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**FUNCTIONAL SPECIFICATION  
FOR  
TRAINING ATMOSPHERICS SET DESIGN  
ENHANCEMENTS/UPGRADES**



**PROGRAM MANAGER TRAINING SYSTEMS  
UNITED STATES MARINE CORPS (USMC)  
12350 RESEARCH PARKWAY  
ORLANDO, FL 32826-3275**

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REVISION LOG

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## Functional Specification

### 1. SCOPE

This specification establishes the functional capabilities for the atmospheric set design training enhancements effort. This specification is required to enhance and upgrade existing and future USMC Military Operation in Urban Terrain (MOUT), Home Station Training (HST) areas and Ranges. Even though these areas are typically equipped with streets, courtyard walls, mosques, buildings, and village shanties, the atmosphere is void of detailed cultural realism such as items listed. Specifically, this specification will provide the detailed information required for placing, updating or enhancing spaces and places within the training areas.

#### 1.1 Background

The United States Marine Corps (USMC) has an immediate requirement to enhance and upgrade existing and future USMC Military Operation in Urban Terrain (MOUT); Home Station Training (HST) areas and Ranges. Currently, the existing MOUT and planned HST area facilities and surrounding range areas are void of cultural realism. Even though these areas are equipped with streets, courtyard walls, mosques, buildings, and village shanties, the atmosphere is void of detailed cultural realism such as “prop” like items (furniture, billboards, fake foodstuffs, ersatz crops, colors and mud brick facades etc.) utilized during training scenarios.

#### 1.2 General Information

##### 1.2.1 Design

The contractor shall perform an assessment of all training areas as defined in the Delivery Order (DO). The detailed design should include but not be limited to a listing of all furnishings as specified in this specification.

Level	Procurement Source	Description	Examples	Schedule	Cost
1	Goodwill, Thrift Shops, garage & yard sale items, Junk Yards, Wholesalers, Flea Markets, etc...	Serviceable but used in appearance, readily available, consumable and can be replaced upon demand at a reasonably low cost	As specified here-in	Delivery in less than 15 days	Low
2	Mix of Level 1 above to include some vendor items	Close culturally appropriate items not found in Level 1 but needed as soon as possible. Consumable and durable	Same as Level 1 but also may include items you cannot procure used or may need to fabricate.	Delivery Less than 30 days	Low to average cost
3	Vendor items	The most Culturally realistic as possible. color, and style. Typically requires assembly and	May include Level 1 or 2 items if acceptable but are not required to complete the design.	Delivery is more than 30 days.	Low, Medium and above average

Level	Procurement Source	Description	Examples	Schedule	Cost
		prep work to install.			

FIGURE 1 Design Level Table

*Each design or item will be delivered as directed by the Government that meets one or more of the three levels of authenticity, availability, and price points*

1.2.2 Procurement Sources

1.2.2.1 Level 1

Level 1 procurements consist of:

- a. Irregularly scheduled informal sale of used goods by private individuals. Typically the goods in this type sale are unwanted items from the household with the home owners conducting the sale. The goods are sometimes new, like-new, or just usable, offered for sale because the owner does not want or need the item, to minimize their possessions, or to raise funds.
- b. Businesses that sell mainly second-hand goods donated by members of the public, and are often staffed by volunteers. Because the items for sale were obtained for free, and business costs are low, the items can be sold at very low prices. After costs are paid, all remaining income from the sales is used in accord with the organization's stated charitable purpose.
- c. Consignment stores that offer used goods at a lower cost than new. Many offer new items as well. In the context of sale, it is usually understood that the consignee (the seller) pays the consignor (the person who owns the item) a portion of the proceeds from the sale. Payment is not made until and unless the item actually sells. Consignment shops differ from charity or thrift shops, in which the original owner surrenders both physical possession and legal title to the item as a charitable donation, and the seller retains all proceeds from the sale.

Level 2 type procurement sources consist of Level 1 and 3 type items.

