EUCOM Humanitarian Assistance Program

Renovation of Psychological Support Center
Odessa - Ukraine

Aug 2017

Odessa, Ukraine
OHASIS UP-HA-2016-00028938
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1. TAXATION

In Accordance with Article 1 of the "Agreement Between the Government of Ukraine and the Government of the United States of America Regarding Humanitarian and Technical Economic Cooperation" prepared on 7 May 1992, regarding "Taxes and Other Charges", this project which is in connection with the United States assistance program, shall be free from any tariffs, dues, custom duties, import taxes and other similar taxes or charges imposed by Ukraine, or any subdivision thereof.

As such, this project will be awarded exempt from VAT taxes, and consequently the US Government will not pay any VAT taxes to the successful company who will get the award of the contract.

It shall be the contractor's responsibility to work directly with Ukrainian fiscal authorities on the implementation of the applicable tax exemption applicable for this assistance program. The Office of Defense Cooperation in Ukraine will provide the documents that may be requested by the contractor to certify that they are the company selected by the US Government to execute the necessary design and construction works included in this assistance contract. However, it is solely the contractor's responsibility to follow and implement the necessary procedures in strict compliance with Ukrainian regulations to exercise the free taxation agreement.

The US Government will not be responsible, nor will be financially liable for any mistakes or errors in the contractor's procedures for the correct implementation of the tax free agreement that applies to this United States assistance project.
2. GENERAL DESCRIPTION OF PROJECT

2.1. General Description of Work

This contract includes the renovations, reinforcement and upgrades in a section of ground floor of a three story university building. All work is on the ground floor and basement, and the rest of the areas of the building shall remain operational at all times except for temporary outages for water, electricity sewage and heat. The building shall remain operational except the areas affected by our project.

The area under the scope of work used to be a library, and it is located in the ground floor. It has a basement which is usable as well as fully occupied areas in the floors above.

The works includes in the Base-Bid everything necessary to reinforce the ceilings for the floor of the second floor above, provide new flooring for the ground floor areas under the scope of work, as well as performing all necessary interior and exterior repairs, modifications and improvements in order to provide a modern, high quality and fully operational Psychological Support Center.

Under a separate contract options, the contract includes additional related works, such as a direct access from the main university building or painting the entire building.

2.2. Location of project

Project is located in the rector’s office building of the University Yuzhnoukrainskiy Natsionalnyi Pedagogicheskiy named K. D. Ushinskogo. Building is located in Street Staroportofrankivska, No. 26 in downtown Odessa.
Location of building within downtown Odessa

Main administrative and Rector’s Office Building in red. Area under the scope of work in blue.
2.3. Legal and Technical Requirements

The contract is based on the following general requirements:

- Strict compliance with American Contracting Regulations, including the contracting requirements of the Department of Defense, the US Navy and the US Naval Facilities Engineering Command (NAVFAC).

- Strict compliance with Ukrainian technical and legal regulations.

- Strict compliance with Ukrainian Safety regulations, unless the US safety regulations (USACE EM 385-1-1) are more strict and not in conflict with Ukrainian safety regulations, in which case the US safety regulations shall be implemented.

- Compliance with technical and administrative requirements described in this document.

The project is based on the principle of strict compliance with Ukrainian technical and administrative regulations, with US Contracting Regulations and with Ukrainian Safety regulations, unless US regulations are more strict and not in conflict with Ukrainian safety regulations. In case of conflict between Ukrainian and US safety regulations, the contractor shall apply the Ukrainian regulations. If the US regulations are stricter and not contrary to the Ukrainian regulations, then the contractor shall apply the US regulation. The contractor shall inform the Contracting Officer Representative of any conflict between Ukrainian and US safety regulations.

The contractor shall hire the services of licensed architects/engineers in Ukraine to prepare the necessary designs and technical projects which are required for the scope of work included in this document.

The contractor shall hire the services of a licensed architect in Ukraine to:

- Make any necessary technical projects for the scope of work included in this project, as required by Ukrainian regulations in general and as required by Ukrainian standards for medical and health care facilities in particular.

- Obtain the necessary construction/renovation permits.

- Obtain formal approval from competent Ukrainian authorities for all completed works. This is a process designated as “formal expertise approval” which shall be managed and paid by the contractor, and which shall include all items of work. “Expertise” approval is required for all items of work included in this document, and it is the procedure by which the US Government will obtain formal confirmation of compliance with pertinent Ukrainian regulations.

Provide the final work as a complete and usable facility, including all items which are required by Ukraine regulations and which may not be described in this document. Technical details, items of work, permits or fees that are not explicitly described in this document, but which are necessary to provide fully operational and finished facilities shall be considered part of this contract.
2.4. General Contract Description

The contract is divided into two clearly separated parts: the Base-Bid and a Contract Option or Contract Option-1

- Base Bid: Everything necessary to have perfectly operational Psychological Support Center in the old library areas of the 3-story rector’s office building of the University Yuzhnoukrainskiy Natsionalnyi Pedagogicheskiy, as described in this document. This includes the new floors and structural reinforcements.

