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22644-001_ALB_EU4C_RFP_01 - "Provision of Consultancy for Design services for EU4CULTURE Project - Support for revitalization of cultural heritage sites and monuments affected by Earthquake in Albania."
22644-001_ALB_EU4C_RFP_01 - "Sigurimi i Konsulencës për Shërbimet e Projektimit për Projektin EU4CULTURE - Mbështetje për rijetëzimin e siteve dhe monumenteve të trashëgimisë kulturore të prekura nga Tërmeti në Shqipëri."

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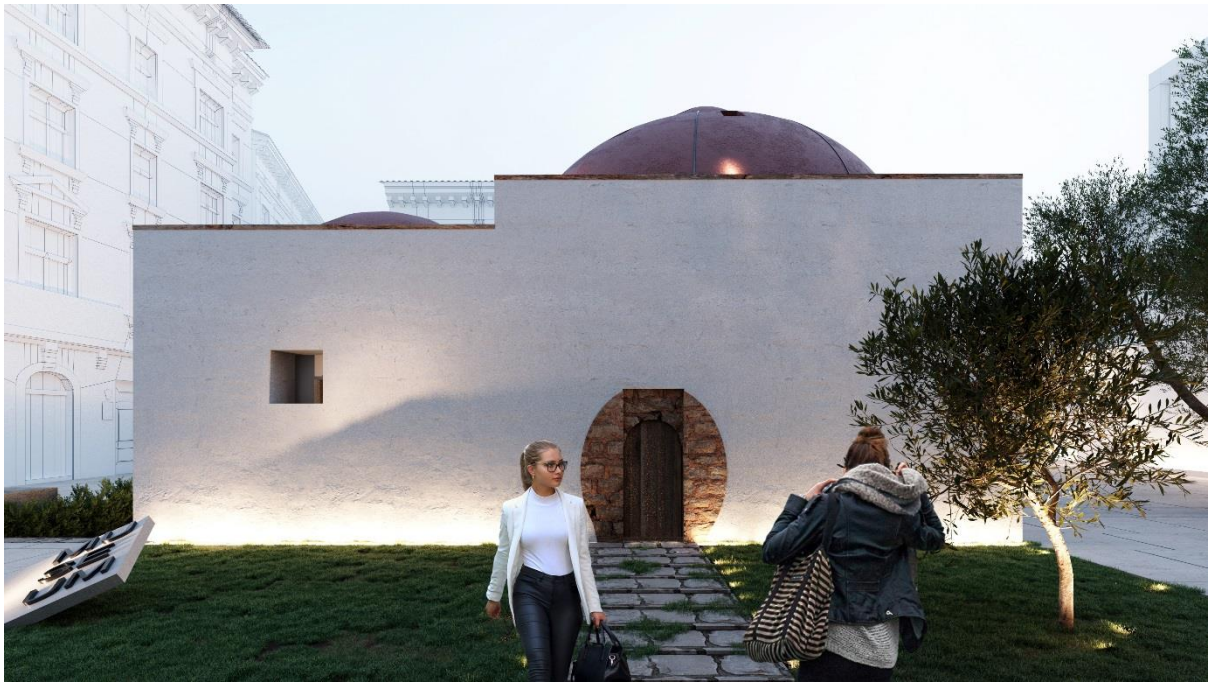
MECHANICAL REPORT
HAMMAM OF DURRES



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OPPORTUNITIES FOR INTERVENTIONS FOR RECONSTRUCTION AND CONSTRUCTION OF MECHANICAL SYSTEMS.

1. FIRE FIGHTING SYSTEM

The fire fighting system intends to:

- Protect the present persons in case of fire, smoke, etc.
- Protect the materials and objects,
- Protect the constructive structure of the building.

The fire fighting system is maximally adapted to the building and its function.
The fire fighting system is compounded by Passive Measures and Active Measures.

Passive measures include the architectonic and constructive measures by choosing and defining the escape routes in corridors, emergency exit stairs, internal protected staircase, protected elevators, provision of compartment protected from fire and smokes through building structures that are fireproof and resistant to fire (REI) such as walls, ceilings, floors, doors, etc., according to standards, etc. Appropriate signs pursuant to standards complement evacuation and rescue routes.
Active measures comprise the scope of mechanical projects and they consist in construction of systems for fire protection and extinguishing.
For this purpose, systems for fire extinguishing with portable equipment, which may be with powder and CO2 in accordance with fire categories.

1.1 SIGNALING

A very important element in firefighting system is the placement of relevant signals. This consists of a large number of warning, indicative and action signs such as:

- Warning signs - are the signs that show the prohibition of lighting fires, prohibition of the use of water to extinguish it, etc.
- Indicative signs - such as exit directions through corridors, stairs, placement of hydrants and cylinders, etc.
- Acting signs – signalization via alarm button, power outage, etc.