Level 3 type procurement sources consist of the following:

- a. Commercial Off-The-Shelf (COTS) items defined as unmodified equipment, produced by an established commercial manufacture, used for other than Government purposes, and sold, manufactured, and delivered in substantial quantities to the general public during the course of conducting normal business operations.

- b. Equipment already developed and is used by the US Military Services or Government agencies.
- c. COTS items or Items specifically manufactured in order to meet design requirements. This source would include trades such as artistry, taxidermy or carpentry work.

## 2. APPLICABLE DOCUMENTS

### 2.1 General

The following documents of the issue listed form a part of this specification to the extent specified herein. In the event of a conflict between documents referenced herein and the contents of the Statement of Objectives (SOO), the contents of the SOO take first precedence. Nothing in this specification, however, supersedes applicable laws and regulations, unless a specific exemption has been obtained

### 2.2 Government documents

#### 2.2.1 Specifications, standards, and handbooks

The following specifications, standards, and handbooks of the exact revision listed below form a part of this specification to the extent specified herein.

Statement of Objectives:

Statement of Objectives - Atmospherics Interactive Set Design Training Enhancements dated December 2009

Department of Defense Standard Practices

MIL-STD-130 - Identification Marking of U.S. Military Property

MIL-STD-2525 - COMMON WARFIGHTING SYMBOLOGY

(Copies of these documents are available online at <http://assist.daps.dla.mil/quicksearch/> or from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

#### 2.2.2 Other Government documents, drawings, and publications

The following Government documents, drawings, and publications of the exact revision level shown form a part of this document to the extent specified herein.

Occupational Safety and Health Administration (OSHA) Regulations

(Copies of this document are downloadable from  
[http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=STANDARDS&p\\_id=9879](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9879))

### 2.3 Non-Government publications

The following documents of the exact revision listed below form a part of this document to the extent specified herein.

American National Standards Institute (ANSI)

- |               |   |
|---------------|---|
| ANSI Z35.1-72 | - Accident Prevention Signs, Specification for  |
| ANSI Z35.4-73 | - Informational Signs Complementary to ANSI Z35.1, Accident Prevention Signs, Specification for |
| ANSI Z53.1-79 | - Safety Color Code for Marking Physical Hazards  |

(Copies of these documents are available from [www.ansi.org](http://www.ansi.org) or Global Engineering Documents, 15 Inverness Way, East Englewood, CO 80112.)

Note: If document version listed is not the most current, then substitute with the latest version available at time of contract award.

### 3. REQUIREMENTS

The following subparagraphs define the requirements.

#### 3.1 General Description

The United States Marine Corps (USMC) has an immediate requirement to enhance and upgrade existing and future USMC Military Operation in Urban Terrain (MOUT); Home Station Training (HST) areas and Ranges buildings and walls have similar facades and lack the real world exteriors, interiors, and surrounding areas representative of realistic foreign urban areas needed for vital and realistic mission rehearsals. This project is designed to simulate a future or current deployable urban environment and support the war fighting skills and improve training opportunities for Marines, tenants, and joint service units aboard USMC ranges

##### 3.1.1 Set Design/Dressing

When a project specifically calls for the following type of design and/or set dressings the requirements are as follows:

###### 3.1.1.1 Market

A culturally accurate market design that takes in effect the culture being replicated, materials typically found in that replication that differentiates one market shop design from other designs i.e., signage, materials (faux or real) being displayed and markings, and smells. The design should affect all five senses from the standpoint of replicating, to the level of design (specified in the DO), as close as possible the desired cultural setting.

- This specification includes following types of market shops:

Carpet/Rug	Souvenir	Hardware
Furniture	Office supply	Textile/Linen



Bakery

Clothing

Electronic

Butcher

Appliance

Drug

3.1.1.2 Carts

A culturally accurate 2, 3, or 4 wheeled cart design dependent upon design. Carts must be:

- A vendor type of market handcart or animal pulled cart consistent with culture being replicated.
- Operational; painted; and decorated in a variety of ways consistent with culture.
- Mobile and movable by hand by one person. Anchored in place so that they cannot move involuntarily. However, they must be capable of being moved with minimum of effort.
- All items on the cart shall be secured to the cart such that they cannot fall or blow off by 35 mph winds.