- Contract Option-1: This is divided into two parts:
  - A new direct access to the renovated areas from the main university building
  - Painting the entire building.

This is a design-build contract in which the US Government provides only some sketches.

The contractor is responsible to prepare all necessary design drawings and information, as it is required by Ukrainian regulations and as required for the contractor to show the Contracting Officer Representative the details of his proposed works.

Part of the work includes renovation and alterations and improvements to areas of an old and occupied building, and therefore it is absolutely necessary that the contractor visits the job sites and takes notes of field conditions before submitting their offers to the Contracting Officer. In order to visit the site, the offerors shall coordinate with the Program Manager of the United States Office of Defense Cooperation (ODC) in Kyiv Ms. Lyudmyla Kyryrenko lyudmyla.v.kyrylenko.ln@mail.mil.

This is a design-build contract. This means that the contractor is responsible to:

- Hire the services of licensed architects and engineers and technicians to make necessary design works. All design documents, including shop drawings shall be signed and stamped by the competent and pertinent licensed technical staff.

- Obtain the acceptance of those design works by the Contracting Officer Representative.

- Obtain the formal approval of those design works by the competent Ukrainian authorities.

- Obtain the construction permit from Ukrainian authorities and the “Notice to Proceed” from the Contracting Officer.

- Execute the corresponding construction works.

- Provide supervision of construction activities by their architect/designer, who shall be responsible for their technical projects.

- Coordinates with the beneficiary the supervision of the construction by the designer and by the third party companies.

- Obtain the acceptance of NAVFAC and the formal approval of the competent and required Ukrainian authorities for the executed construction works (Act of Acceptance). Obtain “expertise” approval for all items of work performed under this contract.
2.5. **Construction Permit or Authorization**

The contractor shall obtain formal written authorization from the competent Ukrainian authorities to perform the works included in the scope of work of these projects.

The contractor is required, as part of this contract, to prepare all documentation, designs, reports, information, drawings, coordination and approvals by experts or monitoring entities, and everything that may be necessary as required by Ukrainian regulations, in order to obtain these Permits or Authorizations. The contractor is responsible to pay for any third party inspection or expertise that may be required by Ukrainian regulations for the scope of work of this project. The contractor shall be familiar with these requirements in order to prepare their bids, regarding the obligatory administrative and technical procedures in Ukraine for public facilities in general and for renovation of public old and/or historical buildings in downtown areas of large cities in particular.

2.6. **Measurements and Quantities**

This contract complies with the US Contracting Regulations, and as such, all measurements and quantities of materials provided shall be verified and measured on site by the contractor. The contractor needs to visit the job site in order to perform the necessary measurements and to observe the existing field conditions in order to prepare their cost proposal.

In order to visit the site before award, the contractor shall coordinate with the Program Manager of the United States Office of Defense Cooperation (ODC) in Kyiv Ms. Lyudmyla Kyrylenko

lyudmyla.v.kyrylenko.ln@mail.mil

The US Government is not responsible for any mistake in the contractor’s measurements or assumptions of field conditions.
2.7. Construction Phase - General

Once the contractor completes the designs and they show evidence of formal authorization by the competent local authorities, and the contractor shows that they have completed other administrative contract requirements (Accident Prevention Plan, Quality Control Plan, Schedule,…), the Contracting Officer Representative will inform the contractor that they may start the construction phase of this design-build contract. This notification is called Notice to Proceed (or NTP).

The construction shall follow the design and technical projects prepared by the architect hired by the contractor, accepted by the COR and approved by pertinent Ukrainian authorities, and for which the contractor shall obtain the Construction Permit or Formal Authorization.

Under this phase, the contractor shall provide all necessary work in order to provide complete and usable facilities. Elements that may not be explicitly included in this document, but which are absolutely necessary to provide complete and usable facilities as required by Ukrainian regulations shall be considered to be an integral part of the project, and therefore, shall be considered to be part of this contract.

The contractor shall familiarize with the requirements of Ukraine regulations regarding renovations to old and historical buildings, as there may be required elements which are not specified in this document.

The architect who signs and certifies the technical projects shall visit the site for every important and relevant phase of work, to partially accept the completed works. Despite the requirements of the Ukrainian regulations for the visits of the designer, once the works start, the architect shall visit the site as a minimum once every week.

Two days in advance of the site visit, the contractor shall inform ODC Ukraine and the beneficiary of the planned arrival time to the job site.

In addition to these minimum weekly visits, the architect shall visit the site when the COR visits Odessa, estimated at once every two months.

In addition to these visits, the third party experts that shall be required will visit the site as required by Ukraine regulations, and also when NAVFAC’s PM visits the site.

Work will not be accepted until Final Act of Acceptance and/or expertise certificates are provided.

Limitation on equipment under this contract: Tables, desks, chairs, computer, phones, beds, televisions, and other movable equipment are not part of this contract, unless otherwise indicated in these technical specifications. Only those elements that are fixed, permanently attached to the building or considered as an integral part of the facility, and specifically described in these contract specifications are included in this contract, unless otherwise indicated in this document.

