

## **GENERAL TECHNICAL SPECIFICATIONS**

### **BAALBECK PROJECT – COVER OF THE MARKET OF MEAT AREA**

#### **Introduction:**

Referring to Lebanese standards NL59 , NL71 , or European or American standards, in case of missing the Lebanese standards for all kind of building materials: Sand, Gravel, Cement and Water,

The general construction technical specifications for the project of BAALBECK will be subject to all the necessary requirements to respect for execution of all recommendations especially as part of the variety of stains that carry this project. The studies have concerns the development of a technical reference that can be modified or treated according to the needs and adequate situation, the results has done by practical application in the field.

The major components of this document will categorically divided according stains to better explain the spirit of work in which must be done. As well, the communication rules can ensure a good handling for better results.

#### **A - Construction of Preparation:**

##### **1 - Communication:**

Following the signing of the contract, the contractor must comply with the regulation of practical communication very well defined by correspondence with the consultant engineer in coordination with the UNDP representative office as well as the presence of the municipality of BAALBECK.

Tip This allows to follow a controlled organization that allows establishing a very well identified demarche to ensure a working level that reflect the efficient transparency of the project concept and its results.

Every moment that the contractor decide to start a task or finish a detail gives, it must send a document to the consultant to ask his opinion about the case and present recommendations to the contrary in case of need, both to inform for site visit if the consultant sees it necessary.

Among the contractor must never change the "Design" or otherwise deal those studies before taking the approval of the Consultant.

Moreover, when the contractor execute the plans draws by the Consultant books, he shall at each step, to submit the Consultant a shop drawing with all details he thinks to execute and wait the response of the consultant who must respond within

a period which does not exceed 24 hours. Electronic communication helps reduce the time and still earn a more active presence in these entire correspondences via UNDP regional office.

On the other side the municipality of BAALBECK is a Major Partner in the project which requires its presence will be further defined in the first meeting to launch the project implementation phase.

## 2 - Safety of Construction:

The Contractor shall provide all kinds of security on the site and in the official arguments which requires:

a - The presentation of an insurance policy for all workers and team work in the security context.

b - The presentation of an insurance policy covering passengers in the area of labor and neighborhood (public liability) to protect the others from any probable accident during the work in all its different tasks. In Baalbek project it's very important to take this part of responsibility in consideration because the site is much closed to the walking area.

c - The Engineers and technicians as well as the workers working for the contractor must comply with the standards and safety laws in yards accordance with Lebanese law and proper standards.

d - The Contractor shall provide onsite all the elements of safety and bypass all the limitations by strict working fields for no strange person to go beyond them, except members of the team of engineers who work or teams clothes and accessories of Security (Bottle, special helmets- Gillet ...)

## 3 - Elimination of all random constructions :

The entrepreneur starts working by disassemble any kind of existing plant with the full support of the municipality to clean the whole place of work.

It is very important to note that all debris and embankments that produce cleaning and demolition work as well as excavations in the following paragraph must be transported in accordance to a legal discharge indicated by the municipality.

## B - Excavation:

The excavation in Baalbek project have both of task:

1 - The first for fixing the foundations of the steel structure.

2 - The second for infrastructure services in the road, and specially the main drainage network.

3- Any excess of backfill must be transported in a legal proper discharge indicated by the municipality.

### C - Concrete: (Always work in the Temperature range 15 °-30 °)

The concreting work starts pouring lean concrete which forms a clean platform for the location of steel and formwork.

Following the work are shown in the concrete specs.

But a repetition of some conditions can serve for the insistence and the importance of these facts:

- 1 - Always respect the conditions of time and never pouring concrete for very cold weather or hot.
- 2 - The contractor must present the source of concrete and he shall prove the concrete conditions confirmed, both to keep its samples for the test of the concrete has done after 7 days as well as 28 days.
- 3 - The contractor must provide a vibrator to vibrate any kind of casting of concrete and still have another vibrator (Stand by) on the site for any kind of emergency or breakdown.
- 4 - The Contractor should always ensure the necessary coating to properly weld steel and have a complete adherence with the concrete and he shall respect all the recommendations of the Engineer.
- 5 - After flowing concrete, the contractor must cover (watering) structure by water morning and night to ensure continuous moisture during the first seven days after the stripping.
- 6 - Reinforcing steel (carrier element or slab) or distribution (slab on ground or sports ground has utility) must be set according to structural drawings by books, any other type of work need the approval of Engineer with his dedicated recommendations according to the drawings presented by the contractor.
- 7 - Any 6mm steel used to serve formwork must be cut at the formwork (unless otherwise indicated) and never to cut any kind of steel in touch with the earth.
- 8 - The casting can never be done before the visit of the Consultant and his written approval on site. Only the representative of the UNDP Regional Office can provide this function after taking the approval of the Engineer according to prior communication.

### D - Partition:

The work of installation of blocks in Baalbek project is very limited to short task assuring some repair and accomplishment of straight limit of the roof with security parapet along the road, other function can help to rehabilitate the elevation when needed.

