

Construction of Three school
buildings in Lebanon

LRPS 2021-9171038

Q&A

BIDDERS QUESTIONS - Technical related

All Schools Related Technical Questions:

1. For all schools, the type of batteries related to PV solar system is Lithium. Please confirm.

Confirmed

2. Patch panels and PDU quantities per cabinet as mentioned on riser diagram are more than the BOQ Quantity. Please advise.

Follow BOQ Patch panel and PDV should cover all related data outlet

3. Maintenance of elevators is to be quoted in the provisional items, while no item for the supply & installation of elevators is noted in the main BOQ. If UNICEF will procure the elevators directly, we need to know the supplier so we can get proper quotes for elevator maintenance.

Lift details can be found in Part 1 (Civil, Structural and Architectural Works), Division 14 (convey equipment) of the BOQ.

4. Door Schedule:

- a. Door Hardware Schedule:
- b. Kindly note that we are requesting for the consultant to clarify the Wood Door schedule in order to link with BOQ.
- c. We also need the door hardware schedule.
- d. Please provide the door/window schedule. How many doors are with glass opening and how many are without glass? Please specify.

Door hardware schedule can be found in specification – section 1 (Civil Structural and Architectural) book 2 of 2 – division 8 (openings and wooden door schedule)

5. Waterproofing

- a. The waterproofing section Type 1: we request the floor finishing since not mentioned in drawings and we do not have the schedule of finishing.
- b. The waterproofing section Type 2: kindly advise about the size of paving tile since write (400 x 400 x 400cm).

Floor finish is 400 × 400 × 40 mm concrete tiles, refer to details

6. Anti- Dust Aluminum Louvers

- a. Kindly advise what do you mean by anti-dust alum louver.
- b. Regarding the Anti- Dust Aluminum Louvers, kindly clarify whether it should be certified sand-trap louvers or standard louvers?

Detail of anti-dust louvers is as shown in the miscellaneous details drawings (additional sketches are attached)

7. Landscape:

- a. Size is not mentioned for most of the plants (Height and Girth for trees and Height and Pot size for shrubs and Ground Cover)
- b. Reference to BOQ Div2, kindly provide us plants specifications and details (Height, caliber..)
- c. Irrigation system should be mandatory is it requested for plants?

- d. Green Grass is not specified as carpet rolls. Therefore we will price lawn planted out of seeds or plugs. Please confirm
- e. we did not find any specs regarding the Landscape. Please advise.

- a/b. Type and size and qualities are mentioned in the BOQ.**
- c. Water taps are provided for manual irrigation.**
- d. Confirmed**
- e. All landscape items are incorporated with other items.**

8. Please we need to add the following items:

Please provide us with the specification:

- a. PP Pipes mentioned in drainage work.
- b. Oil interceptor
- c. UPVC fire rated
- d. Balcony drain
- e. Grating for floor drain GFD-01 & GFD-02
- f. Hot water storage calorifiers
- g. Solar panel
- h. Electrical water heater

a. PP:

Laboratory waste pipework: Polypropylene (PP) pipe and fitting complying with DIN 19560 or BS EN 1451-1 and BS EN 1852-1. Fittings shall be push fit seal ring connections

b. Oil interceptor: (item 2.4 in BOQ)

Acid resistant coated interior and exterior fabricated steel oil interceptor, bronze cleanout plug and visible double wall trap seal, removable combination pressure equalizing/flow diffusing baffle and sediment bucket, horizontal baffle, specific gravity oil draw off valve assembly connections either side, secured gasketed nonskid secured cover complete with flow control fitting. Regularly furnished with inlet and outlet in high position

c. It was meant that the pipping should be enclosed in fire rated materials.

BOQ item 3.1.4 shall be UPVC pipe materials as specified.

Fire enclosures are in Architectural bill item 7.4.1

d. 20×20 cm balcony drain body UPVC complete with PVC grating cover.

e. GFD-01: 30 × 30 cm grating cast iron heavy duty cover + PVC body

GFD-02: 30×30 cm grating PVC light duty cover + PVC body

f. Heat Exchangers and Calorifiers

Supply and install Heat exchangers whenever shown on the drawings of capacities as indicated on the drawings.

Each water heat exchanger shall be of the cylindrical storage type constructed of copper / copper heating coil

Heat exchanger shall have polyurethane foam insulation wall between the outer and inner casing of cylinder. Heater shall be suitable for a working pressure of 100 psi (690 Kpa).

