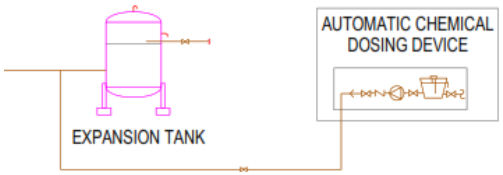
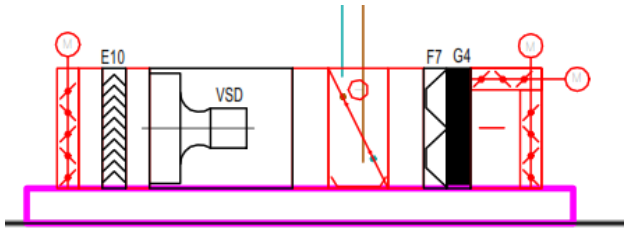
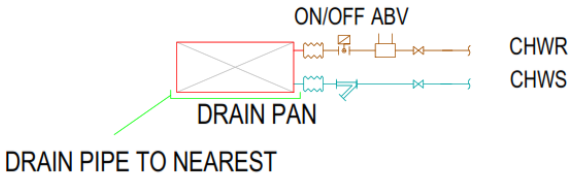
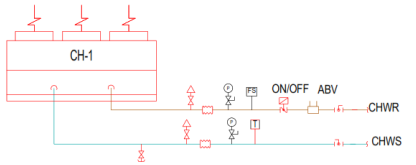
PROJECT: NEW ADMINISTRATIVE BUILDING FOR THE NATIONAL ASSEMBLY OF CAMBODIA

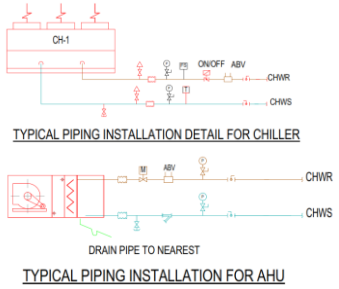
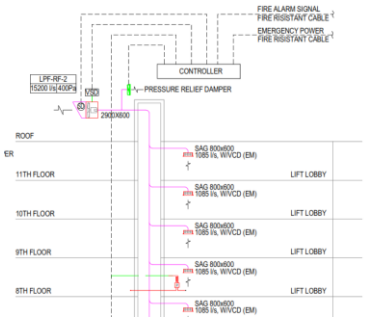
WORK PACKAGE: MAIN CONTRACT WORK

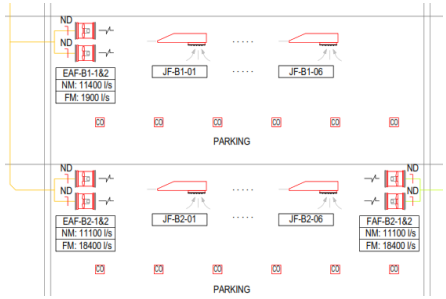
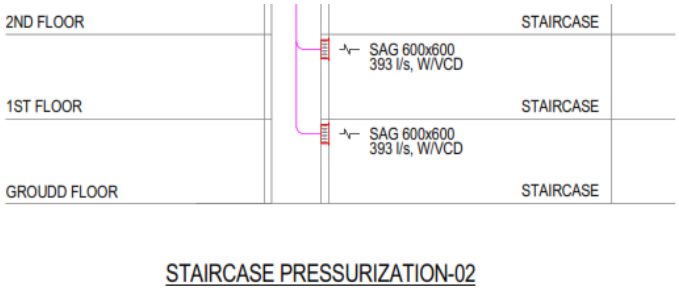
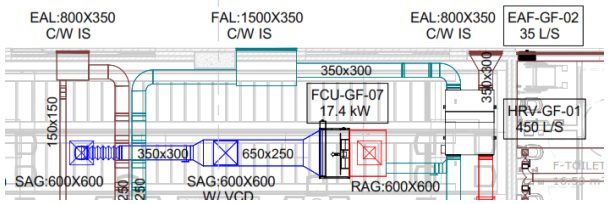
SUBJECT: CLARIFICATION OF BIDDING DOCUMENTS NO.07

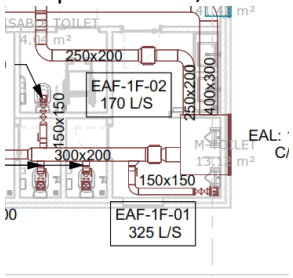
CLARIFICATION OF BIDDING DOCUMENTS NO. 07

NO.	BIDDERS' QUERIES	EMPLOYER/ENGINEER'S CLARIFICATION
1	Should there be any discrepancy between the specification, general note, drawing layout, Schematic drawing and Typical installation Detail, please confirm the hierarchy to be followed.	In general, in case of discrepancy the order of priority is: 1. Specifications 2. Drawing layout 3. Schematic drawings 4. Typical installation 5. General notes
2	Does the MEP materials and/or equipment required to be supplied in a specific designed country or origin?	No
	MVAC SYSTEM	
3	For Expansion Tank and Automatic Chemical Dosing Device, what should be the capacity required for these items? Please clarify. 	The Capacity of closed expansion tank is 1m3. Please find attached file in provided downloadable link below for the updated drawings NA-AC-6001. https://archetypevn-my.sharepoint.com/:f:/g/personal/sarun_chea_archetype-group_com/Esj1d_pVxI9EkNFvRhGx_YoB5xea7QnCFQIYGm6_ZmzkVQ?e=emaZby (The link is available for 7 days)

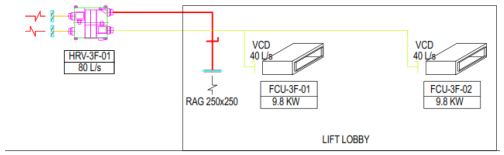
4	In the schematic drawing indicated about Air Handling Unit (AHU), Please clarify as below: 1-Shall require motorized damper on return air, fresh air and supply air of AHU? 2-Shall require air filter G4, F7 and E10 for AHU? What is the E10 filter? Is it a HEPA filter? 	1. Please follow the schematic diagram. 2. Yes, please follow the schematic/equipment schedule. E10 is HEPA filter class E10.
5	In the schematic drawing for Fan Coil Unit (FCU) indicated about second drain pan, please clarify shall be required secondary drain pan for all FCU concealed duct type? 	Confirmed to provide secondary drain pan for all FCU concealed duct type.
6	In schematic drawing indicated about 2 Way Motorized On/Off Valve for chiller. Please clarify shall be required 2 Way Motorized On/Off valve or 2 Way Motorized Modulating Valve for Chiller? 	Use 2 Way Motorized On/Off Valve. Please see the updated drawings provided in above answer item 03 for reference.

7	In the schematic drawing didn't indicate about Temperature Gauge but indicated only Pressure Gauge for Chiller and AHU. Please clarify what should be the required Temperature Gauge and Pressure Gauge for Chiller and AHU?  	Confirmed to provide temperature gauge for Chiller and AHU. Please see the updated drawings provided in above answer item 03 for reference.
8	For the Lift Lobby Pressurization in schematic drawing indicated only Volume Control Damper (VCD) only for all floors, please clarify what should be the required Fire Damper (FD) for every floor?  	Confirmed to provide fire damper for each floor. Please find attached file in provided downloadable link below for the updated drawings NA-AC-6002. https://archetypevn-my.sharepoint.com/:f:/g/personal/sarun_chea_archetype-group_com/EvbIWWCAIJlKuUjKYO3E8dIB86taAYFXZTDk4MyoqjdXeQ?e=bQufxF (The link is available for 7 days)
9	Jet Fan served for car park at basement 1 and 2, shall be required 1 speed or 2 speeds fan? Please clarify its capacity.  	Please follow specification in main equipment schedule in tender drawing no. NA-AC-7001.

