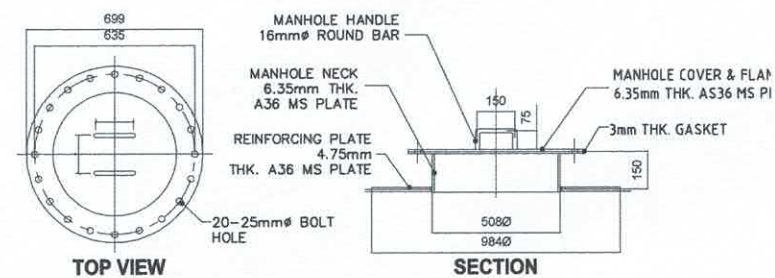
END VIEW

SCALE 1:50MTS

SCALE 1:50MTS



DETAIL OF BASE SUPPORT



MANHOLE DETAIL

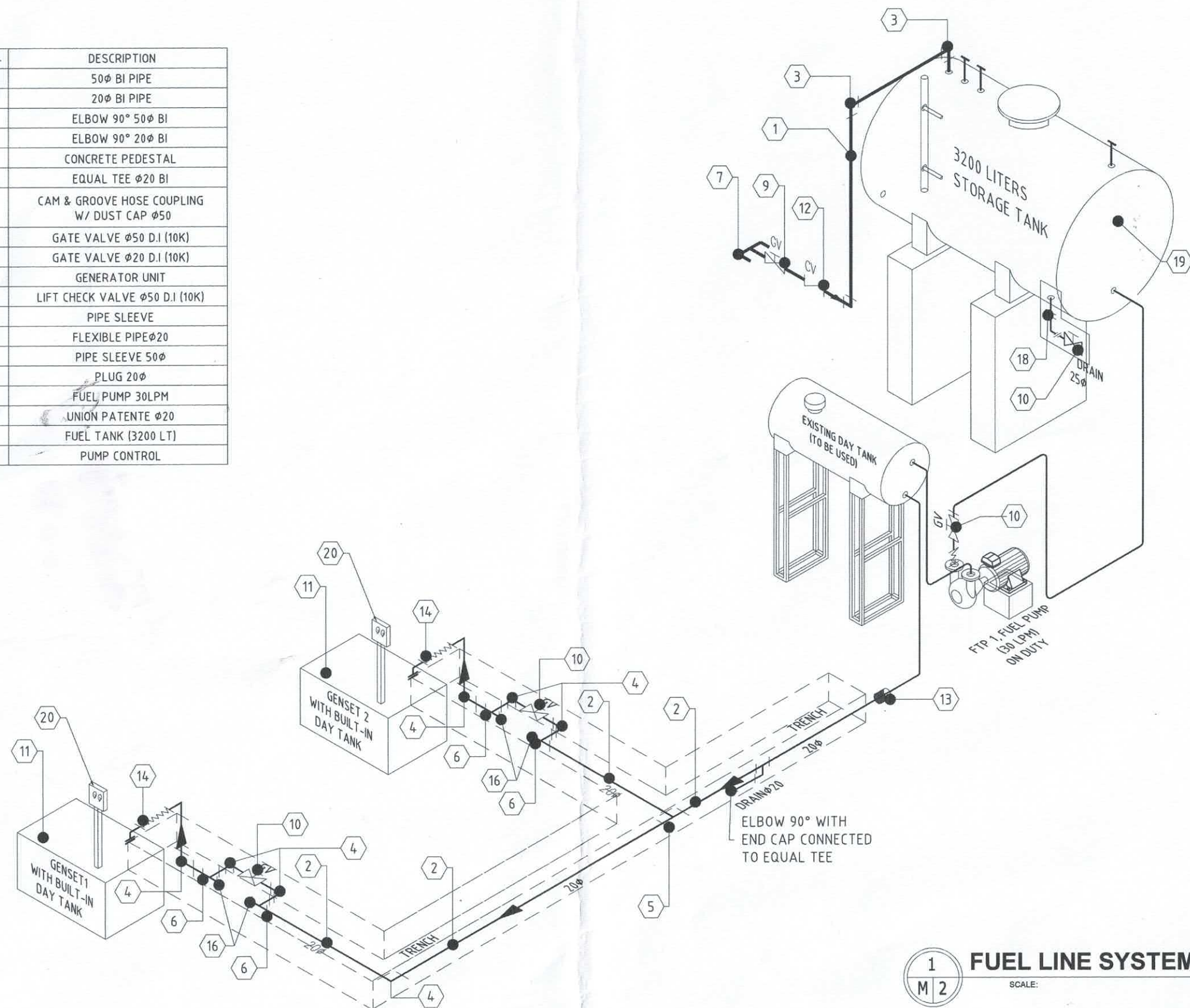
TANK FOUNDATION DETAILS

SCALE

1:40MTS

FUEL STORAGE TANK DETAILS

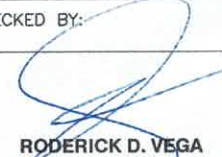
ITEM NO.	DESCRIPTION
1	50 ϕ BI PIPE
2	20 ϕ BI PIPE
3	ELBOW 90° 50 ϕ BI
4	ELBOW 90° 20 ϕ BI
5	CONCRETE PEDESTAL
6	EQUAL TEE ϕ 20 BI
7	CAM & GROOVE HOSE COUPLING W/ DUST CAP ϕ 50
9	GATE VALVE ϕ 50 D.I (10K)
10	GATE VALVE ϕ 20 D.I (10K)
11	GENERATOR UNIT
12	LIFT CHECK VALVE ϕ 50 D.I (10K)
13	PIPE SLEEVE
14	FLEXIBLE PIPE ϕ 20
15	PIPE SLEEVE 50 ϕ
16	PLUG 20 ϕ
17	FUEL PUMP 30LPM
18	UNION PATENTE ϕ 20
19	FUEL TANK (3200 LT)
20	PUMP CONTROL



FUEL LINE SYSTEM ISOMETRY

SCALE:

1:40MTS

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