- Designed to replicate the following possible types:

Spice/Tea/Grain	Fruit/Vegetables	Textile/Linen
Carpet	Flowers	Clothing
Magazine	Hardware	Tobacco
Bakery	Souvenir	Pots/pans/Tins
Butcher (Faux Meats)	Drug	Electronic
Faux Ice	Faux Fish	

- The Contractor shall deliver various types of simulated canned; boxed; or sacks of food stuffs. For example:

Tea(s)	Meats
Spices	Dates
Sugar	Nuts
Tobacco	Fruits
Breads	Vegetables

- The Contractor shall deliver various types of household and kitchen items. For example:

Faux kerosene	Firewood	Tea pots
Knives	Large cooking vats/Kettle	Tea cups
Pots/pans	5-gallon cooking oil cans	Cooking and eating utensils
Cooking apparatus	Platters	Smoking Pipe
Household detergents	Plates and bowls	
Faux meats	Drinking cups	

- All items stored in bulk will have containers i.e., wooden barrels, baskets, crates, plastic or metal buckets as required.
- All foodstuffs should be non-perishable or simulated, and should consist of a wide variety of types and sizes.
- All items provided shall be free of fluids, hazardous materials and fire hazards before delivery.
- All books and magazines will be language to include symbols and writing appropriate consistent with culture.

3.1.1.3 Residences/Homes

A culturally accurate residential/home design should take into effect the culture being replicated and materials typically found in that replication. The design should affect all five senses from the standpoint of replicating to the level of design realism as specified in the DO. A culturally accurate residential design should incorporate the following rooms:

Living	Kitchen	Bath
Sleeping (Bed) Room	Dining Room	

A culturally accurate room design should incorporate, as required per DO, the following:

- Furniture to incorporate into rooms such as, but not limited to:
 

tables	sofas	beds and frames
chairs	benches	wardrobe
desks	dry sink	TV stands
cabinets	shelving	
dressers	book cases	
- Furnishings to incorporate into rooms such as, but not limited to:
 

Pictures	Photographs	Decorative art
Posters	Sculpture	Curtains
Pillows	Blankets	Barrels
Vases	Brooms	Containers
Linens	Carpets	Buckets
Rugs	Fake Qur'an (Koran)	
- Example appliances to incorporate:
 

Televisions	Dryers	Stove
Radios	Freezers	Heaters
Cooking apparatus	Lamps	Microwave
Refrigerators	Clocks	Air conditioning

Washers

Generators

- Simulated canned; boxed; or sacks of food stuffs. For example:

Tea(s)

Meats

Canned or bottled drinks (cases)

Spices

Dates

Grain

Sugar

Nuts

Flour

Tobacco

Fruits

Breads

Vegetables

- Household and kitchen items. For example:

Faux kerosene

Firewood

tea pots

Knives

Large cooking vats/Kettle

tea cups

Pots/pans

5-gallon cooking oil cans

cooking and eating utensils

cooking apparatus

Platters

Smoking Pipe

household detergents

Plates and bowls

faux meats

drinking cups

- Culturally accurate external clothing worn by men, women and children incorporated into residential spaces/places that require clothing, shoes/sandals

- Hardware is to be included for displaying clothing i.e., rack or hooks as required.
- Clothing quality will be such that it replicates the culture being replicated.
- Outer wear clothing in small, medium, large and extra large size
- Army and Police costumes replicate as accurately as possible current insignia, ranking pins/decorations, buttons, and scarves, in order to establish the character profiles and create a chain of command.
- Additionally, the contractor shall provide official and dignitary costumes in a westernized look to include suits, shirts, and ties

- Used or Aged furniture utilizing a wide variety of culturally accurate colors, textures, and sizes.
- Appliances with doors and lids securely closed/latched.
- Ersatz bath area without plumbing.
- Bath designs with unbreakable furnishings and fixtures.
- Baths furnished with a “fake toilet” and/or “squat-hole” type of toilet with seat securely fastened/covered such that it is rendered inoperable.
- Mirrors made of reflective metal, no glass.
- Mirrors must be framed and not exceed 2’ x 4’ as a minimum size.
- Mirrors must be securely fastened to the walls.

