

SH.GOIDHOO HEALTH CENTER  
*SERVICES DRAWINGS*  
Client: Ministry of Health



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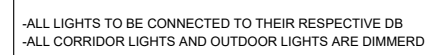
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S - 09 /09	SOLAR PANEL	---	---	---

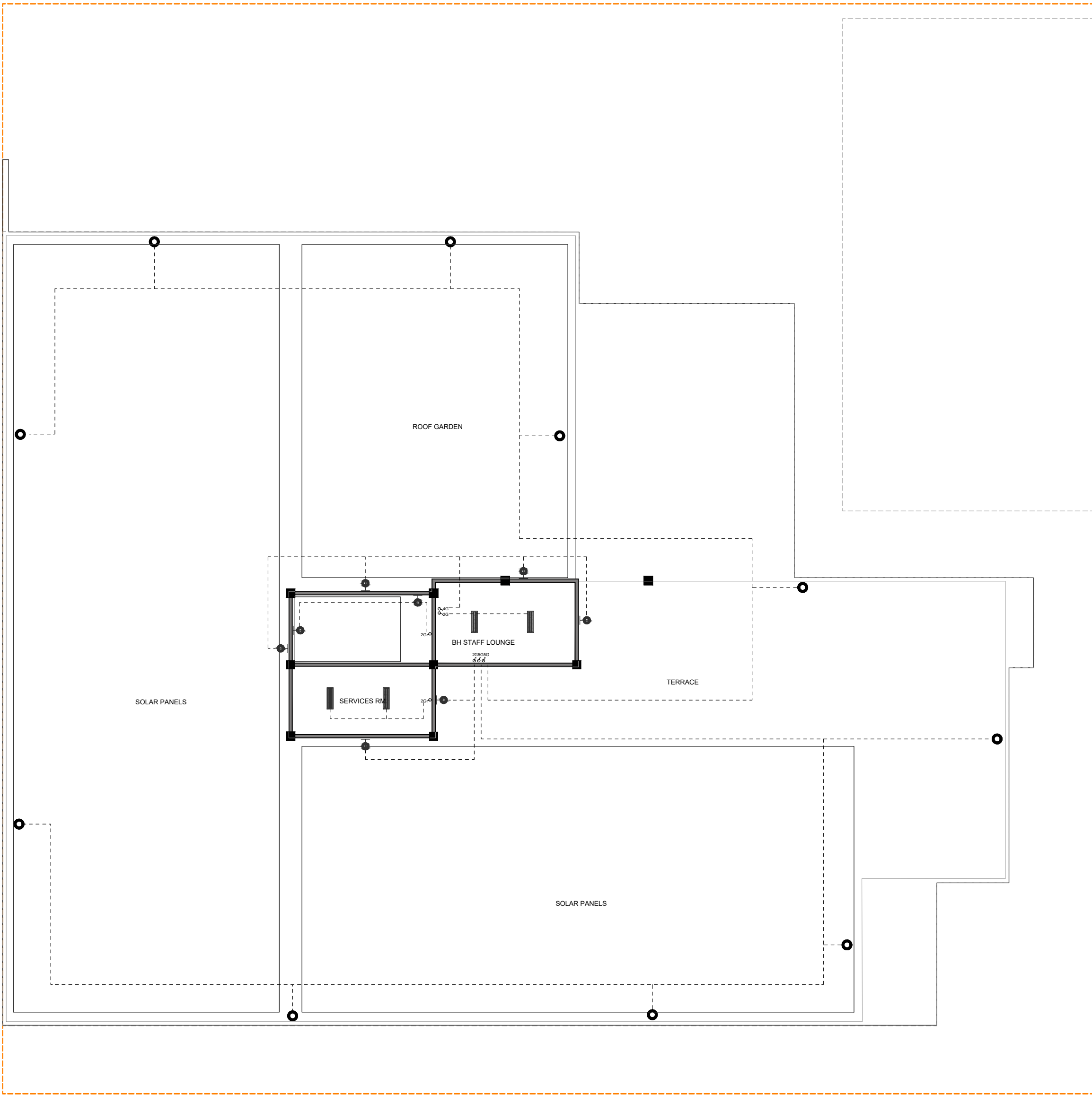


1:100









Terrace Floor

1:100

LEGEND

- CL1 (18W) LED RECESSED LIGHT TYPE 1 (18W)
- LED STRIP COVE LIGHT IP65 (8W)
- LED RECESSED LIGHT TYPE 2 (12W)
- 600 X 600 LED PANEL LIGHT (12W)
- CL3 (12W) LED RECESSED LIGHT TYPE 3 (12W)
- WP1 (18W) LED DOWN LIGHT (18W) - WEATHER PROOF
- FLEX. POWER OUTLET W/ COVER PLATE (EXHAUST FAN)
- CEILING FAN (52" - 54")
- LED OUTDOOR WALL LIGHT UP/DWN (8W) - WEATHER PROOF
- LED SPKE LIGHT (3W)
- LED BOLLARD LIGHTS (6W)
- OUTDOOR WALL LIGHT 12W
- 2FT LED LIGHT (8W)

-ALL LIGHTS TO BE CONNECTED TO THEIR RESPECTIVE DB  
-ALL CORRIDOR LIGHTS AND OUTDOOR LIGHTS ARE DIMMERD





- LEGEND
- TWO GANG TV SOCKET OUTLET
  - 13A POWER OUTLET (300MM FROM F.F.L)(ABOVE FALSE CEILING FOR TOKEN MONITORS)
  - 13A TWIN SOCKET OUTLET (300MM FROM F.F.L)
  - 13A UPS SOCKET OUTLET (300MM FROM F.F.L)
  - 15A SWITCHED POWER POINT ABOVE FALSE CEILING FOR AC
  - 32A TPN ISOLATOR
  - PHONE EXTENSION (300MM FROM F.F.L)
  - TELEPHONE OUTLET (RJ11, CONNECTOR) (300MM FROM F.F.L)
  - COMPUTER NETWORK OUTLET (RJ 45 CONNECTORS) (300MM FROM F.F.L)
  - TWIN COMPUTER NETWORK OUTLET (RJ 45 CONNECTORS) (300MM FROM F.F.L)
  - VGA CABLE FOR PROJECTOR
  - ACCESS CONTROLLER
  - EXIT SWITCH
  - DISTRIBUTION BOX
  - SWITCH RACK
  - 13A SOCKETS FOR TOILETS (1500 F.F.L)
  - WEATHER PROOF POLYCARBONATE ENCLOSURE
  - PAGING MIC
  - VOLUME CONTROLLER
  - WALL SPEAKERS AT CEILING LEVEL
  - EMERGENCY DOOR RELEASE
  - NURSE STATION PANEL ROOM INDICATOR
  - ELECTROMAGNETIC LOCK
  - PROXIMITY CARD READER
  - DOOR BELL BUTTON
  - HONE SPEAKER
  - CEILING SPEAKER
  - 8 POWER POINTS ON ENVIROM VERTICAL HEADWALLS  
CALL POINT TO NURSES STATION: INTEGRATED IN ENVIROM BEDHEAD TRUNK
  - THEATER CONTROL PANEL  
(INCLUDES TELEPHONE UNIT, FIRE ALARM STROBE, MEDICAL GAS INDICATOR UNIT)
  - PABX
  - CCTV CAMERA 01
  - CCTV CAMERA 02

NOTES:

ALL EAC SYSTEM COMPONENTS TO BE CONNECTED TO EXISTING ELECTRONIC CONTROL MAIN SYSTEM

ALL POWER POINTS CONNECTED TO THE RESPECTIVE DB

GROUND FLOOR POWER PLAN  
SCALE 1:150  
0 0.5 1 2 3 4 5





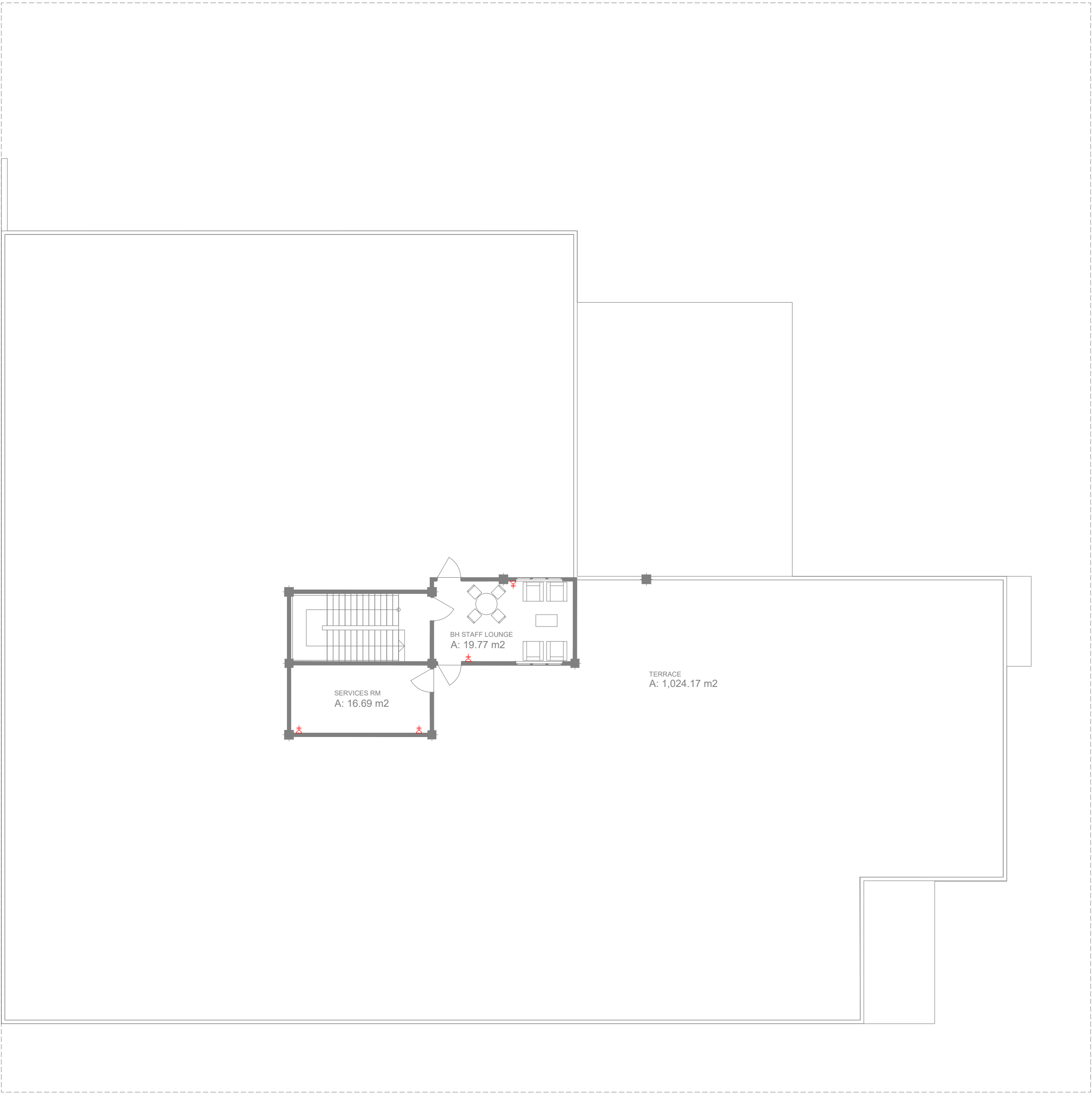
LEGEND

- TWO GANG TV SOCKET OUTLET
- 13A POWER OUTLET (300MM FROM F.F.L)(ABOVE FALSE CEILING FOR TOKEN MONITORS)
- 13A TWIN SOCKET OUTLET (300MM FROM F.F.L)
- 13A UPS SOCKET OUTLET (300MM FROM F.F.L)
- 15A.SWITCHED POWER POINT ABOVE FALSE CEILING FOR AC
- 32A TPN ISOLATOR
- PHONE EXTENSION (300MM FROM F.F.L)
- TELEPHONE OUTLET (RJ11, CONNECTOR) (300MM FROM F.F.L)
- COMPUTER NETWORK OUTLET (RJ 45 CONNECTORS) (300MM FROM F.F.L)
- TWIN COMPUTER NETWORK OUTLET (RJ 45 CONNECTORS) (300MM FROM F.F.L)
- VGA CABLE FOR PROJECTOR
- ACCESS CONTROLLER
- EXIT SWITCH
- DISTRIBUTION BOX
- SWITCH RACK
- 13A SOCKETS FOR TOILETS (1500 F.F.L)
- WEATHER PROOF POLYCARBONATE ENCLOSURE
- PAGING MIC
- VOLUME CONTROLLER
- WALL SPEAKERS AT CEILING LEVEL
- EMERGENCY DOOR RELEASE
- NURSE STATION PANEL ROOM INDICATOR
- ELECTROMAGNETIC LOCK
- PROXIMITY CARD READER
- DOOR BELL BUTTON
- HONE SPEAKER
- CEILING SPEAKER
- 8 POWER POINTS ON ENVIROM VERTICAL HEADWALLS  
CALL POINT TO NURSES STATION: INTEGRATED IN ENVIROM BEDHEAD TRUNK
- THEATER CONTROL PANEL  
(INCLUDES TELEPHONE UNIT,FIRE ALARM STROBE,MEDICAL GAS INDICATOR UNIT )
- PABX
- CCTV CAMERA 01
- CCTV CAMERA 02

NOTES:

ALL EAC SYSTEM COMPONENTS TO BE CONNECTED TO EXISTING ELECTONIC CONTROL MAIN SYSTEM





- LEGEND
- TWO GANG TV SOCKET OUTLET
  - 13A POWER OUTLET (300MM FROM F.F.L)(ABOVE FALSE CEILING FOR TOKEN MONITORS)
  - 13A TWIN SOCKET OUTLET (300MM FROM F.F.L)
  - 13A UPS SOCKET OUTLET (300MM FROM F.F.L)
  - 15A.SWITCHED POWER POINT ABOVE FALSE CEILING FOR AC
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  - PHONE EXTENSION (300MM FROM F.F.L)
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  - COMPUTER NETWORK OUTLET (RJ 45 CONNECTORS) (300MM FROM F.F.L)
  - TWIN COMPUTER NETWORK OUTLET (RJ 45 CONNECTORS) (300MM FROM F.F.L)
  - VGA CABLE FOR PROJECTOR
  - ACCESS CONTROLLER
  - EXIT SWITCH
  - DISTRIBUTION BOX
  - SWITCH RACK
  - 13A SOCKETS FOR TOILETS (1500 F.F.L)
  - WEATHER PROOF POLYCARBONATE ENCLOSURE
  - PAGING MIC
  - VOLUME CONTROLLER
  - WALL SPEAKERS AT CEILING LEVEL
  - EMERGENCY DOOR RELEASE
  - NURSE STATION PANEL ROOM INDICATOR
  - ELECTROMAGNETIC LOCK
  - PROXIMITY CARD READER
  - DOOR BELL BUTTON
  - HONE SPEAKER
  - CEILING SPEAKER
  - 8 POWER POINTS ON ENVIROM VERTICAL HEADWALLS  
CALL POINT TO NURSES STATION: INTEGRATED IN ENVIROM BEDHEAD TRUNK
  - THEATER CONTROL PANEL  
(INCLUDES TELEPHONE UNIT,FIRE ALARM STROBE,MEDICAL GAS INDICATOR UNIT )
  - PABX
  - CCTV CAMERA 01
  - CCTV CAMERA 02

