Republic of the Philippines
DEPARTMENT OF PUBLIC WORKS & HIGHWAYS
REGIONAL OFFICE NO. XI
GOV. CHAVEZ ST., DAVAO CITY

CY : 2025 PROJECT
DETAILED ENGINEERING DESIGN PLAN FOR

CONSTRUCTION OF 3-UNITS 701BDE ENLISTED PERSONNEL BARRACKS, 701st INFANTRY BRIGADE, SITIO MAGAY, BARANGAY DON MARTIN MARUNDAN, MATI CITY, DAVAO ORIENTAL

LOCATION : MATI CITY, DAVAO ORIENTAL

SUBMITTED:	RECOMMENDED:	APPROVED:
JUDY ANN T. BERNARDINO	JOSELITO B. CABALLERO	JUBY B. CORDON
CHIEF, PLANNING AND DESIGN DIVISION	ASSISTANT REGIONAL DIRECTOR	REGIONAL DIRECTOR

SUMMARY OF QUANTITIES

PART A - FACILITIES FOR THE ENGINEER

Pay Item (Number)	Suffix (Subscript)	Description	Unit Of Measure	TOTAL QTY
A.1.1 (3)		Construction of Field Office for the Engineer	Lump Sum	1

PART B - OTHER GENERAL REQUIREMENTS

Pay Item (Number)	Suffix (Subscript)	Description	Unit Of Measure	TOTAL QTY
8.3 (1)		Permits and Clearances	Lump Sum	1
8.5 (1)		Project Billboard / Signboard	Each	2
8.7 (1)		Occupational Safety and Health	Lump Sum	1
8.9 (1)		Mobilization/Demobilization	Lump Sum	1

DIVISION I – GENERAL
PART C - EARTHWORK
ITEM 800 – CLEARING AND GRUBBING

Pay Item (Number)	Suffix (Subscript)	Description	Unit Of Measure	TOTAL QTY
800 (1)		Clearing and Grubbing	Square Meter	698.31

ITEM 801 – REMOVAL OF STRUCTURES AND OBSTRUCTIONS

Pay Item (Number)	Suffix (Subscript)	Description	Unit Of Measure	TOTAL QTY
801 (1)		Removal of Structures and Obstruction	Lump Sum	1

ITEM 803 – STRUCTURE EXCAVATION

Pay Item (Number)	Suffix (Subscript)	Description	Unit Of Measure	TOTAL QTY
803 (1)	a	Structure Excavation	Cubic Meter	238.86

ITEM 804 – EMBANKMENT

Pay Item (Number)	Suffix (Subscript)	Description	Unit Of Measure	TOTAL QTY
804 (2)	a	Embankment from Borrow	Cubic Meter	450
804 (7)		Gravel Fill	Cubic Meter	90

PART D – REINFORCED CONCRETE
ITEM 900 – STRUCTURAL CONCRETE

Pay Item (Number)	Suffix (Subscript)	Description	Unit Of Measure	TOTAL QTY
900 (1)	b	Structural Concrete	Cubic Meter	174.78
900 (1)	h	Structural Concrete	Cubic Meter	48.33

ITEM 902 - REINFORCING STEEL

Pay Item (Number)	Suffix (Subscript)	Description	Unit Of Measure	TOTAL QTY
902 (1)	a1	Reinforcing Steel (Deformed)	Kilogram	29,806.77

ITEM 903 – FORMWORKS AND FALSEWORKS

Pay Item (Number)	Suffix (Subscript)	Description	Unit Of Measure	TOTAL QTY
903 (2)		Formworks and Falseworks	Square Meter	1893.18

DIVISION II – BUILDINGS
PART E – FINISHING AND OTHER CIVIL WORKS
ITEM 1000 – TERMITE CONTROL WORK

Pay Item (Number)	Suffix (Subscript)	Description	Unit Of Measure	TOTAL QTY
1000 (1)		Soil Poisoning	Liter	37.5

ITEM 1001 – STORM DRAINAGE AND SEWERAGE SYSTEM

Pay Item (Number)	Suffix (Subscript)	Description	Unit Of Measure	TOTAL QTY
1001 (1)	b1	Pipe and Fittings	Meter	210
1001 (1)	b3	Pipe and Fittings	Meter	276
1001 (5)	b	Catch Basin	Each	18
1001 (9)		Storm Drainage and Downspout	Lump Sum	1
1001 (11)		Septic Vault/Tank	Lump Sum	1

ITEM 1002 – PLUMBING

Pay Item (Number)	Suffix (Subscript)	Description	Unit Of Measure	TOTAL QTY
1002 (5)	b	Water Closet, Elongated, Complete	Set	39
1002 (11)	a	Kitchen Sink, Complete	Set	1
1002 (15)	a	Lavatory, Counter Top/Under Counter, Complete	Set	39
1002 (16)	a1	Floor Drain Plates	Set	39
1002 (19)		Shower Head/Shower Valve	Set	36
1002 (22)		Hose Bibb	Piece	42
1002 (24)		Cold Water Lines	Lump Sum	1

ITEM 1003 – CARPENTRY AND JOINERY WORKS

Pay Item (Number)	Suffix (Subscript)	Description	Unit Of Measure	TOTAL QTY
1003 (1)	a1	Ceiling	Square Meter	1,004.34

ITEM 1004 – HARDWARE

Pay Item (Number)	Suffix (Subscript)	Description	Unit Of Measure	TOTAL QTY
1004 (2)		Finishing Hardware	Lump Sum	1

ITEM 1008 – ALUMINUM GLASS WINDOWS

Pay Item (Number)	Suffix (Subscript)	Description	Unit Of Measure	TOTAL QTY
1008 (1)	a	Aluminum Glass Windows	Square Meter	67.17
1008 (1)	c	Aluminum Glass Windows	Square Meter	2.7

ITEM 1010 – WOODEN DOORS AND WINDOWS

Pay Item (Number)	Suffix (Subscript)	Description	Unit Of Measure	TOTAL QTY
1010 (1)		Frames	Set	1
1010 (2)	b	Doors	Square Meter	101.28

ITEM 1013 – CORRUGATED ROOFING

Pay Item (Number)	Suffix (Subscript)	Description	Unit Of Measure	TOTAL QTY
1013 (2)	b	Fabricated Metal Roofing Accessory	Linear Meter	177.3
1013 (2)	c	Fabricated Metal Roofing Accessory	Linear Meter	91.8

ITEM 1014 – PRE-PAINTED METAL SHEETS

Pay Item (Number)	Suffix (Subscript)	Description	Unit Of Measure	TOTAL QTY
1014 (1)	b2	Pre-painted Metal Sheets	Square Meter	1118.49

ITEM 1017 – ROOF DRAIN WITH STRAINER

Pay Item (Number)	Suffix (Subscript)	Description	Unit Of Measure	TOTAL QTY
1017 (3)	b	Gutter Drain with Strainer	Set	18

ITEM 1018 – CERAMIC AND GRANITE TILES

Pay Item (Number)	Suffix (Subscript)	Description	Unit Of Measure	TOTAL QTY
1018 (1)		Glazed Tiles and Trims	Square Meter	1101.9
1018 (2)		Unglazed Tiles	Square Meter	170.91

ITEM 1021 – CEMENT FLOOR FINISH

Pay Item (Number)	Suffix (Subscript)	Description	Unit Of Measure	TOTAL QTY
1021 (1)	b	Cement Floor Finish	Square Meter	30

ITEM 1027 – CEMENT PLASTER FINISH

Pay Item (Number)	Suffix (Subscript)	Description	Unit Of Measure	TOTAL QTY
1027 (1)		Cement Plaster Finish	Square Meter	3382.14

ITEM 1032 – PAINTING, VARNISHING AND OTHER RELATED WORKS

Pay Item (Number)	Suffix (Subscript)	Description	Unit Of Measure	TOTAL QTY
1032 (1)	a	Painting Works	Square Meter	3382.14

ITEM 1038 – REFLECTIVE INSULATION

Pay Item (Number)	Suffix (Subscript)	Description	Unit Of Measure	TOTAL QTY
1038 (1)		Reflective Insulation	Square Meter	1068

ITEM 1039 – ALUMINUM CLADDING

Pay Item (Number)	Suffix (Subscript)	Description	Unit Of Measure	TOTAL QTY
1039 (1)		Aluminum Cladding	Square Meter	450

ITEM 1043 – PVC DOORS AND FRAMES

Pay Item (Number)	Suffix (Subscript)	Description	Unit Of Measure	TOTAL QTY
1043 (1)		PVC Doors and Frames	Square Meter	63.21

ITEM 1045 – ALUMINUM CEILING PANEL

Pay Item (Number)	Suffix (Subscript)	Description	Unit Of Measure	TOTAL QTY
1045 (1)		Perforated Ceiling Panel	Square Meter	62.66

ITEM 1046 – MASONRY WORKS

Pay Item (Number)	Suffix (Subscript)	Description	Unit Of Measure	TOTAL QTY
1046 (2)	a1	CHB Non-Load Bearing (Including Reinforcing Steel)	Square Meter	1109.76
1046 (2)	a2	CHB Non-Load Bearing (Including Reinforcing Steel)	Square Meter	893.25

ITEM 1047 – METAL STRUCTURES

Pay Item (Number)	Suffix (Subscript)	Description	Unit Of Measure	TOTAL QTY
1047 (4)	a	Metal Structure Accessories	Each	1200
1047 (5)	b	Metal Structure Accessories	Kilogram	2759.4
1047 (5)	d	Metal Structure Accessories	Kilogram	1203.99
1047 (8)	a	Structural Steel	Kilogram	171159.773
1047 (8)	b	Structural Steel	Kilogram	4512.36

ITEM 1051 – RAILINGS

Pay Item (Number)	Suffix (Subscript)	Description	Unit Of Measure	TOTAL QTY
1051 (1)	a	Railing	Lump Sum	1

PART F - ELECTRICAL
ITEM 1100 – CONDUITS, BOXES AND FITTINGS

Pay Item (Number)	Suffix (Subscript)	Description	Unit Of Measure	TOTAL QTY
1100 (5)	a	Rigid Polyvinyl Chloride Pipes (PVC/uPVC)	Meter	546
1100 (5)	c	Rigid Polyvinyl Chloride Pipes (PVC/uPVC)	Meter	6
1100 (6)	d	Rigid Polyvinyl Chloride Pipes (PVC/uPVC)	Meter	6
1100 (10)		Conduits, Boxes & Fittings (Conduit Works/Conduit Rough-in)	Lump Sum	1

ITEM 1101 – WIRES, CABLES AND WIRING DEVICES

Pay Item (Number)	Suffix (Subscript)	Description	Unit Of Measure	TOTAL QTY
1101 (2)	b2	Electric Wire	Meter	5175
1101 (2)	b4	Electric Wire	Meter	81
1101 (2)	b5	Electric Wire	Meter	207
1101 (2)	b8	Electric Wire	Meter	54
1101 (3)		Single Pole Wall Switch on one switch plate	Set	6
1101 (4)		Duplex (2 Single Pole Wall Switches on one switch plate)	Set	78
1101 (5)		Three-way Switch	Set	6
1101 (16)		Duplex Convenience Outlets/Receptacles (GF)	Set	117

ITEM 1102 – POWER LOAD CENTER, SWITCHGEAR AND PANELBOARDS, AND OTHER OVERCURRENT PROTECTION DEVICES

Pay Item (Number)	Suffix (Subscript)	Description	Unit Of Measure	TOTAL QTY
1102 (1)		Panelboard with Main & Branch Breakers	Lump Sum	3

ITEM 1103 – LIGHTING FIXTURES

Pay Item (Number)	Suffix (Subscript)	Description	Unit Of Measure	TOTAL QTY
1103 (1)		Lighting Fixtures	Lump Sum	1

PART G - MECHANICAL
ITEM 1200 – AIR CONDITIONING AND VENTILATING SYSTEM

Pay Item (Number)	Suffix (Subscript)	Description	Unit Of Measure	TOTAL QTY
1200 (5)	a	Exhaust Fan	Set	36

ITEM 1202 – AUTOMATIC FIRE SPRINKLER SYSTEM (AFSS)

Pay Item (Number)	Suffix (Subscript)	Description	Unit Of Measure	TOTAL QTY
1202 (6)	a2	Fire Extinguisher	Set	42

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PROJECT NAME AND LOCATION	SHEET CONTENTS	PREPARED:	REVIEWED:	SUBMITTED:	RECOMMENDED:	APPROVED:	SET NO.	SHEET NO.
CONSTRUCTION OF 3-UNITS 701BDE ENLISTED PERSONNEL BARRACKS, 701st INFANTRY BRIGADE, SITIO MAGAY, BARANGAY DON MARTIN MARUNDAN, MATI CITY, DAVAO ORIENTAL	SUMMARY OF QUANTITIES	FERDINAND M. RAÑOSA, ARCHITECT II, DATE:	ALGIN A. GINGAYAN, ENGINEER III, SECTION CHIEF, DATE:	JUDY ANN T. BERNARDINO, CHIEF, PROGRAMMING AND DESIGN DIVISION, DATE:	JOSELITO B. CABALLERO, ASSISTANT REGIONAL DIRECTOR, DATE:	JUBY B. CORDON, REGIONAL DIRECTOR, DATE:		01 / 16

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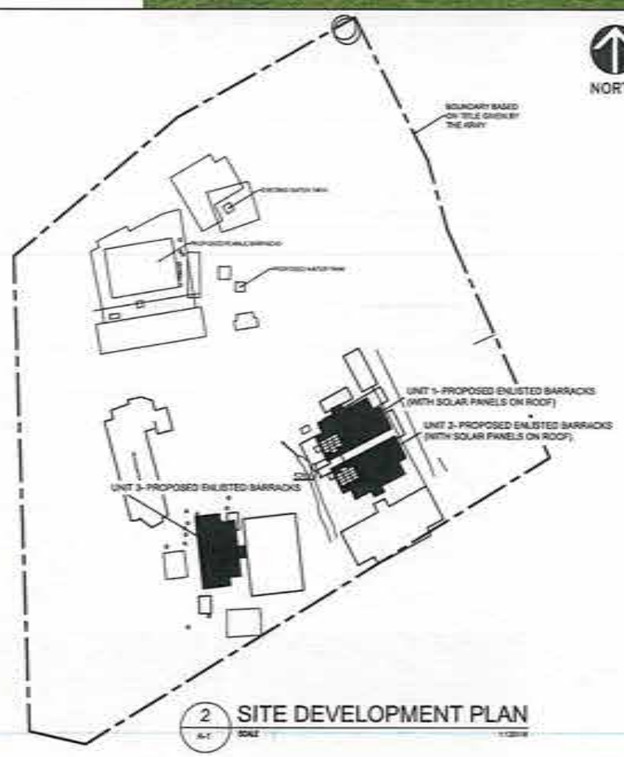
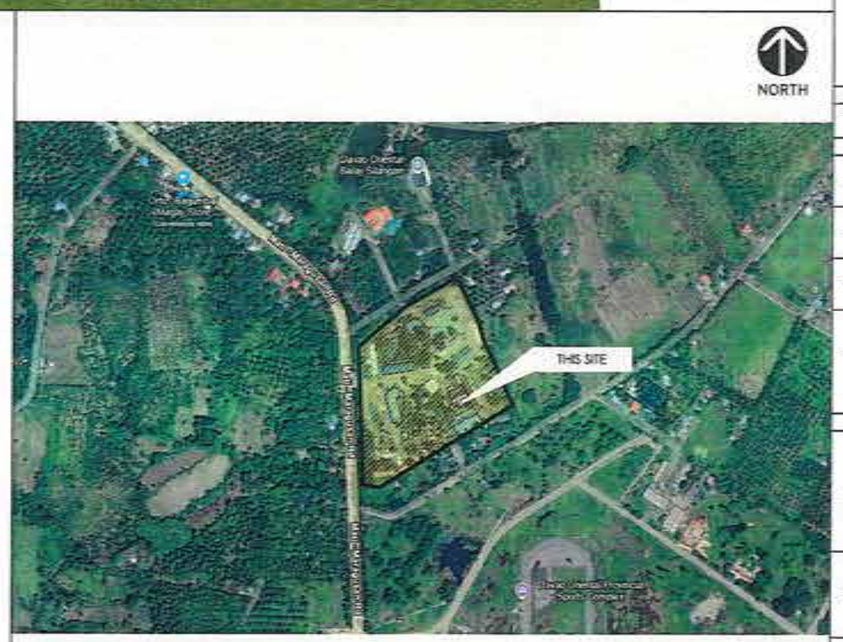
1 PERSPECTIVE
A-1 SCALE NTS



2 SITE DEVELOPMENT PLAN
A-1 SCALE 1:1000@A1



3 VICINITY MAP
A-1 SCALE NTS

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OFFICE OF THE BUILDING OFFICIAL

