

**Attachment 1 - Statement of Work**



# **EUCOM Humanitarian Assistance Program**

## **SANITATION IMPROVEMENTS TO CEADIR LUNGA KINDERGARTEN#8**

Autonomous Territorial Unit of Găgăuzia, Moldova

OHASIS ID-00024397

VERSION-001

**August 2014**

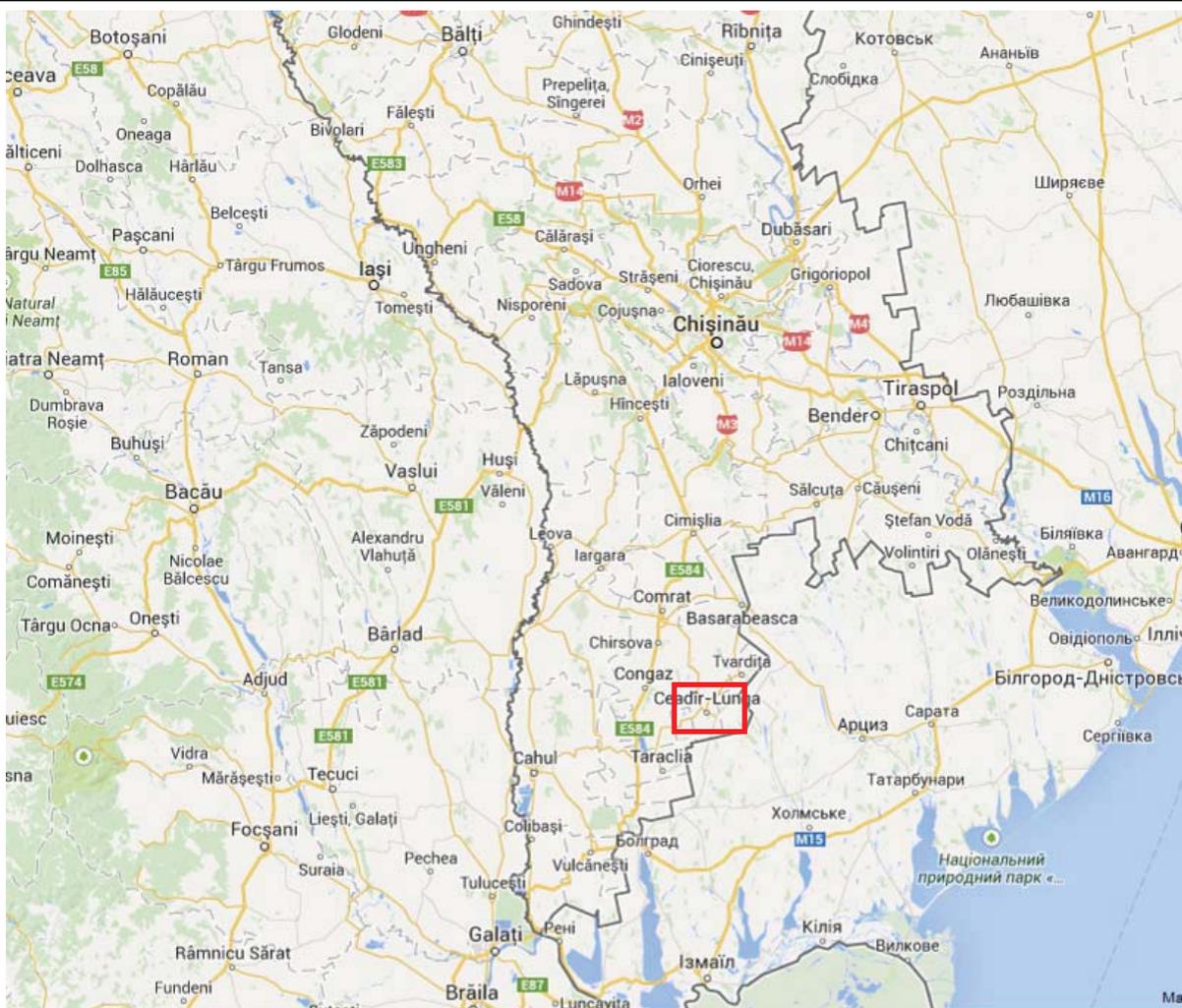
## 1. TAXATION

**This construction/renovation contract is exempt from VAT. The contractor is required to coordinate with the US Embassy and with competent Moldova authorities in order to obtain the VAT TAX EXEMPTION that applies to this contract.** Contractor shall start the tax exemption process immediately after award. Contractor is required to make all necessary coordination and to allow for time for approval of the VAT Tax Exception. A minimum of 2 months is estimated for processing all required documentation. The contractor should have the tax exemption process finalized before they start actual construction works.

## 2. GENERAL DESCRIPTION OF PROJECT

### 2.1. Location of project

This contract includes sanitation and other related improvements to Ceadir Lunga Drochia Kindergarten#8, located in the Autonomous Territorial Unit of Găgăuzia, Southern Moldova.



Picture#1: Location of Ceadir Lunga

## **2.2. Legal and Technical Requirements**

The project execution is based on the following principles:

- 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 Moldovan Technical, Legal and Administrative requirements, which are applicable for the scope of work described in this PTS.
- Compliance with the most stringent of US and Moldovan safety regulations.

## **2.3. General Contract Description**

This document is a Performance Technical Specifications (PTS). This PTS includes a description of the required finished work.

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

- Make necessary designs as required by this PTS for the different items of work
- Obtain NAVFAC's acceptance of the designs
- Obtain required formal approvals from competent and required Moldovan authorities, including any expert review by third party company that may be required by Moldovan regulations.
- Execute the construction works
- Obtain the acceptance of NAVFAC and the approval of the competent and required Moldovan authorities for the executed construction works.

Note: This contract includes separate items of work: repair of bathrooms and utility lines, and new exterior entrance. The contractor shall be familiar with the regulations of Moldova, in order to account for the different required permits and authorizations for repair and new construction works.

## 2.4. General Project Description

This document includes Sanitation and Other Improvement to Ceadir Lunga Kindergarten#08

The contract is divided into a Base-Bid and Contract Option-1. In general terms, the works include the following items of work:

- Base-Bid: Complete renovation of 6 bathrooms
- Base-Bid: Exterior Improvements to Main Entrance
- Contract Option-1: Complete renovation of 5 additional bathrooms

## 2.5. Measurements and Quantities

This contract complies with the US Contracting Regulations, and as such, measurements and quantities of materials and work are not provided, and if any are provided, the contractor shall be responsible to verify on site. 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.

Several pictures are included in this PTS. These pictures were taken in May 2011 and June 2014. The pictures do not guarantee the existing conditions of the building at the time to prepare the cost proposal, and they are only a tool to describe the responsibilities of the contractor. The contractor is responsible to visit the sites in order to measure and quantify the required work, as well as to verify the existing conditions, prior to the submission of their cost proposal. The US Government is not responsible for any mistake in the contractor's measurements or assumptions of field conditions.

***IT IS ABSOLUTELY NECESSARY FOR THE CONTRACTOR TO VISIT THE JOB SITES IN ORDER TO MEASURE AND TO QUANTIFY THE WORK INCLUDED IN THIS PROJECT AND TO VERIFY REAL FIELD CONDITIONS. THIS PROJECT DOES NOT INCLUDE ACCURANTE MEASUREMENTS OF QUANTITIES.***

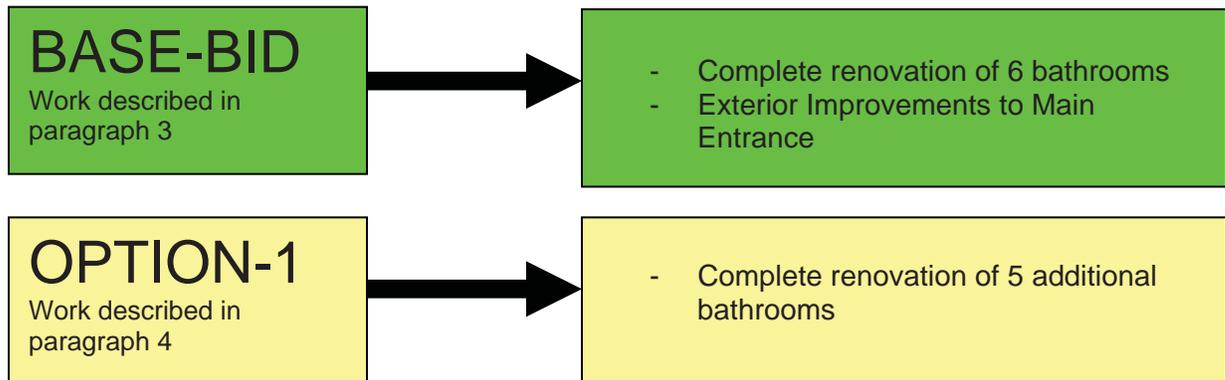
## 2.6. Construction Permit or Authorization

The contractor shall obtain formal written authorization from the competent Moldovan authority to perform the works included in the scope of work of this project.

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 Moldovan 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 Moldovan 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 Moldova.

## 2.7. Structure of the Contract

The work is divided into a Base-Bid and Contract Option-1. The Base-Bid is the minimum part of the project that will be awarded to the construction contractor. The award of Contract Option-1 will be unilaterally decided by the US Government based on availability of funds as well as other factors. The contractor shall provide separate pricing for the Base-Bid and for Contract Option-1, as required by the solicitation documents.



## 2.8. Applicable Requirements / Standards

The project is based on the principle of strict compliance with Moldova technical and administrative regulations, with US Contracting Regulations and with the most stringent of US and Moldovan Safety regulations. In case of conflict between Moldovan and US safety regulations, the contractor shall consult with the Contracting Officer before making a determination of which standard to apply.

The work shall meet all requirements of this Request For Proposal (RFP) package. Drawings to be as required in this RFP and with the necessary details and previous approvals (experts or monitoring entities) to submit the designs to the US Government, Local Moldovan Administration, final users, contractor's staff and sub-contractors. Material selection, specifications and installation to be as described in this Performance Technical Specification (PTS). The Performance Technical Specification (PTS) are a guideline for the design package:

- If an item in the project design is included in the PTS, the requirements of the PTS, applicable local Moldovan codes and regulations, and international codes shall govern.
- If an item in the project design is NOT included in the PTS, the requirements of applicable local Moldovan codes and regulations, and international codes shall govern.

Provide the final work as a complete and usable facility including all required items not described in this RFP. Technical details, items of work, permits or fees that are not explicitly described in this RFP, but which are necessary to provide a fully operational and finished facility shall be considered part of this contract.

Any work not explicitly included in the scope of work of this project, but which is absolutely necessary to have a perfectly operational facility, as required by Moldovan regulations, shall be treated as part of the requirements of this contract.

### 3. GENERAL SCOPE OF WORK OF BASE BID

The Base-Bid of the project includes the items of work specified in this paragraph, which include the necessary work in order to have completely renovated and perfectly operational bathroom facilities, with new water and sewer lines.

In general terms, the base-bid includes:

- Complete renovation of the following bathrooms

Name of the Group or Area	Scope of Work
Teremok	Complete Renovation
Gnomiki	Complete Renovation
Ulipka	Complete Renovation
Ozorie Utiata	Complete Renovation
Pcholki	Complete Renovation
Kapelka	Complete Renovation

- New water lines from the main water line located in the basement. All water lines to the renovated bathrooms shall be new from the water meter.
- New sewer lines from each drainage/sewer connection to the nearest manhole outside the building (in the yard). Recently replaced and existing PVC sewer lines can be reutilized, if, and only if, the contractor shows that they comply with Moldovan regulations.

Notes: The names of the different groups of children indicated above are only estimated. It is the contractor's responsibility to verify the names of the groups of children based on the description of the bathrooms provided in the subparagraphs of this section.

### 3.1. Renovation of Bathrooms - General

The contractor shall perform the complete renovation of 6 bathroom facilities as described herein. The work includes:

- **Demolitions:** Complete demolition within the bathrooms to be renovated of all plumbing appliances, doors (entrance and internals), wooden windows, electrical installation, water, sewer and vent piping, flooring surfaces, wall tiles, paint and plaster, internal partitions as required, ceiling plaster, furniture, mirrors, ventilation systems, and everything else within the areas to be renovated.
- **Floor:** Remove existing tiles and their supporting material as necessary for new floor surface with their new required slopes. Provide new grès tiles of minimum dimension 40x40 cm, sloped towards a new floor drain (or drains). Install floor tiles diagonally with respect to the walls. Provide supporting mortar base as necessary and recommended by the floor tile manufacturer. All floors shall be at the same elevation, sloped towards the new floor drains with 1% slope. Provide non slippery tiles, sloped towards floor drains (minimum of one for each room) to be connected with the new sewer piping system. Color and pattern to be selected by the beneficiary among ample selection to be provided by the contractor.

The floor shall be sloped towards the floor drain or floor drains. Testing of the slopes shall be done by pouring one bucket of water and waiting 5 minutes. After this period there shall be no sitting water on any surface of the new floor tiles. However, the floors at the entrance shall be at the same elevation as the floor in the adjacent room, so that there is no tripping hazard. Raising the floors over the existing floor surfaces, in order to provide the required slopes, is not authorized.

Floor Material: Non-glazed floor tiles of grès material (artificial granite), laser cut, with water resistant joints. Grès Porcelain stoneware is a ceramic with a compact, hard, colored and non-porous body. 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.

Provide wall base along all walls, with special wall trim pieces similar to the floor tiles. Cutting floor tiles to be used as wall base is not acceptable.

- **Floor drains:** Provide minimum of one floor drain per room. Provide stainless steel floor drain with integral p-trap to avoid bad smells.
- **Walls:** Remove wall tiles and plaster as necessary in order to provide a perfectly leveled surface in which to install the new ceramic tiles. Remove internal partitions as required by this document and as required by the contractor's design. Repair any cracks of structural defects before leveling the walls. Provide ceramic tiles from the floor (wall base ceramic tile) to the new ceiling surfaces. Ceramic tiles shall with minimum dimension 20x30 cm. Provide combinations of 3 colors and patterns per room, to be selected by beneficiary among ample selection to be provided by the contractor. Provide friso (decorative tile) in middle and highest heights. Middle one can be substituted by metal friso, as seen in picture#11.

The edges of the ceramic tiles shall all be protected by exposed metal corner guard as shown in picture#11 and 12. Plastic corner protection is not authorized. No edge of any tile shall be exposed to the view. Provide non-glazed ceramic tiles (for walls) with water

resistant joints, glued onto the surface of the wall. Provide with metal corner guards embedded in the wall tiles.

- **Masonry Partitions for New Layouts:** New partitions required by new layout shall be made of thin masonry wall, not wider than 20 cm. Cover all surfaces with new ceramic tiles as with the rest of the walls.
- **Ceiling:** Provide gypsum board plastered ceiling. The work includes removing the defective plaster, fixing any structural defects, and covering all ceiling surfaces with plastered and painted gypsum board supported by new galvanized metal structure. Provide with access hatches as necessary to allow for inspection and maintenance of any installation over the ceiling surface. Use "green" type gypsum board, rated and certified to be used in humid atmospheres. Install as high as technically possible, allowing sufficient space for the utilities that may be installed over the suspended ceiling (i.e. in the ground floor sewer lines from floor above) and for the recessed lighting fixtures. Paint with washable paint.

The top of the windows are very high, in some cases within 0 to 15 cm of the ceiling. To install gypsum board ceiling in some bathrooms, will require the gypsum ceiling to be installed with "boxes" around the window openings. Not necessarily all ceilings within the same room shall be at the same elevation.

It is acceptable to use gypsum board ceiling or acoustical drop ceiling. In this last case, the same requirements apply to the acoustic drop ceiling (i.e. rated for humid atmospheres).

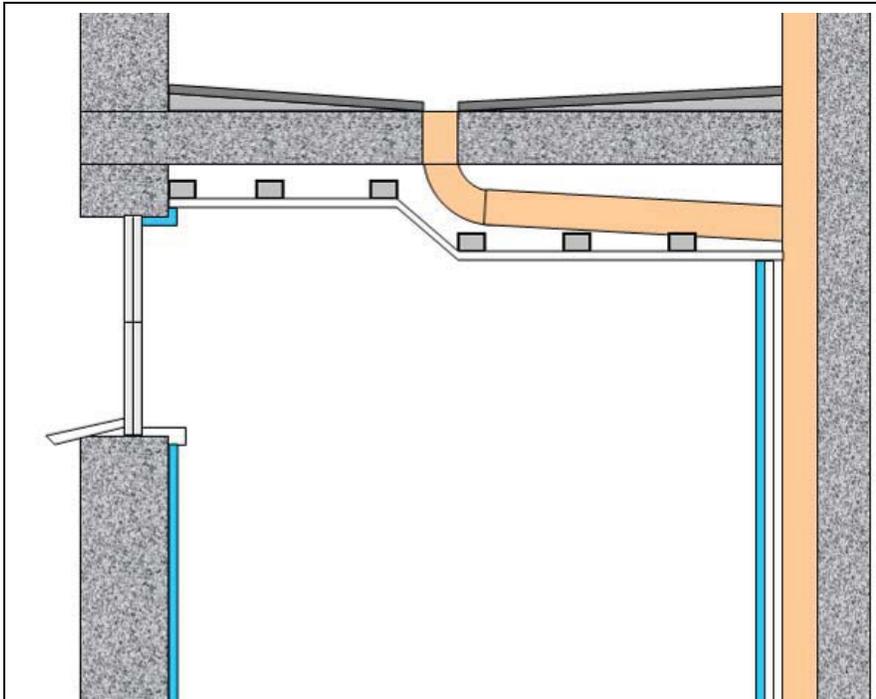
- **Electrical:** Provide complete new electrical installation for all new bathrooms under the scope of work. Provide a new electric panel connected with the main electric panel of the kindergarten to supply electricity to the new bathroom facilities or from the nearest electrical panel with sufficient power for the new bathroom electrical loads. All electrical installation in the renovated areas to be recessed along the walls, ceilings, floors, so that no electrical cables or conduits are visible, including conduits, junction boxes, lighting fixtures, switches, electric panels, etc. The electrical installation shall include:
  - o Designed and installed in accordance with European standards.
  - o All electrical equipment to be CE certified.
  - o Provide differential protection of maximum 30 mA for each one of the bathrooms.
  - o All electrical installation within the areas to be renovated to be done in conduits recessed within the walls. Electric panels, cables, junction boxes, boxes for the switches, receptacle boxes,... shall all be installed recessed within the new walls, which are to be covered with ceramic tiles. Direct installation of the cables under the plaster is not acceptable. All cables to be installed under electric conduit, even above the drop ceiling.
  - o No electrical receptacles in any bathroom.
  - o New recessed rapid start fluorescent lighting fixtures, provided with individual switches for each one of the rooms. Surface mounted lighting fixtures are not authorized. One of the reasons to install gypsum board ceiling is to recess all lighting fixtures. Lighting fixtures to be provided with washable diffuser. Provide illumination levels as required by Moldova regulations.

- Automatic start hand driers. Provide stainless steel automatic hand driers. Hardwire to the walls, so that the cables are not exposed to the view. Provide two units per bathroom at the required height for children.
- Provide individual circuits for lighting and power, so that when all hand driers are operating, there is no dimming in the lighting of the rooms. Voltage drop to be less than 3%. This will be tested for acceptance of electrical installation.
- Ventilation: Provide ventilation to the exterior of each bathroom. The contractor can choose the repair/cleaning of the existing ventilation if it is found to be adequate, or install a new forced ventilation to the exterior of the building. This is critical for the rooms without a direct access to an exterior window. If existing ventilation is to be reutilized, the air ducts shall be cleaned and the contractor shall provide new aluminum louvers.

For any electrical installation that may be required outside the areas to be renovated, the contractor shall provide new cables installed under PVC channels properly attached to the existing walls and ceiling surfaces in order not to damage the existing walls.

- **Ventilation:** Explained in the electrical section above
- **Water supply:** All water lines in the building shall be replaced using HDPE water piping rated for domestic water use. This is included in a separate paragraph. Within the renovated areas, the contractor shall design the size of the piping in order to provide proper flow and pressure when all toilets valves and faucets are open. Provide all water pipes inside of the bathroom areas recessed within the walls, so that they are not exposed to the view. Provide standard stainless steel faucets for only cold water.
- **Valves:** Provide shut off valves for each individual plumbing appliance (sink, toilet,...)
- **Hot water:** Not required.
- **Janitorial faucet:** Provide one wall mounted water faucet in each bathroom for janitorial purposes (filling is water buckets).
- **Windows:** Most of the windows have been recently replaced (all?). This contract only includes the replacement of existing wooden windows. For those windows to be replaced, the contractor shall provide new 5 chamber PVC profile window with double non transparent glazing (4-16-4). 100% of the window surface to open vertically and horizontally, and to be provided with removable mosquito net. Provide with PVC sill inside and aluminum sill outside. Repair all adjacent exterior surfaces, so that there is no evidence of any interior construction activity. If at the time of award, all existing windows are already PVC, this paragraph does not apply.
- **Existing PVC Windows:** The existing PVC windows shall be provided with the same finishes as the new ones to be provided under this contract. For bidding purposes the contractor shall estimate that they will need to remove the existing windows, and reinstall them in coordination with the new wall surfaces, including the new required interior PVC sill, which shall be installed in all the windows, new and existing. The existing windows shall be provided with new mosquito nets.
- **Doors:** All entrance doors of the bathrooms shall be replaced with new. Provide new PVC doors without bottom threshold and without locks. This is to avoid tripping hazards and to

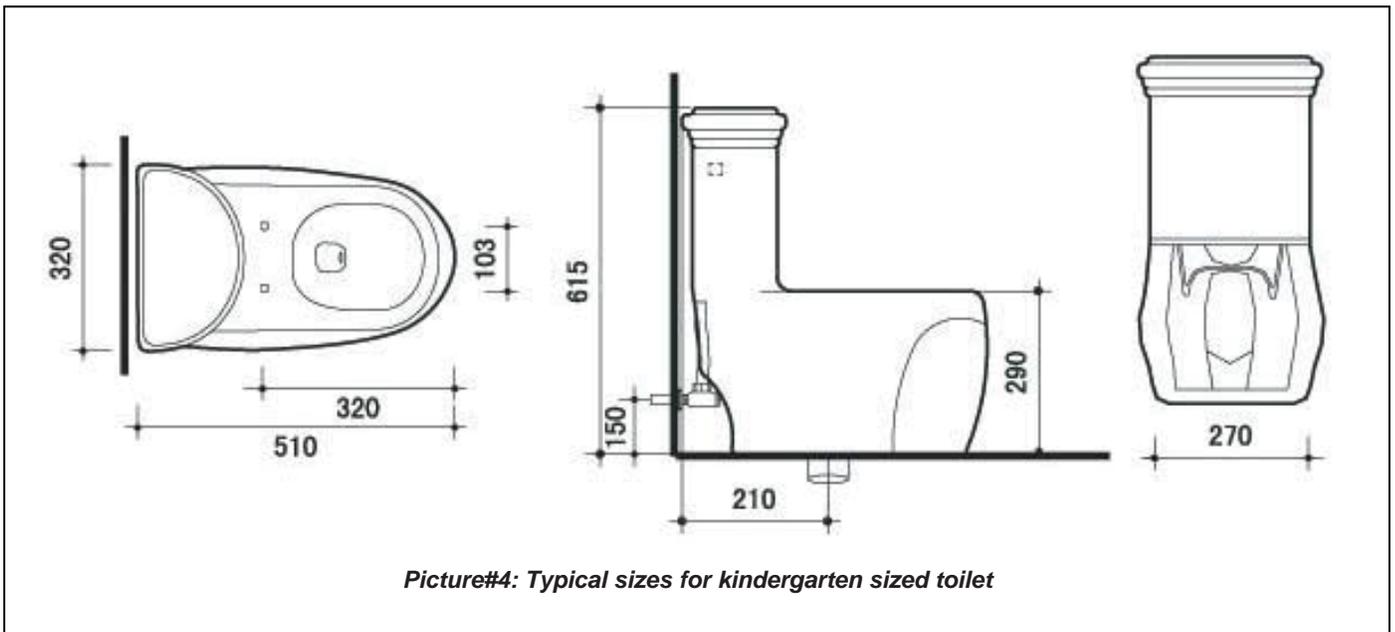
- allow for proper ventilation. Do not provide locks for the doors to the children's toilets. Doors and frames to be delivered by the manufacturer as one complete unit, not to be assembled by the contractor on site. Provide PVC door trims. Do not use any wood material for the new doors.
- **Heating:** Provide new heating radiators, bimetal type. Provide new heating piping within the renovated areas recessed within the new walls or floors. Connection points between the existing and the new piping shall be exposed, or next to an access hatch for inspection and maintenance. Provide each radiator with isolation and control valves. Size and location of radiators shall be designed by the architect hired by the contractor, but as a minimum they shall be provided under the windows.
  - **Sewer/drainage/vent:** The contract includes the removal of all sewer/water/vent lines from the renovated areas to the existing manholes outside of the kindergarten building. Provide new sewer/drainage/ventilation PVC piping for the bathrooms connected with the roof of the building. If this required breaking through the roof deck in order to install the new pipes, the contractor shall be responsible to repair as necessary the roof waterproofing in those affected roof areas. All sewer pipes in the renovated areas to be covered by masonry wall or partitions so that the sewer lines are not exposed to the view in the renovated areas. Provide access points for maintenance of the lines. Connect sewer lines to the existing concrete manholes outside of the kindergarten building. Replacement of all new sewer lines to be described in separate paragraph. Existing PVC sewer lines can be reutilized if the contractor shows that they comply with Moldovan regulations.
  - **Toilet Partitions** (design to be approved by Kindergarten Director). It is the intent of the project to build the toilets with privacy, but at the same time with possibility of adult supervision. The contractor shall provide a design within the parameters of this contract for approval of the Contracting Officer and the Kindergarten Director. Size of the partitions shall be coordinated with the size of the rooms and size of the toilets. Doors shall be made of PVC or aluminum. The separation between toilets can be made with masonry wall to be provided with the same finishes as the rest of the walls, or by aluminum partition. The partitions shall be designed with minimum contact with the floor for hygienic reasons. It is estimated that the bathroom partitions shall be different depending on the age of the users of each particular group of children to be renovated. For youngest children, doors may not be required.
  - **Mirrors:** To be provided over the countertop of the sinks. Mirror to be recessed within the new ceramic wall tiles of minimum size 0.6 meter high and with the same length as the countertops. Mirrors shall be surrounded by ornamental ceramic tiles (friso) or my stainless steel profile/framing as shown in picture#3.
  - **Toilets:** Provide kindergarten size toilets unless indicated otherwise by the kindergarten director. This will depend on the age of the users of the renovated bathrooms. For estimating purposes, the contractor shall estimate that all toilets shall be special size for kindergarten use. All materials shall be ceramic. The use of plastic water tanks is not authorized.
  - **Accessories:** Provide all required accessories made of stainless steel, in order to have a perfectly finished and operational bathroom facility. This includes toilet paper holder, soap holder, wall hanger or door and window stops.