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Pic.1 Exit downstairs

Pic.2 Emergency exit

Pic.3 Water extinguish prohibited

Pic.4 High tension risk

Pic.5 Alarm button

Pic.6 Extingusher with CO_2

1.2 PORTABLE EXTINGUISHING SYSTEM

Portable cylinders serve to extinguish possible fire in the building.
The cylinders will be used with CO2 and powder, depending on the objects that have caught fire, so that the unburned parts are not damaged by the misuse of the type of extinguisher.

The number and size of fire extinguishing cylinders is determined in accordance with existing norms / standards. They must be maintained and inspected at least every two years by licensed authorities.

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	Class:	A	B	C	D
Cylinder extinguisher name					
Extinguisher with powder	PG	✓	✓	✓	
Extinguisher with powder (for fires caused by metals)	PM				✓
Extinguisher with powder (with special powder)	P		✓	✓	
Extinguisher with Dioxide carbon (CO2)	K		✓		
Extinguisher with foam	S	✓	✓		

Pic.7 Portable cylinder with CO_2

Pic.8 Portable cylinder with powder

2. SANITARY WATER SUPPLY SYSTEM

The water supply system provides cold water supply for hydro-sanitary premises.
The sanitary cold water supply will be done through the existing supply line which is situated inside the building .
The sanitary water distribution system will serve to provide cold water from the recirculating pump to the decorative collector of the sanitary node and after that to ensure the distribution of water in the equipments of the sanitary facilities. The system of sanitary water pipes will meet the requirements of the relevant norms and standards. The

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supply pipes will be Pex-Al-Pex, which meet all hygienic-sanitary requirements, according to the relevant standards.
The water reserve calculated in the project is the minimum amount needed to perform the recirculation of water from the reservoir through the pump, to the sinks.

3. WASTEWATER DISCHARGE SYSTEM

This system, of course, will serve to discharge water from decorative devices. The water flowing from the sink through PP tubes (thermopostable polypropylene at high temperatures), laid on the floor of the building sends the water to the "pit" built into the floor with the dimensions defined in the project. This pit is used to accumulate a water reserve in which water is supplied by a pump that sends water to the sink. This system will function as a recirculation system and make the sinks appear to discharge water without interruption. The discharge of the pit for water accumulation is done through a PPR pipe with a normally closed saracineska and at the moment we have to empty the pit, we open the saracineska by discharging the water in the rainwater network.

- Foundation drainage

This system will serve for the drainage of the foundations of the building, in order to remove the groundwater which can negatively affect the building. The discharge of groundwater will be done by self-flow in the rainwater network, without affecting the "disruption" of the stability of this water. The drainage pipe will have 360 ° holes and the dote type material will be PP. The drainage pipe will be lined with geotextile and the opening of the channel and the layers in which the pipe will be installed will be as shown in the section shown in the drawing.

4. HEATING SYSTEM

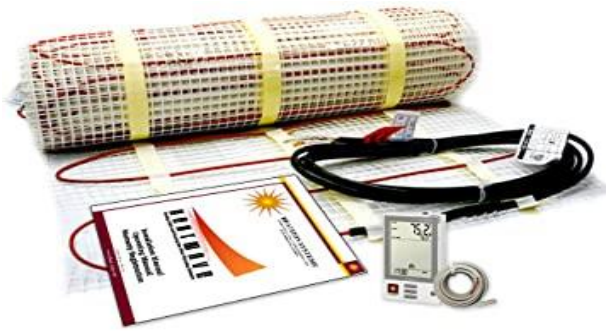
Floor heating system with radiant electric panel, will serve to create the temperature with the required parameters in the interior of the building. Flexibility in installation, simplicity in command and low cost in investment and use, makes this system ideal to use, in environments that require only heating and have difficulty positioning external equipment such as boilers, heat pumps, etc.

Floor heating systems with electric radiant panel, function as an electric "blanket", which makes it possible to heat the whole environment with a constant temperature throughout the surface.

The system we have used is a self-regulating temperature system (lowers and raises the temperature depending on demand), can be installed on any type of surface and does not show problems with overheating.

These systems consist of an electric cable interconnected with a plastic grid, a thermostat and a temperature sensor. The electrical panels work with low temperatures and this makes the whole system work in ideal conditions without disturbing the people who stay in these premises.

To guarantee the performance and maximum lifespan of electrical panels, they will be installed according to the instructions and technical conditions given in the technical specifications by the manufacturer of these panels. We also emphasize that the working temperature will be set according to the instructions of the product manufacturer, taking into consideration the layer under which it is applied.



Pic.9 Radiant electric panel

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