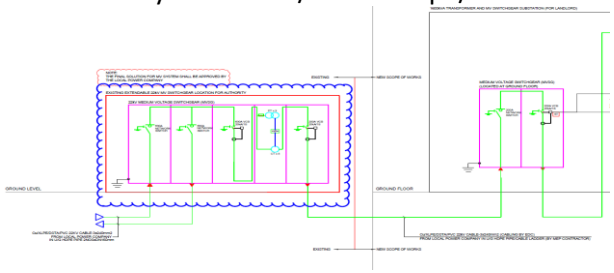
10	For ventilation at carpark should it require a Fire Damper (FD) from fresh air duct and exhaust duct connected to main shaft? 	The fire damper is required. Please see the updated drawings provided in above answer item 03 for reference.
11	Staircase pressurization and lift lobby pressurization in drawing layout served from the roof to ground floor only. Please clarify the requirement for basement staircase. Because there are 2 basements for staircase. 	There is no requirement of pressurization for 2 basements, please follow drawing layout.
12	What is the minimum distance required from exhaust air and fresh air intake? In drawing we have noted that it is less than 5 meters away from the exhaust air and fresh air intake. 	Minimum distance between exhaust and fresh air intake is 5m.

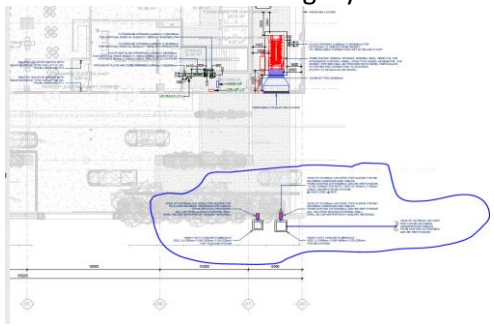
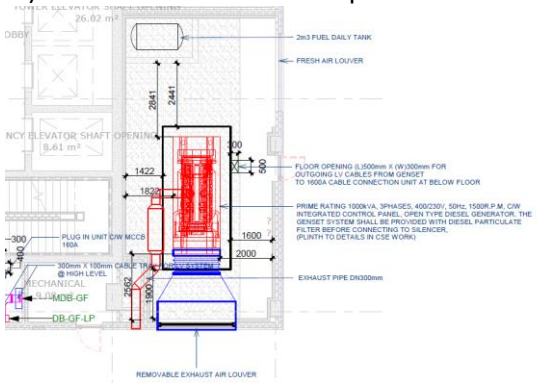
<table>
<tr>
<td>13</td>
<td>For fresh air duct or exhaust air duct that have many ducts connected into one plenum box, should it require a Non Return Damper (NRD)? Please clarify
 
</td>
<td>Please follow the drawing layout, the duct connected to plenum shall be not required NRD.</td>
</tr>
<tr>
<td>14</td>
<td>For Heat Reclaim Ventilator (HRV) in equipment schedule concluded with CO_2 sensor, please clarify as below:
1- $C0_2$ sensor should be required in every HRV?
2- One unit for HRV connected to many FCUs of each room, please clarify about the operation of HRV, how the HRV works if some of FCUs in group of HRV are operated and some of FCU in group of HRV are not operated? The fresh air from HRV is still provided to FCU that is not operated?
<table>
<tr><th colspan="8">HEAT RECLAIM VENTILATOR SCHEDULE</th></tr>
<tr><th rowspan="2">LEVEL</th><th rowspan="2">DESCRIPTION</th><th rowspan="2">QTY.</th><th colspan="2">SELECTION</th><th colspan="2">POWER CONSUMPTION</th><th rowspan="2">REMARK</th></tr>
<tr><th>L/s</th><th>m3/h</th><th>KW</th><th>Ph/V/Hz</th></tr>
<tr><td>GF</td><td>HRV-GF-01</td><td>1</td><td>450</td><td>1620</td><td>1.289</td><td>1/220/50</td><td>C/W CO2 SENSOR</td></tr>
<tr><td></td><td>HRV-GF-02</td><td>1</td><td>340</td><td>1240</td><td>1.145</td><td>1/220/50</td><td>C/W CO2 SENSOR</td></tr>
<tr><td>1F</td><td>HRV-1F-01</td><td>1</td><td>465</td><td>1670</td><td>1.289</td><td>1/220/50</td><td>C/W CO2 SENSOR</td></tr>
<tr><td>2F</td><td>HRV-2F-01</td><td>1</td><td>70</td><td>250</td><td>0.137</td><td>1/220/50</td><td>C/W CO2 SENSOR</td></tr>
<tr><td></td><td>HRV-2F-02</td><td>1</td><td>90</td><td>330</td><td>0.2</td><td>1/220/50</td><td>C/W CO2 SENSOR</td></tr>
</table></td>
<td>1. Yes, please follow main equipment schedule.
2. The HRV still run even some of FCU in the group is not operated.</td>
</tr>
<tr>
<td>15</td>
<td>For FCU in equipment schedule concluded with Photo Catalytic Oxidation (PCO), Please clarify for all FCU of chilled water should be required in Photo Catalytic Oxidation (PCO)?
<table>
<tr><th colspan="4">COOLING COIL</th><th></th></tr>
<tr><th>LVG. AIR TEMPERATURE (DB/WB)</th><th>ENT/LVG CHW TEMP.</th><th>NOMINAL CHW FLOW RATE</th><th>PIPE SIZE</th><th>REMARK</th></tr>
<tr><td>°C</td><td>°C</td><td>L/s</td><td>mm</td><td></td></tr>
<tr><td>15.1 / 14.6</td><td>7/12</td><td>0.263</td><td>25</td><td>C/W PHOTO CATALYTIC OXIDATION (PCO)</td></tr>
<tr><td>15.3 / 14.8</td><td>7/12</td><td>0.502</td><td>32</td><td>C/W PHOTO CATALYTIC OXIDATION (PCO)</td></tr>
<tr><td>15.6 / 15.0</td><td>7/12</td><td>0.694</td><td>32</td><td>C/W PHOTO CATALYTIC OXIDATION (PCO)</td></tr>
<tr><td>15.8 / 15.4</td><td>7/12</td><td>0.831</td><td>32</td><td>C/W PHOTO CATALYTIC OXIDATION (PCO)</td></tr>
<tr><td>15.5 / 14.9</td><td>7/12</td><td>0.215</td><td>20</td><td>C/W PHOTO CATALYTIC OXIDATION (PCO)</td></tr>
</table></td>
<td>Please follow main equipment schedule.</td>
</tr>
</table>

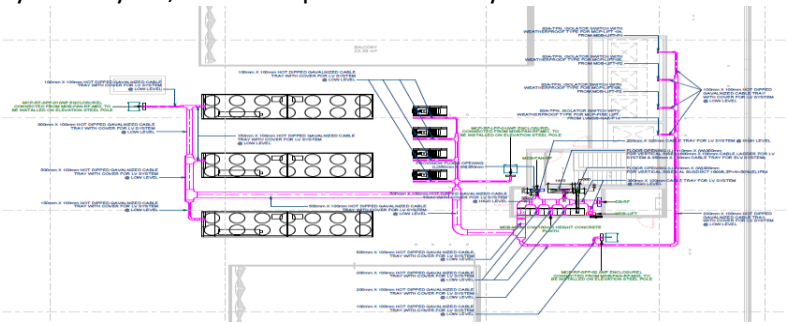
16	In tender BOQ indicated about brand of each material, can we propose other brands that are equivalent? Please clarify	Can propose equivalent material.
17	For FCU of chilled water wall mounted type, can we propose to ceiling suspended type? Because it is difficult to install chilled water pipe with FCU wall mounted type. 8 FCU Wall Mounted, Cooling Capacity 2.0 kW Carrier/Trane set 1.00 9 FCU Wall Mounted, Cooling Capacity 2.50 kW Carrier/Trane set 1.00 10 FCU Wall Mounted, Cooling Capacity 3.90 kW Carrier/Trane set -	Please follow the drawing layout.
18	In tender BOQ noted that: - All the louver and plinth are included in C&S work. - Excluded all ACMV work at office area from 8F to 10F Please clarify shall we not provide and install for all these work in the note? How about pressurization grille and damper served from level 8F to 10F, shall we provide and install? **Note:** **- All the louver and plinth are included in C&S Work** **- Excluded all ACMV works at office area from 8F to 10F**	- All the louver and plinth are under in C&S work. - Please provide pressurization grille and damper from level 8F to 10F
19	Water softener in drawing is not indicated but in tender BOQ is indicated, please clarify should we provide and install water softener? If required, please provide the capacity of water softener and its location. 3 Expansion tank Carrier/Trane set 1.00 4 Water Softener Carrier/Trane set 1.00	Please exclude this item.
20	Please clarify for Ventilation at Carpark as below: 1- Shall be required fire rated duct for fresh air duct and exhaust air duct for carpark? 2- Shall be required ducting run into RC shaft? 3- If required duct run RC shaft so the ducting shall be required fire rated insulation? 4- What is the minimum thickness and material required for fresh air duct and exhaust air duct?	1. Yes, fresh air and exhaust air duct shall be fire rated. 2. Yes, ducting run into RC shaft. 3. Yes, fire rated insulation to be required. 4. The duct shall be fabricated from heavy steel gauge steel of 1.2mm thk.