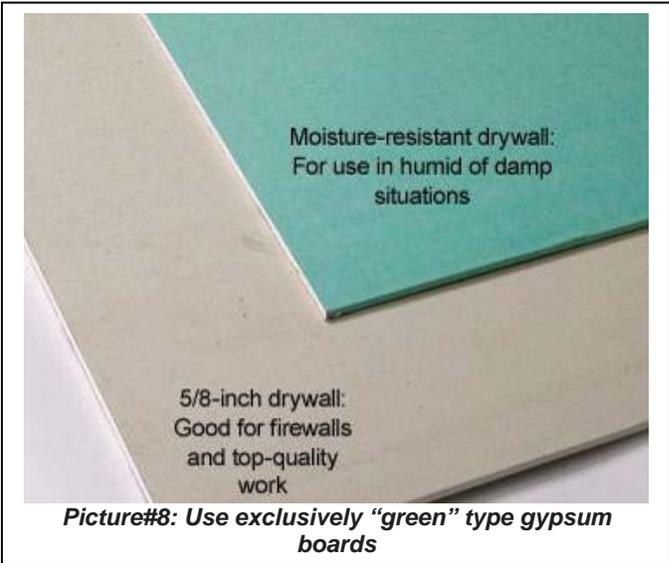
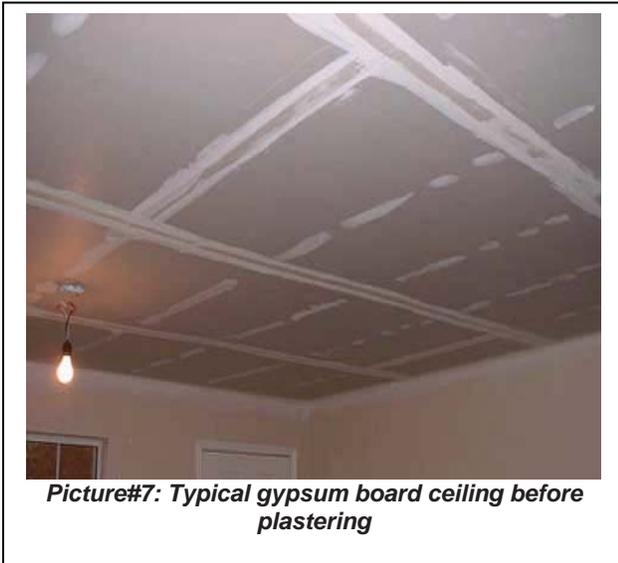
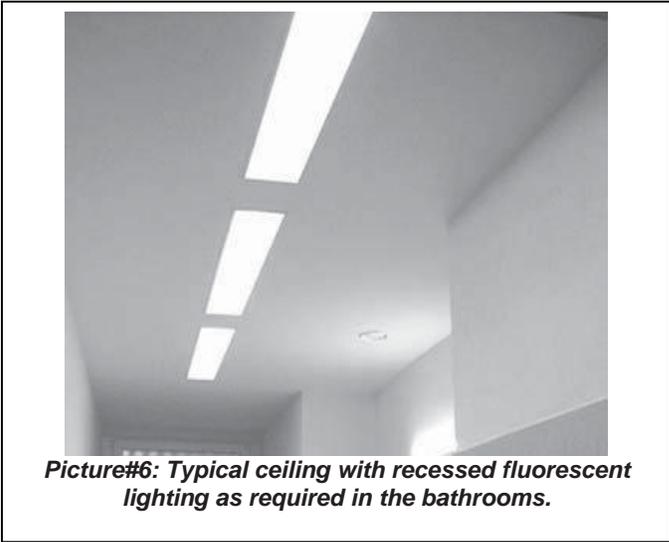
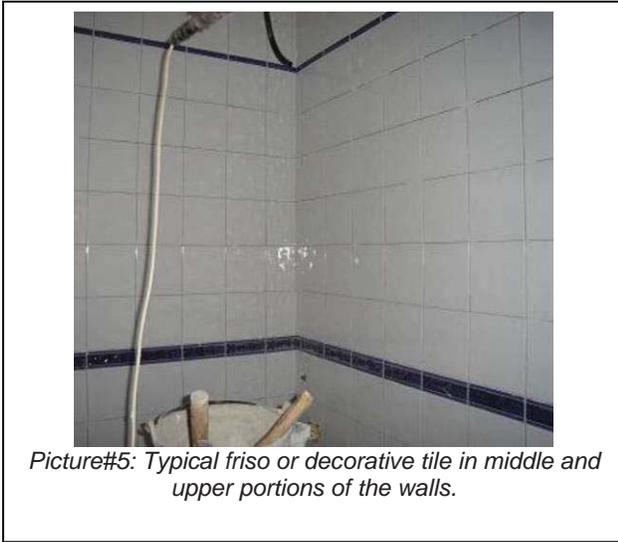
**Picture#2: Conceptual design of gypsum board ceiling when drainage piping and windows interfere with its installation. Similar "sloping" of the drop ceiling shall be required around the windows.**

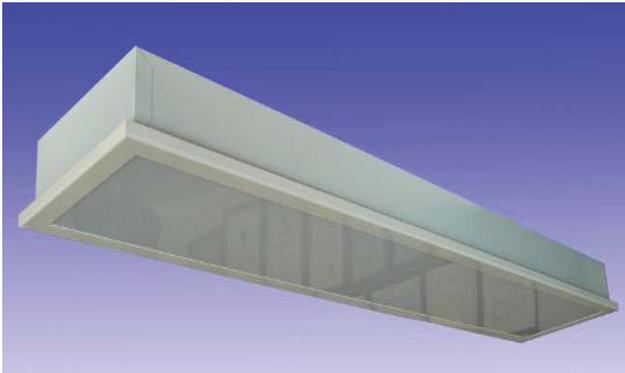


**Picture#3: Recessed mirror with stainless steel framing as required by this contract.**



**Picture#4: Typical sizes for kindergarten sized toilet**





**Picture#9: Typical lighting fixture to be recessed on the new false ceiling**



**Picture#10: Typical friso for bathrooms**



**Picture#11: Typical aluminum with anodized finish corner protection**



**Picture#12: Typical stainless steel corner protection for tiled corners.**



**Picture#13: Typical automatic hand drier**



**Picture#14: Typical bimetal radiator required for all new radiators in all renovated areas.**



**Picture#15: Typical installation of floor tiles diagonally with respect to the walls as required for all areas with new ceramic floor tiles.**



**Picture#16: Typical installation of the countertop before installing the sinks**



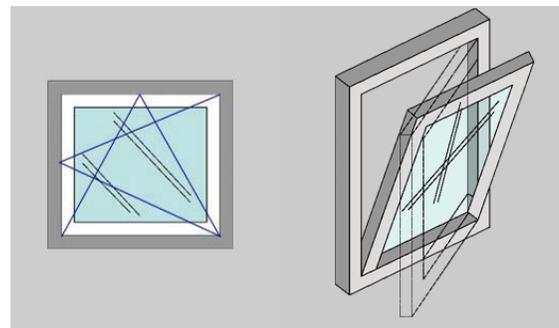
**Picture#17: Typical electrical conduits within walls**



**Picture#18: Typical electric conduit**



**Picture#19: Typical required furniture compartments to be replaced with new ones of solid varnished wood.**



**Picture#20: For new required windows(if any). Leaf to open horizontally and vertically**

### 3.2. Renovation of the Bathrooms – Specific Requirements

None of the bathrooms are exactly the same, although each bathroom is almost identical to the one above or below. Therefore there are basically 4 different types of bathrooms, for a total of 6 bathrooms to be renovated. All details and work described in paragraph 3.1 are applicable and required for all bathrooms to be renovated.

The sketches showing existing conditions are only approximate. The contractor is responsible to verify field conditions, furniture, measurements and existing plumbing appliances.

#### Notes:

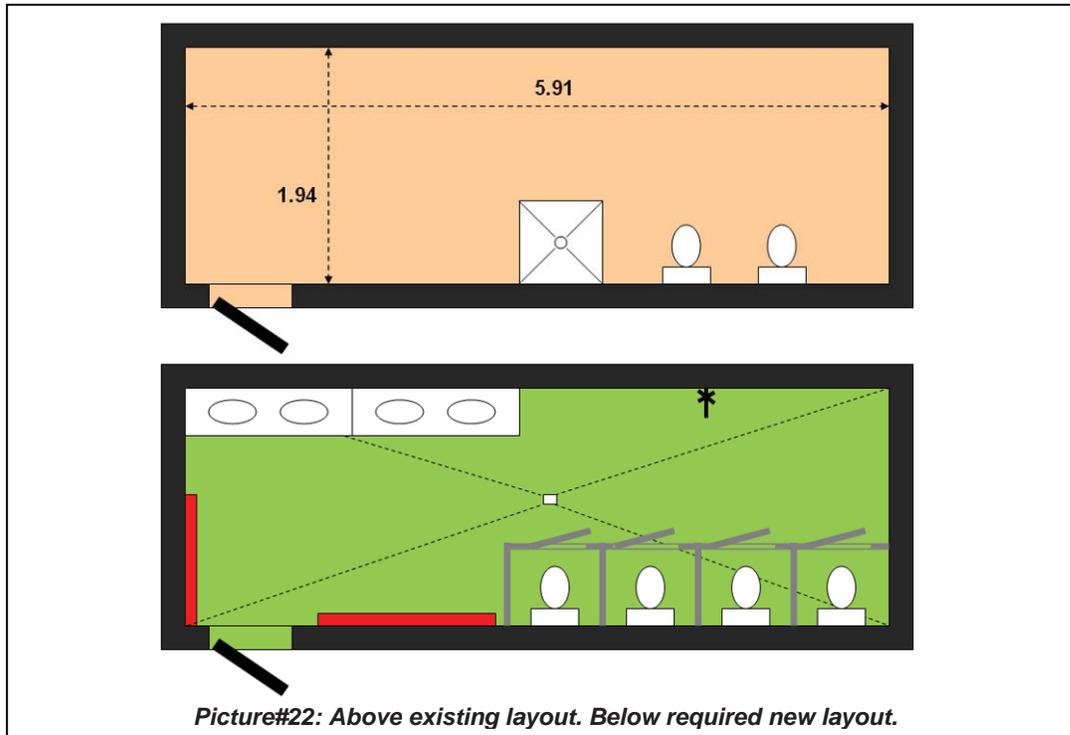
- Floor drains: Floors shall be provided with a 1% slope towards the new floor drains.
- Radiators: To be installed as close as possible to the windows. Sized and placed as designed by the contractor's designer.
- Wall mounted furniture: Each bathroom shall be provided with wall mounted furniture similar to the existing one, but made of solid natural wood, provided with varnished finish. Provide minimum of 25 individual compartments for each bathroom, unless specified otherwise.
- Sinks to be ceramic and installed recessed within a new artificial stone countertop with bright color. Length of countertop to be minimum 2.00 meters. Wall to be provided with water splash of minimum height of 12 cm of the same length as the countertop. Provide mirror over the length of the countertop.
- Additional faucet: Provide one additional faucet at each bathroom to fill water buckets for janitorial purposes.
- Toilet partitions: To be provided around all toilets to allow for privacy and adult supervision.



**Picture#21: Potential acceptable toilet partitions without doors and wall mounted (without contact with the floor for easy cleaning) for the youngest children**

### 3.2.1. Groups Terremok and Gnomiki

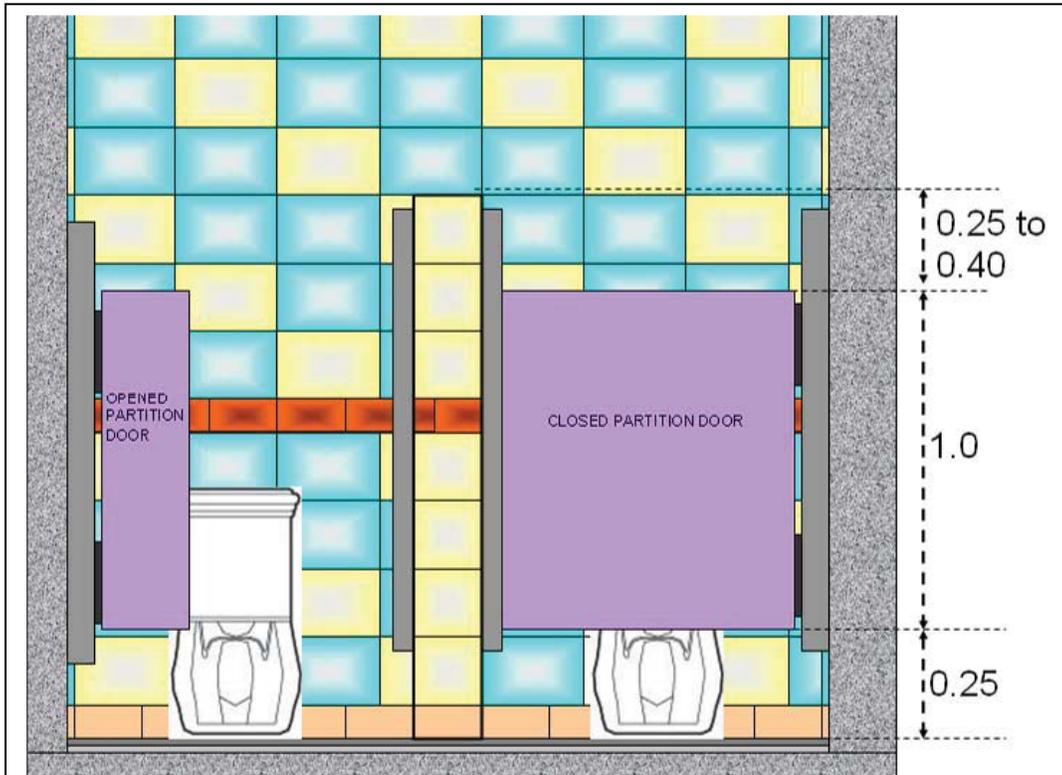
The work includes renovating 100% the existing bathroom facilities as detailed herein:



Picture#22 above shows the approximate existing layout of the bathrooms and the required layout and appliances for each of the 2 bathrooms. Each finished bathroom shall be provided with:

- Wall mounted furniture (for towel, comb,...), similar to existing ones, using solid varnished wood. Use of composite wood is not authorized. Approximate location of this required wall mounted furniture is shown in red in picture#22 in red.
- 4 sinks at elevation to be indicated by Kindergarten Director, with faucets with only cold water. Use ceramic sinks continuous artificial stone countertop with rounded edges. The use of wood for the countertop is not authorized.
- Sinks countertop: The sinks shall be installed recessed on continuous artificial stone countertop with rounded edges and designed to support the load of people standing on top of the countertop. The countertop shall be made of artificial compound made of minimum 94% natural quartz with anti-bacterial protection. Provide with live colors (orange, blue, red of yellow), to be selected by kindergarten director among ample selection provided by the contractor. All exposed drainage piping from the sinks shall be stainless steel, provided with p-trap to avoid bad smell.
- Toilets and toilet partitions: Use special kindergarten size toilet seats with ceramic seat and water tank. The use of plastic water tanks is not authorized. These partitions shall be designed to be used by young children.
- One additional faucet on the wall for janitorial purposes.

- Two stainless steel automatic wall-mounted hardwired hand-driers per bathroom.



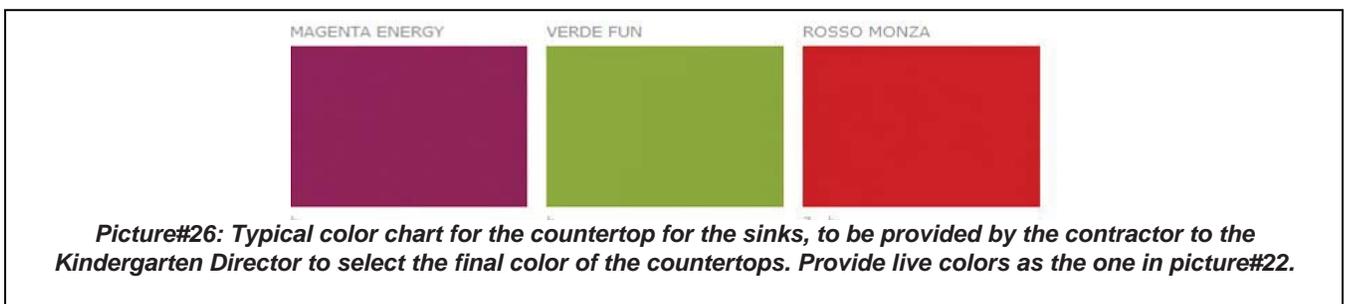
**Picture#23: conceptual design for toilet partitions. Provide toilet areas with all required accessories such as a stainless steel hanger and toilet paper holder. Provide doors with locks and handles. Minimum contact between partitions and floor is required.**



**Picture#24: Typical required stainless steel drainage with p-trap for the sinks to be installed over the continuous countertop**



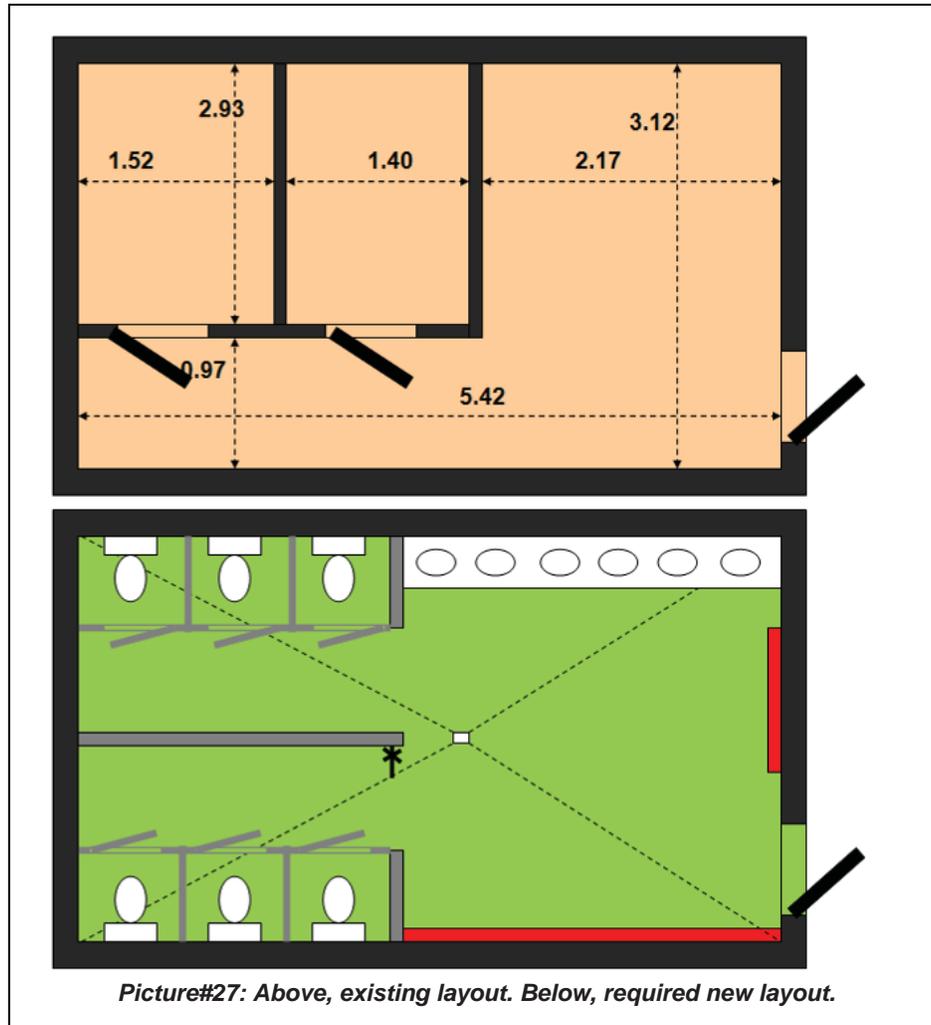
**Picture#25: Typical required continuous countertop for the sinks.**



**Picture#26: Typical color chart for the countertop for the sinks, to be provided by the contractor to the Kindergarten Director to select the final color of the countertops. Provide live colors as the one in picture#22.**

### 3.2.2. Groups Ulipka and Ozorie Utiata

The work includes renovating 100% the existing bathroom facilities as detailed herein. Any technical details of the bathrooms described in paragraph 3.2.1; which are not explicitly described in this paragraph, shall be included as required for these 2 bathrooms.

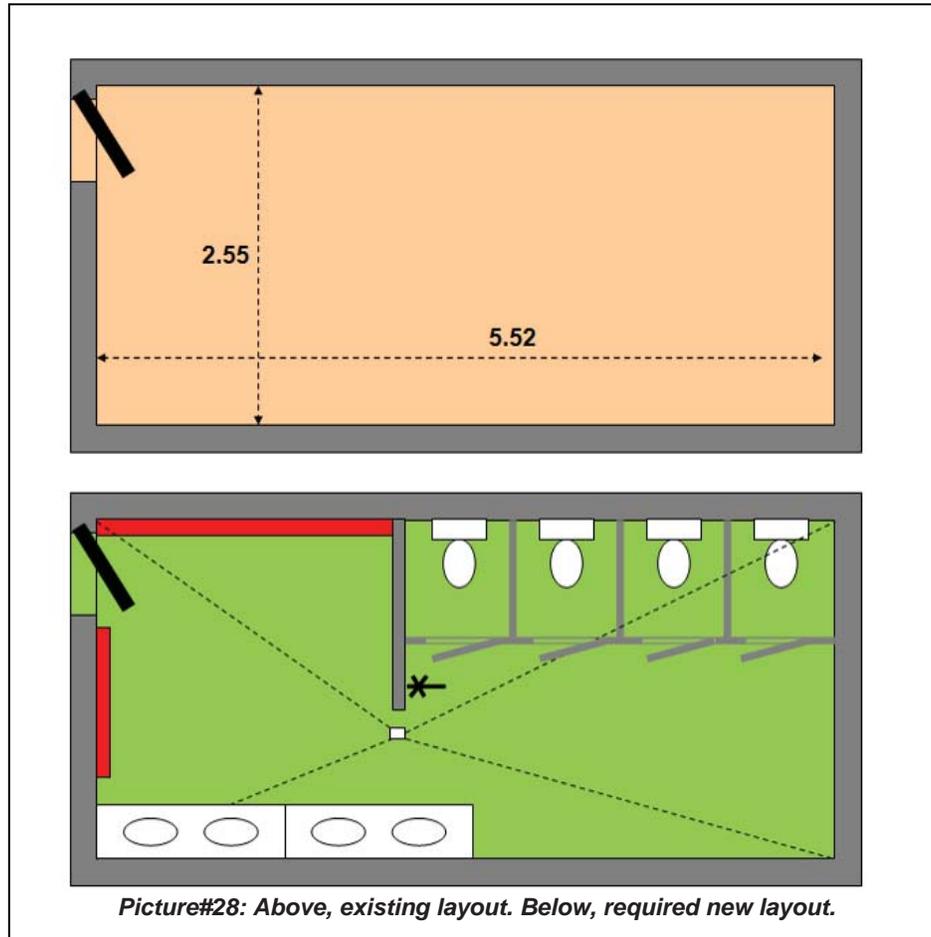


Picture#27 above shows the approximate existing layout of the bathrooms and the required layout and appliances for each of the 2 bathrooms. In particular, and with similar technical requirements as described in paragraph 3.2.1, each finished bathroom shall be provided with:

- Wall mounted furniture (for towel, comb,...). Provide 30 individual compartments of similar size as the existing ones.
- 6 sinks
- 6 toilets, separated in two groups of 3 toilets each, for boys and girls, separated by a masonry wall.
- Wall mounted faucet for janitorial purposes.

### 3.2.3. Group Pcholki

The work includes renovating 100% the existing bathroom facility as detailed herein. Any technical details of the bathrooms described in paragraph 3.2.1; which are not explicitly described in this paragraph, shall be included as required for this bathroom.

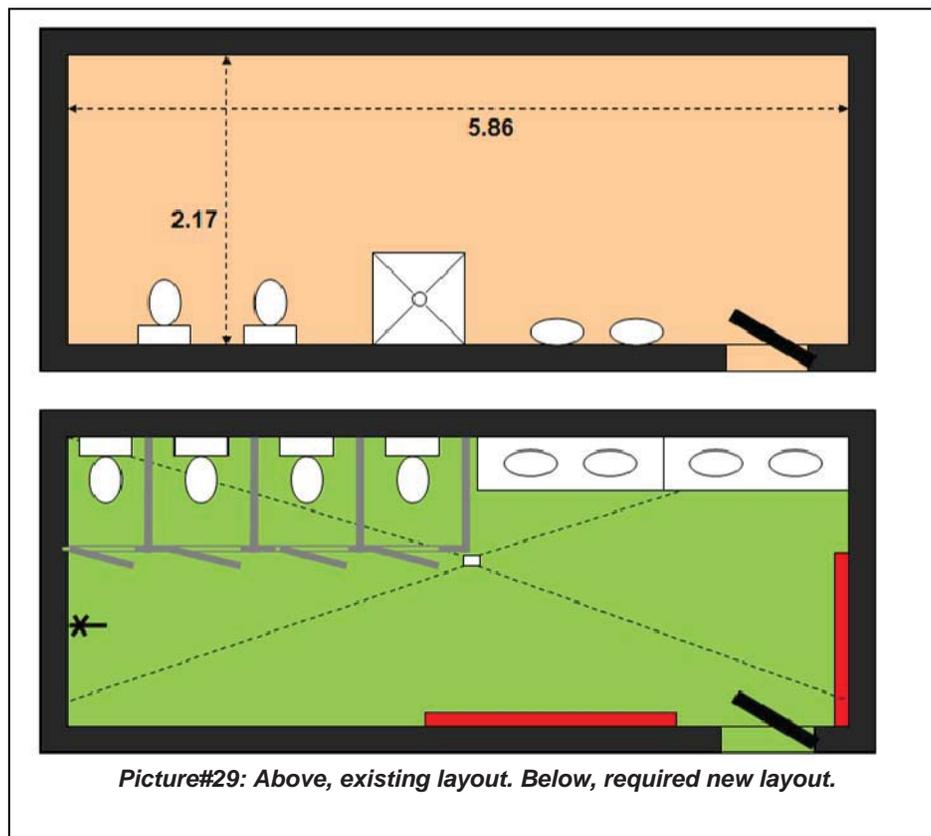


Picture#28 above shows the approximate existing layout of the bathroom and the required layout and appliances for Pcholki bathrooms. In particular, and with similar technical requirements as described in paragraph 3.2.1, each finished bathroom shall be provided with:

- Wall mounted furniture (for towel, comb,...).
- 4 sinks
- 4 toilets with partitions.
- Wall mounted faucet for janitorial purposes.

