



# **EUCOM Humanitarian Assistance Program**

## **Renovations to School#02 Starychi - Ukraine**

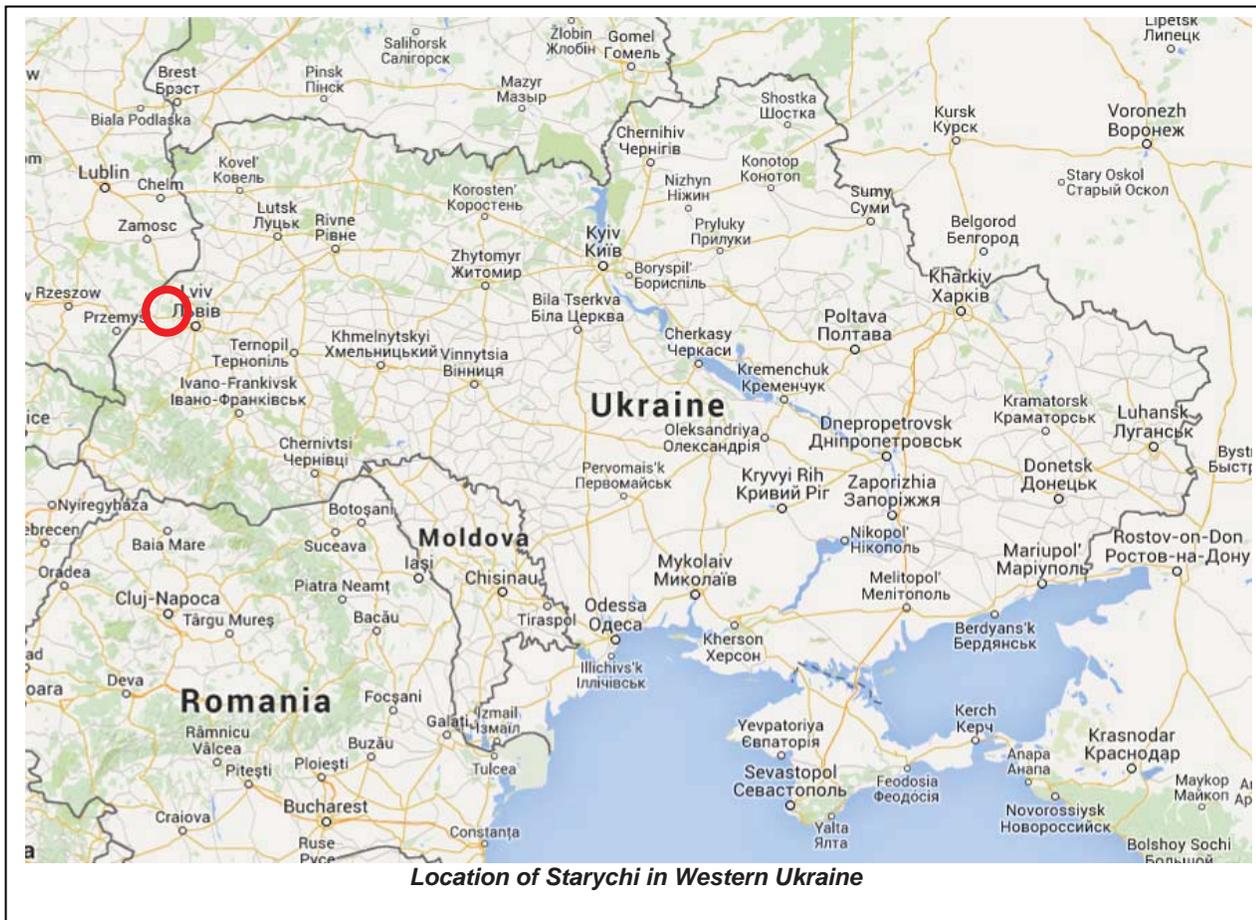
Starychi, Lviv Oblast, Ukraine  
OHASIS UP-HA-2015-00026245

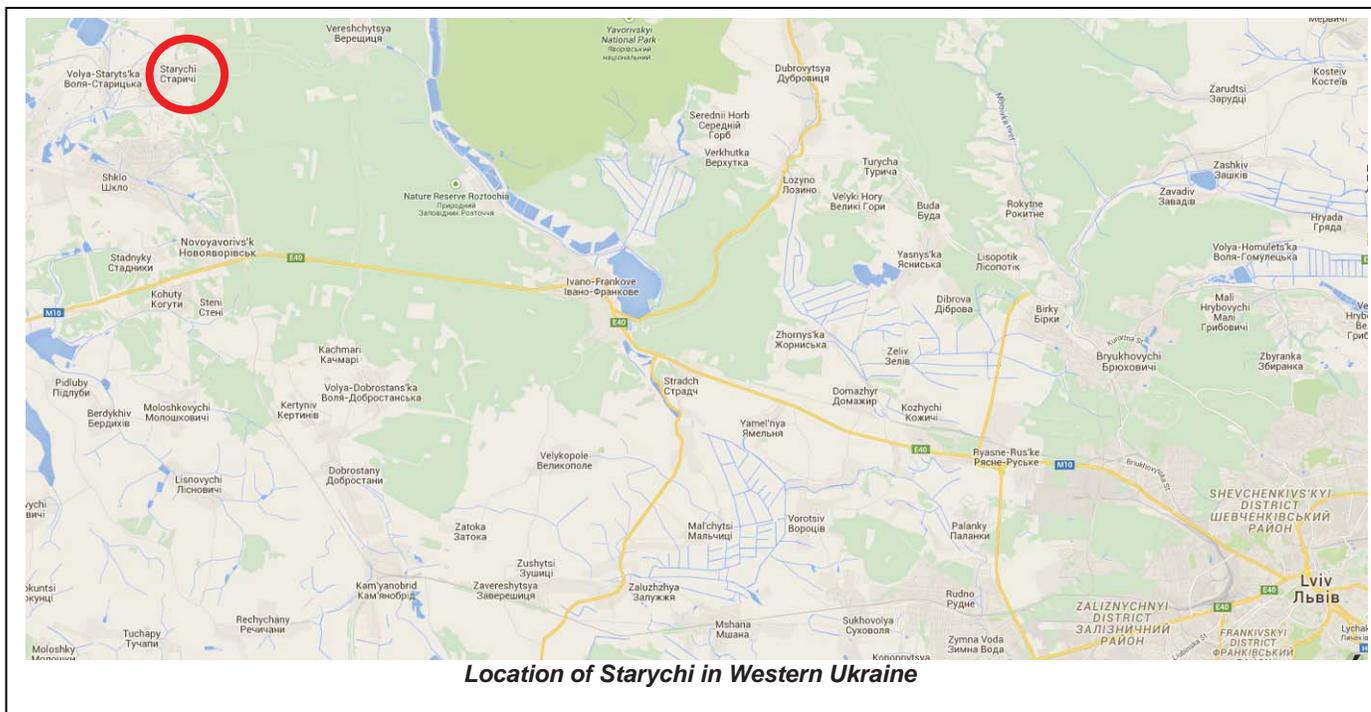
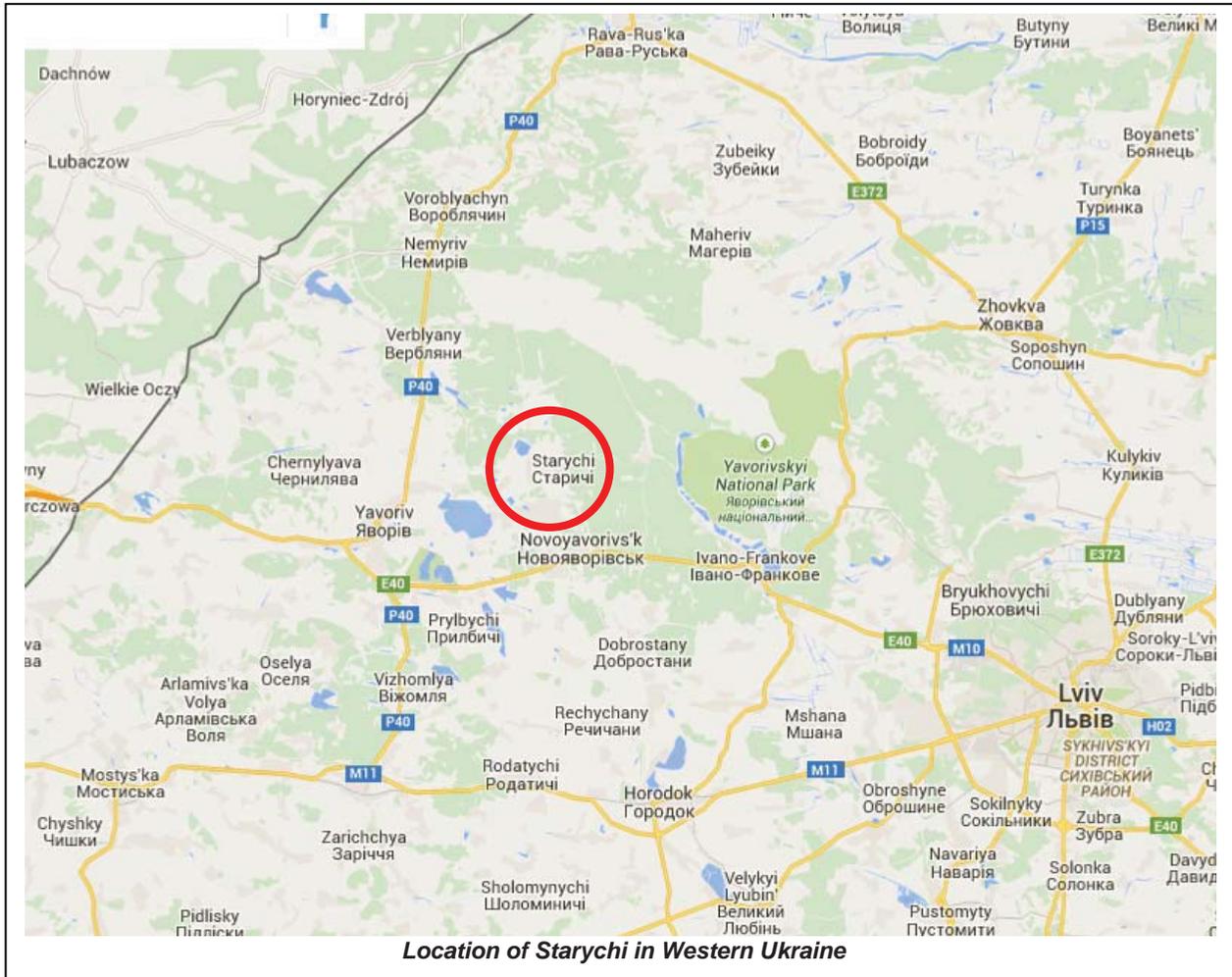
**Aug 2015**

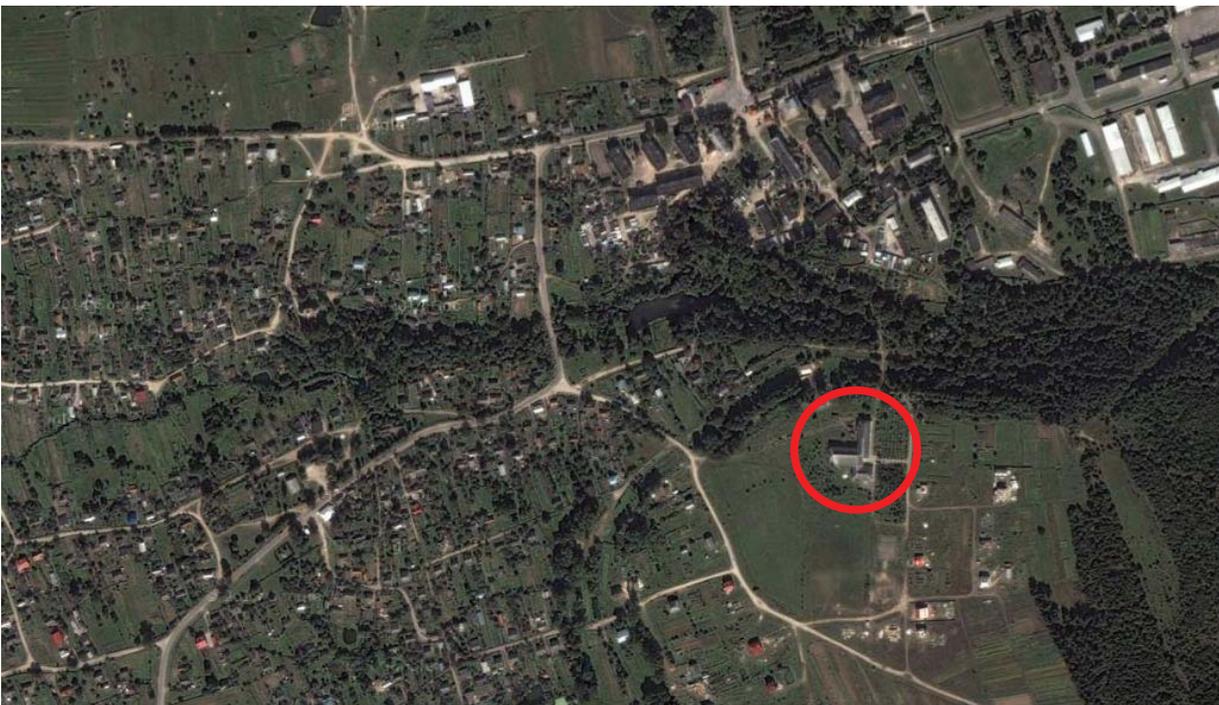
# 1. PROJECT DESCRIPTION

## 1.1. GENERAL

Provide all material, equipment and labor to renovate School#02 in Starychi, as identified herein. The school is located in the village of Starychi, in Lviv Oblast, Ukraine.







*Location of Starychi School*



*Aerial view of the school*

## 1.2. GENERAL SCOPE OF WORK

The work is divided into a BASE-BID and 2 CONTRACT OPTIONS. The Government reserves the right to unilaterally award, or not to award, one or both of the contract options. The contractor will provide separate pricing for the Base-Bid and the 2 contract options as required in the solicitation documents.

### Base Bid:

- Thermal Façade
- New entrance/ramp/canopy
- Replacement of wooden windows
- Replacement of wooden exterior doors
- Complete renovation of 3 groups of bathrooms
- Commemorative plaque

### Option-1:

- Complete renovation of locker rooms and connecting hallway
- New basketball boards
- New lighting system for main gymnasium room

### Option-2:

- Complete renovation of hand washing area

There are several pictures in this document to explain the scope of work. These pictures were taken in March 2015 and they may not represent the building condition at the time to submit the offers. It is absolutely necessary for the contractor to visit the site in order to verify existing conditions and quantify the amount of work, immediately prior to the submission of their offers to the Contracting Officer. These Performance Technical Specifications (PTS) do not include measurement, or any measurement included of field conditions shall be confirmed and verified by the contractor. The US Government is not responsible for any mistakes or omissions that the contractor may have made during preparation of their offers.

## 2. DETAILED SCOPE OF WORK (BASE BID)

This portion of the contract described in paragraph 2 and all its subparagraphs corresponds to the minimum portion of the contract that will be awarded to the successful offeror.

### 2.1 THERMAL FAÇADE SYSTEM (10 cm)

Contractor shall provide a new thermal façade system on all exterior surfaces of the building. This includes all vertical masonry sections of the exterior enclosure of the building, and it does not include wooden vertical sections of the exterior enclosure which are integral part of the roofing system.

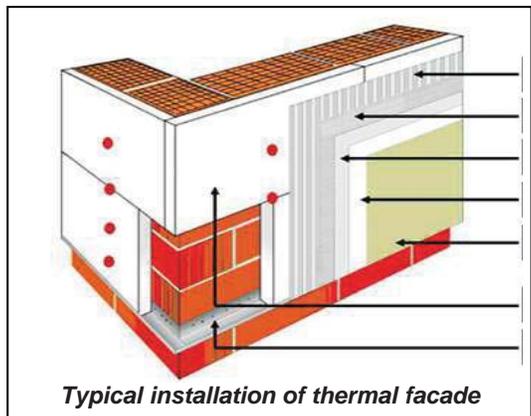
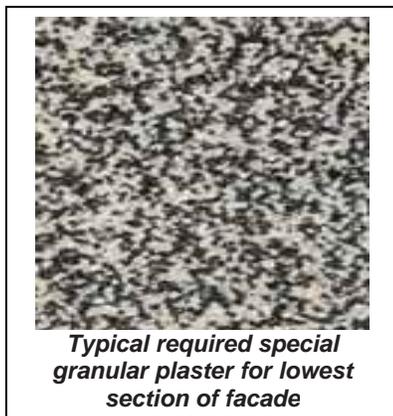
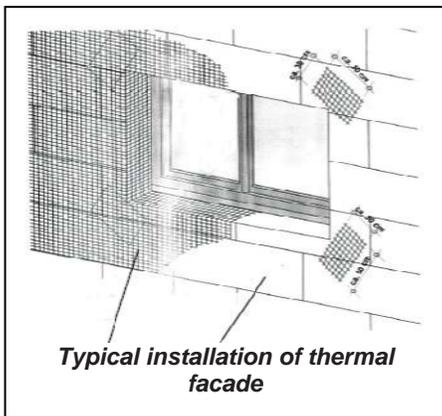
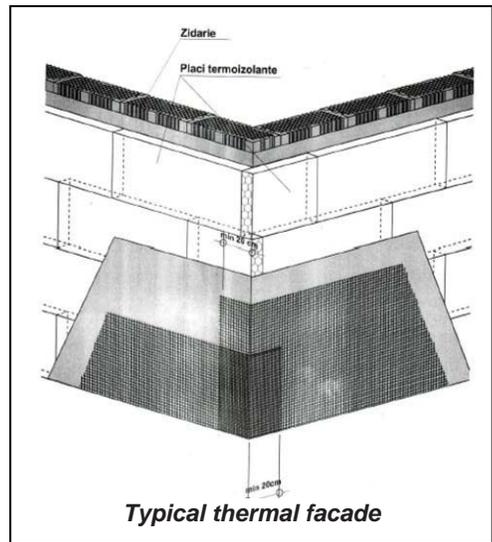
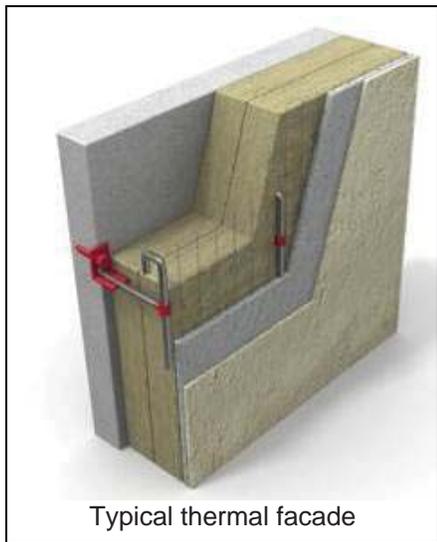
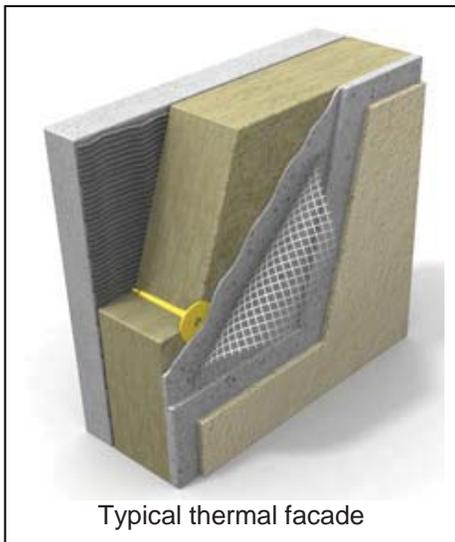
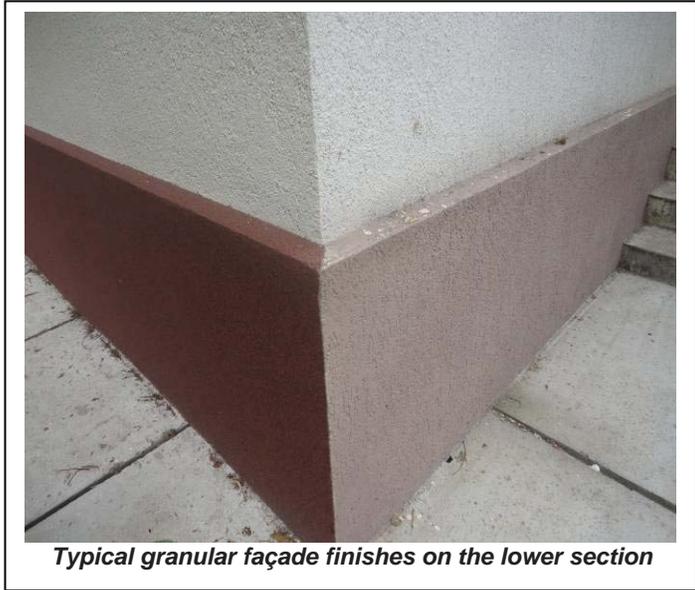
This is a design-build contract and therefore the contractor shall be responsible for the design and for the execution of the works.

Façade Design: The contractor shall provide a façade design (Façade Passport), signed and certified by a licensed architect in Ukraine, to be accepted by the Contracting Officer Representative and approved by the competent Ukrainian authorities after coordination of the design with the beneficiary. This design shall include as a minimum:

- Typical section of thermal façade system
- Special cover of the lowest section of thermal facade
- Color and finishes or “façade passport” with the new proposed finishes. Provide pattern and color as approved by competent local authorities and after coordination with beneficiary. The contractor’s architect shall provide several designs for the exterior appearance of the façade for the approval of the competent Ukrainian authorities. The design shall consist of a maximum of combination of 3 colors, in addition to the different finishes required for the lowest section of the façade.
- Details of finishes of the thermal façade system in the top and bottom.
- Details for special finishes and reinforcements in the corners and around the windows and doors.

The new thermal façade system shall include, but shall not be limited to:

- Repair all façade defects, by removing loose pieces of plaster, ceramic tiles, bricks, and providing leveling mortar as needed for the new thermal façade system. Correct any exposed reinforcing steel by epoxy based product, specifically designed for that purpose.
- Provide thermal insulation panels, minimum of 10 cm thickness, properly attached to the existing repaired and leveled façade, in accordance with manufacturer's recommendations. Follow Ukrainian Fire Code. There has been a recent change in Ukrainian regulations regarding the type of materials authorized for thermal insulation on school facades. The use of Styrofoam may not be allowed in some (or in all) locations. The contractor shall consult the latest Ukrainian regulations prior to submission of their bids. Only materials and installations in accordance with Ukrainian regulations in effect at the time of submission of the offers shall be authorized.
- Window adjustment and sills. All wooden windows shall be replaced as part of this contract. New windows are described in separate paragraph. Once the project is completed, all exterior windows shall have the same appearance with the exterior sills properly adjusted to the new thickness of the facade. This means that the contractor may have to remove, modify and reinstall some of the windows recently replaced by the school. The exterior window sill shall be similar for all windows: the existing windows to remain and the new windows to be installed as part of this contract.
- Protective plaster. There are several systems available in the market to cover the thermal insulation. The contractor shall apply over the rigid thermal insulation a protective plaster, designed to resist impact. Minimum of 1 cm thickness. This may require double netting prior to the application of the final coat of plaster. Apply in accordance with manufacturer's recommendations.
- The lowest section of the façade, currently with plastered finish shall be provided with a different cover over the thermal insulation. The height of this lowest section varies in different areas of the school building. For estimating purposes, the contractor shall estimate that this height shall be 2 meters high. This lowest section shall be provided with new perfectly leveled plaster with granular finish, or covered with new homogeneous ceramic tiles, recommended by the manufacturer for exterior façade application or covered by other approved bricks or tiles designed for exterior façade use. All products to be approved by the Contracting Officer Representative.
- Paint thermal façade system with 3 coats of paint rated for exterior use and recommended by the manufacturer of the thermal façade system.
- Final certificate: Once the thermal façade is complete, the contractor shall provide a copy of a certificate from the architect certifying that the thermal façade has been properly installed in accordance with their recommendations. Payment for thermal façade shall not be authorized until the contractor provides such certificate.



### **2.1.1 Façade Installations, Extensions and Other Exterior Surfaces**

The contractor shall be responsible to reroute, remove and reinstall any of the accessories or installations that are currently anchored or supported by the existing façade which are to remain, including electrical poles, electric cables, road signs, building sign, electrical conduits, security cameras, water pipes, telephone cables, gas pipes, and any other installation that may exist on the façade to be provided with new thermal insulation and new finishes. All works to be done in compliance with Ukrainian regulations and with approval or permit of the owner, in case it is owned by a third party. For example: if the electrical cable is owned by the electrical utility company, the contractor shall obtain the approval, or the assistance of the electrical company to remove and reinstall this cable. The contractor is responsible for all coordination and for all costs associated with this necessary work.

Those installations on the façade that are not be reutilized shall be removed and disposed of by the contractor.

The building façade has several extensions which were designed for ventilation of the basement. These elements shall be considered an integral part of the building façade and therefore they are part of this contract. The contractor's architect shall provide a technical solution for these constructions, in coordination with the finishes of the new thermal façade system. Obviously, these additions would not require thermal insulation, but they need to be provided with similar finishes to those of the new façade system. The contractor's architect can propose to remove them if adequate basement ventilation exists, or demolish and rebuild, or substitute by other ventilation method.

Other ventilation grilles or louvers which are currently on the building façade shall be removed and replaced with new heavy-duty aluminum louvers. Heavy duty means that the thickness of any metal part shall not be less than 1 mm.

It is the intent of this contract, and it is the scope of work of this contract, to provide the building with the exterior appearance of a new school building. For that reason, the contract includes the repairs of other exterior surfaces, which require repairs, but which do not require thermal insulation. The limits of the exterior façade works extend beyond the exterior enclosure, and it includes all masonry structures attached to the building which are an integral part of the building. This includes the landing platforms, the entrances to the basement and other exterior sections of the building. These are defined in the pictures included at the end of paragraph 2.1 and all its subparagraphs. All these surfaces shall be provided with finishes coordinated with the finishes of the new thermal façade system.

### 2.1.2 Existing exterior roof work: gutters, downspouts and wooden eaves.

Our project does not include any work in the new roofing system, but includes some works related with the roof. Our project does not include any management or handling of any asbestos containing material or any repairs to the existing roof. If due to the scope of work of this contract, our contractor feels that they need to manage, dispose of, alter, touch or in any other way they feel that they need to work with any asbestos containing material, they shall NOT do so, and shall immediately notify the Contracting Officer.

**Wooden eaves:** The contract includes repairing the wooden eave, by replacing any rotten, broken or damaged pieces; and painting the entire eave (including the existing to remain and the repaired sections) with color to be coordinated with the new façade finishes. The new thermal façade shall finish at the roofing sheets or at the wooden eaves as designed by the contractor's architect. The façade shall be properly sealed at the top of the façade at the intersection with the repaired wooden eave or with the roofing sheets. The design and the repairs of the wooden eaves shall not allow for any birds to enter the area under the roof at the intersection between the façade and the roofing system. However, openings shall be provided for adequate ventilation, with adequate protection to avoid birds from entering the attic spaces.