21	Please clarify for Pressurization system for staircase and lift lobby as below: 1- Shall be required fire rated duct for pressurized air duct? 2- Shall be required ducting run into RC shaft? 3- If required ducting run in RC shaft so the ducting shall be required fire rated insulation? 4- What is the minimum thickness and material required for pressurized air duct?	1. Yes, fresh air and exhaust air duct shall be fire rated. 2. Yes, ducting run into RC shaft. 3. Yes, fire rated insulation to be required. 4. The duct shall be fabricated from heavy steel gauge steel of 1.2mm thk.
22	For ducting connected to HRV, fresh air duct and exhaust air duct connected from HRV to Room are required external insulation but ducting connected from HRV to outside are not required external insulation. Please clarify is our understanding is correct? 	Yes, your understanding is correct, please follow that.
23	In tender BOQ for chilled water pipe indicated for black steel pipe to BS standard c/w insulation, could we propose to Pre-insulated chilled water pipe. Please clarify. D CHILLED WATER PIPE, COPPER PIPE, COMMUNICATION CABLE, AND DUCT Blk.Welded Steel Pipe to BS standard c/w insulation as per the specification: 159 DN15 Ricwil/Melewar 160 DN20 Ricwil/Melewar 161 DN25 Ricwil/Melewar 162 DN32 Ricwil/Melewar 163 DN40 Ricwil/Melewar 164 DN50 Ricwil/Melewar 165 DN65 Ricwil/Melewar 166 DN80 Ricwil/Melewar 167 DN100 Ricwil/Melewar 168 DN150 Ricwil/Melewar 169 DN200 Ricwil/Melewar	Confirm to use pre-insulated chiller water pipe.
	ELV SYSTEM	
24	We didn't find the Fire Alarm System Specifications in the ELV specification folder.	Please find in the provided downloadable link below for the Addressable Fire Alarm System Specifications 0972. https://archetypevn-my.sharepoint.com/:f:/g/personal/sarun_chea_archetype-group_com/EhVKsbVXQjVDsmiiXdSmWrQB7mkhJcymY9GkbFnvXyAaZw?e=K6S5j7

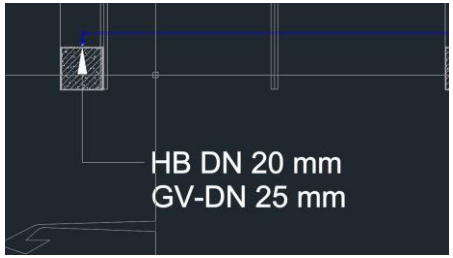
25	For Fire Alarm, Public Address, Access Control and CCTV System in new building requires to integrate with existing building or not?	These systems will be operated separately. No longer require to connect with the existing system.
26	Refer to BOQ Tender (Bill No.11 ELV) mention that: Exclude Data point, Telephone point at Office area from 8F to 10F. We found a Single data socket in Telecommunication room. So we should include it in BOQ, as per this socket out of office area? **Note: Excluded Data Point, Telephone point at office area from 8F to 10F. We only install the Rack and optical cable works for these floors at riser.**	Yes to be included for Data outlet in TELE-COM room.
27	We didn't find any Conference System for all conference hall and meeting room. Please confirm that there is no conference system in this building. If missing, please send us the related document of Conference System.	The Conference system or AV system will be under other AV specialist scope.
28	Please clarify the usage of the staircases: - Normal access? or - Emergency access? to incorporate with Fire alarm status.	Normal & Emergency access. Staircase Pressurization System interface with Fire Alarm system to be provided as per drawings.
29	We found in Tender BOQ (Bill No. 11 ELV, partition of DATA Communication System) that DATA, WIFI and Telephone are using the same switch type, 24 ports 10/100 PoE + Manage Switch layer 3. But in Data, Wifi and Telephone System Schematic Diagram (C-CBD-EXT-20-012-B00), show that Data & Telephone use non PoE Network switch 24ports, and Wifi use PoE Switch 24ports. Please confirm which one we should follow. 84 Cisco SF350-24P 24-port 10/100 PoE+ Managed Switch Layer 3 w/Gig Uplinks (24*10/100POE with 180W power budget + 2*10/100/100 + 2*Gig Combo SFP) Cisco	For Data Network used Non PoE switch 24 ports. For IP Telephone ,WIFI and IP Camera used 24 ports 10/100 PoE+Manage Switch layer 3.
30	We found in Data, Wifi and Telephone System Schematic Diagram (C-CBD-EXT-20-012-B00), show that Wifi is using Cat6A cable running to PoE Switch. But in BOQ Tender we didn't see any equipment related to Cat6A Cable. Please confirm WIFI is using Cat6 cable.	To used Cat6A cable for WIFI access point.

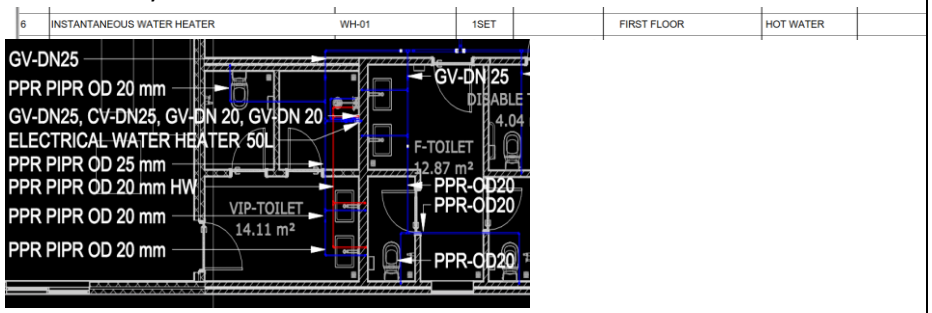
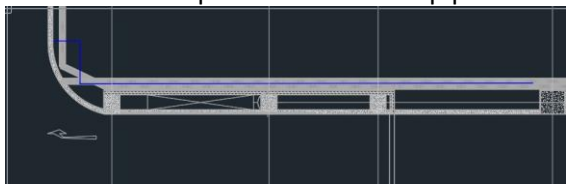
	BMS SYSTEM	
31	Please provide the BMS point list	Please see in the provided tender drawings no. ME-NA-BM-6004 for point list. And see in provided downloadable link below for reference. https://archetypevn-my.sharepoint.com/:f:/g/personal/sarun_chea_archetype-group_com/EmbBAirMvM1CjMbj3cOovpYBH3An_GpZyAOVgdaQTPfeSQ?e=MOaUam (The link is available for 7 days)
	LV SYSTEM	
32	Based on tender drawing, Sheet No: ME-NA-EP-6001, There is an existing 22KV MEDIUM VOLTAGE SWITCHGEAR (MVGS) panel and New MVSG located at Ground floor. We would like to clarify the scope of works as follows: a). Please provide/Indicate in the tender drawing, the location of Existing MVSG and Cable routing layout between existing and new MVSG. b) The scope of Cabling works between Existing & New MVSG: 22kV, 3x240mm^2 by EDC and U/G HDPE Pipe/ Cable ladder by Contractor? 	a). Yes, please see the attached dwg layout. No. ME-NA-EP-1001. b). Yes. Contractor shall coordinate with EDC. Please find provided downloadable link below for the drawing updated ME-NA-EP-1001. https://archetypevn-my.sharepoint.com/:f:/g/personal/sarun_chea_archetype-group_com/Eivsig-K6_ZCo5qdT0-gFvAB1FuiKrp4XOYoImUArwg4uw?e=6aD0hJ (The link is available for 7 days)
33	There is an underground pipe & a concrete manhole shown in the tender drawing: Sheet No: ME-NA-EP-1001 please clarify as follows: a). Incoming 22KV cable from MV metering: Supply and install cable by contractor or by other?	a). By Contractor. b). By Contractor.

