

**The rehabilitation project of main sanitary nodes in Tbilisi Mall**

Technical requirements

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7. **General Information**

The shopping center "Tbilisi Mall" is located on the 16th kilometer of Davit Agmashenebeli Alley. The building designed out of three independent blocks (blocks A, B and C.), which are connected between each other with seismic joints. The building is 8 floors, from where, the lower 4 underground floors are for parking and the upper 4 floors are for commercial and common areas.

In the common areas, on three floor of the building (1,2 and 3) there are 6 main Sanitary nodes, two nodes per floor. Each sanitary node consists of 4 isolated sectors: 1. Women; 2. Men; 3. Children; And 4. Handicap sectors.

According to the project documentation submitted by the Mall administration, is foreseen the complete rehabilitation of the main sanitary facilities, which needs to be met a modern standards.

1. **Technical consulting**

As a result of the study of the technical and aesthetic condition of the main sanitary nodes of Tbilisi Mall, it becomes necessary to carry out rehabilitation works on the sanitary nodes. In Particular:

1. The Ceramic wall tiles look improper. Damages are noted in many places. Where it has been replaced, that areas look differently due to the lack of existing types ones.
2. The same condition is on floor tiles;
3. The condition of the doors is catastrophic. The hinges are loosened, the doors are damaged due to moisture and most of them are out of service.
4. Urinal bowls are outdated, and sanitary condition is unfavorable;
5. The handwash sinks counter tops mostly are broken and are no fixable;
6. The ceiling construction needs to be changed, as there are not enough access doors and are not the catwalk constructions to access the technical infrastructure.
7. The Sensor mixers and bathroom accessories can’t stand criticism. Are of the obsolete type and in case of damage the same is not sought. We are forced to install another type and this difference is negligible;
8. The mirrors need to be changed, as they are damaged.

Based on above listed problems, the condition of sanitary nodes in Tbilisi Mall is unsatisfied and needs to be perform rehabilitation works.