CITY OF MATI

LAND USE & ZONING

LINE & GRADE

ARCHITECTURAL

STRUCTURAL

SANITARY

ELECTRICAL

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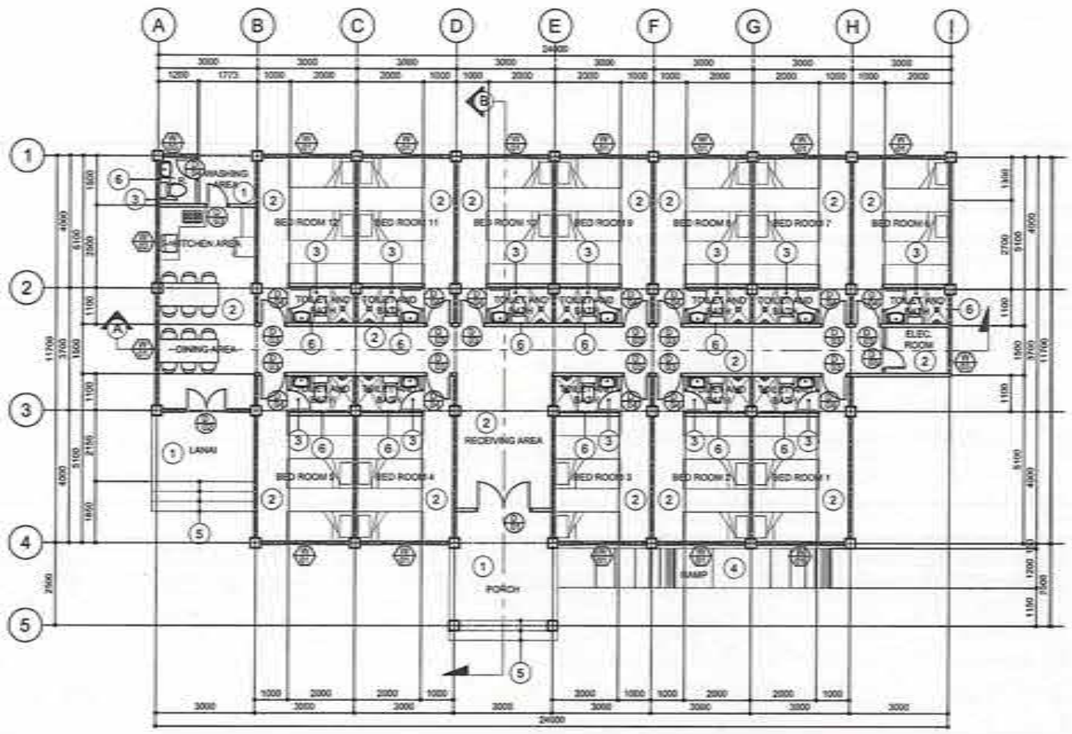
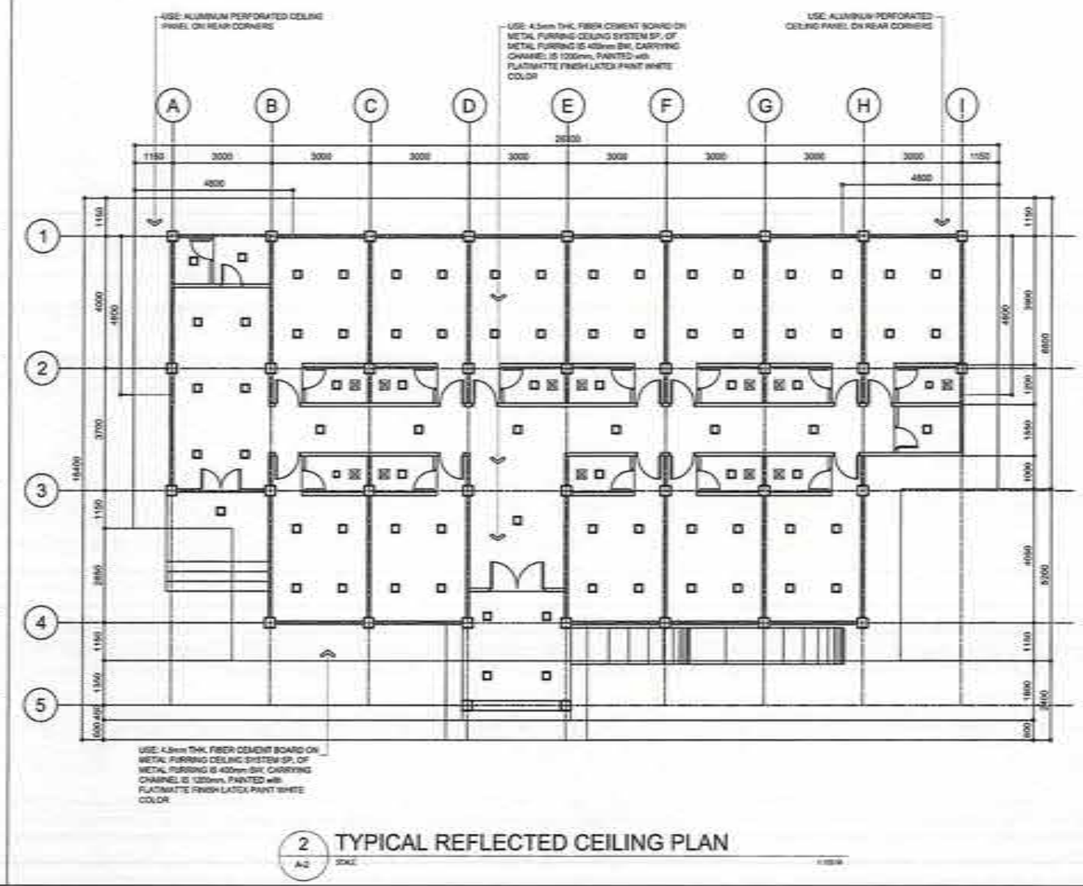
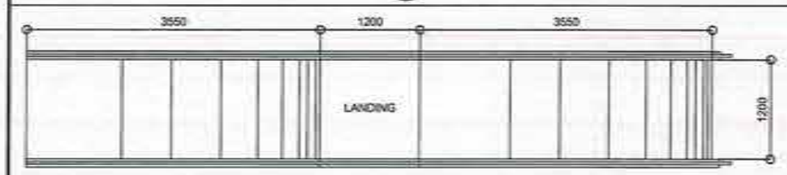


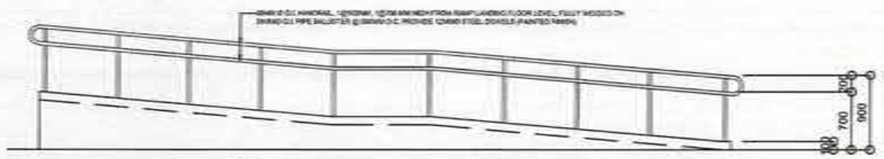
1 A-2 TYPICAL FLOOR PLAN
SCALE 1:100



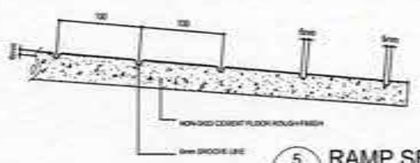
2 A-2 TYPICAL REFLECTED CEILING PLAN
SCALE 1:100

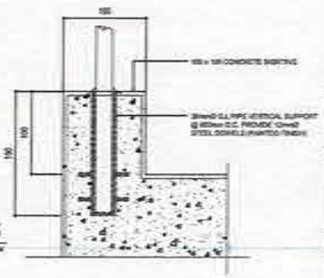


3 A-2 RAMP BLOW-UP PLAN
SCALE 1:40



4 A-2 RAMP BLOW-UP ELEVATION
SCALE 1:40





5 A-2 RAMP SECTION DETAILS
SCALE 1:40

MARK	1	2	3	4	5	6
SPECIFICATION	400mm X 400mm CERAMIC OUTDOOR TILES, NEUTRAL COLOR	600mm X 600mm CERAMIC TILES GLAZED, PLAIN NEUTRAL COLOR	300mm X 300mm CERAMIC TOILET NON-SKID TILES, PLAIN NEUTRAL COLOR	PLAIN CEMENT ROUGH FINISH PAINTED GRAY COLOR	SLIP-RESISTANT OUTDOOR STAIR NOSING	300mm X 600mm TOILET WALL TILES, PLAIN NEUTRAL COLOR
MARK	7	8	9	10	11	
SPECIFICATION	150mm CHB EXTERIOR WALL PLAIN CEMENT PLASTERED WITH ACRYTEX PAINT FINISH, COLOR: OFF-WHITE	150mm CHB EXTERIOR WALL PLAIN CEMENT PLASTERED WITH ACRYTEX PAINT FINISH, COLOR: BLUE	ALUMINUM METAL CLADDING ON METAL FRAMEWORK SUPPORT SYSTEM , COLOR: BLUE	ALUMINUM METAL CLADDING ON METAL FRAMEWORK SUPPORT SYSTEM COLOR: LIGHT GRAY	100mm CHB INTERIOR WALL PLAIN CEMENT PLASTERED WITH ACRYTEX PAINT FINISH, COLOR: CREAM/OFFWHITE	

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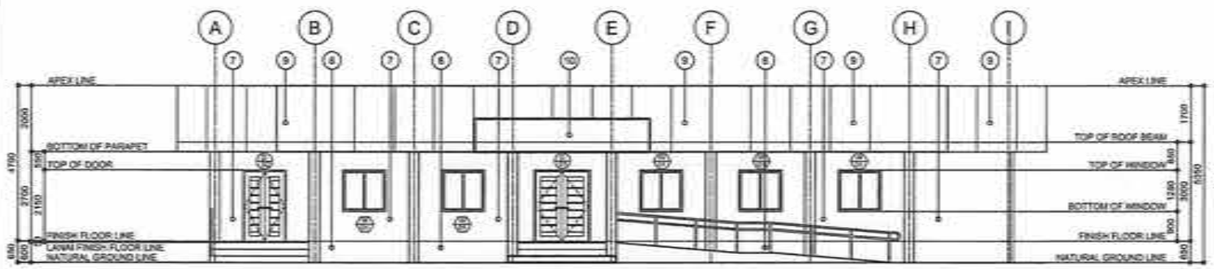
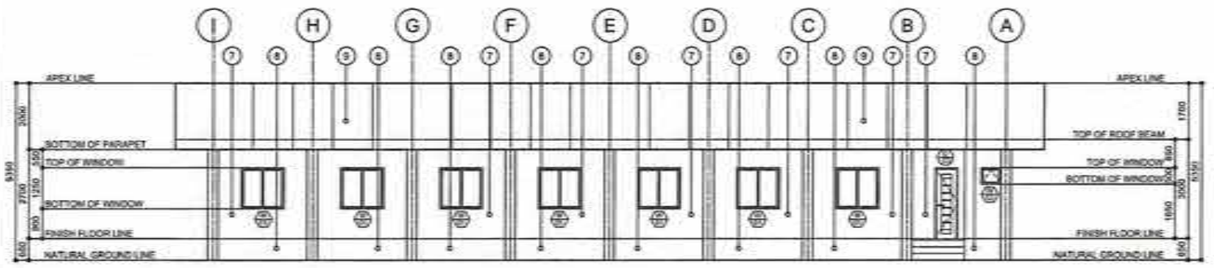
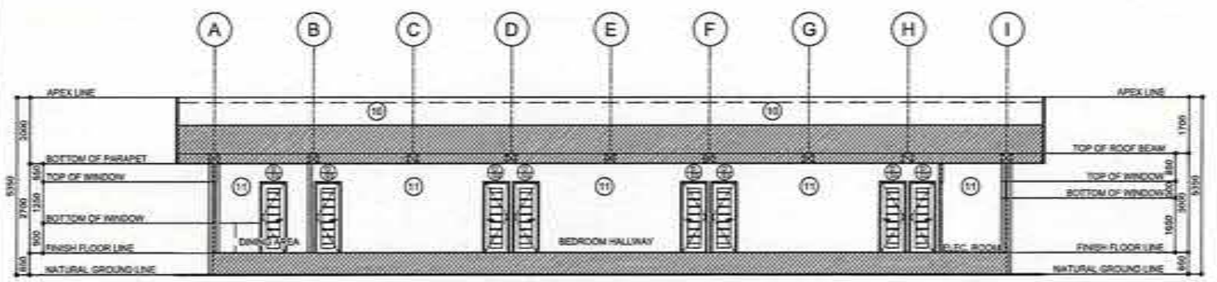


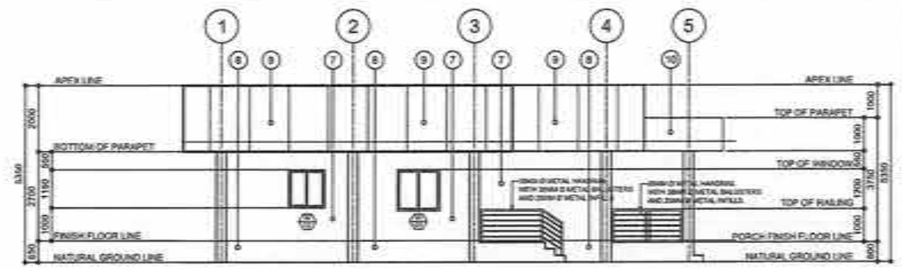
1 A-3 TYPICAL FRONT ELEVATION
SCALE 1:100 M



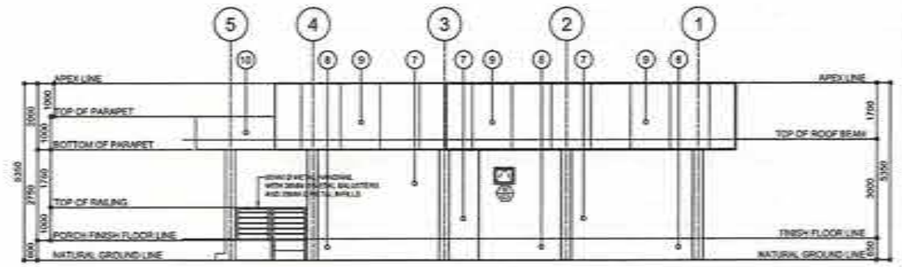
3 A-3 TYPICAL REAR ELEVATION
SCALE 1:100 M



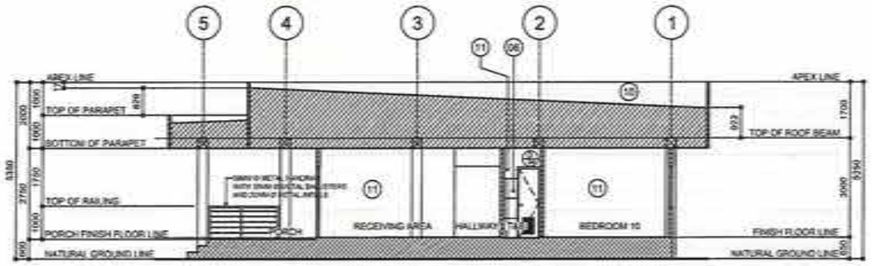
5 A-3 TYPICAL LONGITUDINAL SECTION A
SCALE 1:100 M



2 A-3 TYPICAL LEFT-SIDE ELEVATION
SCALE 1:100 M



4 A-3 TYPICAL RIGHT-SIDE ELEVATION
SCALE 1:100 M



6 A-3 TYPICAL CROSS SECTION B
SCALE 1:100 M

MARK	(1)	(2)	(3)	(4)	(5)
SPECIFICATION	400mm X 400mm CERAMIC OUTDOOR TILES, NEUTRAL COLOR	600mm X 600mm CERAMIC TILES GLAZED, PLAIN NEUTRAL COLOR	300mm X 300mm CERAMIC TOILET NON-SKID TILES, PLAIN NEUTRAL COLOR	PLAIN CEMENT ROUGH FINISH PAINTED GRAY COLOR	SLIP-RESISTANT OUTDOOR STAIR NOSING
MARK	(6)	(7)	(8)	(9)	(10)
SPECIFICATION	300mm X 600mm TOILET WALL TILES, PLAIN NEUTRAL COLOR	150mm CHB EXTERIOR WALL PLAIN CEMENT PLASTERED WITH ACRYTEX PAINT FINISH, COLOR: OFF-WHITE	150mm CHB EXTERIOR WALL PLAIN CEMENT PLASTERED WITH ACRYTEX PAINT FINISH, COLOR: BLUE	ALUMINUM METAL CLADDING ON METAL FRAMEWORK SUPPORT SYSTEM , COLOR: BLUE	ALUMINUM METAL CLADDING ON METAL FRAMEWORK SUPPORT SYSTEM COLOR: LIGHT GRAY
MARK	(11)				
SPECIFICATION	100mm CHB INTERIOR WALL PLAIN CEMENT PLASTERED WITH ACRYTEX PAINT FINISH, COLOR: CREAM/OFFWHITE				

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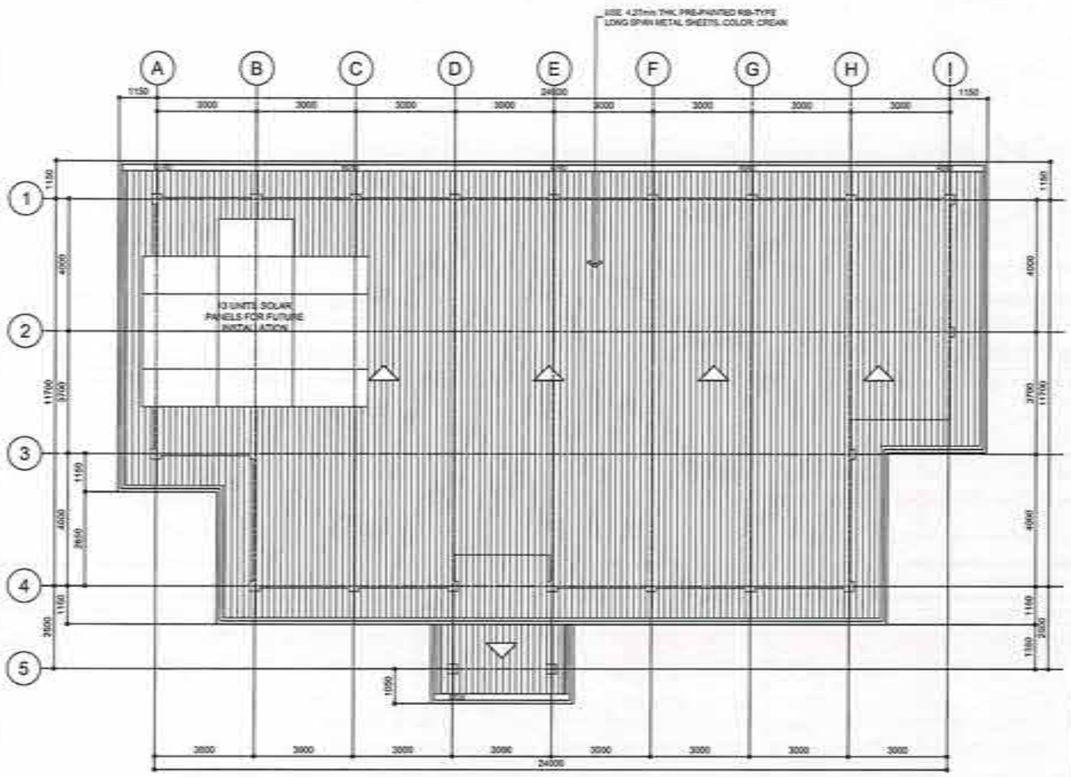
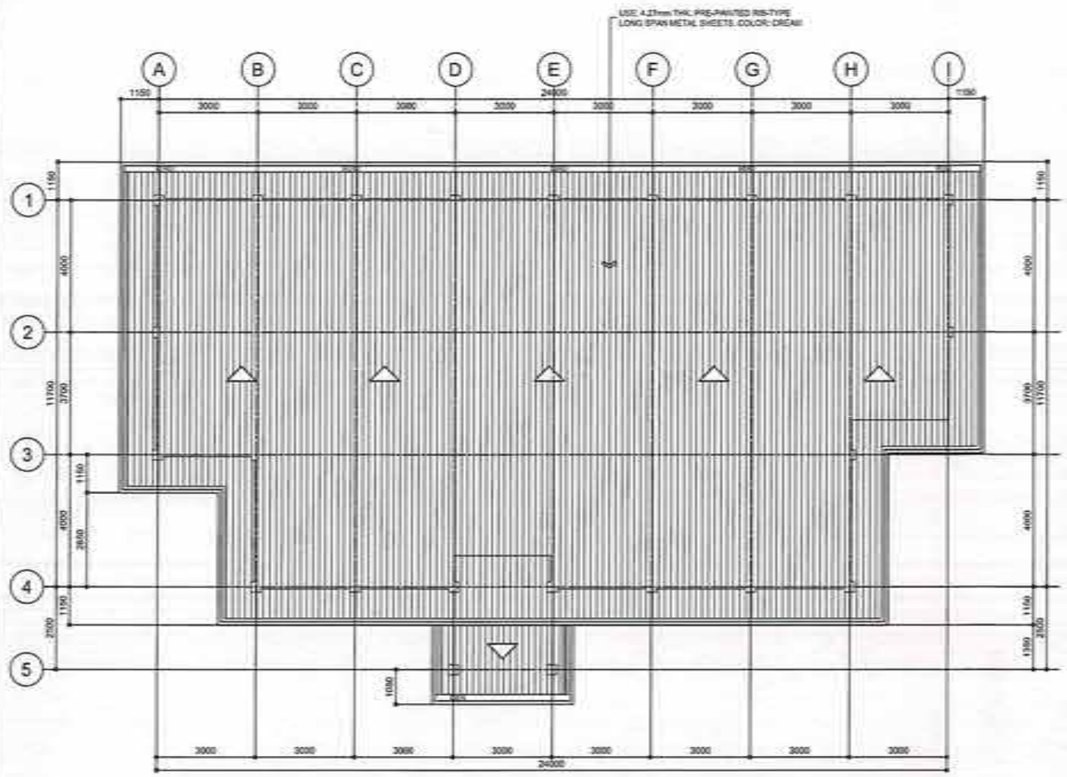
SHEET CONTENTS:
TYPICAL FRONT ELEVATION
TYPICAL LEFT-SIDE ELEVATION
TYPICAL REAR ELEVATION
TYPICAL RIGHT-SIDE ELEVATION
TYPICAL LONGITUDINAL SECTION A
TYPICAL CROSS SECTION B