Requirement for Ukraine Code and Regulation: The contractor shall request, process and pay for any permits that may be required in accordance with Ukraine Law for this type of construction works. The contractor shall provide a copy of the pertinent construction permit to be issued by the competent local authorities and approval by the Monitoring Entity of the design, before they are authorized to start work.

For each completed phase of work, as required by Ukraine regulations, the contractor shall provide the certificate of the third party monitoring entity and/or "expertise" in order to process payment for that particular phase of work.
3. **DETAILED SCOPE OF WORK OF BASE-BID**

The work includes:

- Reinforcement of building structure (floor and ceilings, below and above areas to be renovated)
- Provide New drainage and sewage piping from upper floor to the basement
- Renovation, alterations and improvements to old library and adjacent areas.
- Improvements to exterior waterproofing of the facade

*Areas under the scope of work of this contract*
3.1. STRUCTURAL REINFORCEMENT OF THE CEILING AND FLOOR DECK

The floor deck of the ground floor under the scope of work of this contract has different conditions. In some areas it is apparently in acceptable conditions. In other areas it is completely destroyed, and in most areas it is in unknown condition.

It is absolutely necessary and part of this contract to guarantee perfect stability of the flooring deck.

The ceiling deck of the ground floor under the scope of work of this contract is in bad condition with visible deflection in most areas. The room in the West extreme has a metal reinforcement of the ceiling deck.

It is absolutely necessary and part of this contract to guarantee perfect stability of the ceiling deck.

Areas of the building requiring structural reinforcement
Before executing any repair works, it is necessary to properly reinforce the building. In order to do such work, it is absolutely necessary that the contractor hires the services or a license architect and Ukrainian “Expertise” to develop a design and execute the necessary structural reinforcement works with the following basis of design:

- 80% of the flooring to be removed and replaced with new reinforced concrete deck. All wooden flooring deck to be removed and replaced with reinforced concrete structural deck.

- 20% of the flooring deck to remain. These areas correspond to areas where there is currently concrete structure for the flooring.

- Ceiling surfaces for the areas under the scope of work (highlighted in green in previous page): 100% of the ceiling surfaces shall be structurally reinforced, including areas previously reinforced by the beneficiary. In order to do this, the contractor shall estimate that they will need to provide a metal supporting structure or other approved technology in compliance with Ukrainian regulations.

The design shall be signed and stamped by the licensed architect and the corresponding Ukrainian “Expertise” and it shall include all necessary details for the contractor’s construction team to perform the work.

3.1.1. Floor Deck – Structure Between Areas to be Renovated and Basement

The areas under the scope of work have basement. The deck between the basement and the areas under the scope of work is a wooden structure with some metal beams in most areas.

In order to guarantee stability and durability, this contract requires removing all wooden and metal structure from the flooring and providing a new cast in place reinforced concrete deck (or metal structure) in 80% of the flooring surfaces of the areas under the scope of work of the contract. The use of wood structure for the new flooring deck is not authorized.

The contractor shall remove all appliances and installations in the basement that are currently supported on their existing ceiling to be removed, and reinstall on the new ceiling surfaces. The contractor shall replace any appliance or installation that may be damaged as the result of this work.

It is not authorized to provide new supports or reinforcement for the floors, but at least 80% of the floors in the areas under the scope of work shall be completely removed and replaced with new. This means that after removal of the floor and before installing the new floor deck, the entire basement shall be visible and accessible from the areas under the scope of work.
3.1.2. Ceiling Deck – Structure Between Areas to be Renovated and Second Floor

In this case the basis of design is completely different from the floor deck. The contractor shall not remove any ceiling deck surfaces, but they shall reinforce the existing ceiling from the floor underneath (areas under the scope of work in the ground floor). All works shall be performed without interrupting the normal operations of the second floor above the areas under the scope of work.

For estimating purposes the contractor shall estimate that they will need to provide a new metal structure under the existing ceiling deck and above the new suspended ceiling to be provided under this project.

The contractor shall completely remove all plaster and false ceiling surfaces from the existing ceiling. They shall provide the new structural support for all ceiling decks to support the existing wooden structure, and then cover everything under a new suspended acoustic false ceiling. It is also included the treatment or repair of the potentially damaged sections of the existing wooden structure of the ceiling.

The contractor shall estimate that 100% of the existing ceiling deck is rotten, with 0% remaining structural strength for the existing wooden beam, and with imminent danger of collapse. The new reinforcing structural support shall be designed to support 100% of the loads of the ceiling deck.
Damages to the existing false ceiling, with visible deflection. All ceiling plaster to be removed. Contractor to repair any damaged piece of the wooden structure and to provide a new structural metal surface under the existing structure to be repaired by the contractor.

Damages to ceiling plaster and walls from past water infiltration
Existing damages from past water infiltrations. All plaster to be removed. All wooden lintels to be removed and replaced or simply supported with new precast concrete beams or structural metal profiles.
Existing column from existing ceiling metal reinforcement, to remain to be supplemented with the new one, or to be replaced with the new system. All as required by the design prepared by the architect and Ukrainian “expertise”.