- Fixtures made of material that will not break (metal in lieu of glass) and be free of fluids.
- Furniture and furnishings fire resistant; rodent resistant; durable; and able to resist 60 MPH winds if placed outdoors.
- Framed all wall pictures and art with a variety of simple and fancier document frames
- Each residence will have a minimum of three wall areas not to exceed 2’x4’ area in size.
- Cultural religious framed piece or image 18”x24” (size is approximate). For example the first two pages of the Koran.
- Framed pictures (standard size of 8.5” x 11”) of various culturally significant people, i.e., politicians, religious leaders, prophets.
- Framed pictures (standard size of 8.5” x 11”) of various culturally significant places i.e., Mecca, and Medina.
- Furniture and furnishing must have all hardware included.
- Curtains and wall hangings must include all associated rods and hardware for installation.
- Curtains should be able to cover a 3 foot by 3 foot window.
- Delivered item is to hang on a wall or door it must be securely fastened such that it cannot be removed.
- Items designed to sit upon something must contain the hardware required to secure the item so as not to fall over or capable of being removed without tools.

3.1.1.4 Hotel

A culturally accurate hotel design should take into effect the culture being replicated and materials typically found in that replication. The design should affect all five senses from the standpoint of replicating to the level of design realism as specified in the DO. A culturally accurate hotel design should incorporate the following rooms:

Lobby/Foyer	Hotel room	Bath
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A culturally accurate room design should incorporate, as required per DO, the following:

- Used or Aged furniture utilizing a wide variety of culturally accurate colors, textures, and sizes.
- Furniture to incorporate into lobby and rooms such as, but not limited to:
 

tables	sofas	beds and frames
chairs	benches	wardrobe
desks	TV stands	dressers
cabinets	shelving	book cases
- Furnishings to incorporate into lobby and rooms such as, but not limited to:

Pictures	Photographs	Decorative art
Posters	Sculpture	Curtains
Pillows Fake Qur'an (Koran)	Blankets	Barrels
Vases	Brooms	Containers
Linens	Carpets	Buckets
Rugs		

- Example appliances to incorporate (as required):
 

Televisions	Dryers	Heaters
Radios	Freezers	Microwave
Cooking apparatus	Lamps	Air conditioning
Refrigerators	Clocks	
Washers	Generators	
- Culturally accurate external clothing worn by men, women and children incorporated into spaces/places as required.
  - Hardware is to be included for displaying clothing i.e., rack or hooks as required.
  - Clothing quality will be such that it replicates the culture being replicated.
  - Outer wear clothing in small, medium, large and extra large size
- Appliances with doors and lids securely closed/latched.
- Ersatz bath area without plumbing.
- Bath designs with unbreakable furnishings and fixtures.
- Baths furnished with a “fake toilet” and/or “squat-hole” type of toilet with seat securely fastened/covered such that it is rendered inoperable.
- Mirrors made of reflective metal, no glass.
- Mirrors must be framed and not exceed 2’ x 4’ as a minimum size.
- Mirrors must be securely fastened to the walls.
- Fixtures made of material that will not break (metal in lieu of glass) and be free of fluids.
- Furniture and furnishings fire resistant; rodent resistant; durable; and able to resist 60 MPH winds if placed outdoors.
- Framed all wall pictures and art with variety of simple and fancier document frames
- Each room will have a minimum of three wall areas not to exceed 2’x4’ area in size.
- Cultural religious framed piece or image 18”x24” (size is approximate). For example the first two pages of the Koran.