PREPARED:	REVIEWED:	SUBMITTED:	RECOMMENDED:	APPROVED:	SET NO.	SHEET NO.
FERDINAND M. RAÑOSA, ARCHITECT II, DATE:	ALGIN A. GINGATAN, ENGINEER III, SECTION CHIEF, DATE:	JUDY ANN T. BERNARDINO, CHIEF PLANNING AND DESIGN DIVISION, DATE:	ADELITO B. CABALLERO, ASSISTANT REGIONAL DIRECTOR, DATE:	JUBY B. CORDON, REGIONAL DIRECTOR, DATE:	A 3|4	04 16

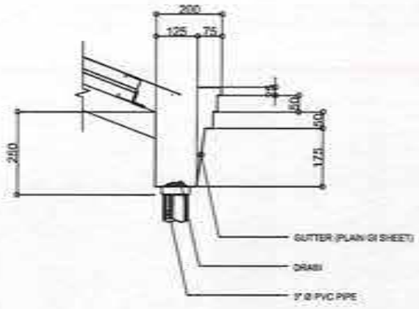
185-02\USERS\PUBLIC\MLRZ\2020\3-UNITS 701 ENLISTED BARRACKS, MATI\3-UNITS 701 ENLISTED BARRACKS, MATI.DWG



1 ROOF PLAN (UNIT 1&2)
SCALE

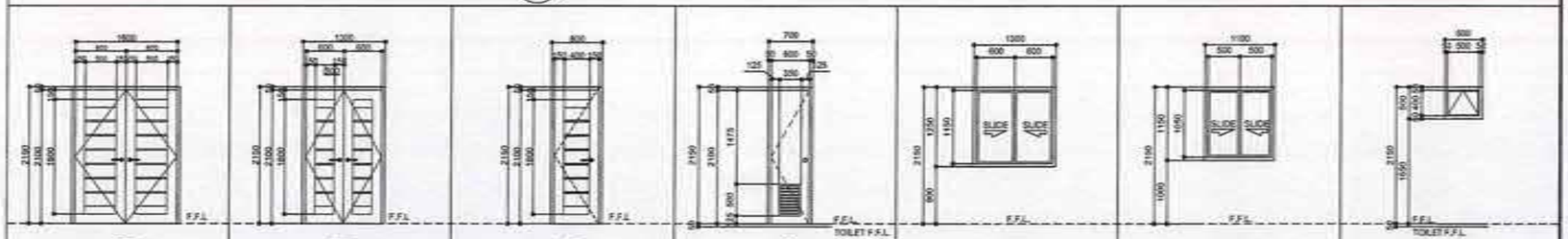


2 ROOF PLAN (UNIT 3)
SCALE



3 ROOF GUTTER DETAIL
SCALE

4 SCHEDULE OF DOORS AND WINDOWS
SCALE



	D 01	D 02	D 03	D 04	W 01	W 02	W 03
DESCRIPTION	PANEL TYPE SINGLE SWING DOUBLE DOOR, KD WOOD JAMB, PROVIDE COMPLETE HARDWARE ACCESSORIES	PANEL TYPE SINGLE SWING DOUBLE DOOR, KD WOOD JAMB, PROVIDE COMPLETE HARDWARE ACCESSORIES	PANEL TYPE SINGLE SWING DOOR, KD WOOD JAMB, PROVIDE COMPLETE HARDWARE ACCESSORIES	PVC WITH LOUVER TYPE SINGLE SWING DOOR, PVC DOOR JAMB, COMPLETE HARDWARE ACCESSORIES	SLIDING TYPE ALUMINUM WINDOW 50mm X 100mm ANALOK ALUMINUM FRAME WINDOW FRAME w/6-SWITCH FOR GLASS HOLDING FRAME 6MM THK. GLASS	SLIDING TYPE ALUMINUM WINDOW 50mm X 100mm ANALOK ALUMINUM FRAME WINDOW FRAME w/6-SWITCH FOR GLASS HOLDING FRAME 6MM THK. GLASS	AWNING TYPE ALUMINUM WINDOW 50mm X 100mm ANALOK ALUMINUM FRAME WINDOW FRAME w/6-SWITCH FOR GLASS HOLDING FRAME 6MM THK. GLASS
LOCATION	ENTRANCE PORCH	LANAI	BEDROOMS, KITCHEN AREA, ELECTRICAL ROOM (UNIT 1)	BEDROOM T&Bs WASHING AREA C.R	BEDROOMS, DINING AREA	KITCHEN AREA	WASHING AREA C.R, ELECTRICAL ROOM (UNIT 1) BEDROOM / HALLWAY (UNIT 2&3)
QUANTITY	3 SETS (FOR ALL UNITS)	3 SETS (FOR ALL UNITS)	42 SETS (FOR ALL UNITS)	39 SETS (FOR ALL UNITS)	39 SETS (FOR ALL UNITS)	3 SETS (FOR ALL UNITS)	9 SETS (FOR ALL UNITS)

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE NO. XI
GOV. CHAVEZ COR. R. MAGSAYSAY AVENUE, DAVAO CITY

PROJECT NAME AND LOCATION	SHEET CONTENTS	PREPARED	REVIEWED	SUBMITTED	RECOMMENDED	APPROVED	SET NO.	SHEET NO.
CONSTRUCTION OF 3-UNITS 701BDE ENLISTED PERSONNEL BARRACKS, 701st INFANTRY BRIGADE, SITIO MAGAY, BARANGAY DON MARTIN MARUNDAN, MATI CITY, DAVAO ORIENTAL	ROOF PLAN (UNIT 1&2) ROOF PLAN (UNIT 3) ROOF GUTTER DETAIL SCHEDULE OF DOORS AND WINDOWS	FERDINAND M. RAÑOSA ARCHITECT II DATE:	ALGIN A. GINGATAN ENGINEER III, SECTION CHIEF DATE:	JUDY ANN T. BERNARDINO CHIEF, PLANNING AND DESIGN DIVISION DATE:	ROBERTO B. CABALLERO ASSISTANT REGIONAL DIRECTOR DATE:	JUBY S. CORDON REGIONAL DIRECTOR DATE:	A 4 4	05 16

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GENERAL NOTES & STANDARDS

GENERAL

1. IN THE INTERPRETATION OF THESE DRAWINGS INDICATED DIMENSIONS SHALL GOVERN ALL DIMENSIONS, DISTANCES AND SIZES SHALL NOT BE SCALED FOR CONSTRUCTION PURPOSES.
2. UNLESS OTHERWISE SPECIFIED ON PLANS, ALL DIMENSIONS ARE IN METERS.

DESIGN CRITERIA

I. DESIGN SPECIFICATION

ALL DESIGN SHALL CONFORM TO NATIONAL STRUCTURAL CODE OF THE PHILIPPINES (NSCP) FOR BUILDINGS, TOWERS & OTHER VERTICAL STRUCTURES, 7th EDITION 2015, WHICH INCLUDES SEISMIC DESIGN.

2. LOADINGS

A. LIVE LOAD
- (1) ROOF = 0.60 kPa
- (2) FLOOR = 2.40 kPa
- (3) TOILET = 2.40 kPa
- (4) STAIRS = 2.40 kPa

B. DEAD LOAD
- (1) CONCRETE = 24.0 kN/m^3
- (2) STEEL = 76.93 kN/m^3
- (3) CHB = 2.73 kPa
- (4) STEEL DECK = 0.08 kPa
- (5) CEILING = 0.38 kPa
- (6) TILES = 0.96 kPa

C. WIND LOAD

$P = Ce\ Cq\ Qs\ I$

where:
- P = ACTUAL WIND PRESS.
- Ce = GUST FACTOR COEFF. = 0.67
- Cq = PRESSURE COEFF. = 0.30 INWARD = 0.70 OUTWARD
- Qs = 1.0 kPa
- I = OCCUPANCY FAC.=1.5

D. SEISMIC LOAD

$$V = \frac{ZIC(W)}{Rw}$$

where:
- V = TOTAL BASE SHEAR
- Z = SEISMIC ZONE FACTOR = 0.40
- I = IMPORTANCE FACTOR = 1.25
- Rw = NUMERICAL COEFF. = 8.5
- W = TOTAL DEAD WEIGHT OF BLDG.
- C = NUMERICAL COEFF. DETERMINATION
- $C = \frac{1.25\ S}{T^{2/3}} < 2.75$
- S = SITE COEFF. = 1.0
- T = FUNDAMENTAL PERIOD OF VIBRATION

NOTES ON FOUNDATION:

1. IN CASE THE ACTUAL SOIL BEARING PRESSURE IS FOUND LESS THN THE ALLOWABLE VALUE 96 KPa, NOTIFY THE DIR. OF DPWH REGIONAL OFFICE XI FOR PROPER DESIGN OF FOOTING
2. NO FOOTING SHALL REST ON FILL.

MATERIALS

I. CONCRETE

UNLESS INDICATED OTHERWISE ON PLANS, THE CONCRETE CLASS AND STRENGTH SHALL BE AS FOLLOWS:

STRUCTURAL MEMBER	CLASS	28-DAY CYLINDER STRENGTH	
		MPa	PSI
FOOTINGS AND TIED BEAMS	A	21.00	3,000
WALL PARTITIONS		17.24	2,500
COLUMNS, BEAMS AND SLABS		21.00	3,000

2. REINFORCING STEEL

(a) REINFORCING STEEL SHALL CONFORM TO AASHTO M31 (ASTM A615), GRADE 40, DEFORMED WITH MIN. YIELD STRENGTH, fy=276 MPa (40,000 PSI) FOR BARS 16mm ø OR SMALLER & GRADE 60 WITH MIN. YIELD STRENGTH, fy=414MPa (60,000 PSI) FOR LARGER THAN 16mmø.

(b) REINFORCING STEEL SHALL BE FREE OF MILL SCALES,OIL OR ANY SUBSTANCES WHICH WILL WEAKEN THE BOND WITH CONCRETE.

3. STRUCTURAL STEEL, BOLTS AND WELDS

MATERIAL	SPECIFICATION
TRUSSES, PURLINS, PLATES, BRACINGS, ETC.	ASTM A-36 fy = 248 MPa
BOLTS	ASTM A-307 fv = 69 MPa; ft = 96.60 MPa
WELDS	E = 70xx ELECTRODES fv = 96 MPa

CONSTRUCTION

CONSTRUCTION SPECIFICATION: 1995 DPWH STANDARD SPECIFICATIONS FOR PUBLIC WORKS STRUCTURES (VOL. II AND VOL. III)

1. SETTING OUT

THE SETTING OUT AND THE ELEVATIONS OF THE DIFFERENT COMPONENTS OF THE STRUCTURE SHALL BE APPROVED BY THE ENGINEER PRIOR TO THE START OF ANY CONSTRUCTION WORK.

2. REINFORCED CONCRETE

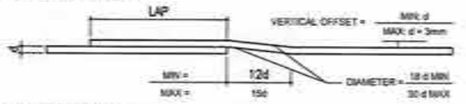
a. CONCRETE MIX AND PLACING
- (1) DESIGN OF CONCRETE MIX SHALL MEET THE DESIGN CONCRETE STRENGTH GIVEN UNDER ITEM 1 OF MATERIALS.
- (2) CONCRETE SHALL BE DEPOSITED, VIBRATED AND CURED IN ACCORDANCE WITH THE SPECIFICATIONS
- (3) THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL PLACING SEQUENCES FOR ALL CONCRETING WORK.

2. REINFORCED CONCRETE

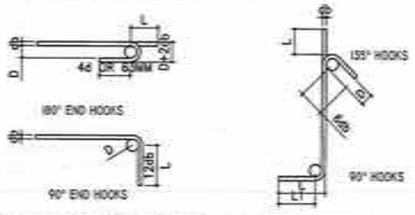
A. CONCRETE MIX AND PLACING
- (1) DESIGN OF CONCRETE MIX SHALL MEET THE DESIGN CONCRETE STRENGTH GIVEN UNDER ITEM 1 OF MATERIALS.
- (2) CONCRETE SHALL BE DEPOSITED, VIBRATED AND CURED IN ACCORDANCE WITH THE SPECIFICATIONS
- (3) THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL PLACING SEQUENCES FOR ALL CONCRETING WORK.

B. BAR BENDING, SPLICING AND PLACING
- (1) THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL OF SHOP DRAWINGS INDICATING THE BENDING, CUTTING, SPLICING AND INSTALLATION OF ALL REINFORCING BARS.
- (2) BARS SHALL BE BENT COLD, BARS PARTIALLY EMBEDDED IN CONCRETE SHALL NOT BE FIELD BENT UNLESS PERMITTED BY THE ENGINEER.
- (3) BAR SPLICING NOT INDICATED ON DRAWINGS SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.
- (4) WELDED SPLICES, IF APPROVED BY THE ENGINEER, SHALL DEVELOP IN TENSION AT LEAST 125% OF THE SPECIFIED YIELD STRENGTH OF BARS.
- (5) NOT MORE THAN 50% OF THE BARS AT ANY ONE SECTION SHALL BE SPLICED.
- (6) UNLESS OTHERWISE SHOWN ON DRAWINGS, THE CLEAR DIST. BET. PARALLEL BARS IN A LAYER SHALL NOT BE LESS THAN 1.5 TIMES THE NOM. DIAM. OF THE BAR NOR LESS THAN 1.5 TIMES THE MAX. SIZE OF COARSE AGGREGATE, THE CLEAR DIST. BET. LAYERS SHALL NOT BE LESS THAN 25mm NOR ONE BAR DIAMETER. THE BARS IN THE UPPER LAYER SHALL BE PLACED DIRECTLY ABOVE THOSE IN THE BOTTOM LAYER.

(7) CRANKED SPLICES



(8) HOOKS & BENTS
- ALL REINFORCEMENT SHALL BE BENT COLD UNLESS OTHERWISE PERMITTED BY THE STRUCT. ENGR.
- REINFORCEMENT PARTIALLY EMBEDDED IN CONCRETE SHALL NOT BE FILLED BENT, EXCEPT AS SHOWN IN THE DESIGN DRAWINGS OR PERMITTED BY THE STRUCTURAL ENGINEER.
- TIES & CLOSE STIRRUPS MUST BE BENT AT 135°



PIN DIAMETER: D=6d FOR #10 THRU #25, D=8d FOR #28, #32 AND #36
PIN DIAMETER: D=8d FOR #10 THRU #25, D=8d FOR #28, #32 AND #36

MAIN BAR END HOOKS (ALL GRADES)

BAR SIZE (DEFORMED)	DIAMETER (MM)	180° HOOK		90° HOOK
		D = 3db	L	L
10MMØ	60	75	125	150
12MMØ	72	100	150	200
16MMØ	95	125	175	250
20MMØ	115	150	200	300
25MMØ	150	200	250	450
28MMØ	240	300	350	550
32MMØ	300	335	450	600

STIRRUPS AND TIE HOOKS (ALL GRADES)

BAR SIZE (DEFORMED)	DIAMETER (MM)	180° HOOK		90° HOOK
		D = 3db	L	L
10MMØ	40	125	85	100
12MMØ	50	185	115	115
16MMØ	65	200	140	150
20MMØ	115	230	165	300
25MMØ	150	365	230	405

C. CONCRETE COVER TO REINFORCEMENT

MINIMUM CONCRETE COVER TO REINFORCEMENT SHALL BE 75mm UNLESS SHOWN OTHERWISE ON DRAWINGS.

D. CONSTRUCTION JOINT
- (1) THE POSITION AND FORM OF ANY CONSTRUCTION JOINTS SHALL BE AS SHOWN ON DRAWINGS OR AS AGREED WITH THE ENGINEER.
- (2) THE INTERFACE BETWEEN THE FIRST AND SECOND POUR OF CONCRETE SHALL BE ROUGHED WITH AN AMPLITUDE OF 6mm MINIMUM.

E. FALSEWORK

ALL FALSEWORK SHALL BE DESIGNED BY THE CONTRACTOR SUBJECT TO THE APPROVAL BY THE ENGINEER. THE FALSEWORK SHALL BE REMOVED ONLY AS DIRECTED BY THE ENGINEER.

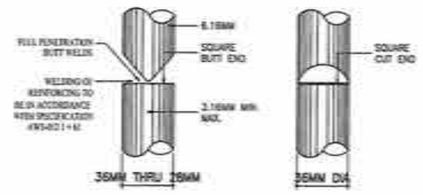
F. FORMWORK

FORMWORKS SHALL BE CONSTRUCTED SUCH THAT IT WILL NOT YIELD UNDER THE LOAD AND SHALL BE AS TO AVOID THE FORMATION OF FINE.

3. STRUCTURAL STEEL
- a. IN ACTUAL FABRICATION OF STEEL TRUSSES, MEMBERS MEETING AT A POINT SHALL HAVE THEIR GRAVITY AXIS INTERSECT AS NEARLY AS PRACTICABLE AT A COMMON POINT.
- b. STRUCTURAL STEEL TO BE USED FOR FABRICATION AND/ERECTION OF THIS STRUCTURE SHALL COMPLY WITH ALL THE PERTINENT PROVISION OF AISC SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDING 1980, 8TH EDITION
- c. ALL STRUCTURAL STEEL SHAPES SHALL BE ASTM A-36 STRUCTURAL STEEL UNLESS OTHERWISE INDICATED.
- d. ALL WELDED CONNECTIONS SHALL DEVELOP THE FULL STRENGTH OF THE MEMBERS CONNECTED.
- e. ALL BOLTS USED UNLESS OTHERWISE SPECIFIED SHALL BE ASTM 307 BOLTS.
- f. THE CONTRACTOR SHALL PROVIDE TEMPORARY ERECTION BRACINGS AND SHORING, AND MAKE ACTUAL MEASUREMENTS IN THE FIELD PRIOR TO FABRICATION/INSTALLATION OF ALL TRUSSES.
- g. THE CONTRACTOR SHALL PREPARE AND SUBMIT SHOP DRAWINGS FOR ALL STRUCTURAL STEEL WORKS. THESE SHOP DRAWINGS SHALL BE APPROVED BY THE REG. DIR., DPWH R.O. XI BEFORE ANY FABRICATION COMMENCES.