NOTES:

ALL PA SYSTEM COMPONENTS TO BE CONNECTED TO EXISTING THEATER CONTROL PANEL

ALL EAC SYSTEM COMPONENTS TO BE CONNECTED TO EXISTING ELECTONIC CONTROL MAIN SYSTEM

ALL POWER POINTS CONNECTED TO THE RESPECTIVE DB







NOTE

- The AC unit shall be suitable for operation under tropical condition with ambient temperature and relative humidity
- Proper access for easy maintenance to be provided as recommended by the manufacturer of AC equipment above false ceiling
- All ceiling suspended unit to be provided with anti vibration hangers spring type
- GI Ducting/Pre insulated duct for common areas and AL Ducting for OTs, CSSD and sterile areas
- Acoustic insulation to be provided for duct with minimum 35gsm from each AHU unit except OT and CSSD areas AHUs
- Canvas connection to be provided between indoor unit and duct
- Aluminum cladding to be provided over the insulation for the exposed duct and pipe works
- Air outlet shall be completely factory aluminum extruded with powder coated and the colour shall be the approval of the interior design
- Air outlet location and size shall be adjusted to suit reflected ceiling drawing or site condition
- Lower with bird screen to be provided for all the fresh air and exhaust air duct
- Kitchen hood exhaust should be provided in the kitchen areas
- Contractor shall be responsible to provide electrical power requirements to electrical contractor
- Contractor shall be responsible for coordination of all other services
- Contractor shall be responsible for calculating the static pressure for AHU/Exhaust air fan
- Contractor shall be responsible to modify/change/relocate locate as per the site condition and submit shop drawing for approval
- Contractor to be provided detailed shop drawings before starting works
- The minimum Energy efficient value for AC [EER] Should be 3.5 [KWKW]
- All the ACV equipment should be Anti Corrosive

ACV LEGEND & ABBREVIATION	
	AIR HANDLING UNIT
	WALL MOUNTED UNIT
	4 WAY CASSETTE UNIT
	OUTDOOR UNIT (TOP DISCHARGE)
	OUTDOOR UNIT (SIDE DISCHARGE)
	CEILING MOUNTED EXHAUST FAN
	FRESH AIR/EXHAUST AIR FAN (DUCT IN LINE)
	WALL MOUNTED FAN
	REFRIGERANT PIPES WITH INSULATION
	AC DRAIN PIPES WITH INSULATION
	SUPPLY AIR DUCT WITH THERMAL INSULATION
	RETURN AIR DUCT WITH THERMAL INSULATION
	EXHAUST AIR DUCT
	FRESH AIR DUCT
	VOLUME CONTROL DAMPER
	SUPPLY AIR DIFFUSER WITH DAMPER
	RETURN AIR DIFFUSER WITH DAMPER
	EXHAUST AIR GRILL
	150MM WIDTH SUPPLY AND RETURN AIR GRILL
T/B	TO BELOW
T/A	TO ABOVE
F/A	FROM ABOVE
F/B	FROM BELOW
AHU	AIR HANDLING UNIT
TFA	TREATED FRESH AIR HANDLING UNIT
ODU	OUT DOOR UNIT

SPECIFICATION FOR VRF/VRV

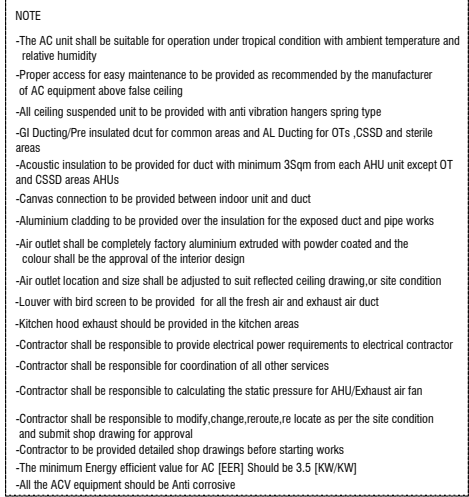
Outdoor Unit  
Air cooled VRF / VRV system working in R410A / R-407C or equivalent refrigerant. The system shall be suitable to operate on 3 phase, 380-415 V, 50Hz AC power supply & shall comprises with multiple no's of inverter, digital scroll/screw compressors, air cooled condenser fan with motor, microprocessor control panel, starter controls for all scroll compressors and condenser fan motors along with internal control and power wiring, cooling coil with internally interconnected refrigerant pipes, charging port and all other required accessories, & hardware's. The entire unit shall be with weather resistant powder coating paint for withstanding all ambient conditions for continuous outdoor operation

Indoor unit  
Air Conditioning Units suitable for mounting inside false ceiling/wall hang, each comprising of cooling coil, blower with motor, electronic expansion valve, filter, insulated connection of refrigerant circuit, provision for fresh air intake ducting, condensate water drain pump with electronic level sensor, including wireless remote controller etc

Air Handling Unit (DX type)  
AHU having GI double skin (0.6/0.8 mm thick) sandwich panel ( PU injected foam with 45 mm thick, minimum density 40-50 kg/cu.m) with thermal break aluminum profile and heavy duty unit base. Air Handling Units complete with, dx coil (copper ), motor, SISW/ODW fan, pre filter (MERV 7/8), and fine filters (MERV 13).

Air Handling Unit (DX type) for OT, ICU, Labour room, Sterile Areas and Accidents and Emergency  
AHU having GI double skin (0.6/0.8 mm thick) sandwich panel ( PU injected foam with 45 mm thick, minimum density 40-50 kg/cu.m) with thermal break aluminum profile and heavy duty unit base. Air Handling Units complete with, dx coil (copper ), motor, SISW/ODW fan, pre filter (MERV 7/8), fine filters (MERV 13) and HEPA Filter(H14)
























ACV LEGEND & ABBREVIATION	
	AIR HANDLING UNIT
	WALL MOUNTED UNIT
	4 WAY CASSETTE UNIT
	OUTDOOR UNIT [TOP DISCHARGE]
	OUTDOOR UNIT [SIDE DISCHARGE]
	CEILING MOUNTED EXHAUST FAN
	FRESH AIR/EXHAUST AIR FAN [DUCT IN LINE]
	WALL MOUNTED FAN
	REFRIGERANT PIPES WITH INSULATION
	AC DRAIN PIPES WITH INSULATION
	SUPPLY AIR DUCT WITH THERMAL INSULATION
	RETURN AIR DUCT WITH THERMAL INSULATION
	EXHAUST AIR DUCT
	FRESH AIR DUCT
	VOLUME CONTROL DAMPER
	SUPPLY AIR DIFFUSER WITH DAMPER
	RETURN AIR DIFFUSER WITH DAMPER
	EXHAUST AIR GRILL
	150MM WIDTH SUPPLY AND RETURN AIR GRILL
T/B	TO BELOW
T/A	TO ABOVE
F/A	FROM ABOVE
F/B	FROM BELOW
AHU	AIR HANDLING UNIT
TFA	TREATED FRESH AIR HANDLING UNIT
ODU	OUT DOOR UNIT

[illegible]





ACV LEGEND & ABBREVIATION	
	AIR HANDLING UNIT
	WALL MOUNTED UNIT
	4 WAY CASSETTE UNIT
	OUTDOOR UNIT [TOP DISCHARGE]
	OUTDOOR UNIT [SIDE DISCHARGE]
	CeILING MOUNTED EXHAUST FAN
	FRESH AIR/EXHAUST AIR FAN [DUCT IN LINE]
	WALL MOUNTED FAN
	REFRIGERANT PIPES WITH INSULATION
	AC DRAIN PIPES WITH INSULATION
	SUPPLY AIR DUCT WITH THERMAL INSULATION
	RETURN AIR DUCT WITH THERMAL INSULATION
	EXHAUST AIR DUCT
	FRESH AIR DUCT
	VOLUME CONTROL DAMPER
	SUPPLY AIR DIFFUSER WITH DAMPER
	RETURN AIR DIFFUSER WITH DAMPER
	EXHAUST AIR GRILL
	150MM WIDTH SUPPLY AND RETURN AIR GRILL
T/B	TO BELOW
T/A	TO ABOVE
F/A	FROM ABOVE
F/B	FROM BELOW
AHU	AIR HANDLING UNIT
TFA	TREATED FRESH AIR HANDLING UNIT
ODU	OD DOOR UNIT