**Gutters:** Repair the gutters. The contract includes cleaning and repairing the existing gutters at their current locations. Any rusted section shall be replaced with new ones. The contract does not include providing new gutters where there are currently none.

**Downspouts:** Remove, repair as necessary and reinstall the existing downspouts. It will be necessary to remove the downspouts in order to install the new thermal façade system. The contractor shall remove the existing downspouts, and shall repair them as necessary and reinstall them over the new thermal façade system reuse the existing downspouts that they will remove, if and only if, they are properly designed for the intended use due to the new thicker façade. Any defective section of downspout shall be replaced with new ones, using similar materials.

### 2.1.3 Exterior Lighting

Replace all exterior lighting attached to the building exterior with new LED floodlights with minimum 20 Watts, rated for exterior use and provided with motion and light sensors. The contract includes replacing the existing original lights and providing two additional ones under the new canopy to be provided at the main entrance. This means that if there are 8 exterior operational lights, 2 non-operational lights and evidence of 5 exterior lights that are no longer existing, the contractor shall provide a total of 17 new lighting fixtures. All perfectly operational, for which the contractor may have to replace cabling and switches.



### 2.1.4 Sidewalks around the School Building.

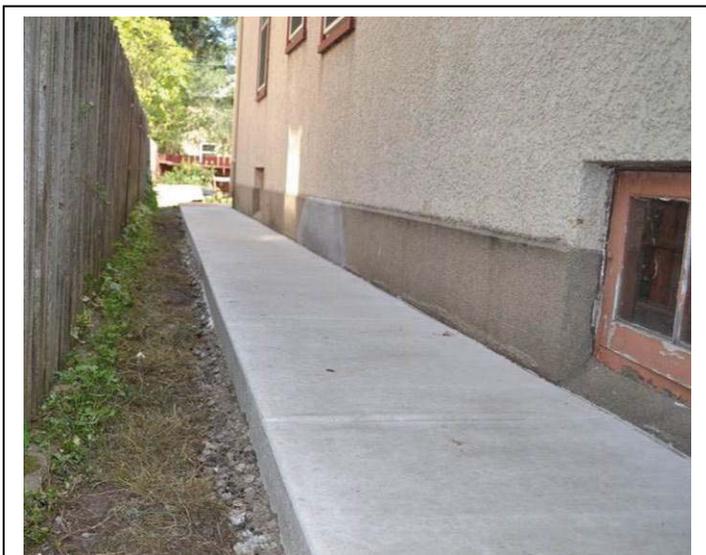
Length: 50% of the school perimeter (for estimating purposes)

It is necessary to have a firm and sound concrete sidewalk around the school building, in order to provide a perfect finish and seal of the new thermal façade system at the lowest section. It is also necessary to have a sidewalk to divert surface water away from the building, to minimize water infiltration into the basement.

In some areas the school building already has these necessary firm and sound sidewalks. However, in other areas the school does not have the necessary sidewalks, or these are not in acceptable conditions. This contract is a design-build, and the contractor needs to design the new required sidewalks. For the reason previously explained, the contractor shall estimate and include in their design new sidewalks for 50% of the school perimeter. If for example the perimeter of the school building was 250 meters, this means that the contractor shall have to design and build 125 linear meters of sidewalks.

The contractor shall provide a concrete sidewalk with the following characteristics:

- 1 meter wide reinforced concrete sidewalk around 50% of the perimeter of the school.
- Excavate and remove existing materials to a minimum depth of 30 cm. Compact subgrade and fill with crushed well graded aggregate compacted to 98% prior to new reinforced concrete sidewalk.
- Concrete sidewalk shall be 12 cm thickness
- With minimum of 2% slope away from the building façade.
- Provided with proper expansion and construction joints to avoid cracking of the concrete.
- Finished surface of the sidewalks shall be minimum 8 cm higher than surrounding grade elevation for adequate drainage.
- Finished surface of the sidewalk shall be exposed concrete. Tiles are not required.



*Recently installed sidewalk in one NAVFAC contract*



*Concrete sidewalk after pouring concrete.*

### 2.1.5 Canopies

The school has canopies along long sections of the façade with potentially asbestos containing corrugated roof sheets. These materials that could contain asbestos shall be removed by the Municipality after notification by the contractor with minimum of 2 weeks advance notice. Our project does not include any management or handling of any material potentially containing asbestos. If due to the scope of work of this contract, our contractor feels that they need to manage, dispose of, alter, touch or in any other way they feel that they need to work with any asbestos containing material, they shall NOT do so, and shall immediately notify the Contracting Officer.

All these structures shall be replaced with new ones as noted below:

- Coordinate the removal of any material potentially containing materials with Municipality and/or School Director.
- Remove all wooden materials.
- Provide a new design for the new required canopies, to replace the existing ones. New canopies to have same dimensions as the existing ones to be removed. Design to be signed and certified by Ukrainian licensed architect preparing the design for the thermal façade.
- Reinforce, repair or substitute all metal pieces of the structure, as designed by the contractor's architect, for the new canopies to be able to support the design loads of wind and snow, and to provide the finishes of a completely new exterior canopy, in coordination with the finishes of the new thermal façade. This section includes the repair, replacement or substitution of all railings. All structure to have the appearance of new work.
- Provide new preformed metal roofing panels. Metal panels shall be galvanized steel with a minimum thickness of 0.53 mm, and coated with Polyester, High Build Polyester or Matt Polyester (HBP/PE/MPE). All panels to be formed at the manufacturing plant. 5-7 kilograms per m<sup>2</sup>. Color and pattern to be coordinated with façade finishes.
- Provide roof sheets with proper joint between the preformed metal roofing and the façade by means of metal flashing embedded into the thermal façade.
- Provide gutters and/or downspouts only when people would regularly walk under the lowest section of the roof sheets.

### 2.1.6 Façade Pictures

The following pictures show the condition of the façade, with some explanation of the required scope of work on the exterior of the building. These pictures were taken on March 2015 and therefore there is no guarantee that they represent the condition of the facility at the time to submit the offer. The contractor is responsible to visit the site prior to submission of their offer. All descriptions in the pictures are requirements of the contract, although all the requirements of the contract are not described in the pictures.



*Façade canopies to be removed and replaced with new ones, reutilizing the metal structure to the maximum extend recommended by the architect. Once completed the entire exterior of the building, including the façade and the canopies as an integral item of work, shall have the appearance of a new building.*



*General view of the façade. Entrance step to be described in the next paragraph.*



*Detail of downspout to be removed and replaced as required by the architect's design of the façade.*



*Replace railing along the supports of the façade canopies with new metal ones in coordination with the design of the façade. Example of façade installation (grounding) to be reinstalled (and tested if required by regulations) in coordination with the design of the new façade.*



*Typical example of the lowest section of the existing façade where a new concrete sidewalk should not be required.*



*Typical example of the lowest section of the existing façade where a new concrete sidewalk should not be required.*



***Stairway surfaces and railing is included in the scope of work of the contract. Railing to be repaired or replaced as needed in order to provide the exterior of the building with the appearance of a new facility. All exterior wooden materials shall be removed and replaced with metal profiles, properly painted with epoxy based products.***



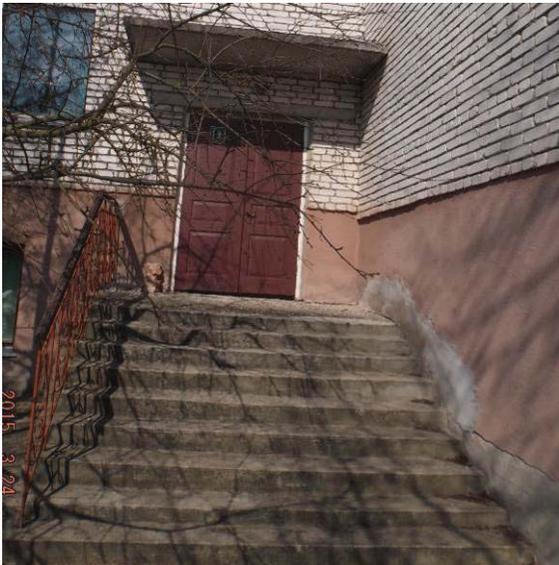
***Typical façade to be provided with thermal insulation and cover to the basement entrance to be replaced with new.***



***Typical entrance to basement to be fully repaired. Canopies to be replaced with new, including the railing. All metal parts to be painted with epoxy based product after proper preparation of surfaces as recommended by the paint manufacturer. Paint over existing paint is not authorized.***



**Typical entrance to basement with canopy to be replaced. All concrete surfaces to be provided with new finishes in coordination with finishes of the new façade. This corresponds to the highlighted areas.**



**Steps not to be repaired. Railing to be repaired or replaced with new (without any wood). Concrete canopy to be repaired or substituted by a new one similar to the new canopies to be provided around the perimeter of the school.**



**All exterior surfaces to be repaired and provided with finished in coordination with new thermal façade. This includes the metal railing as previously described. Replace exterior lighting fixtures. Highlighted typical ventilation louver to be replaced with new metal ones around the perimeter of the façade.**



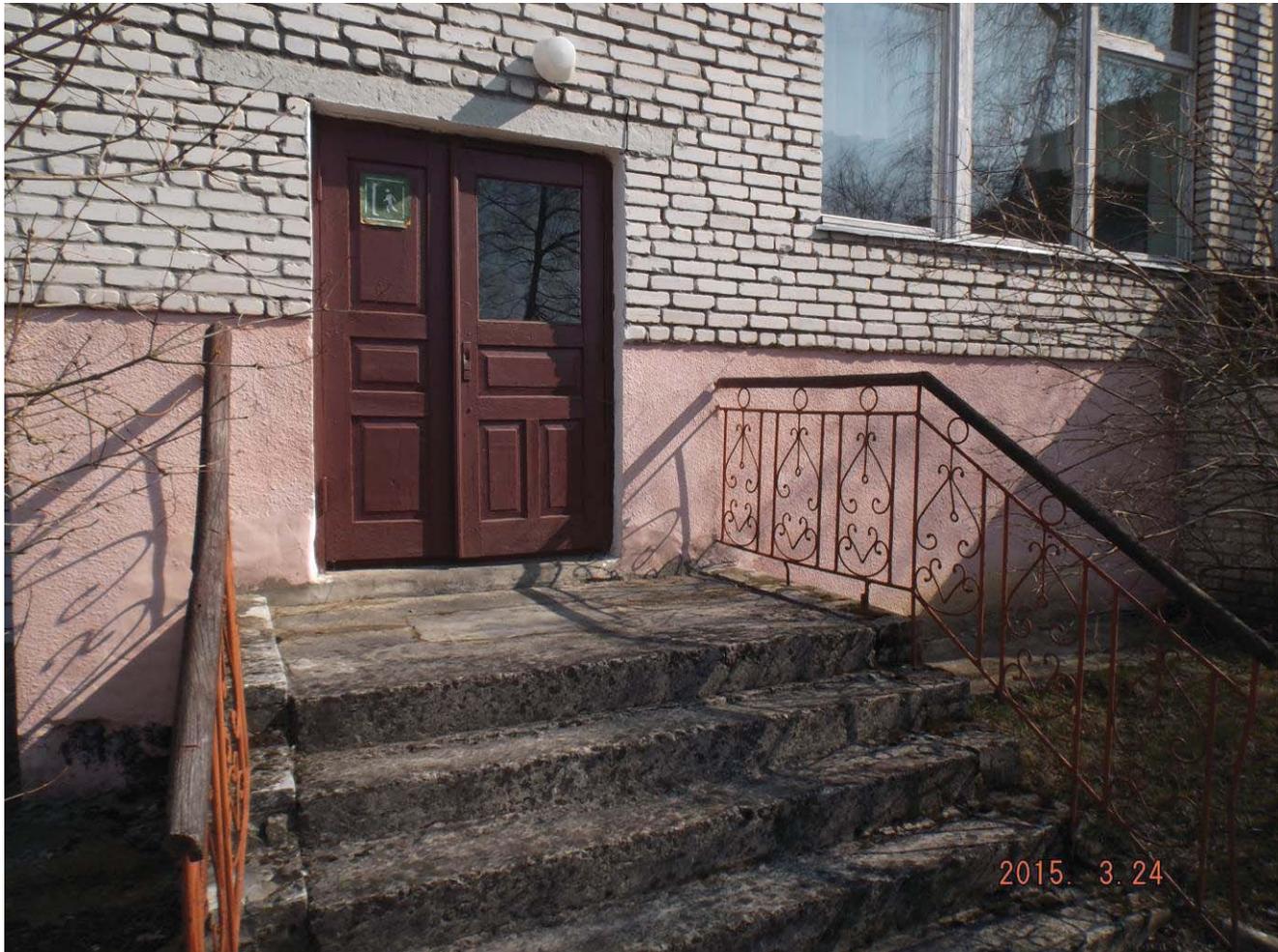
**Typical areas where new sidewalks may be required. Repair lateral side of stairway, but no repairs are necessary for the steps. Repair or replace the railing as required. Replace exterior lighting fixture.**



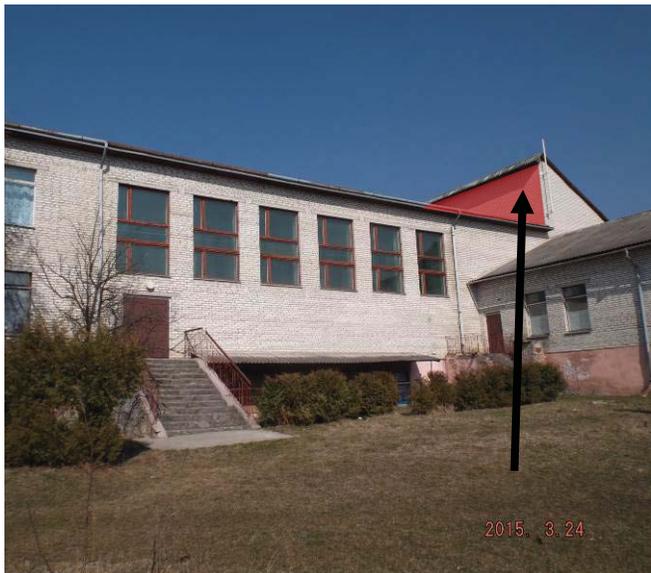
**Typical view of façade.**



**Steps to remain. Railing to be repaired/replaced.**



**Wood in railing to be removed and replaced with new metal profiles. Remove paint of existing railing if the contractor chooses to reutilize the railing after its repair. Replace exterior lighting fixture with new LED floodlight with minimum 20 Watts, motion and light sensors.**



**Typical façade. The contract also includes the typical highlighted areas.**



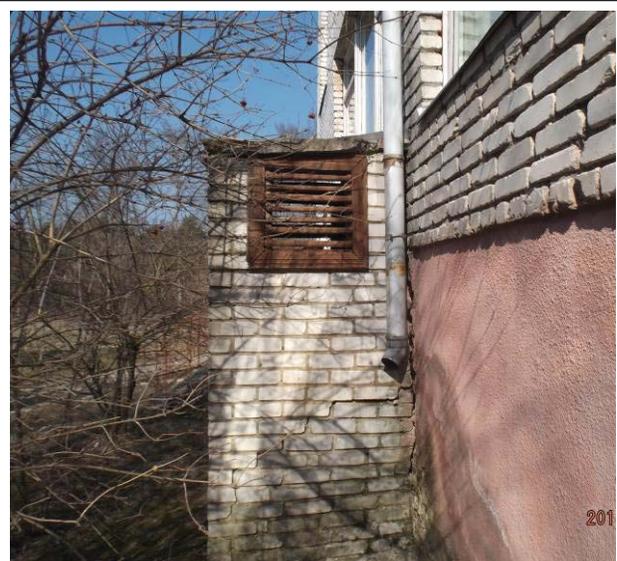
**Typical window security bars, covered under separate paragraph.**



*Typical window security bars, covered under separate paragraph.*



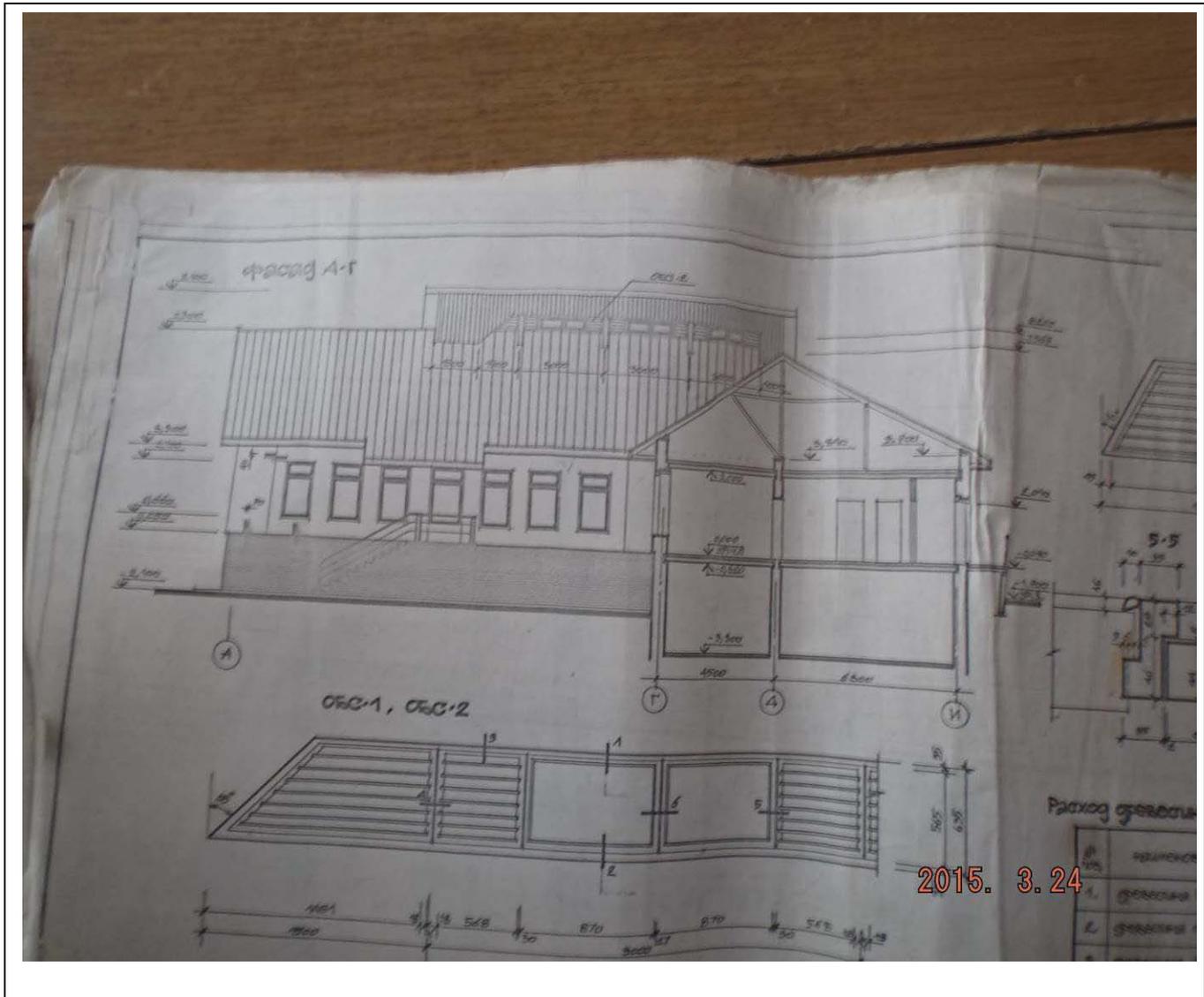
*Areas requiring new sidewalks*



*Typical ventilation openings to be repaired, removed, and/or replaced with new ventilation system, as designed by the contractor's architect.*

### 2.1.7 Original building design

There are several drawings from the original design of the facility, which are available for consultation in the School Building. Find in the next few pages a representative sample of the available technical information.





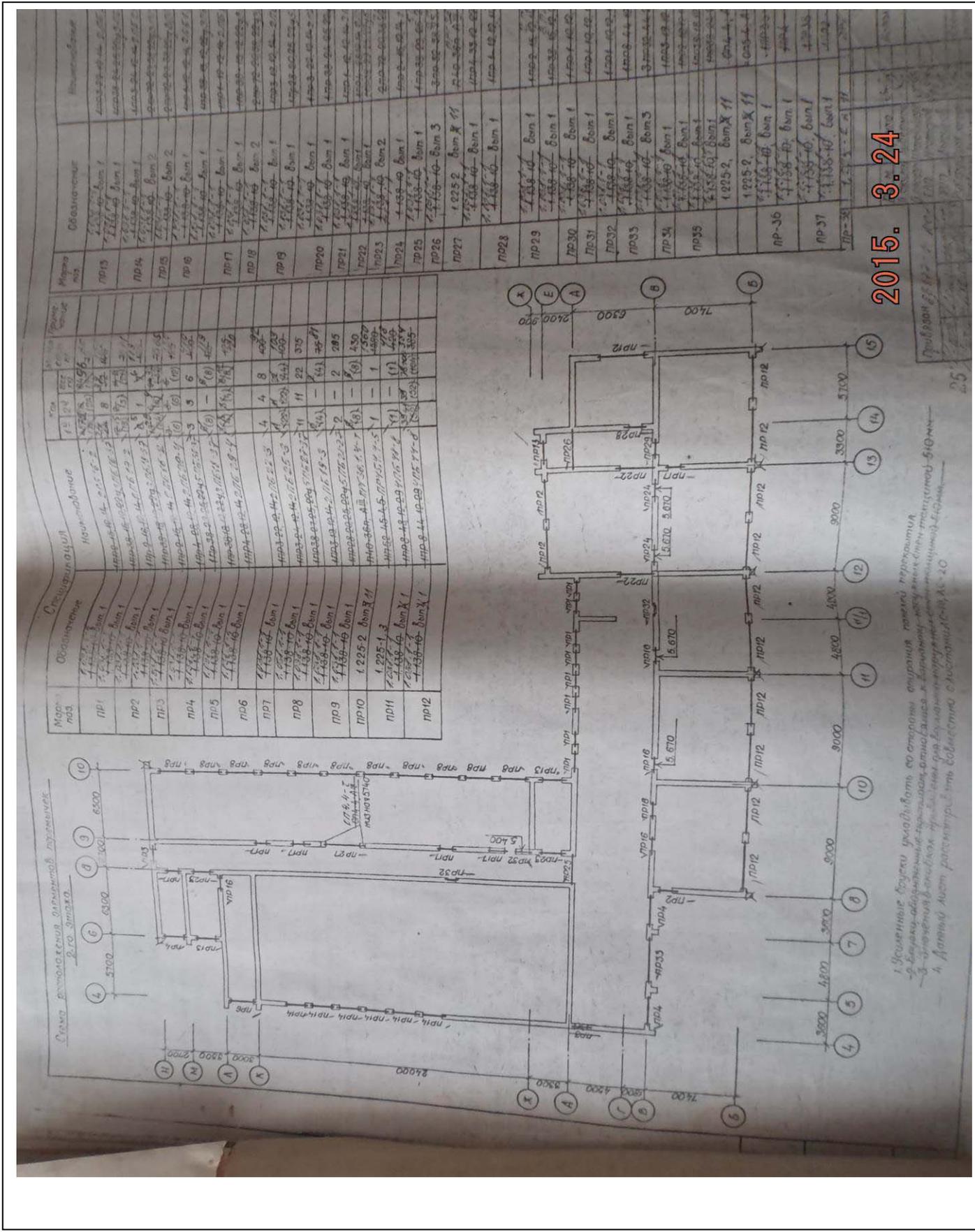












## 2.2 MAIN ENTRANCE – RAMP/STAIRS/CANOPY

The contractor shall hire the services of a licensed architect to design the main entrance steps, landing platform, ramp and canopy in coordination with the new thermal façade system. This item of work can be considered as a “new construction” and therefore the contractor may need to provide the required Construction Permit, in compliance with applicable Ukrainian regulations.