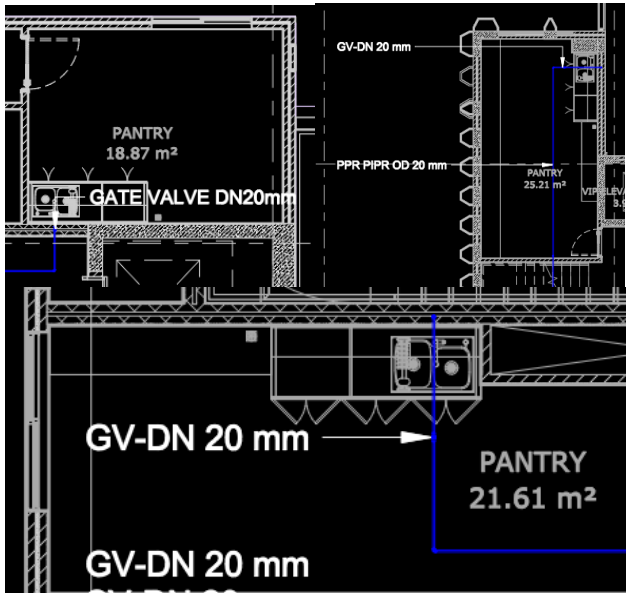
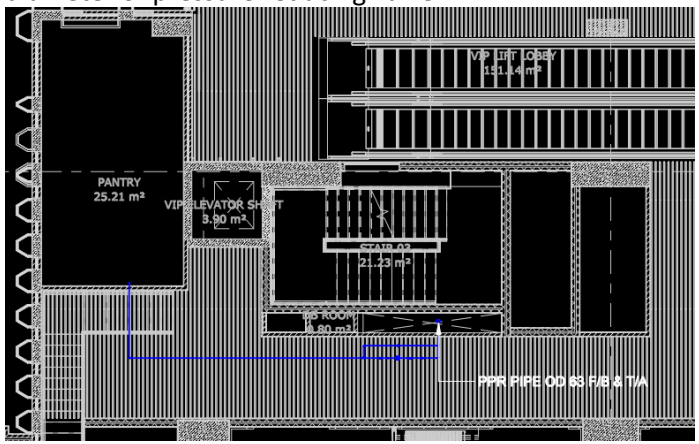
	b). Underground pipe & manhole works: Supply and Install by contractor or by other? c). If it is under contractor's scope of works, please provide the drawing location and cable routing layout. 	c). Yes, please see the attached dwg layout. No. ME-NA-EP-1001. The location of existing MV substation including pipe routing are indicative. Provide cost provision for the site survey of underground services including adjustment if necessary. d) Drawing no. ME-NA-EP-1001 also include the interconnections from existing NAB Control /Server Room to New NAB Security Control (Server) Room.
34	Base on drawing tender: Sheet No: ME-NA-EP-1001: please clarify the following: a). Generator set requirement is Open type? yes or no. b.). Intake air with soundproof? Yes or no. c.). Outlet air with soundproof? Yes or no. d.). Wall acoustic with soundproof? Yes or no. 	a). Yes. (Already mentioned in the drawing layout and single line diagram) b). Yes. c). Yes. d). Yes.
35	The cable routing system drawing at roof-floor required a cable tray installed with cover but the in the other drawings has not mentioned this about cable tray cover.	Please follow the drawing layout and specification. The indoor horizontal cable tray/trunking shall be no need cover except the drop-down cable tray/trunking to

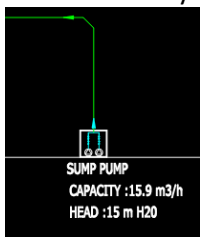
	Please see Tender drawing: sheet No. ME-NA-EP-1101 to 1114, Cable routing system layout, does it require a cable tray with or without a cover? 	connect with MSB, MDB, DB, MCP, MDF, IDF... that shall be need cover. But the outdoor cable tray/trunking shall be hot dipped galvanized with cover.
36	Please provide the specification of lighting fixtures. We didn't find it in the LV specification document provided.	Please refer to Architectural Drawing Package – inside the Appendix folder.
37	Please refer to Tender BOQ (Bill No.10 LV), The uPVC conduit and EMT conduit has mentioned, but we could not see it in the tender drawing layout. please clarify the area that required a uPVC and EMT Conduit? a). Conduit installed in concealed wall/slab: use uPVC conduit or EMT Conduit? b). Conduit installed in indoor area, and above ceiling: use uPVC conduit or EMT Conduit? c). Conduit installed in outdoor area, and exposed area: use uPVC conduit or EMT Conduit?	a). Use PVC b). Use PVC c). Use EMT
38	Based on Tender drawing of lighting system, the design drawing mentioned/noted that: Each emergency lighting shall be provided with 13A power socket outlet. but we did don't see it in the tender BOQ. Please clarify does it required a power socket or without power socket? 3. EACH EMERGENCY LIGHTING SHALL BE PROVIDED WITH 13A SOCKET OUTLET TO BE INSTALLED BESIDE THE EMERGENCY LIGHTING FITTINGS.	Need power socket outlet (to follow drawing layouts design note).
39	In tender drawing layout, power supply to MVAC equipment, they are required an isolator switch for each FCU. But in drawing no.: ME-NA-EP-1135,	Please note that Conference room is served by AHU (not FCU). Isolator Switch is not required in this area. Refer to single line diagram dwg. No. ME-NA-EP-6007

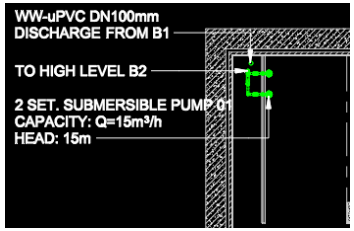
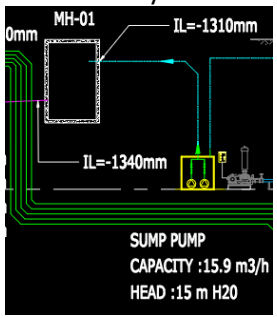
	Inside conference room, we don't see any safety isolator switches for 3 units of FCU. Should we include those safety isolator switches?	(In MCP-AHU-2F) in provided tender drawing. These Motorized Damper of each VAV Boxes shall be powered by stepdown transformer 220V/24V AC.
40	In the Tender BOQ (Bill No.10 LV), There is a noted remark: Excluded the cable tray and cable trunking at office area and corridor from 8F to 10F. We install it only at DB room for these 3 floors. But in the Tender drawing. there is a Cable tray/Trunking layout on those 3 floors (8F to 10F). Please clarify, should we include or exclude it in our offer proposal BOQ? Note: Excluded the cable tray and cable trunking at office area and corridor from 8F to 10F. We install it only at DB Room for these 3 floors. 	Please refer to **Clarification of Bidding Documents No.02, item no. 02**
	PLUMBING SERVICE	
41	a- Refer to Spec: 0811 PLUMBING FIXTURE, contractor supply and install the plumbing fixture, please provide the approved model, code to us. b- Refer to Bill No.14 Plumbing, all plumbing or sanitary fixture use model COTTO. Please confirm this brand to be used. SANITARY WARE 1 Mirror- Wall Mounted Frame Less Mirror Cotto Set 93.00 2 Water Closet-one Piece Neptune 4.5/3l Per Flush (Hyg.) Cotto Set 80.00 3 Water Closet-wall Hung Neptune 4.5/3l Per Flush Cotto Set 18.00 4 Rinsing Spray-brass Rinsing Spray Set. Cotto Set 98.00 5 Hand Wash Basin-over Counter Basin included trape and plug Cotto Set 93.00 6 Faucet Cotto Set 93.00 7 Wall Sink-wall Mounted Stainless Steel Sink and Grease Trap Cotto Set 10.00 8 Kitchen Faucet-lever Handle Kitchen Faucet Cotto Set 10.00 9 Urinal-wall Hung Urinal Cotto Set 44.00 10 Urinal Flush Valve Cotto Set 44.00 11 Service Sink-wall Hung Sink. Cotto Set 11.00 12 Janitor Faucet-lever Handle Mop Faucet Wall Mounted Cotto Set 11.00 13 Pantry Sink-stainless Steel One Bowl Cotto Set - 14 Disable Handrail Cotto Set 46.00 15 Foldable Support Arm-drop-down Support Rail Cotto Set 23.00 16 Paper Holder Square Series Cotto Set 98.00 17 Wall Mounted Stainless Steel Wast Bin Cotto Set 98.00 18 Hand Dryer- Wall Mounted (hre4 stiebel eltron) Eltron Set 24.00 19 Shower- Single Lever Chrome Plated Brassshower Post Set With Spout Cotto Set 15.00 20 Shower Cotto Set -	Refer to architectural drawings package, inside Appendix folder for the model and code. (file name Appendix C -NAB Appendix C sanitary schedule REV-1)