[illegible]



GROUND FLOOR VENTILATION LAYOUT

SCALE: 1:100



NOTE

- The AC unit shall be suitable for operation under tropical condition with ambient temperature and relative humidity
- Proper access for easy maintenance to be provided as recommended by the manufacturer of AC equipment above false ceiling
- All ceiling suspended unit to be provided with anti vibration hangers spring type
- GI Ducting/Pre insulated duct for common areas and AL Ducting for OTs, CSSD and sterile areas
- Acoustic insulation to be provided for duct with minimum 35mm from each AHU unit except OT and CSSD areas AHUs
- Canvas connection to be provided between indoor unit and duct
- Aluminum cladding to be provided over the insulation for the exposed duct and pipe works
- Air outlet shall be completely factory aluminum extruded with powder coated and the colour shall be the approval of the interior design
- Air outlet location and size shall be adjusted to suit reflected ceiling drawing or site condition
- Louver with bird screen to be provided for all the fresh air and exhaust air duct
- Kitchen hood exhaust should be provided in the kitchen areas
- Contractor shall be responsible to provide electrical power requirements to electrical contractor
- Contractor shall be responsible for coordination of all other services
- Contractor shall be responsible for calculating the static pressure for AHU/Exhaust air fan
- Contractor shall be responsible to modify/change/reroute/re locate as per the site condition and submit shop drawing for approval
- Contractor to be provided detailed shop drawings before starting works
- The minimum Energy efficient value for AC (EER) should be 3.5 (KWH/KWH)
- All the ACV equipment should be Anti corrosive

ACV LEGEND & ABBREVIATION	
	AIR HANDLING UNIT
	WALL MOUNTED UNIT
	4 WAY CASSETTE UNIT
	OUTDOOR UNIT (TOP DISCHARGE)
	OUTDOOR UNIT (SIDE DISCHARGE)
	CEILING MOUNTED EXHAUST FAN
	FRESH AIR/EXHAUST AIR FAN (DUCT IN LINE)
	WALL MOUNTED FAN
	REFRIGERANT PIPES WITH INSULATION
	AC DRAIN PIPES WITH INSULATION
	SUPPLY AIR DUCT WITH THERMAL INSULATION
	RETURN AIR DUCT WITH THERMAL INSULATION
	EXHAUST AIR DUCT
	FRESH AIR DUCT
	VOLUME CONTROL DAMPER
	SUPPLY AIR DIFFUSER WITH DAMPER
	RETURN AIR DIFFUSER WITH DAMPER
	EXHAUST AIR GRILL
	150MM WIDTH SUPPLY AND RETURN AIR GRILL
T/B	TO BELOW
T/A	TO ABOVE
F/A	FROM ABOVE
F/B	FROM BELOW
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SPECIFICATION FOR VRF/VRV

Outdoor Unit

Air cooled VRF / VRV system working in R410A / R-407C or equivalent refrigerant. The system shall be suitable to operate on 3 phase, 380-415 V, 50Hz AC power supply & shall comprises with multiple no's of inverter, digital scroll/screw compressors, air cooled condenser fan with motor, microprocessor control panel, starter controls for all scroll compressors and condenser fan motors along with internal control and power wiring, cooling coil with internally interconnected refrigerant pipes, charging port and all other required accessories. & hardware's. The entire unit shall be with weather resistant powder coating paint for withstanding all ambient conditions for continuous outdoor operation

Indoor unit

Air Conditioning Units suitable for mounting inside false ceiling/wall hang, each comprising of cooling coil, blower with motor, electronic expansion valve, filter, insulated connection of refrigerant circuit, provision for fresh air intake ducting, condensate water drain pump with electronic level sensor, including wireless remote controller etc

Air Handling Unit (DX type)

AHU having GI double skin (0.6/0.8 mm thick) sandwich panel ( PU injected foam with 45 mm thick, minimum density 40-50 kg/cu.m) with thermal break aluminium profile and heavy duty unit base. Air Handling Units complete with, dc coil (copper) , motor, SSW/ODW fan, pre filter (MERV 7/8) and fine filters (MERV 13) .

Air Handling Unit (DX type) for OT, ICU, Labour room, Sterile Areas and Accidents and Emergencies-

AHU having GI double skin (0.6/0.8 mm thick) sandwich panel ( PU injected foam with 45 mm thick, minimum density 40-50 kg/cu.m) with thermal break aluminium profile and heavy duty unit base. Air Handling Units complete with, dc coil (copper) , motor, SSW/ODW fan, pre filter (MERV 7/8) , fine filters (MERV 13) and HEPA Filter(HE14)

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SH. Goldhoo Health Center  
Client: Ministry of Health

Project Number: 037114MCH - HDHM  
Date: March 2023  
Architect: Razana Amir  
Engineer: Zaiman Hassan Yousuf  
Drawn by: Razana Amir  
Checked by: Zaiman Hassan Yousuf  
Interior: -



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Title: Ground Floor  
Ventilation Layout

Page: ACV-04 /06

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FIRST FLOOR VENTILATION LAYOUT

SCALE 1:100  
0 0.5 1 2 3 4 5



NOTE

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ACV LEGEND & ABBREVIATION	
	AIR HANDLING UNIT
	WALL MOUNTED UNIT
	4 WAY CASSETTE UNIT
	OUTDOOR UNIT (TOP DISCHARGE)
	OUTDOOR UNIT (SIDE DISCHARGE)
	CEILING MOUNTED EXHAUST FAN
	FRESH AIR/EXHAUST AIR FAN (DUCT IN LINE)
	WALL MOUNTED FAN
	REFRIGERANT PIPES WITH INSULATION
	AC DRAIN PIPES WITH INSULATION
	SUPPLY AIR DUCT WITH THERMAL INSULATION
	RETURN AIR DUCT WITH THERMAL INSULATION
	EXHAUST AIR DUCT
	FRESH AIR DUCT
	VOLUME CONTROL DAMPER
	SUPPLY AIR DIFFUSER WITH DAMPER
	RETURN AIR DIFFUSER WITH DAMPER
	EXHAUST AIR GRILL
	150MM WIDTH SUPPLY AND RETURN AIR GRILL
T/B	TO BELOW
T/A	TO ABOVE
F/A	FROM ABOVE
F/B	FROM BELOW
AHU	AIR HANDLING UNIT
TFA	TREATED FRESH AIR HANDLING UNIT
ODU	OUT DOOR UNIT

SPECIFICATION FOR VRF/VRV

Outdoor Unit  
Air cooled VRF / VRV system working in R410A / R-407C or equivalent refrigerant. The system shall be suitable to operate on 3 phase, 380-415 V, 50Hz AC power supply & shall comprises with multiple no's of inverter, digital scroll/screw compressors, air cooled condenser fan with motor, microprocessor control panel, starter controls for all scroll compressors and condenser fan motors along with internal control and power wiring, cooling coil with internally interconnected refrigerant pipes, charging port and all other required accessories, & hardware's. The entire unit shall be with weather resistant powder coating paint for withstanding all ambient conditions for continuous outdoor operation

Indoor unit  
Air Conditioning Units suitable for mounting inside false ceiling/wall hanging, each comprising of cooling coil, blower with motor, electronic expansion valve, filter, insulated connection of refrigerant circuit, provision for fresh air intake ducting, condensate water drain pump with electronic level sensor, including wireless remote controller etc.