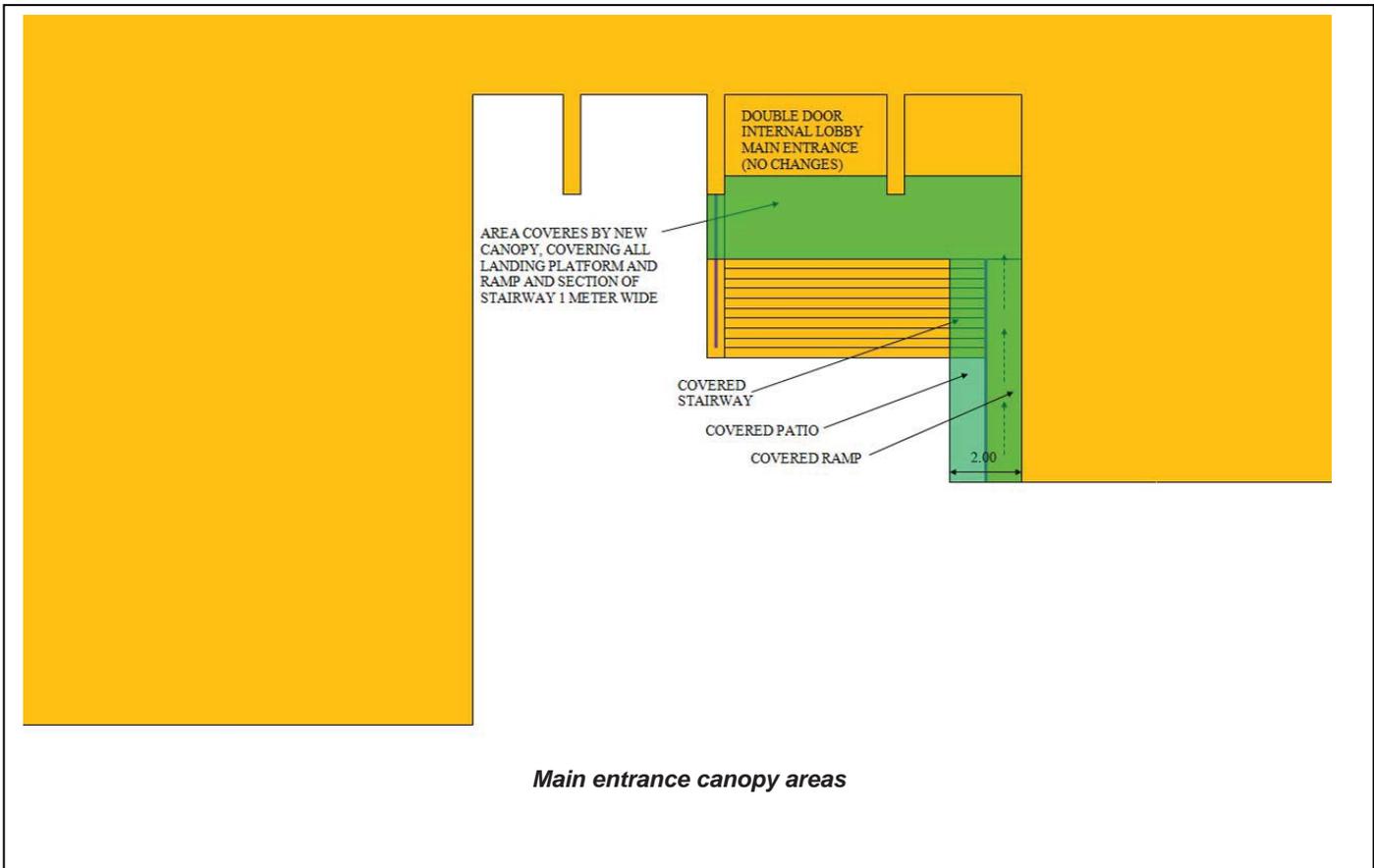
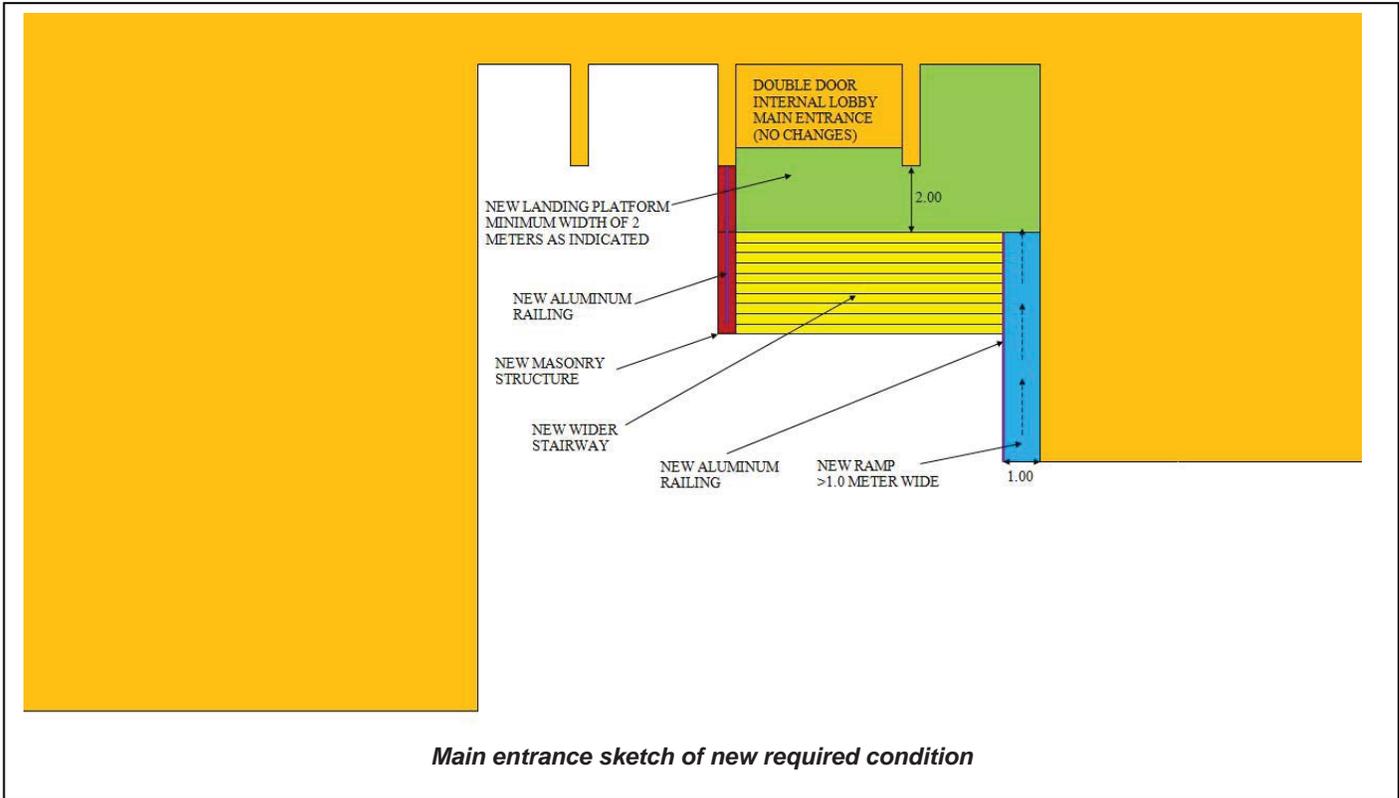
The works include the complete demolition of the existing steps and landing platform and all related structures. The basis of design shall be the following:

- Structure using cast-in-place reinforced concrete
- Landing platform minimum 2 meters wide.
- Steps wider than before, up to the new entrance ramp
- Ramp minimum 1.0 meters wide (or wider if required by Ukrainian regulations)
- All areas higher than 40 centimeters to be provided with aluminum or stainless steel railing (except the ramp where the railing shall be provided from lowest level)
- Steps, landing platform and ramp provided with special non-slippery tiles
- Minimum 2 meters wide canopy covering of the ramp and landing platform



*Main entrance to be completely demolished and redone*

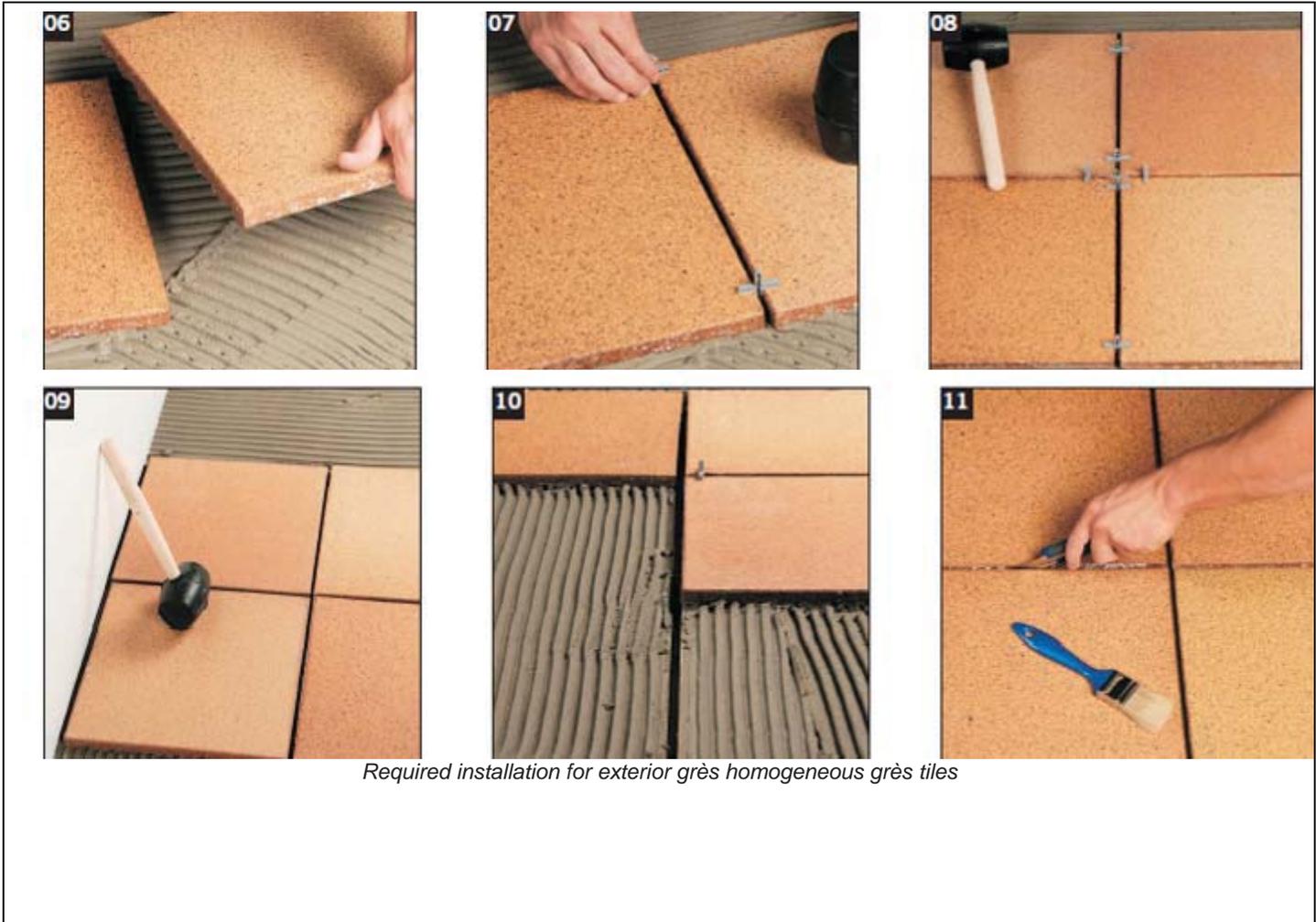


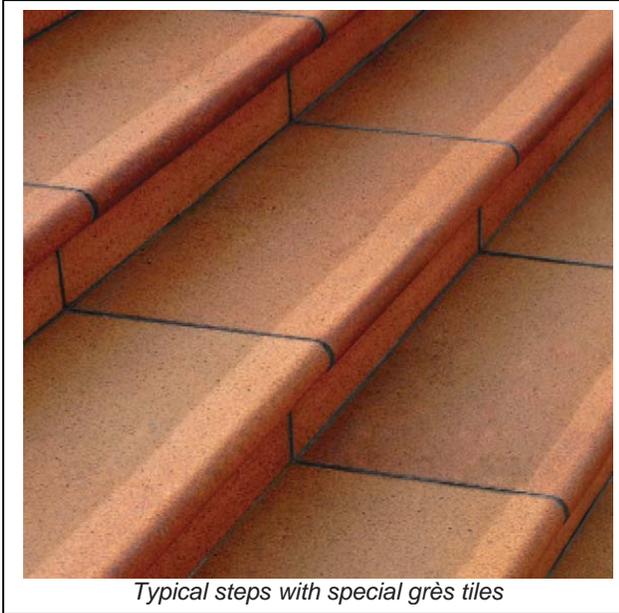


The new landing platforms, steps and ramp shall be covered with special grès tiles, non-slippery and rated for exterior use by the manufacturer. For the steps, the contractor shall use grès tiles specifically designed to be used in stairways, with non-slippery patterns and rounded edges. Use different 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.



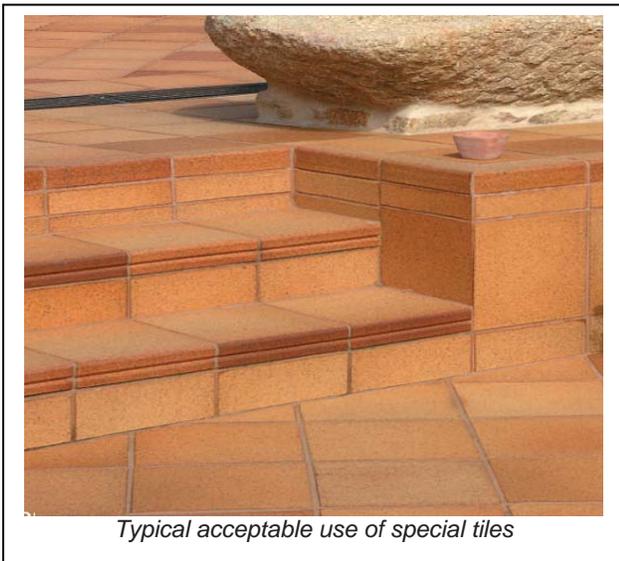




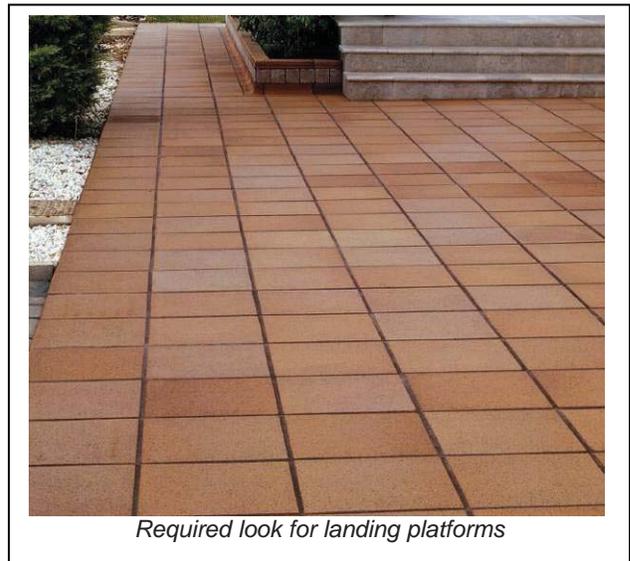
*Typical steps with special grès tiles*



*Typical steps with snow*



*Typical acceptable use of special tiles*



*Required look for landing platforms*



*Typical Stainless steel railings*



*Typical Stainless steel railings*

The works include the design and construction of an entrance ramp of minimum 1.0 meters width or wider if required by Ukrainian regulations, where indicated in the previous sketches. This ramp shall be provided with the same tiles required for the steps and landing platform.

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

Provide stainless steel or aluminum railing along the exterior side of the new ramp. This railing shall be heavy duty and capable of supporting horizontal forces of 50 kg at any point without any visual sign of deflection.

## Entrance Canopy

The works include the design and construction of an entrance canopy to cover the entire new landing platform, a section of the steps and the entire ramp. The esthetic of the canopy shall be visually similar to the rest of canopies along the façade of the building, with metal structure and covered with preformed metal sheets. However, to improve the esthetic appearance of the main entrance of the school, the contractor shall provide certain ornamental elements. The minimum ornamental elements shall be those shown in the example of a canopy in a recently completed project in Bulgaria. However, the cover of the roof shall be metal. Provide gutters and downspouts to avoid people getting wet when raining and walking in and out of the area protected by the canopy. Also, the metal structure shall be stronger than the one in the canopy of Starychi kindergarten. Minimum size of vertical columns shall be metal tubes of 150 mm of diameter.



## **2.3 REPLACEMENT OF EXTERIOR WOODEN WINDOWS**

The contract includes the complete replacement of all exterior wooden windows with new PVC windows. The windows that were recently replaced by the School Administration shall not be replaced, and therefore this contract includes exclusively the replacement of wooden windows along the façade of the building, including the basement, ground floor and second floor.

The windows shall comply with Ukrainian regulations for educational facilities of this type. As a minimum the windows shall be manufactured with PVC profile and thermally insulated glazing.

Minimum requirement is PVC profiles with 5 chambers and double glazing using 6-?-6, unless the latest Ukrainian regulations require larger number of chambers or triple glazing. During NAVFAC's meeting with the School and local Administration, we were informed that the latest standards for this type of educational facility would be 5 chamber and triple glazing. This contract requires compliance with applicable Ukrainian regulations and therefore the contractor is required to provide the design of the windows to be officially approved by the competent Ukrainian authority prior to the purchase of any window materials. In case triple glazing is the minimum authorized by Ukrainian regulations, the contractor shall provide minimum 6-?-4-?-6 glazing design. Glazing with less than 6 millimeters with contract with interior and exterior of the facility is not authorized.

The contract includes the replacement of the existing wooden windows, but also the existing PVC windows shall be removed and reinstalled as necessary in order to provide them with the same finishes as the new windows to be provided under this contract. However, it is not required to replace the existing PVC windows (even if they have lower thermal insulation or lower quality than the ones to be provided by this contract). However, once the work is completed, there shall be no difference in the finishes between the existing to remain and the new windows provided under this contract. For example, all yellow sealing foam from the existing windows shall be covered with plaster and external sills shall be replaced to be adjusted to the new thermal façade.

The contractor shall make the required adjustments and repairs to the window opening on the walls before installing the new windows. The contractor is responsible to visit the site, to take note of the existing conditions of the window openings and adjacent walls and to make all required measurements to quantify the amount of work required by this contract.

### **2.3.1 Exterior Windows - General**

The contractor shall completely remove the exterior wooden windows of the school building facade, including all wood framing, trims, anchors and supports. This includes windows of several sizes that the contractor will have to quantify and measure prior to submitting their bid. The contractor shall replace the wooden windows with new PVC framed windows (minimum 5 chamber profiles) with double glazing of minimum (6-?-6) or triple (6-?-4-?-6) if required by Ukrainian regulations.

The new windows shall operate similar as the existing ones. In other words: if a window has 2 operational panels, the new windows shall have two operational panels of approximately similar dimensions, but the opening panels/leaves of the windows shall open vertically and horizontally. For estimating purposes, the contractor shall estimate that 50% of the window surfaces shall be operational.

The new PVC windows shall be perfectly finished inside and outside. The joints between the building and the windows shall be perfectly sealed as seen in pictures below for a typical installation (typical yellow foam cannot be seen). Contractor to provide PVC sill inside as seen in the pictures below and outside sills made of aluminum or other approved material (i.e. natural marble or exterior rated special ceramic tiles).

Contractor is responsible to restore the adjacent interior wall surfaces to their original condition. The contractor shall repair, patch and paint as necessary in order to restore everything to the original conditions. There shall be no difference between the existing internal walls and the repaired internal surfaces after the installation of the new windows. For this reason, the contractor needs to inspect the existing conditions of the internal walls adjacent to the windows to be replaced in order to measure and quantify the amount of work required by this contract.

The operation of the new windows shall be similar to the existing windows, but the operational panels/leaves of the new windows shall open both horizontally and vertically.

Where there are security bars or grid, the windows shall be designed so that they are perfectly operational (i.e. they shall not open to the outside if there are security bars outside).

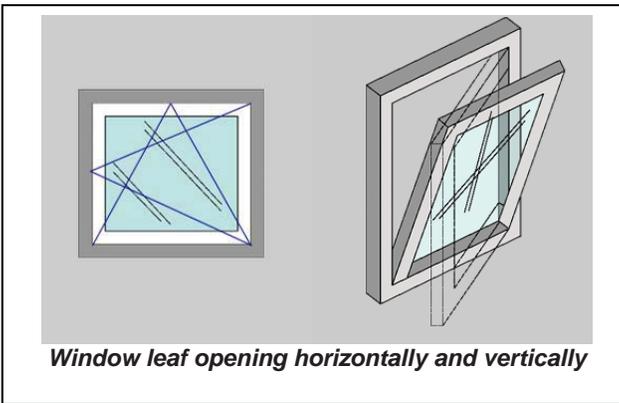
Provide aluminum insect screens in the exterior of all operational panels of the bathroom, kitchen and dining room windows. The insect screens shall be removable and shall be provided by the manufacturer providing the new windows required by this project.



The new windows shall be minimum of 5 chambered PVC profile with double or triple glazing as required by Ukrainian regulations and with the thickness previously described. They shall be provided with the required quality certificate in Ukraine for the intended use of the windows.

In the bathrooms, the contractor shall include non-transparent glazing and mosquito nets.

Operation of the panels of the new windows shall be similar to the existing ones. Operational panels of the windows shall be designed in coordination with the security or protection bars in order to be able to open and to be cleaned.



### Installation

The contractor shall completely remove the existing wood materials from the window openings on the walls. Some of the existing windows may be double windows; therefore in this case the contractor shall repair and prepare the openings in the walls to install one single window with double glazing.

It is anticipated that during removal of the existing windows, the contractor will damage the adjacent walls, especially during the removal of the internal window sills. The contractor shall properly install the new internal PVC window sills and repair the wall surfaces so that there is no difference between the existing and the repaired walls.

The new required exterior window sills shall be properly sloped away from the building in order to drain the rain water away from the building. Minimum 5% slope. The lower window frames/profiles shall be properly provided with water drains.



*Typical exterior PVC window installation*



*Typical PVC window installation. Seal all areas around the new windows. Foam not exposed.*



*Typical PVC window installation with new PVC sill inside and aluminum outside.*



*Typical PVC window installation. PVC sill inside and aluminum outside.*

### **Security Bars for Windows**

Some of the windows in the school are currently provided with security bars of different types and designs. This project includes the removal, repair and/or adjustment to the new window sizes, and reinstallation of the existing security bars.

The security bars shall be sandblasted, primed and painted with 2 coats of paint (color to be selected by School Director)

The contract includes any required modification to the security bars in order to properly anchor them to the wall openings for the windows. The security bars shall not be anchored to the windows, but they shall be anchored to the building structure. Anchoring metal shall be of the same size as the size of the metal in the security bars.

Once the repaired security bars are installed, they shall have the appearance of new security bars. The installation of the security bars shall comply with applicable Ukrainian regulations. **If the Ukrainian regulations require additional modifications to the security bars, such as the installation of hinges in order to open some of them, these requirements are included in the scope of work of this project.** Contractor to verify Ukrainian regulations before submitting their bids.

### **Existing PVC windows**

Some of the exterior windows of the building under the scope of work of this contract have been recently replaced by the school. These windows shall not be replaced as part of this contract. However this contract includes the additional required work to make them look the same as the new ones to be provided under this contract.

The contractor shall provide proper PVC sills inside and aluminum (or other approved material) sills outside to make them have the same appearance as the rest of the new windows. The contractor shall provide proper seal around these windows, so that the "yellow" sealant foam is not exposed.

The contractor may have to remove and reinstall the entire windows to accomplish the work required by this contract, to make them have the same appearance as the new windows to be provided and install under this project.

### **Gymnasium Windows**

This project includes the replacement of the windows in the gymnasium. These windows are already provided with physical protection in the interior. The contractor shall remove, repair as necessary and reinstall this internal protection provided with the necessary new tensors and primary ropes to make sure that it is properly tightened.

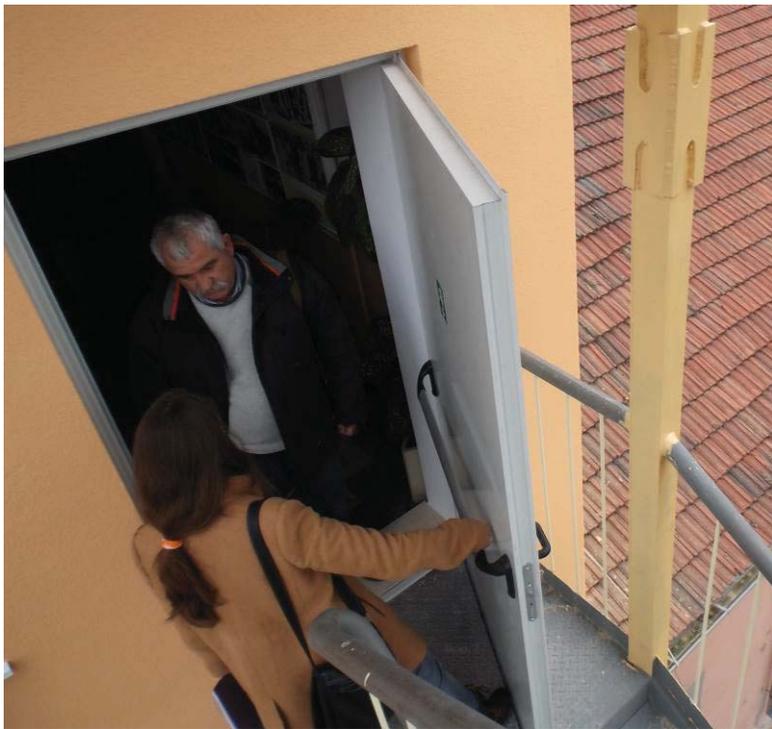
## 2.4 REPLACEMENT OF EXTERIOR WOODEN DOORS

The contract includes the complete replacement of all exterior wooden doors. The front entrance doors were recently replaced. However, as part of this contract the contractor may have to remove and reinstall them in order to be perfectly adjusted to the new façade finishes.

Doors shall be metal thermally insulated certified fire rated doors, as required by Ukrainian regulations.

The contractor shall provide fire rating certificate prior to purchase of the doors. These doors shall be heavy-duty, vandal resistant, installed over metal frames and without bottom frame. Hinges, handles, anti-panic hardware and all other accessories shall be made of stainless steel, and factory assembled.

Doors to be provided with the required EXIT signs and lights, as required by Ukrainian regulations.



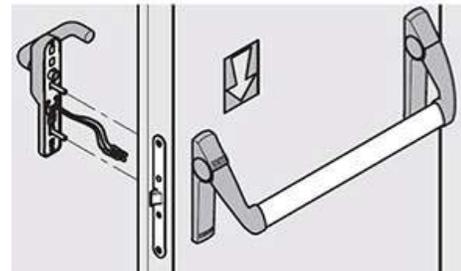
*Typical fire rated door installed in the façade of a public school in Bulgaria in a recently completed NAVFAC project. New doors in Starychi to be similar but provided with accessories of stainless steel*



*Interior of the picture in the left*



*Typical stainless steel anti-panic hardware*



*Minimum elements of the stainless steel anti-panic hardware*

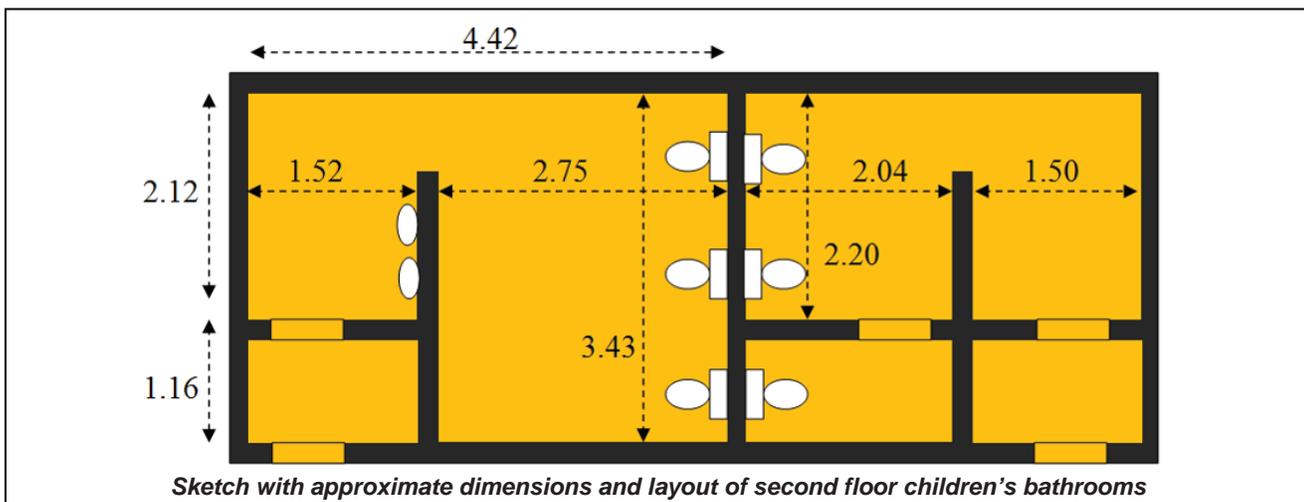
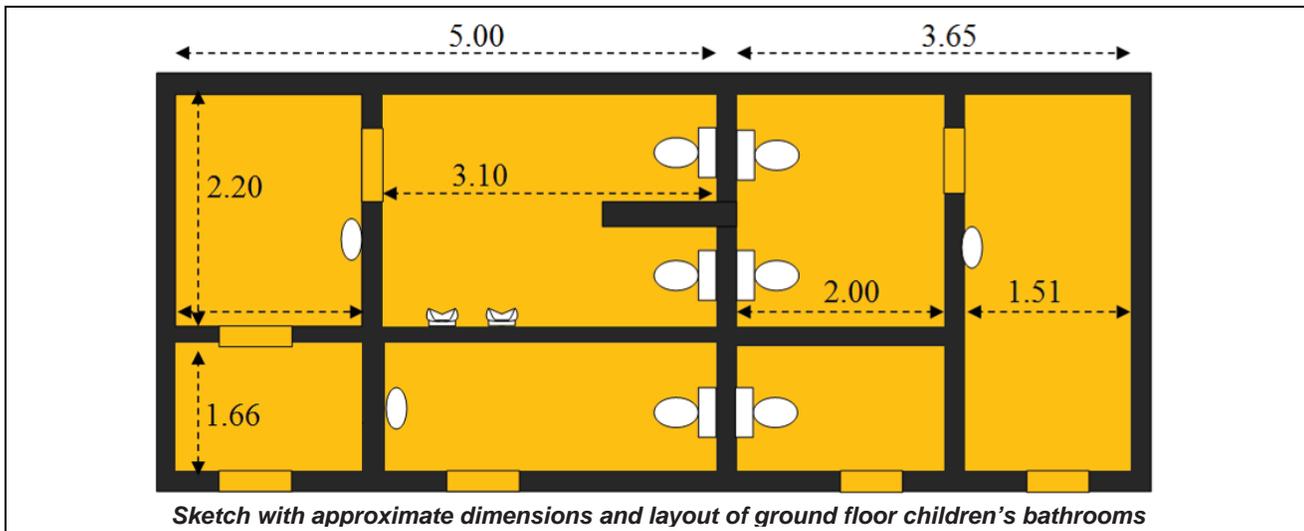
## 2.5 BATHROOM RENOVATION

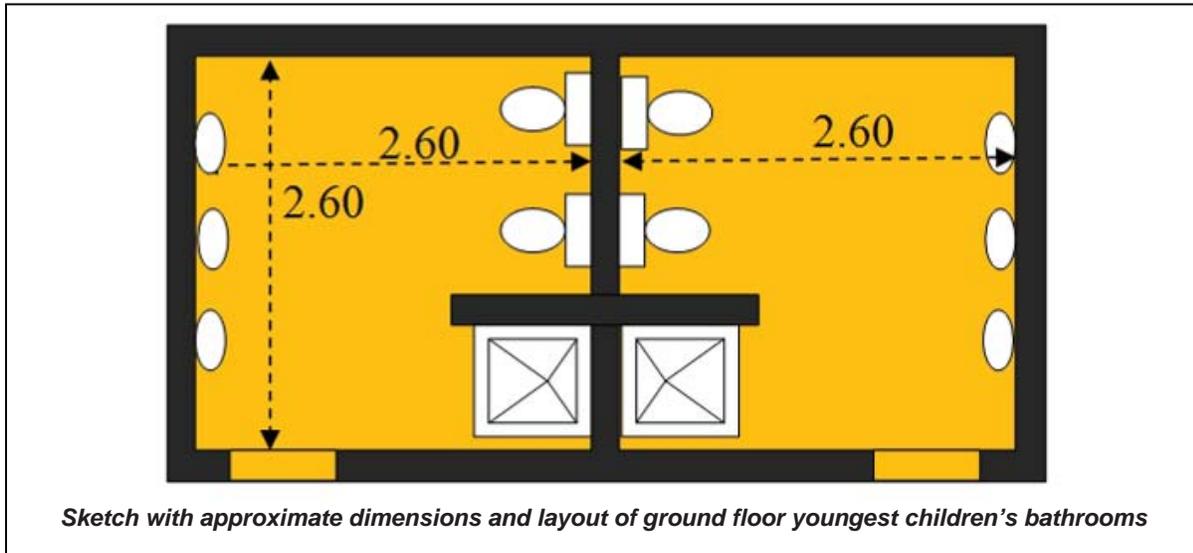
The contractor shall hire the services of an architect or interior designer, licensed in Ukraine, with experience in designing facilities for people with disabilities.