NOTES ON WELDS

1 – USE E70xx ELECTRODES FOR ALL MEMBERS WELDED.
2 – WELDS SHALL DEVELOP THE FULL STRENGTH OF MEMBERS JOINED UNLESS OTHERWISE SHOWN OR DETAILED IN THE DRAWINGS.



4. CAST-IN-PLACE (COLUMNS, BEAMS & SLAB)
- a. THE CONTRACTOR SHALL SUBMIT DESIGN COMPUTATIONS AND SHOP DRAWINGS FOR ALL PRE CAST/PRE-STRESSED MEMBERS, DULY SIGNED AND SEALED BY A STRUCTURAL ENGINEER BEFORE ANY FABRICATION, ERECTION AND INSTALLATION COMMENCES. THESE SHOP DRAWINGS SHALL BE APPROVED BY THE REGIONAL DIRECTOR, DPWH R.O. XI.

5. CONCRETE HOLLOW BLOCK WALLS:
- 1 – UNLESS OTHERWISE SHOWN IN PLANS ALL CONCRETE HOLLOW BLOCKS AND CERAMIC BLOCKS SHALL BE REINFORCED AS SHOWN IN THE SCHEDULE OF CONCRETE HOLLOW BLOCKS AND CERAMIC BLOCK REINFORCEMENT
- 2 – PROVIDE 150MM X 300MM STIFFENER COLUMN REINFORCED WITH 4–12MM WITH 6MM TIES AT 150MM ON CENTER WHERE CONCRETE HOLLOW BLOCKS TERMINATES AND AT EVERY 3.00M OF CONCRETE HOLLOW BLOCK WALLS UNLESS NOTED IN STRUCTURAL PLANS.

SCHEDULE OF CONCRETE HOLLOW BLOCK AND CERAMIC BLOCK REINFORCEMENT

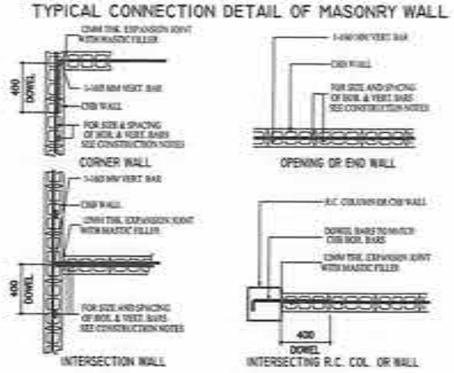
BLOCK THICKNESS	REINFORCEMENT		NOTES
	HORIZONTAL	VERTICAL	
75MM	10MM @ 400MM O.C.	10MM @ 400MM O.C.	A. MINIMUM LAPS AT SPLICE = 0.55M B. PROVIDE RIGHT ANGLED REINFORCEMENT AT CORNERS & ENDS C. WHERE CHB OR CON. BLK. WALL DOWELS FOR R.C. BEAMS AND WALL DOWELS WITH THE SAME SIZE AS VERT. OR HOR. REINFORCEMENTS SHALL BE PROVIDED
125MM	10MM @ 400MM O.C.	10MM @ 400MM O.C.	
150MM	10MM @ 400MM O.C.	10MM @ 400MM O.C.	
200MM	10MM @ 400MM O.C.	10MM @ 400MM O.C.	

REINFORCING CONCRETE LINTEL BEAM IN CONCRETE BLOCK WALLS

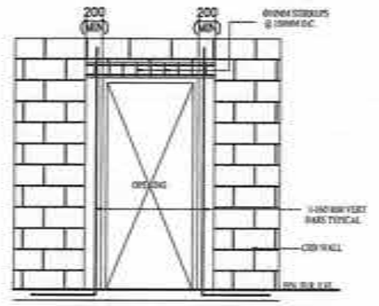
LINTEL IN BLOCK WALLS

CLEAR SPAN ('L')	TOTAL LENGTH (L + 0.40M)	MIN 'd' (MM)	REINFORCEMENTS		
			BOTTOM	TOP	STIRRUPS
1.20M 1.50M 1.80M	1.60M 1.90M 2.20M	140	1-Ø16 1-Ø16 1-Ø12	1-Ø10 1-Ø10 1-Ø12	Ø6MM @ 200MM Ø6MM @ 200MM Ø6MM @ 200MM
2.10M 2.40M 2.70M	2.50M 2.80M 3.10M	170	1-Ø16 1-Ø12 1-Ø16	1-Ø10 1-Ø10 1-Ø12	Ø6MM @ 200MM Ø6MM @ 200MM Ø6MM @ 200MM
3.00M 3.30M 3.60M	3.40M 3.70M 4.00M	200	1-Ø16 1-Ø16 1-Ø20	1-Ø12 1-Ø12 1-Ø12	Ø10MM @ 200MM Ø10MM @ 200MM Ø10MM @ 200MM

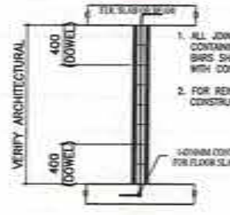
TYPICAL CONNECTION DETAIL OF MASONRY WALL



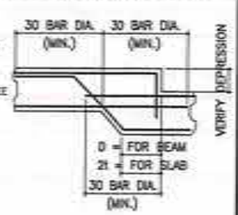
TYP. DET. OF LINTEL BEAM AT CHB WALL OPENING



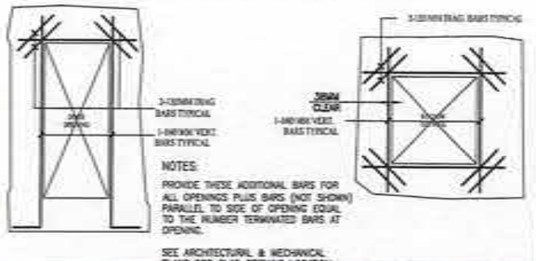
TYP. SECTION OF MASONRY PARTITION REINFORCEMENT



TYPICAL DETAIL FOR BEAM OR SLAB CHANGE SOFFIT



TYP. EXTERIOR WINDOW & DOOR OPENING



NOTES:

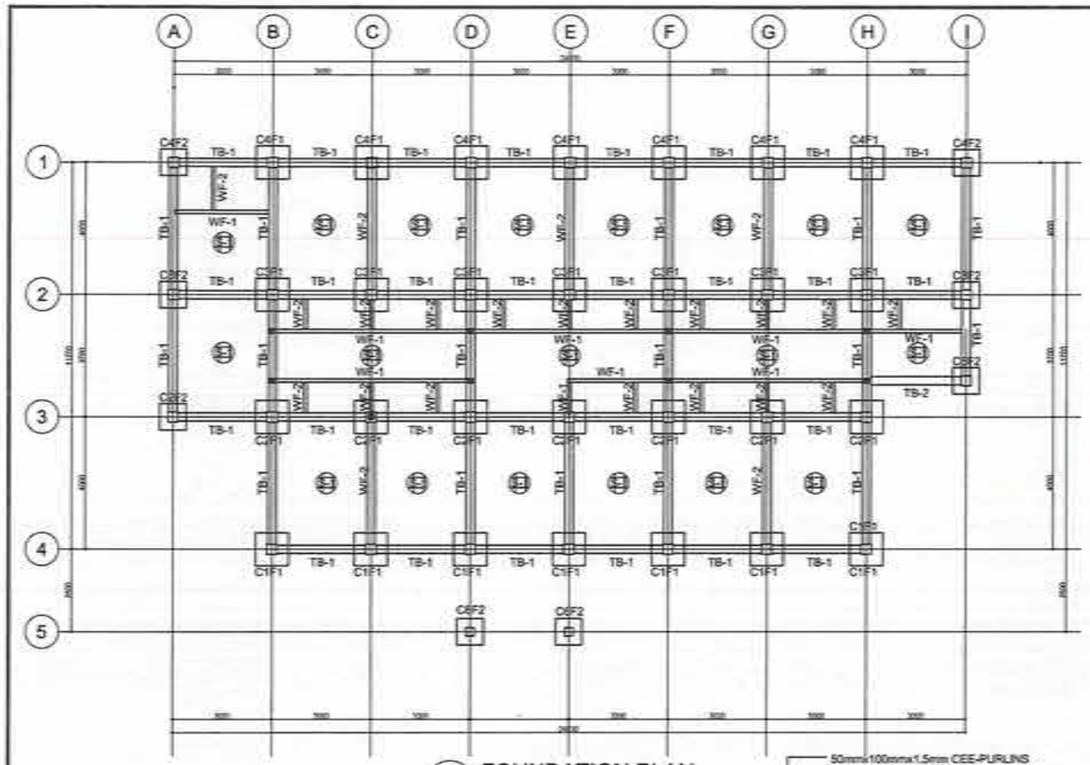
PROVIDE THESE ADDITIONAL BARS FOR ALL OPENINGS PLUS BARS (NOT SHOWN) PARALLEL TO SIDE OF OPENING EQUAL TO THE NUMBER TERMINATED BARS AT OPENING.

SEE ARCHITECTURAL & MECHANICAL PLANS FOR SLAB OPENING LOCATION

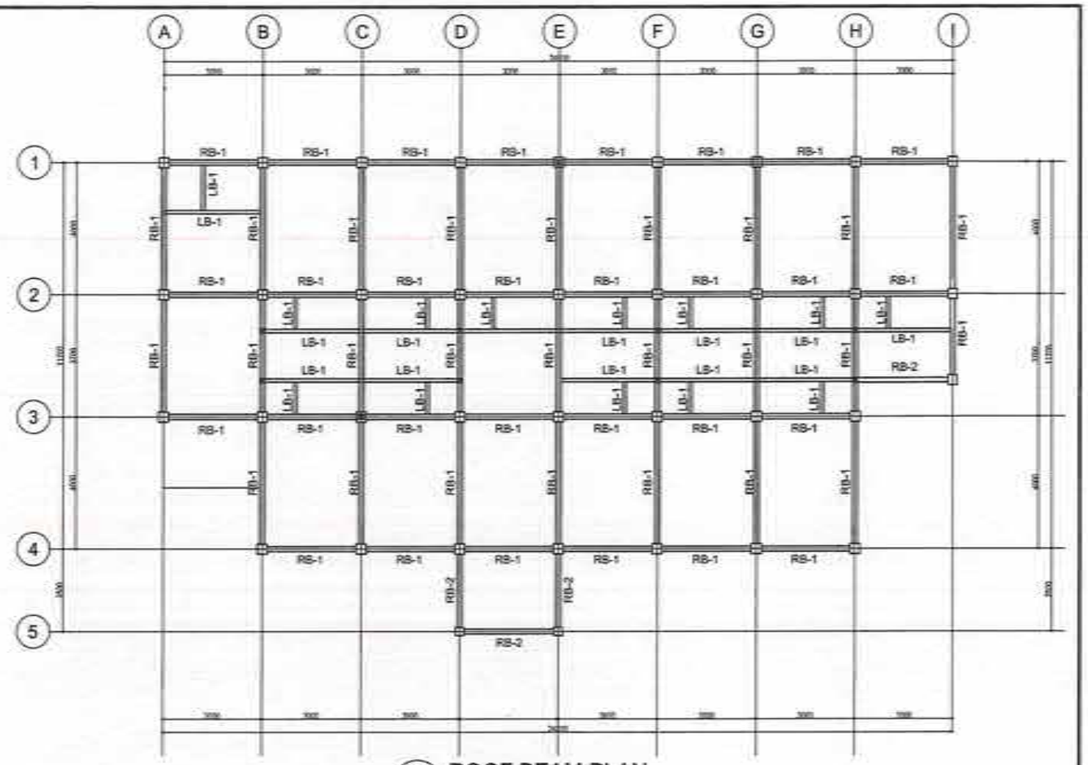
REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE NO. XI
DOV. CHAVEZ COR. R. MAGSAYSAY AVENUE, DAVAO CITY

PROJECT NAME AND LOCATION:	SHEET CONTENTS:	PREPARED:	REVIEWED:	SUBMITTED:	RECOMMENDED:	APPROVED:	SET NO.	SHEET NO.
CONSTRUCTION OF 3-UNITS 701BDE ENLISTED PERSONNEL BARRACKS, 701st INFANTRY BRIGADE, SITIO MAGAY, BARANGAY DON MARTIN MARUNDAN, MATI CITY, DAVAO ORIENTAL	GENERAL NOTES AND STANDARDS	JONAS IRVIN C. GALLEGO, Engineer II, DATE:	ALGIN A. GINGAT, Engineer III, Section Chief, DATE:	JUDITHANN T. BERNARDINO, CHIEF, PLANNING AND DESIGN DIVISION, DATE:	JOSEFITO B. CABALLERO, ASSISTANT REGIONAL DIRECTOR, DATE:	JUBY B. CORDON, REGIONAL DIRECTOR, DATE:	S 1 5	06 16

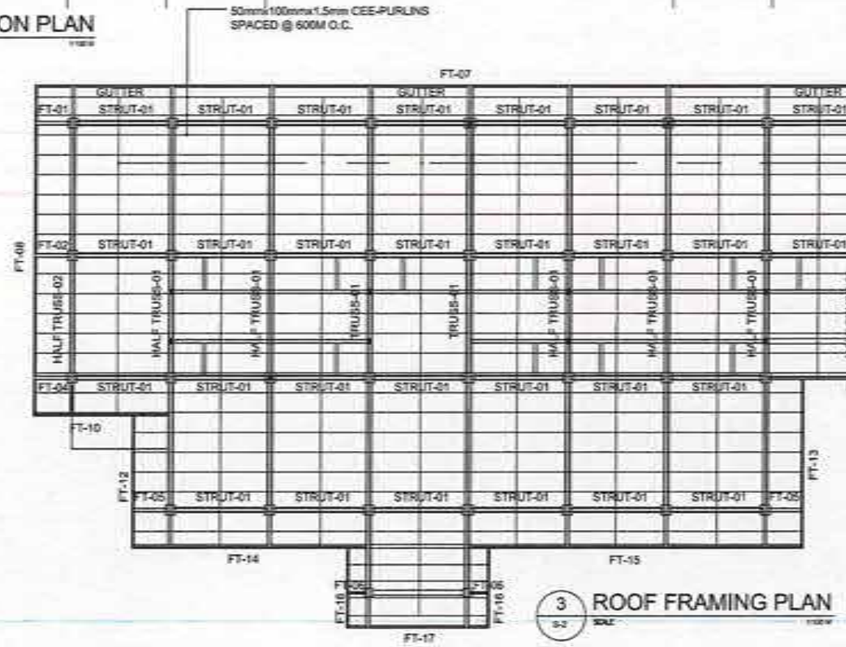
C:\USERS\ADMINISTRATOR\DESKTOP\STRUCTURAL MILITARY BARRACKS1.DWG



1 FOUNDATION PLAN
S-2 SCALE



2 ROOF BEAM PLAN
S-2 SCALE



3 ROOF FRAMING PLAN
S-2 SCALE

REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REGIONAL OFFICE NO. XI GOV. CHAVEZ COR. R. MAGSAYSAY AVENUE, DAVAO CITY	PROJECT NAME AND LOCATION: CONSTRUCTION OF 3-UNITS 701BDE ENLISTED PERSONNEL BARRACKS, 701st INFANTRY BRIGADE, SITIO MAGAY, BARANGAY DON MARTIN MARUNDAN, MATI CITY, DAVAO ORIENTAL	SHEET CONTENTS: FOUNDATION PLAN ROOF BEAM PLAN ROOF FRAMING PLAN	PREPARED: JONAS IRWIN C. GALLEGO ENGINEER II DATE:	REVIEWED: ALGIN A. GINGATAN ENGINEER III, SECTION CHIEF DATE:	SUBMITTED: JUDY ANN T. BERNARDINO CHIEF, PLANNING AND DESIGN DIVISION DATE:	RECOMMENDED: ADELITO B. CABALLERO ASSISTANT REGIONAL DIRECTOR DATE:	APPROVED: JUBY B. CORDON REGIONAL DIRECTOR DATE:	SET NO. S 2 | 5	SHEET NO. 07 16

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SCHEDULE OF FOOTINGS

CONCRETE COMPRESSIVE STRENGTH AT 14 DAYS f'c' = 2,000 psi
STEEL REINFORCEMENT ASTM615 GRADE 40, fy = 40,000 psi (FOR 16mm Ø & BELOW)
STEEL REINFORCEMENT ASTM615 GRADE 60, fy = 60,000 psi (FOR 20mm Ø &ABOVE)

BEAM MARK	FOOTING DIMENSIONS			EMBEDMENT DEPTH (m)	TOP BARS		BOTTOM BARS		REMARKS
	width, B	length, L	thickness		X-DIRECTION BARS	Y-DIRECTION BARS	X-DIRECTION BARS	Y-DIRECTION BARS	
F1	1.80	1.80	0.30	1.50	-	-	5-16mm Ø	5-16mm Ø	ISOLATE FOOTING
F2	0.80	0.80	0.30	1.50	-	-	4-16mm Ø	4-16mm Ø	ISOLATE FOOTING

SCHEDULE OF BEAMS

CONCRETE COMPRESSIVE STRENGTH AT 14 DAYS f'c' = 2,000 psi
STEEL REINFORCEMENT ASTM615 GRADE 40, fy = 40,000 psi (FOR 16mm Ø & BELOW)
STEEL REINFORCEMENT ASTM615 GRADE 60, fy = 60,000 psi (FOR 20mm Ø &ABOVE)

BEAM MARK	BEAM CROSS SECTION		LEFT SUPPORT		MIDSPAN		RIGHT SUPPORT		STIRRUPS (10mm dia)
	width	depth	TOP BARS	BOTTOM BARS	TOP BARS	BOTTOM BARS	TOP BARS	BOTTOM BARS	
RB-1	150	250	3-12mm Ø	2-12mm Ø	2-12mm Ø	2-12mm Ø	3-12mm Ø	2-12mm Ø	2@50, 4@100, Rest @150
RB-2	150	300	3-12mm Ø	2-12mm Ø	2-12mm Ø	2-12mm Ø	3-12mm Ø	2-12mm Ø	2@50, 4@100, Rest @150
TB-1	250	300	3-16mm Ø	2-16mm Ø	2-16mm Ø	2-16mm Ø	3-16mm Ø	2-16mm Ø	2@50, 4@200, Rest @150
TB-2	200	300	3-16mm Ø	2-16mm Ø	2-16mm Ø	2-16mm Ø	3-16mm Ø	2-16mm Ø	2@50, 4@100, Rest @150
LB-1	100	150	1-12mm Ø	1-12mm Ø	1-12mm Ø	1-12mm Ø	1-12mm Ø	1-12mm Ø	2@50, 4@100, Rest @150