Metal beams from existing ceiling reinforcement in the room in the West of the wing.
Section of flooring deck (from the basement) to be completely removed and replaced with new metal or reinforced concrete structure flooring for the ground floor and ceiling for the basement.

Opposite to above picture. Section of the basement where its ceiling is structural concrete and therefore it is not required to be removed.
Destroyed flooring deck to be completely replaced with new structural floor

Same picture as above, taken from the basement.
Destroyed section of flooring deck to be completely replaced with new structure. All to be demolished.

Detail of ceiling in basement to be completely removed
3.2. NEW DRAINAGE AND SEWAGE PIPING FROM UPPER FLOOR TO THE BASEMENT

There is evidence in various areas throughout the ceiling of past water leakages or infiltration. This contract includes very high quality finishes and items of work in the ground floor that cannot be damaged from defective piping and installations in the floors above. It is for that reason, that this contract includes the replacement of ALL drainage and sewer piping from the plumbing appliances in the upper floor to the basement, going through the areas under renovation. This also includes the sewer and drainage piping coming from the third floor, which shall be connected in the second floor. All sewer and drainage piping going through the areas highlighted in green in page 12 shall be completely replaced with new, but connected outside the areas to be renovated.

This includes all plumbing appliances and drainage and sewer lines in the areas above the ceilings to be reinforced, such as sinks, toilets, floor drains, piping coming from the third floor, and any other potential source of water leaks or infiltration through the ceiling deck.
3.3. **RENOVATION, ALTERATIONS AND IMPROVEMENTS TO THE OLD LIBRARY AND ADJACENT AREAS**

Once the floor deck of the ground floor areas under the scope of work has been removed and replaced with new, and its ceiling decks have been reinforced and certified by the architect and “expertise” hired by the contractor, the contractor shall perform the complete renovations of the areas under the scope of work as described in this document, in full compliance with pertinent and applicable Ukrainian regulations.

*Areas of the ground floor of the building to be completely renovated and under the scope of work of the contract. Drawing representing approximate existing conditions.*
3.3.1. NEW LAYOUT

The renovated areas shall have a completely new and different layout, with a central hallway and rooms to both sides. The sketch below represents a schematic concept for the new required layout.

It is absolutely necessary to visit the job site before submitting the offer. This contract specifications do not include details such as specific demolitions, door opening width, condition of lintels, and other elements which need to be assessed on site by an specialist. The drawing in the previous page includes the overall existing conditions and this sketch includes the general final required layout.

Schematic required layout. Within the green oval it is the most complex area, enlarged in the following page.
Basis of Design for new layout:

- New partitions shall be narrow masonry, not wider than 15 cm when finished, or double-double gypsum board filled with acoustic insulation.

- All areas under the scope of work to be accessible from the front street to people on wheelchairs, in strict compliance with Ukrainian and international regulations for people on wheelchairs (except the room named “bathroom with shower”).

- New partitions to separate new hallway from rooms to the right of the sketch shall be narrow masonry not wider than 15 cm from the floor up to 1.4 meters (or double-double gypsum board), and non-transparent glazing on aluminum profiles from 1.4 meters to the new ceiling surface. This is to maximize natural light into the hallway. This hallway wall shall be very visible and therefore high quality is specified and required. In addition to the above, the non-transparent glazing shall be provided with patterned design, such as resembling natural vegetation with the University logo in one of the glazing panes. The non-transparent treatment of the glazing shall be done by the glazing manufacturer in the factory and not by the application of special plastic films.

- New hallway to be as open as possible. Existing doors within the hallway shall be converted into “arcs” as much as technically possible.

- “Reception” room shall be shaped to allow one reception desk, to be provided under this project.
- All existing doors or openings between doors to be filled shall be used as a built-in cabinet. For example, the space left in “Office#2” or “Office#4” or “Conference Room” shall be provided with a built-in cabinet.

- The “Bathroom Disabilities” room is currently under the bathroom on the stairway and under the stairway itself. It has very low ceilings. The contract includes removing the floor (which is almost destroyed), the false ceiling, reinforcing the ceiling (as in the rest of the areas) and providing a bathroom area for people with disabilities. The area most under the stairway, with lowest ceiling shall be used as a built-in cabinet.

- The “Bathroom with Shower” room has very high flooring. This is to allow easy access into the basement from the exterior of the building. Currently this part of the building has two separate but immediately adjacent accesses to the basement. It is the intent of this project to remove one of the accesses, and to provide the floor of this room at the same elevation as the rest of the floors in the area under the scope of work. This area of the basement shall be accessible from other areas within the basement or through a floor hatch in the areas under the scope of work. Currently there is a blocked door that communicated the room directly from the future hallway, which shall be opened and used again.
Typical internal masonry partition wall with ceramic bricks

Typical 9 cm double hole brick

Patterned non-transparent glazing

Patterned non-transparent glazing
3.3.2. DEMOLITIONS

Demolish, remove and dispose of everything within the area under the scope of work until the building structure is exposed. After demolition is completed, the ceiling structure, the wall structure and the basement (in approximately 80% of the floor surface) shall be fully exposed.

All the existing heating stoves shall be completely removed.