Air Handling Unit (DX type)  
AHU having GI double skin (Ø 6/0.8 mm thick) sandwich panel (PU injected foam with 45 mm thick, minimum density 40-50 kg/cu.m) with thermal break aluminium profile and heavy duty unit base. Air Handling Units complete with, dx coil (copper), motor, SSW/DOW fan, pre filter (MERV 7/8), and fine filters (MERV 13).

Air Handling Unit (DX type) for OT, NICU, Labour room, Sterile Areas and Accidents and Emergencies  
AHU having GI double skin (Ø 6/0.8 mm thick) sandwich panel (PU injected foam with 45 mm thick, minimum density 40-50 kg/cu.m) with thermal break aluminium profile and heavy duty unit base. Air Handling Units complete with, dx coil (copper), motor, SSW/DOW fan, pre filter (MERV 7/8), fine filters (MERV 13) and HEPA Filter [H14]

SH. Goldhoo Health Center  
Client: Ministry of Health

Rev no	Date
1	03/11/2023
2	03/11/2023
3	03/11/2023
4	03/11/2023

Project Number: 037174MCH - HDHM  
Date: March 2023  
Architect: Razana Amir  
Engineer: Zamaam Hassan Yousuf  
Drawn by: Razana Amir  
Checked by: Razana Amir  
Interior: -



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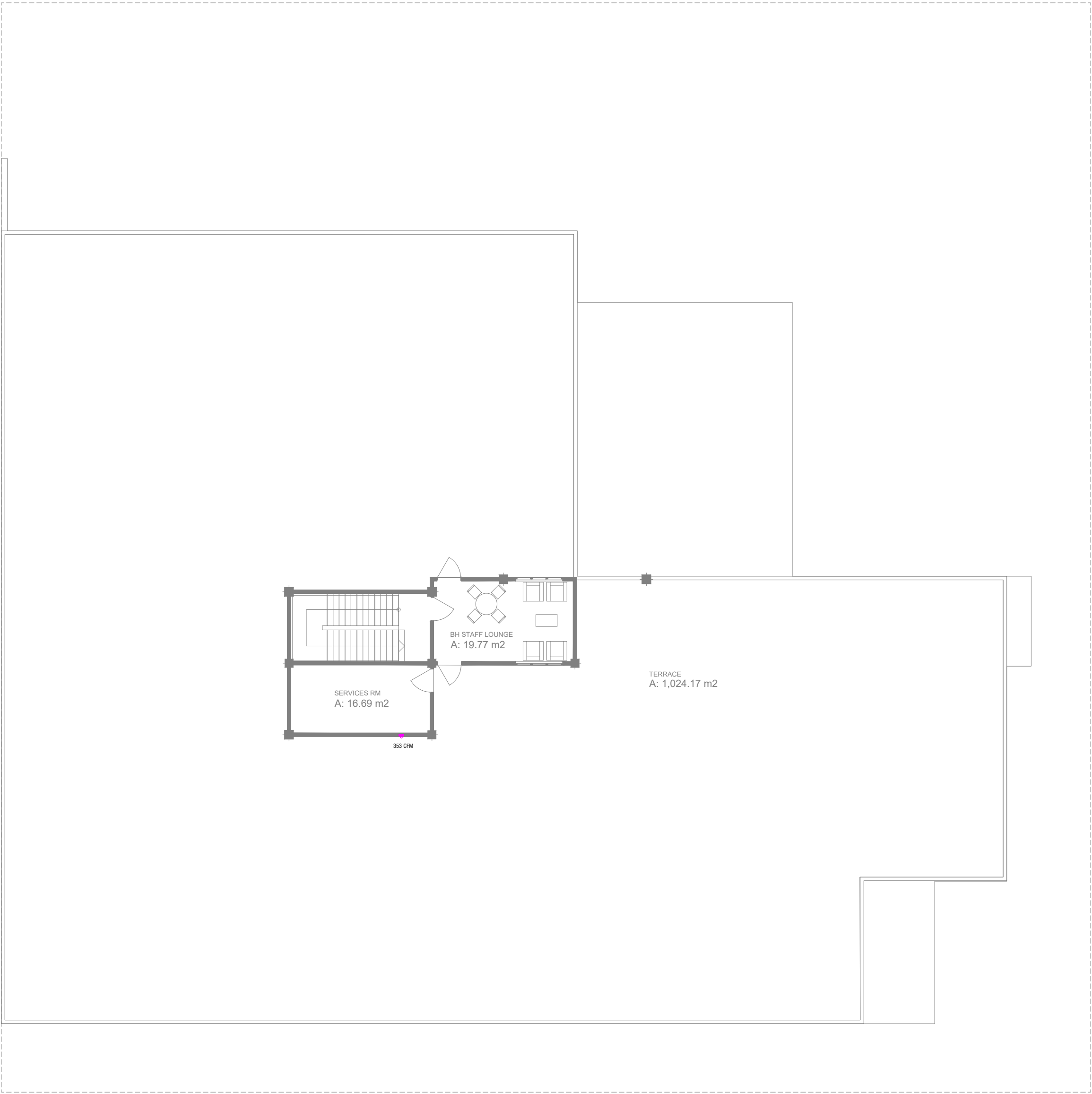
Title: First Floor  
Ventilation Layout

Page: ACV-05 /06

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TERRACE FLOOR VENTILATION LAYOUT



NOTE

- The AC unit shall be suitable for operation under tropical condition with ambient temperature and relative humidity
- Proper access for easy maintenance to be provided as recommended by the manufacturer of AC equipment above false ceiling
- All ceiling suspended unit to be provided with anti vibration hangers spring type
- GI Ducting/Pre insulated duct for common areas and AL Ducting for OTs, CSSD and sterile areas
- Acoustic insulation to be provided for duct with minimum 35qgm from each AHU unit except OT and CSSD areas AHUs
- Canvas connection to be provided between indoor unit and duct
- Aluminium cladding to be provided over the insulation for the exposed duct and pipe works
- Air outlet shall be completely factory aluminium extruded with powder coated and the colour shall be the approval of the interior design
- Air outlet location and size shall be adjusted to suit reflected ceiling drawing or site condition
- Lower with bird screen to be provided for all the fresh air and exhaust air duct
- Kitchen hood exhaust should be provided in the kitchen areas
- Contractor shall be responsible to provide electrical power requirements to electrical contractor
- Contractor shall be responsible for coordination of all other services
- Contractor shall be responsible for calculating the static pressure for AHU/Exhaust air fan
- Contractor shall be responsible to modify, change, re-route, re locate as per the site condition and submit shop drawing for approval
- Contractor to be provided detailed shop drawings before starting works
- The minimum Energy efficient value for AC (EER) Should be 3.5 [KWH/KW]
- All the ACV equipment should be Anti corrosive

ACV LEGEND & ABBREVIATION	
	AIR HANDLING UNIT
	WALL MOUNTED UNIT
	4 WAY CASSETTE UNIT
	OUTDOOR UNIT [TOP DISCHARGE]
	OUTDOOR UNIT [SIDE DISCHARGE]
	CEILING MOUNTED EXHAUST FAN
	FRESH AIR/EXHAUST AIR FAN [DUCT IN LINE]
	WALL MOUNTED FAN
	REFRIGERANT PIPES WITH INSULATION
	AC DRAIN PIPES WITH INSULATION
	SUPPLY AIR DUCT WITH THERMAL INSULATION
	RETURN AIR DUCT WITH THERMAL INSULATION
	EXHAUST AIR DUCT
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AHU having GI double skin (0.6/0.8 mm thick) sandwich panel ( PU injected foam with 45 mm thick, minimum density 40-50 kg/cu.m) with thermal break aluminium profile and heavy duty unit base. Air Handling Units complete with, dc coil (copper ), motor, SSN/DIDW fan, pre filter (MERV 7/8) and fine filters (MERV 13 ).