Each water heat exchanger shall be complete with the following:

- Fast acting surface mounted thermostat for automatic temperature control.
- Factory installed sensitive high limit energy cut-off (for safety to prevent overheating) present at 210 °F (99 °C).

g. Solar collected:

Flat solar collector (6 Nos., 2152 x 1252) with single copper pipe coil, covered with 50mm thickness polyurethane foam and enveloped by a PVC jacket finished with RAC color. Maximum working pressure is 8 bars and maximum temperature is 95°C

Solar controller programmable controls, solar collector temperature closed expansion tank and cylinder temperature

h. Electrical Water Heater

Supply and install electric water heaters whenever shown on the drawings of capacities as indicated on the drawings.

Each electric water heater shall be of the cylindrical storage type constructed of heavy gauge steel with white enamel finish and glass lining from inside.

Heater shall have polyurethane foam insulation wall between the outer casing and the glass lining all around top and bottom of cylinder. Heater shall be suitable for a working pressure of 100 psi (690 Kpa).

Each electric water heater shall be complete with the following:

- Fast acting surface mounted thermostat for automatic temperature control.
- Factory installed sensitive high limit energy cut-off (for safety to prevent overheating) present at 210 °F (99 °C).
- Electric element of 1500 watt capacity and smaller as indicated on the drawings. Element shall be constructed of highest quality resistant wire sheathed in mineral filling and the whole encased in a copper tube and subjected to a high voltage test.

The water Supply System shall consist of piping, valves, pumps, automatic controls, tanks, electric water heaters, and all equipment as hereinafter specified and shown of the Drawings

9. Floor drain FD-01 is required to be stainless steel in BOQ while in specification it is UPVC, please clarify.

Item 3.4.1 to be revised to PVC cover and PVC body for floor drain

10. In sanitary work, the pressure line PL required as PPR, please clarify if it is pressure PVC or PPR.

PL: to be PPR as mentioned in B.O.Q item 3.1.2

11. Please provide us the thickness for stainless steel potable tank & for black steel fuel tanks.

Stainless steel potable water tank thickness is 3 mm. Black steel fuel tank thickness is 6 mm

12. Please clarify if the steel exhaust pipe for boiler is black steel pipe or double stainless steel pipe.

Steel exhaust pipe for boiler to be seamless black steel covered with insulation and stainless-steel jacketing.

13. Please provide us with the insulation thickness for heating pipes since it is not shown in specification section 230719.

Insulation thickness for heating pipes

15-40 mm pipe	32 mm thickness
50-100 mm pipe	40 mm thickness
125 and above pipe	50 mm thickness

14.

a. For the 3 schools: Kfarzabad, Mazraat yashouh, El Chweir, In BOQ Part 1 – Division 8; 8.3- General notes for all aluminum works; It is mentioned (Technal or equal), is “SIDEM 2000” acceptable?

b. It is mentioned in the Notes in the Aluminum Schedule: “ All aluminum should be the highest heavy duty type”. Kindly advise if Technal Fx is acceptable or FYN.

<p>a. Sidem is acceptable if it matches Technal (comparison list to be provided).</p> <p>b. Technical FX is acceptable.</p>
<p>15. For the 3 schools: Kfarzabad, Mazraat yashouh, El Chweir; In BOQ Part 1 –Division 9; 9.4-2 Painting exterior surfaces – Plaster render; Kindly specify the type of exterior paint required: is it monocouche, rouleau, Maplexine, مرشحة or other ? Please note that on elevations drawing, it is indicated type 1, 2 or 3 but without specifications of those types, please clarify.</p>
<p>Monocouche is acceptable with different colours.</p>
<p>16. For the 3 schools: Kfarzabad, Mazraat Yashouh, El Chweir; In BOQ Part 1, item 2.8 stamped concrete. Is the steel reinforcement cost included in this item or it will be paid separately in item 3.2.5.9 (steel bar reinforcement)?</p>
<p>Steel reinforcement cost should be included in the price of item 2.8 the “stamped concrete”</p>
<p>17. Detail of Laboratory Counter- Type 1, 2, 4 and 5 for all schools since the Annex A Counter Specification in Volume 2 (Specification) Section 1 - Book 2 of 2 does not exist, please provide with it also:</p> <p>a. The sink for Resin Top Laboratory Tables.</p> <p>b. The top of Laboratories Cabinets.</p>
<p>c. Reference to miscellaneous details and shop drawings to be submitted by contractor for approval, refer to attached Annex A.</p> <p>d. Reference to miscellaneous details and shop drawings to be submitted by contractor for approval, refer to attached Annex A.</p>
<p>18. Kindly provide us with details and drawings for the below items:</p> <p>6.2.2 Pantry, Kitchen and cabinet</p> <p>6.2.3 Librarian counter</p>
<p>6.2.2 Pantry, Kitchen and cabinet: Reference to miscellaneous details, shop drawings to be submitted by contractor for approval.</p> <p>6.2.3 Librarian counter: It is a desk type counter with drawers on one side and cabinet of the second side all oak wood.</p>
<p>19. Stone Cladding:</p> <p>a. Kindly clarify the type, color and dimensions of stone cladding to be used in Dhour Chweir and Mazraat Yachouh schools</p> <p>b. Is stone cladding to facades mechanically fixed? If not what would be the minimum thickness required?</p>
<p>a. Natural stone to be (Irsali عرسالي) thick 3 cm thick Bush Hammared wet fixation.</p> <p>b. Wet fixation reference to R19.a</p>
<p>20. Kindly provide the detail drawing with dimensions for the scientific boards.</p>
<p>As per Ministry of Education and High Education requirements (refer to Annex C).</p>
<p>21. Kindly Provide us with schedule of hardware for Panic Devices & Aluminum Handles.</p>
<p>To be from the same manufactures of the door hardware.</p>
<p>22. Are the connections of the water supply, electricity, telephone, sewage, etc... from the main networks outside the site and issuing the necessary permits by coordinating with relevant authorities to the proposed works in the schools under the contractors responsibility and must be deemed included in the offer prices?</p>
<p>Cost of all above procedures is included in the cost of all items.</p>