### 3.2.4. Group Kapelka

The work includes renovating 100% the existing bathroom facilities as detailed herein. Any technical details of the bathrooms described in paragraph 3.2.1; which are not explicitly described in this paragraph, shall be included as required for this bathroom.



Picture#29 above shows the approximate existing layout of the bathroom and the required layout and appliances for Kapelka bathrooms. In particular, and with similar technical requirements as described in paragraph 3.2.1, the finished bathroom shall be provided with:

- Wall mounted furniture (for towel, comb,...).
- 4 sinks
- 4 toilets with partitions.
- Wall mounted faucet for janitorial purposes.
- New (or repaired and painted) heating expansion tank.

### 3.3. Replacement of All Water Lines to Renovated Bathrooms

The contractor shall provide new water lines from the water meters to the renovated areas. Once the project is completed, the water in the renovated areas shall run exclusively through new water lines from the existing water meter(s).

The contractor shall perform the following works:

- Remove or abandon in place all water pipes no longer necessary after the renovations. Within the renovated areas, all existing water pipes shall be removed.
- There are other areas of the kindergarten with water supply. The contractor shall design the new water supply, so that the areas currently with water and not under the scope of the project shall remain with water supply. The contractor's designer shall decide if to maintain these existing water lines or to connect them at some point with the new water lines to be provided under this project.
- Provide new HDPE water pipelines to all the existing connection points in the renovated areas. In these renovated areas, all water lines shall be recessed within the walls, floor and ceilings. Any other water lines that need to be replaced as required by the contractor's design, and not in areas to be renovated, shall be installed along the walls, as high as technically possible, properly supported to avoid any visual deflection.
- New waterlines should be installed within the basement to the maximum extent technically possible.
- Provide individual shut off valves for each renovated area. Each bathroom to have its own shut off valve.



**Picture#30: Typical Point of connection in the basement. Replace and relocate water meter as required by water supply company/agency.**

### 3.4. Replacement of All Sewer/Vent Lines for the Renovated Areas

The contractor shall replace all sewer lines from the renovated areas to the first concrete manholes located outside the building. At the end of the contract, all sewer and vent lines for the renovated areas shall be new. The points of connection are located in manholes located outside the kindergarten building. These manholes shall be cleaned and provided with an internal waterproofing treatment.

The contractor shall perform the following works:

- Remove all sewer lines from the renovated areas of the kindergarten.
- Provide new PVC gravity pipes, from all connection points in the renovated areas, including the roof vents.
- Connect existing sewer/drainage from not renovated areas to the new sewer lines as necessary to have a perfectly operational system. All in compliance with Moldovan regulations.
- In the renovated areas, all sewer/vent lines are new from the basement to the roof and they need to be covered under masonry partitions with proper hatches for inspection and maintenance.
- All sewer lines from the renovated areas to the exterior concrete manholes shall be PVC gravity piping, specifically designed to be used for gravity sewer systems.

Note: Some of the drainage/sewer lines were recently renovated with new PVC lines. These recently renovated pipes can be reutilized if they are in compliance with Moldovan regulations.

In order for the contractor to replace sewer/vent lines, the contractor shall use different size piping:

- Vent lines: Minimum internal diameter 50 mm
- General drainage lines: Minimum diameter 50 mm
- Sewer lines connected with toilets: Minimum internal diameter 110 mm
- Sewer lines in the basement: Minimum internal diameter 110 mm
- Sewer lines buried on the ground (in areas with no basement or outside the kindergarten building to connect the existing concrete manholes): Minimum internal diameter 200 mm



**Picture#31: Typical recently replaced PVC sewer lines in the basement that could be reutilized.**



**Picture#32: General condition of bathrooms to be renovated**



**Picture#33: General condition of bathrooms to be renovated**



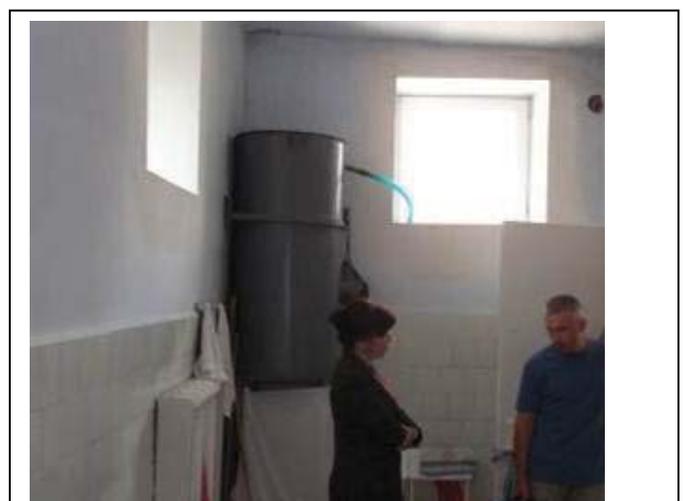
**Picture#34: General condition of bathrooms to be renovated**



**Picture#35: General condition of bathrooms to be renovated**



**Picture#36: General condition of bathrooms to be renovated**



**Picture#37: General condition of bathrooms to be renovated. Replace/Repair expansion tank.**



**Picture#38: General condition of bathrooms to be renovated. Replace ventilation system by removing its partitions.**



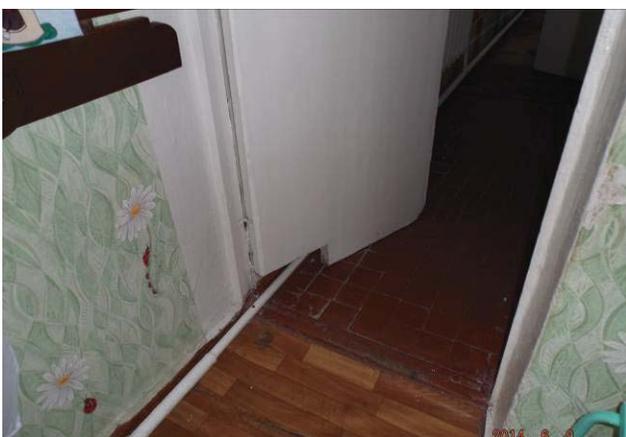
**Picture#39: General condition of bathrooms to be renovated**



**Picture#40: General condition of bathrooms to be renovated**



**Picture#41: General condition of bathrooms to be renovated**



**Picture#42: General condition of bathrooms to be renovated. Heating piping to be recessed in the walls from the living room so the door is normal (without hole)**



**Picture#43: Heating pipes to be recessed along the walls.**



**Picture#44: General condition of bathrooms to be renovated. Note that there is 0 cm between the upper side of the window and the ceiling.**



**Picture#43: Very high windows. Electrical to be replaced. Internal partitions to be removed.**



**Picture#46: Typical bathroom (partitions to the right to be removed completely)**



**Picture#47: Sewer lines to be replaced. This is especially important between floors.**



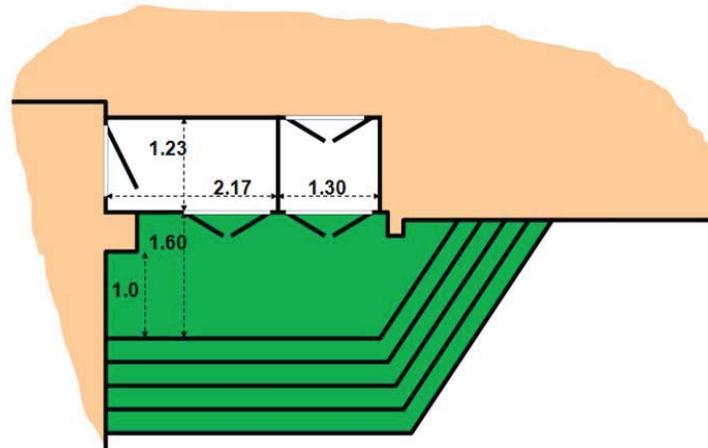
**Picture#48: Typical condition existing bathrooms.**



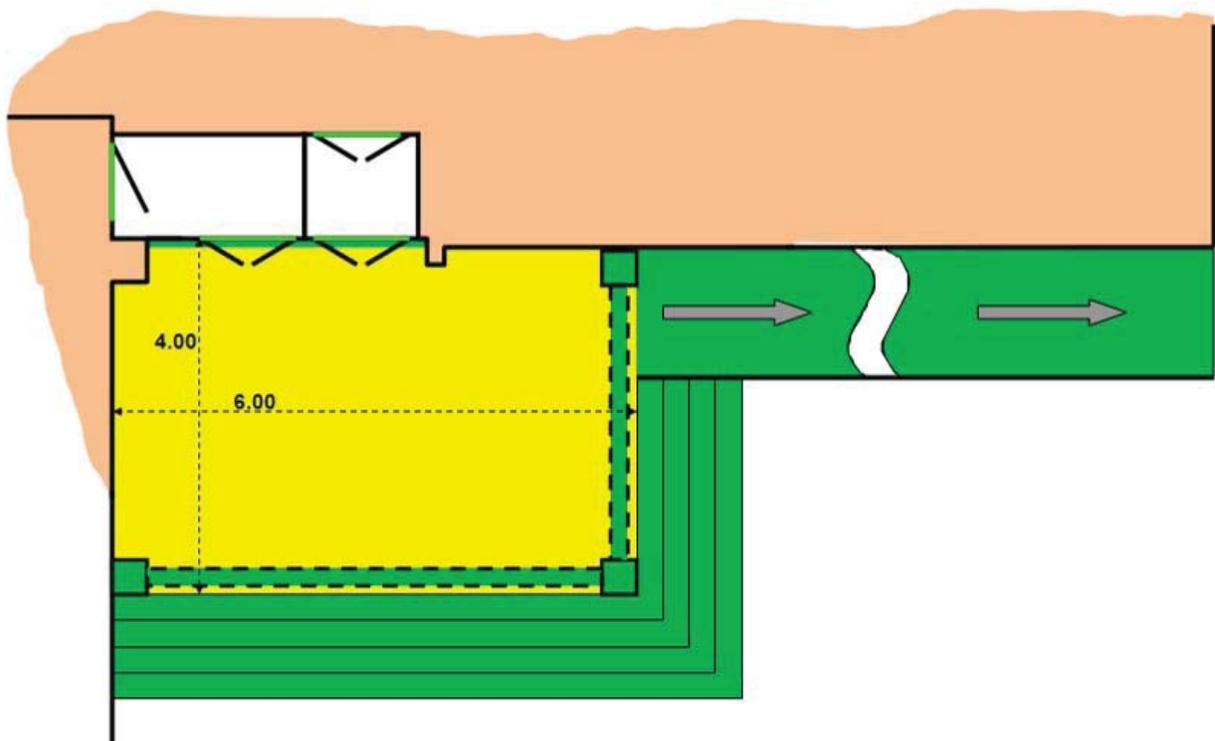
**Picture#49: PVC lines can be reutilized, but existing sewer pipes to the exterior manholes to be replaced with new PVC (minimum 200mm internal diameter)**

### 3.5. New Exterior Entrance, with Canopy and Ramp

The contract includes the design and construction of a new exterior entrance as detailed herein. The contractor is responsible to hire the services of a licensed architect in Moldova to design this new construction work in compliance with the requirements of this contract. It is estimated that this item of work is classified as a “New Construction” and therefore it will require a full Construction Permit.



Picture#50: Approximate layout and dimensions of exterior platform and steps



Picture#51: New required layout with dimensions (yellow is the elevated landing platform covered with new light metal canopy)

The works include the complete removal of the existing entrance steps and landing platforms. The contractor shall provide a new reinforced concrete structure for all areas highlighted in green in picture#51 and as follows:

- To provide a new landing platform of 4 x 6 meters, at the same elevation as the ground floor of the kindergarten.
- To provide the necessary steps around the elevated landing platform.
- To provide a ramp to connect the new elevated landing platform with the recently paved area outside the kindergarten, approximately 1 meter past the corner of the building.

The dimensions of the steps are not to scale in this drawing. The steps shall have similar size to the existing steps of the structures to be removed or as required by Moldovan regulations.

The building has problems created by poor compaction of soils surrounding the building. All new reinforced concrete structures shall be placed over new compacted select materials with the following minimum requirements:

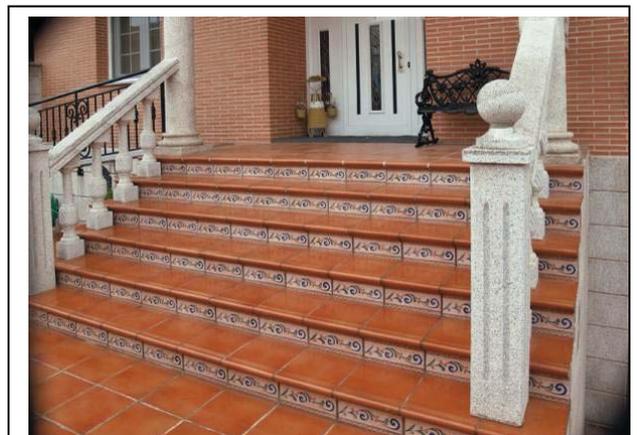
- Remove existing structure (steps and landing platform).
- Excavate and remove minimum 40 cm of materials under the existing removed structures
- Provide 30 cm of compacted select fill (98% compaction)
- Provide 10 cm of lean concrete
- Provide the new reinforced concrete over the lean concrete.

The new landing platforms and their steps shall be covered with special grès tiles, non slippery and rated for exterior use by the manufacturer. For the steps, the contractor shall use grès tiles specifically designed to be used in stairways, with non slippery patterns and rounded edges. Use different pattern for vertical and horizontal pieces for esthetic reasons. The use of regular floor tiles for the steps is not authorized. See pictures below for requirements of typical tiles designed to be used in stairways. The finished elevation of the landing platform shall be the same as the elevation of the entrance lobby so that there is no tripping hazard and it can be used by people on wheelchairs.

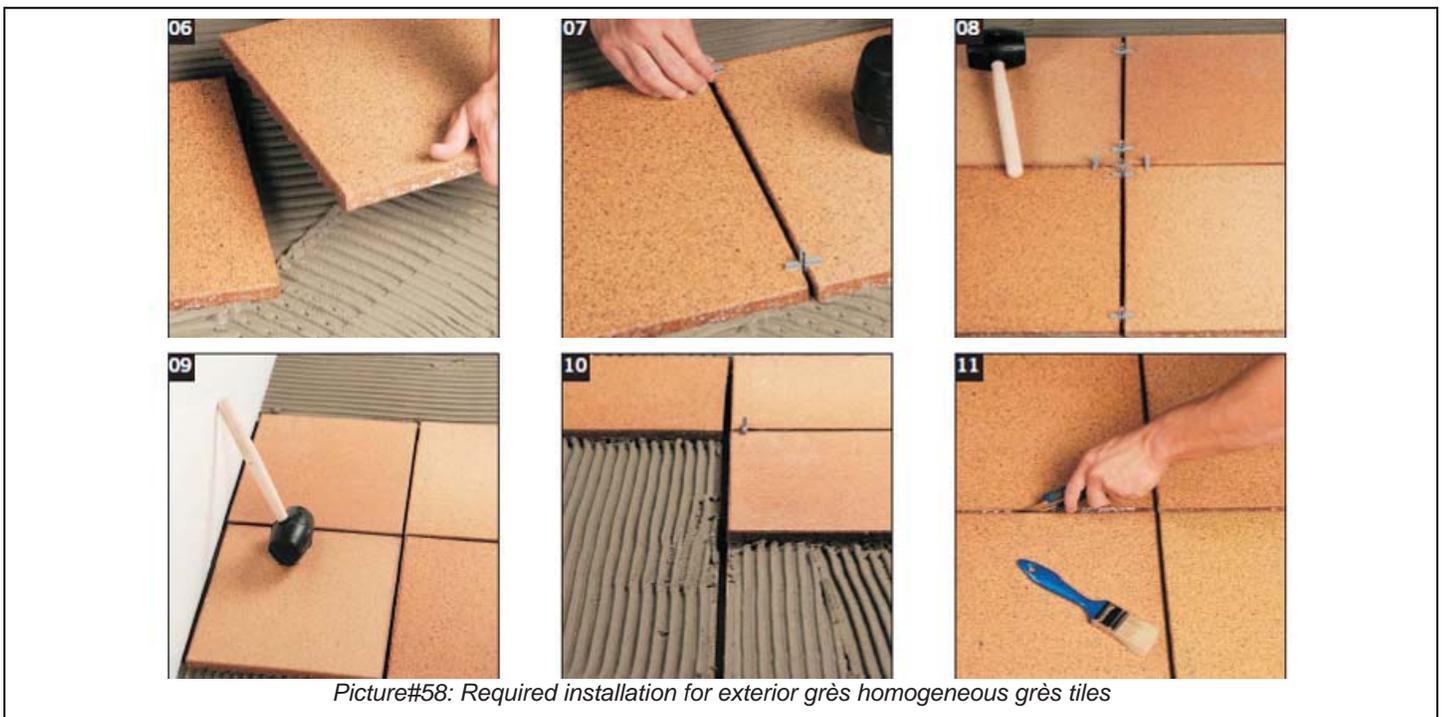
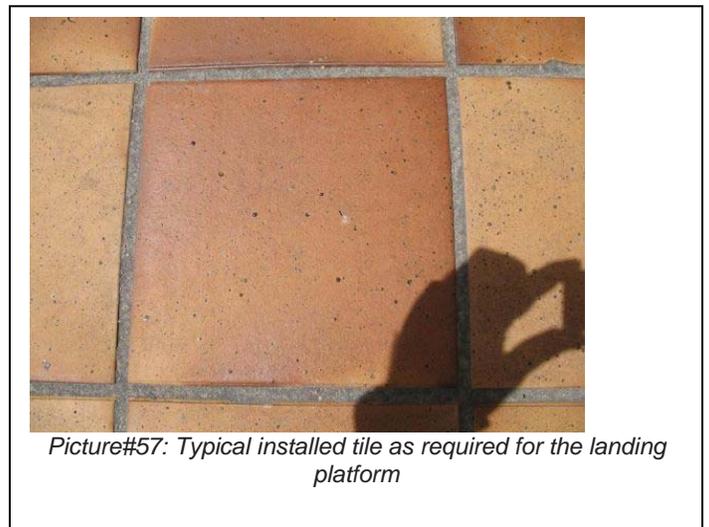
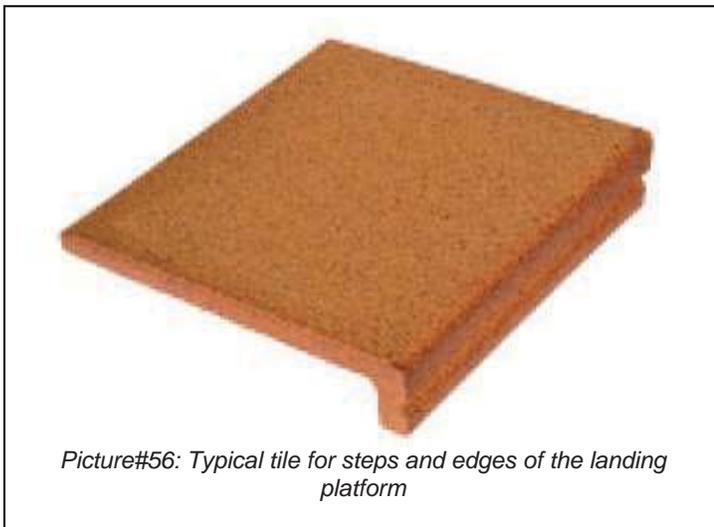
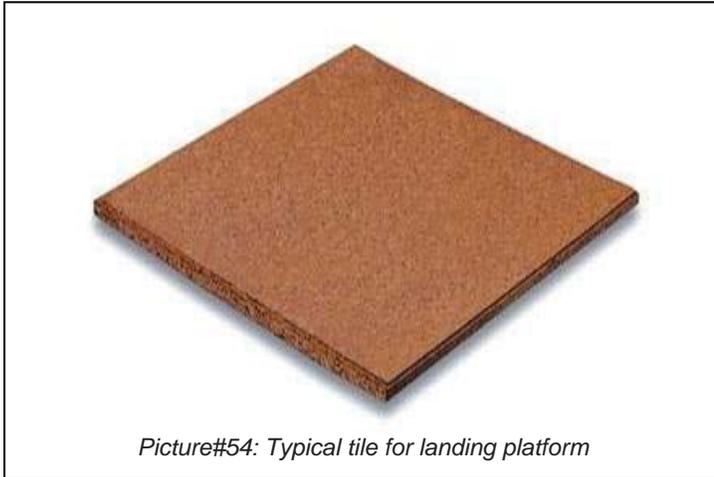
Non glazed (homogeneous) grès tiles: Exterior tiles shall be rustic non glazed grès tiles. This means that the floor tiles shall be homogeneous, made of the same material on the surface, the bottom and the center. Exterior grès tiles are typically produced by a minimum of 44 hours single firing at a maximum temperature of 1.360°C, giving it a one-off look and a natural blend of shades as well as excellent technical performance.



Picture#52: Typical tiles to be used for the new steps.



Picture#53: Typical tiles to be used for new steps.

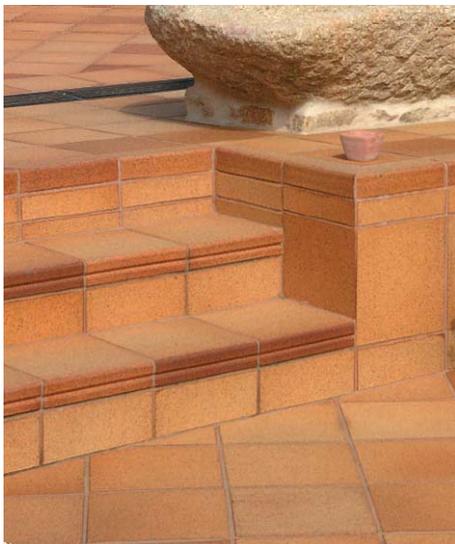




Picture#59: Typical steps with special grès tiles



Picture#60: Typical steps with snow



Picture#61: Typical acceptable use of special tiles



Picture#62: Required look for landing platforms



Picture#63: Typical Stainless steel railings



Picture#64: Typical Stainless steel railings

### 3.5.1 Entrance Ramp

The works include the design and construction of an entrance ramp of minimum 1.2 meters width, where indicated in picture#51. This ramp shall be provided with the same tiles required for the steps and landing platform, described in the previous paragraph. The ramp shall start in the landing platform and finish at the edge of the new concrete brick pavement, approximately 1 meter beyond the corner of the building.

Construction shall be similar to the steps and landing platform, using reinforced concrete structure over compacted grade and lean concrete.

Provide stainless steel railing along both sides of the new ramp.

### 3.5.2 Entrance Canopy

The works include the design and construction of a light metal entrance canopy to cover the entire new landing platform of 4 x 6 meters (indicated in yellow in picture#51 and similar to the one in picture#67)). The contractor shall remove the existing concrete canopy over the existing entrance and repair the façade around the new landing platform as necessary. New canopy cover shall be perfectly sealed to the existing façade. Provide one new exterior lighting using exterior rated LED technology lighting using luminaire of minimum of 25 Watts of electrical consumption.



**Picture#65: Required location of new entrance ramp, to be provided with stainless steel railing on both sides.**



**Picture#66: Existing entrance steps and concrete canopy to be removed.**



**Picture#67: Typical required new metal canopy.**

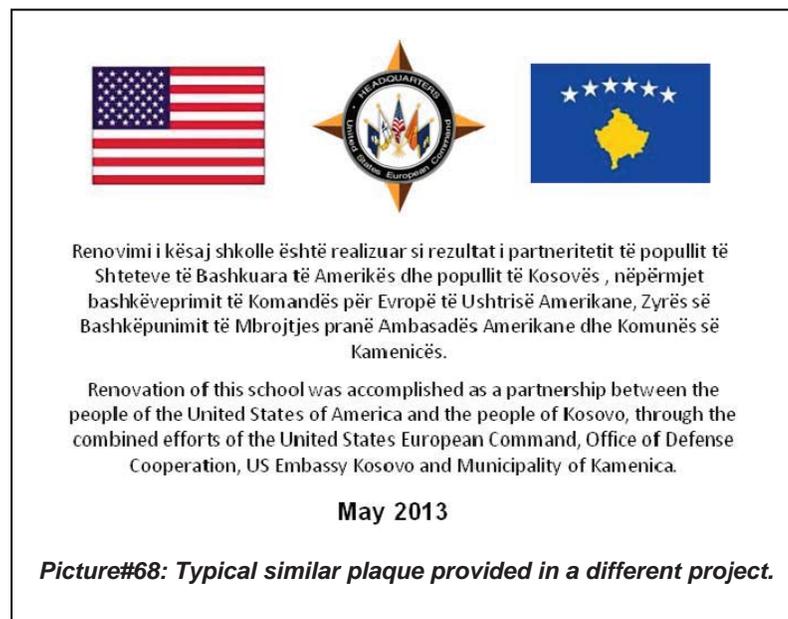
### 3.6 COMMEMORATIVE PLAQUE

At the end of the construction works, the contractor shall provide and install 1 commemorative plaque at the location to be indicated by Contracting Officer. The plaque shall have the following information engraved on it:

- Colored Flag of Moldova
- Colored Flag of the United States of America
- EUCOM Logo
- This text: "The Sanitation Improvements and General Repairs to this Kindergarten were accomplished as a partnership between the people of the United States of America and the people of Moldova, through the combined efforts of the United States European Command, Office of Defense Cooperation, US Embassy Moldova and Municipality of Ceadir Lunga - *Date*"
- Same text as above in Romanian and/or Russian.