**Air Handling Unit (DX type) for OT, ICU, Labour room, Sterile Areas and Accidents and Emergencies:-**  
AHU having GI double skin (0.6/0.8 mm thick) sandwich panel ( PU injected foam with 45 mm thick, minimum density 40-50 kg/cu.m) with thermal break aluminium profile and heavy duty unit base. Air Handling Units complete with, dc coil (copper ), motor, SSN/DIDW fan, pre filter (MERV 7/8) , fine filters (MERV 13 ) and HEPA Filter(H14)

SH. Goldhoo Health Center  
Client: Ministry of Health

Rev no	Date
1	03/11/2023
2	03/11/2023
3	03/11/2023

Project Number: 037114MCH - HDHM  
Date: March 2023  
Architect : Razana Amir  
Engineer : Zinaam Hassan Yousuf  
Drawn by : Razana Amir  
Scale : 1:150  
Interior : -



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Title: Terrace Floor  
Ventilation Layout

Page: ACV-06 /06

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Ground Floor Plan-Medical Gas Piping Layout

GENERAL NOTES:

1. ALL PLUMBING WORKS INCLUDED HEREIN SHALL BE EXECUTED ACCORDING TO THE PROVISIONS OF THE PLUMBING CODE OF THE MALDIVES. IN THE ABSENCE THEREOF, SHALL BE IN ACCORDANCE WITH ACCEPTABLE INTERNATIONAL CODE AND STANDARDS.
2. COORDINATE THE DRAWING WITH OTHER RELATED DRAWINGS AND SPECIFICATION. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCY FOUND THEREIN.
3. ALL PIPES SHALL BE INSTALLED AS INDICATED ON PLANS. ANY RELOCATIONS REQUIRED FOR PROPER EXECUTION OF OTHER TRADE SHALL BE WITH PRIOR APPROVAL OF THE ARCHITECT OR ENGINEER.
4. PROPOSED SANITARY UTILITIES SHALL CONFORM TO THE ACTUAL LOCATION, DEPTH AND INVERT ELEVATION OF ALL EXISTING PIPES AND STRUCTURES AS VERIFIED BY THE CONTRACTOR.
5. ALL SLOPES FOR HORIZONTAL DRAINAGE SHALL MAINTAIN 1% UNLESS OTHERWISE SPECIFIED.
6. SIZE OF WATER SUPPLY PIPES TO FIXTURES SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
7. THE CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES AT SITE, COORDINATE THE WORKS WITH THE SEWER LINE EFFLUENT DISPOSAL POINT AND WATER LINE SERVICE CONNECTING POINT.
8. ALL PIPE SIZES ARE IN MILLIMETERS AND ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
9. THE PROPOSED UTILITIES SHALL BE MADE TO CONFORM TO THE ACTUAL LOCATION, TAPPING POINT, DEPTH AND INVERT LEVELS OF ALL EXISTING PIPES AND STRUCTURES AS VERIFIED BY THE CONTRACTOR.
10. ALL PIPE DIAMETER INDICATED ON PLANS ARE NOMINAL PIPE SIZES.
11. VENT AND WASTE STACK TO CONNECT TO SOIL PIPE. SOIL PIPE STACK AS MAIN SOIL AND WASTE VENT THRU ROOF.

LEGEND:

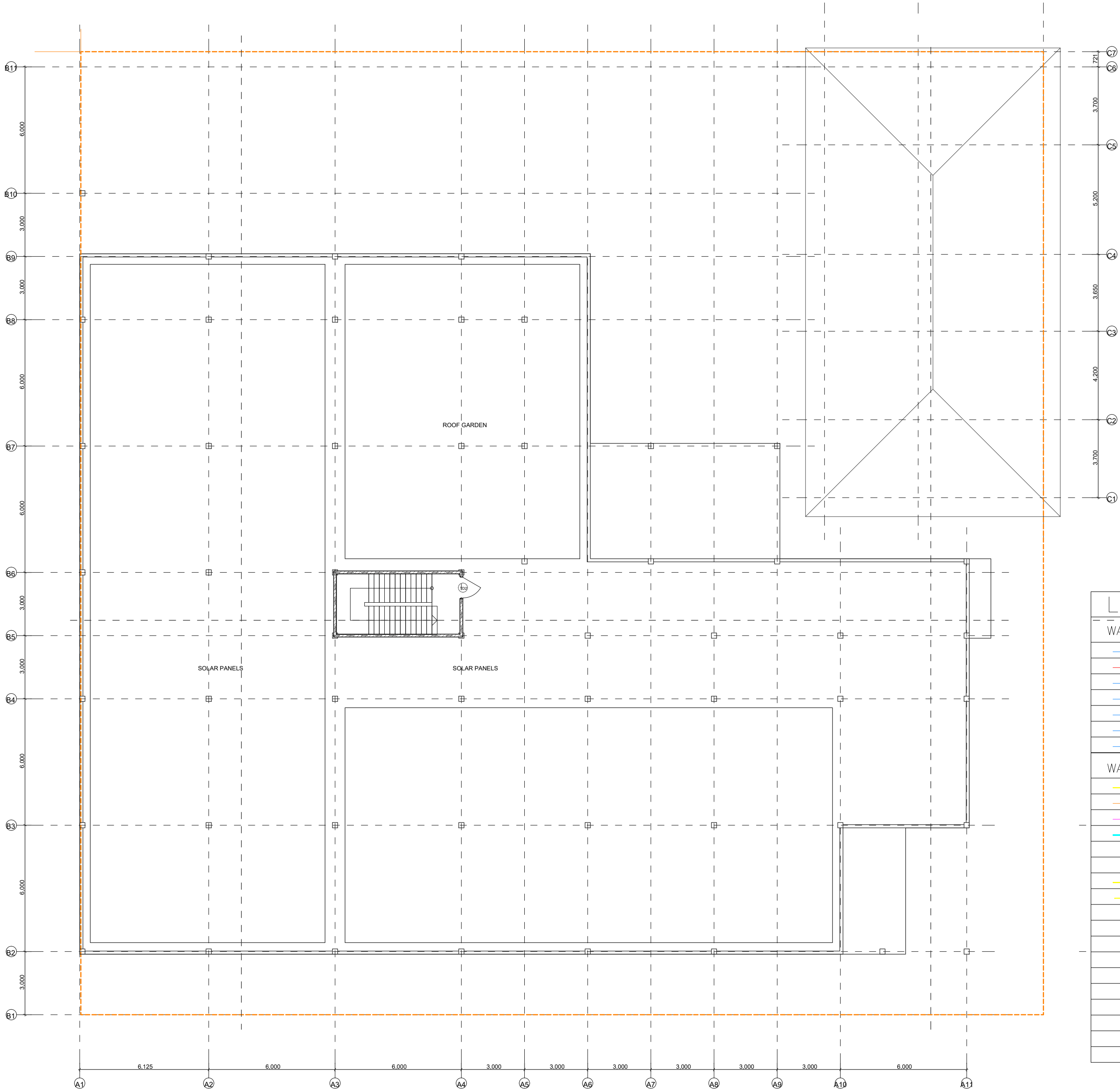
WATER DISTRIBUTION SYSTEM

	CWL	COLD WATER LINE
	HWL	HOT WATER LINE
	CWR/CWDF	COLD WATER RISER/DOWNFEED
	GV/DV	GATE VALVE / DRAIN VALVE / ISOLATION VALVE
	CV	CHECK VALVE
	HB	HOSE BIBB
	WM	WATER METER