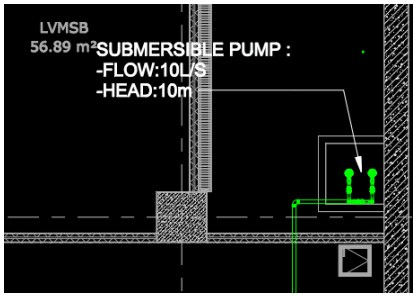
42	Refer to Bill No.14 Plumbing, please indicate the location where galvanized steel pipe is used and also provide the standard pipe, pressure rating, schedule or class. GALVERNIZED STEEL PIPE 26 DN150 MECH m 5.00 27 Fitting and Other Accessories MECH lot 1.00 28 Support and Accessories Local lot 1.00	Please exclude it from the BOQ.
43	Refer to ME-GE-GE-0102, It does not indicate hot water pipe, please clarify the hot water pipe working pressure (PN) and insulation thickness of hot water pipe. E. PLUMBING MATERIALS SCHEDULE ITEMS / MATERIALS / CONNECTION METHOD MAIN DOMESTIC WATER SUPPLY PIPE MAIN IRRIGATION PIPE IN RISER, PUMP ROOM AND BRANCH PIPE BEFORE PRESSURE REDUCING VALVE (ABOVE GROUND — PPR PIPE-PIPE, PN16 — HEAT WELDING MAIN DOMESTIC WATER SUPPLY PIPE, MAIN IRRIGATION PIPE IN RISER, PUMP ROOM AND BRANCH PIPE BEFORE PRESSURE REDUCING VALVE (UNDER GROUND) — HDPE-PIPE, PN16 — HEAT WELDING COLD WATER PIPE AND IRRIGATION PIPE ABOVE GROUND AFTER PRESSURE REDUCING VALVE(ABOVE GROUND INSIDE BUILDING) — PPR-PIPE, PN12.5 — HEAT WELDING COLD WATER PIPE AND IRRIGATION PIPE ABOVE GROUND AFTER PRESSURE REDUCING VALVE(UNDER GROUND) — HDPE-PIPE, PN12.5 — HEAT WELDING WASTE AND SOIL WATER PIPE AND FITTING — uPVC-PIPE, PN8 — GLUE VENT PIPE AND FITTING — uPVC-PIPE, PN8 — GLUE RAIN WATER PIPE AND FITTING — uPVC-PIPE PN8 — GLUE	Hot water pipe is PP-R pipe PN20. Insulation thickness 1 inch.
44	After checking in each floor there are branch pipe supply to this hose bib and attached with text 1 nos gate valve DN25. 1- Thanks to confirm us if one hose bib requires gate valve to control on that pipe. 2- Thanks to clarify us if size of gate valve that control as same as size of hose bib. 	1. Confirm 2. Follow drawing gate valve gate valve DN25mm and hose bib 20mm (3/4inch)
45	Based on fixture unit schedule mention that hose bib use PP-R OD20 so it should be used hose bib DN15, but in each floor indicated hose bib diameter is not matching. Please clarify. HB / HOSE BIB / PPR-OD20 / -	Follow the drawing (Not the schedule).

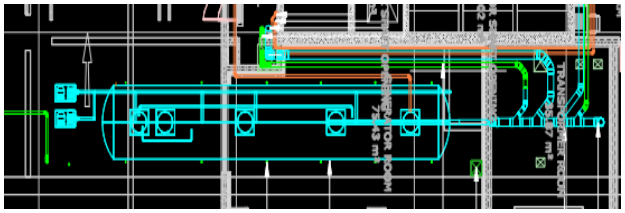
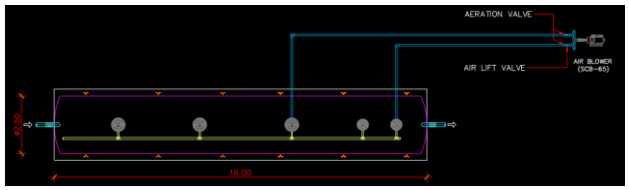
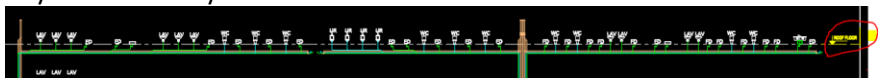
46	Related to electric water heater, In drawing layout ME-NA-DW-1104 mention electric water heater 50L storage type BUT in the drawing ME-GE-GE-0101 use instantaneous. Please clarify which one should be selected? 	Use storage water heater (Not instantaneous water heater).
47	Refer to ME-NA-DW-1109 to 1111 &1116, There are shower heads, but no hot water supply. Does it have hot water system for those shower heads? If they have, please provide the drawing layout.	Not required in other area (Provided for VIP or President Room Only)
48	Based on DWG: ME-NA-DW-1102, what is the pipe as per below snapshot serves for? And please indicate the pipe diameter. 	Please exclude water supply line for this area (not required, Revit view range issue)
49	After checking layout ME-NA-DW-1104 ,1105, 1107, 1109 to 1116, thanks to confirm us if sink at pantry room require water filter and hot water. 1- If water filter is required, please provide the drawing layout. 2- If it requires hot water, does it use electric storage water heater or instantaneous?	1. Water Filter is required. 2. Not required water heater in this area.

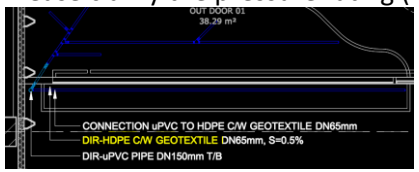
		
50	Refer to ME-NA-DW-1106, please indicate the size of this branch pipe and diameter of pressure reducing valve. 	Please exclude water supply line for this area (Not required, Revit view range issue)
51	Based on architect layout given, there are only water closet flush tank but with reference to ME-GE-GE-0102 there are also water closet flush valves,	Follow the latest architectural layout - use water closet flush tank.

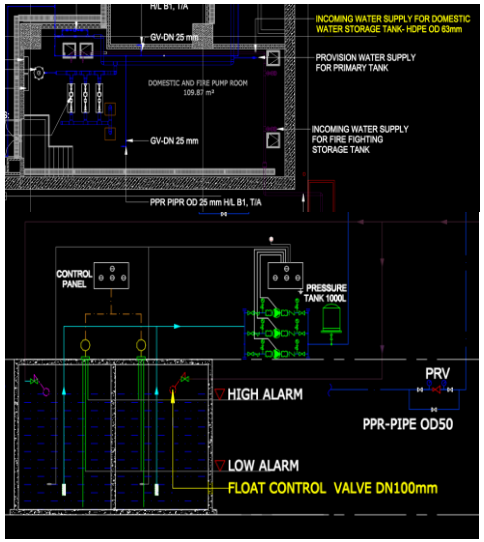
<table>
<tr>
<td></td>
<td>please identify clearly in the architect layout the flush valves and flush tank to be used.
F. FIXTURE UNIT SCHEDULE
<table>
<tr><th rowspan="2">EQUIPMENT SYMBOL</th><th rowspan="2">TYPE</th><th colspan="2">SIZE (mm)</th></tr>
<tr><th>DW</th><th>SW & WW</th></tr>
<tr><td>WC (FV)</td><td>WATER CLOSET (FLUSH VALVE)</td><td>PPR-OD32</td><td>100</td></tr>
<tr><td>WC (FT)</td><td>WATER CLOSET (FLUSH TANK)</td><td>PPR-OD20</td><td>100</td></tr>
</table></td>
<td></td>
</tr>
<tr>
<td>52</td>
<td>Please refer to equipment schedule in item 3, please indicate the location in drawing layout at basement I and provide the capacity of this tank.
<table>
<tr><td>2</td><td>HYDRO-PNEUMATIC TANK</td><td></td><td>1SET</td><td>1000LITRE</td><td>BASEMENT I</td><td>PORTABLE WATER</td><td></td></tr>
<tr><td>3</td><td>HYDRO-PNEUMATIC TANK</td><td></td><td>1SET</td><td></td><td>BASEMENT I</td><td></td><td></td></tr>
</table></td>
<td>Use only Item 2, Please exclude item number 3.</td>
</tr>
<tr>
<td>53</td>
<td>Please refer to schematic ME-NA-WW-6001 & drawing layout ME-NA-WW-1101, there are different capacities of submersible pump 01 to 06 as per the snapshots below:
- Please clarify which one should be selected?
 