The plaque shall have the following characteristics:

- Fabricated with powder coated aluminum with permanent printed 3.5 cm high, style font "Arial" letters. Adhesive letters will not be accepted.
- Minimum dimensions 75 centimeters wide by 50 centimeters high. Minimum thickness 6 millimeters
- Resistant to outdoor weather and UV radiation.
- Plaque to be manufactured by specialized company.
- Before purchasing the plaques, the contractor shall submit the design to the Contracting Officer for approval.



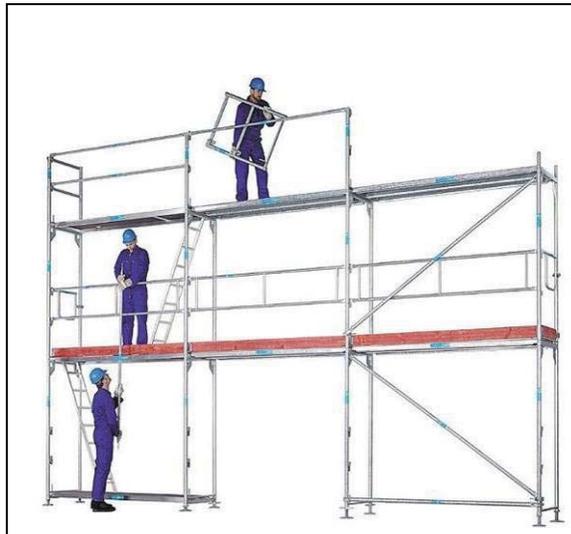
### 3.7 SCAFFOLDING AND FALL PROTECTION

In order to execute the works included in this project, the contractor could be required to use scaffolding and/or elevating working platforms.

Despite the scaffolds that may be authorized by Moldovan regulations, the contractor is only authorized to utilize European Standard scaffolds similar to the ones shown in pictures below. These scaffolds shall be installed and used in accordance with manufacturer's recommendations. In case the contractor needs to access the façade at any particular point without the need to install scaffolds, the contractor shall use a CE certified self-propelled man-lift, similar to the one shown in picture below. The use of other type of scaffolds, other non CE certified man-lifts, or any type of ladders for façade or roof work, IS NOT AUTHORIZED.



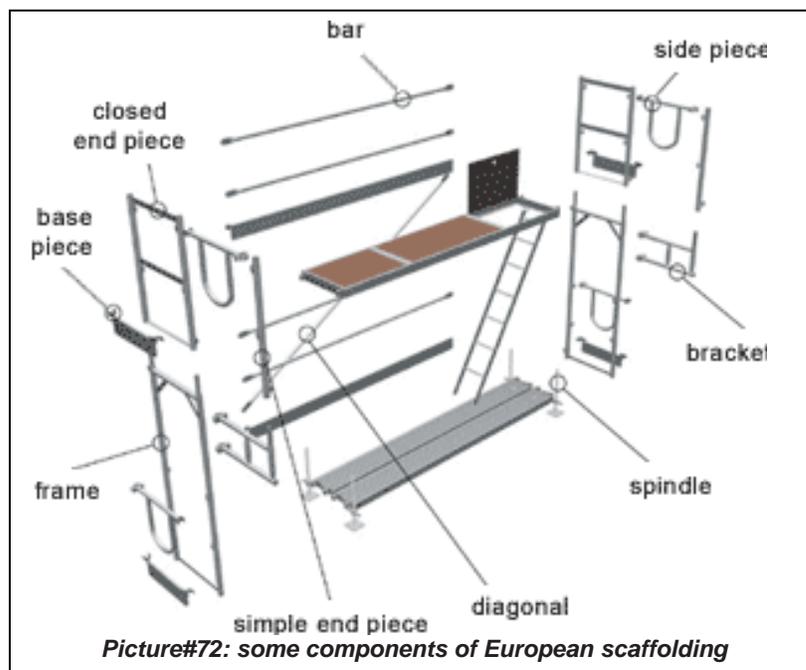
Picture#69: Required type of scaffold



Picture#70: Required type of scaffold



Picture#71: Acceptable man-lift



Picture#72: some components of European scaffolding

## 4. GENERAL SCOPE OF WORK OF CONTRACT OPTION-1

The work included and described in this paragraph shall be performed exclusively if awarded by the Contracting Officer. The US Government will unilaterally decide whether to award or not this portion of the contract based on availability of funds, as well as other factors.

In general terms, the Contract Option-1 includes the complete renovation of the following bathrooms

Name of the Group or Area	Scope of Work
Musienko	Complete Renovation
Solnichko	Complete Renovation
Kapitoshka	Complete Renovation
Chiudotsvetiki	Complete Renovation
Teachers Bathroom	Complete Renovation

All technical and administrative requirements of the bathrooms to be renovated under the Base-Bid are applicable to these 5 additional bathroom facilities.

Notes: The names of the different groups of children indicated above are only estimated. It is the contractor's responsibility to visit the site and measure the actual size and inspect the existing conditions.

### 4.1 CHILDRENS' BATHROOMS (4 GROUPS)

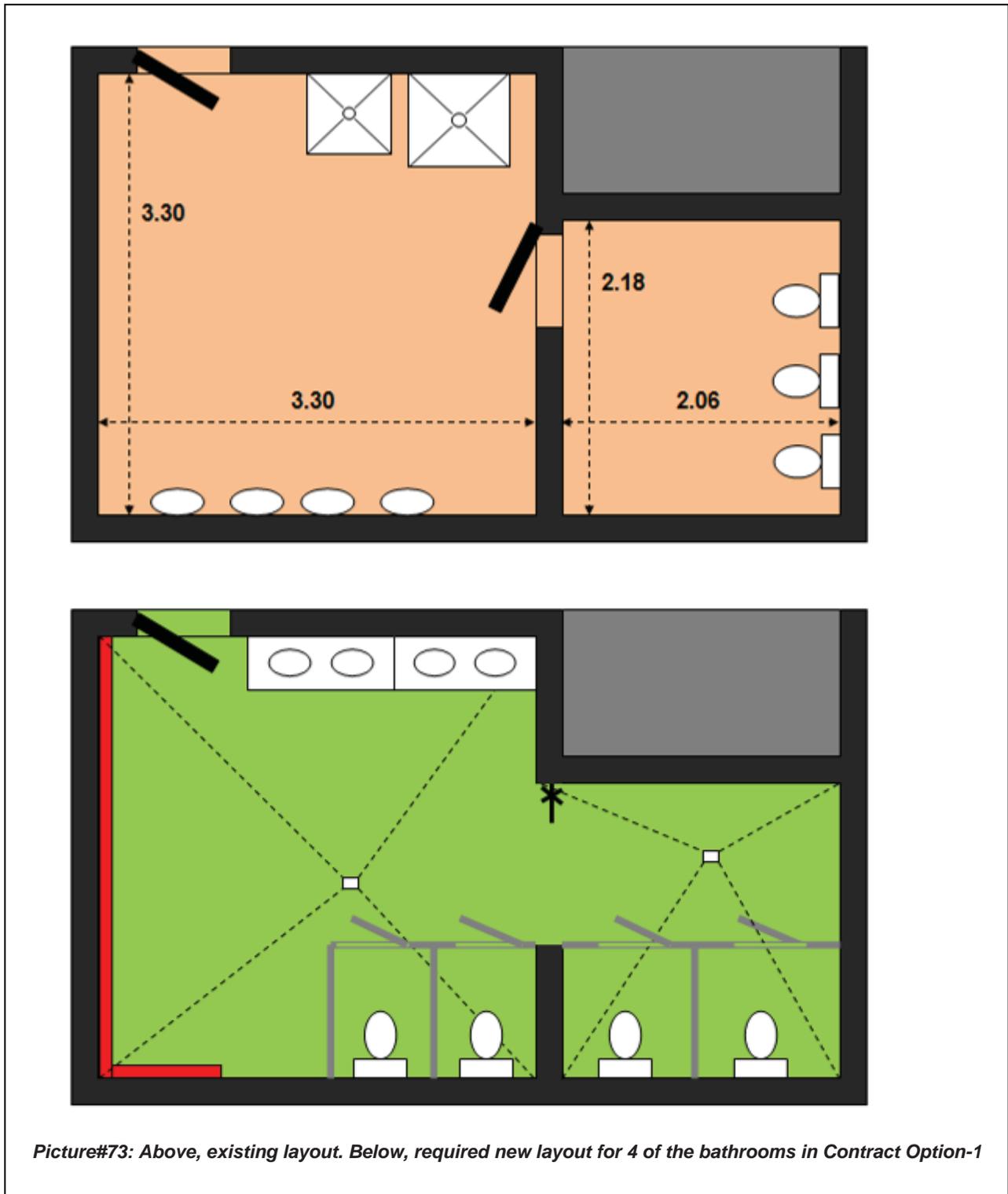
Each of the 4 bathrooms included in the contract option are made up of two separate rooms, connected by a wooden door, which shall be removed and not replaced. Instead, the contractor shall provide a large opening on the partition wall finished with an arc on the top. The contractor can choose to remove the entire partition separating both rooms if approved by their architect, who shall prove that this potential removal would not affect in any way the structure of the building. Picture#73 shows the sketch of one of the 4 existing bathrooms. Remaining 3 bathrooms have a similar layout, but the contractor is responsible to measure their actual sizes.

All requirements of the bathrooms to be renovated under the base-bid are applicable for these bathrooms.

### 4.2 TEACHERS' BATHROOM (1 UNIT)

The Contract Option-1 includes the complete renovation of the teachers' bathroom. This shall be provided with a new ceramic toilet for adults, a wall mounted sink, one hand drier and stainless steel coat hanger on the wall. Internal size of bathroom is 2.29 x 1.31 meters.

All requirements of the bathrooms to be renovated under the base-bid are applicable for this bathroom, except the ceiling which may remain, and the need to provide one new electrical receptacle recessed in the new tiled walls, and not providing new ceramic tiles to the ceiling in order to keep the existing ceiling surface or existing lighting fixture.



Picture#73: Above, existing layout. Below, required new layout for 4 of the bathrooms in Contract Option-1



**Picture#74: Teachers' bathroom, with ceiling which may remain in place. Ceramic tiles to reach same height as the existing tiles to be removed.**



**Picture#75: Teachers' bathroom**



**Picture#76: Typical bathroom**



**Picture#77: shower plates to be removed**



**Picture#78: Typical condition existing bathrooms.**



**Picture#79: Door to be removed and opening to be widened and provided with arc finish on the top. Or entire partition to be removed.**

## 5. PROCEDURE

### 5.1 Administrative Procedures

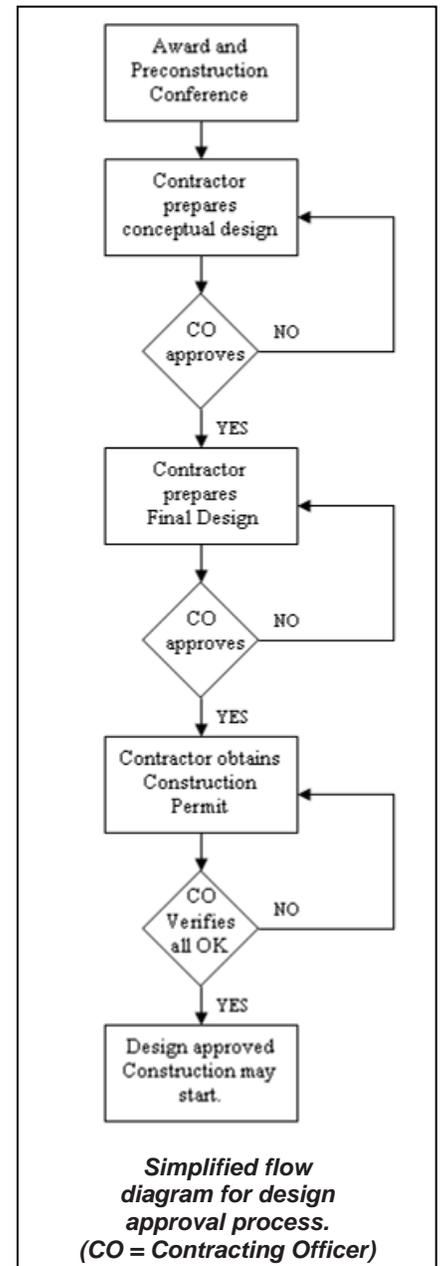
The project is based on the principle of strict compliance with Moldova technical and administrative regulations, US Contracting Regulations and the most stringent of US and Moldovan Safety regulations.

The contractor shall provide to the Contracting Officer a Construction Permit from the competent local authorities and/or a letter from the local competent authorities authorizing the commencement of the works, and certifying that the contractor meets all the administrative and legal requirements which are necessary to execute the works included in this project, in accordance with Moldova Law and regulations. No work shall be executed until the corresponding certificate is forwarded to the Contracting Officer and the Contracting Officer authorizes the start of work. The US Government shall have an official document (to be requested and processed by the construction company) from the corresponding competent Moldovan authority, authorizing the commencement of works. The contractor shall obtain from the competent Moldavian authorities a certificate stating that they comply with all legal and administrative requirements to start work.

The contractor is required to coordinate with local competent municipal authorities and to pay for any construction fee that may be applicable for this renovation project.

Contractor shall comply with all applicable regulations in Moldova, regarding the construction processes, techniques, materials and equipment, except where the requirements of this RFP exceed the requirements of Moldova regulations. Contractor shall comply and pay for all required supervision, monitoring and inspection that is required for this construction project, including potential third party inspection, as required by Moldova regulations.

It must be noted that this renovation contract include portions that may require a full design and other portions that do not require full designs. The contractor shall be familiar with Moldovan regulations in order to know which portions require full designs and which portions do not require full designs, which portions require a formal construction permit and which portions do not require such formal approval. For those portions that do not require a full design or formal construction permit, the contractor shall provide a document from the beneficiary of the competent Moldovan authority, stating that the contractor does not require a full design or a formal construction approval and that they can start the work when authorized by the NAVFAC Contracting Officer.



## 5.2 Design-Build Portion of the Contract

Specific portions of this contract may require a full design (exterior entrance improvements) and other portions may not require any design efforts. For those portions of the project that require a full design in accordance with Moldova regulations, it is the contractor's responsibility to hire the services of a licensed architect or engineer to process, pay for any applicable fee and prepare full designs.

It is the contractor's responsibility to hire and pay for the services of any third party independent review, approval and inspection that may be required by Moldova regulations. This refers to the Moldovan requirement to hire the services of licensed expertise to approve designs or supervise the works for certain items of construction work. The contractor needs to be familiar with Moldovan regulations in order to prepare their cost proposal with the costs corresponding to these items.

This contract includes the required designs, hydrogeology and topographical surveys, permits, certifications as well as any required coordination with local authorities and utility supply companies (gas, water, electricity,...) that may be required in Moldova for this type of renovation project. The contract also includes processing and paying for any potential fees that may be required in order to obtain the required Construction Permits.

The contractor is responsible to verify site conditions before preparing the design.

For any portion of the project that requires a design, the contractor shall start with the preparation of a conceptual design, and only after it is approved by the Contracting Officer, they shall proceed to the final design phase.

The conceptual design shall include sufficient information for the Contracting Officer to understand in detail what the contractor proposes to do, before the contractor moves to the next design stage.

Once the final design is prepared, it shall be approved by the Contracting Officer before the contractor sends it to the local authorities to obtain the corresponding Construction Permit.

## 5.3 Duration of the contract (300 calendar days)

All work shall be completed within 300 calendar days after contract award. All durations herein refer to calendar days.

## 5.4 Start of actual construction work

The Project Manager (PM) or Authorized Representative of the Contracting Officer shall authorize the start of construction. This authorization to start will not be given until the contractor:

- Provide a written evidence that they comply with all legal requirements in Moldova in order to perform the works described in these PTS.
- Provides copy of the required construction permits or authorizations from the competent Moldovan authority authorizing the execution of the works.
- Provides technical information for the proposed materials and equipment to be used for the project. Only materials and equipment previously accepted by the Contracting Officer Representative shall be brought to the job site.
- The Contracting Officer Representative accept their Accident Prevention Plan. See Annex 1 for the requirements of this Plan
- The Contracting Officer Representative accept their Quality Control Plan. See Annex 2.
- The Contracting Officer Representative accept their Construction Schedule
- Construction Sign is placed on site

## 5.5 Construction Schedule

Provide a bar chart within 15 days of contract award with a minimum of 40 activities. Indicate planned start and completion dates.

Perform all work within 300 calendar days after contract award.

## 5.6 Phasing, Scheduling and Coordination Requirements

The building will be occupied during the execution of the works.

The contractor shall plan their work so that they can only work in 4 bathrooms at the same time. If they start working on 4 bathrooms, they will not be allowed to start with the 5<sup>th</sup>, until they finish with the first.

The contractor shall schedule and coordinate the work with the Kindergarten Director on a daily basis, to separate construction areas from occupied areas and to minimize disruption to kindergarten operations. The contractor shall separate the construction areas from the other areas used by the children and by the Kindergarten staff by installation of proper fences and barricades. Close coordination is required to execute the project efficiently and in a SAFE way.

SAFETY OF THE CHILDREN IS THE MOST IMPORTANT ELEMENT DURING THE EXECUTION OF THE WORKS.

## 5.7 Accident Prevention Plan / Safety Plan

**SAFETY SHALL BE THE FIRST PRIORITY OF THE CONTRACTOR. SAFETY OF THE CHILDREN, WORKERS, STAFF OF THE KINDERGARTEN, GENERAL PUBLIC, AND PEDESTRIANS SHALL TAKE PRECEDENCE OVER ANY OTHER FACTOR.**

The contractor shall use the format included in Annex 1 to prepare the Safety Plan or Accident Prevention Plan

Within the timeframe allowed for the final design submission, the Contractor will prepare and submit a Safety Plan (Accident Prevention Plan) describing procedures they plan to perform to ensure the safety of the children, workers, the staff of the facilities, the general public, the pedestrians and the equipment on the job site. The Plan shall clearly define the safety personnel assigned to this project and the measurements that the contractor will implement to guarantee that nobody will be exposed to any hazards as a result of this construction contract.

Additionally, the safety plan must address types of personnel protective equipment to be used by personnel, types and frequencies of safety inspections, hazard analysis plan to prevent safety incidents, and training utilized to familiarize employees with safety policies and practices. The contractor shall comply with the US Army Corps of Engineers Safety Manual EM385-1-1 wherever the requirements of this manual are more stringent than the requirements of the Moldova Safety Law.

No work shall start at the job site until the Safety Plan is received and approved by the US Government.

Moldovan Safety Code must be strictly followed. The contractor is responsible for the safety of the workers, the safety of the users of the facility and the general public.

Additional safety requirements for NAVFAC project can be found in Section 01525, which can be found here:

<http://www.aed.usace.army.mil/contracting/0093/01525%20Safety%20and%20Occupational%20Health%20Rqmnts.pdf>

## 5.8 Language

All communication and correspondence between the contractor and the Government personnel shall be in English. It shall be the responsibility of the Contractor to prepare proposals, invoices, shop drawings and submittals, quality control reports, computations, and all correspondence pertaining to this contract, in the English language; but the Contractor may, for his own record purposes, prepare them in the local language. All correspondence to and from the Contracting Officer shall be in the English language. In case of dispute or claim, the English version will govern.

Immediately after award, the contractor shall appoint an English speaking representative, with cellular phone and e-mail address.

For the visits of the Contracting Officer, the PM or their authorized representative to the job site, the contractor shall provide somebody capable of representing the construction company who can communicate in English language or the contractor shall provide a translator to translate from English to Moldovan/Russian language.

**5.9 Technical Documentation:** Among others, as a minimum the contractor shall provide technical information for Government approval for the following list of equipment/materials:

- Window, doors and glazing
- Floor materials
- Wall tiles and corner protections
- Commemorative plaque
- Radiators
- Water and sewer piping
- Lighting fixtures
- Lighting switches
- Electrical conduits
- Water piping
- Plumbing fixtures
- Toilet partitions and accessories
- Hand drying equipment
- Countertops

**5.10 Pictures:**

The contractor shall send weekly and representative digital pictures of their construction by e-mail once construction starts, showing construction progress. These pictures shall be used to monitor the contractor's performance and to validate the invoices.

Failure to provide updated pictures will impact the ability of the Contracting Officer to validate and therefore to pay for the invoices.

**5.11 Quality Control Plan:**

Within the timeframe allowed for the submission of documentation before starting the works, the Contractor will prepare and submit a Quality Control Plan describing personnel, procedures, tests and installation techniques that he plans to perform to ensure the quality required by these Technical Requirements and his design is obtained.

The Quality Control Plan shall include the name and qualifications of the person responsible for the quality of the works

In Annex 2, it is included a guideline to prepare this Plan.

## 5.12 CONSTRUCTION SIGN

Immediately after award the contractor shall prepare and install, at a very visible location, a construction sign with the following characteristics and information on it:

- Wood sign with minimum dimensions 2 meters wide by 1 meter high
- Letters and logos prepared by a specialized company and designed for outdoor installation
- Flags of Moldova and the United States of America
- The following text: THE RENOVATION AND CONSTRUCTION OF THIS KINDERGARTEN IS FUNDED BY THE UNITED STATES EUROPEAN COMMAND AND PROVIDED TO THE PEOPLE OF MOLDOVA IN COOPERATION WITH THE ADMINISTRATION OF CEADIR LUNGA. EXECUTIVE AGENT: US EMBASSY IN MOLDOVA. CUSTOMER: US NAVAL FACILITIES ENGINEERING COMMAND. PRIME CONTRACTOR:?
- Logo of NAVFAC
- Logo of EUCOM
- Start and completion dates.
- Same text in Romanian and/or Russian



### 5.13 PAYMENT

Payment shall be performed as required by US Administrative Requirements. See Contract Clauses pertinent to Payment procedures.

**\*\* NO ADVANCE PAYMENT IS AUTHORIZED \*\***

Payment shall be performed following the principle of payment for completed work. Payment shall be phased as detailed herein:

- Partial payments as agreed with the US Representative, as work is being completed and accepted
- Maximum of 80% (cumulative) is authorized until the final inspection is completed and all potential deficiencies are corrected. No payment over 80% is authorized until all work included in the contract is completed.
- Final invoice (100%) shall be paid once final inspection is completed and all potential defects identified in the final inspection are properly corrected.

Together with each invoice, the contractor shall provide:

- Official invoice
- Cost breakdown justifying the requested amount for payment.
- Filled Contractor's Safety Self Evaluation Form
- Invoice Statement: With the text below signed by a responsible person from the company (ideally the one that signed the contract):

*I hereby certify, to the best of my knowledge and belief, that:*

*(1) The amounts requested are only for performance in accordance with the specifications, terms, and conditions of the contract;*

*(2) All payments due to subcontractors and suppliers from previous payments received under the contract have been made, and timely payments will be made from the proceeds of the payment covered by this certification, in accordance with subcontract agreements and legal requirements of Moldova;*

*(3) This request for progress payments does not include any amounts which the prime contractor intends to withhold or retain from a subcontractor or supplier in accordance with the terms and conditions of the subcontract; and*

*(4) This certification is not to be construed as final acceptance of a subcontractor's performance.*

### **5.14 Paying for Utilities**

The contractor is required to pay for the electricity and heating that they may require for the execution of their work. The contractor shall coordinate with the utility company and with the municipality representative the installation of metering devices to quantify the energy consumption.

### **5.15 Close-Out Procedure**

The contractor shall strictly follow this procedure in order to close-out the contract:

- 1) Work completed at the construction site. Contractor shall notify the Contracting Officer at least with one month advance noticed of when the project will be ready for final inspection.
- 2) Contracting Officer receives Acceptance Act signed by all required Moldovan Government agencies, as stated in the Law. This document should be available during the final inspection. Acceptance Act to be signed by the competent local authorities and the end user (the Mayor, Regional Council or Ministry).
- 3) Contracting Officer to receive copies of the warranty letter, a copy of the folder with all construction documents, the spare parts lists signed by the beneficiary, and other related documentation.
- 4) Final Inspection by NAVFAC and ODC Team.
- 5) If any defects are identified during final inspection, the contractor to show evidence of proper correction.
- 6) Once all defects (if any) are corrected, contractor to submit and NAFVAC to process final invoice.
- 7) Contractor shall not allow the Kindergarten to use the renovated facilities, unless authorized in writing by ODC Moldova or the Contracting Officer.
- 8) NAVFAC to send official acceptance letter.

## 6 GENERAL WORK REQUIREMENTS

This section includes some general guidelines for construction standards, practices and materials. Paragraphs 3 and 4 include the scope of work of the contract. The information contained in this paragraph 6 includes some additional requirements and conditionings to execute the work required under the paragraphs 3 and 4.

Where there is not a description or specification described to execute the required work, the local codes and regulations of Moldova should be strictly followed, such as, for example, the design and installation of the sewer holding tanks.

The general requirements of this specification are contained in paragraph 10. The following requirements are in addition to paragraph 10.

**NOTE:** This is an American document, and this note is to define the way in which numbers are presented herein:

1,000 = one thousand

3,500 = three-thousand five-hundred

1.08 = one and eight hundredths

0.1 = one-tenth

### 6.1 REFERENCE STANDARD

Construction shall be in accordance with sound construction practices, and shall conform to the latest revision/edition of the codes, criteria, and standards referenced herein; except as otherwise indicated by this Request for Proposal. Construction shall also comply with applicable codes, ordinances and regulations of Moldova governing life/safety, fire protection, building construction, conveying, HVAC (heating ventilation and air conditioning) systems, plumbing systems and electrical systems in effect during this contract, except where specifically stated herein. Any material installed that does not meet the requirements of this Technical Specification and/or applicable codes, ordinances and regulations will be removed and a new one reinstalled at Contractor's expense.

In the next paragraphs, we can find the General Work Requirements and Technical Specifications for the work requested and included in this project. For those items required by the Scope of Work, which are not specified herein, the contractor shall follow the applicable Moldavian Code and Regulation.