SCHEDULE OF COLUMNS

	C1	C2	C3	C4	C5	C6
ROOF BEAM TO TRUSS						
HEIGHT	600mm	675mm	750mm	825mm	900mm	
SECTION	300 X 300	300 X 300	300 X 300	300 X 300	300 X 300	
VERT. BARS	8 - 16mm Ø	8 - 16mm Ø	8 - 16mm Ø	8 - 16mm Ø	8 - 16mm Ø	
JOINT REINF	16mmØ @ 100mm O.C.	16mmØ @ 100mm O.C.	16mmØ @ 100mm O.C.	16mmØ @ 100mm O.C.	16mmØ @ 100mm O.C.	
TIES	2 SETS - 10mmØ @ 100mm	2 SETS - 10mmØ @ 100mm	2 SETS - 10mmØ @ 100mm	2 SETS - 10mmØ @ 100mm	2 SETS - 10mmØ @ 100mm	
FOUNDATION TO ROOF BEAM (LOWER)						
SECTION	300 X 300	300 X 300	300 X 300	300 X 300	300 X 300	250 X 250
VERT. BARS	8 - 16mm Ø	8 - 16mm Ø	8 - 16mm Ø	8 - 16mm Ø	8 - 16mm Ø	4 - 16mm Ø
JOINT REINF	16mmØ @ 100mm O.C.	16mmØ @ 100mm O.C.	16mmØ @ 100mm O.C.	16mmØ @ 100mm O.C.	16mmØ @ 100mm O.C.	10mmØ @ 100mm O.C.
TIES	2 SETS - 10mmØ @ 100mm	2 SETS - 10mmØ @ 100mm	2 SETS - 10mmØ @ 100mm	2 SETS - 10mmØ @ 100mm	2 SETS - 10mmØ @ 100mm	1 SET - 10mmØ @ 100mm

LINTEL BEAM (LB-1)

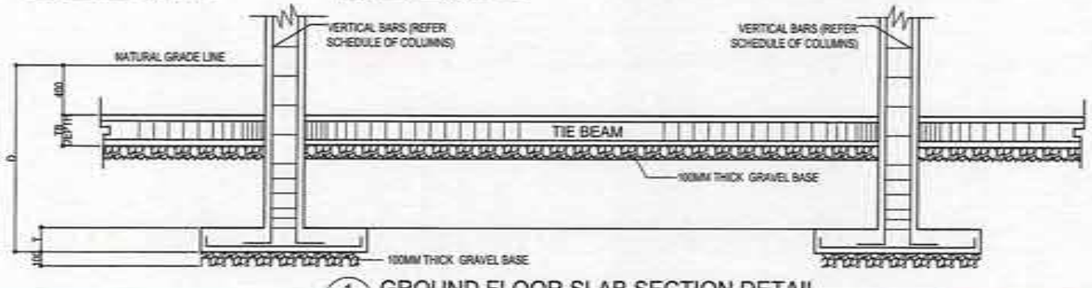
100 X 200
2 - 12mm Ø
10mmØ @ 2-50mm, 4-100mm, REST @ 150mm TIES

STIFFINER COLUMN (SC-1)

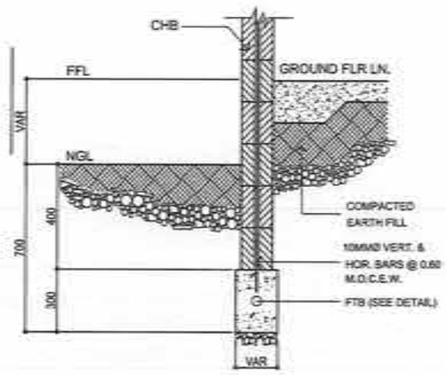
150 X 150
2 - 10mm Ø
10mmØ @ 3-50mm, 4-100mm, REST @ 150mm TIES

SCHEDULE OF GROUND FLOOR SLAB

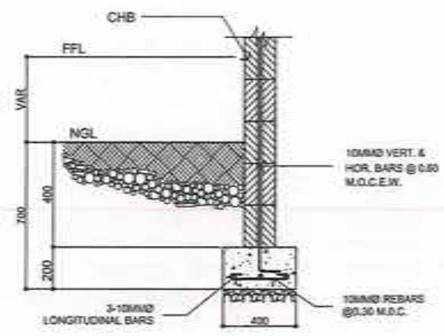
SLAB MARK	SLAB DETAILS		SPACING @ X,Y
	THICKNESS	BAR dia.	
S-1	100 MM	10 MM dia.	0.50 M BOTHWAYS



1 S-3 GROUND FLOOR SLAB SECTION DETAIL
SCALE: NTS

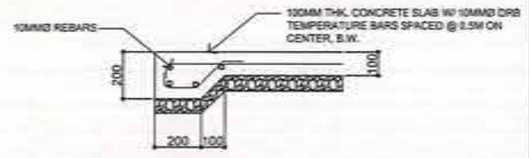


2 S-3 TIE BEAM SECTION DETAIL
SCALE: NTS

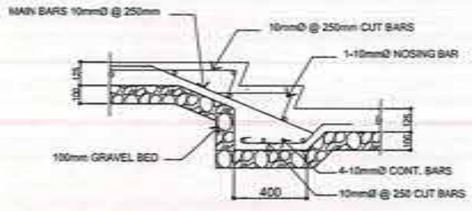


3 S-3 WF-1 SECTION DETAIL
SCALE: NTS

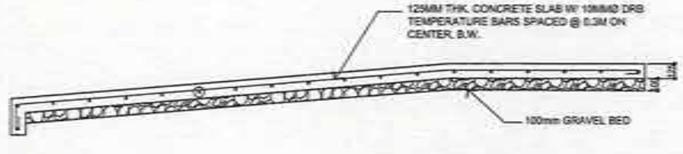
5 S-3 WF-2 SECTION DETAIL
SCALE: NTS



4 S-3 TYPICAL SLAB DETAIL
SCALE: NTS



6 S-3 DETAIL OF STAIR ON GRADE
SCALE: NTS



7 S-3 RAMP SLAB DETAIL
SCALE: NTS

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE NO. XI
GOV. CHAVEZ COR. R. MAGSAYSAY AVENUE, DAVAO CITY

PROJECT NAME AND LOCATION: CONSTRUCTION OF 3-UNITS 701BDE ENLISTED PERSONNEL BARRACKS, 701st INFANTRY BRIGADE, SITIO MAGAY, BARANGAY DON MARTIN MARUNDAN, MATI CITY, DAVAO ORIENTAL

SHEET CONTENTS: SCHEDULE OF FOOTINGS; SCHEDULE OF BEAMS; SCHEDULE OF COLUMNS; SCHEDULE OF GROUND FLOOR SLAB; GROUND FLOOR SLAB SECTION DETAIL; TIE BEAM SECTION DETAIL; WF-1 SECTION DETAIL; TYPICAL SLAB DETAIL; WF-2 SECTION DETAIL; DETAIL OF STAIR ON GRADE; RAMP SLAB DETAIL

PREPARED:	REVIEWED:	SUBMITTED:	RECOMMENDED:	APPROVED:	SET NO.	SHEET NO.
JONAS IRVIN C. GALLEGO, ENGINEER II	ALGIN A. GINEZ, ENGINEER III, SECTION CHIEF	JUDY ANN T. BERNARDINO, CHIEF, PLANNING AND DESIGN DIVISION	JOSELITO B. CABALLERO, ASSISTANT REGIONAL DIRECTOR	JUSY B. CORDON, REGIONAL DIRECTOR	S 3 5	08 16
DATE:	DATE:	DATE:	DATE:	DATE:		

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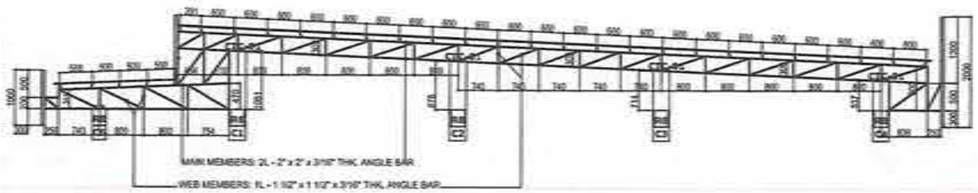
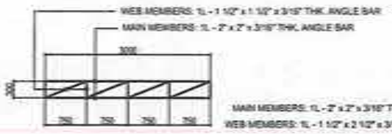
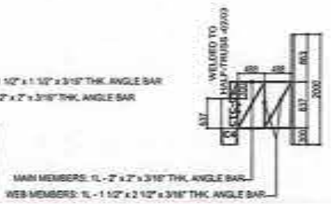


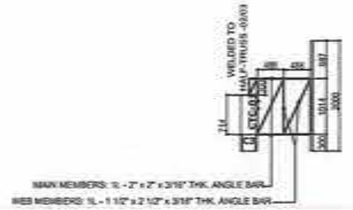
TRUSS-01



STRUT-01



FLAT TRUSS-01



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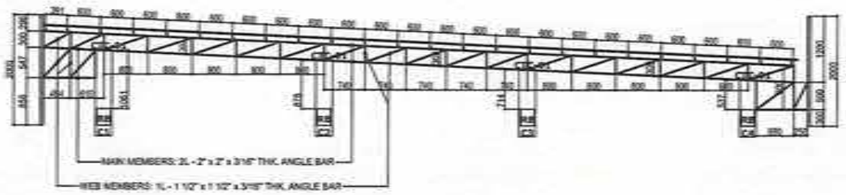
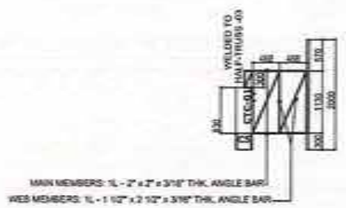


HALF-TRUSS-01



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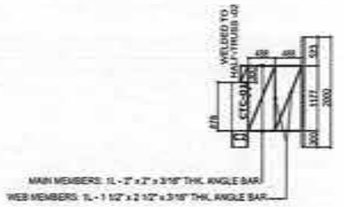

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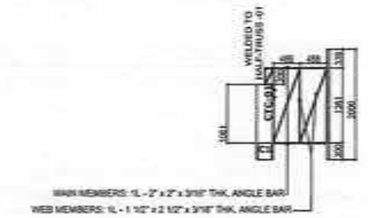

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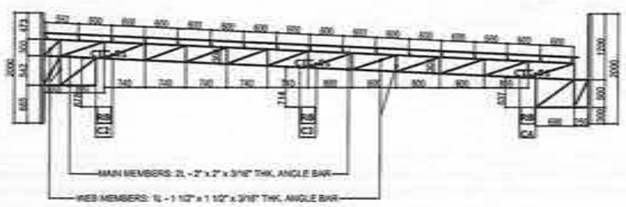
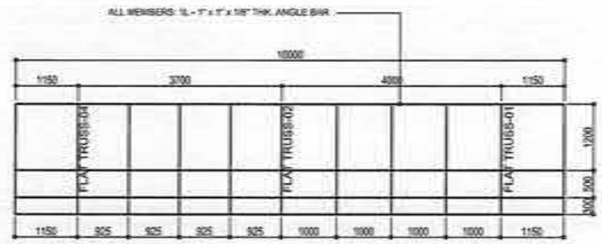
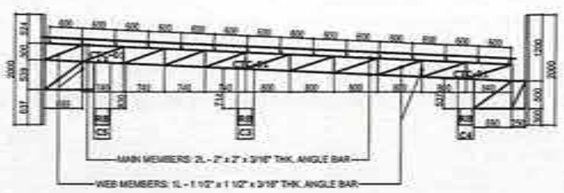


HALF-TRUSS-02

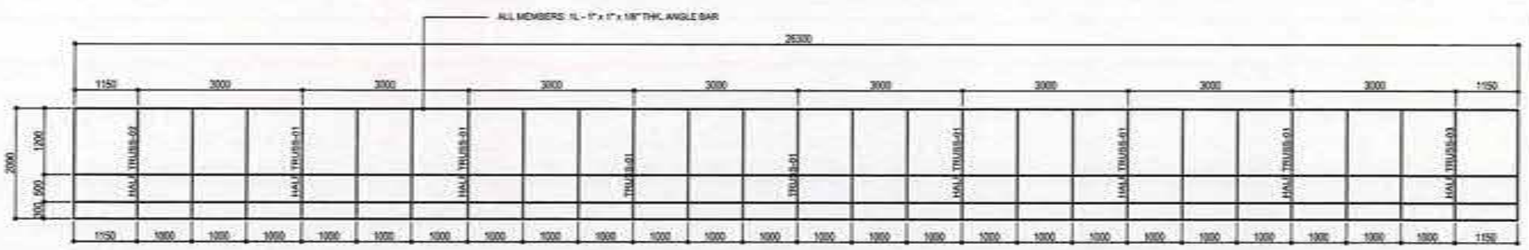
FLAT TRUSS-06



FLAT TRUSS-08



HALF-TRUSS-03



FLAT TRUSS-07

1 TRUSS DETAILS 1
SCALE

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE NO. XI
GOV. CHAVEZ COR. R. MAGSAYSAY AVENUE, DAVAO CITY

PROJECT NAME AND LOCATION: CONSTRUCTION OF 3-UNITS 701BDE ENLISTED PERSONNEL BARRACKS, 701st INFANTRY BRIGADE, SITIO MAGAY, BARANGAY DON MARTIN MARUNDAN, MATI CITY, DAVAO ORIENTAL

SHEET CONTENTS: TRUSS DETAILS 1

PREPARED: JONAS RYAN C. DELLEGO, ENGINEER V — DATE:

REVIEWED: ALGIN A. GINGATAN, ENGINEER III, SECTION CHIEF — DATE:

CHECKED: JUDY ANN T. BERNARDINO, CHIEF, PLANNING AND DESIGN DIVISION — DATE:

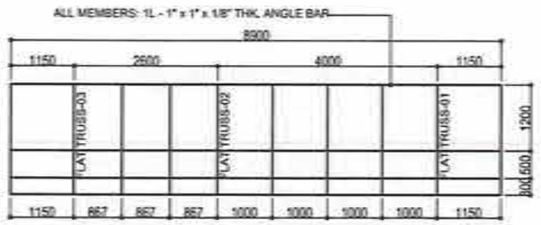
RECOMMENDED: ENGR. LITO B. CABALLERO, ASSISTANT REGIONAL DIRECTOR — DATE:

APPROVED: JUBY B. CORDON, REGIONAL DIRECTOR — DATE:

SET NO. S 4 5

SHEET NO. 09 16

\\R0-02\USERS\PUBLIC\URZ\2025\3-UNITS 701 ENLISTED BARRACKS, MATI\STRUCTURAL\MILITARY BARRACKS3.DWG



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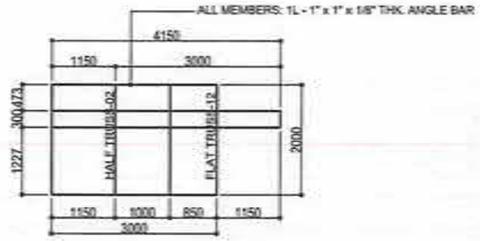

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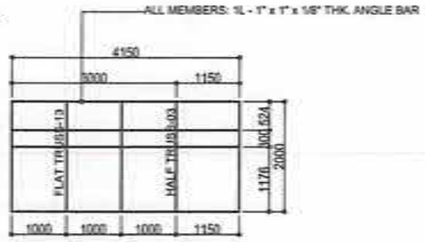
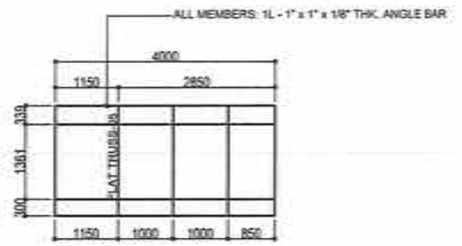


FLAT TRUSS-11



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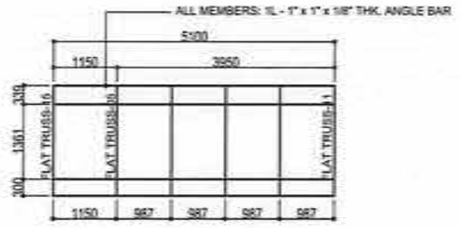

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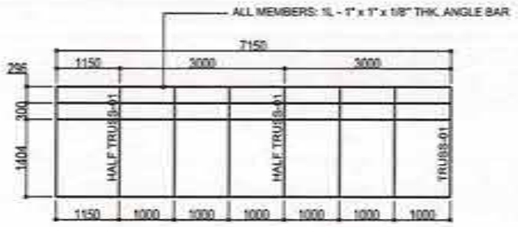

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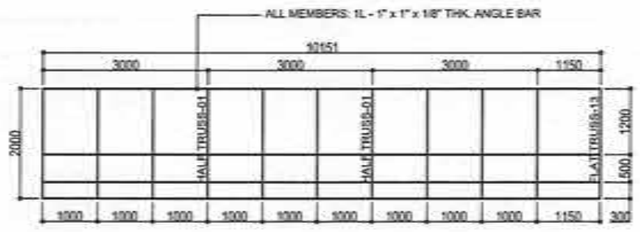
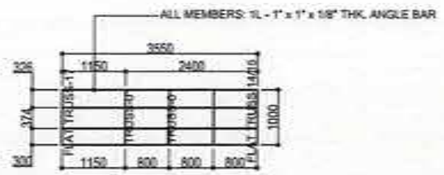
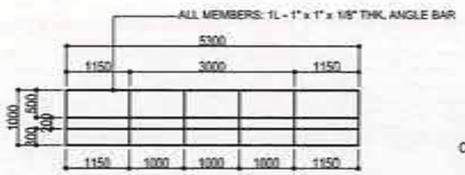


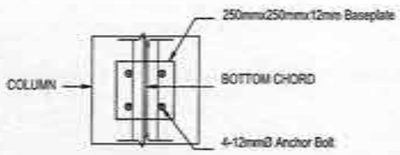
FLAT TRUSS-15



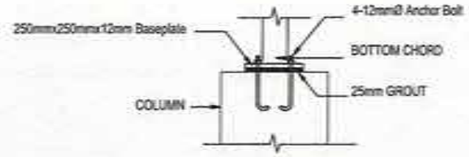
FLAT TRUSS-16



FLAT TRUSS-17



TOP VIEW



SIDE VIEW

1 S-5 TRUSS DETAILS 2
SCALE: 1:50

2 S-5 COLUMN - TRUSS CONNECTION CTC-01
SCALE: 1:20

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE NO. XI
GOV. CHAVEZ COR. R. MAGSAYSAY AVENUE, DAVAO CITY

PROJECT NAME AND LOCATION:
CONSTRUCTION OF 3-UNITS 70/IBDE ENLISTED PERSONNEL BARRACKS, 701st INFANTRY BRIGADE, SITIO MAGAY, BARANGAY DON MARTIN MARUNDAN, MATI CITY, DAVAO ORIENTAL

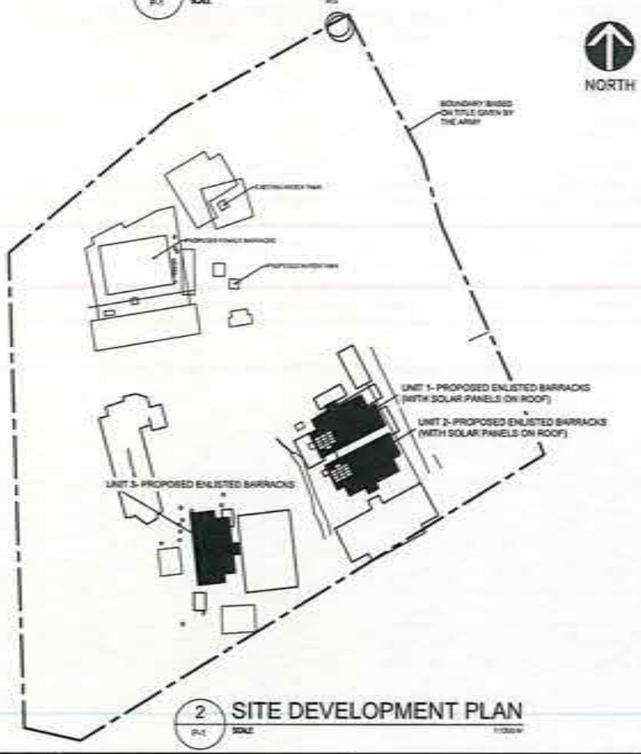
SHEET CONTENTS:
TRUSS DETAILS 2
COLUMN-TRUSS CONNECTION CTC-01

PREPARED	REVIEWED	SUBMITTED	RECOMMENDED	APPROVED	SET NO.	SHEET NO.
JONAS IRVIN C. GALLEGO, ENGINEER I	ALGIN A. GINGATAN, ENGINEER III, SECTION CHIEF	JUDIANN T. BERNARDINO, CHIEF, PLANNING AND DESIGN DIVISION	JOSELITO B. CABALLERO, ASSISTANT REGIONAL DIRECTOR	JUBY B. CORDON, REGIONAL DIRECTOR	S 5 5	10 16
DATE:	DATE:	DATE:	DATE:	DATE:		

\\BS-02\USERS\PUBLIC\HJRZ\2025\3-UNITS 701 ENLISTED BARRACKS, MATI\STRUCTURAL\MILITARY BARRACKS3.DWG

NORTH

1 VICINITY MAP
P-1 SCALE NTS



2 SITE DEVELOPMENT PLAN
P-1 SCALE 1:1000 M

GENERAL NOTES

1. ALL PLUMBING WORKS INCLUDED HEREIN SHALL BE EXECUTED ACCORDING TO THE PROVISION OF THE NATIONAL PLUMBING CODE OF THE PHILIPPINES. THE NATIONAL CODE AND THE RULES AND REGULATIONS OF THE CITY/ MUNICIPALITY.