All non-bearing internal partition walls shall be completely demolished. All wooden partitions shall be completely removed.

The contractor shall not weaken the building structure in any way during construction, but every aspect of the new layout and distribution and structural work is to strengthen the structure of the building.

If for example there is a wooden lintel over a door, the contractor shall remove the lintel and replace it with a precast concrete beam or with a structural metal profile. This may require temporary structural support of openings in order to remove the existing damaged wooden lintels. The building structure shall not be weakened under any circumstance. Any work that could out at risk the structural integrity of any part of the building shall be don ein the physical presence of the architect or technical"expertise".

If for example after removal of the wall plaster a new crack is exposed, the contractor shall repair it, as specified by their architect and “expertise” before covering the wall with new leveling plaster.
3.3.3. FLOORS – PORCELAN LARGE FORMAT

Floor structure/deck shall be new in approximately 80% of the areas under the scope of work. All metal and wooden floor structure shall be replaced with new, as previously described. This paragraph refers to the required finishes of the areas under the scope of work.

All floor surfaces shall be provided with the same very high quality finishes, at the same elevation (if technically possible, as previously described in paragraph 3.3.1) and without any tripping hazards or impediments for movements of wheelchairs.

The contractor shall provide large format porcelain stoneware. Minimum size of tile shall be 0.32 m². There are several acceptable standard sizes in the market for these tiles. It is recommended to provide 60x120 cm, but it is also acceptable to provide sizes such as 40x80, 60x60, 30x120 or 80x80 as long as its area is equal or greater than 0.32 m². Thickness of homogeneous tile shall not be less than 10 mm.

Color and pattern to resemble natural stone as in the pictures included in this paragraph. Final model to be selected by the representative from the beneficiary among ample selection provided by the contractor.

It is acceptable to provide the same model, but in a different smaller size for the bathrooms and kitchen and other rooms smaller than the kitchen.

Grès Porcelain Flooring:

Provide homogeneous grès porcelain tiles in all areas under the scope of work of this project. Include matching wall base board from the same model as the tiles.

Grès Porcelain stoneware is a ceramic with a compact, hard, colored and non-porous body. Tiles shall be homogeneous or non-glazed. This means that all the material of the tile is made of the same material. If we cut a tile, there would be no difference between different layers of the tile. The word “grès” means that the ceramic body of the tile is extremely vitrified, that is to say compact, hence the exceptional great resistance. The result is a lean clay body, little refractory, fired in a kiln (at 1200-1400 C°) until it reaches a non-porous vitrification and a complete water-proofing.

The new ceramic tiles shall be high quality, provided with the following technical features:

- Scratch hardness of surface (Mohs) >8 (according to EN101)
- Resistant to impacts: Complies with ISO 10545-5
- Water Absorption: Tested by ISO 10545 - 3 ≤ 0.5%
- Deep abrasion resistance: Tested by ISO 10545 – 6: Max 175 mm3
- Frost resistance: Tested by ISO 10545 – 12: Tiles must not produce noticeable alteration to surface
- Chemical resistance: Tested by ISO 10545 – 13: Tiles must not produce noticeable signs of chemical attack
- Friction coefficient (slipperiness): Tested by ASTM C 1028 ≥ 0,60
- Size: Minimum 0.32 m²
- Thickness: Minimum 10 mm

All floors shall be perfectly leveled. In the bathrooms and kitchen the floors shall be sloped towards the new floor drains to be provided as part of this contract. Tile installation shall be done following manufacturer’s instructions and recommendations.
Required finishes for new porcelain stoneware
Required finishes for new porcelain stoneware
Typical required finishes for the floors

Typical required finishes for the floors

Typical required finishes for the floors
Cutting homogeneous porcelain stoneware tiles

Homogeneous characteristic of the porcelain stoneware in comparison with standard ceramic tile (not acceptable in this project)
Typical grès base boards. Use same model as for the floor tiles.
3.3.4. WALL FINISHES

All walls shall be perfectly leveled. The use of gypsum board covers to level the existing walls is not authorized.

The contractor shall remove all plaster from existing walls, in order to provide a new leveling layer after filling any visible crack in the building structure. If the irregularity or unevenness of the wall is greater than 4 cm, the contractor shall supplement the walls with fill mortar with ceramic bricks. At the end, there shall be no visual difference between the existing repaired walls and the new partitions to be provided by this project. All finished walls shall be perfectly leveled and provided with similar finishes as required by this contract.

It is required as part of this contract to remove all wooden lintels above the doors and windows, and to replace them with precast concrete beams and/or structural metal profiles, as specified by the contractor’s architect.

There will be 4 types of wall finishes:

- In bathrooms and kitchen: Provide ceramic tiles from floor to ceiling surface, in combination of 3 colors.

- In offices, classrooms and other similar spaces: Provide plastered and painted perfectly leveled surfaces. Provide with wall base ceramic tile, from the same model as the porcelain stoneware used for the flooring.

- Along the hallways, provide ceramic cover of lowest 1.4 meters. The ceramic tiles shall be of the same quality as those specified for the floor. The wall tiles on the hallways shall be rated as floor tiles. The use of standard ceramic wall tiles, as those to be used in the bathrooms, is not authorized. Minimum size of tiles to be 20x80. Minimum length of tiles to be 80 cm.