## 6.2 CONCRETE

The work shall be performed as described herein. Contractor to use reinforced concrete for the foundations, slab, columns, sidewalks, manholes, and other incidental structural related work. The construction documents for structural concrete construction shall include: The specified compressive strength of concrete at the stated ages or stages of construction for which each concrete element is designed The size and location of structural elements, reinforcement, and anchors. Anchorage length of reinforcement and location and length of lap splices.

## 6.3 CONCRETE MATERIALS

- 6.3.1 Cement shall be Portland cement approved to be used in Moldova.
- 6.3.2 Locally available aggregates shall be provided in accordance with Moldova Code. Aggregates provided shall produce concrete of adequate strength and durability in accordance with requirements of this RFP and Moldova Code. Nominal maximum size of aggregate shall not be larger than:
  - 1/5 the narrowest dimension between sides of forms, nor
  - 3/4 the minimum clear spacing between individual reinforcing bars or wires or bundles of bars.
- 6.3.3 Water used in mixing concrete shall be clean and free from injurious amounts of oils, acids, alkalis, salts, organic materials or other substances that are deleterious to concrete or steel reinforcement
- 6.3.4 Steel reinforcement shall be corrugated steel bars. Minimum yield (elastic) strength of 500 MPa with 12% elongation and 550 MPa tensile strength.
- 6.3.5 Admixtures shall be in compliance with locally approved authority having jurisdiction.
- 6.3.6 Use material for curing concrete.
- 6.3.7 Honey combing in concrete shall be repaired with approved epoxy based mortar with similar strength as the concrete used.

## 6.4 CONCRETE FORMWORK

- 6.4.1 Forms shall result in a final structure that conforms to the shapes, lines, and dimensions of the members as required by the design drawings and specifications.
- 6.4.2 Forms shall be substantially tight to prevent leakage of material.
- 6.4.3 Forms shall be properly braced or tied together to maintain position and shape.
- 6.4.4 Design of formwork shall consider: rate and method of placing concrete; construction loads – including vertical, horizontal, and impact loads.
- 6.4.5 Forms shall be removed in such a manner as not to impair safety and serviceability of the structure. Concrete exposed by form removal shall have sufficient strength not to be damaged by removal operation.

## 6.5 CONCRETE REINFORCEMENT

6.5.1 Reinforcing bars with standard hooks shall meet the following dimensional requirements:

- 180 degree bend plus 4xbar diameter extension, but not less than 65 mm
- 90 degree bend plus 12xbar diameter extension at free end of bar.

6.5.2 For stirrups and tie hooks:

- #16 bars and smaller, 90 degree bend plus 6xbar diameter extension at free end of bar
- #19, #22, and #25 bars, 90 degree bend plus 12xbar diameter extension at free end of bar
- #25 bar and smaller, 135 degree bend plus 6xbar diameter extension at free end of bar

6.5.3 Diameter of bend measured on the inside of the bar, other than for stirrups and ties in sizes #10 through #16 shall not be less than the values shown in the table below.

6.5.4 Inside diameter of bend for stirrups and ties shall not be less than 4xbar diameters for #16 bar and smaller. For bars larger than #16, diameter of bend shall be in accordance with table below.

Bar size	Minimum Diameter
#10 through #25	6 x bar diameters
#29, #32, #36	8 x bar diameters
#43 and #57	10 x bar diameters

6.5.5 All reinforcement shall be bent cold.

6.5.6 Reinforcement partially embedded in concrete shall not be field bent.

## 6.6 PLACING CONCRETE REINFORCEMENT

6.6.1 Reinforcement shall be accurately placed and adequately supported before concrete is placed and shall be secured against displacement. Vibration equipment to improve distribution of the concrete in the formwork is acceptable when used as recommended by Moldova Code. Concrete shall not be moved horizontally with the use of vibrators.

6.6.2 The minimum clear distance between parallel bars in a layer shall be equal to the diameter of the bar, but not less than 1 inch (25mm).

6.6.3 Where parallel reinforcement is placed in two or more layers, bars in the upper layers shall be placed directly above bars in the bottom layer with clear distance between layers not less than 1 inch (25mm).

6.6.4 In spirally reinforced or tied reinforced compression members, clear distance between longitudinal bars shall not be less than 1.5 x bar diameter nor less than 1.5 inches (38mm).

- 6.6.5 Clear distance limitation between bars shall apply also to the clear distance between a contact lap splice and adjacent splices or bars.
- 6.6.6 In walls or slabs other than concrete joist construction, primary flexural reinforcement shall not be spaced farther than three times the wall or slab thickness, or farther apart than 18 inches (455mm).
- 6.6.7 At the time concrete is placed, reinforcement shall be free from mud, oil, or other nonmetallic coatings that decrease bond.
- 6.6.8 The following minimum concrete cover shall be provided for reinforcement:
- a. Concrete cast against and permanently exposed to earth: 75 mm
  - b. Concrete exposed to earth or weather:
    - #19 bar through #57 bars 50 mm
    - #16 bars and smaller 50 mm
  - c. Concrete not exposed to weather or in contact with ground:
    - Slabs, walls, and joists:
      - #43 and #57 bars 50 mm
      - #36 bars and smaller 25 mm
    - Beams, columns:
      - Primary reinforcement, ties, stirrups, spirals 40 mm
    - Shells, folded plate members:
      - #19 bar and larger 25 mm
      - #16 bar and smaller 20 mm

## 6.7 CONCRETE MIXING

- 6.7.1 All concrete shall be mixed until there is a uniform distribution of materials and shall be discharged completely before mixer is recharged.
- 6.7.2 Job mixed concrete shall be mixed in a batch mixer approved by the locally approved authority having jurisdiction (Moldova). The mixer shall be rotated at a speed as recommended by the manufacturer. The mixing shall be continued for at least 1-1/2 minutes after all materials are in the drum. A detailed record shall be kept to identify the number of batches produced, proportions of materials used, approximate location of final deposit in structure and the time and date of mixing and placing.

## 6.8 CONCRETE CONVEYING

Concrete shall be conveyed from mixer to place of final deposit by methods that will prevent separation or loss of materials. Conveying equipment shall be capable of providing a supply of concrete at site of placement without separation of ingredients and without interruptions sufficient to permit loss of plasticity between successive increments.

## **6.9 CONCRETE DEPOSITING**

Concrete shall be deposited as nearly as practical in its final position to avoid segregation due to rehandling or flowing. Placing of concrete shall be performed at such a rate that concrete is at all times plastic and flows readily into spaces between reinforcement. Concrete that has partially hardened or been contaminated by foreign materials shall not be deposited in the structure. Retempered concrete that has been remixed after initial set shall not be used. Placing of concrete shall be continuous until placing of panel or section, as defined by its boundaries or predetermined joints is completed. Top surfaces of vertically formed lifts shall be generally level. All concrete shall be thoroughly consolidated by suitable means during placement and shall be thoroughly worked around reinforcement and embedded fixtures and into corners of forms.

## **6.10 CONCRETE CURING**

Curing of concrete shall be performed in accordance with the locally approved authority having jurisdiction. At a minimum concrete shall be maintained above 10°C and in a moist condition for at least the first 7 days after placement.

## **6.11 HOT WEATHER CONCRETE**

Concrete placement operations in hot weather conditions shall be performed in accordance with the locally approved authority having jurisdiction. During hot weather, proper attention shall be given to ingredients, production methods, handling, placing, protection, and curing to prevent excessive concrete temperatures or water evaporation that could impair required strength or serviceability of the member or structure.

## **6.12 COLD WEATHER CONCRETE**

Concrete placement operations in cold weather conditions shall be performed in accordance with the locally approved authority having jurisdiction. Provide and maintain 10 degrees Celsius minimum concrete temperature. Do not place concrete when the ambient temperature is below 5 degrees Celsius. Cover concrete and provide with a source of heat sufficient to maintain 10 degrees Celsius minimum while curing.

## **6.13 CONCRETE CONSTRUCTION JOINTS**

Location of construction joints shall be as approved by the technician responsible for the design and the locally approved authority having jurisdiction.

## **6.14 CONCRETE TESTING**

Concrete shall be tested by field technicians qualified in accordance with the Moldavian Code. Tests shall be performed on fresh concrete at the job site; prepare specimens

required for curing under field conditions; prepare specimens required for testing in the laboratory, and record the temperature of the fresh concrete when preparing specimens for strength tests. Technicians qualified in accordance with the locally approved authority having jurisdiction shall perform laboratory tests.

Sampling shall be performed at the rate required by the jurisdiction having authority. If not specified, samples for strength tests of each class of concrete placed each day shall be taken not less than once a day, nor less than once for each 115 m<sup>3</sup> of concrete, nor less than once for each 460 m<sup>2</sup> of surface area for slabs or walls.

On a given project, if total volume of concrete is such that frequency of testing required would be less than five strength tests for a given class of concrete, tests shall be made from at least five randomly selected batches or from each batch if fewer than five batches are used.

## **6.15 INTERIOR FINISHES**

The Contractor shall provide all plant, labor, material, and equipment necessary to provide, deliver and place interior finishes as required by this RFP. In particular, this section refers to the patching, painting and finishes that will be require inside of the building as a result of the SOW of this project.

### **6.15.1 Interior Painting and Special Finishes**

The following coatings are applied directly to all surfaces of interior construction. Paints used on this project shall be lead free.

#### **PAINTING systems per substrate**

Painting practices shall comply with sound application and handling practices, and shall conform to the latest revision/edition of applicable codes, ordinances and regulations of Moldova governing life/safety, fire protection and construction, in effect during this contract, except where specifically stated herein. Any material installed that does not meet the requirements of this Performance Technical Specification (PTS) and/or applicable codes, ordinances and regulations will be removed and reinstalled at Contractor's expense.

Remove dirt, splinters, loose particles, grease, oil, and other foreign matter and substances deleterious to coating performance as specified for each substrate before application of paint or surface treatments. Oil and grease shall be removed prior to mechanical cleaning. Cleaning shall be programmed so that dust and other contaminants will not fall on wet, newly painted surfaces. Exposed ferrous metals such as nail heads on or in contact with surfaces to be painted with water-thinned paints, shall be spot-primed with a suitable corrosion-inhibitive primer capable of preventing flash rusting and compatible with the coating specified for the adjacent areas.

All coats on a particular substrate, or a paint system, must be from a single manufacturer.

### **6.15.2 Tile Wall Finishes**

Provide ceramic tile wall systems as required in moist and clean locations such as toilets and around the wall sinks, and as required by the scope of work of the project. Install tile systems in accordance with manufacturer's instructions. Coordinate with ceramic accessories for modularity. Include all trim pieces, caps, stops, and returns to complete installation.

Wall tile shall be glazed, matte glazed or unglazed finish. Install from floor to ceiling, unless otherwise noted.

Porcelain wall tile shall be through color, polished or unpolished. Refer to project program for tile type, pattern, and surface texture. Install from floor to ceiling, unless otherwise noted.

Tile shall be placed in a thin set mortar bed. Grout tile joints once tiles are placed and grout bed has dried.

Provide samples of manufacturer's full range of colors and styles to the representative of the Municipality for selection. Tile shall be a minimum of one grade above manufacturer's base grade.

Provide Designer accent tile, accent strips and accessory ceramic tile shapes as an integral part of the ceramic wall tile system.

Provide colored grout shall be factory sanded Portland cement, Latex-Portland cement, or Epoxy. Provide tile joint grout sealer on white, light colored areas that are routinely exposed to water and liquid cleaning materials, entrance areas, and areas that require a high degree of stain resistance, and as required by the manufacturer. Provide chemical resistant epoxy resin for kitchens and other areas where high resistance to staining and absorption are required.

Mortar shall be Portland cement, Latex-Portland cement, or Epoxy.

### **6.15.3 Wall Base Finishes**

Wall base for transition between floor and wall shall coordinate with the adjacent flooring for color, material match and modularity.

Stone, ceramic and marble wall base shall coordinate with the adjacent flooring for color, material match and modularity and shall be 4 inch (89 mm) and 3/4 inch (19 mm) thick.

Tile base shall coordinate with the adjacent ceramic wall and floor tile for color, material match and modularity. Include all pre-manufactured trim pieces, special shapes, caps, stops, and returns to provide a complete installation.

#### **6.15.4 Interior Painting**

Paints used on this project shall be lead free.

Painting practices shall comply with sound application and handling practices, and shall conform to the latest revision/edition of applicable codes, ordinances and regulations of Moldova governing life/safety, fire protection and construction, in effect during this contract, except where specifically stated herein. Any material installed that does not meet the requirements of this Performance Technical Specification (PTS) and/or applicable codes, ordinances and regulations will be removed and reinstalled at Contractor's expense.

Remove dirt, splinters, loose particles, grease, oil, and other foreign matter and substances deleterious to coating performance as specified for each substrate before application of paint or surface treatments. Oil and grease shall be removed prior to mechanical cleaning. Cleaning shall be programmed so that dust and other contaminants will not fall on wet, newly painted surfaces. Exposed ferrous metals such as nail heads on or in contact with surfaces to be painted with water-thinned paints, shall be spot-primed with a suitable corrosion-inhibitive primer capable of preventing flash rusting and compatible with the coating specified for the adjacent areas.

All coats on a particular substrate, or a paint system, must be from a single manufacturer.

The surfaces of wood doors, windows, frames and trim shall receive three coats of alkyd enamel paint. Apply one coat to all surfaces of wood prior to installation and two coats to exposed surfaces after installation. Prior to applying second coat spot touch-up first coat where wood is left uncoated due to cutting, drilling or other damage as a result of installation work.

#### **6.15.5 Plaster Finishes**

New and uncoated plaster:

- One (1) coat latex filler/primer
- Two (2) coats pigmented latex paint

Existing, previously painted plaster:

- Two (2) coats pigmented latex paint

New and uncoated existing plaster in toilets, food-preparation, food-serving, restrooms, laundry areas, shower areas, areas requiring a high degree of sanitation, and other high humidity areas unless otherwise specified, (Patch imperfections and fill all masonry surface voids with block filler):

- One (1) coat latex filler/primer
- One (1) coat pigmented alkyd paint

One (1) coat pigmented epoxy paint

Existing, previously painted plaster in toilets, food-preparation, food-serving, restrooms, laundry areas, shower areas, areas requiring a high degree of sanitation, and other high humidity areas unless otherwise specified, (Patch imperfections and fill all masonry surface voids with block filler):

One (1) coat pigmented alkyd paint  
One (1) coat pigmented epoxy paint

## **6.16 PLUMBING**

### **6.16.1 GENERAL**

This section includes the construction of interior plumbing systems.

The Contractor shall only use materials that conform to the practices of the local construction industry for each particular construction discipline. Materials selected in this contract shall meet appropriate designated standards, or have been tested and found suitable for their specified purpose.

### **6.16.2 Water Closets**

- White vitreous china.

### **6.16.3 Sinks**

White vitreous china, as required by the scope of work of the project. Stainless steel P-trap, minimum dimensions of 22 inches (560 mm) wide by 18 inches (457 mm) front to rear with 9 inch (230 mm) splashback, and stainless steel rim guard.

Provide copper alloy back-mounted combination faucets with vacuum breaker and 3/4 inch external hose threads.

Provide over artificial stone countertop where required by the scope of work.

### **6.16.4 Domestic Water Distribution**

For aboveground installations, use copper pipe and solder-type fittings with lead-free solder or high density polypropylene.

For underground installations, use PVC or any other non-metallic pipe & fitting made specifically for potable water. Provide transition union connections or threaded gate valve

between metallic piping and PVC piping. Pipe and fittings shall be joined per manufacturer's recommendations.

Piping shall not be exposed.

Piping shall be routed to the outside of the building to connect with main water pipe or in the basement. Provide a manhole or handhole with closing valve at connection point if underground connection is necessary.

#### **6.16.5 Valves**

Provide valves at water supplies to fixtures and to provide ease of maintenance as required.

#### **6.16.6 Insulation and Identification**

Provide mineral fiber insulation on domestic water (hot and cold) supply and recirculation piping. Provide vapor retarder on cold water piping.

Provide laminated plastic nameplates for valves. Stop valves in supplies to fixtures will not require nameplates. Identify above ground pipe with the type of service and direction of flow. Letter size, lengths and colors shall be per local industry standards.

Provide piping supports in accordance with local industry standards and local regulations.

Prior to initial operation, inspect piping system for compliance with drawings, specifications, and manufacturer's recommendations and perform a system pressure test.

Upon completion of the installation, disinfect all systems per local law and regulations.

#### **6.16.7 Sanitary Waste (Sewer)**

For underground installations, use plastic PVC or ABS piping. Provide compatible fittings, and solvent cement.

For aboveground installations, use plastic PVC or ABS piping. Provide compatible fittings, and solvent cement. Plastic piping shall be equipped with approved fire stopping devices as required by local code and law.

Provide cleanouts as required by law and local ordinances. Number of manholes and their location shall be the required to be able to provide proper maintenance of gravity sewer lines. Material shall be consistent with the piping system materials.

Connect with existing sanitary sewer system outside of the building. Include new manholes as required by the scope of work of the project and where required by Moldova Code.

#### **6.16.8 Vent Piping and Fittings**

For aboveground vent piping, use plastic PVC or ABS piping. Provide compatible fittings, and solvent cement. Plastic piping shall be equipped with approved firestopping devices as required by local code and law.

Single drainage/vent stack systems and mechanical air admittance valves are not acceptable.

#### **6.16.9 Floor Drains**

Floor drains shall be flush strainer or extended rim type as required by law and local ordinances. All exposed surfaces to be stainless steel. All floor drains shall be provided with a p-trap.

## **7 GENERAL TECHNICAL SPECIFICATION**

### **7.1 NARRATIVE**

All Technical Specification (TS) sections must be used in conjunction with all parts of the Request for Proposal (RFP) to determine the full requirements of this solicitation. This TS section provides general requirements for the other TS sections of this RFP and is used in conjunction with the other TS sections.

### **7.2 CONSTRUCTION GUIDANCE**

Construction shall be in accordance with sound construction practices, and shall conform to the latest revision/edition of the codes, criteria, and standards referenced below except as otherwise indicated by this Request for Proposal. Construction shall also comply with applicable codes, ordinances and regulations of Moldova governing life/safety, fire protection, building construction, HVAC (heating ventilation and air conditioning) systems, plumbing systems, electrical systems, roofing or sanitation systems in effect during this contract, except where specifically stated herein. Any material installed that does not meet the requirements of this Technical Specification (TS) and/or applicable codes, ordinances and regulations will be removed and reinstalled at Contractor's expense.

### **7.3 PROHIBITED ITEMS**

Use of the following items in this construction project is prohibited:

- Use of aluminum for electrical conductors.
- Embedding aluminum conduit in concrete.
- Use of fluorescent light ballasts and other products containing PCB's.
- Use of urea-formaldehyde foam insulation products.
- Use of any paint/coatings having a lead content of over 0.06 percent by weight of non-volatile content. The use of ozone depleting chemicals is prohibited. The use of zinc-chromate is prohibited.
- Empirical Design Of Masonry Shall Be Prohibited.
- The use of materials containing asbestos is prohibited.
- Blasting operations
- Installation of cables under the plaster without its corresponding conduit.

## 7.4 RESPONSIBILITY OF MATERIALS

All materials delivered to the construction site shall remain in the ownership and responsibility of Contractor. Contractor will be responsible to safeguard the possession and condition of the material until US Government takes possession of the finalized project. Only exception are the toilets to be removed, which shall be cleaned and given to the Municipality for potential use in other kindergartens.

Material that is not intended to become part of the project shall not be delivered, placed, retained nor stored on the project site.

All refuse or salvaged materials shall become the property of the Contractor and shall be disposed of, off-site, in accordance with applicable Moldavian regulations (unless stated otherwise in the scope of work of the contract). The Contracting Officer may ask for receipts of proper disposal of debris or excess materials.

## 7.5 SAFETY AND PROTECTION

- 7.5.1 The contractor is responsible for the safety of the contractors employees, subcontractors, visitors and general public, as they could be affected by this construction project.

The contractor is responsible to comply with Moldova Safety Code and with the US Army Corps of Engineers Safety Manual for job site safety. A digital copy of this manual can be found here:

[http://www.publications.usace.army.mil/Portals/76/Publications/EngineerManuals/EM\\_385-1-1\\_2008Sep\\_Consolidated\\_2011Aug.pdf](http://www.publications.usace.army.mil/Portals/76/Publications/EngineerManuals/EM_385-1-1_2008Sep_Consolidated_2011Aug.pdf)

- 7.5.2 Within the context of his responsibilities, the contractor shall take the necessary actions to protect the safety and health of the employees, including the prevention of occupational risks, information and training measures, and measures for the organization of the health and safety at work and its necessary means as required by Moldavian Code. The following general prevention principles shall be taken into account for the adoption and implementation of the measures provided above:

- a) avoiding risks;
- b) evaluating the risks which cannot be avoided;
- c) combating the risks at the source;
- d) adapting the work to the individual, in particular as regards the design of the workplace and the choice of work and production equipment and methods, with a view, in particular, to alleviating monotonous and repetitive work, and its effects on health;
- e) adapting to technical progress;

- f) replacing the dangerous by the non-dangerous;
- g) prevention planning;
- h) giving collective protective measures priority over individual protective measures;
- i) giving appropriate instructions to the employees.

An employer shall insure all employees against occupational accident and disease risks, under the terms of Moldova law. The contractor shall verify that all employees of the prime contractor or any subcontractor employed in this project meet the legal requirements of Moldavian Law.

The contractor shall organize the employee training in the field of health and safety at work. This training must be provided to new employees, those changing the workplace or type of work and those resuming their activity after a break longer than 6 months. In all such cases, the training shall take place before the actual beginning of the activity. The contractor shall be responsible for the facilities related to the provision of first aid in case of occupational accidents, for fire prevention and the evacuation of the employees in special situations and imminent danger.

The contractor shall be responsible for a safe and hygienic work environment both on the project site and at off-site locations where work is done in conjunction with this project.

- 7.5.3 The contractor shall be responsible for the protection of all grounds, vegetation and improvements that exist and are to remain after the project is complete; with-in the project work areas, adjacent to the project work areas and along the common route of access to the site, outside of the work areas. The Contractor shall be responsible to have any damage caused by Contractor's employees, equipment or sub-contractors repaired and restored to pre-damage condition, as approved by the Contracting Officer Representative (COR), at no cost to the Government.
- 7.5.4 The contractor shall be responsible for adequate and safe traffic control in work areas and along the common route of access to the site outside of the work areas. Traffic control shall include; Contractor's workforce traffic, vehicular traffic interfacing with Contractor's traffic and pedestrian traffic interfacing with Contractor's traffic. Traffic controls shall include; signage, barriers, pavement markings and traffic control personnel. Additionally, the contractor shall also be responsible for the safety of the general public.
- 7.5.5 The Contractor shall comply with all applicable safety regulations of Moldova, including all required record keeping.
- 7.5.6 The Contractor shall provide and maintain in working order during the entire construction period, such fire protective equipment and devices as required by applicable safety standards and as deemed necessary and suitable for any possible class or type of fires. Extinguishers shall be non-freeze type of not less than ten pound (5KG) capacity each.
- 7.5.7 Provide protection against rain, wind, or heat so as to maintain all work, materials, apparatus, and fixtures, incorporated in the work or stored on the site, free from injury or damage. At the end of the day's work, cover all new work likely to be damaged.

- 7.5.8 Contractor shall acquaint themselves with the location of utilities, which may be encountered or be affected by work, and shall be responsible for damage caused by neglect to provide proper precautions or protection. If needed, the contractor shall contact any local authorities or utility companies to locate any utility service, (and pay for their services if needed).
- 7.5.9 Provide, erect and maintain all required barricades, of sufficient size and strength necessary for protection of material storage, as well as to prevent accidents to the public and the workmen at the job site.
- 7.5.10 Watchmen will not be provided by the Government. Contractor will be held responsible for loss or injury to persons or property where work is involved, and shall take such precautionary measures as they may deem necessary to protect their own interest. The contractor shall be responsible for the security of their materials and equipment.
- 7.5.11 Injuries to any person and damage to any property not belonging to the Contractor shall be reported immediately to the COR. Compensation to any third party affected by the construction activities (such as damage to private property) shall be the exclusive responsibility of the contractor.

## **7.6 CERTIFICATIONS, LICENSES, PERMITS, FEES, ETC.**

The contractor shall be legally capable of performing construction works prior to award of the contract, as required by Moldova regulations. The contractor shall have the necessary and required Moldovan licenses to perform the construction works included in this contract in the Republic of Moldova. The contractor shall have those necessary licenses prior to the award of the contract. The Contractor shall be responsible for determining, processing, requesting and paying all fees associated with, and obtaining any required permits for this project including, but not necessarily limited to permits for on-site and off-site hauling, demolition/disposal, construction activity, utilities, road improvements, communications, etc. Coordinate all permit requirements with the Contracting Officer. Submit all completed permit application material, and associated back-up material, required to operate facilities, to the Contracting Officer for approval prior to agency submission. Contractor shall be responsible for complying with environmental laws, regulations and requirements.

## **7.7 SUBMISSIONS OF SCHEDULE AND QUALITY CONTROL PLAN**

The contractor shall prepare a construction schedule in a format approved by the COR. The schedule shall show submission and approval times for all permits; construction sequencing; punch list work and final acceptance. Payment will be tied to satisfactory completion of each of these work segments. The contractor shall submit the proposed schedule to the COR for approval.

The Contractor will prepare a Quality Control Plan describing personnel, procedures, tests and installation techniques that he plans to perform to ensure the quality required by this RFP and his design is obtained.

## **7.8 COORDINATION**

All coordination with the local, regional, national authorities shall be the responsibility of the contractor. The Contracting Officer shall be notified of any disputes between agencies or approvals that will affect design approvals, contract execution or contract price.

The Kindergarten will remain operational at all times, and therefore daily coordination with Kindergarten Director is absolutely necessary and part of this contract.

## **7.9 SPECIAL SITE CONDITIONS**

Confine all operations, equipment, apparatus and storage of materials, within the public property. Contractor shall ascertain, observe and comply with all rules and regulations in effect on the project site, including, but not limited to parking and traffic regulations, use of walks, security restrictions, hours of allowable ingress and egress.