- Framed pictures (standard size of 8.5” x 11”) of various culturally significant people, i.e., politicians, religious leaders, prophets.
- Framed pictures (standard size of 8.5” x 11”) of various culturally significant places i.e., Mecca, and Medina.
- Furniture and furnishing must have all hardware included.
- Curtains and wall hangings must include all associated rods and hardware for installation.
- Curtains should be able to cover a 3’ by 3’ window.
- Delivered item is to hang on a wall or door it must be securely fastened such that it cannot be removed.
- Items designed to sit upon something must contain the hardware required to secure the item so as not to fall over or capable of being removed without tools.

3.1.1.5 Restaurant

A culturally accurate restaurant design should take into effect the culture being replicated and materials typically found in that replication. The design should affect all five senses from the standpoint of replicating to the level of design realism as specified in the DO. A culturally accurate design should incorporate the following:

Foyer	Dining area	Kitchen
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A culturally accurate design should incorporate, as required per DO, the following:

- Furniture to incorporate into design such as, but not limited to:
 

tables	benches	TV stands
chairs	dry sink	
cabinets	shelving	
- Furnishings to incorporate into design such as, but not limited to:
 

Pictures	Photographs	Decorative art
Posters	Sculpture	Barrels
Vases	Brooms	Containers
Curtains	Carpets	Buckets
Rugs		
- Example appliances to incorporate (as required):
 

Televisions	Stove	Heaters
Radios	Freezers	Microwave
Cooking apparatus	Lamps	Air conditioning
Refrigerators	Clocks	

- Used or Aged furniture utilizing a wide variety of culturally accurate colors, textures, and sizes.
- Appliances with doors and lids securely closed/latched.
- Fixtures made of material that will not break (metal in lieu of glass) and be free of fluids.
- Furniture and furnishings fire resistant; rodent resistant; durable; and able to resist 60 MPH winds if placed outdoors.
- Framed all wall pictures and art with variety of simple and fancier document frames
- Design will have a minimum of three wall areas not to exceed 2'x4' area in size.
- Furniture and furnishing must have all hardware included.
- Curtains and wall hangings must include all associated rods and hardware for installation.
- Curtains should be able to cover a 3' by 3' window.
- Delivered item is to hang on a wall or door it must be securely fastened such that it cannot be removed.
- Items designed to sit upon something must contain the hardware required to secure the item so as not to fall over or capable of being removed without tools.

#### 3.1.1.6 Police Station

A police station design may have a single or multiple offices which will have

- Desks
- Chairs
- bookshelves
- four (4) drawer filing cabinet.
- walls covered with appropriate bulletin boards flyers, posters, and calendars.

#### 3.1.1.7 Prison

A prison design contains furnishings for guards to perform their duties, as well as furnishings for housing prisoners. The set contains décor elements such as:

Cell Bars	Filing cabinets
Sleeping mats and bed frames	Typewriters
Desks	Maps
Chairs	Office supplies
Countertops	Metal firearm lockers

- The bed frame shall contain a solid horizontal sleep surface such as a cot with mat.
- The holding areas shall have lockable doors and windows and contain restraining devices such as hooks and chain rings installed on walls.

### 3.1.1.8 Mosque

A Mosque interior environment design has a prayer hall, also known as the musalla with no furniture; chairs and pews are absent from the prayer hall so as to allow as many worshippers as possible to line the room. All items included in the design shall be such that it is done with the sensitivity of the culture being replicated. The set contains décor elements such as:

prayer rugs	minbar or pulpit
carpets	mihrab
fabric banners with painted verses of the Qur'an (or Koran)	entryway ablution fountains
benches	foyer shelves to put shoes
wooden tables	foyer racks to hold coats
faux Qur'an	lectern

- Arabic calligraphy and Qur'anic verses on the walls to assist worshippers in focusing on the beauty of Islam and its holiest book, the Qur'an, as well as for decoration.
- The minbar is usually shaped like a small tower with a pointed roof and stairs leading up to it.
- The minbar is located to the right of the mihrab, the niche that indicates the direction of prayer (i.e. towards Mecca).
- A mihrab is a niche in the wall of a mosque that indicates the qibla; that is, the direction of the Kaaba in Mecca and hence the direction that Muslims should face when praying.
- A minbar is ornately decorated and often designed to give the impression of an arched doorway or a passage to Mecca.
- The wall in which a mihrab appears is thus the "qibla wall."
- A lectern is a reading desk with a slanted top, usually placed on a stand or affixed to a some other form of support, on which documents or books are placed as support for reading aloud, as in a scripture reading, lecture, or sermon.