2. COORDINATE THE DRAWINGS WITH OTHER RELATED DRAWINGS. THE PLUMBING ENGINEER/MASTER PLUMBER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCY FOUND THEREIN.

3. ALL PIPES SHALL BE INSTALLED AS INDICATED ON THE PLANS ANY RELOCATIONS REQUIRED FOR PROPER EXECUTIONS OF OTHER TRADES SHALL BE WITH THE PRIOR APPROVAL BY THE ARCHITECT/ ENGINEER.

4. ALL PIPING SHALL BE APPROVED STANDARD IN CONFORMITY WITH THE REQUIREMENT OF THE NATIONAL BUILDING CODE OF THE PHILIPPINES:
   A. FOR WATER LINES USE:
      1 INCH IN DIAMETER FOR MAIN LINE, UP FEED LINE AND DOWN FEED LINE
      3/4 INCH IN DIAMETER FOR BRANCHES
      1/2 INCH IN DIAMETER FOR FIXTURES
   B. FOR SANITARY LINES USE:
      2 INCHES IN DIAMETER PVC PIPE SCHEDULE 1000
      FOR LAVATORY, KITCHEN SINK, SINK, DRAIN BOWL, FLOOR DRAIN AND VENTILATION PIPES.

5. PROPOSED SANITARY UTILITIES SHALL CONFORM TO THE ACTUAL LOCATION, DEPTH AND INVERT ELEVATION OF ALL EXISTING PIPES AND STRUCTURES AS VERIFIED BY THE CONTRACTOR.

6. ALL SLOPES FOR HORIZONTAL SEWER LINES SHALL MAINTAIN 2 % AS MINIMUM UNLESS OTHERWISE SPECIFIED.

7. SIZE OF WATER SUPPLY PIPES TO FIXTURE SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS.

8. THE CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES AT THE SITE SUCH AS DISPOSAL POINT FOR SEWAGE, EFFLUENT, STORM DRAINAGE AND WATER LINE SERVICE CONNECTION POINT.

9. ALL PIPE SIZES ARE IN MILLIMETER NOMINAL INSIDE DIAMETER AND ALL DIMENSIONS ARE IN METER UNLESS OTHERWISE SPECIFIED.

10. ALL SEWER PIPES EMBEDDED ON GROUND AND BELOW CONCRETE SLAB SHALL BE PROVIDED WITH SAND BEDDING MATERIALS.

11. ALL FIXTURES FOR COMMON WASTE LINE SHALL BE PROVIDED WITH AIR CHAMBER AND MUST BE INDIVIDUALLY VENTED, UNLESS OTHERWISE INDICATED.

12. FONT SUPPLY SPOUT SHALL BE PLACED 0.20M FROM THE FONT FLOOR FINISH.

13. PROVIDE CLEANOUTS FOR EVERY CHANGE OF DIRECTION AND FOR EVERY 15 METERS HORIZONTAL RUN FOR SEWER & STORM DRAINAGE LINES.

14. SEPTIC VAULT SHALL BE MADE WATER TIGHT OF CONCRETE, AS WITH THE VAULTS INFLUENT (INLET) AND EFFLUENT (OUTLET) ARE SUBMERGED AND ARRANGED IN SUCH A WAY THAT NEITHER SLUDGE NOR SCUM SHALL BE UNDULY DISTURBED.

15. STORM DRAINAGE SHOULD BE REQUIRED TO COLLECT STORM WATER AND DISCHARGED TO AN APPROVED POINT OF DISPOSAL NOT IN CONFLICT WITH OTHER ORDINANCES OR REGULATIONS.

16. ALL DRAINAGE PIPES SHOULD BE GRADED PROPERLY OR INCLINED FOR A DOWNWARD GRAVITY, FLOW OF WATER TOWARDS THE MAIN SEWER LINE.

17. DRAINAGE PIPE SHOULD BE PROVIDED WITH ADEQUATE CLEANOUTS WHICH IS ACCESSIBLE FOR SERVICING OF REPAIR IN CASE OF STOPPAGE.

18. DRAINAGE SYSTEM SHALL BE PROVIDED WITH VENTILATION PIPE WHICH WILL CONVEY GASES TO THE ATMOSPHERE WHERE IT CAN DO NO HARM TO HUMAN HEALTH.

19. ALL PLUMBING WORKS SHALL BE DONE UNDER THE DIRECT OR IMMEDIATE SUPERVISION OF A DULY REGISTERED SANITARY ENGINEER OR PLUMBING ENGINEER/ MASTER PLUMBER.

GENERAL NOTES & SPECIFICATIONS:

1. ALL PLUMBING WORKS SHALL CONFORM WITH THE RULES AND REGULATIONS OF THE NATIONAL PLUMBING CODE

FOR WATER LINES

2. USE PPR PIPE 25 mm DIA FOR MAIN AND ENTRANCE PIPE AND 20 mm DIA FOR BRANCH AND FIXTURE PIPE

FOR SOIL LINES

3. USE PVC PIPE PLASTIC PIPE 50 mm DIA FOR VENTS AND FIXTURE PIPE, AND 100 mm DIA FOR MAIN AND 100 mm FOR WATER CLOSET
4. ALL MATERIALS TO BE USED SHALL BE BRAND NEW AND APPROVED TYPE
5. ALL PLUMBING INSTALLATIONS SHALL BE DONE UNDER THE DIRECT SUPERVISION OF A DULY LICENSED MASTER PLUMBER

LEGEND

MARK	DRAWING	DESCRIPTION	SPECIFICATION
	CB	CATCH BASIN	150mm Ø X POLYVINYL CHLORIDE (PVC) / SERIES 1000
	FD	FLOOR DRAIN	
	VTR	VENTILATION THRU ROOF	50mm Ø POLYVINYL CHLORIDE (PVC) / SERIES 1000
1		50mm Ø X 90d ELBOW	POLYVINYL CHLORIDE (PVC) / SERIES 1000
2		50mm Ø X 45d ELBOW	POLYVINYL CHLORIDE (PVC) / SERIES 1000
3		50mm Ø CLEANOUT	POLYVINYL CHLORIDE (PVC) / SERIES 1000
4		50mm Ø TEE	POLYVINYL CHLORIDE (PVC) / SERIES 1000
5		50mm Ø P-TRAP	POLYVINYL CHLORIDE (PVC) / SERIES 1000
6		50mm Ø WYE	POLYVINYL CHLORIDE (PVC) / SERIES 1000
7		100mm FLOOR DRAIN	POLYVINYL CHLORIDE (PVC) / SERIES 1000
8		100mm Ø TEE	POLYVINYL CHLORIDE (PVC) / SERIES 1000
9		100mm Ø X 45d ELBOW	POLYVINYL CHLORIDE (PVC) / SERIES 1000
10		100mm Ø X CLEANOUT	POLYVINYL CHLORIDE (PVC) / SERIES 1000
11		100mm Ø X 50mm Ø WYE REDUCER	POLYVINYL CHLORIDE (PVC) / SERIES 1000
12		100mm Ø X 50mm Ø TEE REDUCER	POLYVINYL CHLORIDE (PVC) / SERIES 1000
13		100mm Ø WYE	POLYVINYL CHLORIDE (PVC) / SERIES 1000
14		100mm Ø X 90d ELBOW	POLYVINYL CHLORIDE (PVC) / SERIES 1000
15		50mm Ø TEE-WYE	POLYVINYL CHLORIDE (PVC) / SERIES 1000
16		150mm Ø X 45d ELBOW	POLYVINYL CHLORIDE (PVC) / SERIES 1000
17	SV	SEPTIC VAULT	
18	WC	WATER CLOSET	
19	S	SINK	
20	BS	BAR SINK	
21	FCO	FLOOR CLEAN OUT	
22	CO	CLEAN OUT	
23	LAV	LAVATORY	
24	F	FAUCET	
25	VS	VENT STACK	
26	SS	SLOP SINK	

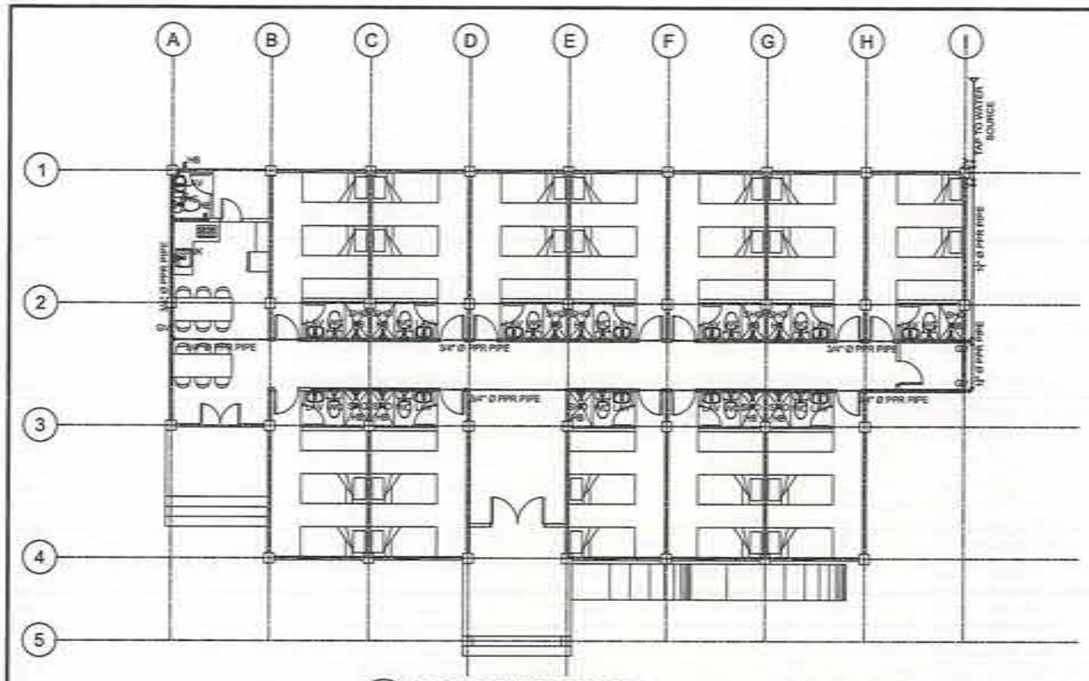
NOTE

ALL ARCHITECTURAL PLANS SHALL PREVAIL OVER ALL ENGINEERING PLANS WITH REGARDS TO DIMENSIONS, ANY DISCREPANCIES FOUND HEREIN SHALL BE VERIFIED WITH THE ARCHITECT.

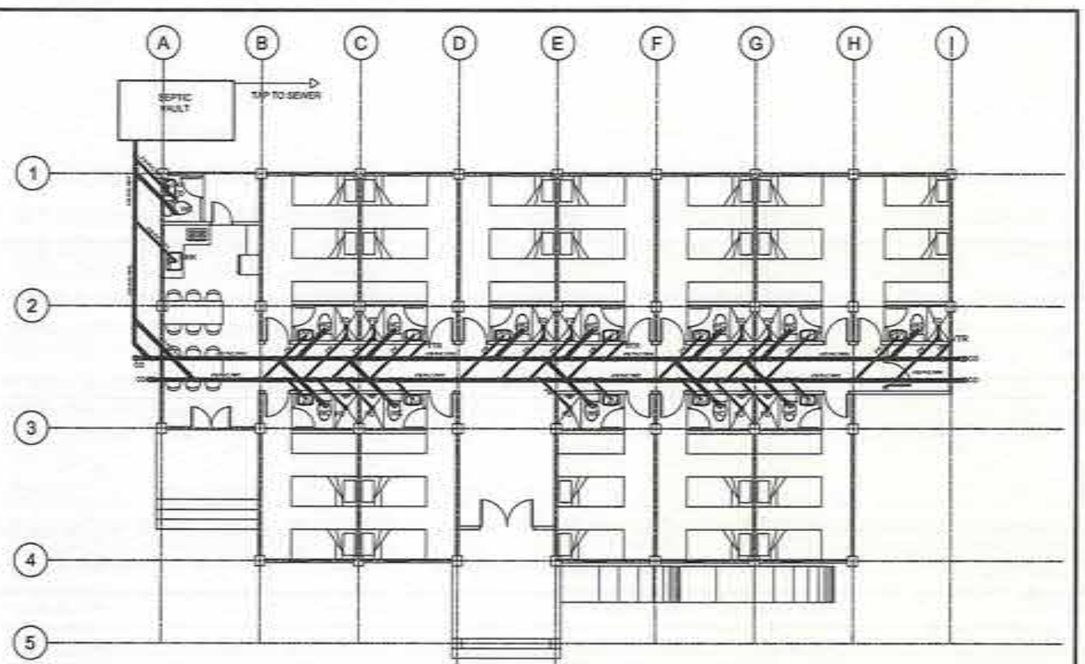
REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE NO. XI
DOH. CHAVEZ COR. R. MAGSAYSAY AVENUE, DAVAO CITY

PROJECT NAME AND LOCATION	SHEET CONTENTS	PREPARED	REVIEWED	SUBMITTED	RECOMMENDED	APPROVED	SET NO.	SHEET NO.
CONSTRUCTION OF 3-UNITS 701BDE ENLISTED PERSONNEL BARRACKS, 701st INFANTRY BRIGADE, SITIO MAGAY, BARANGAY DON MARTIN MARUNDAN, MATI CITY, DAVAO ORIENTAL	VICINITY MAP SITE DEVELOPMENT PLAN GENERAL NOTES & SPECIFICATIONS	FERDINAND M. RAÑOSA ARCHITECT II DATE:	ALGIN A. GINGATAN ENGINEER III, SUPERVISING DATE:	JUDY ANN T. BERNARDINO CHIEF, PLANNING AND DESIGN DIVISION DATE:	JOSECITO B. CABALLERO ASSISTANT REGIONAL DIRECTOR DATE:	JUBY B. CORDON REGIONAL DIRECTOR DATE:	P 1 | 4	11 16

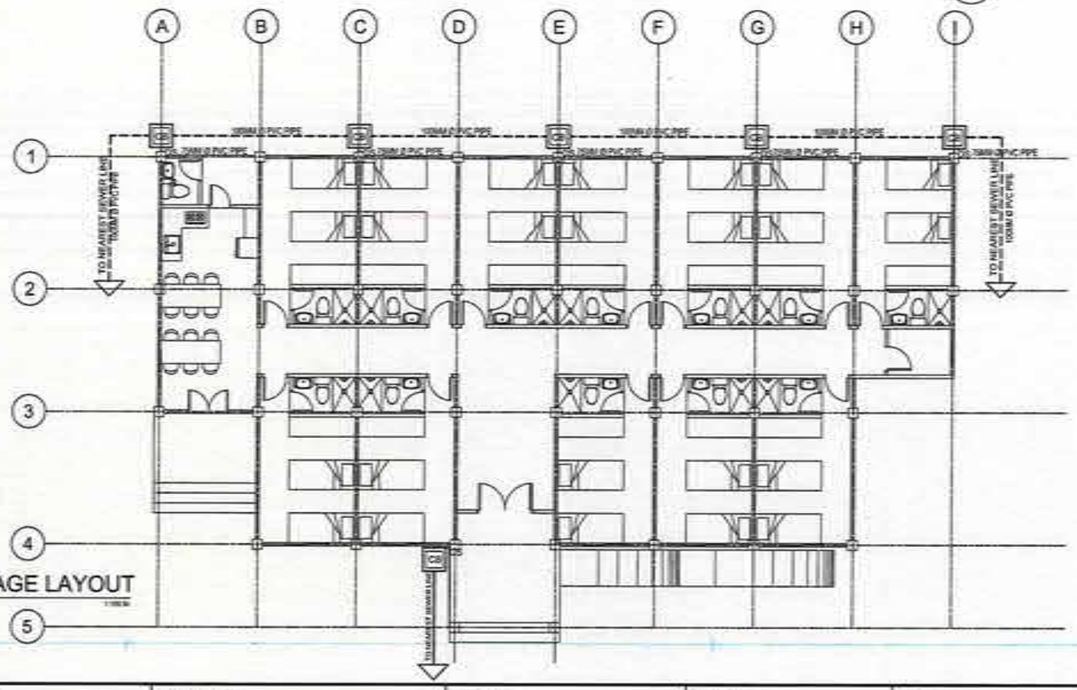
I:\BS-02\USERS\PUBLIC\VLRZ\2025\3-UNITS 701 ENLISTED BARRACKS, MATI\3-UNITS 701 ENLISTED BARRACKS, MATI.DWG