## **7.10 CLEANING**

Contractor shall keep premises free of accumulations of surplus materials and rubbish caused by their operations. Combustible rubbish shall be removed from the premises each day. Burning of rubbish on premises is not permitted. In addition, the Contractor shall perform final cleaning to remove all foreign matter, spots, soil and construction dust, so as to put the project in a complete and finished condition ready for acceptance and use intended.

Any debris or garbage to stay at the job site after normal working hours shall be placed in proper and approved containers.

All waste areas and storage areas will be cleaned up to the COR's satisfaction. All excess materials will be removed from the site and the Contractor will leave the premises free of debris and excess waste materials.

## 7.11 SPARE PARTS

The contractor will provide spare parts for all new materials to be incorporated to the job site. They shall provide a total of 1 lighting fixture of each type utilized, 1 lamp for each lamp utilized if there are less than 10 lamps, or 10% of lamps when more than 10 lamps are utilized, 2 m<sup>2</sup> of each ceramic tile utilized, 2 m<sup>2</sup> of each flooring material utilized, 5 liters of each type of paint to be used, and other typical materials that were used in this construction project that may be used for the user of the facility for maintenance purposes.

## 7.12 WARRANTY AND ACCEPTANCE

To close the contract, and to perform final payment, the contractor shall provide the warranty letter to the corresponding Municipality with a copy to the Contracting Officer. The start date for the warranty is the day when all works are accepted by the US Government, not when the different tasks (individual bathrooms or rooms to be renovated) are completed, and shall extend for one (1) year.

The contractor shall notify the US Government representative at least one month in advance of the proposed final inspection date.

For final acceptance of the facility and in order to authorize Final Payment, the contractor shall provide to the Contracting Officer representative:

- Warranty letter
- 2 books, packages or boxes containing all technical, maintenance and administrative documentation of the contract. One box to remain with the beneficiary and the other to be sent to the US Embassy in Chisinau.
- A list of spare parts provided to the facility signed by the beneficiary representative.
- Certificate of occupancy by the corresponding Moldovan authority.

**-x-x-x-x- End of Performance Technical Specifications -x-x-x-x-**

# ANNEX 1

## **Annex 1: Guideline to Prepare the Safety Plan / Accident Prevention Plan**

Immediately after award, the contractor shall prepare a Safety Plan / Accident Prevention Plan following the guideline and format provided in this Annex. This is in addition to any safety plan or safety documentation that may be required by Moldovan regulations for this type of construction activity. The Plan shall be accepted by the Contracting Officer before works are authorized to start at the job site.

NAVFAC EURAFSWA Contingency Engineering  
**ACCIDENT PREVENTION PLAN [APP]**  
**Minimum Basic Outline**

This first page is NOT to be included in the APP you're going to submit.

This document shall be customized in agreement to the instructions below, pages not applicable shall be removed, and the signed final document shall be submitted in pdf format.

## Instructions

**A.** The contractor is required, at a minimum, to type-in information called for in areas denoted with a **RED arrow** and put a checkmark in the appropriate box or boxes corresponding to that section (to check a box, double click on it, then select checked in the pop up window). By signing this plan, the contractor is agreeing to all checked information herein and the checkmark will signify:

- a) Contractor selected one or more items from a list of items
- b) Contractor agrees with the corresponding information,
- c) Contractor agrees to follow the requirement(s) listed herein and those contained in EM 385-1-1 dated 15 September 2008
- d) Contractor agrees to develop written plans based on the requirements listed herein when required by this accident prevention plan.

**B.** The plan must consist of the following 10 sections:

1. Signature Sheet	6. Training
2. Background Information	7. Safety and Health Inspections
3. Statement of Safety and Health Policy	8. Accident Reporting
4. Responsibilities and Lines of Authority	9. Plans (Programs, Procedures)
5. Subcontractors and Suppliers	10. Risk Management Processes ( <b>AHA</b> – Activity Hazard Analysis)

**C.** In addition to completing each section listed above several sections require certain supporting documents (resumes, certificates of training, organization chart, specific plans (crane lift plan medical support plan, etc.)). The supporting documents and plans must be attached / inserted in the appendices listed below.

Appendix	Title	Required Contents
I	Signature Sheet	As required per Section 1
II	Background Information	Area map
III	Statement of Health Policy.	Copy of signed company Safety Policy if not using generic one
IV	Responsibilities and Lines of Authority	Resume' and NAVFAC online Construction Safety Course certificate for SSHO ( <a href="http://cst.wbdg.org/start.html">http://cst.wbdg.org/start.html</a> ); Proof of competency / qualification (Resumes and certificates) for persons listed in Section 4; Organization Chart (with names) for Key Corporate and Project personnel.
V	Subcontractors and Suppliers	As required per Section 5
VI	Training	As required per Section 6
VII	Safety and Health Inspection	As required per Section 7
VIII	Accident Reporting	As required per Section 8
IX	Plans	Area map showing site location; Site layout map; Acknowledgement of applicable plan key elements or NA.
X	Risk Management Processes (AHA – Activity Hazard Analysis)	AHA form for each feature of work

The reviewer of the Accident Prevention Plan shall use this checklist. The preparer of the APP shall use it to verify that all necessary information was included in the APP.

CONTRACTOR:		DATE:		
CONTRACT:		SIGNATURE:		
	<b>A qualified reviewer shall check to assure submitted copies of the following items applicable from EM 385-1-1 Appendix A are included in the APP.</b>	YES	NO	REMARKS
1	SIGNATURE SHEET: Plan Preparer, Approval, Concurrence.			
2	BACKGROUND INFO: Contractor, Contract #, Project Name, Brief Project Description, Contractor Accident Experience (EMR, OSHA) Corp. Trend Analysis, list of activities requiring AHA.			
3	STATEMENT OF SAFETY & HEALTH POLICY.			
4	RESPONSIBILITIES & LINES OF AUTHORITY: Identification of personnel responsible for safety (Corp. & Project Level).			
5	SUBCONTRACTOR & SUPPLIERS: Identification of Subs and Suppliers; means for controlling & coordinating; safety responsibilities.			
6	TRAINING: List subjects in safety indoctrination; mandatory training & certification, emergency response, outline requirements for supv and employee safety meetings.			
7	SAFETY & HEALTH INSPECTIONS: Identify who will conduct inspections, when & how it will be conducted & recorded, deficiency tracking sys and follow-up procedures. Any external inspections/certifications (e.g., Coast Guard etc).			
8	SAFETY & HEALTH EXPECTATIONS, INCENTIVE PROGRAMS AND COMPLIANCE: Company's written safety program goals, objectives, and accident experience goals; description of company's safety incentive program; policy/procedures for non-compliance with safety requirements; written company procedures for holding mgr. /supvs accountable for safety.			
9	ACCIDENT REPORTING: Identify person who completes the following, how, and when; exposure data (m/hrs worked); accident investigations, reports & logs; immediate notification of major accidents.			
10	MEDICAL SUPPORT: Outline on-site medical support and off-site medical arrangements.			
11	PERSONAL PROTECTIVE EQUIPMENT: Outline procedures (who, when, how) for conducting hazard assessments & written certifications for use of personal protective equipment.			
12	PLANS (PROGRAMS, PROCEDURES) REQUIRED BY THE SAFETY MANUAL: a) Hazard Communication; b) emergency response plans; c) layout plans; d) respiratory protection plan; e) health hazard control program; f) lead/asbestos abatement plan; g) abrasive blasting; h) confined space; i.e.) hazardous energy control plan; j) critical lift procedures; k) contingency plan for severe weather; l) access/haul road plan; m) demolition plan (engineering and asbestos surveys); n) compressed air plan; o) formwork and shoring erection and removal plans; p) lift slab plans; q) SHP/SSHP (for HTRW work); r) diving plan; s) alcohol drug abuse prevention plan; t) fall protection plan.			a) k) b) l) c) m) d) n) e) o) f) p) g) q) h) r) l) s) j) t)
13	Information on how the contractor will meet the requirements of the major sections of EM 385-1-1 in the accident prevention plan. Particular attention shall be paid to a) excavations; b) scaffolding; c) medical/first aid requirements; d) sanitation; e) PPE; f) fire prevention; g) machinery and mechanized equipment; h) electrical safety; l) chemical, physical agent, and biological occupational exposure prevention requirements. Detailed site specific hazards and controls shall be provided in the activity hazard analysis for each phase of the operation. A list of anticipated AHAs should be submitted with the APP.			a) b) c) d) e) f) g) h) i.e.)
14	Plans for maintaining job cleanup and safe access			
15	Public safety requirements (e.g., fencing, signs)			

LANT Form 385-APP

# ACCIDENT PREVENTION PLAN [APP]

Contract No.: **N33191-XX-X-XXXX**

Project Name:

Location:

## 1. SIGNATURE SHEET

**a. Plan preparer** (Safety manager, site safety and health officer (SSHO), or quality control representative will fill this role).

<b>Name:</b>	<b>Title:</b>
<b>Phone no.:</b>	<b>Date:</b>
<b>Signature:</b>	

**b. Plan approval** (Company owner or Company / corporate officer authorized to obligate the company).

<b>Name:</b>	<b>Title:</b>
<b>Phone no.:</b>	<b>Date:</b>
<b>Signature:</b>	

**c. Plan concurrence** (e.g., Chief of Operations, Corporate Chief of Safety, Corporate Industrial Hygienist, project manager or superintendent, project safety professional, project QC).

<b>Name:</b>	<b>Title:</b>
<b>Phone no.:</b>	<b>Date:</b>
<b>Signature:</b>	

## 2. BACKGROUND INFORMATION

<b>Prime Contractor:</b>
<b>Project name:</b>
<b>Contract no.:</b>

**a. Project description and location.** Prime contractor will provide a brief description of the project to include its location.

**b.  A map of the project site general location and site plan – Insert in Appendix IX.**

**c. Prime contractor accident experience.** Prime contractor will provide accident experience information, if available, on how many accidents he or she has experienced in the last two years and what type of accidents have occurred.

**d. Phases of work / Definable Features of Work. (Examples:** Grading, excavation, formwork & shoring, steel erection, etc). NOTE: Section 10 requires an AHA for each of these phases

**Mobilization / General Construction**  
**Demolition**  
**Scaffolding / Fall Protection**  
**Excavation / Trenching**  
**Electrical**

### 3. STATEMENT OF SAFETY AND HEALTH POLICY

3.  **STATEMENT OF SAFETY AND HEALTH POLICY.** Prime contractor will provide a safe and healthful project site which is free from recognized and anticipated hazards that could cause injury or death. The prime contractor and his subcontractor(s) and supplier(s), and visitor(s), will comply with the policies set forth in EM 385-1-1 'Safety and Health Requirements Manual' dated 15 September 2008. Include a copy of Company's Safety Policy at Appendix III.

## 4. RESPONSIBILITIES AND LINES OF AUTHORITY

a.  **Resumes.** Prime contractor will provide resumes for safety and industrial hygiene personnel if the contract requires these positions. Competent person qualifications for the Site Safety and Health Officer (SSHO) will also be provided. At a minimum, the SSHO will have completed the OSHA 30 hour training and have one year experience. Provide training certificates for all designated competent personnel at Appendix IV.

b.  **Accountability for personnel responsible for safety.**

**Company owner will:**

- Accept responsibility and accountability for the safety program.
- Provide leadership and guidance to supervisory personnel for the acceptance, maintenance, and enforcement of the safety program.
- Provide the necessary resources to maintain a safe and healthful project site.
- Conduct or attend monthly supervisory safety meetings.

**Company owner name/phone no.**

**Project manager (superintendent) will:**

- Implement the safety and health program at the project site.
- Conduct periodic project site inspections to verify accident prevention plan (APP) and EM 385-1-1 compliance.
- Review and act upon site safety and health inspection reports.
- Prepare man-hour reports, if applicable.
- Have authority to make spot corrections or stop work for safety purposes.
- Conduct or attend monthly supervisory safety meetings.
- Generate and/or sign ENG Form 3394 when required.

**Project manager name/phone no.**

**Safety manager will:**

- Accept administrative and oversight responsibility for the project site safety program.
- Provide technical guidance and support to the project manager, SSHO, supervisors, and foremen on safety and health issues.
- Conduct periodic worksite visits to verify APP and EM 385-1-1 compliance.
- Report observations and findings to the company owner.
- Purchase personal protective equipment (PPE) and safety supplies as necessary.
- Have authority to make spot corrections or stop work for safety purposes.
- Conduct or attend monthly supervisory safety meetings.
- Generate and/or sign ENG Form 3394 when required.

**Safety manager name/phone no.**

**Site safety and health officer will:**

- Be on site at all times when work is performed.
- Conduct frequent worksite inspections to verify APP and EM 385-1-1 compliance.
- Conduct or supervise on-site safety training.
- Investigate accidents and incidents as necessary.
- Purchase PPE and safety supplies as necessary.
- Have authority to make spot corrections or stop work for safety purposes.
- Conduct weekly employee safety meetings and attend monthly supervisory safety meetings.

- Generate and/or sign ENG Form 3394 when required.

**Site safety and health officer name/phone no.**

--

**Supervisors (foremen) will:**

- Cover appropriate activity hazard analysis before work begins.
- Conduct periodic project site inspections to verify APP and EM 385-1-1 compliance.
- Assist SSHO with accident and incident investigations.
- Have authority to make spot corrections or stop work for safety purposes.
- Conduct daily safety meetings with specific work crews.
- Conduct weekly employee safety meetings and attend monthly supervisory safety meetings.
- Generate and/or sign ENG Form 3394.

**Workers will:**

- Wear required PPE for each task.
- Inspect electrical cords daily before use.
- Inspect in-use hand and power tools daily before work begins. Guards will NOT be removed from tools equipped with guards.
- Inspect in-use machinery and mechanized equipment daily before work begins.
- Maintain good housekeeping at the worksite.
- Report accidents and incidents immediately to supervisor.
- Have authority to make spot corrections or stop work for safety purposes.
- Attend employee safety meetings.

c.  **Lines of authority.** Prime contractor lines of authority will be as follows: Company owner, project manager, safety manager, SSHO, supervisors, and workers.

i.  **Company goal.** Prime contractor will provide a safe and healthful worksite that is free from recognized or anticipated hazards that could cause serious injury or death. We will strive for a zero accident rate and demand zero tolerance for unsafe acts, the workers who perpetrate them, and persons in positions of leadership who condone such actions.

ii.  **Incentive program.** Prime contractor will provide their incentive program, if any.

iii.  **Check the box if prime contractor will provide his own non-compliance program. If not, prime will put a check mark in paragraph's d and e.**

iv.  **Worker non-compliance with safety requirements.** The commission of unsafe acts will not be tolerated at the project site. In the event this type behavior occurs the following disciplinary actions will be taken:

- **First offense.** The offending party will be verbally warned and asked to correct the unsafe act (mentoring will take place if necessary - action will be noted in the daily report).
- **Second offense.** The offending party will be issued a written reprimand (action will be noted in the daily report).
- **Third offense.** The offending party will be removed from the worksite (action will be noted in the daily report).

v.  **Supervisor non-compliance with safety requirements.** The condoning of unsafe acts at the worksite will not be tolerated. In the event this type behavior occurs the prime contractor will ensure disciplinary actions commensurate with the violation are taken.

## 5. SUBCONTRACTORS AND SUPPLIERS

a.  Check the box if there aren't any subcontractors or suppliers working the site. If subcontractors will be onsite please identify them below, if not, continue to Section 6.

b. **Identification of subcontractors and suppliers.** Prime contractor will list subcontractors and suppliers, if known, and their phone numbers.

Co:	Ph:

c.  **Means for controlling subcontractors and suppliers.** Prime contractor will meet with subcontractors and suppliers before work begins, and periodically thereafter, to coordinate activities and schedules, and to resolve any safety issues that may arise.

d.  **Subcontractor and supplier safety responsibilities.** Subcontractors and suppliers will adhere to the requirements of the prime contractor's APP. Prime contractor will have subcontractors and suppliers sign the accident prevention plan signifying their understanding of, and compliance with, its provisions.

### SUBCONTRACTOR AND SUPPLIER ACCEPTANCE OF ACCIDENT PREVENTION PLAN

Name:	Date:
Signature:	

Name:	Date:
Signature:	

Name:	Date:
Signature:	

Name:	Date:
Signature:	

Name:	Date:
Signature:	

## 6. TRAINING

a.  **Safety indoctrination subjects.**

- Personal protective equipment requirements for project site.
- Review of accident prevention plan and activity hazard analyses.
- Weekly (employees) and monthly (supervisors) safety meetings.
- Location of portable fire extinguishers.
- Location of first-aid kits.
- Identification of first-aid/CPR qualified personnel (if applicable).
- Location of emergency phone numbers.
- Location of the nearest on-site/off-site medical facility.
- Emergency plans for fires/spills (if applicable).
- Accident notification and reporting procedures.
- Current project site safety issues.

**Other safety indoctrination subjects.**

**b. Training or certifications applicable to the project.** (Note: If the activity selected is in **bold** the prime contractor will provide employee names working the job along with their years of 'on-the-job' experience in **Appendix VI**. If workers have attended a specific training class or hold a certification in the job the prime will also annotate this information – **See Appendix VI.**)

- |   |  |
|---|--|
| <input type="checkbox"/> <b>Abrasive blasting.</b>          | <input checked="" type="checkbox"/> Fall protection.                       |
| <input type="checkbox"/> <b>Blasting.</b>                   | <input checked="" type="checkbox"/> First-aid/CPR.                         |
| <input type="checkbox"/> Compressed gas cylinders.          | <input checked="" type="checkbox"/> Formwork/shoring.                      |
| <input checked="" type="checkbox"/> Concrete/masonry.       | <input checked="" type="checkbox"/> Hand/power tools.                      |
| <input type="checkbox"/> <b>Confined space.</b>             | <input type="checkbox"/> Hazard communication.                             |
| <input type="checkbox"/> <b>Cranes/derricks.</b>            | <input type="checkbox"/> Hazardous waste.                                  |
| <input type="checkbox"/> Crane hand signals.                | <input type="checkbox"/> <b>Lockout/tagout.</b>                            |
| <input checked="" type="checkbox"/> <b>Electrical.</b>      | <input checked="" type="checkbox"/> <b>Machinery/mechanized equipment.</b> |
| <input type="checkbox"/> Elevating work platforms.          | <input type="checkbox"/> Motor/all-terrain vehicles.                       |
| <input type="checkbox"/> Emergency response (fires/spills). | <input type="checkbox"/> Pneumatic tools.                                  |
| <input checked="" type="checkbox"/> Excavation.             | <input checked="" type="checkbox"/> Portable fire extinguishers.           |
| <input type="checkbox"/> <b>Explosive-actuated tools.</b>   | <input type="checkbox"/> Powered industrial trucks.                        |

- Pressurized equipment/systems.
- Scaffold systems.
- Respiratory protection.
- Steel erection.
- Rigging.
- Vehicle-mounted elevating platforms.
- Rotating work platform.
- Wearing/maintaining PPE.
- Safe lifting techniques.
- Welding/cutting.**

**Other training and certifications.**

**c. Weekly employee safety meetings.**

- Project manager, safety manager, site safety and health officer, or supervisor will conduct employee safety meetings.
- Prime contractor and subcontractor workers will attend employee safety meetings.

Day and time of employee safety meetings is listed below:

<b>Day:</b>	<b>Time:</b>
<b>Day:</b>	<b>Time:</b>

- Meetings will be documented with facilitator/attendee names, date, and subjects discussed.

**d. Monthly supervisory safety meetings.**

- Company owner, safety manager; or project manager will conduct supervisory safety meetings.
- Prime contractor and subcontractor supervisors will attend supervisory safety meetings.

Day and time of supervisory safety meeting is listed below:

<b>Day:</b>	<b>Time:</b>
<b>Day:</b>	<b>Time:</b>

- Meetings will be documented with facilitator/attendee names, date, and subjects discussed.

## 7. SAFETY AND HEALTH INSPECTION

a.  **Project site safety inspections.**

- Company safety manager (periodically).
- Project manager (periodically).
- Supervisors and foremen (periodically).
- Site safety and health officer (SSHO) (frequently).
- Quality control representative (daily).
- Employees will conduct project site inspections of electrical cords, in-use hand and power tools, and in-use machinery/mechanized equipment (daily).

b.  **Inspector qualifications.** Prime contractor will provide inspector qualifications for safety manager, SSHO, and quality control representative.

c.  **Deficiency log.** A deficiency log will be generated after inspections using the criteria listed below. Follow-up inspections will be performed to ensure identified deficiencies have been corrected.

- Date deficiency identified.
- Description of deficiency.
- Name of person responsible for correcting deficiency.
- Projected resolution date.
- Date actually resolved.

d. **External inspections.** Are external inspections or certifications required?  Yes  No

**If yes please explain.**

## 8. ACCIDENT REPORTING

a.  **Exposure data.** Man-hours worked will be reported to NAVFAC EURAFSWA Project Manager by the 25<sup>th</sup> of every month using the “Contractor Monthly Safety Self- Evaluation Form”(must insert in **Appendix VIII**).

b.  **Accident notification.** Prime contractor will report accidents and incidents as soon as they happen to the contracting officer’s representative (COR). The COR, in turn, will notify the Safety Office according to the notification information below. For accidents and incidents that require immediate notification, the prime contractor will seal-off the site and wait for the NAVFAC Safety investigation team.

### **Immediate notification (telephonically):**

- Fatality.
- Permanent total disability.
- Permanent partial disability.
- Three or more persons admitted to a hospital.
- Property damage of \$200,000 damage or more.

### **24-hour notification (telephonically and/or email):**

- Lost time (**Note:** Lost time is defined as any loss of time away from work beyond the day or shift on which it occurred).
- Property damage not less than \$2,000 but no greater than \$200,000.
- Treatment of medical injuries not resulting in lost time.

c.  **Accident recording.** Prime contractor will coordinate with the COR on forwarding the appropriate documents to the NAVFAC Safety Office.

**Reportable accident and incident requirements:** All accidents and incidents to include occupational injuries and illnesses that result in medical treatment with no lost time, and property damage of less than \$2,000, will be documented in an email and sent to the NAVFAC Safety Office within 24 hours.

**Recordable accident and incident requirements:** All accidents and incidents to include occupational injuries and illnesses that result in lost time (measured in days) or property damage of \$2,000 or more will be documented on ENG Form 3394 ‘U.S. Army Corps of Engineers Accident Investigation Report’ dated March 1999 and submitted to the NAVFAC Safety Office within five (5) days of the occurrence.

# 9. PLANS (PROGRAMS, PROCEDURES)

## A. LAYOUT PLANS – MUST INSERT IN APPENDIX IX.

## B. EMERGENCY RESPONSE PLANS – SEE APPENDIX IX.

## C. MEDICAL SUPPORT.

### a. General requirements.

An effective means of communication (hard-wired, cellular, or two-way radio and tested in the area of use for functionality) with emergency response source access will be provided along with transportation for injured workers.

Telephone numbers of medical facilities, physicians, and ambulances will be conspicuously posted (at a minimum these numbers will be posted near project-office telephones).

A map showing the best route to the nearest medical facility will be conspicuously posted.

**Medical Facility Name:**

**Address:**

**Phone Number(s):**

### b. Type of medical support:

**Less than 100 persons employed on any one shift.** On sites with less than 100 workers, and where neither a first-aid station nor infirmary is available, prime contractor will provided a first-aid kit for every 25 persons. These kits will have latex gloves and a CPR shield.

**Location of first-aid kits:**

**Trained first-aid/CPR employees.** Prime contractor will have at least two employees on each shift trained to administer first-aid/CPR when a medical facility or physician is not accessible within five minutes of an injury to a group of two or more employees. Provide training certificates or copy of certification card.

Employee Name:

Certification expiration date:

Employee Name:

Certification expiration date:

**More than 99 but less than 300 persons employed on any one shift.** On sites with more than 99 but less than 300 workers the prime contractor will establish and equip, as directed by a licensed physician, a first-aid station. Identification signs and directional markers will be used to denote the station’s location. Emergency lighting will be provided and a first-aid attendant will be on duty at all hours when work is in progress.

**300 or more persons employed on any one shift.** On sites with 300 or more workers the prime contractor will establish and equip, as directed by a licensed physician, an infirmary. Identification signs and directional markers will be used to denote the infirmary's location and emergency lighting will be provided.

Infirmaries will provide reasonably quiet conditions with some privacy, lighting, climate control, adequate toilet facilities, hot and cold water, drainage, and electrical outlets. Walls and ceilings will be finished with two coats of white paint, windows and doors screened, and the floors made of impervious construction.

A properly-equipped emergency vehicle, helicopter, or mobile first-aid unit will be provided during work hours (the emergency vehicle will not be used for any other purpose). A registered nurse, licensed physician's assistant, certified emergency medical technician, or a licensed practical nurse (approval by a licensed physician) will be assigned on a full-time basis to each work site.

**D. PERSONAL PROTECTIVE EQUIPMENT (PPE).**

**a. General Requirements.**

- Prime contractor will conduct hazard assessments to find out the type(s) of PPE required.
- Prime contractor will ensure workers know how to put on, adjust, wear, remove, and use PPE. PPE will be inspected before each use, maintained in a serviceable and sanitary condition, and stored so the integrity of the equipment is protected. This training will be documented with the name of the facilitator/attendees, date, and subjects taught.
- Damaged and defective equipment will not be used but rather marked 'out-of-service' and removed from the project site.

**b. PPE used on the project site.**

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Minimum required clothing.   | <input type="checkbox"/> Welding goggles.                |
| <input checked="" type="checkbox"/> Hard hat.                    | <input type="checkbox"/> Welding hand-held shields.      |
| <input checked="" type="checkbox"/> Safety glasses/goggles.      | <input type="checkbox"/> Full-body harness w/lanyard(s). |
| <input type="checkbox"/> Face shield.                            | <input checked="" type="checkbox"/> Reflective vest.     |
| <input checked="" type="checkbox"/> Ear plugs/muffs.             | <input checked="" type="checkbox"/> Dust mask.           |
| <input checked="" type="checkbox"/> Work gloves.                 | <input type="checkbox"/> Half-face/full-face respirator. |
| <input type="checkbox"/> Welding gloves.                         | <input type="checkbox"/> Personal floatation device.     |
| <input checked="" type="checkbox"/> Steel-toed/hard-soled shoes. | <input type="checkbox"/> Life ring.                      |
| <input type="checkbox"/> Welding helmet.                         | <input type="checkbox"/>                                 |

**Other PPE used on the project site.**

**E. OTHER PLANS:** Must check if “YES” or NA (not applicable) for all listed plans. If you check “YES” then you must complete Appendix IX boxes for that plan or insert your company plan. Sections in parenthesis refer to plan coverage in the 2008 EM 385-1-1.