*Left lectern, middle mihrab, right minbar*



*Foyer Shoe Rack*

### 3.1.1.9 Office Building

A culturally accurate office design should take into effect the culture being replicated and materials typically found in that replication. The design should affect all five senses from the standpoint of replicating to the level of design realism as specified in the DO. A culturally accurate room design should incorporate, as required per DO, the following office equipment:

faux computer  
monitor  
key board  
mouse  
Paper

Hole Punch  
Pens/Pencils  
Faux Telephone  
Calendar

Printer  
calculator  
Stapler  
fax

- Furniture to incorporate into design such as, but not limited to:

Tables  
Chairs  
Desks

Coat rack  
Safe  
Shelving

Supply Cabinet  
Cabinets  
Book cases

- Furnishings to incorporate into design such as, but not limited to:

Pictures  
Posters  
Ledgers  
Vases  
Linens  
Rugs

Photographs  
Books  
Magazines  
Files  
Carpets

Decorative art  
Curtains  
Maps  
Bulletin Board  
Clocks

- Used or Aged furniture utilizing a wide variety of culturally accurate colors, textures, and sizes.
- Furniture and furnishings fire resistant; rodent resistant; durable
- Framed all wall pictures and art with variety of simple and fancier document frames

- Each room will have a minimum of three wall areas not to exceed 2'x4' area in size.
- Framed pictures (standard size of 8.5" x 11") of various culturally significant people, i.e., politicians, religious leaders, prophets.
- Framed pictures (standard size of 8.5" x 11") of various culturally significant places i.e., Mecca, and Medina.
- Furniture and furnishing must have all hardware included.
- Curtains and wall hangings must include all associated rods and hardware for installation.
- Curtains should be able to cover a 3' by 3' window.
- Delivered item is to hang on a wall or door it must be securely fastened such that it cannot be removed.
- Items designed to sit upon something must contain the hardware required to secure the item so as not to fall over or capable of being removed without tools.

### 3.1.1.10 Farming/Agriculture

#### 3.1.1.10.1 Livestock

A culturally accurate livestock holding pen design that contains materials and furnishings typically found and as detailed the Delivery Order (DO). The contractor shall take into effect the space provided, cultural authenticity requirements and design within those constraints.

- Faux Livestock to incorporate into design such as, but not limited to:
 

Poultry	Cattle
Sheep	Camels
Goats	Pigeons
Lamb	Other as approved
Donkeys	Horses
- Equipment to incorporate into design such as, but not limited to:
 

Feed	Straw
Buckets	Haystacks
Cages	Troughs (water and feed).
Harnesses	Other as approved.
Bridles (Blankets)	
- Construction materials for animal and/or livestock holding structure must utilize materials found in the environment and culture being replicated.

- The design shall address the appropriate grading, leveling, and boundaries marked by a wall or fence that replicates livestock areas typically found in the culture being replicated.
- The design shall include a holding area and a covered area for the animals to rest out of the elements.

3.1.1.10.2 Faux Gardens/Crops

A culturally accurate gardens and crop design typically found and as detailed the Delivery Order (DO). The contractor shall take into effect the size of area to cover; cultural authenticity; growth stage such as just planted; full bloom ready to harvest; and design within those constraints.