This project includes the complete renovation of 3 groups of bathrooms, two in the ground floor and the other one in the second floor. Therefore the contract includes the complete renovation of:

- Ground floor children with disabilities (boys and girls)
- Ground floor youngest children (boys and girls)
- Second floor children (boys and girls) and teachers (male and female)

Below it is included sketches with approximate dimensions and layout of bathrooms to be renovated. These sketches should only be used to identify the bathrooms to be renovated and the contractor is responsible to visit the job site, measure and take note of the existing layout and conditions in order to prepare their offer. The US Government is not responsible for any mistakes or assumptions of the field conditions and measurements that the contractor could make if their offer is based exclusively on these sketches.



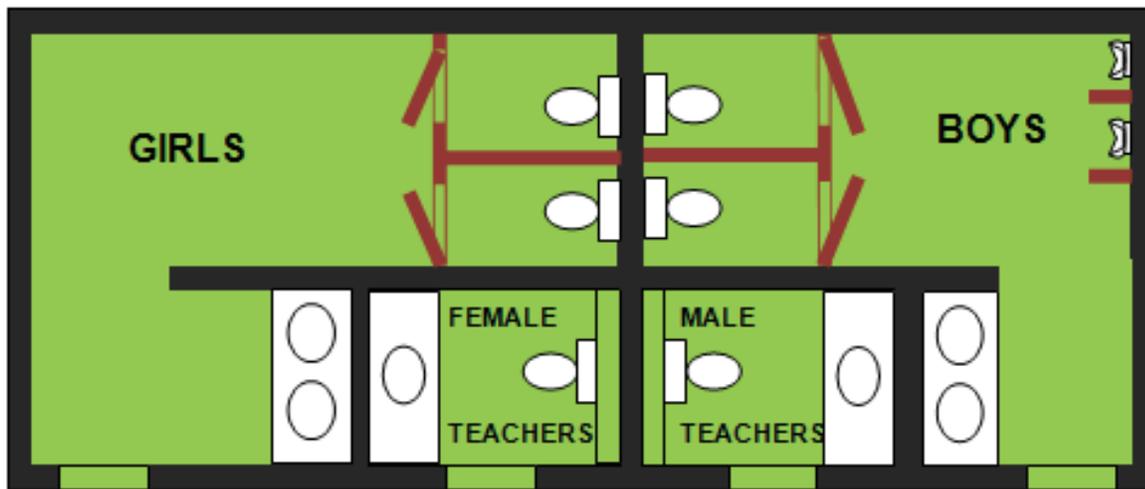
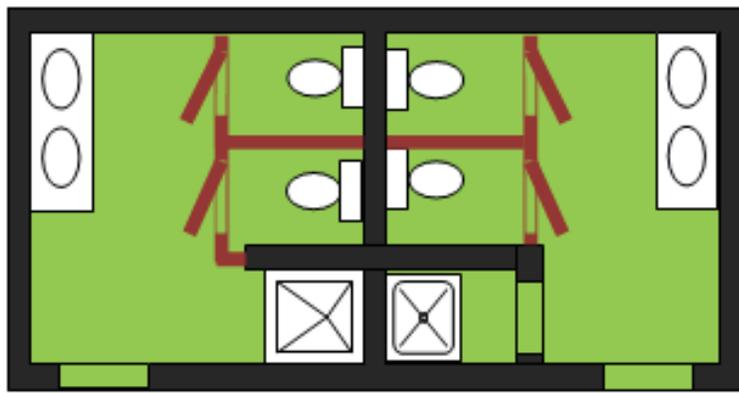
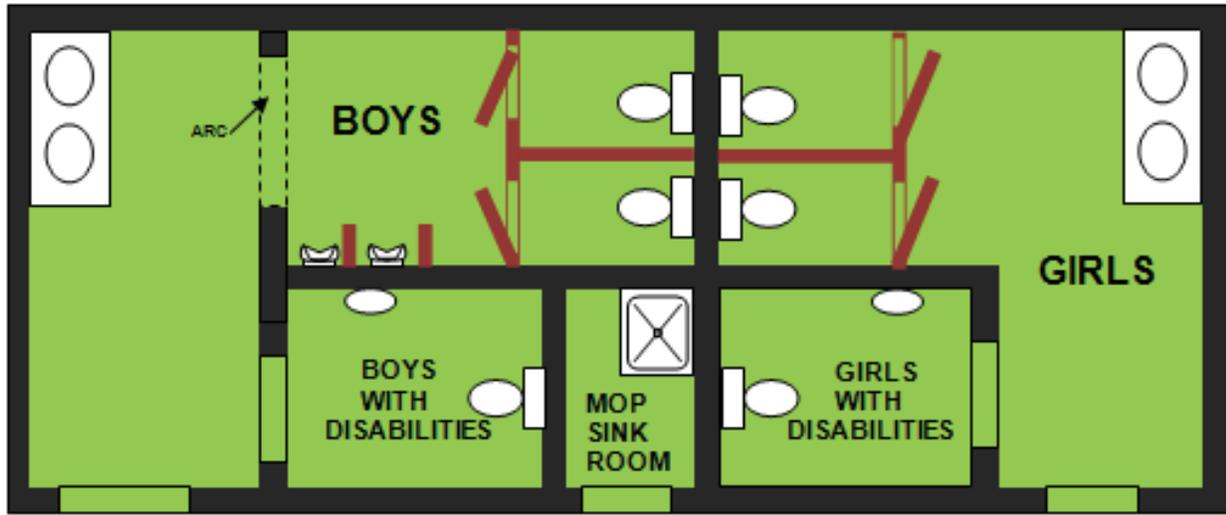


Once the project is completed, the renovated bathrooms under the scope of work of this project shall have the appearance of completely new and high quality bathroom facilities, with the designated spaces rated and certified to be used by people with limited mobility (wheelchairs). The work includes, but is not limited to the following:

## **NEW LAYOUT**

The areas currently occupied by the 3 groups of bathrooms shall be completely renovated, including new layout, in order to provide in strict compliance with Ukrainian regulations the plumbing appliances and spaces included in the sketches below. These sketches represent a potential technical solution, but it shall be the architect or interior designer hired by the contractor the one to propose to the Contracting Officer the new layout of the bathrooms.

**Note:** *Prior to start of renovation works, the contractor shall provide a sketch to the Contracting Officer Representative for acceptance. In previous projects, there have been problems such as: improper selection of toilet fixtures (too large for reduced space), improper ventilation, improper mirrors, improper aluminum partitions, or improper ceramic tiles. The contractor shall provide to the Contracting Officer representative a clear sketch or draft design indicating their proposed design meeting the requirements of this contract and the requirements of the Ukrainian regulations.*



Sketch with potential new layout for the 3 groups of bathrooms. Top: ground floor. Middle: ground floor for youngest children. Bottom: Second floor, including bathrooms for teachers.

- **Layout:** The architect or interior designer shall provide his/her own design for the internal layout of the bathrooms. The only requirement is that they maintain the minimum plumbing fixtures described in the sketches in previous page.
- **Demolitions:** Remove everything inside of the bathrooms, including but not limited to floor and wall tiles, plumbing fixtures, masonry partitions as needed by the contractor's accepted design, electrical installation, wooden windows, doors, water and sewage plumbing, ventilation, heating and everything within the areas to be renovated.
- **New Partitions:** All new partitions required by the new layout shall be made of light weight masonry walls. In case the architect that shall be hired by the contractor does not recommend these masonry walls, in order not to increase or modify the loads of the building, the contractor can use gypsum board walls over galvanized metal profiles with the intermediate space filled with noise insulation. Any gypsum board walls shall be provided with double-double gypsum board covering. If the standard gypsum board thickness is for example 12 mm, the walls would have 12+12+(thickness of metal profiles filled with noise insulation)+12+12. All gypsum boards in the proximity of water shall be humidity rated gypsum board (green type)
- **Exterior Windows:** Described in separate paragraph. Glazing to be non transparent and provided with mosquito screens.

- **Doors:** Replace existing doors with new PVC doors. Width of doors to be rated for wheelchairs where necessary. Note that the new layout shall require modifying the number, location and/or width of doors connecting the bathroom areas to the hallway. The contract includes painting the walls between the hallway and the bathroom areas in order to provide the appearance of new areas. PVC door shall be manufactured to be used as doors (not windows), and therefore they have to be provided by the manufacturer with 3 frames (2 laterals and top). Do not provide doors with bottom thresholds. Floor shall be continuous from one room to the other. There shall be an air gap for proper ventilation. Provide the PVC doors with heavy use hinges installed by the manufacturer. The doors shall not be provided with bottom frame. Provide door stops for all doors in the contract. Do not provide locks for the bathrooms.



- **Floors:** All floors shall be at the same elevation and without any impediments for the free movement of wheelchairs. After removal of the existing floor tiles and steps, provide all floor surfaces with slopes towards the floor drains (one per room) and install new non slippery ceramic floor tiles, diagonally with respect to the walls. New porcelain stoneware tiles to be of minimum size 40x40 cm. Provide matching ceramic base board tiles along the bottom of all walls. For final acceptance of the floors, the contractor shall pour 100 liters of water on all floor surfaces and after 1 hour there shall be no sitting water on any floor surface.

The name "porcelain stoneware" indicates a non-glazed, dry-pressed, highly compact, ceramic product with high quality, technical specifications (these tiles are highly flex, graze, scratch, weather and chemical agent resistant) and have a very low porosity. This

specification indicates that in the firing phase (conducted at high temperatures of 1250-1350°C) all porosity in the tiles is closed, which allows them to be declared as completely vitrified.

The minimum technical features of the porcelain stoneware are:

- Water absorption (ISO 10545-3) < 0.1%
  - Deep abrasion for non glazed tiles (EN – ISO 10545-6): 102 mm<sup>3</sup>, K=3
  - Surface Scratch according to Mohn: 4
  - Slippery coefficient (DIN 51130): R9
- 
- **Walls:** Remove existing tiles, paint and plaster. Repair any structural damages and cracks exposed after removing the plaster. Provide new leveling plaster to provide new perfectly leveled surfaces, and cover all vertical surfaces with new ceramic tiles. Minimum size of tiles to be 20x30 cm. Provide decorative tiles (friso) at intermediate and higher section of the walls or combination of colors as proposed by the architect or interior designer. Provide metal corner beads at all corners of tiles surfaces. Edge of ceramic tiles shall not be exposed to the view.
  - **Ceiling:** Repair ceiling damages and provide new suspended acoustical drop ceiling (Armstrong type). Provide new suspended ceiling as high as technically possible. Cover all drainage piping from floors above under the new drop ceiling. Cover ventilation system under new drop ceiling. Provide LED lighting fixtures recessed within the new drop ceiling.
  - **Water Piping:** Remove all the water piping from the main water line in the basement or in the bathroom below. Provide new cooper or high density polypropylene piping or other approved piping rated for the intended use to be connected immediately after the water meter. All piping material used shall be rated for the intended use. Provide hot water for the sinks, the mop sink and shower. Install the water piping recessed inside the new walls and behind the new ceramic tiles. Water piping shall not be exposed at any location. Provide valves as required to have a fully operational water system and to be able to isolate each room and each plumbing fixture. Provide pressure test for 48 hours at minimum of 10 bars before covering the piping within the walls.
  - **Sewage/Drainage/Vent piping:** Remove all the sewage, vent and drainage piping inside of the bathrooms under the scope of work of this project. The contract requires connecting the new sewer lines for all 3 bathroom areas to the nearest manhole outside of the building. Connecting to the existing sewer system in the basement is not authorized. Provide all new sewage/drainage/ventilation piping from the manhole outside of the school building to the roof. Within the renovated areas, all sewage/ventilation piping shall be installed recessed behind the walls, and covered by the new suspended ceiling, but they shall be provided with the necessary access points to be able to maintain every single portion of the sewage/drainage piping.
  - **Floor drains:** Provide as many as necessary in coordination with the slopes of the new floors. Provide 100% stainless steel floor drain kits. Connect the piping with the new sewage system to be provided as part of this contract. Provide integrated P-trap in all floor drains to eliminate bad smell.



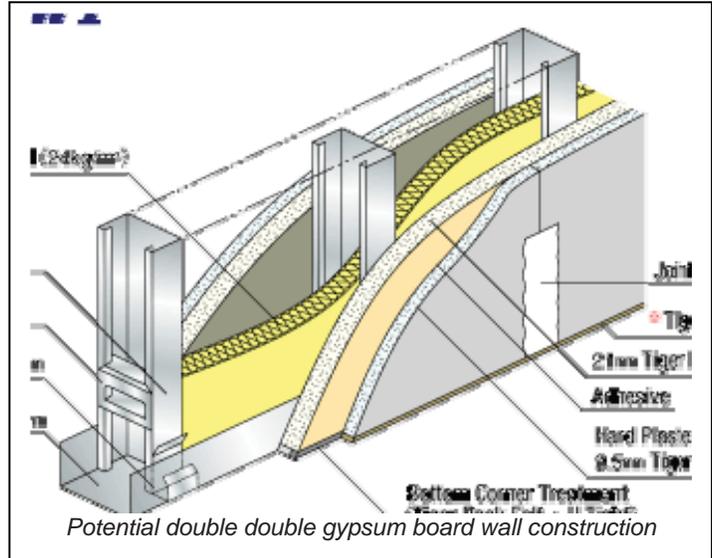
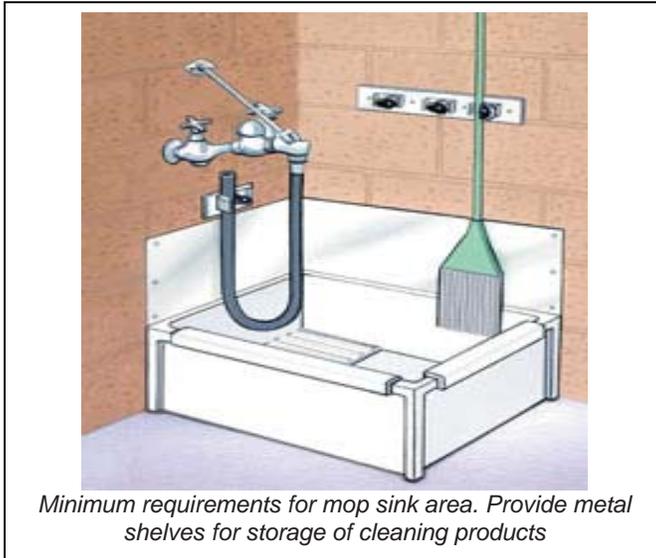
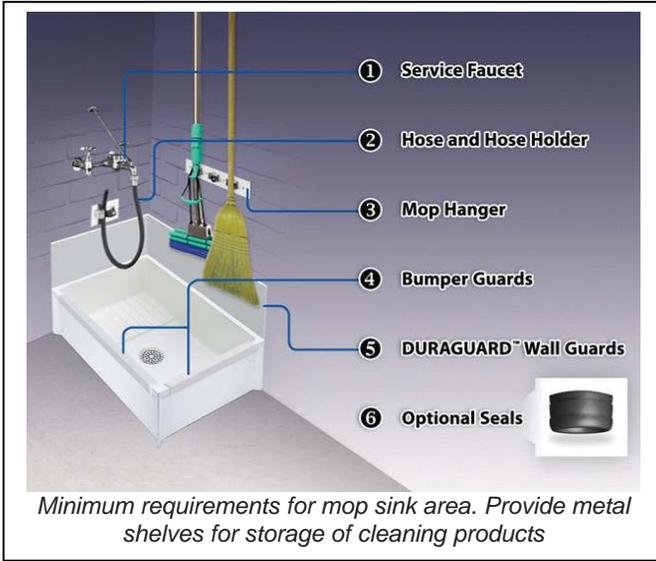
- **Hot Water:** Provide 2 electric hot water heaters, with switch to be able to turn them on/off. Provide one hot water heater with minimum 50 liters for the two larger bathrooms for older children and teachers and one with minimum 20 liters for the youngest children.
- **Heating System:** Provide a complete new heating system in the renovated bathroom facilities, consisting of radiators, piping and valves. Provide new aluminum radiators, with all required valves and accessories and connect with existing hot water heating system in the building. Design as required to obtain adequate temperature in all areas. All heating piping within the renovated areas shall be recessed with the walls/ceilings. Provide the radiators with individual controls.
- **Ventilation:** Provide a ventilation system in accordance with Ukrainian regulations. This is most important for the teacher's toilets and bathrooms for children with disabilities, which are not provided with exterior windows. These areas without exterior windows shall be provided with forced ventilation capable of replacing the air volume of the bathroom in 3 minutes. Doors for these areas to have louvers for ventilation. For the rest of the bathroom areas which have exterior windows, the contractor can choose to provide a new forced ventilation system or to clean and/or repair any existing ventilation system, replacing the louvers with new metal ones.
- **Electrical:** Removal and replacement of complete existing electrical system. Provide a new electrical installation connected with the main electric panel of the building (or nearby electric panel with sufficient capacity for the new electric loads). Provide new electrical panels for the bathroom to be completely renovated. Provide a properly sized circuit breaker at the connection point to protect the electric line feeding the bathrooms. The electrical installation shall include new conduit recessed in the walls (not exposed), new junction boxes, new circuit breakers, new ground fault protection, new switches, new cables, new receptacles (in the teachers areas only), new lighting fixtures using LED technology and minimum protection rated IP54, and everything necessary to have a fully operational electrical system in accordance with Ukrainian Code. Provide lighting fixtures recessed within the new suspended ceiling. Provide LED technology lighting fixtures to provide the minimum lighting levels required by Ukrainian regulations. All electrical installation shall be embedded in the walls, installed behind the new ceramic tiled wall. Provide hand driers hardwired to the new electrical installation. Provide separate circuits for the hand driers and receptacles, for the electric boilers and for the lighting fixtures. Design circuits to provide maximum voltage drop as required by Ukrainian regulations.
- **Aluminum Partitions:** New toilet partitions in the girls and boys bathrooms shall be made of aluminum pre-manufactured standard toilet partitions (McDonald's type). These partitions shall not touch the floor for easy cleaning of the floors (except the metal supports). They shall be provided with all required accessories, as heavy duty use hinges, door stops, locks, hangers and toilet paper holders. All accessories to be provided by the same manufacturer of toilet partitions. Provide manufacturer's standard catalog of toilet partitions for the selection of the Contracting Officer. Urinal partitions shall be wall mounted.
- **Mirrors:** Provide recessed mirrors over each sink area. The mirror shall have as a minimum the width of the countertop minus 10 cm on each side, and 60 cm height. For the areas for people with disabilities, these mirrors shall be hinged and specially designed for people on wheelchair.
- **Toilets:** Provide ceramic toilets with ceramic water tanks and water saving flushing devices. Provide with bottom connection in order to have non-visible sewer pipes.

- **Urinals:** Provide ceramic urinals. Any exposed piping shall be stainless steel. No plastic piping shall be visible. Provide with wall hung/supported premanufactured partitions similar to those to be used for the toilets.
- **Sinks/faucets:** Provide single lever stainless steel faucets for hot and cold water.
- **Countertop:** Provide granite countertops (or other approved artificial stone). Provide with vertical piece in the junction between the countertop and the walls with minimum 12 cm width. Provide countertop with rounded edges (requires double thickness in the edges). Design countertop with heavy duty metal wall supports. The countertops shall be designed to support the weight of 200 kg at any location without any sign of deflection or movement.
- **Hand driers:** Provide stainless steel hand driers to be hardwired to the walls. This means that the electric cables shall not be visible at any location. Hand driers to be minimum 1500 KW and provided with infrared automatic control.
- **Mop sink:** Provide ceramic mop sinks similar to the ones shown in the pictures in the following pages. Provide these areas with metal shelves and supports for the mops as in the pictures in the following pages.
- **Mirrors:** Provide recessed mirrors over the countertops. Mirrors shall be impact resistant. As a minimum the mirrors shall be 8 mm thick. "Recessed" mirrors mean that they substitute the ceramic wall tiles. Providing mirrors over the ceramic tiles is not authorized. Provide aluminum or stainless steel profiles around the perimeter of the mirrors. This does not apply to the mirror for the areas for children with disabilities which shall be specifically design for people on wheelchairs.
- **Wall Faucet / Hose Bib:** Provide hose bib or wall mounted faucet in each bathroom area for filling buckets of water for janitorial purposes. Provide with hot and cold water.
- **Accessories:** Provide all necessary accessories in the bathrooms in order to have perfectly operational and functional bathroom facilities, such as wall hangers in the toilet partitions, toilet paper holders, shower hose and head, towel hanger,...

### Specific Requirements for each bathroom area:

- Ground floor children with disabilities - boys areas
  - o Provide an arc to enter from the hand washing area to the toilet/urinal area
  - o Provide 2 European style toilets
  - o Provide 2 urinals, each at a different height
  - o Provide premanufactured toilet and urinal partitions with minimal contact with floor
  - o Provide 2 sinks over granite countertop
  - o Provide mirror over the countertop
  - o Provide one stainless automatic steel hand drier
  - o Provide one completely enclosed toilet/sink area rated for people on wheelchair. This applies to the required stainless steel bars, hinged mirror, turning areas for wheelchairs, special sink,...
  - o Provide one area for mop-sink and storage of cleaning products and materials.

- Ground floor children with disabilities – girls areas
  - o Provide 2 European style toilets
  - o Provide premanufactured toilet partitions with minimal contact with floor
  - o Provide 2 sinks over granite countertop
  - o Provide mirror over the countertop
  - o Provide one stainless automatic steel hand drier
  - o Provide one completely enclosed toilet/sink area rated for people on wheelchair. This applies to the required stainless steel bars, hinged mirror, turning areas for wheelchairs, special sink,...
  
- Ground floor youngest children (boys and girls). Requirements for each of the two bathrooms.
  - o Provide 2 European style toilets
  - o Provide premanufactured toilet partitions with minimal contact with floor
  - o Provide 2 sinks over granite countertop
  - o Provide mirror over the countertop
  - o Provide one mop sink area (in one of the two bathrooms)
  - o Provide one shower (in one of the two bathrooms)
  - o Provide one stainless automatic steel hand drier
  
- Ground floor youngest children (girls) and female teachers
  - o Provide 2 European style toilets
  - o Provide premanufactured toilet partitions with minimal contact with floor
  - o Provide 2 sinks over granite countertop
  - o Provide mirror over the countertop
  - o Provide one stainless automatic steel hand drier
  - o Provide one completely enclosed toilet/sink area rated for female teachers. This includes all requires appliances and accessories such as toilet, granite countertop with sink, hand drier, mirror, ...
  
- Second floor children (boys) and male teachers
  - o Provide 2 European style toilets
  - o Provide 2 urinals at different height
  - o Provide premanufactured toilet and urinal partitions with minimal contact with floor
  - o Provide 2 sinks over granite countertop
  - o Provide mirror over the countertop
  - o Provide one stainless automatic steel hand drier
  - o Provide one completely enclosed toilet/sink area rated for male teachers. This includes all requires appliances and accessories such as toilet, granite countertop with sink, hand drier, mirror, ...