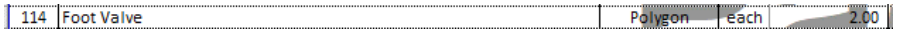

</td>
<td>Capacity = 15.9m3/h and 15m head. (Refer to previous RFI reply)</td>
</tr>
<tr>
<td>54</td>
<td>Please refer to schematic ME-NA-WW-6001 & drawing layout ME-NA-WW-1102, there are different capacities and head loss of submersible pumps. Please clarify which one should be selected?
 


</td>
<td>Follow layout plan Flow: 10l/s and head: 10m</td>
</tr>
</table>

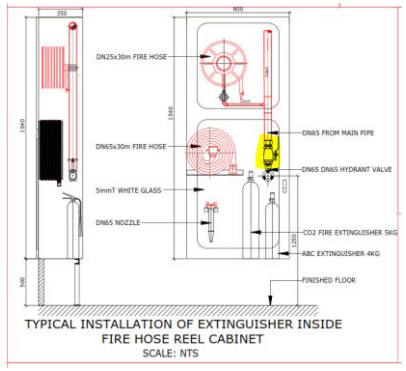
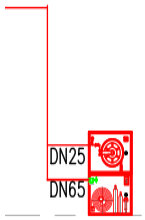
55	Refer to drawing layout ME-NA-WW-1103 & ME-GE-GE-5003 typical installation detail septic tank, there are different quantities of air blower pumps. Please clarify either 1set or 2set pumps.  	Please follow drawing No. ME-GE-GE-5003 (1 set)
56	Between schematic ME-GE-GE-0101 & drawing layout ME-NA-WW-1117, in schematic there are some sanitary wares, in roof floor layout does not have any. Please clarify.  	Follow layout plan. Schematic drawings has to be updated following layout plan.
57	Refer to Bill No.14 Plumbing, there is no quantity of floor drains in each floor and air vent cap. Please indicate if it is under MEP scope?	Floor drain is in the BOQ and air vent cap, please include.

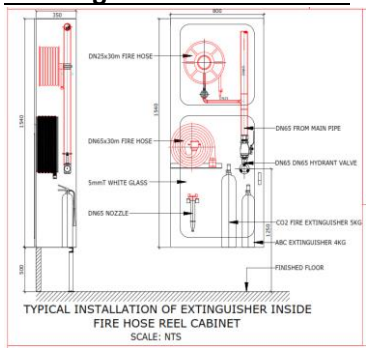
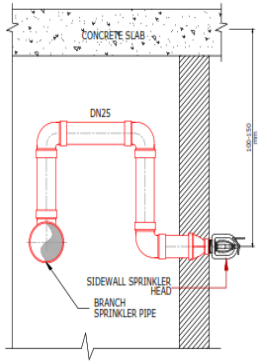
58	Refer to Bill No.14 Plumbing, there are only floor cleanout, but in drawing layout in each floor mentions CO-cleanout (Ceiling cleanout). 1- Please indicate which one should be used? 2- Please clarify where are the location of floor cleanout and ceiling cleanout. E FLOOR CLEAN OUT 117 Floor Clean Out -DN50 Polygon each 5.00 118 Floor Clean Out -DN65 Polygon each 10.00 119 Floor Clean Out -DN80 Polygon each 20.00 120 Floor Clean Out -DN100 Polygon each 20.00 121 Floor Clean Out -DN150 Polygon each 20.00	1. Follow Drawing (Ceiling cleanout). 2. Follow Drawing
59	Refer to drawing layout ME-NA-ST-1102 & 1114, 1- What does RF (RF-50mm) stand for? 2- Please clarify is it floor drain DN50 or roof drain DN50? 	1. RF should be FD (Floor drain) 2. Yes, Floor Drain DN50mm
60	Please clarify the pressure rating (PN) of HDPE pipes for drainage of garden 	HDPE pipe PN8
61	Refer to Bill No.14 Plumbing & DWG: ME-GE-GE-5003, please confirm which capacity of air blower pump is selected? G WASTEWATER TREATMENT PLAN 124 - Contact aerotion Biofilter Tank 70m³/day - Air Blower 1.71 m3/min = 1 sets - Flexible Join 6" = 2 set - Gavelzed cable = 4 lines - Control Panel= 1set - ABS Cover = 5Pcs - Dry Bacteria Seed Powder = 1bage - Dia: 2.5m H:2.75m L:7m = 2 tanks Biotec Set 1.00 No. ITEM DETAIL 1 PROCESS CONTACT AERATION BIOFILTER BOD IN ≤ 250 mg/L, BOD OUT ≤ 20 mg/L 2 RETURN&EXCESS SLUDGE AIR LIFT PUMP 3 DIMENSION ø=2m.,L=16m.,H=2.225 m. 4 TANK VOLUME 70.4 m³ 5 BODY FIBERGLASS REINFORCE PLASTIC (FRP.) HELICAL FILAMENT CROSS WINDING TYPE , TOLERATED TO ACID/BASE CORROSION. 6 INFLOW , OUTFLOW , AIR PIPE PVC. 7 AIR BLOWER 2.22L/min , 3 phase (380V) , (1-DUTY) 8 SLING GALVANIZED WIRE ROPE 6 SETS (8 mm.) 9 STANDARD ISO 9001 : 2015	Follow BOQ Air Blower; 1.71m3/min = 1 set

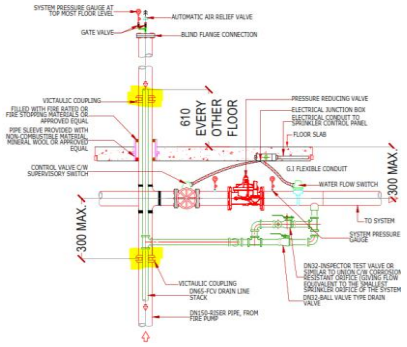
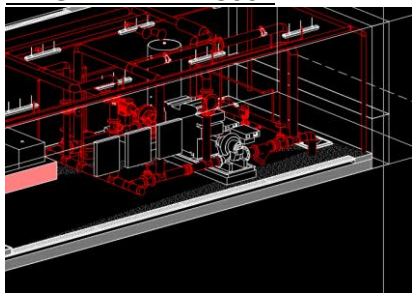
62	Please confirm if booster pump and firefighting pump requires inertia base and spring isolator?	Confirm. It required.
63	Refer to 0816 Domestic Water Pumps in 2.2 Transfer water pumps, please confirm if this project requires this pump and please provide the drawing layout. **2.2 TRANSFER WATER PUMPS** a) Where required transfer water pumps shall conform to the following specification: b) Pump efficiency shall not be less than 70%, c) Materials shall be as follows: 1 Casing - Cast iron and minimum working pressure not less than 250 PSI or 150% of maximum discharge pressure. 2 Impellers - Bronze and hydraulic balancing. 3 Wearing Rings - Bronze 4 Shaft Sleeve - Bronze 5 Shaft - Stainless Steel 6 Seal - Mechanical seal/gland packing (asbestos-free) 7 • Couplings - Flexible metallic coupling, complete with coupling guards 8 Bearings - Ball thrust type, grease lubricated, rated bearing life not less than 100,000 HR	Transfer Pumps Not required.
64	Refer to DWG:ME-NA-DW-1102, incoming cold water pipe diameter supply to cold water tank is HDPE OD63mm, but in schematic ME-NA-DW-6001 is float control valve DN100 for incoming pipe. Please confirm which size should be used?  	Follow Drawing number ME-NA-DW-1102 ; HDPE OD63mm.