WASTE, DRAINAGE, SEWER & VENT SYSTEM

	SP	SEWER PIPE
	WP	WASTE PIPE
	VP	VENT PIPE
	RWP	RAINWATER PIPE
	SS/VS/WS	SOIL/VENT /WASTE STACK
	VSTR	VENT STACK THRU ROOF
	FCO/GCO	FLOOR/GROUND CLEANOUT
	CCO/WCO	CEILING/WALL CLEANOUT
	FD	FLOOR DRAIN GULLY TRAP
	FG	FLOOR DRAIN GULLY TRAP
	SD 90°	SCUPPER DRAIN 90 DEGREE OUTLET
	AD	AREA DRAIN (MIN. 300x300MM)
	L-R	LEFT TO RIGHT
	T-B	TOP TO BOTTOM
	UG/S	UNDERGROUND / UNDERSLAB
	AC	ABOVE CEILING
	RWCP	RAINWATER COLLECTOR PIPE
	OFF / OF	OVERFLOW PIPE / OVERFLOW





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	WM	WATER METER

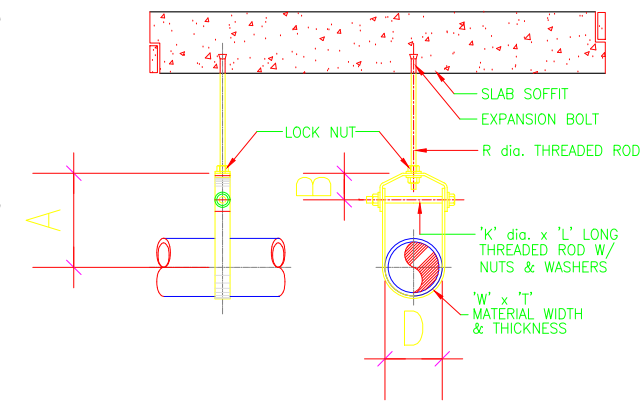
WASTE, DRAINAGE, SEWER & VENT SYSTEM

	SP	SEWER PIPE
	WP	WASTE PIPE
	VP	VENT PIPE
	RWP	RAINWATER PIPE
	SS/VS/WS	SOIL/VENT /WASTE STACK
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	AC	ABOVE CEILING
	RWCP	RAINWATER COLLECTOR PIPE
	OPF / OF	OVERFLOW PIPE / OVERFLOW



Page: DR-01 /03

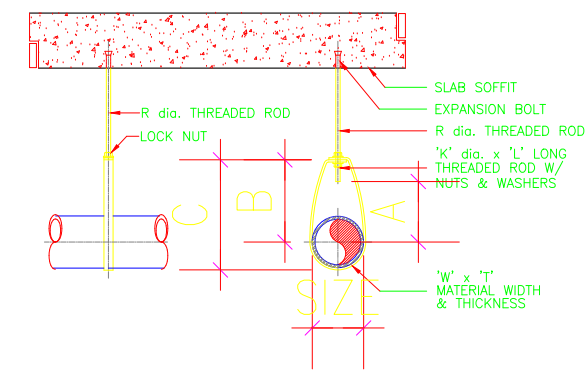




ELEVATION

STANDARD CLEVIS HANGERS  
TABLE OF DIMENSIONS

D	A	B	R	W x T	K x L
34	80	45	12	25 x 3	M10 x 70
43	90	50	12	25 x 3	M10 x 80
48	95	50	12	25 x 3	M10 x 85
60	105	55	12	25 x 3	M10 x 100
76	115	60	14	40 x 6	M12 x 115
89	125	60	14	40 x 6	M12 x 130
114	145	65	18	40 x 6	M16 x 160
140	165	75	18	40 x 6	M16 x 190
165	185	80	18	40 x 6	M16 x 210



ELEVATION

SECTION

TRAPEZE HANGERS  
TABLE OF DIMENSIONS IN MM

PIPE SIZE DIA.(MM)	ROD DIA. R(MM)	A	B	C	W (WIDTH)	L (THICK)
25	10	36	55	75	22	1.8
32	10	46	65	87	22	1.8
40	10	49	57	95	22	1.8
50	10	56	76	106	22	1.8
65	15	76	98	135	38	2.5
75	15	84	108	152	38	2.5
100	16	90	124	181	52	2.5
150	20	132	162	246	68	4.5