23. Kindly advise about the concrete blinding issue since in specs mentioned as 20MPa and in drawings 15MPa.

Concrete to be 15 MPa minimum.

24.

- a. BOQ item 2.6.1: Existing roadway - Repair and widening..., please provide an approximate area for each school
- b. BOQ item 2.7.1: Existing walkways - Repair and widening..., please provide an approximate area for each school

This depends in the time, works, and damages caused by the contractor during the construction.

25. BOQ item 7.4: Fire Safing insulation – Please provide locations and more details.

Refer to Annex B - Specification for penetration fire safing and stopping shared using same link

26. Water and sewage treatment plant:

- a. Raw water quality so that the R.O.system can be sized accordingly
- b. Approximate estimation on the wastewater treatment plant capacity or Equivalent inhabitant (500 – 2000 persons as mentioned in the specs is a very wide range)

a. Approximate potable water treatment is 2 m³/day. The contractor should test the quality prior to submitted of the treatment plan.

b. It depends on the number of classrooms for each school, assuming 30 pupils in each classroom.

27. Steel exhaust for Boilers and Generators:

Please note there is no specifications of the material.

Seamless black steel pipe: Confirm to ASTM A53/ A1.6 complete with insulation as specified (see above)

28. Control part:

CP-01:
CONTROLS FOR WATER TRANSFER PUMPS P-WT-01 INCLUDING LEVEL OF SOLENOID VALVE AND SUBMERSIBLE PUMPS P-W-01.

CP-02:
CONTROLS FOR WATER TRANSFER PUMPS P-WT-02 INCLUDING LOW/HIGH LEVEL SWITCHES FOR WATER TANK AND SUBMERSIBLE PUMPS P-W-01.

CP-05: GAS CONTROL PANEL TO CONTROL SOLENOID VALVE
WITH GAS DETECTION INTERLOCKED WITH FACP

CONTROL PANEL FOR FUEL FILL COMPLETE WITH LAMP FOR HIGH LEVEL SWITCH

- a. CP-01: please advise the number of control points required for P-WT-01 (i.e start/stop, status, fault, HOA...); solenoid valve size? Normally open or normally close?; sump pump P-W-01 to be provided by sump pump supplier.
- b. CP-02: please advise the number of control points required for P-WT-02 (i.e start/stop, status, fault, HOA...); sump pump P-W-01 to be provided by sump pump supplier.
- c. CP-05: Gas Control Panel by Gas Equipment Supplier

d. Control Panel For Fuel: More details to be provided i.e Schematic Control Diagram, Control Sequence, Nb of Fuel Tanks, Height of Fuel Tanks, Nb of Fuel Pumps, Nb of Solenoid Valves and sizes, Nb of Level Switches.....

a. CP-01:

- **Control points for P-WT-01:**
- **Main disconnect switch**
- **Manual hand /Off/ Auto switch**
- **Pump failed**
- **LED display indicating power On, pump running, Pump tripped, pump failed, warning and danger water tank level.**
- **LED display indicating power ON for stand by pump if exist.**

Solenoid Valve:

- **Ø 50 mm size**
- **Normally close**

Sump pump P-W-01:

- **Control panel to be provided by sump pump supplier; Contractor to submit the control panel before purchasing the pump.**

b. CP-02:

Control points for P-WT-02:

- **Main disconnect switch**
- **Manual hand /Off/ Auto switch**
- **Pump failed**
- **LED display indicating power On, pump running, Pump tripped, pump failed,**
- **LED display indicating power ON for stand by pump if exist.**

Sump pump P-W-01:

**Control panel to be provided by sump pump supplier
Contractor to submit the control panel before purchasing the pump;**

c. Cp-05:

Gas control panel to be provided by gas equipment supplier.

d. Control panel for fuel:

- **It is mentioned in BOQ: Lamp with control wiring connected to level switch for high level.**
- **Shut off valve connected to FACP: normally open.**

29. PV system:

Reference to the "LRPS 2021 – 9171038" Tender, Kindly note that the requested PV in the BOQ (330Wp Polycrystalline) is an old one with low efficiency & it is discontinued.

So we will propose to install more advanced PV technology with the same total capacity of the system, but we need to modify the tender BOQ if this is okay.

The final result is needed after approval.

30. CCTV system: Please clarify the list of approved manufactured

- **AXIS International Inc**
- **Bosch security system Inc**
- **Honey well international Inc**
- **HIK vision digital technology .co**
- **A approved equal**

31. Reference to BOQ Div2, kindly clarify the difference between wheel stops and car stop and provide us specifications and details for both.

They are the same refer to attached sketches.

32. Reference to BOQ Div2, kindly provide us the details and specifications of the Athletic court surface (Section, material spec..) and equipment.

All Athletic courts to have self-leveling paint on smooth concrete.

33. Reference to Structural Specification Div3 page55 schedule of concrete type the required strength of shear walls and columns is 40Mpa, however as per Structural drawings general note, the required strength is 35Mpa. kindly clarify

40 MPa for columns

34. Reference to BOQ Div3, Kindly confirm that steel reinforcement shall comply with ASTM 615 (i.e BS4449)

Confirmed

35. Reference to BOQ Div9 the required stairs finishing is granite, however as per Drawings the stair finish is Marble. Kindly clarify

Granite

36. Reference to BOQ Div10, kindly provide us with dimension of steel lockers

Refer to drawings miscellaneous details – lockers details

37. Kindly provide us with Lighting switch Panel drawings

It is only switch panel (bank)no need for drawing. Just to follow lighting indication. It should be included in the shop drawings provided by the contractor.

38. Reference to electrical drawings, Cable trays are available in drawings and missing from the BOQ, kindly provide us detailed cable trays BOQ

Cable tray are included with chapter 2 cables and wires.

39. Kindly provide us with control diagram for the all control panels available in the mechanical section.

This to be coordinated together (Mechanical+ electrical) shop drawing should be provided by mechanical contractor at the shop drawing stage.
40. The specification states the use of fire rated PVC pipes, please note that this type of material are not available in the local market. Kindly advise.
(As electrical no need for fire rated PVC pipes) only we need fire rated cables where required.
41. In the 3 schools BOQs Part 3, Chapter 17, Solar System, 17.2 till 17.5, the formula is missing in the Total column. Please advise
All included in item 17.1
42. With regards to Dhour El Choueir, DIV.6 and Kfarzabad schools, please clarify the following: <ul style="list-style-type: none"> a. In BOQ item 2.11.1 “self-leveling game court surfacing”: Do we have to use the special acrylic paint for all the area of the court? b. Is the related concrete slab on grade of the playground included in this item or in item 3.2.3.5 (slab on grade for external playground) for Dhour El Choueir and 3.2.3.1 for Kfarzabad?
<ul style="list-style-type: none"> a. It is self – leveling finish paint, for the whole area. All courts area to be self- leveling paint. b. It is for all schools.