*Typical wall mounted toilet, for teachers' areas.*



*Typical hand dryer as the ones required by our project*



*Acceptable recessed mirror with ceramic tiles friso*



*Typical required urinal partition, and installation of urinals and toilet partitions.*



*Provide urinals at different height and with the required partitions.*



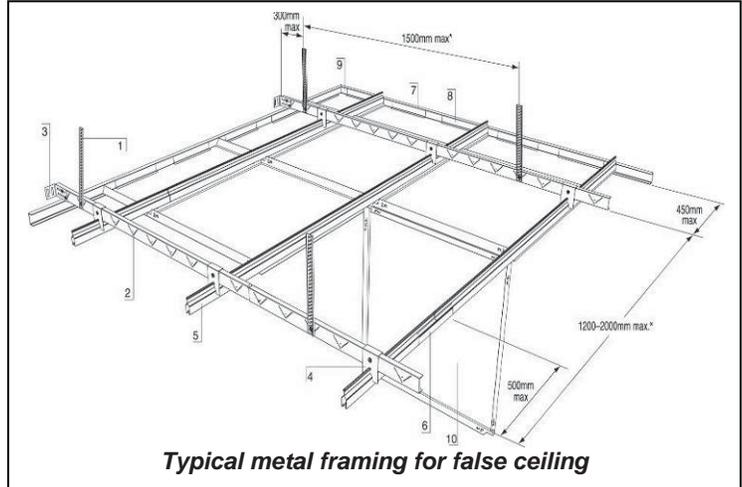
**Typical required partitions**



**Typical stainless steel (or aluminum) corner protection for tiled corners.**



**Typical aluminum with anodized finish corner protection. This is required in all corners of new ceramic tiles vertical walls.**



**Typical metal framing for false ceiling**



**Finished required granite countertop**



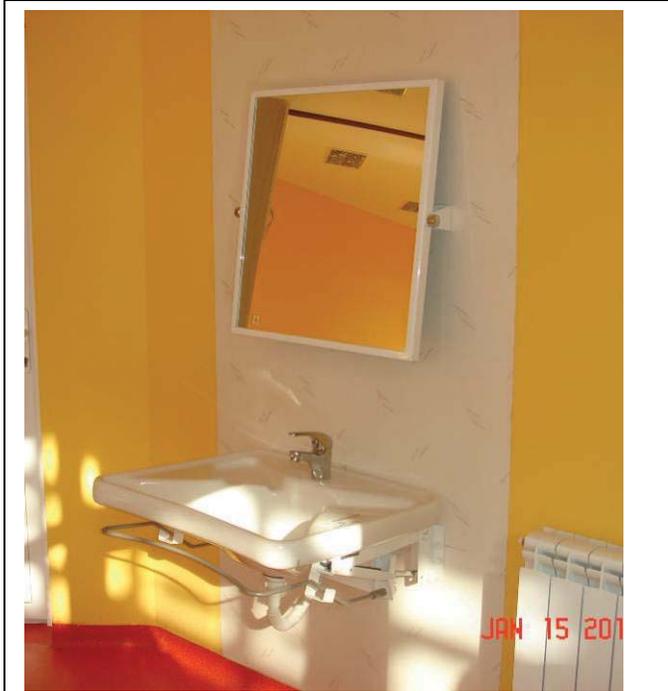
**Typical stainless steel bars for a toilet rated for people on wheelchairs. Bars shall be designed to resist vertical force of 100 kg at any location without any visible sign of deflection.**



*Typical movable sink and mirror for people with disabilities  
(2 units required in our contract)*



*Typical heavy duty stainless steel bars for toilets for  
children with disabilities*



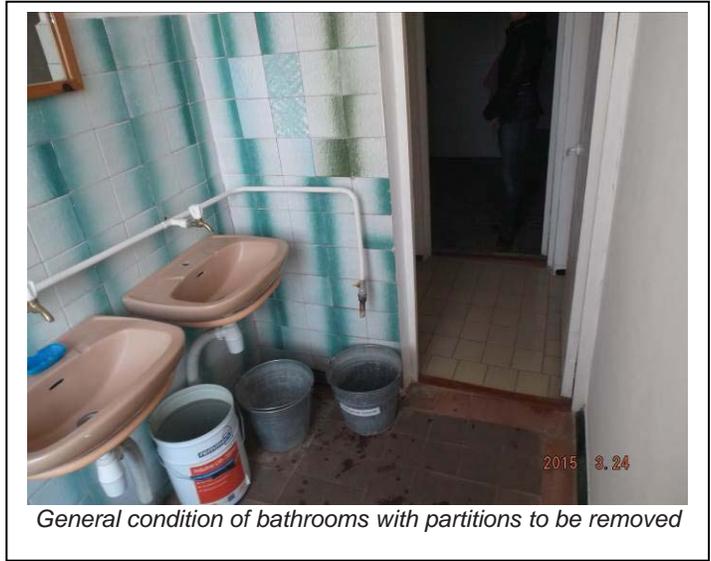
*Typical movable (hinged) sink and mirror for people with  
disabilities*



*Typical acoustical ceiling*



*Doors for younger children to be replaced with new PVC doors*



*General condition of bathrooms with partitions to be removed*



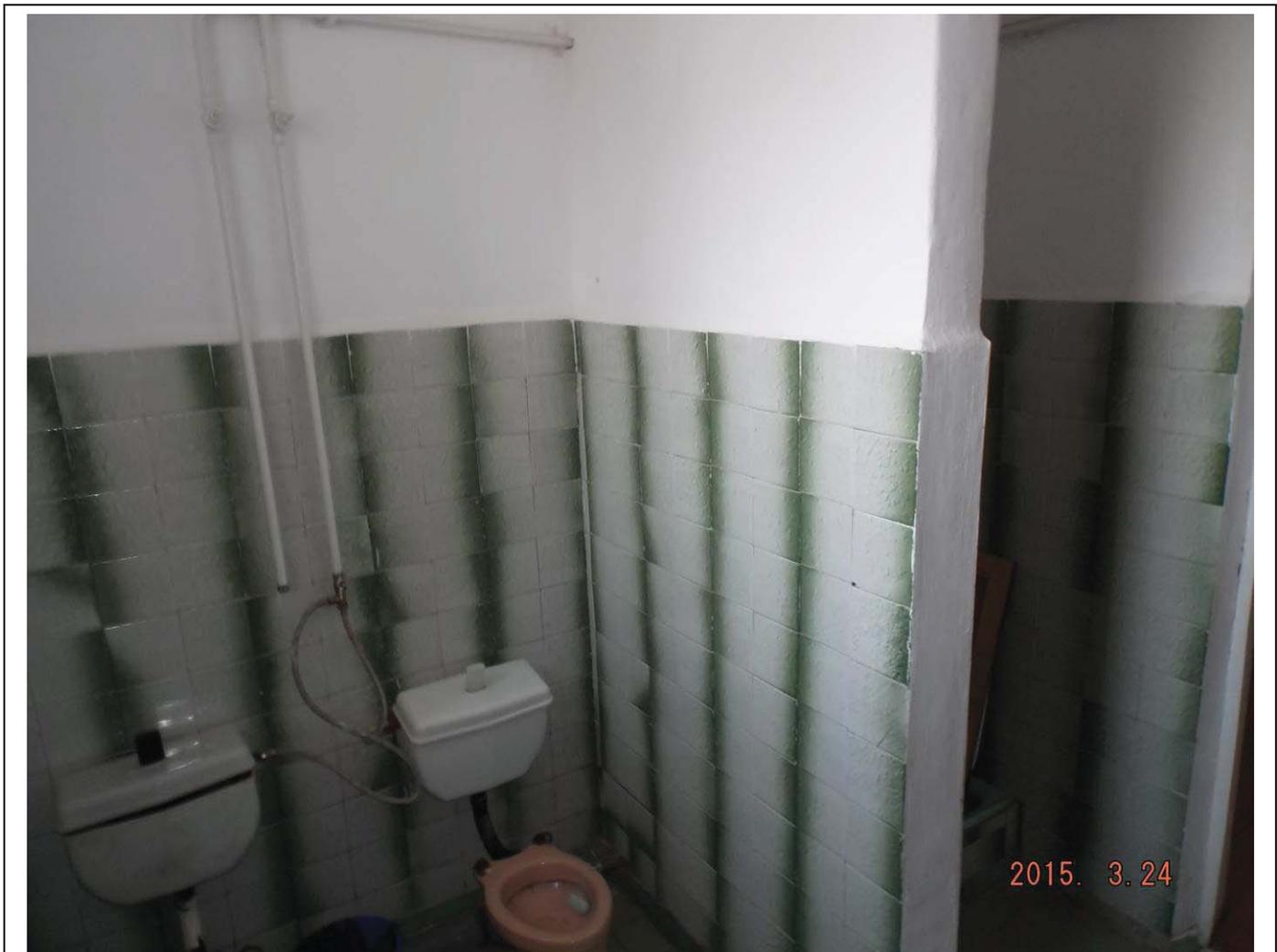
*General condition of bathrooms to be completely remodeled.*



*Doors to be changed (location, number and width). Walls to be painted (except the one with the*



*General condition of bathrooms to be completely remodeled.*



*General condition of bathrooms to be completely remodeled.*



*General condition of bathrooms to be completely remodeled.*



*General condition of bathrooms to be completely remodeled.*



*General condition of bathrooms to be completely remodeled. All floors to be at the same elevation.*

## 2.6 COMMEMORATIVE PLAQUE

The contractor shall provide and install 1 commemorative plaque at the location to be indicated by the Contracting Officer. The plaques shall have the following information engraved on it:

- Colored Flag of Ukraine
  - Colored Flag of the United States of America
  - This text (or similar): “The renovation of this school was made possible through a donation from the people of the United States of America to the People of Starychi with the support of the Office of Defense Cooperation and US Embassy in Ukraine – Date”
  - Same text as above in Ukrainian.
- Minimum thickness 6 millimeters of aluminum.
  - Minimum dimensions 75 centimeters wide by 50 centimeters high.
  - Resistant to outdoor weather and UV radiation.
  - Plaque to be manufactured by specialized company.
  - Before purchasing the plaque, the contractor shall submit the design to the Contracting Officer for approval.



*Typical similar plaque provided in other Ukrainian project*



*Typical similar plaque provided in a renovation project in Bulgaria*

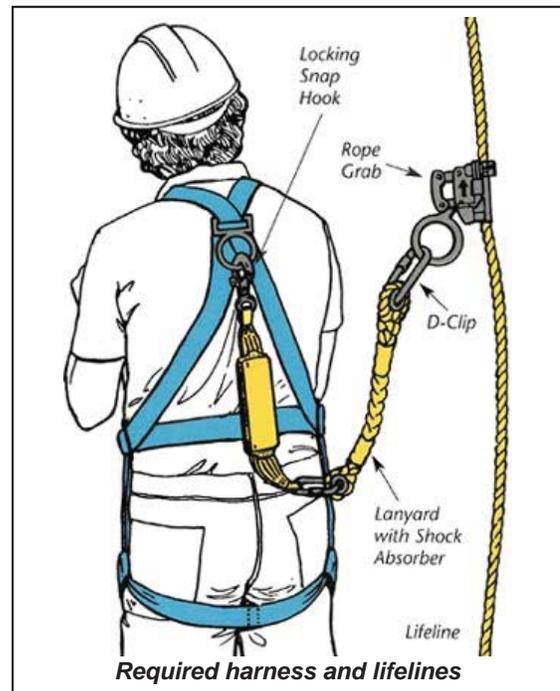
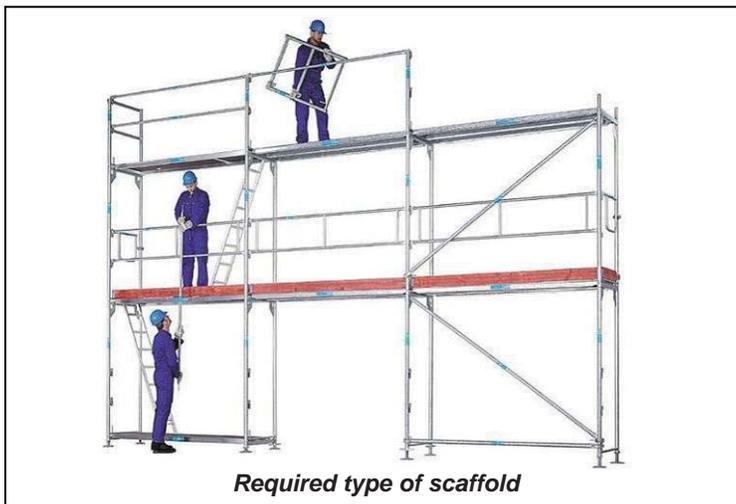
## 2.7 SCAFFOLDING – MANLIFTS – HARNESS – FALL PROTECTION

In order to perform some of the works in this contract, the contractor shall be required to install scaffolding or to use manlifts.

Despite the scaffolds that may be authorized by Ukrainian 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 #78. 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.

Despite the requirements of Ukrainian Law for Fall Protection, any contractor employee working on the roof shall be protected with an approved harness properly tied to an approved lifeline.

All other requirements of EM385-1-1 (Safety manual of US Army Corps of Engineers) and of Ukrainian Law applies for every work activity included in this project.



### 3. DETAILED SCOPE OF WORK (CONTRACT OPTION-1)

Paragraph 2 and all its subparagraphs describe the scope of work for the Base-Bid. The Base-Bid is the minimum part of the project that will be awarded to the successful offeror. Paragraph 3 describes the scope of work of Contract Option 1. This contract option-1 describes additional elements and work that will be awarded, or not awarded, depending upon availability of funds as well as other factors to be unilaterally considered by the US Government. The US Government reserves the unilateral right to award this contract option. The contractor shall provide separate pricing for Contract Option-1, as described in the Request for Proposal (RFP) documents.

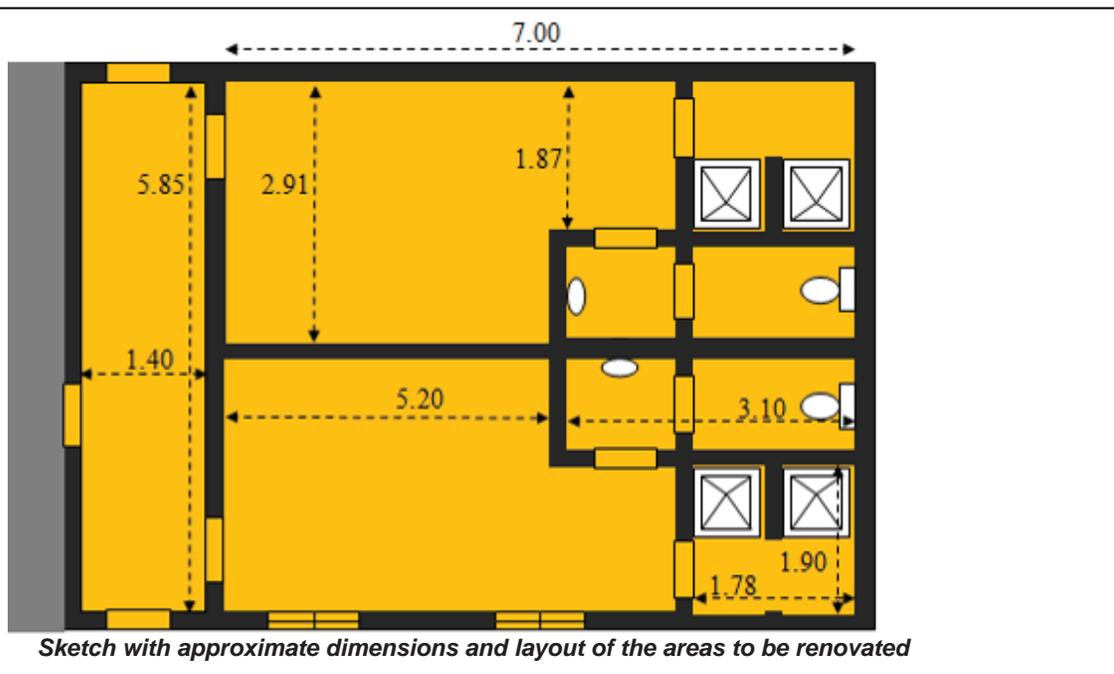
In summary, Contract Option-1 includes improvements and repairs to the locker rooms and gymnasium room.

#### 3.1 LOCKER ROOM REPAIRS

The contractor shall hire the services of an architect or interior designer, licensed in Ukraine, to design the new locker room areas.

This project includes the complete renovation of the two locker rooms and the hallway connecting the locker rooms with the main gymnasium area

Below it is included a sketch with approximate dimensions and layout of locker rooms and hallway to be renovated. This sketch should only be used to identify the areas to be renovated and the contractor is responsible to visit the job site, measure and take note of the existing layout and conditions in order to prepare their offer. The US Government is not responsible for any mistakes or assumptions of the field conditions and measurements that the contractor could make if their offer is based exclusively on these sketches.



Once the project is completed, the renovated areas under the scope of work of this contract option-1 shall have the appearance of completely new and high quality facilities.

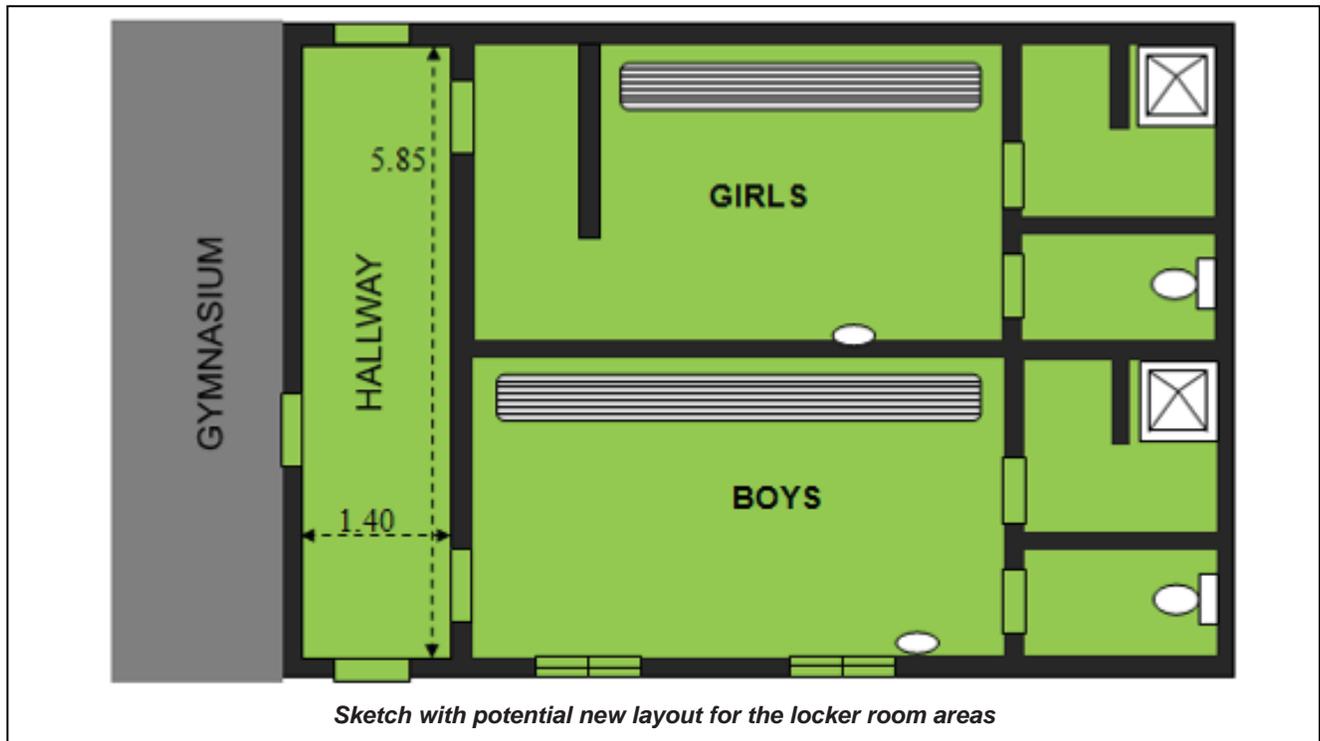
All requirements of paragraph 2.5 are applicable to this paragraph. This means that all details and accessories and qualities for the bathrooms shall also be applicable for the locker rooms and hallway.

The work includes, but is not limited to the following:

### **NEW LAYOUT**

The areas currently occupied by the locker rooms shall be completely renovated, including new layout, in order to provide in strict compliance with Ukrainian regulations the plumbing appliances and spaces included in the sketch below. This sketch represents a potential technical solution, but it shall be the architect or interior designer hired by the contractor the one to propose to the Contracting Officer the new layout of the area.

**Note:** Prior to start of renovation works, the contractor shall provide a sketch to the Contracting Officer Representative for acceptance. In previous projects, there have been problems such as: improper selection of toilet fixtures (too large for reduced space), improper ventilation, improper mirrors, improper aluminum partitions, or improper ceramic tiles. The contractor shall provide to the Contracting Officer representative a clear sketch or draft design indicating their proposed design meeting the requirements of this contract and the requirements of the Ukrainian regulations.



Technical requirements for the new layout, demolitions, new partitions, exterior windows, doors, floors, walls, ceiling, water piping, sewage, drainage, vent piping, floor drains, hot water, heating system, ventilation, electrical, mirrors, toilets, sinks, faucets, hand driers, wall faucet and accessories shall be similar to the ones specified for the bathrooms in the Base-Bid.

The sinks do not need to be recessed on a countertop, but they can be single wall mounted sinks, without any contact with the floor.

### **Specific Requirements for each area for the locker rooms:**

#### **- Girls' Locker Room**

- Provide a masonry partition to guarantee privacy of users when hallway door is open, similar to the one shown in the sketch
- Provide one enclosed shower area, with space to hang clothes/towel.
- Provide one enclosed European style toilet seat.
- Provide one wall mounted sink with mirror over it.
- Provide one wall mounted hardwired hand drier.
- Mirror to be minimum 1 meter wide by 0.6 meter high.
- Provide a long bench along the longest available wall (minimum 4.5 meters). Bench to be metal framed with wooden seat and bolted to the walls.
- Provide a minimum of 40 wall mounted heavy duty stainless steel hangers, in coordination with the benches.
- Provide one wall mounted faucet (preferably in the shower area)
- Provide forced ventilation for all areas. Provide adjustable speed fan to be able to replace the volume of air in maximum of 3 minutes. Higher air volume is required in the toilet and shower areas.
- Lights to be LED technology and rated for direct splash of water in the shower area.
- Do not provide any electrical receptacles.
- Ceiling in shower area to be rated for 100% humidity environment, specifically designed for shower areas.
- Provide hot water to sinks and shower. Provide one single water heater with minimum 100 liter capacity for both girls' and boys' locker rooms.

#### **- Boys' Locker Room**

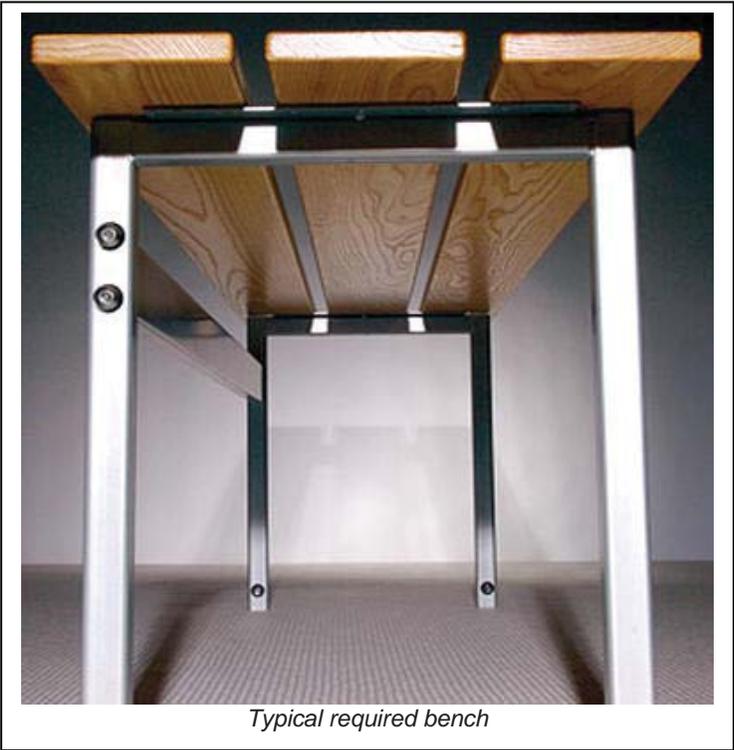
- Provide non transparent glazing for the windows
- Provide one enclosed shower area, with space to hang clothes/towel.
- Provide one enclosed European style toilet seat.
- Provide one wall mounted sink with mirror over it.
- Provide one wall mounted hardwired hand drier.
- Mirror to be minimum 1 meter wide by 0.6 meter high.
- Provide a long bench along the longest available wall (minimum 5.5 meters). Bench to be metal framed with wooden seat and bolted to the walls.
- Provide a minimum of 40 wall mounted heavy duty stainless steel hangers, in coordination with the benches.
- Provide one wall mounted faucet (preferably in the shower area)

- Provide forced ventilation for all areas. Provide adjustable speed fan to be able to replace the volume of air in maximum of 3 minutes. Higher air volume is required in the toilet and shower areas.
- Lights to be LED technology and rated for direct splash of water in the shower area.
- Do not provide any electrical receptacles.
- Ceiling in shower area to be rated for 100% humidity environment, specifically designed for shower areas.
- Hot water heater previously described

- Hallway

- Provide new floor similar to the one specified for the locker rooms
- Remove paint and plaster from the walls, provide new leveling mortar as needed in order to provide perfectly leveled surfaces and provide new paint.
- Provide new suspended ceiling and lighting as for the locker rooms
- Provide new doors. All doors connected to the hallway shall be new. Provide solid wood doors to the school entrance lobby and to the gymnasium with see through window using safety glass (minimum 10 mm thick)







*Existing partitions in locker rooms to be removed*



*Sink in locker room to be removed*



*Typical toilets to be completely removed*

### 3.2 NEW BASKETBALL BOARDS

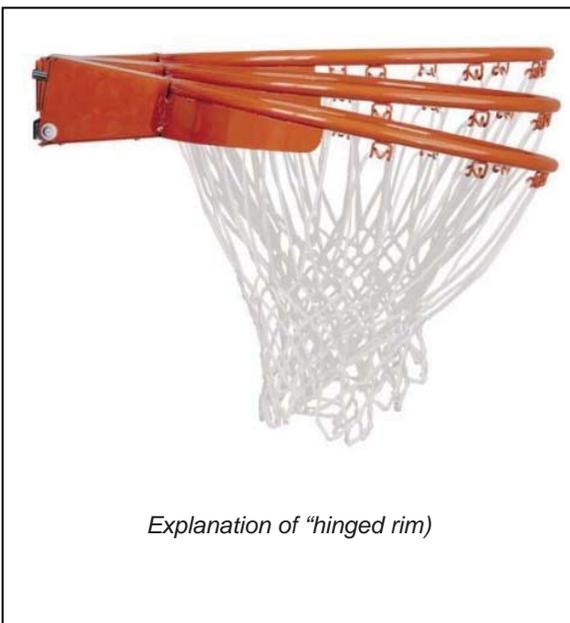
The contractor shall remove the two main basketball boards and provide professional type basketball boards.

