

## **Project Brief**

The project which is placed at the center of one of the most cultural and historic localities, a direct approach from NSC Bose Road, Kolkata, Unimark Shikha- Tuku (G+11 stroeyed building) offers its residents exceptionally designed facilities and services.

## **Electrical Supply**

Local supply authority (CESC) scope would include importing HT power at 11kv/6.6kv, 3 Ph 50 Hz and transforming from HV to MV (415V) including necessary MV distribution up to the meters. However space for commissioning the Transformers will be provided by the Vendors and will be handed over to supply authority.

The local supply authority (CESC) will provide separate LT supply, with supply Authority's KWH Meter, for each Unit / Apartment in the name of individual apartment owners & common meters for loads like Lift, water pump, Street Lights, Perimeter Lighting, Landscaping, car park area lighting, Fire Fighting etc. Feeding three phase power at their Incoming LT switches through energy meters shall be under the scope of supply authority. From authority's electrical meter, authority power shall be connected with Automatic change over cum current limiter to feed power to allotees MCB distribution board.

The total power load for the entire complex at 415 Volts with individual meters for each flat would be sought from CESC Ltd. Provision for providing emergency back-up power through DG sets will also be kept.

## **DG Power Supply**

The D.G. sets shall be located outside the building line.

The DG distribution panel of respective DG sets shall feed power to the DG bus of the distribution board for further distribution to the flats and showrooms. Automatic change over cum current limiter shall be proposed to change over between authority's power and DG power during load shading and power resumption condition.

Separate distribution for the common services like Street Lights, Perimeter Lighting, Landscaping, plumbing pumps, car park area lighting, Fire Fighting etc shall be provided through automatic change over switch to change over between authority's power supply and DG power supply during load shading and power resumption condition.

## **Fire System Description**

### **Fire water storage**

Static fire water underground storage tank for Fire Protection System has been provided of 75,000 ltrs capacity and individual terrace tank of required capacity of 5,000 ltrs for the tower.

Fire hydrant connection shall be provided from main line.

### **Fire Pumping System:**

The fire pumping system shall comprise of independent electrical pumps for hydrant and entire system, electric driven standby pump & jockey pump.

Electrical pump shall provide adequate flow for catering requirement of hydrant system. Standby electric driven fire pumps shall be provided for ensuring operation & performance of the system in case of total electrical power failure. Jockey pumps shall compensate for pressure drop and line leakage in the hydrant and sprinkler installation.

Individual suction lines shall be drawn from the Underground fire reserve tanks and connected to independent fire suction header. The electric fire pumps, Standby electric driven fire pumps and the jockey pumps shall all draw from this suction header.

Delivery lines from various pumps shall also be connected to a common header in order to ensure that maximum standby capacity is available. The ring main shall remain pressurized at all times and Jockey pumps shall make up minor line losses. Automation required to make the system fully functional shall be provided.

### **Fire Hydrant System**

Internal and external standpipe fire hydrant system shall be provided with landing valve, hose reel, first aid hose reels, complete with instantaneous pattern short gunmetal pipe in the Complex.

### **Sprinkler System**

Sprinkler system shall be provided for ground floor and first floor only.

The sprinklers shall be automatically activated at 68° C by breaking of the glass bulb in the event of fire. The sprinkler line shall be always energized on a 24-hour basis by automatic system through common delivery header of various pumps.

### **Hand held fire extinguishers**

Portable fire extinguishers of water (gas pressure), Carbon-di-oxide and foam type shall be provided as first aid fire extinguishing appliances. These extinguishers shall be suitably distributed in the entire public as well as service areas.

### **Fire Detection and Alarm System**

Manually operated Electrical Fire Alarm system with two numbers of break glass type manual call boxes fitted with Hooters at each floor connecting with visual panel board shall be made in Control Room. The control room shall be located at the entrance of the Ground Floor of the building.

Auto Fire Detection system with the help of heat and smoke detector shall be installed in commercial & community areas of below ceiling / false ceiling.

Hooter will be sounded in such a manner so that an operation of a Detector or Manual Call Point Hooters will be sounded on the same floor and immediate alternate floor.

### **PHE System:**

#### **Water Distribution**

The incoming main from Local Authority water supply line shall be fed into Fire Reserve tanks from where it will be allowed to overflow in domestic water tanks; Water from this tank shall be treated in the water treatment plant, thereafter the water shall be transferred to the over head tanks through pumping system and then by gravity system water to be supplied directly to the desired fixture point.

#### **Sewerage and Drainage System**

The system shall be designed as a separated system for sewage and sludge up to the first manhole, based on conventional water carriage method.

The combined sewage and sludge shall be conveyed by gravity through a network of pipes and manholes starting from the first manhole. These manholes shall be located adjacent driveways and pathways. The disposal from water closets shall be connected to the soil stack and local man holes directly, and the waste pipes through a trapped Gully.

All traps of water closets and the urinals shall be completely vented in the system.

The soil & waste piping in each toilet shall terminate in a header which will be subsequently connected to the vertical stack located inside the associated pipe shaft.