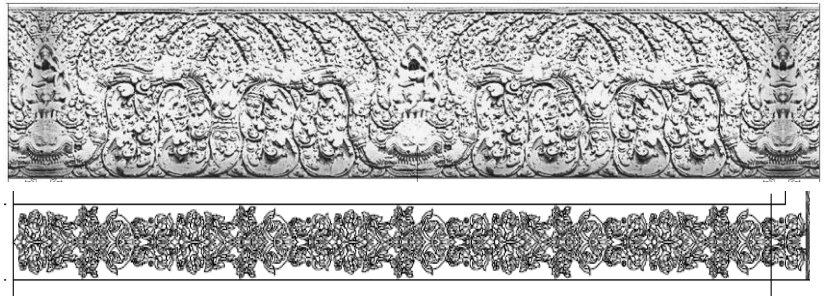
65	Refer to Bill No.14 Plumbing, please indicate us foot valve diameter for cold water system 	DN150mm.
	FIRE PROTECTION SYSTEM	
66	Refer to FIRE RATED wall or slab: 1- Please provide the drawing layout that indicated about FIRE RATED wall or slab in this project in each floor. 2- Please confirm us if steel pipe requires FIRE STOP COLLAR and please attached with location. 3- Please confirm us if plastic pipe connected to sanitary fixture across wall and slab require FIRE STOP COLLAR. 4a- Does FIRE STOP COLLAR required for both sides across the wall? Please confirm. 4b- Does FIRE STOP COLLAR required for both sides or 1side across the slab? Please confirm.	1. Refer to architectural drawing. 2. Confirm. Location to be provided based on combination architectural drawing and MEP drawing in shop drawing. 3. Confirm required. 4a. Confirm both side. 4b. Confirm both side
67	Refer to DWG: ME-NA-FF-5001, fire department connection shown 4 ways breeching inlet and refer to Spec: 0831 HYDRANT indicated two (2) ways connections flush type. Please confirm, which one shall be selected?	Follow specs (2 ways)
68	There is discrepancy between BOQ and Specification (See snapshot). After checking BOQ related to piping, it uses WELDING PIPES BS1387/85M BUT in the specification mentions about black steel pipe ASTM A-120, SCH40 for interior pipe 50mm and smaller, black steel pipe ASTM A-120, SCH10 for interior pipe 65mm and larger, and Galvanized steel pipe ASTM A-120, SCH80 for external piping. 1-Please clarify related to above and underground pipe for stand pipe & hose reel, sprinkler and FM200 by indicating us the pipe type, schedule or class, pressure rating and standard. 2-In the Specification does not mention clearly related to pipe joint. Please advise the pipe joint for pipe diameter up to D50 or equal, and pipe joint for pipe diameter DN65 and larger.	1. Follow specification / Drawings Pipe Schedule. 2. Welding type.

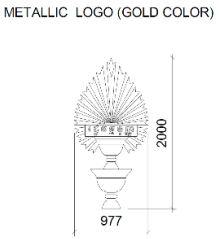
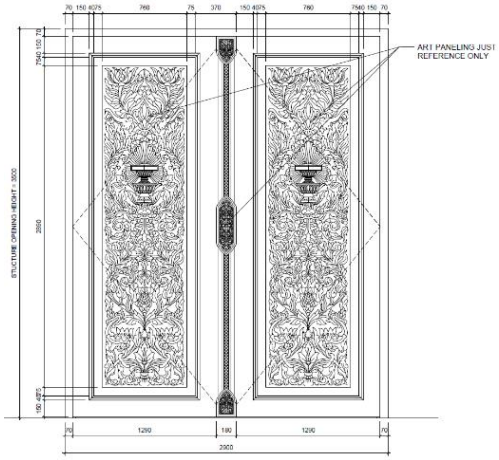
	Bill No.15 Fire Protection WELDING PIPES 29 DN20 MECH m 30 DN25 MECH m 4,521.83 31 DN32 MECH m 861.00 32 DN40 MECH m 509.25 33 DN50 MECH m 440.48 34 DN65 MECH m 350.50 35 DN80 MECH m 500.33 III WELDING PIPES BS1387/85 M 61 DN15 MECH m 62 DN20 MECH m 63 DN25 MECH m 64 DN32 MECH m 65 DN40 MECH m 66 DN65 MECH m **SPEC: 0833 SPRINKLER** **2.1 PIPE AND FITTINGS** A. Meet NFPA13 and FM Global requirements specified herein. B. Underground piping, 100mm and larger: mechanical joint Black steel with suitable anti-corrosion method. HDPE pipe is an alternative material if it meets NFPA 13 requirements. C. Interior suspended piping, 50 mm and smaller: black steel pipe, ASTM A-120, Schedule 40 with black cast-iron fittings for wet systems. D. Interior suspended piping, 65 mm and larger: black steel pipe, ASTM A-135, Schedule 10 with roll grooves. E. External piping exposed to the element: Galvanized steel pipe, ASTM A-120, Schedule 80 with galvanized, malleable iron threaded fittings, ASTM A-47. F. Field fabricated fittings will not be acceptable. G. Provide 1200 kPa working pressure fittings of threaded cast iron, threaded malleable iron, and flanged cast iron. Unions are permissible for pipe 50 mm and smaller. H. Mechanical joints to be used for pipes size from DN65 with the suitable gaskets. I. Fasten flanges with square or hex headed bolts and heavy hex nuts. J. Droppers used for storage area sprinklers are at least DN32 in diameter and limit the length to 600mm. K. Provide flange gaskets 1.6 mm thick.	
69	Refer to 0833 sprinkler & ME-NA-FF-0101 did not indicate about Temperature rating, K factor and response type of upright and pendant sprinkler head. Kindly provide to us.  	K5.6 ,temperature 68 ^{0}C.
70	Refer to the symbol in the yellow highlighted screenshot, have 1 number of ball valve and 1 number of angle valve for hose rack, please confirm.	Please provide only angle valve.

	 TYPICAL INSTALLATION OF EXTINGUISHER INSIDE FIRE HOSE REEL CABINET SCALE: NTS	
71	Refer to BOQ format Bill No.15 Fire Protection in the hose reel cabinet, it includes 1set: hose reel drum DN25 x30m with nozzle, and 1 set: Fire extinguisher ABC and CO2 type BUT in the drawing no. ME-NA-FF-5001, ME-NA-FF-6001 and spec 0832-Stand pipe and Hose, it indicates 1set: hose reel drum DN25 x30m with nozzle, 1set: Fire extinguisher ABC and CO2 type, and 1set: lay flat hose DN65x30m c/w Angle valve hose and ball valve. Please clarify the following: 1-Should we follow the BOQ or the Drawings and Specifications. 2-If we follow drawings and specifications, please confirm the hose rack (hose lay flat) diameter and landing valve size. **Bill No.15 Fire Protection** 17 — Fire Hosereel Set (Indoor Type): - Cabinet Size: H1400mmxW700mmxD320mm - Hose Reel Drum Dia.25mmx30m - Fire Extinguisher ABC: 4kg - Fire Extinguisher CO2: 5kg - Complete set with valves and gauge — Unique — Set — 31.00 **Drawing no. ME-NA-FF-6001, schematic diagram** 	1. Follow Drawing 2. Size as shown in drawing ME-NA_FF_5001

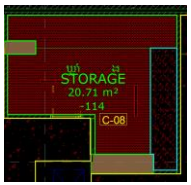
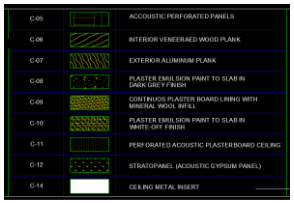
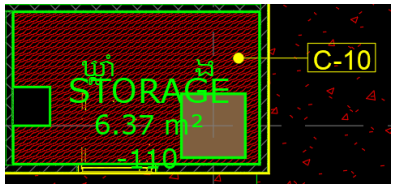
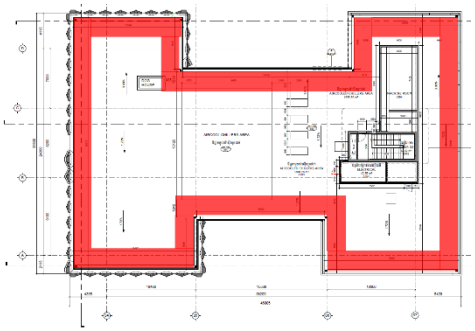
	Drawing no. ME-NA-FF-5001  TYPICAL INSTALLATION OF EXTINGUISHER INSIDE FIRE HOSE REEL CABINET SCALE: NTS	
72	Fire hydrant set should be outside type, but in the BOQ indicates indoor type. Please clarify. 6 — **Fire Hydrant Set (Indoor Type):** - Self-stand Cabinet Size: H1600mm x W560mm x D300mm - Fire Hose Layflat DN65 with Nozzle (2Units) — Unique — Set — 2.00	Use Outdoor type.
73	Refer to drawing no. ME-NA-FF-5001: 1- Please confirm if side wall sprinkler head will be used, and also the drawing layout. 2- Please indicate the temperate rating, K factor and response type.  TYPICAL SIDEWALL SPRINKLER HEAD INSTALLATION	Not used