The contract includes replacing the two old basketball boards with two new ones with the following characteristics:

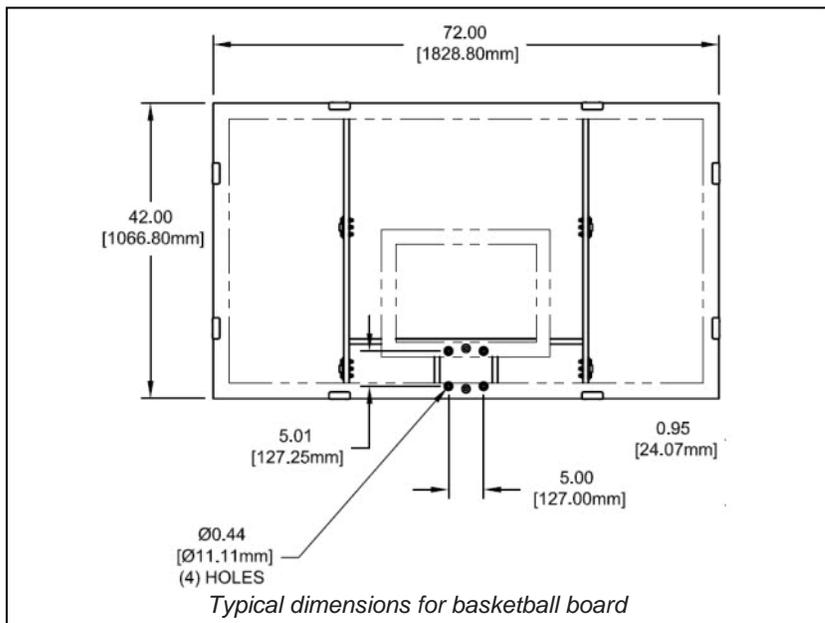
- NBA or FIBA certified (with official stamp or logo)
- Methacrylate board at same distance from wall as existing, and same distance for both.
- Installation to be designed and certified by licensed architect and/or engineer
- Designed with adequate support in the walls and including any additional wall reinforcement that may be required. Repair all wall and/or ceiling damages caused by this installation.
- Installed to support 200 kg of weight at the tip of the rim
- Installed at the official height (10 feet rim height)
- Provided with foam protection in the lowest section of the board
- Hinged rim



*Designed to support 200 kg of vertical load in the rim*



*Explanation of "hinged rim)*



*Typical dimensions for basketball board*



### 3.3 NEW GYMNASIUM LIGHTING

The contractor shall remove the existing lighting system, including lighting fixtures, cables, switches and electrical protection, in order to provide a new energy efficient lighting system in strict compliance with Ukrainian electrical regulations.

The contractor shall hire the services of a licensed engineer or the official services of the manufacturer in order to design the lighting system, including the number and location of the LED technology lighting fixtures in order to provide the highest possible uniformity in the lighting level of the main gymnasium room (approximately 27 x 12 meters), with a minimum illumination level of 300 lux, as required for Army buildings. See table below:

**Table 1. Examples of design illumination levels for selected Army buildings and spaces (IESNA 9<sup>th</sup> Edition Handbook, 200, Illuminating Engineering Society of North America.).**

Building Type	Space Type	Maintained Average Illuminance at working level (lux)	Measurement (working) Height (1 meter = 3.3 feet)
Barracks/Dormitories	Bedrooms	300	at 0 m
	Laundry rooms	300	at 1 m
Educational Buildings	Play room, nursery, classroom	400	at 0 m
	Lecture hall	400	at 0.8 m
	Computer practice rooms (menu driven)	30	at 0.8 m
Office buildings	Single offices	400	at 0.8 m
	Open plan offices	400	at 0.8 m
	Conference rooms	300	at 0.8 m
Educational buildings	Classrooms	300	at 0.8 m
	Classrooms for adult education	400	at 0.8 m
	Lecture hall	400	at 0.8 m
Hospitals	General ward lighting	300	at 0.8 m
	Simple examination	500	at 0.8 m
	Examination and treatment	1000	at 0.8 m
Hotels and restaurants	Self-service restaurant, dining room	100	at 0.8 m
	Kitchen	500	at 0.8 m
	Buffet	100	at 0.8 m
<b>Sport facilities</b>	<b>Sports halls</b>	<b>300</b>	<b>at 0 m</b>
Wholesale and retail sales	Sales area	500	at 0.8 m
	Till area	500	at 0.8 m
Circulation areas	Corridor	50	at 0 m
	Stairs	50	at 0 m
	Restrooms	300	at 0 m
	Cloakrooms, washrooms, bathrooms, toilets	300	at 0.8 m
Industrial	Metal working/ welding	300	at 1 m
	Simple Assembly	300	at 1 m
	Difficult Assembly	1,000	
	Exactng Assembly	3,000-10,000	
Central Plant	Boiler house	50	at 0 m
	Machine Halls	300	
	Side rooms, e.g. pump rooms, condenser rooms etc.	300	
	Control rooms	500	
Vehicle Construction/ Maintenance	Body work and assembly	500	at 1 m
	Painting, spraying, polishing	1000	
	Painting, touch-up, inspection	3,000-10,000	
Wood working and processing	Saw frame	300	at 1 m
	Work at joiner's bench, assembly	300	
	Polishing, painting, fancy joinery	1000	
	Work on wood working machines e.g. turning, fluting, dressing, rebating, grooving, cutting, sawing, sinking	500	

Partial payment for any component of the new lighting system shall not be authorized until the design is provided to the Contracting Officer. Payment above 60% of the lighting system shall not be authorized until the final test is done and certified in presence of School representatives. Testing shall consist of measuring the lighting level with a light meter at the floor level and in different locations throughout the gymnasium room. All results should show lighting levels at or above 300 lux.

Lighting fixtures shall be LED technology, with each individual lighting fixture with minimum of 100 Watts of capacity and ceiling mounted. Lighting fixtures shall be specifically designed to resist typical impacts in a gymnasium room, or they shall be provided with adequate protection.

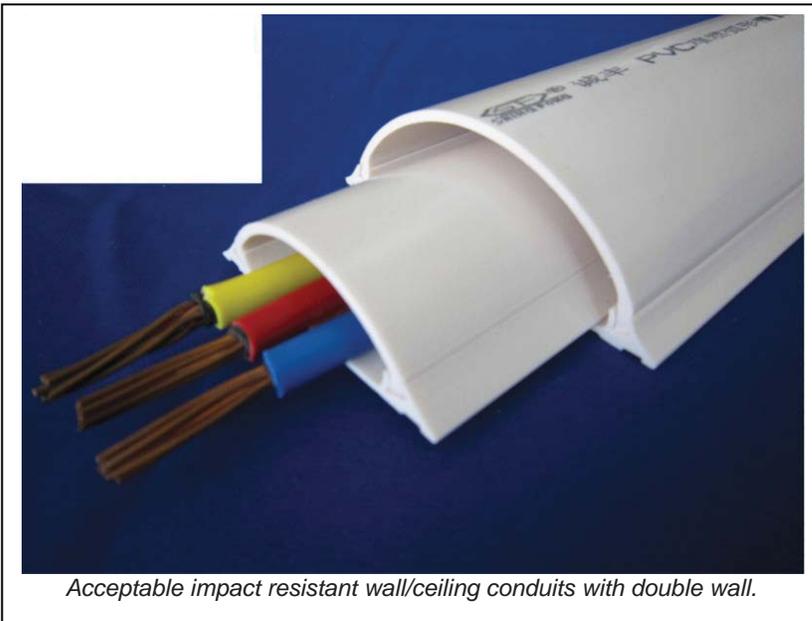
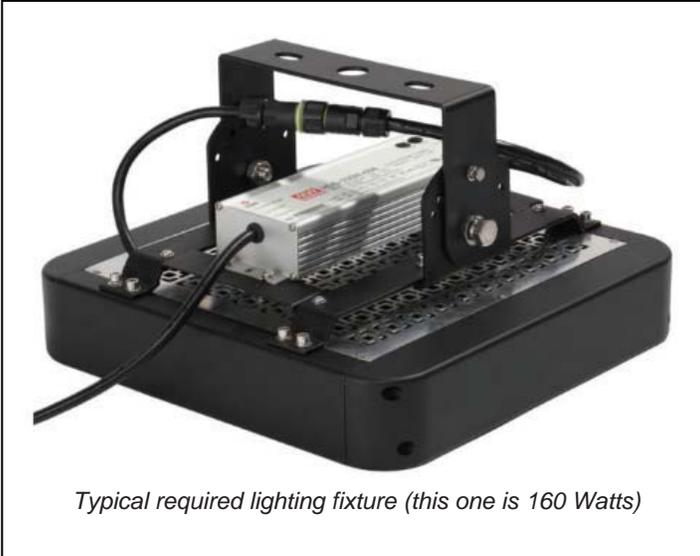
The contractor shall provide minimum of 4 switches, in order for the beneficiary to choose lighting level or areas of the room to be lit. The requirement of 300 lux is with all lighting circuits connected at the time of acceptance testing with the lighting meter.

It is the intent of the project to provide the lighting circuits (new cables) recessed within the walls. However, this contract does not include wall repairs. For that reason, the contractor can choose to recess on the walls the new conduits in which to install the new cables (which would require significant wall repairs to leave them with original appearance), or to provide new heavy duty surface mounted conduits (impact resistant). The installation of the cables without conduits at any location is not authorized. The preferred solution is to install as much as technically possible the new cables on the conduits or electrical canalization that may be available, as long as this complies with Ukrainian electrical regulations.

The minimum 4 switches for the lighting fixtures shall be installed near the main entrance, and they shall be heavy duty industrial switches. The operation of the lighting fixtures with the circuit breakers is not authorized.

The lighting circuits shall be provided with new circuit breakers and shall be connected to an electrical panel in the school with sufficient capacity for the estimated electrical loads.





## 4. DETAILED SCOPE OF WORK (CONTRACT OPTION-2)

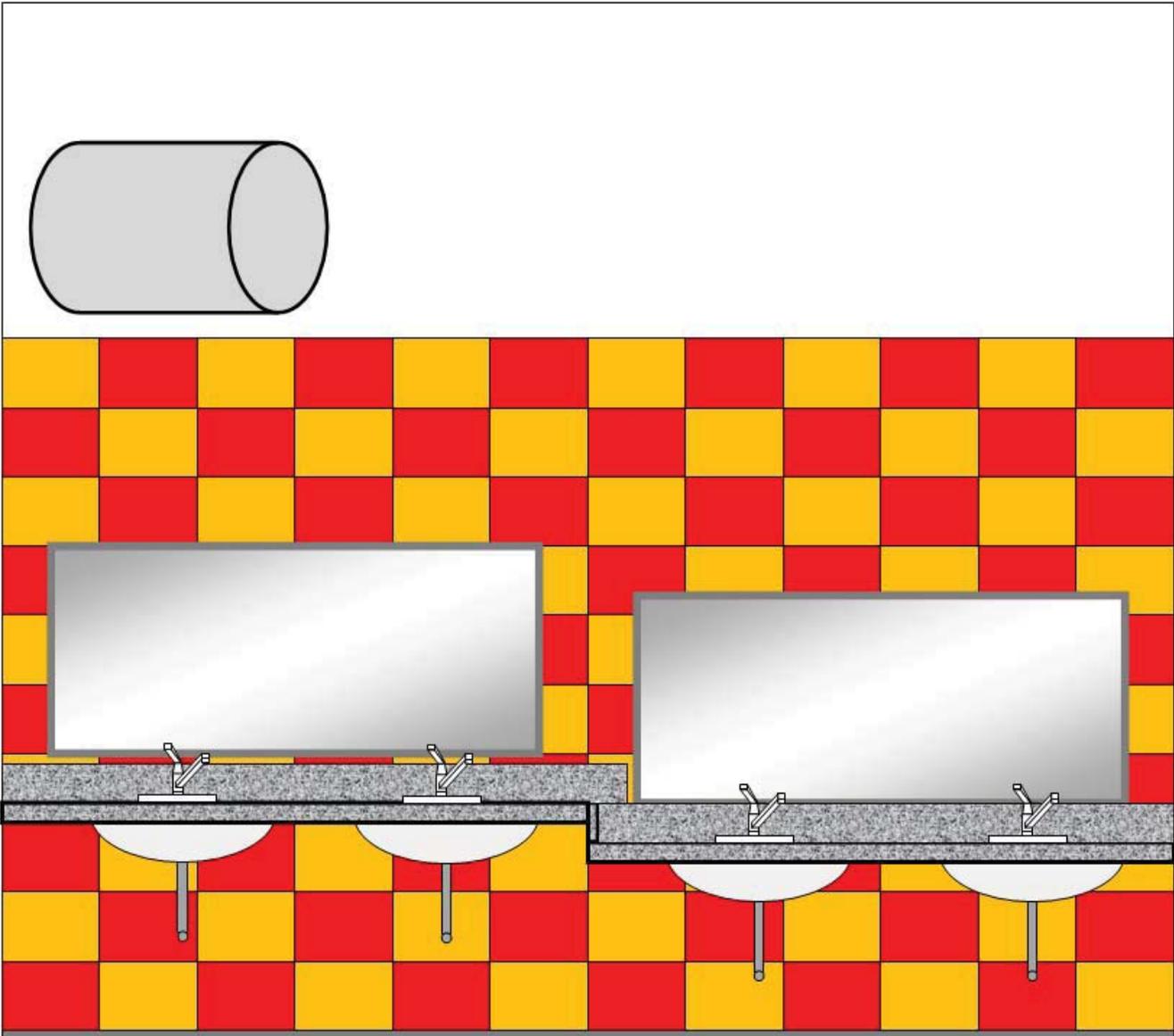
Paragraph 2 and all its subparagraphs describe the scope of work for the Base-Bid. The Base-Bid is the minimum part of the project that will be awarded to the successful offeror. Paragraph 4 describes the scope of work of Contract Option 2. This contract option-2 describes additional elements and work that will be awarded, or not awarded, depending upon availability of funds as well as other factors to be unilaterally considered by the US Government. The US Government reserves the unilateral right to award this contract option. The contractor shall provide separate pricing for Contract Option-1, as described in the Request for Proposal (RFP) documents.

Contract Option-2 includes the complete renovation of the hand washing area at the entrance to the dining room.

The technical and quality requirements are the same as the ones previously described for the bathrooms and locker rooms, with the particularities described herein.

The contractor shall completely remove the 3 existing sinks, the wall tiles, and all related piping, and provide the following appliances, accessories and works:

- Provide new water piping from a point of connection immediately after the water meter (same point of connection as for the new bathrooms and locker room water piping)
- Provide new drainage lines to be connected to the nearest manhole outside the building.
- Provide all water piping on the first (ground) floor recessed behind the new ceramic tiles, including the piping from the new electric water heater. On the basement, water piping can be installed on the ceiling on adequate supports to avoid any deflection.
- Provide all drainage piping on the first (ground) floor recessed behind the new ceramic tiles, but those sections that need to be visible shall be made of stainless steel, including stainless steel p-trap.
- Provide new ceramic wall tiles from the floor up to 2 meters
- Provide full width new granite countertop from exterior school wall to interior corner. Provide countertops at two different heights: for younger and older children
- Provide granite countertop with rounded edges and with wall piece of minimum 12 cm height
- Provide countertop supported by metal supports anchored to the walls, without any support touching the floor, and designed to resist the loads specified in the bathroom countertops.
- Provide 2 mirrors with similar thickness as the ones specified for the bathrooms and with the approximate dimension or design as shown in the sketch included in this paragraph.
- Provide 4 recessed ceramic sinks, at two different heights
- Provide new electric hot water heater to be wall mounted and installed above 2 meters, or as high as technically possible. Provide minimum 50 liters capacity with maximum insulation level provided by the selected manufacturer. Provide new electric circuit to be designed as required by Ukrainian regulations. Connect with adequate new electric protection from the nearest electrical panel with the required available electrical power. All electrical installation to be recessed within the walls, or installed in authorized electric conduits.
- Provide 2 wall mounted and hardwired hand driers, with the same technical characteristics as the ones specified for the bathrooms. Provide new electrical installation with the same requirements as for the electric hot water heater described above.



*Typical sketch for new hand washing area. Hand driers to be installed where indicated by the School Director.*



*Existing condition of hand washing area*

## 5. PROCEDURE

This construction contract is based on 4 principles:

- Strict compliance with US Contracting Regulations, including the requirements of the Department of Defense, the US Navy and Naval Facilities Engineering Command (NAVFAC).
- Strict compliance with Ukrainian technical and legal regulations, with special emphasis on the specific technical regulations regarding educational facilities.
- Strict compliance with Ukrainian Safety regulations, unless the Us safety regulations (USACE EM 385-1-1) is more strict and not in conflict with the Ukrainian safety regulations.
- Compliance with technical requirements described previous paragraphs.

The contractor shall provide a Construction Permit from the Municipality, or the competent Ukrainian authority authorizing the works included in this contract, or a letter certifying that a Construction Permit is not required by Ukrainian Law for the scope of work of this contract.

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 Ukraine governing life/safety, fire protection, building construction, conveying 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 Ukrainian codes, ordinances and regulations will be removed and reinstalled at Contractor's expense.

### 5.1 Permit/Authorizations before and during construction

The contractor is responsible to coordinate, request, pay for any applicable fee and obtain the required construction permits and authorizations that are required for the works included in this construction contract as required by Ukrainian Law. No work shall commence at the job site until the contractor shows sufficient evidence that they have complied with all legal and administrative requirements of Ukrainian legislation.

The contractor shall show licenses or other verifiable evidence that they are legally authorized to perform the works described in these technical specifications in UKRAINE.

All requirements of Ukrainian legislation in order to execute this construction contract, such as declaration of works, information for commencement of works to local state administration, Fire and Technical Safety, registration of appropriate inspection declaration, obtaining the written consent of the owner of the facility, etc, are part of the construction contract.

All requirements of these Web Pages are considered an integral part of this contract. The contractor shall include in their bids the costs of carrying out all requirements of Ukrainian legislation in order to execute and manage this construction contract in strict compliance with Ukrainian legislation.

<http://zakon2.rada.gov.ua/laws/show/466-2011-п>

[http://gost.at.ua/load/normativnye\\_dokumenty/derzhavni\\_budivelni\\_normi\\_dbn/12](http://gost.at.ua/load/normativnye_dokumenty/derzhavni_budivelni_normi_dbn/12)

The construction contract, by signing the award document, is thereafter delegated with the required authority and/or responsibility to obtain all required documents. The US Government remains at the disposal of the construction contractor for any assistance that could be provided, or to provide a letter with official delegation of authority. But it is the contractor's responsibility, and part of this construction contract, to obtain all required permits, authorizations and to coordinate with competent local authorities before construction and during construction.

Currently all construction projects in Ukraine are separated depending on category of complexity. Category of complexity may influence directly on the procedures of receipt of proper city planning (permitting) documents. Construction site may be attributed to appropriate category of complexity either by designer or by the Customer.

Category of complexity of construction site is determined accordingly to state norms and standards considering grade of consequences (responsibility) of such a construction site.

Grade of consequences (responsibility) of construction site is determined according to State Construction Norms of Ukraine (ДБН В.1.2-14-2009) «General principles of providing reliability and structural safeness of facilities, construction structures and foundations» according to levels of possible economic damages and (or) other losses, connecting with suspension of operation or site integrity loss.

Project documentation for facilities construction is developed in the form of procedures determined by order of Ministry of Regional Development, Construction and Housing of Ukraine dated 16.05.11 #45 («Acceptance of project documentation working out order») and also Law of Ukraine «Control of city planning activity». To provide a design of construction project Customer has to supply Prime Designer with input project data.

Input project data may consist of:

- City planning conditions and restrictions,
- Technical specification, which includes grounded requirements of the Customer to planning, architectural, engineering and technological decisions and properties of the facility, its main parameters, cost and construction arrangement and are working out with consideration of city planning conditions and restrictions and technical terms as well.

Construction Design Terms (Technical Specification) is developed and approved by Customer including acceptance of investor and Prime Designer. Approval of Construction Design Terms is implemented through signing and stamping.

Renovation Terms for working out project documentation is developed considering requirements of state construction regulations «Structure, content, order of development, acceptance and approval project documentation to renovate cultural facilities».

Both Prime Designer and Customer should determine grade of consequences (responsibilities) of construction facility and its category of complexity, on the basis of which the number of design stages is established.

Design stages:

for facilities of 1<sup>st</sup> and 2<sup>nd</sup> categories of complexity design is implemented:

- single stage – working draft stage (WDS);
- double stage – for facilities of non-production purpose – draft stage (DS), and as for facilities having production purpose and linear facilities of engineering and transport infrastructure – pre-investment feasibility study (PIFS), and for both – WDS;

for facilities of 3<sup>rd</sup> category of complexity design is implemented in two stages:

- plan stage (PS);
- working documentation stage (WDoS)

for facilities of 4<sup>th</sup> and 5<sup>th</sup> categories of complexity design is implemented in three stages:  
for non-production facilities – DS, or having grounded Customer`s decision – PIFS, and as for production facilities and linear facilities of engineering and transport infrastructure – PIFS, PS, WDS.

Customer and Prime Designer may take the agreed decision as to the number of design stages. When the project is developed depending on the project category of complexity, the 4<sup>th</sup> and 5<sup>th</sup> categories of complexity are subject to compulsory expertise - keeping sanitary and epidemiological standards, ecology, labor protection, energy savings, fire, man-caused, nuclear and radiation safeness, tightness, reliability, durability of buildings and structures, its` operational safeness and engineering securing.

Construction projects of 1<sup>st</sup> and 2<sup>nd</sup> categories of complexity are not subject to obligatory expertise.

### **Implementation of construction works**

All construction facilities according to Ukrainian regulations «Control of city planning activity» depending on complication of architectural and construction decisions and/or engineering equipping are split up into several categories of complexity

Depending on category of complexity Customer is granted the right to fulfill construction according to indicated Law in case:

- start of construction (preparatory) works notification is submitted to proper State Inspection of Architectural and Construction Control;
- start of construction (preparatory) works declaration is registered;
- construction (preparatory) permission is issued by appropriate inspection and is granted to the Customer.

To receive the construction (preparatory) permission as to construction facilities of the 1<sup>st</sup>-3<sup>rd</sup> categories, Customer is obliged to register (submit) *start of construction declaration*. Appropriation of such facilities to the 1<sup>st</sup>- 3<sup>rd</sup> categories of complexity is implemented by any project entity and construction Customer according to state construction norms and regulations considering the grade of consequences (responsibility) of such a construction facility.

Prior start of construction (preparatory) works as to construction facilities of the 4<sup>th</sup> – 5<sup>th</sup> categories of complexity, Customer is obliged to receiving *construction permission*. The order of attributing of construction facilities to the 4<sup>th</sup> and 5<sup>th</sup> categories of complexity is determined by Cabinet of Ministers of Ukraine.

The order of submission and document forms which afford a right of fulfillment construction (preparatory) works is determined by Cabinet of Ministers of Ukraine.

According to clauses of Law of Ukraine «Control of city planning activity» period of registration of

declaration in an appropriate inspection is five working days, and as for construction permission – ten working days from the record date of proper statement.

Also it is necessary to mention that in case construction permission is delegated to another Customer or either change of a Prime Contractor, Contractor or persons responsible for implementation of author supervision, or responsible work executers, Customer (Client) must inform appropriate inspection regarding such changes within three days.

If *construction permission* was received by the Customer, replacement of either Customer or Prime Contractor or Contractor, Customer is obliged to re-process this permission again and such procedure wouldn't stop construction process. In case of replacement of persons responsible for author and technical supervision, or responsible work executers Customer is obliged to informing State Inspection of Architectural and Construction Control, which issued this permission, concerning these alterations within three days from the moment of occurrence.

According to the law, Customer is responsible for fulfillment of construction (preparatory) works without providing information to appropriate inspection concerning beginning, either with non-registered declaration or without received permission from inspection.

Acceptance of operation of completed construction facilities, which may be considered as 1<sup>st</sup> and 3<sup>rd</sup> categories of complexity, and facilities construction of which were implemented under Construction Passport, is accomplished through registration of Declaration of Availability for Service which had been initially provided to the State Inspection of Architectural and Construction Control.

Acceptance of operation of completed construction facilities, which may be considered as 4<sup>th</sup> and 5<sup>th</sup> categories of complexity, is accomplished according to Availability for Service Act through providing proper certificates by State Inspection of Architectural and Construction Control.

## **5.2 Start of Construction**

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

- Provide written evidence that they comply with all legal requirements in Ukraine in order to perform the works described in these PTS.
- Provides copy of the required permits or authorizations from the competent Ukrainian authority authorizing the execution of the works.
- Provides technical information for the designs and 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 accepts their Accident Prevention Plan. See Annex 1 for the requirements of this Plan
- The Contracting Officer Representative accepts their Quality Control Plan. See Annex 2.
- The Contracting Officer Representative accept their Construction Schedule
- Construction Sign is placed on site (see paragraph 5.10)

### 5.3 Scheduling Requirements / Phasing

All work shall be completed within 360 calendar days after project award.

The school shall remain in operation during the execution of the works. The contractor shall closely coordinate the construction activities with the School Director. The contractor shall not impact more than 25% of the school areas at the same time.

For bidding purposes the contractor shall estimate that they will only be allowed to work in two classrooms at the same time. This means for example that if the contractor is replacing the windows in 2 classrooms, they will not be allowed to start in the following classroom until one of them is perfectly finished and cleaned.

### 5.4 Construction Schedule (bar chart is authorized).

Perform all work within 360 calendar days after contract award. Within 15 days after contract award, the contractor shall provide a construction schedule including a minimum of 30 activities.

### 5.5 Accident Prevention Plan

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

Within the timeframe allowed for the final design submission, the Contractor will prepare and submit an Accident Prevention Plan as required and outlined by the US Army Corps of Engineers Safety Manual (EM-385-1-1), describing procedures they plan to perform to ensure the safety of the workers, the staff of the facilities, the general public, the children and the equipment on the job site. The Plan shall clearly define the measurement that the contractor will implement to guarantee that this personnel will not 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 Ukraine Safety Law.

No work shall start at the job site until the Accident Prevention Plan is received and accepted by the US Government representative. In Annex 1 of this document, it is included the requirements and checklist to prepare this Plan.

Ukrainian Safety Code shall be strictly followed unless the requirements of EM385-1-1 are stricter and not in conflict with Ukrainian regulations. The contractor is responsible for the safety of the workers, the safety of the users of the facility and the general public.

## **5.6 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 (Ukrainian or Russian). 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. The Contracting Officer Representative reserves the unilateral right to disapprove this person if it is found that his English language capacity is not sufficient to perform the duties required for such position.

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 Russian/Ukrainian languages.

## **5.7 Submittals – Technical Information**

The contractor shall provide technical information on all materials and equipment to be incorporated to the job site. This information must be sent to and accepted by the Project Manager before they are purchased by the contractor. Any material or equipment utilized at the job site that is not approved by the representative of the Contracting Officer and that if found not to comply with the requirements of this contract (or Ukrainian Legislation) shall be removed at no cost to the US Government. This includes among others:

- floor tiles,
- ceiling tiles,
- toilets,
- sinks,
- boilers,
- radiators,
- doors,
- roofing preformed metal sheets,
- railings,...

## **5.8 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 progress monthly invoices.

### 5.9 Quality Control Plan

Within the timeframe allowed for the final design submission, 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.

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

### 5.10 Construction Sign

Immediately after award the contractor shall prepare and install on site a construction sign with the following characteristics and information on it:

- Wood / plasticized sign with minimum dimensions 2 meters wide by 1 meter high
- Letters and logos prepared by an specialized company and designed for outdoor installation
- Flags of Ukraine and the United States of America
- The following text: THE RENOVATION OF THIS SCHOOL IS FUNDED BY THE UNITED STATES EUROPEAN COMMAND AND PROVIDED TO THE CIVILIAN COMMUNITY OF UKRAINE IN COOPERATION WITH THE STARYCHI CITY ADMINISTRATION. EXECUTIVE AGENT: US EMBASSY IN UKRAINE. CUSTOMER: US NAVAL FACILITIES ENGINEERING COMMAND. PRIME CONTRACTOR:?
- Start and completion dates.
- Same text in Ukrainian.