PLAN NAME	YES	NA	PLAN NAME	YES	NA
Plan for prevention of alcohol and drug abuse (01.C.02)	×		Contingency plan for severe weather (19.A.03);	×	
Site sanitation plan (Section 02)	×		Float Plan (19.F.04);		×
Access and haul road plan (4.B)		×	Site-Specific Fall Protection & Prevention Plan (21.C);	×	
Respiratory protection plan (05.G)		×	Demolition plan (to include engineering survey) (23.A.01);	×	
Health hazard control program (06.A)		×	Excavation/trenching plan (25.A.01);	×	
Hazard communication program (06.B.01)		×	Emergency rescue (tunneling) (26.A.);		×
Lead abatement plan (06.B.05 & specifications);		×	Underground construction fire prevention and protection plan (26.D.01);		×
Asbestos abatement plan (06.B.05 & specifications);		×	Compressed air plan (26.I.01);		×
Safety Program (06.E.03.a);	×		Formwork and shoring erection and removal plans (27.C);	×	
Abrasive blasting (06.H.01);		×	Precast Concrete Plan (27.D);		×
Heat/Cold Stress Monitoring Plan (06.I.02)		×	Lift slab plans (27.E);		×
Crystalline Silica Monitoring Plan (Assessment) (06.M) ;		×	Steel erection plan (27.F.01);		×
Night operations lighting plan (07.A.08);		×	Site Safety and Health Plan for HTRW work (28.B);		×
Fire Prevention Plan (09.A);	×		Blasting Safety Plan (29.A.01);		×
Wild Land Fire Management Plan (09.K);		×	Diving plan (30.A.13);		×
Hazardous energy control plan (12.A.01);		×	Confined space Program (34.A).		×
Critical lift Plan (16.H);		×			

# 10. RISK MANAGEMENT PROCESSES (AHA – ACTIVITY HAZARD ANALYSIS)

## Instructions

1. List each definable feature of work / phase of work in the table below. NOTE: Definable feature of work / phase of work should be same as listed in Section 2.d. of this APP)
2. For each listed phase/feature complete an Activity Hazard Analysis form (See Figure 1-2 page 10 of EM 385-1-1) and insert into Appendix X.

ID No.	Feature of work / phase of work
1	Mobilization / General Construction
2	Demolition
3	Scaffolding / Fall Protection
4	Excavation / Trenching
5	Electrical
6	
7	
8	
9	
10	

# **APPENDIX I.**

## **SIGNATURE SHEET**

**(Reserved if more space is needed other than  
Section 1)**

# **APPENDIX II.**

## **BACKGROUND INFORMATION**

**Required Enclosures:**

**Optional:**

**Copy of project description from SOW, etc.**

## **APPENDIX III.**

# **STATEMENT OF SAFETY AND HEALTH POLICY**

### **Required Enclosures:**

- 1. Copy of signed company statement of Safety and Health Policy (if not using generic option in Section 3).**
- 2. The Contractor's written safety program goals, objectives, and accident experience goals for this contract (if not using generic option in Sections 2 and 3).**

### **Optional:**

## **APPENDIX IV.**

# **RESPONSIBILITIES AND LINES OF AUTHORITY**

### **Required Enclosures:**

- 1. Contractor's Resume and "USACE 30 hour Construction Safety Course certificate for SSHO" or equivalent certificate issued and acknowledged by local Moldovan authorities.**
- 2. Proof of competency / qualification (Resumes and certificates) for the other persons listed in Section 4.**
- 3. Organization Chart (with names) for Key Corporate and Project personnel.**
- 4. Corporate/Company accountability policies and procedures (if not using generic option).**

### **Optional:**

# **APPENDIX V.**

## **SUBCONTRACTORS AND SUPPLIERS**

**Required Enclosures:**

**Optional:**

**Copies of Subcontractor Safety policies and  
procedures**

# **APPENDIX VI.**

## **TRAINING**

### **Required Enclosures:**

**Company Safety and Occupational Health (SOH) Training policies, procedures, and plans (if not using generic option in Section 6).**

### **Optional:**

**Company SOH training documents – such as training logs, certificates, etc.**

### **SPECIFIC WORKER TRAINING**

#### **Abrasive blasting.**

<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>

#### **Blasting.**

<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>

#### **Confined space.**

<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>

#### **Cranes/derricks.**

<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>

#### **Electrical.**

<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>

#### **Explosive-actuated tools.**

<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>

**First-aid/CPR.**

<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>

**Lockout/tagout.**

<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>

**Machinery/mechanized equipment.**

<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>

**Scaffolding.**

<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>

**Welding/cutting.**

<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>

# **APPENDIX VII.**

## **SAFETY AND HEALTH INSPECTION**

### **Required Enclosures:**

- 1. Company safety and health inspection policies, procedures, and forms. (if not using generic option Section 7).**
- 2. Documents supporting Section 7 requirements.**

### **Optional:**

## **APPENDIX VIII.**

# **ACCIDENT REPORTING**

### **Required Enclosures:**

- 1. Company accident reporting policies, procedures, and forms. (if not using generic option in Section 8).**
- 2. Documents supporting Section 8 requirements.**

### **Optional:**

## **APPENDIX IX.**

### **PLANS**

#### **Required Enclosures:**

- 1. Area map showing site location.**
- 2. Site layout map also showing site lay down areas, sanitation facilities, on-site medical support location (e.g. 1<sup>st</sup> Aid Kit), emergency telephone location and numbers.**
- 3. Acknowledgement of key provisions of all required plans – or copies of company SOH policies, procedures, or plans related to requirements.**

#### **Optional:**

**Temporary facilities/layout plan (Section 4.A).**  
**\*\*\*Written Company plan required**

**NA.**

- Trailers and other temporary structures used as field offices, personnel housing, or storage areas will be anchored with rods and cables or by steel straps attached to ground anchors.
- Temporary facility spacing requirements will be in accordance with (IAW) paragraph 09.A.19.
- Temporary power distribution requirements will be IAW paragraph 11.D.01.
- Temporary project fencing will be provided on projects located in areas used by the public.
- Signs warning of construction hazards will be posted on fencing every 300'.
- Temporary structures with an electrical capability will be grounded.
- Temporary work camps will be adequately drained (graded and ditched) and rendered free from depressions where water may settle.
- The area surrounding the structures will be free of debris, garbage, and rubbish.
- Temporary sleeping quarters will be heated, ventilated, lighted, and maintained in a clean and safe condition.

**Emergency response plans for fires/spills (Section 01.E.01).**  
**\*\*\*Written Company plan required.**

**NA.**

- Discuss escape procedures and routes.
- Designate critical project site operations and discuss how the operations will be protected.
- Discuss employee accountability procedures following an evacuation.
- Discuss employee roles in emergencies to include responsibilities and equipment used.
- Discuss the location of emergency contact information to include reporting procedures.

**Hazard communication plan (Section 06.B.01).**  
**\*\*\*Written Company plan required.**

**NA.**

- A current inventory of project site hazardous chemicals will be prepared.
- Material safety data sheets for hazardous substances will be kept at the project site.
- Containers will be labeled with the type of hazardous substance they contain.
- Workers will be notified about new substances that are brought onto the worksite to include the hazards associated with them.

**Respiratory protection plan (Section 05.G.03).**  
**\*\*\*Written Company plan required.**

**NA.**

- Discuss the use of dust masks to protect workers from large particulate matter.
- Discuss the use of half-faced respirators to protect workers from small particulate matter to include fumes, mists, and aerosols.
- Discuss sealing a half-face respirator properly.
- Discuss cleaning a half-faced respirator properly
- Discuss inspecting and storing a half-face respirator properly.

**Health hazard and control plan (Section 06.A.02(b)).**  **NA.**  
**An activity hazard analysis (AHA) will be completed for each applicable area.**

- Discuss hazardous substances.
- Discuss hot substances (heating devices and melting kettles).
- Discuss harmful plants, animals, and insects.
- Discuss ionizing radiation.
- Discuss the use of lasers.
- Discuss ventilation and exhaust systems.

**Abrasive blasting plan (Section 06.H.01(b)).**  **NA.**  
**\*\*\*Written Company plan required.**

**Confined space plan (Section 34.A.06).**  **NA.**  
**\*\*\*Written Company plan required.**

- Discuss responsibilities of attendants, entrants, and entry supervisors.
- Train workers how testing and monitoring equipment is used.
- Discuss the type of ventilating equipment needed to obtain acceptable entry conditions.
- Discuss the type of communication equipment to be used.
- Discuss the PPE to be used when engineering and/or administrative controls fail to protect workers adequately.
- Discuss the lighting equipment to be used.
- Discuss the equipment to be used for entrant ingress and egress.
- Discuss rescue procedures to include required equipment and emergency phone numbers.

**Hazardous energy control plan (Section 12.A.12).**  **NA.**  
**\*\*\*Written Company plan required.**

- Discuss why the lock out/tag out procedure is being used.
- Communicate and coordinate the lockout/tagout procedure with the workers being affected by the procedure and the government's designated authority.
- Discuss the procedural steps in place for shutting down, isolating, blocking, and securing systems to control the release of hazardous energy to include the person(s) responsible for performing this task.
- Discuss the procedural steps in place for placing, removing, and transferring lockout/tagout devices to include the person(s) responsible for performing this task.
- Discuss the procedural steps in place for placing and removing locks and/or tags to include the person(s) responsible for performing this task.
- Discuss the procedures for testing the effectiveness of isolating hazardous energy to include lockout/tagout.
- Discuss emergency scenarios that could arise during the lockout/tagout procedure to include the actions to be taken for safely responding to an emergency.
- Discuss the procedure for transferring removal authority from one person to another.

**Critical lift plan (Section 16.H.02).**  
\*\*\*Written Company plan required.

**NA.**

- Designate a crane operator, lift supervisor, and rigger (and state their qualifications).
- Describe ground conditions and outrigger and crawler track requirements.
- Discuss crane position, height of the lift, load radius, and boom angle and length for the entire range of the lift.
- Discuss the size and weight of the load to include any crane and rigging components that add to the weight.
- Discuss the rigging plan to include lift points, hardware requirements, and procedures.
- Discuss coordination of the lift and how individual players will communicate with each other.
- Discuss tandem and tailing-crane lift procedures, if applicable.
- Describe environmental conditions which, when in effect, will stop the lift.

**Access and haul roads plan (Section 04.B).**  
\*\*\*Written Company plan required.

**NA.**

- Discuss equipment to be used on the road, traffic density, and the hours of operation.
- Discuss road layout and widths, horizontal and vertical curve data, and sight distances.
- Discuss sign and signalperson requirements, road markings, and traffic-control devices.
- Discuss how drainage will be controlled.
- Outline contact between vehicles and the public to include implementing safety controls at each one of these places.
- Discuss the maintenance needed to keep the roads hard, smooth, and as dust-free as possible.

**Demolition plan (Section 23.A.01).**  
\*\*\*Written Company plan required.

**NA.**

- A demolition plan based on engineering, lead, and asbestos surveys will be prepared.
- Utilities and other service lines will be shut-off, capped, or otherwise controlled outside the building line.
- Service lines will be temporarily relocated and protected if utilities are maintained.
- If hazardous building materials and chemicals, flammable materials, explosives, gases, or other dangerous substances have been used in building construction, pipes, tanks, or other equipment on the property they will be controlled or eliminated before demolition begins.
- Glass fragmentation will be controlled.
- Mechanical equipment will not be used on floors or other working surfaces unless the floors and surfaces are of sufficient strength to support the loads.
- Chute openings will be protected by a guardrail 42" in height. When debris is dropped through floor openings without chutes, the openings and the area onto which the material is dropped will be enclosed with barricades not less than 42" in height and not less than 6' back from the protected edge of the opening above. Signs warning of the fall-material hazard will be posted at each side of the debris opening at each floor.

- No wall section more than 6' in height will stand without lateral bracing unless the wall was designed and constructed to stand without this support and its condition is determined safe enough to be self-supporting.
- Workers will not be allowed in the area directly underneath floor arches when they're being removed. The area will be barricaded to prevent access and signed to warn of the hazard.
  
- Steel construction will be dismantled column-by-column and tier-by-tier (columns may be in two-story lengths).

**Compressed air and gas systems plan (Section 20.B).**  **NA.**  
**No written plan required.**

- Compressors and related equipment will be located so safe access is provided to all parts of the equipment for operation, maintenance, and repairs.
- Air hose, pipes, valves, filters, and other fittings will be pressure-rated by the manufacturer and not exceeded. Defective hose will be removed from service.
- Hose will not be laid over walkways, steps, ladders, and scaffolds to create a tripping hazard.
- Compressed air will not be used to blow dirt from the hands, face, or clothing.
- A speed governor independent of the unloaders will be installed on air compressors except those driven electrical induction or electrical synchronized motors.
- Piping will be equipped with traps or other means for removing liquid from the lines.
- Air receivers will be installed so that all drains, hand holes, and manholes are accessible.

**Formwork/shoring (Section 27.C).**  **NA.**  
**\*\*\*Written Company plan required.**

- Formwork, shoring, and bracing will be erected and maintained to safety support all vertical and lateral loads that might be applied until such loads can be supported by the structure.
- Sills will be sound, rigid, and capable of carrying the maximum intended load.
- Base plates, shore heads, extension devices, or adjustment screws will be in firm contact with the sill and form material and, as applicable, will be snug against the posts.
- Diagonal bracing will be provided in vertical and horizontal planes to provide stiffness and to prevent buckling of the individual members.
- Forms and shores (except those on slab or grade and slip forms) will not be removed until the concrete has gained sufficient strength to support its weight and all superimposed loads.

**Lift-Slab Operations (Jacking plan) (Section 27.E).**  **NA.**  
**\*\*\*Written Company plan required.**

- Manufacturer's rated capacity will be legibly marked on all jacks and not exceeded.
- Jacks will be designed and installed so they won't continue to lift when overloaded.
- Jacks will have a positive stop to prevent over-travel.
- Base of the jack will be blocked or cribbed. If there's a possibility of slippage a wood block will be placed between the jack's metal cap and the load.
- Maximum number of manually-controlled jacks on one slab will be limited to 14.

- During lifting all point of the slab support will be kept within ½” of that needed to maintain the slab in a level position.
- No one will be permitted under the slab during jacking operations.

**Personal Fall Protection Program (Section 21.C.01).**

**NA.**

\*\*\*Written plan required.

- Workers will be protected by guardrail, personal fall protection, safety nets, catch platforms, or temporary floors in the following situations: Worker can fall 6’ or more; on access ways or work platforms over water, machinery, or dangerous operations; on runways where workers can fall 4’ or more; and on all exposed sides of stairways and ladder-floor openings.
- Top rails, mid rails, and toe boards will be able to withstand outward and downward forces of 200, 150, and 50 lbs., respectively.
- Wire rope can be used as a top or mid rail under the following conditions: When the posts are spaced no farther than 8”; deflection of the rope under 200 lbs. of force is less than 3”; and the rope is flagged for visibility. Synthetic and natural-fiber rope will not be used.
- Paneling and screening will be in place from the mid rail to the toe board when material is piled higher than the toe board.
- Personal fall protection will consist of a full-body harness (not chest-wait units or body belts), lifeline, and anchorage point.
- Two lanyards will be used when vertical movement is required and when a horizontal lifeline is inappropriate.
- Anchorages capable of supporting 5,000 lbs. per worker will be independent of anchorages used to support or suspend platforms. Lifelines will not be attached to guardrails or hoists but rather to the structure.
- Floor holes will be covered completely and securely. If the cover to an open hole is missing the hole will be barricaded with a guardrail. Workers laboring by wall openings 6’ or more above a lower level will be protected by a guardrail or personal fall protection.
- Roofers will be protected by the following forms of fall protection: Guardrails; personal fall protection; a warning line 6’ from the roof’s edge, or a safety-monitoring system.
- Excavations will be guarded when they are 6’ or more in depth and not readily seen because of plant growth or other visual barriers.

**Steel Erection Plan (Section 27.F).**

**NA.**

\*\*\*Written Company plan required.

**Night operations lighting plan (Section 7.A.08).**

**NA.**

\*\*\*Written Company plan required.

**Site sanitation plan (Section 02.A).**

**NA.**

**No written plan required.**

- An adequate supply of drinking water (cool water during hot weather) will be provided.
- Portable drinking-water dispensers will have a tap – water will not be dipped. Dispensers will be clearly marked as “Drinking Water” and will be capable of being closed. Use of a common cup will be prohibited unless sanitized between uses.
- When sanitary sewers are not available porta-johns will be provided.
- Washing facilities will have running water, soap, and an individual means of drying (hand sanitizer will be used when running water is not practical).

- No food or beverage will be stored or consumed in a toilet room or in any area that is exposed to a toxic material.
- An adequate number of waste receptacles will be provided. Receptacles will have covers that fit tightly, be emptied at least daily, and be maintained in a sanitary condition.

**Fire Prevention Plan (Section 09.A).**  
**\*\*\*Written Company plan required.**

**NA.**

- Discuss the major worksite fire hazards to include potential ignition sources.
- Describe the types of fire-suppression systems to be used (portable fire extinguishers, etc.).
- Discuss employee responsibilities for maintaining the fire-prevention equipment and systems.
- Discuss employee responsibilities for controlling fuel-source hazards.
- Discuss housekeeping procedures to include the removal of waste materials.

**Excavations (Section 25.A).**

**NA.**

**\*\*\*Written Company plan and AHA required for excavations or trenches greater than 5 ft (1.5 m) in depth. For excavations or trenches less than 5 ft (1.5 m) in depth, An AHA is required but plan is optional.**

- Workers will not labor in excavations in which there is accumulated water or where water is accumulating until the water hazard is controlled.
- Shoring will be used for unstable soil or depths greater than 5' unless benching, lay-back, or another acceptable plan can be implemented.
- In excavations less than 20' in depth the maximum slope will be 34 degrees measured from horizontal (1 1/2' horizontal to 1' vertical).
- Excavations will not go below adjacent structures unless they are underpinned or determined safe by a registered professional engineer.
- Excavated material will be placed a minimum of 2' from the excavation's edge.
- Stairs, ramps, or ladders will be provided to workers who are required to enter excavations greater than 4' in depth. This equipment will be located so no more than 25' of lateral travel is required to escape the excavation.
- Ladders will extend 3' past the excavation's edge.
- Personal access ramps will be 4' wide with guardrails while equipment ramps will be 12' wide with curbs of 8" X 8" timbers or equivalent.
- Protection for excavations exposed to the public will meet guardrail requirements while protection against vehicles will be able to withstand the impact forces with traffic.
- Excavations 6' or more in depth, or where workers are routinely exposed to a hazard (impalement or hazardous material), will have a barricade no closer to the edge than 6' with a warning (tape, flags, act.) located 3-4' above the ground.
- Excavations less than 6' in depth will have a barricade no closer than 6"/no farther than 6'.

**Scaffolds (Section 21.J.01, 21.J.02 on page 509 and 22.A and 22.B).**  
**No written plan required (included as part of the Fall Protection Plan).**

**NA.**

- Scaffolds will be level and plumb and erected with base plates upon mudsills or other adequate foundation. Rolling scaffolds will have wheels locked and/or outriggers secured in place.
  - Work near overhead power lines will not commence until a survey is made to ascertain a safe clearance distance from the lines. Scaffolds will not be erected or used near power lines until the lines are insulated, de-energized, or rendered safe.
  - Scaffolds and their components will be capable of supporting four times the maximum anticipated load. If a scaffold's height is more than four times the minimum base dimension (to include the width added by outriggers) it will be secured to the wall or structure.
  - Guardrails will be installed on open sides and ends.
  - Platforms will be a minimum of 18" in width and extend over their end supports by at least 6" but no more than 12", unless cleated or restrained by hooks or equivalent means. Platforms will overlap over supports by a minimum of 12" unless nailed together or restrained from movement.
- 
- Platform area will be fully-planked with no greater than 1" gaps between adjacent platforms, and platforms and uprights.
  - Scaffold access will be from ladders (bottom rung no greater than 24" in height), stair towers, ramps, and walkways but not from cross-braces.
  - If a worker can fall 6' or more to a lower level they will be protected by a guardrail or a full-body harness with lifeline and anchorage point.

**Machinery/mechanized equipment (Section 18.G).**  
**No written plan required.**

**NA.**

- Before machinery and mechanized equipment is placed into service it will be inspected and certified as safe by a competent person.
- Front-end loaders, bulldozers, backhoes, cranes, and similar equipment will have at least one dry chemical or CO2 portable fire extinguisher on-board with a minimum rating of 5-B:C.
- Self-propelled construction equipment will have a reverse signal alarm.
- Belts, gears, chains, shafts, pulleys, drums, and other rotating and moving equipment parts will be guarded when exposed to contact by persons or when they otherwise create a hazard.
- Crane will operate at least 10' away from overhead power lines.
- An operating manual, log book, load chart, and document detailing operating limits in windy or cold weather conditions will be in the cab when the crane is operating.
- Crane will be within one degree of level and outriggers fully-extended when in use. Wheels will be off the ground at every setting.
- Crane outrigger floats will be securely attached. Float blocking will be of sufficient size and stability to support the total area. Blocking will not be performed under the outrigger beams.
- Crane's rear swing radius will be barricaded.
- Riding on or standing under loads is prohibited.

**Electrical (Section 11).**  
**No written plan required.**

**NA.**

- Electrical work shall be performed by Qualified Personnel with verifiable credentials.
- An AHA and written work procedures must be prepared for unusual or complicated work activities or any activity identified by the Qualified Person.
- Work activity adjacent to energized overhead power lines will not be initiated until a survey has been made to ascertain the safe clearance distance from the lines.

- Whenever possible, all circuits and equipment will be de-energized before work is started and personnel protected by lockout/tagout and clearance procedures, and grounding.
  - Live parts of wiring or equipment will be guarded.
  - Transformer banks and high-voltage equipment will be protected against unauthorized access and those entrances not under constant observation will be kept locked. Metallic enclosures will be grounded and signs warning of high voltage and prohibiting unauthorized entrance posted.
  - Flexible cords will be inspected by the user daily. Cord sets used on construction sites or in damp locations will contain an equipment ground wire and have a plug attached.
  - Flexible cords will be protected from damage caused by vehicles, foot traffic, sharp corners, and pinching. Cords passing through holes will be protected by suitable means.
  - Flexible cords will only be used in continuous lengths. Cords No. 12 or larger may be used with a splice if the splice is made by a qualified electrician, the insulation is equal to the cord being spliced, and the wire connections are soldered. No wire nuts will be used.
  - Flexible cords and cables will not be secured by staples or hung from nails or bare wire.
- 
- Enclosures containing over-current protective devices will be provided with lockable, close-fitting doors. Circuit-breakers, switches, fuse panels, and motor controllers located out-of-doors or in wet locations will be contained in weatherproof enclosures or cabinets. When receptacles are used in wet locations they will be contained in a weatherproof enclosure the integrity of which is not affected when a plug is inserted.
  - All electrical circuits will be grounded.
  - Portable and semi-portable electrical tools and equipment will be grounded by a multi-conductor cord having a polarized plug with a grounding conductor. Double-insulated tools do not have to be grounded.
  - Grounding rods with pipe electrodes will be used in 8' lengths and driven to full depth.
  - Temporary lights will not be suspended by their electric wire unless designed for suspension.
  - Bulbs attached to temporary lighting strings and extension cords will be protected by guards. Empty light sockets (broken bulbs, etc.) will be immediately filled.
  - All receptacle outlets that provide temporary electrical power during construction or demolition shall have GFCI protection.

## **APPENDIX X.**

### **RISK MANAGEMENT PROCESSES (AHA – ACTIVITY HAZARD ANALYSIS)**

#### **Required Enclosures:**

- 1. One completed AHA form for each phase of work / feature of work. Refer to AHA template and include the completed forms in Appendix X.**

# Activity Hazard Analysis Template

## How to use this document

**This first page is NOT to be included in the APP you're going to submit.  
PLEASE DELETE IT BEFORE PRINTING THE FILLED DOCUMENT**

### Directions:

Activity Hazard Analysis [AHA] is required for each definable feature of work (DFOW).

However, many if not all projects involve one or more of the following activities as part of one or more DFOWs.

### Work Activities:

- a. Mobilization / General Construction
- b. Demolition
- c. Scaffolding / Fall Protection
- d. Excavation / Trenching
- e. Electrical

Contractors are authorized to include the attached Generic AHAs relevant to each of the above said activities in their submittal and then incorporate them by reference in their DFOW AHAs rather than repeat this information.

NOTE: To use the Generic AHA you MUST complete the table at the following page (to be part of your submittal) and fill all blanks and areas denoted by the RED arrow in each generic AHA including checking the "Accepted as part of the APP" box at the bottom of the Generic AHA and completing the APP preparer signature box at the bottom right of each form. If any step or hazard reported in the AHA does not apply to your case it shall be deleted.

The AHAs corresponding to the activities checked as "No" or "N/A" must be removed from the submittal package;

You can fill the general data automatically, just highlighting the rows Contract No, Project Name, Location, Contractor, Date on the following page, right-clicking the mouse and clicking the command "update". It is sufficient to click print preview once inserted the requested data to populate the rest of the document.

The AHA shall be submitted in pdf format and incorporated as Appendix X of the ACCIDENT PREVENTION PLAN [APP].

The Generic AHAs are not a substitute for full compliance with EM 385-1-1 requirement but are intended only to highlight selection items.

## Activity Hazard Analysis

Contract No.: N33191-XX-X-XXXX

Project Name:

Location:

Date: MM/dd/yy

Contractor's competent / qualified person:

The following Generic AHAs are incorporated into the site specific AHAs.