- Faux crops to incorporate into design such as, but not limited to:
 

Wheat	Rice	Grape Vines
Corn (Maize)	Sorghum	Pomegranates
Poppy	Cotton	Olive tree
Barley	Fonio	Other as approved
- Equipment to incorporate into design such as, but not limited to:
 

Grain Sacks (Full or empty)	sickles	hoes
Straw	rakes	Baskets
Buckets	wooden drums	Crates
wheel barrows	shovels	Other as approved
hay bales	picks	
- The design shall address the appropriate grading, leveling, density and boundaries marked by a wall or fence that replicates crop area typically found in the culture being replicated.

3.1.1.11 School

A culturally accurate school design typically found and as detailed the Delivery Order (DO) should incorporate, as required per DO, the following:

- Furniture to incorporate into design such as, but not limited to:
 

Desk	Carpet
Chairs	Pens/pencils/chalk
Student seating	Bulletin board
Chalkboards	Bookcases
Books	Coat rack
Papers	Other items as approved

3.1.1.12 Hospital/Medical Clinic

A culturally accurate hospital/medical clinic design taking into account the space provided, cultural authenticity requirements and design within those constraints as detailed the Delivery Order (DO) should incorporate, as required per DO, the following:

- Items to incorporate into design such as, but not limited to:

Desk	gurneys	bandages
Chairs	medical carts	Faux drugs
Books	faux equipment	Faux medicine bottles
Papers	instruments	Medical dressing
Carpet/Rugs	counters	desk chair
Coat rack	cabinets	lamp
hospital beds	examination table	non-functioning sinks
privacy curtains/partitions to replicate private exam areas	medical posters	benches in the waiting areas
Other items as approved		

3.1.1.13 Sports Field/Court

A culturally accurate mock/faux sports field and/or court area design taking into account the space provided, cultural authenticity requirements and design within those constraints as detailed the Delivery Order (DO) should incorporate, as required per DO:

- Items to incorporate into design such as, but not limited to:

Goal posts/poles	Goal nets	Bleachers
Benches	Markers (Cones/Flags)	Sporting equipment to play the game
Banners		

3.1.1.14 Streetscape

A culturally accurate **streetscape** design taking into account the space provided, cultural authenticity requirements and design within those constraints as detailed the Delivery Order (DO) should incorporate, as required per DO:

- The contractor shall incorporate into the streetscape design items such as but not limited to:

Building Facades	Clothes Lines/Posts	Satellite Dishes
Finished Door and Windows	Wooden gates	TV Antennas
Building Stalls	Water fountains	Electric meters
Lean to with awnings	Faux Water pumps (hand/motor)	Com equipment
Wooden Window shutters	Buckets	Telephones

Wooden ladders	Plastic Water jars	Faux Electric boxes
Entry steps	Hoses	Faux Data wiring
Wooden Doors	Hand Pumps	Ropes
Faux Landscape rock (for covering hiding)	Statues	Signs
Hasps and locks	Bill boards	Murals
Faux Com. Cable with Poles	Pulley(ies)	Graffiti
Faux Electric with poles		

- Building Facades includes both interior and exterior surfaces with the following characteristics:
  - Water proof
  - Durable finishes simulating brick, stone, mud, and masonry
  - Representative of old world type architecture
  - A variety of colors and/or in a dirty aged/decayed look
  - be mold, mildew, microorganism, salt, and saltwater resistant.
  - Fireproof.
  - Applied during the factory or in the field.
  - Sustainable finishes that do not require special tools, equipment or processes
  - minimized processes for repair and maintenance
  - a robust material capable of being repaired in variety of environments
- All items required to give the impression that a building or facility is wired for electricity, satellite TV, telephone or has a computer network. Faux Electric/Communication/Data that includes the following items and characteristics such as but not limited to:

Faux power	Simulated electric (household power)	Junction boxes
Faux cable	Communication wire and equipment	35' wood poles
Faux communication equipment	Satellite dish(es)	Meters
Faux wiring on the inside and outside	Antenna(s)	

- Exterior installation must be securely installed such that the item will not blow away during 65 mph winds.
- Wood poles must be pest free and treated to withstand the elements of the environment in which it is installed.
- Landscape Rock(s) or Faux boulders used to create obstacles to transverse, block areas from use, and/or to hide items or areas detracting from training realism.