Example of typical construction sign

## 5.11 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 monthly 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 to justify the amounts for which the contractor is requesting payment
- Filled Contractor's Safety Self Evaluation Form
- Invoice Statement: With this text 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 the Republic of Ukraine;*

*(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.*

Progress payment shall only be authorized if NAVFAC representative verifies on site the amount of work performed, or if the contractor proves with sufficient pictures and documentation that the work was actually performed as required by the contract. NAVFAC representative will disallow from the requested amount those portions of the invoice that the contractor does not prove that they were performed as required by the contract.

### 5.12 Schedule of Prices

In order to process the invoices, the contractor shall send for the acceptance of the Contracting Officer Representative a Schedule of Prices. This document shall include the main elements of the construction contract, and in the invoices the Contracting Officer Representative and PM of the contractor shall agree on the percentages executed for each of the line items.

Only elements that are tangible and incorporated into the job site shall be authorized. Items such as preparation of documents, mobilization, safety, travel costs, overhead and other similar items are not authorized. The value of all items shall be properly distributed. Front-in loading the Schedule of Prices is not authorized.

No invoice shall be processed until the Schedule of Prices is accepted by the Contracting Officer Representative.

Item	Description	Quantity	Units	Unit Price in USD	Value in USD
<b>BASE PROJECT</b>					
1	DESIGN	1	EA	\$12,000.00	\$12,000.00
2	ROOF	1150	m2	\$30.00	\$34,500.00
3	THERMAL FAÇADE	555	m2	\$50.00	\$27,750.00
4	NEW WINDOWS	135	m2	\$150.00	\$20,250.00
5	NEW EXTERIOR DOORS	7	piece	\$500.00	\$3,500.00
6	ENTRANCE CANOPY	1	piece	\$654.00	\$654.00
7	SIDEWALK	180	m	\$10.24	\$1,843.20
8	EXTERIOR GRADING	1	m2	\$10.24	\$10.24
9	ADDITIONAL ENTRANCE	4	piece	\$10.24	\$40.96
10	BASEMENT ENTRANCE	1	piece	\$10.24	\$10.24
11	NEW INTERNAL LAYOUT	1	piece	\$10.24	\$10.24
12	INTERNAL FLOORING	560	m2	\$10.24	\$5,734.40
13	INTERNAL WALLS	1,200	m2	\$10.24	\$12,288.00
14	INTERNAL WINDOWS	1	piece	\$10.24	\$10.24
15	INTERNAL DOORS	96	m2	\$10.24	\$983.04
16	CEILINGS	560	m2	\$10.24	\$5,734.40
17	ELECTRICAL	1	piece	\$10.24	\$10.24
18	FIRE ALARM	1	piece	\$5,200.00	\$5,200.00
19	COMMUNICATION	1	piece	\$2,352.00	\$2,352.00
20	WATER DISTRIBUTION	1	piece	\$1,565.00	\$1,565.00
21	SEWAGE	1	piece	\$3,650.00	\$3,650.00
22	PATHOGEN DISCHARGE	1	piece	\$5,568.00	\$5,568.00
23	HEATING	1	piece	\$5,688.00	\$5,688.00
24	VENTILATION FOR LABS.	1	piece	\$455.00	\$455.00
25	COMMEMORATIVE PLAQUE	1	piece	\$500.00	\$500.00
<b>CONTRACT OPTION-1</b>					
26	Exterior Pavement	125	m2	\$56.00	\$7,000.00
27	Generator,Water Tank,Split AC	1	piece	\$6,500.00	\$6,500.00
28	Additional Filters	1	piece	\$1,000.00	\$1,000.00
29	Rooms 28, 30, 32, 34 and HOL	1	m2	\$4,655.00	\$4,655.00
30	Stairway	1	piece	\$8,542.00	\$8,542.00
<b>TOTAL CONTRACT</b>					<b>\$178,004.20</b>

*Example of typical Schedule of Prices for a contract with one option*

### 5.13 Occupancy of the building

The facility will remain operational during the performance of works. Daily coordination with the Director of the School will be absolutely necessary and required as part of this contract.

The facility will be occupied by staff and users of the facility (students and school staff). The safety of the users of the facility, as well as the general safety of the job site, shall be the first priority of the construction contractor. **Children shall be properly separated from the construction areas by means of proper fences or barricades to be provided by the contractor.** Strict compliance with Ukrainian occupational safety and health regulations and with EM385-1-1 is required by this contract.

For estimating purposes, the contractor shall estimate that they shall not occupy or impact the operations of more than 25% of the school areas and 2 operational classrooms.

No garbage or scrap materials or construction materials shall be left in operational areas of the school building.

1 of the 3 bathrooms included in the Base-Bid shall remain operational during the performance of the works. The school shall not be left without any operational bathrooms at any time during the performance of the works.

### 5.14 Payment for Utilities

The contractor is responsible to pay for any additional consumption of heat or electricity, which may be required for the execution of these works.

For electricity: They shall pay directly to the utility company

For heating: They shall pay to the agency, entity or company providing heating. Calculation shall be done proportionally and interpolating in relation with the energy consumption of the facility.

### 5.15 Damages/Impact to Existing Facilities

The contractor is responsible to repair any damage or impact caused by their construction activities to any premises of the school. This includes potential damages such as:

- Dust on operational areas of the school
- Water infiltration to areas not under the scope of work caused by humid concrete/plaster
- Scratches on walls, ceilings or flooring surfaces
- Damages to the school fences or exterior grounds

## **6 GENERAL TECHNICAL SPECIFICATION**

### **6.1 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.

### **6.2 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 Ukraine governing life/safety, fire protection, building construction, HVAC (heating ventilation and air conditioning) systems, plumbing systems, electrical systems, 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.

The contractor shall prepare, process and pay for all designs and technical documents and their corresponding fees that may be required by Ukrainian regulations for the works included in the scope of work of this project.

### **6.3 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.
- The use of materials containing asbestos is prohibited.

## 6.4 RESPONSIBILITY OF NEW MATERIALS

All materials delivered to the construction site shall remain in the ownership and responsibility of Contractor. Contractor will be responsible to safeguard the procession and condition of the material until US Government takes procession of the finalized project. Any materials or equipment stolen or disappeared from the job site before final acceptance is the responsibility of the contractor.

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

## 6.5 RESPONSIBILITY AND OWNERSHIP OF REMOVED MATERIALS

All refuse or salvaged materials are the property of the school, and therefore they shall be cleaned and moved to a location within the plot of land belonging to the school. Prior to moving them to the location to be indicated by the School Director, they shall be cleaned. The contractor is not responsible in case something is damaged or broken during its removal or transportation. This applies for example to items such as the old doors, the wooden windows or toilet appliances.

Those elements that are not requested by the School Director (including any of the items described in the previous paragraph that the School Director may not want) shall become the property of the Contractor and shall be disposed of, off-site, in accordance with applicable Ukrainian regulations. The Contracting Officer may ask for receipts of proper disposal of debris, or excess materials.

## 6.6 SAFETY AND PROTECTION

Execution of this construction contract requires compliance with Ukrainian or USACE Safety regulations. In addition to the Accident Prevention Plan which needs to be prepared as outlined in EM385-1-1 (see Annex 1), the contractor is responsible to prepare all necessary safety documentation, studies, reports, books, design or logs, which may be required by Ukrainian regulations/legislation.

- 6.6.1 Safety of the children in the facility, safety of the workers, visitors, and general public shall be the highest priority of the contractor.
- 6.6.2 The contractor shall comply with the Safety Manual of the US Army Corps of Engineers (EM-385-1-1), wherever this US manual has more stringent (and not in conflict) with safety requirements than those required by Ukrainian Code. A digital copy of this manual can be found here: [http://140.194.76.129/publications/eng-manuals/em385-1-1/2008\\_English/toc.html](http://140.194.76.129/publications/eng-manuals/em385-1-1/2008_English/toc.html).

- 6.6.3** In accordance with paragraphs 4.2 and 4.5, the contractor shall provide an accepted copy of their Accident Prevention Plan before any work is authorized to start.
- 6.6.4** The contractor is responsible for the safety of the children in the facility, the contractors employees, subcontractors, visitors and the general public, as they could be affected by this construction project. Contractor shall provide proper fences or barricades to separate the construction areas from the children and general public.
- 6.6.5** The contractor is responsible to comply with Ukrainian Safety Code. All costs of compliance with safety and with Ukrainian safety regulations are the responsibility of the contractor. Any costs related with safety inspections, safety monitoring, or anything else required to comply with the Safety regulations shall be the responsibility of the contractor.
- 6.6.6** The construction areas shall be securely separated from those areas of free access to the general public, especially to the access of the children.
- 6.6.7** 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 Ukrainian 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 Ukrainian law. The contractor shall verify that all employees of the prime contractor or any subcontractor employed in this project meet the legal requirements of Ukrainian 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.

- 6.6.8** 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 PM or Contracting Officer Representative (COR), at no cost to the Government.
- 6.6.9** The Contractor shall comply with all applicable safety regulations of Ukraine, including all required record keeping.
- 6.6.10** 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.
- 6.6.11** 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 and existing installations likely to be damaged as a result of the construction activities (i.e. roofing work).
- 6.6.12** 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).
- 6.6.13** 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.
- 6.6.14** Special precautions shall be taken to maintain the area around the facility clean for its intended service to the Community. The contractor must take into consideration that there are children in the compound, and that the compound will remain in use at all times during the renovation project.
- 6.6.15** Injuries to any person and damage to any property not belonging to the Contractor shall be reported immediately to the PM or COR (Contracting Officer Representative). Compensation to any third party affected by the construction activities (such as damage to private property) shall be the exclusive responsibility of the contractor.

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

The contractor shall be legally capable of performing construction and design works in Ukraine, as required by Ukrainian regulations. The contractor shall possess the necessary licenses and authorization in order to be able to perform the design and construction activities described in this document in strict compliance with Ukrainian legislation.

All workers employed or performing any works for this construction project shall be legally capable of performing such works in Ukraine. This includes work permits for any worker not legal resident in Ukraine.

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, communications, etc. The contractor is responsible for acquiring any required certifications (licensing). 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. The Contracting Officer Representative may require at any time evidence of proper construction licensing of the contractor.

Coordinate all permit requirements with the competent local authorities or with the Contracting Officer as required. 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.

## **6.8 COORDINATION.**

All coordination with the municipal, regional and 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 contract duration or contract price.

Coordination between the contractor and the School Director is required on a daily basis.

## **6.9 SPECIAL SITE CONDITIONS**

Confine all operations, equipment, apparatus and storage of materials, to the immediate area of work to the greatest possible extent. 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 or hours of allowable ingress and egress.

## **6.10 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.

All waste areas and storage areas will be cleaned up to the PM'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. Any garbage of debris to stay at the job site for more than one day will be stored in proper approved containers, properly separated from children and general public. Stockpiling debris and garbage directly on the ground is not acceptable.

## **6.11 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 lamp of each type utilized for this project,
- 5 m<sup>2</sup> or 5% of each type of flooring or ceramic tile utilized
- 20 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.

## 6.12 WARRANTY AND ACCEPTANCE

The completed works shall have the warranty periods required by Ukrainian regulations, which under no circumstance shall be less than one year general warranty and one special 10 year warranty for any roof works. The contractor shall provide the warranty letter to the School Director 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 are completed.

The contractor shall notify the US Government representative at least two months 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 letters
- 2 books, packages or boxes containing all technical, maintenance and administrative documentation of the contract. One box to remain in the municipality and the other to be sent to the US Embassy in Kyiv.
- A list of spare parts provided to the facility signed by the School Director.
- Certificate of occupancy by the School Director or other competent Ukrainian authority, or if applicable, letter by School Director or competent Ukrainian authority certifying that the contractor has completed the works included in this contract.

**<<<END OF PERFORMANCE TECHNICAL SPECIFICATIONS>>>**

# 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 of safety documentation that may be required by Ukrainian 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 (AHA – 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:		
	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.	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.:

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

- G1 - Mobilization / General Construction**
  - G2 - Demolition**
  - G3 - Scaffolding / Fall Protection**
  - G4 - Excavation / Trenching**
  - G5 - Electrical**
  - G6 – Cement Work**
  - G7 – Masonry Work**
  - G8 – Confined Spaces & Hazardous Atmosphere**
  - G9 – Plumbing**
  - G10 – Painting**
  - G11 – Steel Structure Erection**
  - G12 – Abrasive Blasting**

### 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.                        |
| <input type="checkbox"/> Pressurized equipment/systems.     | <input checked="" type="checkbox"/> Scaffold systems.                      |

- Respiratory protection.
- Rigging.
- Rotating work platform.
- Safe lifting techniques.
- Steel erection.
- Vehicle-mounted elevating platforms.
- Wearing/maintaining PPE.
- 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);		×			

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

- 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).**  NA.  
**\*\*\*Written Company plan required.**

- 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).**  NA.  
**\*\*\*Written Company plan required.**

- 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).**  NA.  
**\*\*\*Written Company plan required.**

- 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)).**  
**\*\*\*Written Company plan required.**

**NA.**

- Use Regulator to control Air supply.
- Change Filters at the advised frequency.
- Monitor the air supply and ensure adequate supply of air.
- Ensure the Dead Man's switch is in good operating condition.
- Make sure blasting is only done by trained personnel with the proper PPE.
- Barricade the area to prevent unauthorized entry.
  - Turn machine 'Off' prior to moving equipment. Follow 'Lock Out / Tag Out' procedures.
  - Ensure the Dead Man's switch is in good operating condition.
  - Maintain and ensure good housekeeping.
- Wear proper Respiratory PPE.
- Wear proper PPE (Gloves and Tyvek suit). Take breaks and hydrate when high temperatures are encountered while wearing PPE.
- Dispose of blasting residue according to all Environmental regulations.

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

**NA.**

- 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).**  
**\*\*\*Written Company plan required.**

**NA.**

- 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).**  NA.  
**\*\*\*Written Company plan required.**

- 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).**  NA.  
**\*\*\*Written Company plan required.**

- 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).**  NA.  
**\*\*\*Written Company plan required.**

- 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).**  
**No written plan required.**

**NA.**

- 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).**  
**\*\*\*Written Company plan required.**

**NA.**

- 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).**  
**\*\*\*Written Company plan required.**

**NA.**

- 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 1/2" 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).**  
\*\*\*Written plan required.

NA.

- 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).**  
\*\*\*Written Company plan required.

NA.

- Verify the Weight of the Objects to be picked.
- Inspect slings before each pick. Remove all cut or frayed slings.
- Check winch lines regularly.
- Make sure workers have proper skills and experience.
- Know hand signals; Use Tag Ropes and Pay Attention.
- Use Spud Wrench & Pull Pins.
- Know where steel is supposed to be landed.
- No lifting near energized wires and maintain proper clearances.
- If welding steel, wear Proper Eye Protection for High Energy Light Source as well as to protect from impact.
- Wear proper PPE (Gloves and Eye Protection). Take breaks and hydrate when high temperatures are encountered while wearing PPE.
- Follow erection plan and drawings. Ensure a sequential erection procedure is prepared, which has been approved by the erection engineer.
- Make provisions for positive connections between members of the structure that have been specified to resist imposed lateral and vertical force.
- Reinforcement required for in-service loads and temporary conditions. Ensure temporary guys or bracing are securely anchored

- Steel Members should be clearly marked and labeled.
- Verify the stability of the structure in accordance with the erection engineer’s specifications:
  - at the end of each work day
  - when fastenings may be incomplete
  - during strong winds or when strong winds are forecast.

**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).**  NA.  
**\*\*\*Written Company plan required.**

- 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.

# 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.

<b>ID No.</b>	<b>Feature of work / phase of work</b>
<b>1</b>	G1 - Mobilization / General Construction
<b>2</b>	G2 - Demolition
<b>3</b>	G3 - Scaffolding / Fall Protection
<b>4</b>	G4 - Excavation / Trenching
<b>5</b>	G5 - Electrical
<b>6</b>	G6 – Cement Work
<b>7</b>	G7 – Masonry Work
<b>8</b>	G8 – Confined Spaces & Hazardous Atmosphere
<b>9</b>	G9 – Plumbing
<b>10</b>	G10 – Painting
<b>11</b>	G11 – Steel Structure Erection
<b>12</b>	G12 – Abrasive Blasting

# **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 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>

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**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:**

## **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.**

#### **Optional:**

# 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
- f. Cement Work
- g. Masonry Work
- h. Confined Spaces
- i. Plumbing
- j. Painting
- k. Steel Structure Erection
- l. Abrasive Blasting

Contractors are authorized to utilize the attached Generic AHAs relevant to each of the above said activities in their submittal and then incorporate them into their Accident Prevention Plan (APP). The Contractor is responsible for reviewing this document in its entirety and to make any changes to adapt the document to their construction practices. The Contractor may substitute their own AHAs for submittal review if they have their own APP and AHAs.

NOTE: To use the Generic AHA you MUST complete the tables on the following pages (to be part of your submittal) and fill all blanks and areas denoted by the RED arrows 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 and or modified to meet the needs of the Contractor's operations.

In addition to the changes mentioned above, update the required information pertaining to Contractor Identity, Contract #, Project Name, Date, ID of Qualified Safety Official, and Signatures.

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.:

Project Name:

Location:

Date:

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		
G2 - Demolition		
G3 - Scaffolding / Fall Protection		
G4 - Excavation / Trenching		
G5 - Electrical		
G6 - Cement Work		
G7 - Masonry Work		
G8 - Confined Spaces & Hazardous Atmosphere		
G9 - Plumbing		
G10 - Painting		
G11 - Steel Structure Erection		
G12 - Abrasive Blasting		

ACTIVITY HAZARD ANALYSIS		
ID No. G-1	FEATURE OF WORK: GENERIC AHA – Mobilization / General Construction Hazards	
Contract No.	Project:	Location:
Date:	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>	<ol style="list-style-type: none"> <li>1a. Minimum Personal Protective Equipment Dress:                             <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> </li> <li>1b. Weather:                             <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> </li> <li>2. Dehydration:                             <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> </li> <li>3. Provide approved potable water, toilet and hand washing facilities; food service, and waste disposal per EM 385-1-1 Section 2.</li> <li>4a. Use hand and power tools only if in good working condition and only for intended use. Inspect prior to each use.</li> <li>4b. Do not use any power tool that does not have the proper electrical grounding plug unless it is double insulated.</li> <li>4c. Provide proper guarding on all power tools – especially abrasive and grinding wheels.</li> <li>4d. Do not carry electrical power tools by the cord.</li> <li>4e. Provide all personal protective equipment necessary to control eye, face, head, body, and foot protection for the task.</li> <li>4f. Comply with other specific requirements of EM 385-1-1 Section 13.</li> <li>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.)</li> <li>5b. Store all materials in a neat orderly manner. Do not stack beyond stable levels. (EM 385-1-1 Sec 14)</li> <li>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.)</li> <li>6a. Use proper lifting techniques for manual material handling.</li> <li>6b. Limit one man lifts to no more than 25 kg.</li> <li>7a. All vehicles and heavy equipment must be operated by qualified personnel and in accordance with manufacturer's instructions.</li> <li>7b. Inspect all heavy equipment prior to use (EM 385-1-1 Sec</li> </ol>

		<p>18.A.03) 7c. Passengers must be seated and wearing seat belts during movement. 7d. Backup alarms or ground guides must be used whenever backing where worker are present In the area. 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. 8b. Train all workers on 3Rs – Recognize, Retreat, Report for anticipated UXO. Use the clearance report to anticipate likely items to be found. 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>
Ladders	<ul style="list-style-type: none"> <li>• Defective ladders</li> <li>• Falling</li> </ul>	<ol style="list-style-type: none"> <li>1. Only OSHA approved ladders are to be used.</li> <li>2. Defective and/or damaged ladders shall be removed from jobsite immediately.</li> <li>3. Standing on top step of ladder is forbidden. Use of metal ladders around exposed energized electrical wiring is forbidden.</li> <li>4. Always move the ladder to avoid overreaching.</li> <li>5. Extension ladders are to be properly tied off at the top and rigidly secure at the bottom: The base of the ladder must be set back a safe distance from vertical approximately ¼ of the working length of the ladder.</li> <li>6. Face the ladder at all times when ascending or descending.</li> <li>7. Do not carry any material in your hand while using any ladder. Use Hand line.</li> </ol>
<b>EQUIPMENT</b>	<b>INSPECTION REQUIREMENTS</b>	<b>TRAINING REQUIREMENTS</b>
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.
Prepared by: (Contractor's competent/qualified person signature)		
<input checked="" type="checkbox"/> - AHA Accepted as part of project Accident Prevention Plan		Signature:  Date:

ACTIVITY HAZARD ANALYSIS		
ID No.	G-2	FEATURE OF WORK: GENERIC AHA – Demolition
Contract No.	Project:	Location:
Date:	Activity:	Estimated Start Date:
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.
Prepared by: (Contractor's competent/qualified person signature)		
<input checked="" type="checkbox"/> - AHA Accepted as part of project Accident Prevention Plan		Signature:
		Date:

ACTIVITY HAZARD ANALYSIS		
ID No. G-3	FEATURE OF WORK: GENERIC AHA – Scaffolding / Fall Protection	
Contract No.	Project:	Location:
Date: 9/11/13	Activity:	Estimated Start Date:
PRINCIPAL STEPS	POTENTIAL SAFETY / HEALTH HAZARDS	RECOMMENDED CONTROLS
1. Set-Up	<p>1. Back Strain from uploading or moving scaffold components.</p> <p>2. Lacerations on hands</p> <p>3. Scaffold failure due to damaged scaffolding components.</p> <p>4. Struck by mechanized equipment.</p> <p>5. Loss of load.</p> <p>6. Stuck by suspended loads or material.</p> <p>7. Electrical Shock</p> <p>8. Scaffold failure due to improper set-up</p>	<p>NOTE: All items hazards and controls in generic AHA G1: Mobilization and General Construction Safety apply to this activity.</p> <p>1a. Utilize proper lifting techniques.</p> <p>1b. Size up load before lifting.</p> <p>1c. Ask for help when lifting heavy items more than 50 lbs.</p> <p>2. Wear leather gloves.</p> <p>3a. <b>INSPECT</b> all scaffolding components defects or damage such as cracks, excessive rust, metal fatigue, unauthorized repairs, bent tubing or frame, etc.</p> <p style="padding-left: 40px;">Frames Tubing Base Plates Locking Pins Access Ladder Planking (Wood or Metal) Cross Braces</p> <p>3b. <b>REMOVE</b> damaged or defective scaffold components immediately.</p> <p>3c. Attach tag or label "<b>DO NOT USE</b>" on scaffold component.</p> <p>4a. <b>ALWAYS</b> maintain eye contact with operator of equipment.</p> <p>4b. <b>NEVER</b> stand behind (Blind Spots) equipment.</p> <p>4c. <b>NEVER</b> stand near unloading or moving of scaffold components.</p> <p>4d. <b>ONLY</b> qualified operators shall operate equipment.</p> <p>5a. Secure loads from displacement with ropes, cables, chains, etc. before movement.</p> <p>5b. Ensure load to be lifted is secured, balanced, etc.</p> <p>5c. Keep hands, fingers, or other body parts away from pinch points.</p> <p>6a. <b>NEVER</b> stand underneath suspended loads.</p> <p>6b. Use taglines to control loads when elevated.</p> <p>7a. Check above for overhead power lines.</p> <p>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</p> <p>7c. <b>NEVER</b> string or hang temporary power cords, wires, etc. on metal scaffolding. <b>Consult with Safety Officer.</b></p> <p>8a. Inspect ground conditions (level and firm).</p> <p>8b. Stable base is necessary for proper scaffold assembly.</p> <p>8c. Scaffold shall be tied into structure when the scaffold height exceeds <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>
<p>2. Assembly of Scaffolding</p>	<p>1 Fall from Elevated Heights 2. Scaffold Failure 3. Back Strain 4. Lacerations on hands</p>	<p>1a. 100 percent fall protection required during assembly. 1b. Personnel shall not be exposed to unprotected sides or falls greater than 6 ft (1.8 m). 1c. Scaffolding shall not exceed 14 inches (35.5 cm) from the planking to the face of the building or structure. 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. 1e. Personnel shall be tied off to a vertical lifeline with a rope grab during assembly of scaffolding. 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.) 2b. Scaffolding shall be assembled on mud sills and base plates. 2c. Mud sills shall be at least 2 times the size of the base plates to disperse total weight of scaffolding. 2d. Scaffolding shall be plumb and level. 2e. Working levels shall be fully decked and/or planked. 2f. Planking shall extend over the end supports not less than 6 in (30.4 cm), 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. 2h. Planking shall overlapped at least 12 inches (30.4 cm) or secured from movement. 2i. Scaffold shall be capable of supporting without failure at least 4 times the maximum anticipated loads. 2j. Scaffolding shall be all required cross, horizontal, or diagonal braces to secure vertical members laterally. 2k. Scaffolding shall be rigid.</p> <p>3a. Utilize proper lifting techniques. 3b. Size up load before lifting. 3c. Ask for help when lifting heavy items more than 50 lbs.</p> <p>4. Wear leather gloves.</p>
<p>3. Use of Scaffolding</p>	<p>Scaffold Failure Falls from Heights Slips, Trips, or Fall</p>	<p>1a. <b>DO NOT</b> overload more than 4 times the maximum load rating. 1b. <b>DO NOT</b> attached hoists or other material lifting devices without Safety Officer approval. 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. 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. 2b. Securing of personal fall protection devices to scaffolding is prohibited. 2c. Personnel shall have fall protection whenever above 6 ft (1.8 m). 2d. Climbing of braces or cross bracing is prohibited. 2e. Safe access (ladder) shall be provided. 2f. Personnel shall not stand on mid rails. 2g. Ladders shall extend at least 3 ft (0.9 m) past the work area.</p>

<p>4. Disassembling of Scaffolding</p>	<p>1 Fall from Elevated Heights          2. Back Strain          3. Lacerations on hands</p>	<p>3. Walking surfaces on and around scaffolding shall be clear of debris.</p> <p>1a. 100 percent fall protection required during disassembly.          1b. Personnel shall not be exposed to unprotected sides or falls greater than 6 ft (1.8 m).          1c. Personnel shall be tied off to a vertical lifeline with a rope grab during assembly of scaffolding.          1d. Vertical lifeline shall be secured to an anchor point of at least 5,000 lbs (2,267.9 kg) per individual.          1e. Contact Safety Officer for additional guidance on fall protection requirements.</p> <p>2a. Utilize proper lifting techniques.          2b. Size up load before lifting.          2c. Ask for help when lifting heavy items more than 50 lbs.</p> <p>3. Wear leather gloves.</p>
EQUIPMENT	INSPECTION	TRAINING REQUIREMENTS
<p>Scaffold components          Hammers          Mud sills          Full body harness          Lanyard          Lifeline          Fall protection anchor points          Float</p>	<p>Inspect scaffold components prior to use          Inspect scaffold daily (Use Checklist)          Inspect level and plumb of scaffoldings during erection and daily when in use.          Daily Housekeeping of work areas and scaffolding</p>	<p>Competent Person qualification          Scaffold Assembly          Fall Protection          Inspection of Work Platforms</p>
<p><b>Prepared by:</b>          (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>   <b>Date:</b> 9/11/13</p>

ACTIVITY HAZARD ANALYSIS		
ID No.	G-4	FEATURE OF WORK: GENERIC AHA – Excavation / Trenching
Contract No.	Project:	Location:
Date:	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.	<ol style="list-style-type: none"> <li>1. Cave in / Collapse.</li> <li>2. Fall from excavation / trench edge.</li> <li>3. Inability to egress especially in an emergency.</li> <li>4. Changes in soil conditions / atmospheric conditions in trench</li> </ol>	1, 2, 3, and 4 – same controls as Step 2 above.