Generic AHA used in this APP	Yes	No/NA
G1 - Mobilization / General Construction	x	
G2 - Demolition	x	
G3 - Scaffolding / Fall Protection	x	
G4 - Excavation / Trenching	x	
G5 - Electrical	x	

ACTIVITY HAZARD ANALYSIS		
ID No. G-1	FEATURE OF WORK: GENERIC AHA – Mobilization / General Construction Hazards	
Contract No. N33191-XX-X-XXXX	Project: Xxxx	Location: Xxxx, XXXX
Date: MM/dd/yy	Activity:	Estimated Start Date:
PRINCIPAL STEPS	POTENTIAL SAFETY / HEALTH HAZARDS	RECOMMENDED CONTROLS
General Safety Requirements during mobilization and in general construction projects.	<ol style="list-style-type: none"> <li>1. Exposure to Cold or Hot Weather</li> <li>2. Dehydration</li> <li>3. Illnesses from improper sanitation</li> <li>4. Injury from use of hand and power tools</li> <li>5. Slip, Trip, Fall hazards</li> <li>6. Back, shoulder, and other ergonomic injuries</li> <li>7. Struck by / Caught between hazards from heavy equipment operations.</li> <li>8. Injury from mines and unexploded ordnance.</li> </ol>	<p>1a. Minimum Personal Protective Equipment Dress:</p> <ul style="list-style-type: none"> <li>• Long Pants</li> <li>• Shirts with Sleeves</li> <li>• Hardhat</li> <li>• Covered Shoes (Steel Toe Preferred)</li> <li>• Safety Glasses (Potential Eye Hazard Areas)</li> <li>• Reflective Safety Vest if working around heavy equipment or on/near roadways.</li> </ul> <p>1b. Weather:</p> <ul style="list-style-type: none"> <li>• Wear appropriate clothing for hot or cold weather.</li> <li>• Sun block</li> <li>• Lip balm</li> </ul> <p>2. Dehydration:</p> <ul style="list-style-type: none"> <li>• Drink at least ½ liter of water an hour.</li> <li>• Refer to Company quick sheet, SOPs, plan, etc. for specific details on heat stress signs and symptoms.</li> </ul> <p>3. Provide approved potable water, toilet and hand washing facilities; food service, and waste disposal per EM 385-1-1 Section 2.</p> <p>4a. Use hand and power tools only if in good working condition and only for intended use. Inspect prior to each use.</p> <p>4b. Do not use any power tool that does not have the proper electrical grounding plug unless it is double insulated.</p> <p>4c. Provide proper guarding on all power tools – especially abrasive and grinding wheels.</p> <p>4d. Do not carry electrical power tools by the cord.</p> <p>4e. Provide all personal protective equipment necessary to control eye, face, head, body, and foot protection for the task.</p> <p>4f. Comply with other specific requirements of EM 385-1-1 Section 13.</p> <p>5a. Maintain housekeeping – maintain the work area free from debris such as board, blocks, rocks, etc. that might create a tripping hazard. (EM 385-1-1 Sec 14.C.)</p> <p>5b. Store all materials in a neat orderly manner. Do not stack beyond stable levels. (EM 385-1-1 Sec 14)</p> <p>5b. Provide adequate lighting for the work area – especially at night or during the day in areas without adequate natural light. (EM 385-1-1 Sec 7.A.)</p> <p>6a. Use proper lifting techniques for manual material handling.</p> <p>6b. Limit one man lifts to no more than 25 kg.</p> <p>7a. All vehicles and heavy equipment must be operated by qualified personnel and in accordance with manufacturer’s instructions.</p>

		<p>7b. Inspect all heavy equipment prior to use (EM 385-1-1 Sec 18.A.03)</p> <p>7c. Passengers must be seated and wearing seat belts during movement.</p> <p>7d. Backup alarms or ground guides must be used whenever backing where worker are present in the area.</p> <p>7e. Other provisions of EM 385-1-1 Section 18 must be followed.</p> <p>8a. Verify UXO clearance certificate in on file and to anticipated depth of construction for entire site area including lay-down yard.</p> <p>8b. Train all workers on 3Rs – Recognize, Retreat, Report for anticipated UXO. Use the clearance report to anticipate likely items to be found.</p> <p>8c. Train all workers in standard marking color code: White – safe, Blue – unexploded ordnance, Red – mines.</p> <p>All hazards – Post accident prevention signs, tags, labels, and signals at key points around project site in proximity to the hazard and at project entry of general site hazards. Conduct entry brief for all visitors to the site and provide all required PPE for safe entry.</p>
EQUIPMENT	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
Hand and power tools Heavy Equipment	Hand and power tools inspected prior to use and per manufacturer's specifications. Heavy equipment when brought on site and per EM 385-1-1 Sec 18.	Proper use of hand and power tools Heavy equipment operator training for specific type, make, model of equipment. Specialized training for equipment as required by manufacturer. UXO hazard recognition, retreat, and report for probable site munitions.
<p><b>Prepared by:</b> &lt;Xxx Xxxx, xxxx&gt; (Contractor's competent/qualified person signature)</p>		
<p><input checked="" type="checkbox"/> - AHA Accepted as part of project Accident Prevention Plan</p>		<p><b>Signature:</b> &lt;Xxxx&gt;</p> <p><b>Date:</b> MM/dd/yy</p>

ACTIVITY HAZARD ANALYSIS		
<b>ID No.</b> G-2	<b>FEATURE OF WORK: GENERIC AHA – Demolition</b>	
<b>Contract No.</b> N33191-XX-X-XXXX	<b>Project:</b> Xxxx	<b>Location:</b> Xxxx, XXXX
<b>Date:</b> MM/dd/yy	<b>Activity:</b>	<b>Estimated Start Date:</b>
PRINCIPAL STEPS	POTENTIAL SAFETY / HEALTH HAZARDS	RECOMMENDED CONTROLS
1. Planning	1. Lead or asbestos exposure 2. Unplanned structural failure 3. Unplanned hazards from existing utilities	1. Conduct a lead and asbestos survey of the facility to be demolished prior to the start of work. 2. Evaluate the structural integrity of the building and prepare a demolition plan (See EM 385-1-1 Sec 23.A.01). 3. Identify all electric, gas, water, steam, sewer, and other service lines.
2. Demolition	1. General construction hazards. 2. Lead or asbestos exposure . 3. Unplanned structural failure. 4. Hazards from existing utilities. 5. Hazards from debris removal.	1. Follow mobilization and general construction generic AHA requirements. 2. Conduct lead and asbestos abatement per approved plan. 3a. Follow approved demolition plan for sequencing demolition. 3b. Unless specified otherwise in the demolition plan demolition of floors and exterior walls begin at the top of the structure and proceed downward. 3c. Control hazards from fragmentation of glass. 3d. Do not use mechanical equipment on floors that have not been structurally evaluated to support the imposed load. 3e. Competent person will make continuing inspections to detect hazards from weakened or deteriorating floors, wall, or loosened material. If detected do not work in area until hazard abated by shoring, bracing, or other means. 4. Shutoff, cap, or otherwise control outside the building line all utilities identified in Step 1 – planning. 5a. Manage debris removal IAW EM 385-1-1 Sec 23.B with regards to chutes, 5b. Never allow a vertical wall section more than 6 ft in height to stand without lateral bracing. 5c. Control dust exposure by wetting or other means. If this is not practical then provide respiratory protection to workers. 5d. Mark and manage area around demolition site to control falling debris hazard. 5e. Comply with other provisions of EM 385-1-1 Section 23 relevant to site specific demolition hazards.
EQUIPMENT	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
Hand and Power tools. Sledge hammers, wrecking bars, and other demolition specific tools. Mechanical demolition equipment.	Inspect hand and power tools daily and per manufacturer's directions. Daily inspection of mechanical equipment per Sec 18 of EM 385-1-1.	Competent person training for demolition. Qualified operator training for all mechanical equipment.
<b>Prepared by:</b> <Xxx Xxxx, xxxx> (Contractor's competent/qualified person signature)		
<input checked="" type="checkbox"/> - AHA Accepted as part of project Accident Prevention Plan		<b>Signature:</b> <Xxxx>  <b>Date:</b> MM/dd/yy

ACTIVITY HAZARD ANALYSIS		
ID No. G-3	FEATURE OF WORK: GENERIC AHA – Scaffolding / Fall Protection	
Contract No. N33191-XX-X-XXXX	Project: Xxxx	Location: Xxxx, XXXX
Date: MM/dd/yy	Activity:	Estimated Start Date:
PRINCIPAL STEPS	POTENTIAL SAFETY / HEALTH HAZARDS	RECOMMENDED CONTROLS
1. Set-Up	1. Back Strain from uploading or moving scaffold components. 2. Lacerations on hands 3. Scaffold failure due to damaged scaffolding components. 4. Struck by mechanized equipment. 5. Loss of load. 6. Stuck by suspended loads or material. 7. Electrical Shock 8. Scaffold failure due to improper set-up	NOTE: All items hazards and controls in generic AHA G1: Mobilization and General Construction Safety apply to this activity.  1a. Utilize proper lifting techniques. 1b. Size up load before lifting. 1c. Ask for help when lifting heavy items more than 50 lbs.  2. Wear leather gloves.  3a. <b>INSPECT</b> all scaffolding components defects or damage such as cracks, excessive rust, metal fatigue, unauthorized repairs, bent tubing or frame, etc. <ul style="list-style-type: none"> <li>• Frames</li> <li>• Tubing</li> <li>• Base Plates</li> <li>• Locking Pins</li> <li>• Access Ladder</li> <li>• Planking (Wood or Metal)</li> <li>• Cross Braces</li> </ul> 3b. <b>REMOVE</b> damaged or defective scaffold components immediately. 3c. Attach tag or label <b>"DO NOT USE"</b> on scaffold component.  4a. <b>ALWAYS</b> maintain eye contact with operator of equipment. 4b. <b>NEVER</b> stand behind (Blind Spots) equipment. 4c. <b>NEVER</b> stand near unloading or moving of scaffold components. 4d. <b>ONLY</b> qualified operators shall operate equipment.  5a. Secure loads from displacement with ropes, cables, chains, etc. before movement. 5b. Ensure load to be lifted is secured, balanced, etc. 5c. Keep hands, fingers, or other body parts away from pinch points.  6a. <b>NEVER</b> stand underneath suspended loads. 6b. Use taglines to control loads when elevated.  7a. Check above for overhead power lines. 7b. <b>NEVER</b> erect scaffolding within 10 ft (3 m) of overhead power lines. Refer to EM 385-1-1, Table 11-1 for Minimum Clearance from Energized Overhead Electrical Lines 7c. <b>NEVER</b> string or hang temporary power cords, wires, etc. on metal scaffolding. <b>Consult with Safety Officer.</b>  8a. Inspect ground conditions (level and firm). 8b. Stable base is necessary for proper scaffold assembly. 8c. Scaffold shall be tied into structure when the scaffold height exceeds

		<p><b>four times</b> the minimum scaffold base dimension per EM 385-1-1, para 22.B.09</p> <p>Develop specific controls to eliminate or reduce each hazard to an acceptable level of risk.</p>
2. Assembly of Scaffolding	<p>1 Fall from Elevated Heights</p> <p>2. Scaffold Failure</p> <p>3. Back Strain</p> <p>4. Lacerations on hands</p>	<p>1a. 100 percent fall protection required during assembly.</p> <p>1b. Personnel shall not be exposed to unprotected sides or falls greater than 6 ft (1.8 m).</p> <p>1c. Scaffolding shall not exceed 14 inches (35.5 cm) from the planking to the face of the building or structure.</p> <p>1d. Scaffolding more than 14 inches (35.5 cm) from the planking to the face of the building or structure shall be guardrails and/or the use of personal fall protection.</p> <p>1e. Personnel shall be tied off to a vertical lifeline with a rope grab during assembly of scaffolding.</p> <p>1f. Vertical lifeline shall be secured to an anchor point of at least 5,000 lbs (2,267.9 kg) per individual.</p> <p>1g. Contact Safety Officer for additional guidance on fall protection requirements.</p> <p>2a. See diagram below and refer EM 385-1-1, Section 22 for specific requirements (i.e., toe boards, guard rails, safe access, etc.)</p> <p>2b. Scaffolding shall be assembled on mud sills and base plates.</p> <p>2c. Mud sills shall be at least 2 times the size of the base plates to disperse total weight of scaffolding.</p> <p>2d. Scaffolding shall be plumb and level.</p> <p>2e. Working levels shall be fully decked and/or planked.</p> <p>2f. Planking shall extend over the end supports not less than 6 in (30.4 cm),</p> <p>2g. Planking shall be secured, supported, or braced to prevent excessive spring or deflection and secured to prevent loosening, tipping, or displacement. Use of tie wire, cleats, etc. are options.</p> <p>2h. Planking shall overlapped at least 12 inches (30.4 cm) or secured from movement.</p> <p>2i. Scaffold shall be capable of supporting without failure at least 4 times the maximum anticipated loads.</p> <p>2j. Scaffolding shall be all required cross, horizontal, or diagonal braces to secure vertical members laterally.</p> <p>2k. Scaffolding shall be rigid.</p> <p>3a. Utilize proper lifting techniques.</p> <p>3b. Size up load before lifting.</p> <p>3c. Ask for help when lifting heavy items more than 50 lbs.</p> <p>4. Wear leather gloves.</p>
3. Use of Scaffolding	<p>Scaffold Failure</p> <p>Falls from Heights</p> <p>Slips, Trips, or Fall</p>	<p>1a. <b>DO NOT</b> overload more than 4 times the maximum load rating.</p> <p>1b. <b>DO NOT</b> attached hoists or other material lifting devices without Safety Officer approval.</p> <p>1c. Scaffolding shall be tied into building whenever height of the scaffold exceeds 4 times the minimal base. Refer to EM 385-1-1, para 22.B.09 for additional guidance.</p> <p>1d. Scaffold usage shall cease during high winds or severe inclement weather conditions.</p> <p>2a. Guardrails shall be used as primary fall protection. Guard rails shall installed IAW EM 385-1-1, para 21.B.02.</p> <p>2b. Securing of personal fall protection devices to scaffolding is prohibited.</p> <p>2c. Personnel shall have fall protection whenever above 6 ft (1.8 m).</p> <p>2d. Climbing of braces or cross bracing is prohibited.</p> <p>2e. Safe access (ladder) shall be provided.</p> <p>2f. Personnel shall not stand on mid rails.</p>

		<p>2g. Ladders shall extend at least 3 ft (0.9 m) past the work area.</p> <p>3. Walking surfaces on and around scaffolding shall be clear of debris.</p>
4. Disassembling of Scaffolding	<p>1 Fall from Elevated Heights</p> <p>2. Back Strain</p> <p>3. Lacerations on hands</p>	<p>1a. 100 percent fall protection required during disassembly.</p> <p>1b. Personnel shall not be exposed to unprotected sides or falls greater than 6 ft (1.8 m).</p> <p>1c. Personnel shall be tied off to a vertical lifeline with a rope grab during assembly of scaffolding.</p> <p>1d. Vertical lifeline shall be secured to an anchor point of at least 5,000 lbs (2,267.9 kg) per individual.</p> <p>1e. Contact Safety Officer for additional guidance on fall protection requirements.</p> <p>2a. Utilize proper lifting techniques.</p> <p>2b. Size up load before lifting.</p> <p>2c. Ask for help when lifting heavy items more than 50 lbs.</p> <p>3. Wear leather gloves.</p>
<b>EQUIPMENT</b>	<b>INSPECTION</b>	<b>TRAINING REQUIREMENTS</b>
<p>Scaffold components</p> <p>Hammers</p> <p>Mud sills</p> <p>Full body harness</p> <p>Lanyard</p> <p>Lifeline</p> <p>Fall protection anchor points</p> <p>Float</p>	<p>Inspect scaffold components prior to use</p> <p>Inspect scaffold daily (Use Checklist)</p> <p>Inspect level and plumb of scaffoldings during erection and daily when in use.</p> <p>Daily Housekeeping of work areas and scaffolding</p>	<p>Competent Person qualification</p> <p>Scaffold Assembly</p> <p>Fall Protection</p> <p>Inspection of Work Platforms</p>
<p><b>Prepared by:</b> &lt;Xxx Xxxx, xxxx&gt; (Contractor's competent/qualified person signature)</p>		
<p><input checked="" type="checkbox"/> - AHA Accepted as part of project Accident Prevention Plan</p>		<p><b>Signature:</b> &lt;Xxxx&gt;</p> <p><b>Date:</b> MM/dd/yy</p>

ACTIVITY HAZARD ANALYSIS		
ID No. G-4	FEATURE OF WORK: GENERIC AHA – Excavation / Trenching	
Contract No. N33191-XX-X-XXXX	Project: Xxxx	Location: Xxxx, XXXX
Date: MM/dd/yy	Activity:	Estimated Start Date:
PRINCIPAL STEPS	POTENTIAL SAFETY / HEALTH HAZARDS	RECOMMENDED CONTROLS
1. Prepare excavation / trench work area.	<ol style="list-style-type: none"> <li>1. Struck by traffic in area.</li> <li>2. Struck by / caught between heavy equipment.</li> <li>3. UXO hazard.</li> </ol>	<p>NOTE: All items hazards and controls in generic AHA G1: Mobilization and General Construction Safety apply to this activity.</p> <ol style="list-style-type: none"> <li>1a. Develop a traffic control plan for the work areas to keep traffic back from the planned excavation edge and work area.</li> <li>1b. Wear proper reflective vest type for traffic.</li> <li>1c. Use proper class perimeter protection (EM 385-1-1 pgs Q55-56 / Sec 25.B.)</li> <li>2a. Plan for equipment laydown and operating area in traffic control plan.</li> <li>2b. Perform initial and routine equipment inspections.</li> <li>2c. Use ground guides in close proximity areas – no exceptions.</li> <li>3. Verify UXO clearance certificate against work area location.</li> </ol>
2. Open excavation / trench.	<ol style="list-style-type: none"> <li>1. Struck by/ caught between traffic and heavy equipment.</li> <li>2. UXO hazard.</li> <li>3. Contact with buried utility lines (electrical, gas, etc.)</li> <li>4. Cave in / Collapse.</li> </ol>	<ol style="list-style-type: none"> <li>1. Same as step 1 and 2 above controls.</li> <li>2. Same as 3 above – plus regularly inspect dig for signs of buried UXO.</li> <li>3a. Pre-locate all buried utilities.</li> <li>3b. Observe for marking / signs of buried utilities during dig – barriers, warning tape, etc.</li> <li>4a. Prepare excavation plan for all excavations over 5 ft (1.5m) in depth. Optional for excavations less than 5 ft – AHA is acceptable. (EM 385-1-1 Sec 25.A.01)</li> <li>4b. Identify a Competent person for the planning and work.</li> <li>4c. Evaluate soil type at all planned excavation depths.</li> <li>4d. Design a protective system (e.g. Bench, slope, or shore) for the excavation per the soil type and other site conditions.</li> <li>4e. Remove all overburden from edge of trench at least 2 ft.</li> <li>4f. Protect the stability of adjacent structures including buildings, roadways, etc.</li> <li>4g. Protect the excavation from water entry</li> <li>4h. Do not work in excavations where there is standing water.</li> <li>4i. Provide safe access to and from the excavation – ramps, stairs, ladders.</li> <li>4j. When persons will be in or around an excavation, a Competent Person shall inspect the excavation, the adjacent areas, and protective systems daily: before each work shift; throughout the work shifts as dictated by the work being done; after every rainstorm; after other events that could increase hazards, e.g., snowstorm, windstorm, thaw, earthquake, etc.; when fissures, tension cracks, sloughing, undercutting, water seepage, bulging at the bottom or other similar conditions occur; when there is a change in size, location or placement of the spoil pile; and where there is any indication or change in adjacent structures. (EM 385-1-1 Sec 25.A.02)</li> </ol>

3. Work in/around excavation/ trench.	1. Cave in / Collapse. 2. Fall from excavation / trench edge. 3. Inability to egress especially in an emergency. 4. Changes in soil conditions / atmospheric conditions in trench (confined space hazards). 5. Traffic hazards.	1, 2, 3, and 4 – same controls as Step 2 above.
4. Close excavation / trench.	1. Struck by/ caught between heavy equipment. 2. Cave in / Collapse. 3. Traffic hazard.	All controls outlined in steps 1, 2, and 3 above. All excavation hazards exist and must be controlled until the excavation is properly closed..
<b>EQUIPMENT</b>	<b>INSPECTION REQUIREMENTS</b>	<b>TRAINING REQUIREMENTS</b>
Hand shovels and tools Excavation equipment	Tool inspections Equipment Inspections Daily plus excavation inspection	Competent person qualification training (EM 385-1-1 Sec 25.A.02.b) Equipment operator training.
<b>Prepared by:</b> <Xxx Xxxx, xxxx> (Contractor's competent/qualified person signature)		
<input checked="" type="checkbox"/> - AHA Accepted as part of project Accident Prevention Plan		<b>Signature:</b> <Xxxx>
		<b>Date:</b> MM/dd/yy

ACTIVITY HAZARD ANALYSIS		
ID No. G-5	FEATURE OF WORK: GENERIC AHA – Electrical	
Contract No. N33191-XX-X-XXXX	Project: Xxxx	Location: Xxxx, XXXX
Date: MM/dd/yy	Activity:	Estimated Start Date:
PRINCIPAL STEPS	POTENTIAL SAFETY / HEALTH HAZARDS	RECOMMENDED CONTROLS
1. Provide temporary power to the construction project and potentially the building occupants.	1. Falls 2. Electrocution	<p>NOTE: All items hazards and controls in generic AHA G1: Mobilization and General Construction Safety apply to this activity.</p> <p>1a. Provide safe work platform and access to all work areas (see generic AHA G3 – scaffolding/fall protection). 1b. Protect all openings in work surfaces from falls. 1c. Do not use drums or other unstable objects as work platforms.</p> <p>2a. Use only qualified person, electrical (EM 385-1-1, App Q) to perform all electrical work. 2b. Use only CE or UL approved wiring and equipment. 2c. All work must comply with NEC or CE code requirements. 2d. Insure that before work is begun the circuit is de-energized and free from stored energy. Comply with the specific requirements in EM 385-1-1 (e.g. Lockout/Tagout – Control of Hazardous Energy – Sec 12 and 11.A.02 – Isolation) 2e. Provide temporary power from a properly grounded source through a 10mA GFCI protected weatherproof panel. 2f. Protect all circuits from overload by circuit breakers or other approved overload protection methods. 2g. Maintain ground throughout the temporary power circuit to portable hand tools, and other equipment unless the tool is double insulated and marked as such. 2h. Comply with all other provisions of EM 385-1-1 Section 11 (e.g. 11.E temporary wiring and lighting – sketch of plan, testing, clearance, wet locations, etc.)</p>
2. Remove / de-commission existing wiring and electrical equipment.	1. Falls 2. Electrocution	<p>All controls listed in Step 1 apply to this step also.</p> <p>1a. Provide safe work platform and access to all work areas (see generic AHA G3 – scaffolding/fall protection). 1b. Protect all openings in work surfaces from falls. 1c. Do not use drums or other unstable objects as work platforms.</p> <p>2a. All controls identified above – plus: 2b. Control of Hazardous energy – Lock Out / Tag Out. Due to potential for poor understanding of existing wiring service special care must be used to test all circuits prior to removal / de-commissioning. 2c. Warning: stored energy in capacitors and other electrical equipment can present an electrocution hazard even after it is disconnect from a power supply. Stored energy must be dissipated prior to handling.</p>
3. Install new wiring and electrical equipment	1. Falls 2. Electrocution	<p>All controls listed in Step 1 apply to this step also.</p> <p>1a. Provide safe work platform and access to all work areas (see generic AHA G3 – scaffolding/fall protection). 1b. Protect all openings in work surfaces from falls. 1c. Do not use drums or other unstable objects as work platforms.</p>

		<p>2a. All controls identified above – plus:</p> <p>2b. Exercise special care to identify energized temporary electrical wiring from non-energized new wiring.</p> <p>2c. Do not use permanent wiring to provide temporary power without specific plan for identifying energized circuits.</p>
<p>4. Remove temporary power and energize permanent system.</p>	<p>1. Falls</p> <p>2. Electrocution</p>	<p>All controls listed in Step 1 apply to this step also.</p> <p>1a. Provide safe work platform and access to all work areas (see generic AHA G3 – scaffolding/fall protection).</p> <p>1b. Protect all openings in work surfaces from falls.</p> <p>1c. Do not use drums or other unstable objects as work platforms.</p> <p>2a. All controls identified above – plus:</p> <p>2b. De-energize all temporary power</p>
<b>EQUIPMENT</b>	<b>INSPECTION REQUIREMENTS</b>	<b>TRAINING REQUIREMENTS</b>
<p>Hand and power tools</p> <p>Specialized electrical tools and equipment</p>	<p>Tool and equipment inspections</p> <p>Lock-Out / Tag-Out inspections for stored energy</p>	<p>Competent person training and qualification</p>
<p><b>Prepared by:</b> &lt;Xxx Xxxx, xxxx&gt; (Contractor's competent/qualified person signature)</p>		
<p><input checked="" type="checkbox"/> - AHA Accepted as part of project Accident Prevention Plan</p>		<p><b>Signature:</b> &lt;Xxxx&gt;</p> <p><b>Date:</b> MM/dd/yy</p>

# ANNEX 2

## **Annex 2: Guideline to Prepare the Quality Control Plan**

Immediately after award, the contractor shall prepare a Quality Control Plan following the guideline and format provided in this Annex 2. This is in addition to any quality control plan or documentation that may be required by Moldovan regulations for this type of construction activity. The Plan shall be accepted by the Contracting Officer before works are authorized to start at the job site.

**[Project Title]**  
**[Contract Number]**

## **QUALITY CONTROL PLAN**

The purpose of this paper is to illustrate how our site organization, our staff and our procedures will help ensure the quality required by the technical requirements.

### **SITE ADMINISTRATION**

[Describe how to carry out all formalities required by local law to open and run the worksite]

### **SITE FACILITIES**

[Describe how the specific worksite is going to be delimited and organized]

### **STAFF SITE**

[List the roles and relevant names of the staff to be employed on the worksite; provide a short description if necessary]

### **CONTROL ORGANIZATION**

[Detail how it will work; who does what]

### **TESTING**

[Describe how tests of soil and concrete will be conducted]

### **CHECKING THE QUALITY OF THE WORKS**

[Describe]

### **CONTROL OF MATERIALS**

[Describe]

### **GENERAL CONSTRUCTION CONTROL ACTIVITIES**

[Describe]

### **SAFETY ON SITE**

[Describe]

**-x-x-x-x- End of Document -x-x-x-x-**