## DETAILS OF PIPE HANGERS

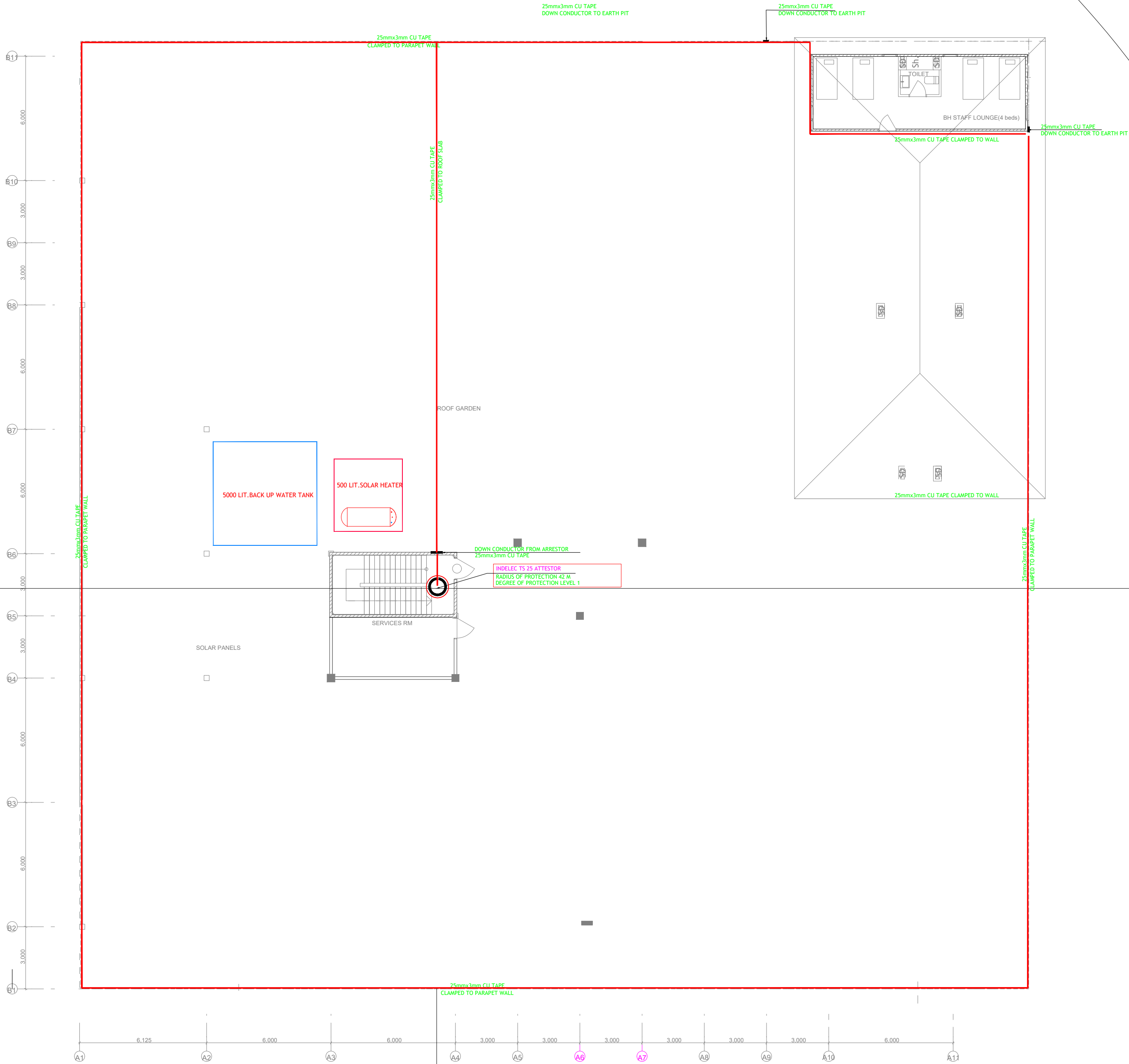












Roof Plan-Lighting Protection Layout

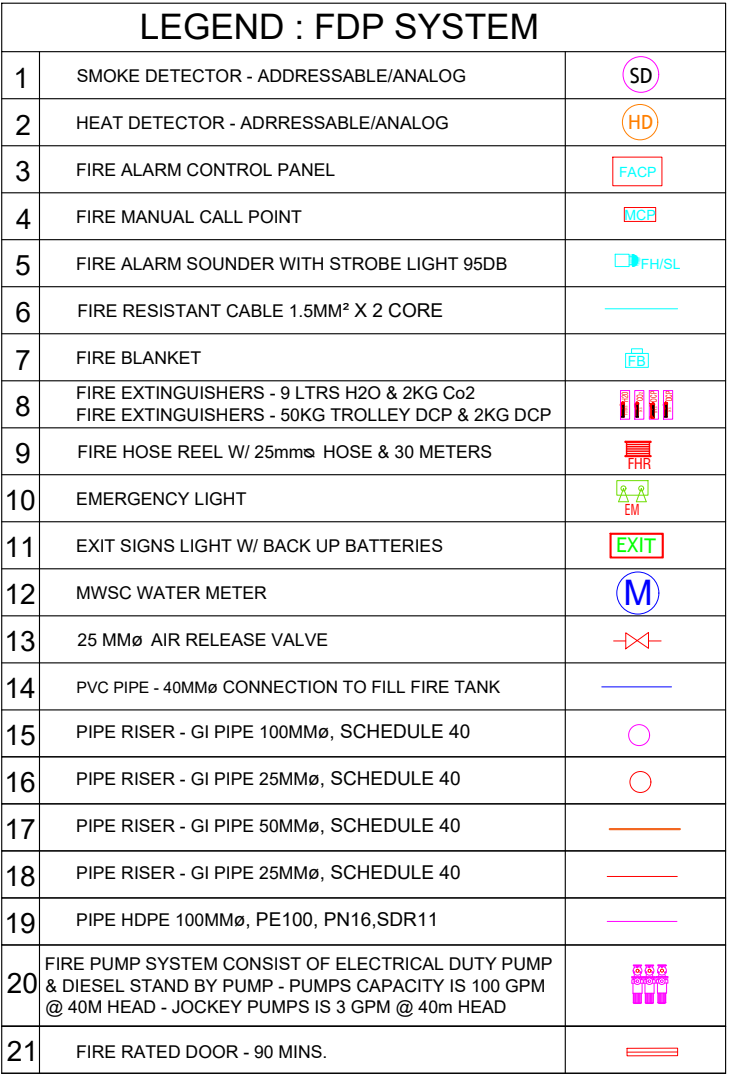








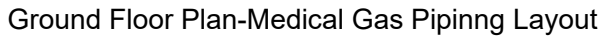












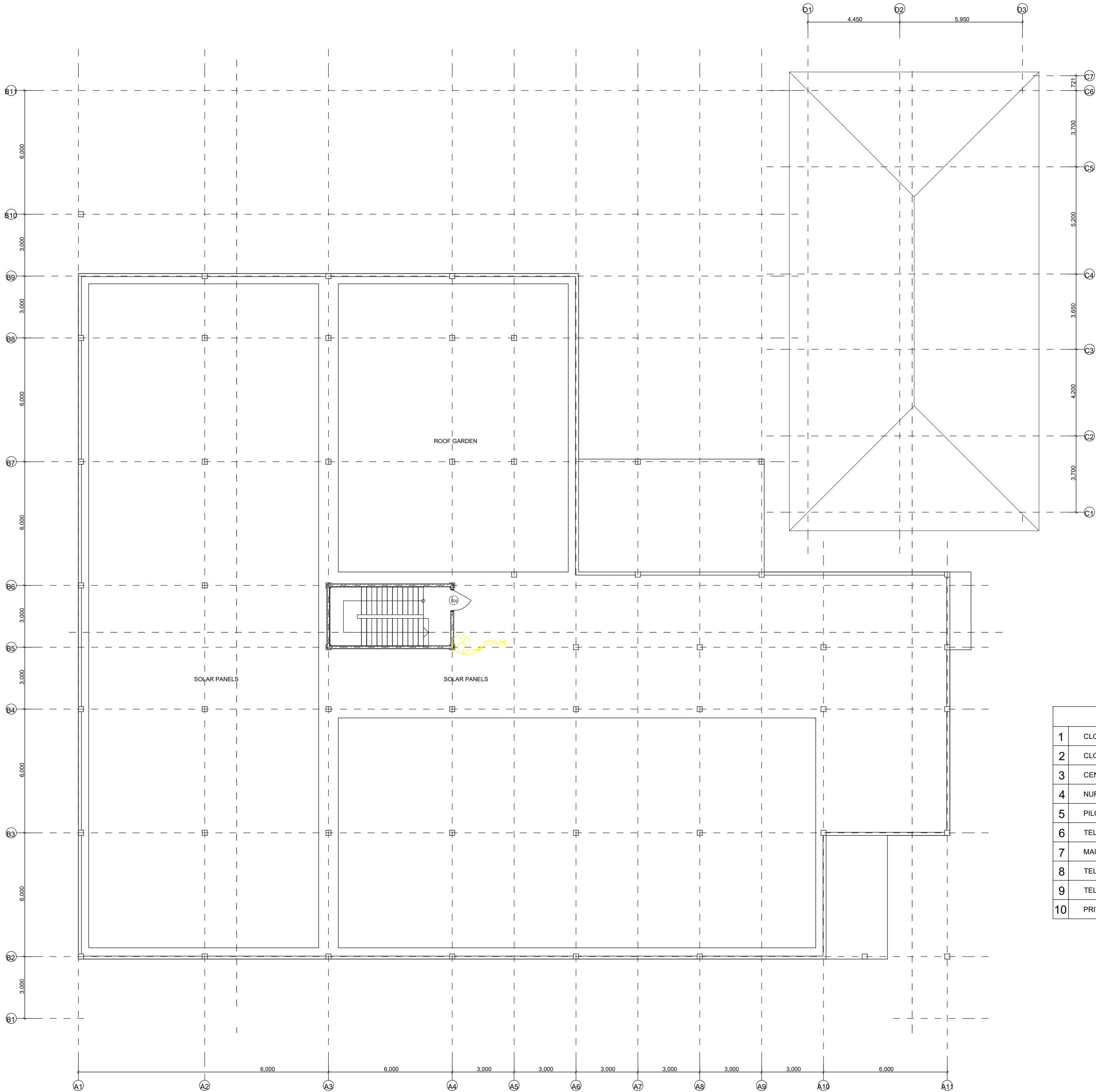
SH. Goidhoo Health Center  
 Client: Ministry of Health

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Project Number: 827114MOH - HDHM  
 Date: March 2022

**Architect :** Razana Amir  
**Engineer :** Zameam Hassan Yousuf  
**Drawn by :** Razana Amir  
**Services :** -  
**Interior :** -





LEGEND : AUXILIARY SYSTEM		
1	CLOSE-CIRCUIT TELEVISION	
2	CLOSE-CIRCUIT TELEVISION PULLBOX	
3	CENTRALIZATION MODULE	
4	NURSE CALL	
5	PILOT LIGHT	
6	TEL/DATA TERMINAL CABINET	
7	MAIN DISTRIBUTION FRAME - TTC	
8	TEL/DATA OUTLET	
9	TEL/DATA CIRCUIT RUN	
10	PRIVATE AUTOMATED BRANCH EXCHANGE	