74	Please confirm if sprinkler pipe and fitting connection joint of fire sprinkler system using Victaulic coupling as per yellow highlighted snapshot.  DETAIL OF SUPERVISORY FLOOR CONTROL VALVE ASSEMBLY	Welding Type.
75	There is a discrepancy between layout drawing of fire pump room (DWG:ME-NA-FF-5002) and specification: 0834 Fire Pumps. In the drawing, Fire pumps use split-case type. But in the specification is vertical inline pumps, Horizontal base mounted pumps, and Vertical Turbine pumps. Please clarify what type of pump should be used for main electrical fire pumps, main diesel fire pumps, and jockey fire pumps. **DWG: ME-NA-FF-5002**  **SPEC: 0834 FIRE PUMPS**  2.3 VERTICAL IN-LINE PUMPS a) Type: UL 448 and UL 778, vertical, single stage, close coupled, radial or horizontally split casing, for in-line mounting, for 1 720 kPa. b) Casting: Cast or ductile iron, with suction and discharge gage port, casing wear ring, seal flush connection, drain plug, flanged suction and discharge. c) Impeller: Bronze, fully enclosed, keyed directly to motor shaft. d) Shaft: Stainless steel with bronze sleeve through seal chamber. e) Seal: Packing gland with minimum four rings graphite impregnated packing and bronze lantern rings, 110 degrees C maximum continuous operating temperature. f) Performance: for pump size, capacity and performance refer to schedule on the drawings. 2.4 HORIZONTAL BASE MOUNTED PUMPS a) Type: UL 448 and UL 778, horizontal shaft, single stage, double suction, direct connected, horizontally split casing, for 1 720 kPa maximum working pressure. b) Casing: Cast iron, with suction and discharge gage ports, renewable bronze casing wearing rings, seal flush connection, drain plug, flanged suction and discharge. c) Impeller: Bronze double suction fully enclosed, balanced and keyed to shaft. d) Bearings: Grease lubricated ball bearings, replaceable without opening casing. e) Shaft: Stainless steel with bronze sleeve through seal chamber. f) Seal: Packing gland with minimum four rings graphite impregnated packing and bronze lantern rings, 110 degrees C maximum continuous operating temperature. g) Drive: Flexible coupling with coupling guard. h) Base plate: Cast iron or fabricated steel with integral drain rim. i) Performance: for pump size, capacity and performance refer to schedule on the drawings. Specifications 0834 Fire pumps Page 4/8 archetype New Administrative Building for the National Assembly of Cambodia 2.5 VERTICAL TURBINE PUMPS a) Type: UL 448 and UL 778 vertical, centrifugal, turbine. b) Casing: Cast iron, rated for1 720 kPa or 1.20 times actual discharge working pressure discharge gage, air vent, wear rings, seal flush connection, drain plug, and flanged discharge. c) Impellers: Bronze, fully enclosed, keyed to shaft or secured with lock nut.	Please follow drawing.

	ARCHITECTURAL	
76	**Demolition Works (GE-AR-1002)** Please provide the detailed elevation of the building to be demolished.	Please refer to the answer of **CLARIFICATION OF BIDDING DOCUMENTS NO. 01** item no. 7. The "Early Works" scope of work (including the demolition of the old administrative building) is currently ongoing by another Contractor and will be completed by end of February. Additional clarifications: - touch-up between demolished building and existing building to be included in the Main Contractor's Scope or Work. Bidders to include in their Offer. - the demolition of the RC slab of the parking remains in the Main Contractor's scope of work. Bidders to include in their Offer. - the 2 piles done by the "Early Works" contractor are working piles and will be done up to level +0.00. The Main Contractor will have to demolish those 2 piles down to the pile caps level. Bidders to include in their Offer.
77	**NA-AR-5219** Please provide more details/specifications of the main entrance such as: - type of stone (if possible, please provide a sample image) - detail or type of art (Angkor Thom or Banteaysrey art type) on wall carving (PDEA) - thickness of stone for wall carving (PDEA) 	- type of stone will be natural green-gray sandstone - detail/type of art, pls refer to attached file. - thickness of stone to be proposed by contractor Please find attached file in provided downloadable link below for the reference. https://archetypevn-my.sharepoint.com/:f:/g/personal/sarun_chea_archetype-group_com/Ev9R2udmaOVAmbwFqCPHQK4BOGMnpQo76m6nZPeNhyUIlg?e=8e99lS (The link is available for 7 days)

78	**NA-AR-5219** Please provide more details/specifications of metallic logo at main entrance including exact material of metailic (bronze or stainless steel with gold color) and drawing detail. 	Stainless steel in gold color.
79	**NA-AR-7034** Please provide more details/specifications of main entrance wooden door such as: - type of wood - detail or type of art (Angkor Thom or Banteaysrey art type) on door panel - thickness of door panel 	- Type of art design consisting of Phni Voa or Phni Tes with National Assembly logo in the center of each door. - Type of wood: BENG AFRICA for panel and PCHOEK or SOKROM for frame Panel thickness: 70mm

80	Could you please clarify whether this project is a Qualified Investment Project (QIP), and in the affirmative could we get the exhaustive list of granted incentives (including taxes exemptions if any). Further, please confirm whether potential exemptions are transferrable downstream to the entire chain of supply (to suppliers, sub-contractors, etc...).	Please refer to Bid Documents Addendum No. 01 issued on 30-Nov-2021 and **CLARIFICATION OF BIDDING DOCUMENTS NO. 01**, point no. 14.
81	Please provide the soil investigation report.	Please refer to the answer of **CLARIFICATION OF BIDDING DOCUMENTS NO. 01** point no. 3.
82	Please confirm if we could use termite piping system below the level basement B2, instead of using termite baiting system as shown in the drawing NA-AR-1750.	Please refer to the answer of **CLARIFICATION OF BIDDING DOCUMENTS NO. 01** point no. 11.
83	**0903_Electrical Identification Rev 0.** **0922_Wire and Cable Rev 0.** According to the latest BS 7671 electrical conductor color code shall be Brown, Black, Grey, Blue. Please kindly advise and confirm.	Please refer to provided MEP specification, 0922_Wire_and_Cable Rev.0 5. Colour coding of the insulation shall be as follows: a. Phase : red, yellow, blue b. Neutral : black c. Earth : green and yellow d. Control : white
84	**Part 1-Section IV: Form of Bid Security - Demand Guarantee** We would like to inquire if a Bank Cheque can be issued in lieu of the required Bid Security.	We required Bid Security. Please refer to the answer of **CLARIFICATION OF BIDDING DOCUMENTS NO. 04** point no. 3.
85	**Item 268 of NAB-P01 - Main Contract Works - Blank BOQ** Please provide the detail of bas-relief as the symbol of each 25 provinces in Cambodia.	The design intent it should be logo of each province in Cambodia. But Contractor to allow provision in the budget content a detail to be agree with Client later.
86	**NA-AR-1501**	For the STORAGE -114 ceiling finish is C-10

	There is a discrepancy between the hatch pattern of ceiling (C07 exterior aluminum plank) and ceiling code (C-08 and C-10 plaster emulsion paint to slab) in the storage room of B1 basement floor (see attached picture), please confirm which one should prevail?   	
87	**ESCALATOR WORK** Please provide the detailed drawings of lateral & bottom cladding (material, framing, etc) of the escalators.	For the material of the cladding is stainless steel hairline.
88	**BMU** We would like to request to adjust the area of air-cool chillers because the minimum required clear space for BMU is 2.50m. The actual space is less than 2.5m which does not permit any installation of BMU system. 	Please refer to the answer of **CLARIFICATION OF BIDDING DOCUMENTS NO. 04** point no. 5.