1 P-2 WATERLINE LAYOUT
SCALE 1:100



2 P-2 SANITARY LAYOUT
SCALE 1:100



3 P-2 STORM DRAINAGE LAYOUT
SCALE 1:100

REPUBLIC OF THE PHILIPPINES
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CONSTRUCTION OF 3-UNITS 701SDE ENLISTED PERSONNEL BARRACKS, 701st INFANTRY BRIGADE, SITIO MAGAY, BARANGAY DON MARTIN MARUNDAN, MATI CITY, DAVAO ORIENTAL	WATERLINE LAYOUT SANITARY LAYOUT STORM DRAINAGE LAYOUT	FERDINAND M. RAÑOSA ARCHITECT II DATE:	ALGIN A. GINGATAN ENGINEER III, SECTION CHIEF DATE:	JUDY ANN T. BERNARDINO CHIEF, PLANNING AND DESIGN DIVISION DATE:	JOSELITO B. CABALLERO ASSISTANT REGIONAL DIRECTOR DATE:	JUBY B. CORDON REGIONAL DIRECTOR DATE:	P 2 4	12 16

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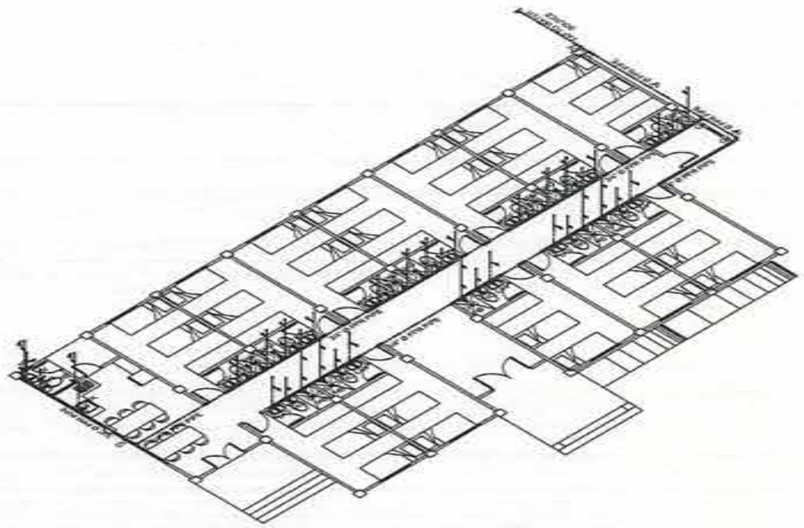
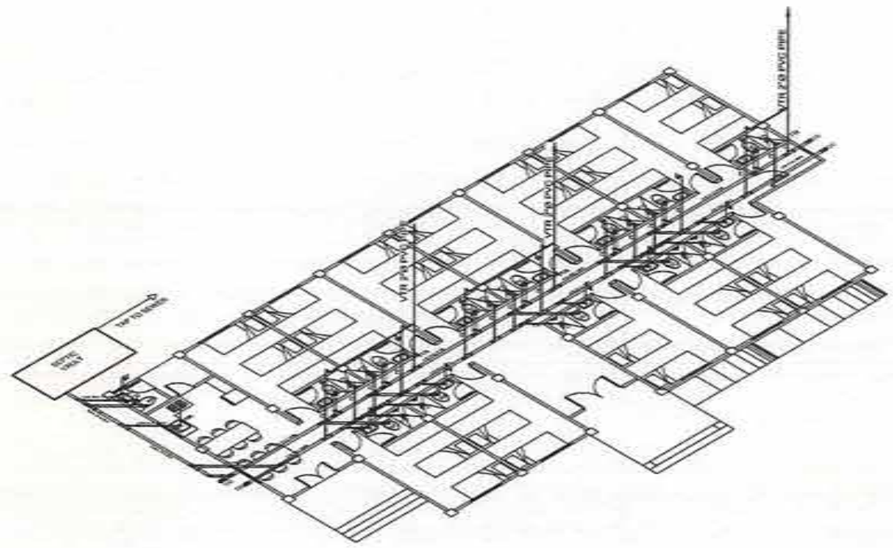
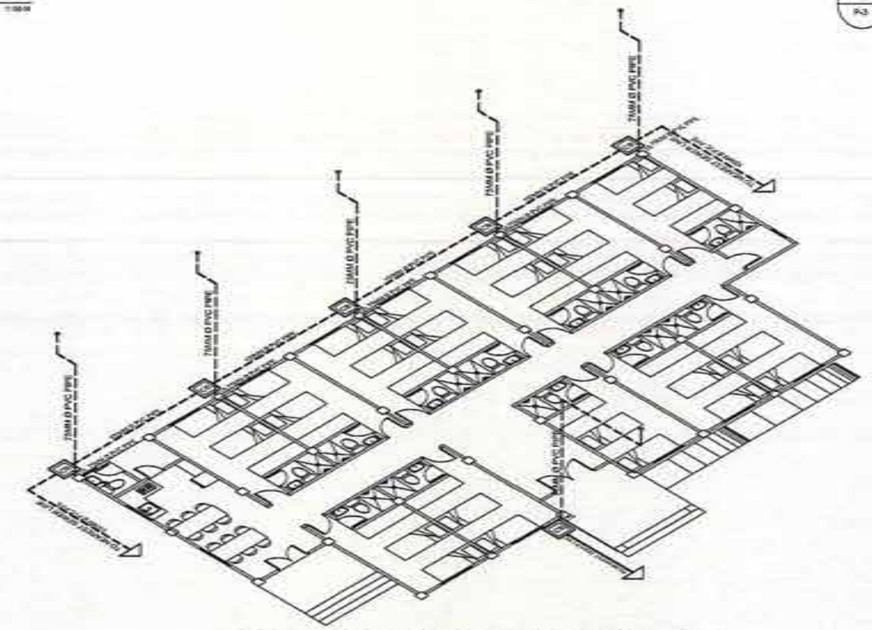


1 P-3 WATERLINE ISOMETRIC LAYOUT
SCALE



2 P-3 SANITARY ISOMETRIC LAYOUT
SCALE



3 P-3 STORM DRAINAGE ISOMETRIC LAYOUT
SCALE

REPUBLIC OF THE PHILIPPINES
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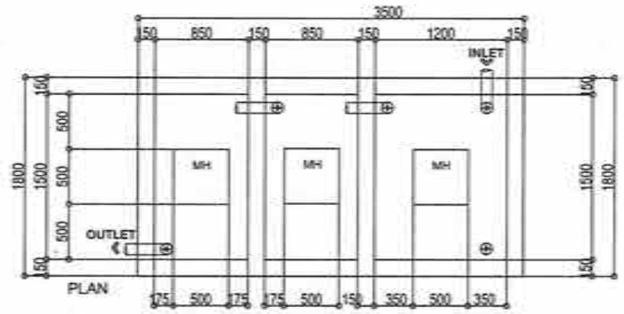
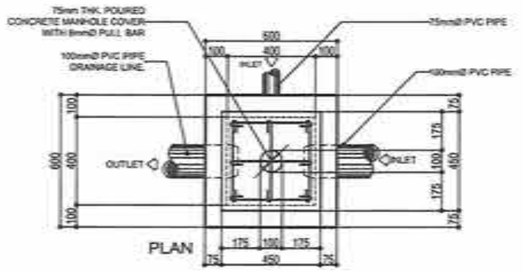
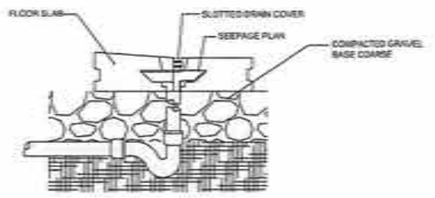
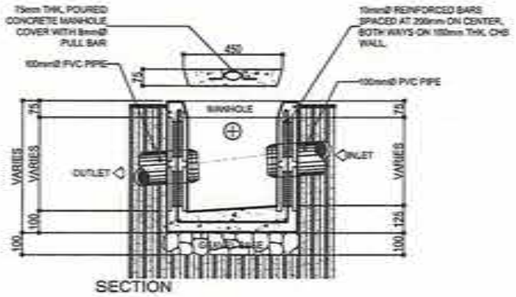
\\BS-02\USERS\PUBLIC\MJRZ\2025\G-UNITS 701 ENLISTED BARRACKS, MATI\G-UNITS 701 ENLISTED BARRACKS, MATI.DWG



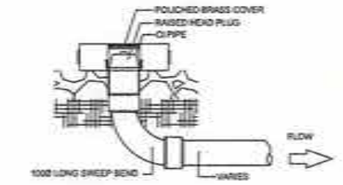




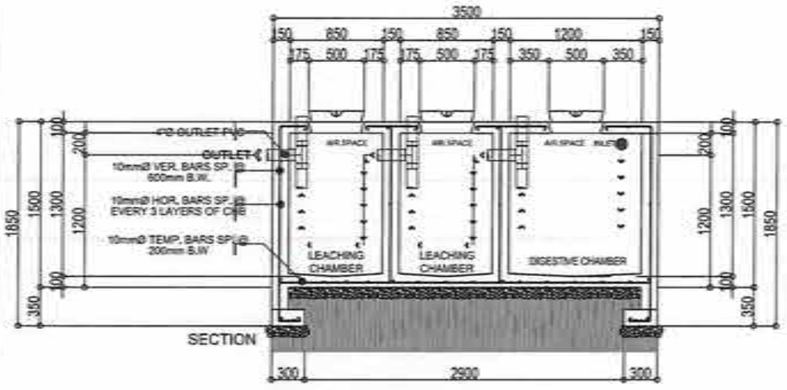
4 P-4 FLOOR DRAIN SECTION
SCALE 1:20



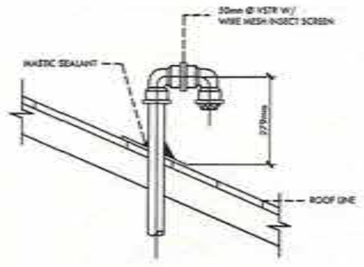
2 P-4 CATCH BASIN DETAIL
SCALE 1:10



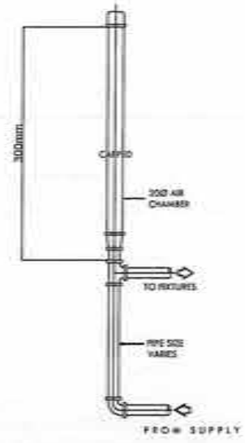
5 P-4 CLEAN-OUT SECTION
SCALE 1:20



1 P-4 SEPTIC VAULT DETAIL
SCALE 1:20



3 P-2 VSTR DETAIL
SCALE 1:10



6 P-4 AIR CHAMBER DETAIL FOR FIXTURES
SCALE 1:10

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE NO. XI
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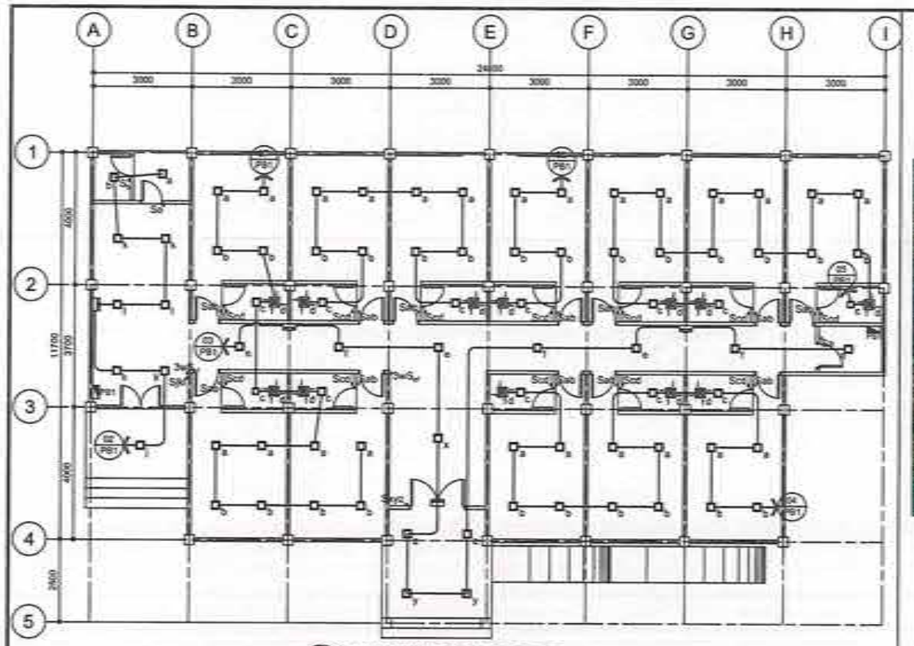
CONSTRUCTION OF 3-UNITS 701BDE ENLISTED PERSONNEL BARRACKS, 701st INFANTRY BRIGADE, SITIO MAGAY, BARANGAY DON MARTIN MARUNDAN, MATI CITY, DAVAO ORIENTAL	SEPTIC VAULT DETAIL CATCH BASIN DETAIL VSTR DETAIL FLOOR DRAIN SECTION CLEAN-OUT SECTION AIR CHAMBER DETAIL FOR FIXTURES	FERDINAND M. RAÑOSA ARCHITECT II DATE:	ALGIN A. GINGTAN ENGINEER III, SECTION CHIEF DATE:	JUDY ANN T. BERNARDINO CHIEF, PLANNING AND DESIGN DIVISION DATE:	JOSELITO B. CABALLERO ASSISTANT REGIONAL DIRECTOR DATE:	JUBY B. CORDON REGIONAL DIRECTOR DATE:	P 4 | 4	14 / 16

\\BS-02\USERS\PUBLIC\M_RZ\2025\3-UNITS 701 ENLISTED BARRACKS, MATI\3-UNITS 701 ENLISTED BARRACKS, MATI.DWG



1 LIGHTING LAYOUT
E-1 SCALE 1 : 100

3 VICNITY MAP
E-1 SCALE NTS

DRAWING LEGENDS

MARK	DESCRIPTIONS
30AT	AIR CIRCUIT BREAKER
PB1	PANEL BOARD
	EARTH GROUND
(01) PB1	CIRCUIT HOMERUN
	CIRCUIT LINE
	SQUARE LIGHT 200mm x 200mm 9 WATTS LED PANEL RECESSED MOUNTED CEILING LUMINARE
EL	EMERGENCY LAMP 2 x 1WATT
	EXHAUST FAN (203x203)mm 20Watts
	CONVENIENCE OUTLET DUPLEX 3PRONGE 10AMPERES
*Sa	FLUSH TYPE SWITCH SINGLE 5AMPERES
*Sab	FLUSH TYPE SWITCH DUPLEX 5AMPERES
*3waSab	FLUSH TYPE 3-WAY SWITCH

ILLUMINATION CALCULATION

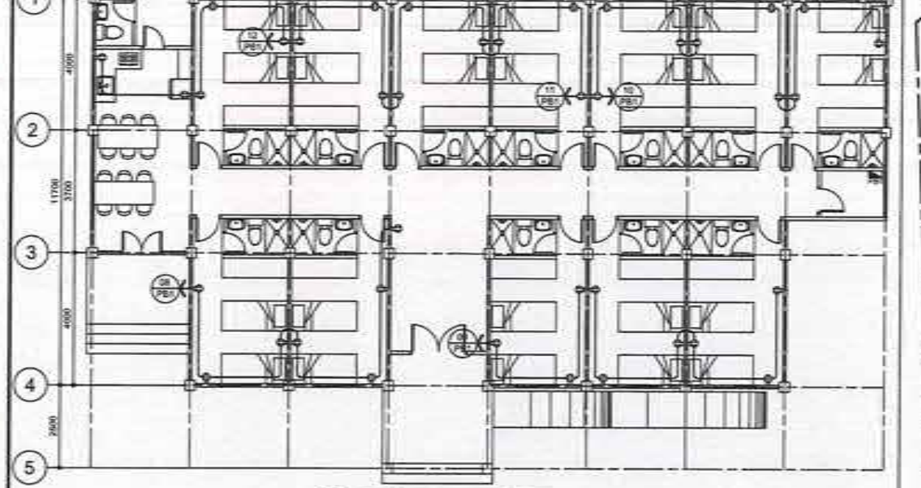
BUILDING TYPE:	DINING AREA
ROOM/ FLOOR:	GROUND FLOOR
ILLUMINATION (E):	200 lux
CEILING HEIGHT:	2.70 m
WORKPLANE HEIGHT:	0.85 m
ROOM PERIMETER LINE:	18.40 m
ROOM TOTAL AREA:	17.61 m²
LUMINAIRE TYPE:	LED BEGHELLI DOWNLIGHT 15WATTS COMPACT
INITIAL OUTLET LUMENS:	1 350
ROOM CAVITY RATIO:	4.83
COEF. OF UTILIZATION:	0.549
LIGHT LOSS FACTOR:	0.85
LAMPS/ LUMINAIRE:	1.0
NUMBER OF LUMINAIRES:	5.59

BUILDING TYPE:	BEDROOMS
ROOM/ FLOOR:	GROUND FLOOR
ILLUMINATION (E):	200 lux
CEILING HEIGHT:	2.70 m
WORKPLANE HEIGHT:	0.70 m
ROOM PERIMETER LINE:	16.00 m
ROOM TOTAL AREA:	12.05 m²
LUMINAIRE TYPE:	LED BEGHELLI DOWNLIGHT 15WATTS COMPACT
INITIAL OUTLET LUMENS:	1 350
ROOM CAVITY RATIO:	6.64
COEF. OF UTILIZATION:	0.515
LIGHT LOSS FACTOR:	0.85
LAMPS/ LUMINAIRE:	1.0
NUMBER OF LUMINAIRES:	4.08

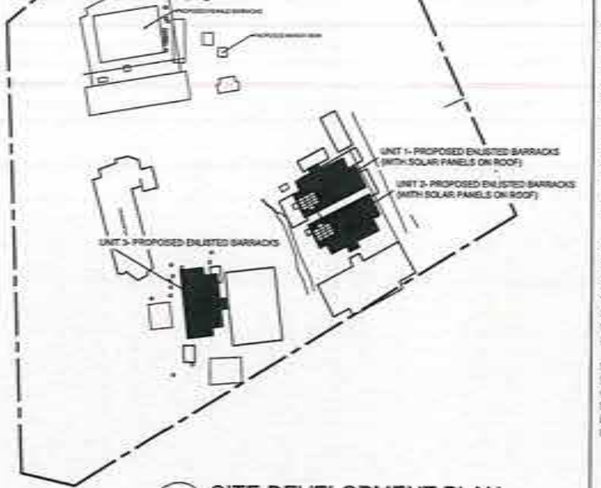
BUILDING TYPE:	CORRIDORS
ROOM/ FLOOR:	GROUND FLOOR
ILLUMINATION (E):	100 lux
CEILING HEIGHT:	2.70 m
WORKPLANE HEIGHT:	0.70 m
ROOM PERIMETER LINE:	44.80 m
ROOM TOTAL AREA:	26.40 m²
LUMINAIRE TYPE:	LED BEGHELLI DOWNLIGHT 15WATTS COMPACT
INITIAL OUTLET LUMENS:	1 350
ROOM CAVITY RATIO:	7.62
COEF. OF UTILIZATION:	0.290
LIGHT LOSS FACTOR:	0.85
LAMPS/ LUMINAIRE:	1.0
NUMBER OF LUMINAIRES:	7.37