<u>Mazraat Yashouh School:</u>
43. In Mazraat Yashouh school; UDB-L1, UDB-L2, UDB-L3, UDB-L4, DB-LAB-21,23 & UDB-LAB-21,23 were mentioned in the BOQ while no design drawings.
All panels mentioned are found in riser diagram (for location refer to power layout).
44. In Mazraat Yashouh; BOQ mentioned 40KVA UPS while drawing mentioned 10KVA.
Follow the riser diagram (40 KVA) VPS are available.
45. Kindly specify the thickness and color of stone cladding to be used in Mazraat Yashouh School.
Reference to R19 above
46. Kindly advise about the Trees removal in Mazraat Yashouh lot, to be done by the contractor or other party.
Trees had been planted on August 2021, to be coordinated with municipality.
47. Kindly confirm that the works in Mazraat Yashouh lot for existing road are only repair that we damaged by the contractor during the execution and not as mentioned in BOQ repair and widening.
Refer to Q24 above
48. In Mazraat Yachouh school, item 2.8 of part 1 and for Items, 2.8.1, 2.8.2, 2.8.3, 2.8.4; Kindly clarify if in the 4 items we have to include in our cost the hard core fill and specify the related thickness, and in item 2.8.2 and 2.8.4, we also have to include in our cost the 10 cm thick concrete slab under the stamped concrete?
All included.
49. division 6, please to clarify the following: <ul style="list-style-type: none"> a. item 6.2.4 (Resin top laboratory tables with sink), a RESIN countertop is requested whereas a MARBLE top is mentioned on the drawings. Which one should we take into account in our price? b. Item 6.3 (Counters), please specify the material of the requested countertop: is it Resin or Marble? Also specify the material of the sinks.

c. Item 6.4 (Laboratories cabinets), we couldn't find any drawings or details related to the mentioned Laboratories cabinets. Kindly provide them if available.

a. **All to be resin with the sinks, refer to attached Annex A.**

b. **All resin**

c. **Refer to attached Annex A.**

Dhour Chweir School:

50. In Dhour El Choueir school; UDB-L1, UDB-L2, UDB-L3, DB-LAB-28,30 & UDB-LAB-28,30 were mentioned in the BOQ while no design drawings.

Refer to Q43 above.

51. Kindly advise about the quantities since not the same qty in BOQ and drawings and especially in Lot 3 - Dhour El Chweir the Laboratories Cabinets mentioned in drawings and not mentioned in BOQ

All included in the cost of the laboratories; refer to attached revised BOQ (page 32 of 117). Please use the updated BOQ under the same link for final pricing

52. What is meant by treatment plant (BOQ item 2.2.1.2 El Chweir)?

It is excavation volume of treatment plant

53. Under chapter 7 of Dhour Choueir school, Item 7.3.1, It is not clear to us what should be priced. Is it the whole steel structure and the Clay for the roof or only the water proofing treatment of steel? Note that we did not find the steel item related to this structure in any other division? Kindly clarify as the price will vary a lot depending on what is requested.

The whole steel structure, and the whole clay roof and accessories of the roof to be completed.

54. In Dhour El Choueir item 6.2.4 (Resin top laboratory tables with sinks), please to clarify the following:

a. The description of the item states "with sinks", but the countertops of items 6.2.4.2 and 6.2.4.4 do not have sinks on the drawings. Should we include a sink for these items in the price, or no?

b. In the BOQ, a RESIN countertop and sink are requested whereas a MARBLE top and FIRECLAY SINK are mentioned on the drawings. Which ones should we take into account in our price?

c. The following countertops exist on the drawings but are missing from the BOQ, please advise:

Room 28: counter type 1 (quantity 4)

Room 28: counter type 2 (quantity 1)

Room 30: counter type 5 (quantity 4)

Room 30: counter type 4 (quantity 1)

Room 6: counter type 4 (quantity 1)

a. **6.2.4.2 and 6.2.4.4 with no sink.**

b. **All resin**

Replace page 32 of 117 by the attached page in the BOQ. Please use the updated BOQ under the same link for final pricing

Kfarzabad School:

55. In Kfarzabad school, item 2.8.2 stamped concrete; It is mentioned in this item to include subbase course layer, but do we have to include also in our cost the 10 cm thick concrete slab required (other than 15 cm of stamped concrete)? Or this slab on grade will be paid separately in item 3.2.3.1? Note also that in drawing A104, detail 4, the thickness of the stamped concrete is 8 cm above hard core fill. Please clarify.

All included in the cost of the item.

56. In Kfarzabad division 6, please to clarify the following:

- a. item 6.2.3 (Librarian counter), 6.2.3.1 duplicates the kitchen counter of item 6.2.2.2, and we couldn't find any Librarian counter on the drawings. Please advise.
- b. Item 6.2.4 (Counters), please specify the material of the requested countertop: is it Resin or Marble? Also specify the material of the sinks.
- c. Item 6.2.4 (Laboratories cabinets), we couldn't find any drawings or details related to the mentioned Laboratories cabinets. Kindly provide them if available.

- a. **Refer to Q18 above.**
- b. **Refer to attached Annex A - counter specification.**
- c. **Refer to attached Annex A - counter specification.**