- On one side of main hallway, the contractor shall provide a masonry or double-double gypsum board wall, with aluminum partition with non-transparent glazing. Glazing to be single leaf with minimum 8 mm thickness. The use of plastic film to make the glazing non-transparent is not authorized. Glazing to be rated as non-transparent by the manufacturer.

All utilities and piping shall be recessed within the new wall finishes. This includes not only the pipes serving this floor, but also the pipes which shall be replaced as part of this contract to provide new drainage/sewage to all appliances in the areas above the areas in the ground floor under the scope of work of this contract.

Wall finishes:
Green: Plaster and paint, with ceramic tiles up to 1.4 meters.
Yellow: Plaster and paint, with toeboard.
Red: Ceramic tiles from floor to ceiling surface.
Typical required wall finished for the lowest section of the main hallway walls. The use of wall tiles for the wall is not authorized, but the contractor shall use porcelain stoneware floor tiles of the specified size.
3.3.5. CEILING FINISHES

The existing ceiling deck shall be supported by a new structure, as previously described in this document. All reinforcement shall be covered under new acoustic suspended ceiling.

The height of the new suspended ceiling shall be determined by the architect hired by the contractor, but for estimating purposes the contractor shall estimate that they will install the suspended ceiling 10 cm above the upper edge of the existing windows.

In the bathrooms with showers the contractor shall provide over new metal support humidity rated acoustic tiles. These tiles shall be designed and certified to be in ambient of 100% relative humidity for extended periods of time. The contractor’s architect shall select the material to be used, which could be mineral fiber tiles with baseboards, calcium silicate tiles or metal tiles. Use tiles of the same sizes as the other standard acoustical tiles to be provided throughout the building.

The contractor shall install above the suspended ceiling as many installations as possible, such as fire alarm, water, sewer, electrical, communications, ventilation, air conditioning piping or drainage, and any other interior systems.

Use Mineral tiles 600/600/33mm on a metal sub-frame coated with a durable anti-bacterial finish.

Module (mm): 600 x 600 x 19 MMire reaction: EEA - Euroclass A2-s1,d0
Humidity resistance (%): 95
Material: Mineral
Humidity resistance (RH%)  95

Fire reaction  EEA Euroclass A2-s1,d0
Cleanability: With a moist cloth
Definition of Acoustical Drop or Suspended ceiling.

Typical acoustic suspended ceiling

Typical installation of humidity resistant and certified acoustic suspended ceiling
3.3.6. VENTILATION

Prior to the installation of the new ceiling surfaces, the contractor shall design, provide and install a fully operational ventilation system for the areas under the scope of work. The contractor shall hire the services of a licensed architect or engineer in Ukraine to design the ventilation system of the entire areas under the scope of work.

The new ventilation system shall be designed in accordance with Ukrainian regulations for office facilities. In addition to those elements that are required by the Ukrainian regulations, the contractor shall design and install a separate forced ventilation system for the bathrooms and the kitchen.

The contractor shall provide ventilation to all areas, but especially to those without exterior windows. The basis of design is the compliance with Ukrainian regulations for ventilation of public buildings used as office areas, including kitchenette and bathrooms.
3.3.7. ELECTRICAL INSTALLATIONS (GENERAL)

The project includes the complete design and installation of a completely new electrical system starting at the main electric panel located immediately adjacent to the areas under the scope of work. The work includes:

- **Design of the new electrical system and pertinent and required approvals by competent Ukrainian licensed engineer and authorities.** The contractor shall use the services of a licensed engineer in Ukraine to prepare the drawing and calculations. Copy of the designs shall be provided to the Contracting Officer Representative. All electrical cables shall be installed under conduit and the conduits shall be recessed on the walls and over the new ceilings surfaces, so that no electrical conduit is visible within the areas to be renovated. All electrical appliances (boxes, panels, lighting fixtures, receptacles, switches) shall be recessed within the walls.

- **Connect a new feeder or circuit immediate after the electric meter, with the necessary electrical protections and provide a new electric panel for all areas under the scope of work of this project.** This new main panel to be recessed within a wall, similarly to the rest of the electrical installation.

- **It is estimated that the removal of the floor deck will severely affect the electrical installation of the basement.** Those electrical installations in the basement that are affected by the removal of the flooring shall be removed and reinstalled, if, and only if, they are found to be in compliance with Ukrainian code and regulations. Otherwise, they shall be replaced with new, with similar features as the ones to be removed, but in compliance with latest applicable electrical code in Ukraine.

- **Any electrical system or installation which is currently powered, but which could be affected by the renovation works, shall continue to have electrical power after the renovation works.** For example, if there is a wall receptacle in the second floor, connected to an electric panel located in the ground floor areas under the scope of work. This construction contract includes the removal of such electric panel, and therefore the electrical receptacle will lose power. Then, this contract also includes the connection of the electrical circuits supplying power to such receptacles to a new circuit breaker to be installed in one of the new electrical panels to be installed recessed within the walls of the areas of the ground floor under the scope of work of this contract. Anything in the building that currently has electric power, shall remain with electric power after the completion of this project.