1. **Technical assignment**

**Rehabilitation works on main sanitary nodes foresees:**

* The rehabilitation sanitary node should be isolated from the common area of the mall during all working process, so the common area should stay clean. Insulation is recommended to be done with Gypsum board walls, that will have a well-insulated front door from dust. The wall should be plastered and painted same color as environmental walls.
* Complete dismantling of existing ceramic tiles (walls, floors), Removal of construction debris and cleaning of construction area. The demolishing of floor should be done to concrete slab to do proper waterproofing. Garbage removing time should be agreed with tech. Manager.
* Demolishing of existing ceiling construction with light fixtures, vent dispensers and fire alarm and Public address devices.
* Dismantling of existing hand wash sinks and counter tops;
* Dismantling od existing toilet bowls. The Toilet units needs to be taken off gently, as they will be installed back.
* Dismantling of all doors;
* Dismantling of urinals;
* Dismantling of heating radiators;
* Competition of dismantling works must be reported to Mall Technical manager, than technical inspection must be carried out and the works will be continue after permit.
* Run the new electrical wiring according to the MEP project;
* Run the new low pressure, welded sewer piping according to the MEP project;
* Run the cold-water supply and Hot water supply-return new piping according to the MEP project.
* Inspect the built-in toilet tanks, if necessary, re-install them, in accordance with the standards (Tanks should be properly plumbed and should not be attached to the frames with tensioning. Because of plastic tanks can be broken). Replace all broken and defective ones. The replacement units will be provided.
* Arrange the catwalk (walkway) in the ceiling according to MEP project. The catwalk should be made of metal Square hollow bars and Sheet metal construction, at last 0.5m wide and run to the all facility infrastructure such as, Thermal detectors, sewer pipeline, inspection holes, Valves, light fixtures etc. The catwalk should be hanged on 10mm diameter metal bars, which are mounted on the ceiling with 16mmx80mm concrete anchors. The Metal construction surfaces should be covered with anticorrosion paint (two coats)
* Relocate the heating radiators ends according to the project;
* Perform installation of gypsum boards walls, where is requiring. The vertical studs should be installed in every 40cm.
* Install wall tiles according to the project. Corners should be accompanied by the special corner (brushed aluminum) element. The gaps between tiles should be maintained 1mm and which should be filled with a high quality and appropriate color acid resistant filler (recommended brand “Mapei”). Tiles should be installed in proper manner, lined and leveled on high professional level. The Mall quality control group (Technical department) reserves the right, in case of violation, to request re-installation of tiles.
* Installation of suspended ceiling according to the project, with its light fixtures, ventilation grills and fire alarm devices. The suspended ceiling construction should be firmly attached to the concrete ceiling, using the 6mm all thread bars in every 50cm. The frame bars should be 0.5mm thick UD and CD profiles with max. 40cm distance between them and proper leveled. Improper installation is not allowed. The Mall quality control group (Technical department) reserves the right, in case of violation, to request re-installation of ceiling.
* Install the floor drain traps on indicated places.
* Arrange the applicable hydro insulation of concrete slab. The material is recommended “Basf” brand. The insulation should be raised on vertical surfaces on 40cm. The insulation material apply according to instruction. The insulation material should be agreed with technical manager.
* After drying of insulation, arrange the cement screeding layer, with B15 class concrete. The slopes should be directed to the floor drain traps.
* Installation of floor tiles according to the project. The slope of the floor should be faced to the drain traps and possibility of water accumulating on the floor is not allowed. The gaps between tiles should be maintained 1mm and which should be filled with a high quality and appropriate color acid resistant filler (recommended brand “Mapei”). Tiles should be installed in proper manner, lined and leveled on high professional level. The Mall quality control group (Technical department) reserves the right, in case of violation, to request re-installation of tiles.
* Installation of main doors and toilet cabin doors, with appropriate locks. Doors should be properly plumbed and lock and unlock easily. Improper installation is not allowed. The Mall quality control group (Technical department) reserves the right, in case of violation, to request re-installation or replacing of doors.
* Installation toilets, counter tops with sinks, faucets (water mixers), siphons, urinals with dividers. The connections to systems should be done with high quality materials (pressure hoses, taps, fittings). All plumbing units should be equipped with own water supply closing valves.
* Install the space heating radiators;
* Install Mirrors with light on the top. According to the project.
* Install light fixtures specified. in the project
* Performance of painting works of ceilings;
* After finishing of works and making the acceptance of sanitary node by mall technical department, removing the dust isolate enclosure and return the corridor walls its former condition (clean, or if necessary repaint same color)
* Note: It is necessary to have the wet clean rug at the temporary entrance door. Also foot plastic covers for workers and visitors.
1. **Calendar Graphic**

The contractor should present the work performance schedule (Calendar graphic), which should contain following:

* Works can be carried out simultaneously in one sanitary node on one floor, which must be displayed in sequence.
* Work descriptions with performing sequence;
* Starting and finishing times and graphical too.
* Loud and vibrating equipment using time, which can be shifted in order to mall administration.
* Materials and equipment bringing time to site

The contractor company is obliged to strongly perform the works according to the submitted calendar graphic.

Noisy and vibration works can be carried out from 10:00PM to 8:30AM morning (during mall no working hours), without any permission.

1. **Safety**
* All works performed in and around the Mall building, must meet local Work and Personal safety standards (helmet, safety goggles, safety belts, safety boots, etc)
* Prior to starting of the works, the Mall safety Manager will inform the contractors about the work safety norms. Works can be started after signing the safety agreement document by the contractor workers.
* Contractor company is allowed to use only certified and safe high-level working equipment, such as ladders, scaffoldings.
* The construction site should be free with dangerous items and dangerous equipment
1. **Cost pricing**

In the cost pricing spreadsheet should be foreseen all expenses, which is necessary for fulfilling the project, except of materials and equipment, which will be provided by Mall.