1 - Stones (block) must be in good quality and the contractor has to deal with all Intermediaries work, the choice of the source of materials, transportation and installation on site (all working levels) as well as insure a qualified workers to perform quality work, every bad maneuver will be refused by the Engineer and all repetition is the contractor's responsibility.

2 - The mortar used in the installation of concrete block must be confirm to the standards and specifications predates for the concretes, about sand, cement and mixing water in order to have a strong mortar and Providing a complete adhesion between stones, remembering to put in full body throughout the contact surface between two stone on a minimum thickness of 15mm.

3- The finished construction must be watering for three days after installation.

4- Any specific element lintel or as necessary accessory for mounting the cinder block is included in the work and can never be considered as supplementary.

#### E - Electricity:

The work of electricity requires several tasks to be performed by the contractor :

1- Presentation of samples and receive the approval of the consultant.

2- Put very well detailed execution drawings to discuss them with the Engineer who must sign approval on every detail.

3- Location of control panels according to the drawing, with all details must be present by the contractor to demonstrate the operation mode of lighting and all electrical working system to determinate the use and save energy.

4- Electrical works must keep a minimum dimension of wires can never be unless 2mm for any use.

5- Accessories should be in good quality (switch, circuit breaker, socket, projector or other ...) and will be the subject of sample presentation for approval by the consultant.

#### F - Sanitary:

The mechanical work is divided into two phases:

1- Drainage of wastewater from the toilets that serve instead of going into the sewer networks.

2- Supply of the drinking water network server for the stores along the market.

3- Utilizes plastic pipes can be connected by hot accessories and must pass a test pressure of 5 bar before the coating by the concrete or installing in the earth (Irrigation).

### G - Coating:

The coating serves to ensure:

- 1- The sealant for any pit in the concrete if it exists.
- 2- The clean finish of interior and exterior elevations as well as the flags of the lower rating and ensure a good shape surfaces for painting.
- 3- Any kind of coating work must be finished by a smooth layer by applying an aluminum rod 3 meters in length. The number of layers is subject of decision must be Accept by the consultant before working.
- 4- Building materials used in the mortar must comply with the specifications predates in concrete at all levels (sand, cement and water ...) as well as any addition must never be carried out without the written approval of the 'Engineer.

### H - Tile:

The tiling task is very important phase in the visibility of the project because it bypasses the entire surface.

- 1- The contractor must submit at the beginning of the work, samples with a letter assuring responsibility for the use of these materials and the respect of all data and recommendations deliver by the Consultant as well as the homogeneity of materials in all weather conditions and temperature.
- 2- The mortar used for the establishment of the tiles must be compliant as a G-4 indicates above.
- 4- As expected amounts in the table, it is imperative that the entire surface to be tiled, is treated by a fully armed concrete screed to ensure a rigid support without any problem, in this concrete work may present small differences in level except whatever tiles must settle everything in order to arrive at a very good level as acceptable track slopes in the accompanying drawings in the project.

### J - Metallic Construction:

The metal structure is detailed in the special specifications for this task.

The Contractor shall execute its work well and fully comply with the technical standards and specifications presented in the join record BOQ.

- 1- The steel must be paint by primer of epoxy (0.6mm of thickness) before putting in place, in order to paint all the Elements after complete assembly as required by the recommendations of the consultant.

2. The Contractor must present after signing the contract, and within a period of 30 days, all the execution drawings as well as the detailed time table for the execution of works and declare the place of work for the preparation of its tasks. Any suggestions or changes in major components (location, piece length, frame widths, number of frames, various dimensions ...) will be the subject of correspondence with the Engineer to ensure all practical requirements for execution according to the study in its final spirit.

### 3- Aluminum and Glass:

The transparent element is fixed on the frame coating, made by aluminum frame (Profile Sidem 2000) which carries the glass. The aluminum must be fixed according to well disposition by grouting and putting rubber and silicone to ensure tightness at its hooking.

The glass should be made by double glazing with a tablecloth for the triplex will flee any kind of risk of sudden breakage.

### K - Specific Elements :

Any construction element , which appeared in the explanations or not , in the technical specifications or are connected to such norms or standards , is still subject to the approval of the Engineer Consultant which should provide a complete technical assistance on the site and in the office according to the needs and practices of handling facts without any complications on that.

The contractor must always respect its role as responsible as well, he must to complete an approved work and take the acceptance of the consultant according to the specific requirements adopted

### L - Delivery:

The draft presents for Baalbek a local, social and economic value very well accentuated. It is open a window for more dynamic activities in the site to give place new spirit of walking area and catering services.

The project is limited for a small area but it can be book as unit during the full execution, and give another approach for the area around.

The division of phases according to the program take in consideration the mode of payment, can be scheduled by:

1 – Concrete work, in all circumstances and forms , lean , weapon, or cleanliness and low – steel reinforcement included ...

2 - All infrastructure and sanitation works will close during casting of floor tiles, completing a work phase.

3 - The presentation of samples can add a special value in references of any constructive element in the project.

- 4 - The application of the signed contract and the execution of the partial payments will be in accordance with the delivery alternation.
- 5 - The final delivery will take place at the end of the complete job.