- **Demolitions: Remove any remains of the existing electrical installation in the kindergarten.** This includes boxes, cables, lighting fixtures, panels or wall receptacles.

- **All electrical equipment shall be CE certified (European Community certified).**

- **Provide new electrical grounding systems as required by Ukrainian regulations.** Provide copy of the grounding resistance tests to the Contracting Officer.

- **Electrical protection: All circuits shall be protected against short circuits and against indirect contacts with differential protection of maximum allowed current 30 mA.**

- **Receptacles: As described for each particular room, with a minimum of 4 receptacles per room.** When a particular room requires for example 4 receptacles, this means that there shall be 4 receptacles at different locations, and not a single wall mounted box with the 4 receptacles together.
- **Illumination:** Provide LED technology lighting. It must be noted that LED technology lighting system is much more expensive than other lighting technologies. The contractor shall include LED technology lighting in their project. Minimum power for each individual lighting fixture shall be 8 watts. Lighting fixtures shall be recessed within the new suspended ceiling.

The contractor shall provide a lighting design for the renovated areas, showing the illumination design pattern for each room in compliance with EN 12464-1. In each room, the design shall include the number and location of specific LED lighting fixtures, to show that they meet the minimum lighting levels required by standard EN 12464-1. These designs are normally done by the manufacturer of the proposed lighting fixtures. For the final inspection and acceptance the contractor shall provide the services of a certified third party inspection company with a lighting meter to test the illumination levels. This test shall be done in presence of the beneficiary representative.

Models: All models shall be selected by the contractor’s designer, to meet the requirements specified herein.

- All internal areas in the building annex shall be provided with suspended acoustic ceiling, and therefore the contractor shall provide recessed lighting fixtures.

- As a minimum, one of every 10 internal lighting fixtures shall be provided with autonomous battery to operate for a minimum of 30 minutes in case of power failure.

- Provide the necessary special appliances as required by Ukrainian regulations, such as emergency lights, exit signs, etc.
All electrical mechanisms to be recessed in the new walls. Provide wide switches as shown.

Typical required electrical panel to be recessed on the walls.

Recessed LED lighting fixtures, from a recently completed NAVFAC project in Ukraine.

Professional 3D lighting design.

Standard lighting design.
## ILLUMINATION LEVELS

<table>
<thead>
<tr>
<th>GENERAL AREAS</th>
<th>LUX LEVELS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrance halls, lobbies etc.</td>
<td>200</td>
</tr>
<tr>
<td>Enquiry desks</td>
<td>500</td>
</tr>
<tr>
<td>Gauchores</td>
<td>200</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CIRCULATION AREAS</th>
<th>LUX LEVELS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lifts</td>
<td>100</td>
</tr>
<tr>
<td>Corridors, stairs</td>
<td>100</td>
</tr>
<tr>
<td>Escalators</td>
<td>150</td>
</tr>
<tr>
<td>Entrances, exits</td>
<td>200</td>
</tr>
<tr>
<td>Atria</td>
<td>50–200</td>
</tr>
<tr>
<td>Atria with plant growth</td>
<td>500–3000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>STAFF ROOMS</th>
<th>LUX LEVELS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Changing rooms &amp; toilets</td>
<td>100</td>
</tr>
<tr>
<td>Rest rooms</td>
<td>150</td>
</tr>
<tr>
<td>Restaurants, canteens</td>
<td>200</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OFFICES</th>
<th>LUX LEVELS</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td>500</td>
</tr>
<tr>
<td>Computer work stations</td>
<td>300–500</td>
</tr>
<tr>
<td>Filling rooms</td>
<td>300</td>
</tr>
<tr>
<td>Drawing office general</td>
<td>500</td>
</tr>
<tr>
<td>Drawing boards</td>
<td>750</td>
</tr>
<tr>
<td>Cad design areas</td>
<td>300–500</td>
</tr>
<tr>
<td>Print rooms</td>
<td>300</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>KITCHENS</th>
<th>LUX LEVELS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serving &amp; washing up areas</td>
<td>300</td>
</tr>
<tr>
<td>Food preparation &amp; cooking</td>
<td>500</td>
</tr>
<tr>
<td>Food stores</td>
<td>150</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RETAILING</th>
<th>LUX LEVELS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small retail outlets</td>
<td>500</td>
</tr>
<tr>
<td>Supermarkets</td>
<td>750</td>
</tr>
<tr>
<td>Hypermarkets</td>
<td>1000</td>
</tr>
<tr>
<td>D.I.Y Superstores</td>
<td>1000</td>
</tr>
<tr>
<td>Garden centres</td>
<td>500</td>
</tr>
<tr>
<td>Show rooms</td>
<td>500–750</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PAINT SHOPS</th>
<th>LUX LEVELS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rough spraying</td>
<td>300</td>
</tr>
<tr>
<td>Fine spraying</td>
<td>750</td>
</tr>
<tr>
<td>Inspection, matching</td>
<td>1000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BUILDING SERVICES</th>
<th>LUX LEVELS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiler houses</td>
<td>100</td>
</tr>
<tr>
<td>Control rooms</td>
<td>300</td>
</tr>
<tr>
<td>Mechanical plant rooms</td>
<td>150</td>
</tr>
<tr>
<td>Electrical plant rooms</td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PLACES OF PUBLIC ASSEMBLY</th>
<th>LUX LEVELS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Churches &amp; village halls etc</td>
<td>300</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BANKS &amp; BUILDING SOCIETIES</th>
<th>LUX LEVELS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counter &amp; offices</td>
<td>500</td>
</tr>
<tr>
<td>Public areas</td>
<td>300</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DISTRIBUTION &amp; STORAGE</th>
<th>LUX LEVELS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loading bays</td>
<td>150</td>
</tr>
<tr>
<td>Unpacking &amp; sorting</td>
<td>200</td>
</tr>
<tr>
<td>Large items stores</td>
<td>100</td>
</tr>
<tr>
<td>Small item stores</td>
<td>200</td>
</tr>
<tr>
<td>Trade countur</td>
<td>500</td>
</tr>
<tr>
<td>Warehouse, bulk stores</td>
<td>100</td>
</tr>
<tr>
<td>Packing &amp; dispatch</td>
<td>300</td>
</tr>
<tr>
<td>Cold stores</td>
<td>300</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ENGINEERING</th>
<th>LUX LEVELS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tool shops</td>
<td>300–750</td>
</tr>
<tr>
<td>Arc welding</td>
<td>300</td>
</tr>
<tr>
<td>Spot welding</td>
<td>500–1000</td>
</tr>
<tr>
<td>Heavy machine assembly</td>
<td>300</td>
</tr>
<tr>
<td>Inspection &amp; testing</td>
<td>500–2000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>COMMUNICATION</th>
<th>LUX LEVELS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switchboards</td>
<td>300</td>
</tr>
<tr>
<td>Post rooms</td>
<td>500</td>
</tr>
</tbody>
</table>