	(confined space hazards). 5. Traffic hazards.	
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> (Contractor's competent/qualified person signature)		
<input checked="" type="checkbox"/> - AHA Accepted as part of project Accident Prevention Plan		<b>Signature:</b>  <b>Date:</b>

ACTIVITY HAZARD ANALYSIS		
ID No.	G-5	FEATURE OF WORK: GENERIC AHA – Electrical
Contract No.	Project:	Location:
Date:	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. Electrocutation	NOTE: All items hazards and controls in generic AHA G1: Mobilization and General Construction Safety apply to this activity.  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.  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.)
2. Remove / de-commission existing wiring and electrical equipment.	1. Falls 2. Electrocutation	All controls listed in Step 1 apply to this step also. 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.  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.
3. Install new wiring and electrical equipment	1. Falls 2. Electrocutation	All controls listed in Step 1 apply to this step also. 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.  2a. All controls identified above – plus: 2b. Exercise special care to identify energized temporary electrical wiring from non-energized new wiring. 2c. Do not use permanent wiring to provide temporary power without specific plan for identifying energized circuits.

4. Remove temporary power and energize permanent system.	1. Falls 2. Electrocutation	All controls listed in Step 1 apply to this step also. 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.  2a. All controls identified above – plus: 2b. De-energize all temporary power
EQUIPMENT	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
Hand and power tools Specialized electrical tools and equipment	Tool and equipment inspections Lock-Out / Tag-Out inspections for stored energy	Competent person training and qualification
<b>Prepared by:</b> (Contractor's competent/qualified person signature)		
<input checked="" type="checkbox"/> - AHA Accepted as part of project Accident Prevention Plan		Signature:   Date:

ACTIVITY HAZARD ANALYSIS		
ID No.	G-6	FEATURE OF WORK: GENERIC AHA – Concrete
Contract No.	Project:	Location:
Date:	Activity:	Estimated Start Date:
PRINCIPAL STEPS	POTENTIAL SAFETY / HEALTH HAZARDS	RECOMMENDED CONTROLS
1. Cut Lumber; Set & Secure Lumber; Drive & Secure; Formwork	<ul style="list-style-type: none"> <li>Excessive Noise</li> <li>Cuts/Lacerations</li> <li>Electrical Shock</li> <li>Flying Debris</li> <li>Crush Hazard</li> </ul>	<p>NOTE: All items hazards and controls in generic AHA G1: Mobilization and General Construction Safety, AHA G3: Scaffolding and Fall Protection, and AGA G4: Excavation and Trenching apply to this activity.</p> <ol style="list-style-type: none"> <li>Hearing and eye protection will be worn while operating saws.</li> <li>Inspect and test equipment and cords prior to use.</li> <li>All guards must in place and operational, prior to use.</li> <li>Ensure that no overhead hazards in the work area.</li> <li>Tools that are not in use will be unplugged from their power source.</li> <li>Worker using sledge hammer will ensure that his work area is clear of other workers prior to swinging the hammer.</li> <li>Steel toed boots will be worn.</li> <li>Visually inspect formwork for defects before use</li> <li>Stage formwork as close to the work area as possible to minimize the material handling exposure.</li> <li>Wear gloves, hardhats and proper PPE.</li> <li>Use proper lifting methods when handling forms.</li> <li>Use team lifting when handling awkward, bulky or heavy loads.</li> <li>Make sure to shore forms properly and they are inspected by qualified individual.</li> </ol>
2. Rebar Installation	<ul style="list-style-type: none"> <li>Struck By (Hot Metal)</li> <li>Cuts/Lacerations</li> <li>Mill scale</li> <li>Sharp/Sheared Tire Wire Ends</li> <li>Trips/Falls</li> <li>Impalement Hazard</li> <li>Overhead Power Lines</li> </ul>	<p>All controls listed in Step 1 apply to this step also.</p> <ol style="list-style-type: none"> <li>Workers cutting rebar will wear face shields, gloves, hearing protection, and hard hats.</li> <li>Grinder guards must be in place and fully operational prior to use.</li> <li>Lathers will wear safety glasses, gloves, and hard hats.</li> <li>Construction debris will be removed on a daily basis.</li> <li>All rebar ends shall be capped to protect workers from impalement/laceration hazards.</li> <li>If possible, stack rebar in a location that is free from overhead power lines. If this is not possible, rebar will be moved forward and away from the power lines before being lifted.</li> <li>No workers will be working under suspended rebar cages at any time.</li> </ol>
3. Placing Concrete	<ul style="list-style-type: none"> <li>Mix Truck Placement</li> <li>Struck By/Caught Between</li> <li>Catch in Cement Mixer</li> <li>Hand Injuries</li> <li>Eye Injuries</li> <li>Concrete Burns</li> </ul>	<p>All controls listed in Steps 1 &amp; 2 apply to this step also.</p> <ol style="list-style-type: none"> <li>Use qualified flagmen to ensure a clear path to the work zone.</li> <li>The mix truck will have an operational back-up alarm.</li> <li>Only the truck's operator will place the chute and run the mixer.</li> <li>Train mixer operator; Keep hands and loose clothing away from moving parts; Use of kill-switch on mixer</li> <li>Wear safety glasses when working with wet concrete.</li> <li>Wear impervious gloves, boots and pants when working with wet concrete.</li> <li>Wash off any excess concrete from your skin as soon as possible.</li> </ol>
4. Removing concrete forms.	<ul style="list-style-type: none"> <li>Slips/Trips/Falls same level</li> <li>Fall from Elevation</li> <li>Manual Material Handling</li> <li>Struck by falling/flying materials</li> </ul>	<p>All controls listed in Steps 1, 2 &amp; 3 apply to this step also.</p> <ol style="list-style-type: none"> <li>Visually inspect any tools or equipment to be used in the formwork removal operation for defects or damage before each use.</li> <li>Stage formwork transportation cages as close to the work area as</li> </ol>

		<p>possible to minimize the material handling exposure.</p> <ol style="list-style-type: none"> <li>3. Be sure the walking/working areas around the forms and the form cages are free from ruts, holes and accumulation of water.</li> <li>4. Be sure that the formwork is in the firm grasp of the worker(s) before removing any of the form supports.</li> <li>5. Safety glasses to be worn at all times when removing the forms due to the flying object exposure.</li> <li>6. Use proper lifting methods when handling forms.</li> <li>7. Personal fall arrest systems, PFAS, will be utilized to control fall hazards.</li> <li>8. PFAS will be utilized whenever the workers are exposed to a fall greater than six feet.</li> <li>9. Gloves will be worn when handling forms to prevent cuts and scrapes</li> <li>10. Hardhats and safety glasses will be worn at all times to protect the workers from flying/falling objects.</li> <li>11. All form removal work is to be performed at the direction of the competent person.</li> </ol>
EQUIPMENT	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
Power and hand tools; Rebar	Tool and equipment inspections Lock-Out / Tag-Out inspections for stored energy; Inspect hand tools for defects; Inspect PPE for wear or defects; Inspect rebar for sharp edges and impale hazards.	Competent person training and qualification
<p><b>Prepared by:</b> (Contractor's competent/qualified person signature)</p>		
<input checked="" type="checkbox"/> - AHA Accepted as part of project Accident Prevention Plan		<p><b>Signature:</b></p>  <p><b>Date:</b></p>

ACTIVITY HAZARD ANALYSIS		
ID No. G-7	FEATURE OF WORK: GENERIC AHA – Masonry	
Contract No.	Project:	Location:
Date:	Activity:	Estimated Start Date:
PRINCIPAL STEPS	POTENTIAL SAFETY / HEALTH HAZARDS	RECOMMENDED CONTROLS
1. Material Handling	<ul style="list-style-type: none"> <li>• Back Injuries</li> <li>• Crush Injuries</li> <li>• Cuts, Bruises and Contusions</li> <li>• Eye Injuries</li> </ul>	<p>NOTE: All items hazards and controls in generic AHA G1: Mobilization and General Construction Safety, AHA G3: Scaffolding and Fall Protection, AGA G4: Excavation and Trenching and AHA G6: Concrete apply to this activity.</p> <ol style="list-style-type: none"> <li>1. Train employees in proper lifting techniques with bent knees and back erect.</li> <li>2. Use equipment such as cable or jacks to lift heavy objects.</li> <li>3. Ask for help from others. Think before lifting.</li> <li>4. Proper hand protection shall be worn when handling sheet metal raw goods.</li> <li>5. Hard hats shall be worn at all times. Eye protection shall be worn.</li> </ol>
2. Material Installation and Rebar Installation	<ul style="list-style-type: none"> <li>• Crush Injuries / Cuts / Lacerations</li> <li>• Mill Scale</li> <li>• Sharp/Sheared Tire Wire Ends</li> <li>• Trips/Falls</li> <li>• Impalement Hazard</li> <li>• Overhead Power Lines</li> </ul>	<p>All controls listed in previous steps apply to this step also.</p> <ol style="list-style-type: none"> <li>1. Workers cutting rebar will wear face shields, gloves, hearing protection, and hard hats.</li> <li>2. Grinder guards must be in place and fully operational prior to use.</li> <li>3. Lathers will wear safety glasses, gloves, and hard hats.</li> <li>4. Construction debris will be removed on a daily basis.</li> <li>5. All rebar ends shall be capped to protect workers from impalement/laceration hazards.</li> <li>6. If possible, stack rebar in a location that is free from overhead power lines. If this is not possible, rebar will be moved forward and away from the power lines before being lifted.</li> <li>7. No workers will be working under suspended materials at any time.</li> </ol>
3. Placing Mortar	<ul style="list-style-type: none"> <li>• Mix Truck Placement</li> <li>• Struck By/Caught Between</li> <li>• Catch in Mixer</li> <li>• Hand Injuries</li> <li>• Eye Injuries</li> <li>• Skin Irritation</li> </ul>	<p>All controls listed in previous steps apply to this step also.</p> <ol style="list-style-type: none"> <li>1. Use qualified flagmen to ensure a clear path to the work zone.</li> <li>2. The mix truck will have an operational back-up alarm.</li> <li>3. Only the truck's operator will place the chute and run the mixer.</li> <li>4. Train mixer operator; Keep hands and loose clothing away from moving parts; Use of kill-switch on mixer</li> <li>5. Wear safety glasses when working with wet concrete.</li> <li>6. Wear impervious gloves, boots and pants when working with wet concrete.</li> <li>7. Wash off any excess mortar from your skin as soon as possible.</li> </ol>
EQUIPMENT	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
Power and hand tools; Rebar;	Tool and equipment inspections Lock-Out / Tag-Out inspections for stored energy; Inspect hand tools for defects; Inspect PPE for wear or defects; Inspect rebar for sharp edges and impale hazards.	Competent person training and qualification
Prepared by: (Contractor's competent/qualified person signature)		
<input checked="" type="checkbox"/> - AHA Accepted as part of project Accident Prevention Plan		Signature: Date:

ACTIVITY HAZARD ANALYSIS		
ID No. G-8	FEATURE OF WORK: GENERIC AHA – Confined Spaces and Hazardous Atmosphere	
Contract No.	Project:	Location:
Date:	Activity:	Estimated Start Date:
PRINCIPAL STEPS	POTENTIAL SAFETY / HEALTH HAZARDS	RECOMMENDED CONTROLS
Confined Spaces (Examples) 1. Intake Structure 2. Outlet Works structures 3. Structural drainage galleries 4. Interior drainage structures 5. Steam Gage house 6. Septic Tanks	<ul style="list-style-type: none"> <li>• Lack of Oxygen</li> <li>• Flammable or toxic atmosphere</li> <li>• Animals</li> <li>• Insects</li> <li>• Heights and Ladders</li> <li>• Slipping and Tripping potential</li> <li>• Temperature extremes</li> </ul>	NOTE: All items hazards and controls in generic AHA G1: Mobilization and General Construction Safety, AHA G3: Scaffolding and Fall Protection, AGA G4: Excavation and Trenching and AHA G6: Concrete apply to this activity. 1. Personnel entering confined spaces will be required to have the 4 hour confined space training class prior to entry. 2. Contact the appropriate project office to determine structures classified as confined spaces and the appropriate procedures prior to entry. This includes contacting the confined space coordinator and coordinating the confined space entry with him. 3. Where appropriate follow confined space procedures to test the atmosphere for lack of oxygen, flammable or toxic atmosphere. 4. Personnel should be wary of animals and pests in the confined space – particularly outlet works and interior drainage structures. Inspect entrances for signs of animal habitation prior to entry. 5. Personnel should note all areas where the potential for falls may occur and ensure the fall protection appears sound before approaching the area. 6. Personnel should inspect ladders prior to their use and use safety equipment when needed. 7. Personnel should inspect areas where debris or slick surfaces are present to prevent tripping and slipping accidents. Appropriate footwear is needed to provide adequate traction. 8. Safety shoes are required for all personnel entering confined spaces to provide both foot wear with traction and to protect the feet 9. Temperatures in confined spaces may vary dramatically from the outside atmosphere, personnel must dress accordingly for these extremes including both cold. 10. Equipment (combustion engine) shall not be allowed to idle near confined spaces. The contractor shall monitor equipment emissions utilizing appropriate data logging capable instruments. The instrument(s) shall be utilized by a qualified person who has been trained to utilize such instrument(s).
EQUIPMENT	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
Power and hand tools; Rebar;	Tool and equipment inspections Lock-Out / Tag-Out inspections for stored energy; Inspect hand tools for defects; Inspect PPE for wear or defects; Inspect rebar for sharp edges and impale hazards.	Competent person training and qualification
Prepared by: (Contractor's competent/qualified person signature)		
<input checked="" type="checkbox"/> - AHA Accepted as part of project Accident Prevention Plan		Signature:  Date:

ACTIVITY HAZARD ANALYSIS		
ID No.	G-9	FEATURE OF WORK: GENERIC AHA – Plumbing
Contract No.	Project:	Location:
Date:	Activity:	Estimated Start Date:
PRINCIPAL STEPS	POTENTIAL SAFETY / HEALTH HAZARDS	RECOMMENDED CONTROLS
<p>Preparing area for plumbing pipes and plumbing fixtures.</p> <p>Installation of plumbing pipes and plumbing fixtures.</p>	<ul style="list-style-type: none"> <li>• Injury from use of hand and power tools</li> <li>• Slip, Trip, Fall hazards</li> <li>• Eye Injuries</li> </ul>	<p>NOTE: All items hazards and controls in generic AHA G1: Mobilization and General Construction Safety, AHA G3: Scaffolding and Fall Protection, AGA G4: Excavation and Trenching apply to this activity.</p> <ol style="list-style-type: none"> <li>1. Employees shall be directed to ensure that there is proper lighting in the work area.</li> <li>2. Housekeeping in the area will need to be kept clean so that there are no tripping hazards created by the debris.</li> <li>3. All tools and equipment will be inspected for damage and defects before use.</li> <li>4. Materials to be utilized for this task are to be staged as close as possible to the work area. Carts and other mechanical devices will be used to minimize the manual handling of the materials, tools and equipment</li> <li>5. Hard hats, safety glasses and hard-soled work boots are required for this and all operations. If power tools are used for the grinding operation, then a face shield will also be provided and it's use will be mandated.</li> <li>6. Materials will be moved to and from the work area on carts and other mechanical devices to minimize the amount of manual material handling.</li> <li>7. Workers using ladders, scaffolding or scissor lifts will follow all of the safe use requirements spelled out by the manufacturers and the guidelines from AHA G1: Mobilization and General Construction Safety, AHA G3: Scaffolding and Fall Protection, AGA G4: Excavation and Trenching.</li> <li>8. Cords and hoses will be moved out of the walking and working areas. When possible, the cords and hoses will be suspended.</li> </ol>
Soldering Piping	<ul style="list-style-type: none"> <li>• Burns</li> <li>• Eye Injuries</li> <li>• Fires</li> <li>• Inhalation of Hazardous Vapors</li> </ul>	<ol style="list-style-type: none"> <li>1. All smelting pots will be set up in well ventilated areas.</li> <li>2. Respirators will be supplied and used (with training) if required.</li> <li>3. Contractor will provide a fire extinguisher in the immediate area around the pot. A Fire Watch will be posted.</li> <li>4. Pots will be located away from water or areas likely to have water present.</li> <li>5. All tools and equipment use in this operation will be free from water to prevent a boil-over accident.</li> <li>6. Heavy leather gloves will be required on all workers handling the molten lead.</li> <li>7. Hard hats, safety glasses and hard-soled work boots are required for this and all operations. If power tools are used for the grinding operation, then a face shield will also be provided and it's use will be mandated</li> <li>8. Cords and hoses will be moved out of the walking and working areas. When possible, the cords and hoses will be suspended.</li> </ol>

EQUIPMENT	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
Power and hand tools; Rebar;	Tool and equipment inspections Lock-Out / Tag-Out inspections for stored energy; Inspect hand tools for defects; Inspect PPE for wear or defects; Inspect rebar for sharp edges and impale hazards.	Competent person training and qualification
<b>Prepared by:</b> (Contractor's competent/qualified person signature)		
<input checked="" type="checkbox"/> - AHA Accepted as part of project Accident Prevention Plan		<b>Signature:</b>  <b>Date:</b>

ACTIVITY HAZARD ANALYSIS		
ID No. G-10	FEATURE OF WORK: GENERIC AHA – Painting	
Contract No.	Project:	Location:
Date:	Activity:	Estimated Start Date:
PRINCIPAL STEPS	POTENTIAL SAFETY / HEALTH HAZARDS	RECOMMENDED CONTROLS
Compressor and Sprayer Use	<ul style="list-style-type: none"> <li>High Pressure Hazards</li> <li>Inhalation of Fumes and Particles Hazards</li> <li>Eye Injury</li> </ul>	<p>NOTE: All items hazards and controls in generic AHA G1: Mobilization and General Construction Safety, AHA G3: Scaffolding and Fall Protection, AGA G4: Excavation and Trenching apply to this activity.</p> <ol style="list-style-type: none"> <li>Lock-Out / Tag-Out Procedures in place prior to using compressor.</li> <li>Proper Spray nozzles used for compressor pressure.</li> <li>Ventilate work area.</li> <li>Inspect compressor lines for any damage. Replace any damaged lines.</li> <li>Wear Respirator with proper filter for paints being used.</li> <li>Wear gloves and Tyvek suit. Take breaks and hydrate when high temperatures are encountered while wearing PPE.</li> </ol>
Paint Storage	<ul style="list-style-type: none"> <li>Volatile Organic Fumes Hazard</li> <li>Explosion Hazard</li> </ul>	<p>NOTE: All items hazards and controls in generic AHA G1: Mobilization and General Construction Safety, AHA G3: Scaffolding and Fall Protection, AGA G4: Excavation and Trenching apply to this activity.</p> <ol style="list-style-type: none"> <li>Store paints in a properly designed (explosion proof) and well ventilated cabinet.</li> <li>Wear respirator.</li> <li>Wear proper PPE (Gloves and Tyvek suit). Take breaks and hydrate when high temperatures are encountered while wearing PPE.</li> <li>Adequate numbers of the extinguishers must be kept by exits in the storage building and in addition extinguishers kept outside of building.</li> <li>Exits clearly marked and kept free of obstructions.</li> <li>Signs posted to mark 'Flammable Material' and 'No Smoking'.</li> </ol>
Paint Mixing and Use	<ul style="list-style-type: none"> <li>Volatile Organic Fumes Hazard</li> <li>Respiratory Hazard</li> <li>Skin Exposure Hazard</li> </ul>	<p>NOTE: All items hazards and controls in generic AHA G1: Mobilization and General Construction Safety, AHA G3: Scaffolding and Fall Protection, AGA G4: Excavation and Trenching apply to this activity.</p> <ol style="list-style-type: none"> <li>Wear respirator.</li> <li>Work in well ventilated work area.</li> <li>Wear proper PPE (Gloves and Tyvek suit). Take breaks and hydrate when high temperatures are encountered while wearing PPE.</li> <li>Adequate numbers of the extinguishers must be kept by exits in the storage building and in addition extinguishers kept outside of building.</li> <li>Exits clearly marked and kept free of obstructions.</li> <li>Signs posted to mark 'Flammable Material' and 'No Smoking'.</li> </ol>
EQUIPMENT	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
Power and hand tools; Rebar;	Tool and equipment inspections Lock-Out / Tag-Out inspections for stored energy; Inspect hand tools for defects; Inspect PPE for wear or defects; Inspect rebar for sharp edges and impale hazards.	Competent person training and qualification
Prepared by: (Contractor's competent/qualified person signature)		
<input checked="" type="checkbox"/> - AHA Accepted as part of project Accident Prevention Plan		Signature:  Date:

ACTIVITY HAZARD ANALYSIS		
ID No.	G-11	FEATURE OF WORK: GENERIC AHA – Steel Structure Erection
Contract No.	Project:	Location:
Date:	Activity:	Estimated Start Date:
PRINCIPAL STEPS	POTENTIAL SAFETY / HEALTH HAZARDS	RECOMMENDED CONTROLS
Rigging Steel for Picking	<ul style="list-style-type: none"> <li>Under Rated Slings</li> <li>Cut Slings</li> <li>Damaged Winch Line</li> <li>Unqualified Personnel</li> </ul>	<p>NOTE: All items hazards and controls in generic AHA G1: Mobilization and General Construction Safety, AHA G3: Scaffolding and Fall Protection apply to this activity.</p> <ol style="list-style-type: none"> <li>Verify the Weight of the Objects to be picked.</li> <li>Inspect slings before each pick. Remove all cut or frayed slings.</li> <li>Check winch lines regularly.</li> <li>Make sure workers have proper skills and experience.</li> </ol>
Picking, Swinging and Guiding Steel Members  Drifting and Bolting Steel Members	<ul style="list-style-type: none"> <li>Under sized Crane or Winch</li> <li>Pinch or Crush Injuries</li> <li>Contact with Energized Bus or Wires</li> </ul>	<p>NOTE: All items hazards and controls in generic AHA G1: Mobilization and General Construction Safety, AHA G3: Scaffolding and Fall Protection apply to this activity.</p> <ol style="list-style-type: none"> <li>Verify the Weight if the Objects to be lifted.</li> <li>Know hand signals; Use Tag Ropes and Pay Attention.</li> <li>Use Spud Wrench &amp; Pull Pins.</li> <li>Know where steel is supposed to be landed.</li> <li>No lifting near energized wires and maintain proper clearances.</li> </ol>
Drilling, Cutting and Welding Galvanized Steel	<ul style="list-style-type: none"> <li>Metal in Eyes or Hand</li> <li>Burns to Eyes</li> </ul>	<p>NOTE: All items hazards and controls in generic AHA G1: Mobilization and General Construction Safety, AHA G3: Scaffolding and Fall Protection apply to this activity.</p> <ol style="list-style-type: none"> <li>Wear Proper Eye Protection for High Energy Light Source as well as to protect from impact.</li> <li>Work in well ventilated work area.</li> <li>Wear proper PPE (Gloves and Eye Protection). Take breaks and hydrate when high temperatures are encountered while wearing PPE.</li> </ol>
Collapse of Structure due to Member Failure from Temporary Loading during Erection	<ul style="list-style-type: none"> <li>Crush Injuries</li> <li>Impalement Injuries</li> <li>Death</li> </ul>	<p>NOTE: All items hazards and controls in generic AHA G1: Mobilization and General Construction Safety, AHA G3: Scaffolding and Fall Protection apply to this activity.</p> <ol style="list-style-type: none"> <li>Follow erection plan and drawings. Ensure a sequential erection procedure is prepared, which has been approved by the erection engineer.</li> <li>Make provisions for positive connections between members of the structure that have been specified to resist imposed lateral and vertical force.</li> <li>Reinforcement required for in-service loads and temporary conditions. Ensure temporary guys or bracing are securely anchored</li> <li>Members should be clearly marked and labeled.</li> <li>Verify the stability of the structure in accordance with the erection engineer's specifications:                             <ol style="list-style-type: none"> <li>at the end of each work day</li> <li>when fastenings may be incomplete</li> <li>during strong winds or when strong winds are forecast</li> </ol> </li> </ol>
EQUIPMENT	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS

Power and hand tools; Rebar;	Tool and equipment inspections Lock-Out / Tag-Out inspections for stored energy; Inspect hand tools for defects; Inspect PPE for wear or defects; Inspect rebar for sharp edges and impale hazards.	Competent person training and qualification
<b>Prepared by:</b> (Contractor's competent/qualified person signature)		
<input checked="" type="checkbox"/> - AHA Accepted as part of project Accident Prevention Plan		<b>Signature:</b>  <b>Date:</b>

ACTIVITY HAZARD ANALYSIS		
ID No. G-12	FEATURE OF WORK: GENERIC AHA – Abrasive Blasting	
Contract No.	Project:	Location:
Date:	Activity:	Estimated Start Date:
PRINCIPAL STEPS	POTENTIAL SAFETY / HEALTH HAZARDS	RECOMMENDED CONTROLS
Blasting Operation	<ul style="list-style-type: none"> <li>Insufficient air for breathing</li> <li>Air contaminated. (Breathing problem)</li> <li>Improper supply of air.</li> <li>Ineffective filters</li> <li>Sand blasting on body part / Body injury</li> <li>Locking of dead man's device for intermediate inspection</li> </ul>	<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>Use Regulator to control supply.</li> <li>Change Filter at the advised frequency.</li> <li>Monitor the air supply and ensure adequate supply of air.</li> <li>Ensure the Dead Man's switch is in good operating condition.</li> <li>Make sure blasting is only done by trained personnel with the proper PPE.</li> <li>Barricade the area to prevent unauthorized entry.</li> </ol>
Changing Positions to Blast in New Area	<ul style="list-style-type: none"> <li>Sand blasting on body part (body injury)</li> <li>Trip/fall Machine remain 'ON'</li> <li>Locking of dead man's device.</li> <li>Poor housekeeping</li> </ul>	<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>Turn machine 'Off' prior to moving equipment. Follow 'Lock Out / Tag Out' procedures.</li> <li>Ensure the Dead Man's switch is in good operating condition.</li> <li>Maintain and ensure good housekeeping.</li> </ol>
Hazardous Waste	<ul style="list-style-type: none"> <li>Inhalation of blasted residue</li> <li>Ingestion of blasted residue</li> </ul>	<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>Wear proper Respiratory PPE.</li> <li>Wear proper PPE (Gloves and Tyvek suit). Take breaks and hydrate when high temperatures are encountered while wearing PPE.</li> <li>Dispose of blasting residue according to all Environmental regulations.</li> </ol>
EQUIPMENT	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
Power and hand tools; Rebar;	Tool and equipment inspections Lock-Out / Tag-Out inspections for stored energy; Inspect hand tools for defects; Inspect PPE for wear or defects; Inspect rebar for sharp edges and impale hazards.	Competent training and qualification
Prepared by: (Contractor's competent/qualified person signature)		
<input checked="" type="checkbox"/> - AHA Accepted as part of project Accident Prevention Plan		Signature:
		Date:

# 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 Ukrainian 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]

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