NOTES & SPECIFICATIONS

1. ALL ELECTRICAL INSTALLATIONS MADE HEREIN SHALL CONFORM WITH THE RULES AND REGULATIONS OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE (PEC), THE EXISTING LOCAL ORDINANCES, RULES AND REGULATIONS OF THE LOCAL ENFORCING AUTHORITY AND THE REQUIREMENT OF THE LOCAL UTILITY COMPANY CONCERNED. WORKS SHALL NOT BE STARTED UNLESS A VALID PERMIT HAS BEEN SECURED
2. THE TYPE OF POWER SERVICE TO BE USED SHALL BE FROM 13.2KV SINGLE PHASE POWER SUPPLY AND TRANSFER TO 220VOLTS THRU BANK DISTRIBUTION TYPE TRANSFORMER 3WIRES 220VOLTS 60HERTZ ALTERNATING CURRENT
3. ALL ELECTRICAL MATERIALS AND DEVICES TO BE USED AND INSTALLED HEREIN SHALL BE BRAND NEW OF APPROVED TYPE APPROPRIATE FOR BOTH LOCATION AND INTENDED USED AND WITH ACCORDANCE WITH THE PHILIPPINE ELECTRICAL CODE AND BY THE BUREAU OF STANDARDS AND WITH GOOD WORKMANSHIP INSTALLATION
4. GENERAL PURPOSED RECEPTACLES SHALL RATE 15AMPS 240VOLTS 3 PRONG UNIVERSAL TYPE AND FLOOR MOUNTED OUTLET SHOULD BE METALLIC POP-UP HIGH QUALITY BRAND
5. CIRCUIT BREAKER MUST BE 10, 20, & 25AMC FROM BRANCHES, SUB-FEEDERS & MAIN. ALL CIRCUIT BREAKERS MUST BE MOLDED CASE, BOLT-ON TYPE, AND INDUSTRIAL TYPE
6. LIGHT CONTROL SWITCHES SHALL BE RATED 10AMP, 300WATTS AND SHALL NOT CARRY A LOAD GREATER THAN 5SAMPS
7. ONLY HIGH POWER FACTOR BALLAST PREHEAT TYPE SHALL BE USED FOR FLUORESCENT LIGHTING FIXTURES
8. ALL ELECTRICAL WIRING INSTALLATION SHALL BE DONE IN LOCATION AS FOLLOWS: (a) RIGID METALLIC CONDUIT (RMC) TO BE USED, IN SERVICE ENTRANCE AND FEEDERS, (b) ELECTRICAL METALLIC TUBING (EMT) TO BE USED ABOVE CEILING AND BETWEEN DOUBLE WALL PARTITION MADE OF COMBUSTIBLE MATERIALS (c) UNPLASTICIZED POLYVINYL CHLORINE CONDUIT (uPVC) TO BE USED IF EMBEDDED IN CONCRETE OR UNDERGROUND
9. ALL WIRES SHALL BE COPPER AND THERMOPLASTIC INSULATED TYPE "THW" UNLESS OTHERWISE INDICATED. THE MINIMUM SIZE OF WIRE AND CONDUIT TO BE USED SHALL BE 3.5mm² THW AND 15mm NOMINAL DIAMETER RESPECTIVELY
10. ALL NON-CURRENT CARRYING METAL PARTS OF ELECTRICAL EQUIPMENT SHALL BE PROPERLY GROUNDED IN ACCORDANCE WITH THE PROVISIONS OF PEC PART I, LATEST EDITION
11. ANY DISCREPANCY IN THE LOCATION AND RATINGS OF EQUIPMENTS AND APPARATUS SHALL BE VERIFIED WITH THE OWNER OR ANY OF HIS REPRESENTATIVES AND CHANGES SHALL BE MADE ACCORDINGLY
12. ALL PIPE SLEEVES SHALL BE PROVIDE WITH PROPER SUPPORT OR ANCHORAGE NECESSARY FOR PERMANENT CONNECTION TO CONCRETE WALLING OR SLAB
13. WHEREVER REQUIRED AND NECESSARY, PULL BOXES OR JUNCTION BOXES OF PROPER SIZES SHALL BE INSTALLED AT CONVENIENT AND INCONSPICUOUS LOCATIONS, ALTHOUGH SUCH BOXES ARE NOT SHOWN AND MENTIONED IN THE PLANS OR IN THE SPECIFICATIONS
14. ALL FEEDERS LOCATED OUTSIDE THE BUILDING SHALL BE ENCASED IN ALL AROUND CONCRETE WATER PROOFED ENVELOP, AND SHALL BE BURIED WITH NOT LESS THAN 600MM BELOW THE GROUND SURFACE
15. STANDARD TYPE OF ACCESSORIES, SPLICING DEVICES, TERMINATIONS, AND OTHER APPURTENANCES FOR THE ENTIRE ELECTRICAL INSTALLATIONS SHALL BE USED
16. MOUNTING HEIGHT OF PANEL AND DEVICES WERE AS FOLLOWS: (FROM THE FLOOR FINISH TO CENTER OF UNIT)
    - A. WALL SWITCHES 1 400mm
    - B. WALL CONVENIENCE OUTLETS 300mm
    - C. KWH METER 1 650mm
    - D. PANEL BOARD 1 800mm
    - (FROM THE CEILING FINISH TO CENTER OF UNIT)
    - E. RECHARGEABLE LIGHT OUTLETS 300mm
17. THE CONTRACTOR SHALL SECURE ALL PERMITS AND PAY ALL FEES REQUIRED FOR THE WORK AND FURNISH THE OWNER THROUGH THE ENGINEERING FINAL CERTIFICATE OF ELECTRICAL INSPECTION AND APPROVAL FROM PROPER GOVERNMENT AUTHORITIES FOR COMPLETE WORK
18. THE CONTRACTOR SHALL VERIFY AND ORIENT THE ACTUAL LOCATIONS OF SERVICE ENTRANCE FOR CONNECTIONS TO POWER SERVICE POINT
19. THE CONTRACTOR MUST SUBMIT "AS-BUILT" DRAWING PLANS, SIGNED & SEALED BY A PROFESSIONAL ELECTRICAL ENGINEER & SUPERVISION IN-CHARGE OF INSTALLATION SIGNED BY A PROFESSIONAL / REGISTERED ELECTRICAL ENGINEER OR REGISTERED MASTER ELECTRICIAN
20. ALL ELECTRICAL WORKS SHALL BE DONE UNDER THE STRICT & IMMEDIATE SUPERVISION OF A DULY REGISTERED ELECTRICAL ENGINEER



2 POWER LAYOUT
E-1 SCALE 1 : 100



4 SITE DEVELOPMENT PLAN
E-1 SCALE NTS

REPUBLIC OF THE PHILIPPINES
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GOV. CHAVEZ COR. R. MAGSAYSAY AVENUE, DAVAO CITY

PROJECT NAME AND LOCATION:
CONSTRUCTION OF 3 - UNITS 701BDE ENLISTED PERSONNEL BARRACKS, 701st INFANTRY BRIGADE, SITIO MAGAY, BARANGAY DON MARTIN MARUNDAN, MATI CITY, DAVAO ORIENTAL

SHEET CONTENTS:
LIGHTING LAYOUT
POWER LAYOUT
DRAWING LEGEND
ILLUMINATION CALCULATION
NOTES & SPECIFICATIONS

PREPARED:
JOHN PHILIP S. OBIGENES
ENGINEER II
DATE:

REVIEWED:
ALGIN A. GINGATAN
ENGINEER III, SECTION CHIEF
DATE:

SUBMITTED:
JUDY ANN T. BERNARDINO
CHIEF, PLANNING AND DESIGN DIVISION
DATE:

RECOMMENDED:
ROSELITO B. CABALLERO
ASSISTANT REGIONAL DIRECTOR
DATE:

APPROVED:
JUBY B. CORDON
REGIONAL DIRECTOR
DATE:

SET NO.: E 1|2
SHEET NO.: 15 16

\\BS-02\USERS\PUBLIC\W_RZ\2025\3-UNITS 701 ENLISTED BARRACKS_MATI\ELECTRICAL\FINAL ELECTRICAL PLAN_03202025_RECOVERD.DWG

LOAD SCHEDULE (TYPICAL FOR UNIT 1, 2, & 3)

DESIGNATION: LIGHTING & POWER PANEL
FEED FROM: MAIN DISTRIBUTION PANEL
LOCATION: MALE DORMITORY BUILDING

PROTECTION SPECS: Panelboard: 12 Branches, Bolt-On Type, Side Main, Single Phase
Main: Air-Circuit Breaker, Bolt-On Type, Single Phase, 240Volts
Branches: Air-Circuit Breakers, Bolt-On Type Single Phase, 240Volts
Busbar: 100Amps (Maximum Ampacity)

VOLTAGE: 230 V
PHASE: SINGLE PHASE
ENCLOSURE (IP): NEMA-1

PANEL	CKT	DESCRIPTION	QTY	POWER	VOLT	CURRENT	PROTECTION AT	PROTECTION AF	PROTECTION POLE	PROTECTION kAIC	CONDUCTORS	CONDUITS
PB1/ PB2/ PB3	01	SUB-FEEDER		10 590		46.04						
	02	LIGHTING LOADS	10	500	230	2.17	20	100	2	10	2 - 3.5mm² THHN Cu. + 1 - 3.5mm² THHN Cu.(G)	20mmØ uPVC PIPE
	03	LIGHTING LOADS	15	750	230	3.26	20	100	2	10	2 - 3.5mm² THHN Cu. + 1 - 3.5mm² THHN Cu.(G)	20mmØ uPVC PIPE
	04	LIGHTING LOADS	18	900	230	3.91	20	100	2	10	2 - 3.5mm² THHN Cu. + 1 - 3.5mm² THHN Cu.(G)	20mmØ uPVC PIPE
	05	LIGHTING LOADS	18	900	230	3.91	20	100	2	10	2 - 3.5mm² THHN Cu. + 1 - 3.5mm² THHN Cu.(G)	20mmØ uPVC PIPE
	06	LIGHTING LOADS	18	900	230	3.91	20	100	2	10	2 - 3.5mm² THHN Cu. + 1 - 3.5mm² THHN Cu.(G)	20mmØ uPVC PIPE
	07	LIGHTING LOADS	18	900	230	3.91	20	100	2	10	2 - 3.5mm² THHN Cu. + 1 - 3.5mm² THHN Cu.(G)	20mmØ uPVC PIPE
	08	ALL PURPOSED LOADS	07	1 260	230	5.47	20	100	2	10	2 - 3.5mm² THHN Cu. + 1 - 3.5mm² THHN Cu.(G)	20mmØ uPVC PIPE
	09	ALL PURPOSED LOADS	09	1 620	230	7.04	20	100	2	10	2 - 3.5mm² THHN Cu. + 1 - 3.5mm² THHN Cu.(G)	20mmØ uPVC PIPE
	10	ALL PURPOSED LOADS	07	1 260	230	5.47	20	100	2	10	2 - 3.5mm² THHN Cu. + 1 - 3.5mm² THHN Cu.(G)	20mmØ uPVC PIPE
	11	ALL PURPOSED LOADS	07	1 260	230	5.47	20	100	2	10	2 - 3.5mm² THHN Cu. + 1 - 3.5mm² THHN Cu.(G)	20mmØ uPVC PIPE
	12	ALL PURPOSED LOADS	05	900	230	3.91	20	100	2	10	2 - 3.5mm² THHN Cu. + 1 - 3.5mm² THHN Cu.(G)	20mmØ uPVC PIPE

LOAD COMPUTATION

SUB-FEEDER CONDUCTOR & EQUIPMENT RATING
TOTAL FULL LOAD CURRENT:

I = 10 590 ÷ (230*0.8) = 57.55 Amperes

USE: 2 - 14.0mm² THW, Cu. WIRE +
1 - 14.0mm² THW, GROUND, Cu. WIRE
INSIDE 1 - 25mmØ, RMC PIPE

MAXIMUM CURRENT RATING OF PROTECTION DEVICE
(INVERSE TIME CIRCUIT BREAKER)

USE: 1 - 65AT 100AF 240V 1φ 10kAIC ACB

LOAD SUMMARY (FOR UNIT 1, 2, & 3)

DESIGNATION: LIGHTING & POWER PANEL
FEED FROM: MAIN DISTRIBUTION PANEL
LOCATION: DORMITORY BUILDING

PROTECTION SPECS: Panelboard: 4 Branches, Bolt-On Type, Corner Main, Single Phase
Main: Air-Circuit Breaker, Bolt-On Type, Single Phase, 240Volts
Branches: Air-Circuit Breakers, Bolt-On Type Single Phase, 240Volts
Busbar: 225Amps (Maximum Ampacity)

PANEL	CKT	DESCRIPTION	QTY	POWER	VOLT	CURRENT	PROTECTION AT	PROTECTION AF	PROTECTION POLE	PROTECTION kAIC
DP1	01	PANEL LOADS (PB1)	01	10 590	230	46.04	60	100	2	10
	02	PANEL LOADS (PB2)	01	10 590	230	46.04	60	100	2	10
	03	PANEL LOADS (PB3)	01	10 590	230	46.04	60	100	2	10
	04	FUTURE LOADS	01	1 500	230	6.52				
		FEEDER		33 270		144.65				

LOAD ANALYSIS

A. LOAD CALCULATION

GENERAL LIGHTING & CONVENIENCE RECEPTACLE LOAD:
TYPE OF OCCUPANCY: DWELLING
615.91 m² x 24 Volt-Amperes per m² = 14 779 VA
HALLS, CORRIDORS, CLOSETS, & STAIRWAYS
132.42 m² x 4 Volt-Amperes per m² = 530 VA
ALL PURPOSED OUTLET LOAD: = 9 000 VA
SUB-TOTAL = 24 309 VA

APPLICATION OF DEMAND FACTORS:

All Others @ 100% D.F. = 24 309 VA
Future Loads = 1 500 VA
TOTAL NET COMPUTED LOAD = 25 809 VA

SERVICE ENTRANCE CONDUCTOR & EQUIPMENT RATING
TOTAL FULL LOAD CURRENT:

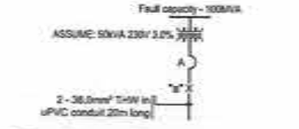
I = 25 809 ÷ 230 = 112.21 Amperes

USE: 2 - 38.0mm² THW, Cu. WIRE
1 - 14.0mm² THW, GROUND, Cu. WIRE
INSIDE 1 - 40mmØ, uPVC PIPE

MAXIMUM CURRENT RATING OF PROTECTION DEVICE
(INVERSE TIME CIRCUIT BREAKER)

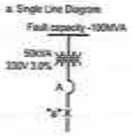
USE: 1 - 125AT 225AF 240V 1φ 10kAIC MCCB

B. FAULT CURRENT CALCULATION

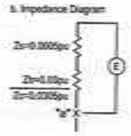


PU value of utility source, pu Zs = 0.0005 pu
PU for transformer, pu Zt = 0.03 pu
PU value for feeder lines.
Fault at "a" (The fault current to be cleared by breaker A comes only from the transformer)

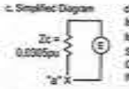
a. Single Line Diagram



b. Impedance Diagram



c. Simplified Diagram

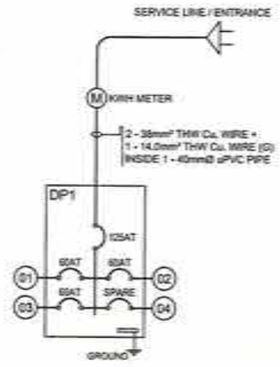


d. Fault Current at "a"
Isc (sym) = (1.0/ 0.0305)(50 000/ 230)
Isc (sym) = 7 127.58 Amperes RMS
Say 10 000Amperes RMS symmetrical
Circuit Breaker "A" should be rated not less than 10 000 AIC symmetrical

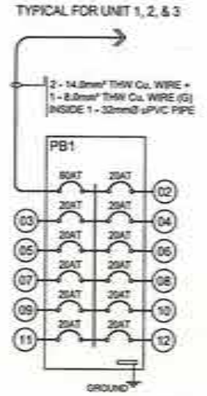
C. VOLTAGE DROP CALCULATION

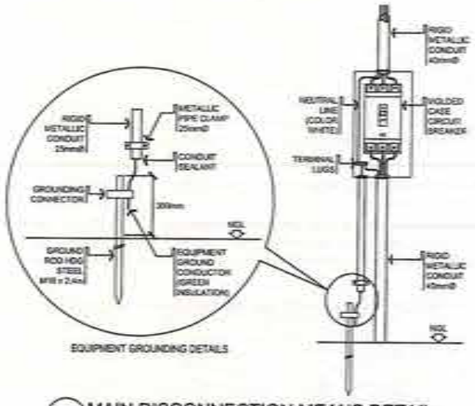
FEEDER FROM	FEEDER TO	CONDUCTORS	CURRENT	DISTANCE	PHASE	IMPEDANCE R	IMPEDANCE X	VOLTAGE DROP	VOLTAGE DROP TOTAL	VOLTAGE DROP (%)	VOLTAGE DROP (%) TOTAL	VOLTAGE DROP END
XMMER	DP1	2 - 38.0mm²	112.21 A	18.0 m	1φ	0.150	0.045	2.07		0.90		227.93
DP1	PB1	2 - 14.0mm²	57.55 A	12.0 m	1φ	0.490	0.063	2.24	4.31	0.97	1.87	225.69
PB1	CKT09 - CO	2 - 3.5mm²	7.04 A	15.0 m	1φ	2.000	0.054	1.39	5.70	0.60	2.48	224.30

SIINGLE LINE DIAGRAM



TYPICAL FOR UNIT 1, 2, & 3





EQUIPMENT GROUNDING DETAILS

MAIN DISCONNECTION MEANS DETAIL

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE NO. XI
GOV. CHAVEZ COR. R. MAGSAYSAY AVENUE, DAVAO CITY

PROJECT NAME AND LOCATION: CONSTRUCTION OF 3 - UNITS 701BDE ENLISTED PERSONNEL BARRACKS, 701st INFANTRY BRIGADE, SITIO MAGAY, BARANGAY DON MARTIN MARUNDAN, MATI CITY, DAVAO ORIENTAL

SHEET CONTENTS: LOAD SCHEDULE
LOAD SUMMARY
LOAD ANALYSIS
SINGLE LINE DIAGRAM
MAIN DISCONNECTION MEANS DETAIL

PREPARED: JOHN PHILIP S. DEBOSNES, ENGINEER III, DESIGNER
REVIEWED: ALGIN A. GINGATAN, ENGINEER III, SECTION CHIEF
SUBMITTED: JUDY ANN T. BERNARDINO, CHIEF, PLANNING AND DESIGN DIVISION
RECOMMENDED: JOSELITO B. CABALLERO, ASSISTANT REGIONAL DIRECTOR
APPROVED: JUBY B. CORDON, REGIONAL DIRECTOR
DATE:

SHT NO. E 2/2
SHEET NO. 16/16

\\BS-02\USERS\PUBLIC\VJR\2020\3-UNITS 701 ENLISTED BARRACKS, MATI\ELECTRICAL\FINAL ELECTRICAL PLAN_02052020_RECOVER.DWG