**Typical required illumination levels for each type of facility**

**Typical conduit to be recessed on the walls**
Connect new electric circuit or circuits for the areas under the scope of work to this panel.

Electrical installations in the basement that would be affected by the removal of the ceiling of these rooms.

Typical electrical installations in the areas under the scope of work in the ground floor. All existing electrical installations to be completely removed and replaced with new.
3.3.8. TELEPHONE / INTERNET / COMMUNICATIONS

The contractor shall provide 8 outlets for telephone and internet connection. If the connector is not the same for both, the contractor shall provide 8 telephone and 8 internet connectors.

Location for the 8 (or 16) wall receptacles for telephone and Internet shall be indicated by the beneficiary. The contractor is responsible to provide all necessary installations in order to provide perfectly operational signal to the wall outlets from the nearest available point (or points) of connection with the service provider. This includes conduits, cables, cabinets, boxes, switches and everything else that may be necessary in compliance with Ukrainian regulations and with the particular technical requirements of the service provider (telephone and Internet). The contractor is responsible to pay for any official connecting fee that may be applicable. Similarly to the electrical connection, the contractor is not responsible to sign the contract with the service provider, but they are responsible to coordinate with the beneficiary.

3.3.9. FIRE ALARM

Provide Fire Alarm system as required by Ukrainian Regulations for this type of public facility. Provide with required smoke detectors, pull stations, horns and strobe lights.

All cables and boxes shall be recessed within the walls if allowed by Ukrainian regulations.

Main fire alarm panel to be recessed on one of the hallway walls, near the reception area.
3.3.10. HEATING

The contractor shall completely replace the closed circuit heated water heating system installation in the areas under the scope of work. This means replacement of the heating piping and the radiators, and not the replacement of the manifolds, boilers or heat exchangers. The existing heating installation shall be completely removed and replaced with new one in full compliance with latest Ukrainian regulations in the areas highlighted in green in page 22.

Basis of Design:

- Connect the piping on areas outside the area in the ground floor under the scope of work. This means that the contractor shall connect the piping in the basement, in the second floor and in the ground floor rooms immediately adjacent to the rooms under the scope of work. The point of connection does not necessarily have to be in the basement. It is estimated that the contractor will connect in the main heating manifolds of the building, where they will need to provide new pump and control systems.

- Provide bi-metal aluminum radiators. Size and location to be determined by the specialist hired by the contractor to provide the temperatures required by Ukrainian regulations based on available flow and temperature of available heating fluid. The contractor shall provide copy of the calculations done by the specialist hired by the contractor to size the radiators.

- Provide individual regulating valve in each radiator

- Provide the necessary valves, pumps, filters and everything necessary in order to have a perfectly operational centralized heating system, connected with the existing heating system of the building. The place of connection shall be determined by the expert hired by the contractor, but within the footprint of the building.

- Piping to be installed recessed within the walls to the maximum extent technically possible, but all connections shall be left exposed. This is one of the main reasons to perform the connections outside the areas under the scope of work.

- Provide pipe sleeves to install the piping from room to room and from floor to floor.