- Rocks variety of shapes, colors and weights
- Size of 2" (two-inch) in circumference to 5' (five-feet) rocks (boulders) in circumference.
- The contractor may use new materials but the end result must be a dirtied up look and/or aged down.
- Door and window finish designs that replicate type of doors and windows found in the cultural environment being replicated.
- Items durable and capable of withstanding harsh training environments (heat, weather, dust, wind, rain...).
- Window designs with clear plastic glass as per a design.
- Designs that do not interfere with the normal operation of the doors and windows.
- Stall and lean to type designs that replicate cultural type of business and meeting areas. The construction may appear to be feeble however the actual structure must be rigid enough to withstand training and be safe.
- Water fountains shall be culturally accurate, precast and delivered and set up in the space provided. The fountain may be a part of a courtyard or a standalone place to draw water for the community.
- Hasps and Locks provided shall not exceed the capability of cutting off with a bolt cutter for training purposes and not necessarily for securing items behind the door.
- Statues of local or national political or religious leaders or prophets made of concrete or ceramic for placement indoor or outdoors symbolic of the culture and environment being replicated.
- Billboards/Signs installed utilizing best commercial practices either on poles or existing multi-story structures.
  - Minimum height 20ft from the ground to the bottom of the billboard sign.
  - Billboard size will be approximately 10'x10'.
  - These particular signs are intended to advertise products or political messages, with government determined words, color and product to be displayed.
  - Contain Ultra Violet (UV) and wind resistant paper/ink.
  - Safe and sufficiently sturdy to sustain wind gusts up to 60mph.
  - Illuminate the billboards and signs during the hours of darkness with a solar light.
  - Potentially have a bird perch shall be equipped with bird spikes.
  - Durable vendor signs intended to advertise merchant shops and government offices installed directly to buildings
  - Mobile design which can be removed and placed in different locations as necessary.

- Painted Murals/Graffiti installed with environmental friendly materials to withstand the elements of the environment in which it is installed. For example ultra violet resistant paints would be beneficial in high intensity sunlit areas.
- Murals and Graffiti must be culturally significant for the culture being replicated but not insensitive to cultural heritage and/or obscene.
- Clotheslines securely install various types of clothes lines. The Contractor will place clotheslines per a design as approved by the Government.
- Public Address system with acoustics consisting of a minimum of two (2) weatherproof outdoor loudspeakers, stereo amplifier, mixer (with audio inputs for CD and cassette player), CD and cassette player (either incorporated or stand-alone devices) and two microphones. The system shall be capable of transmitting sound in a 360 degree direction up to a mile.
- Acoustics (actual sounds) with compact disks that contain cultural sounds of village being replicated.
- Nomad Tents replicating a close as possible the culture being replicated i.e., replicas of the Kuchi Nomad Tents found in Afghanistan
  - The tent size shall accommodate a family of five with compacted earthen floors covered with heavy blankets or carpet
  - Includes all items to assemble and erect the tents for use with written instructions.
  - Assemble the tents on the designated space with measures taken to prevent water from entering
  - Must be weather proof, mold proof and fire proof. Packaged in a storage container for each tent and the assembly items such as stakes and poles
- Indigenous Vehicles or inoperable vehicles such as but not limited to bus, automobile, motorcycles, and trucks with the following requirements
  - Decorated consistent with third world urban areas.
  - With wheels and tires capable of being rolled.
  - Free of fluids and hazardous materials i.e., fuels; coolants; brake & power steering fluid and batteries.
  - All components capable of holding fluids such as gas tanks, radiators, motors and bottles (plastic or glass) shall be removed before delivery.
  - All glass intact (not damaged) with interior seats and steering wheels.
  - Modified to prevent the vehicle doors from being locked, but the doors shall function as designed (door latched) properly (i.e., removal of internal locking rods).
  - Hinged components (doors, hatches, tailgates, hoods, trunk lids) of all vehicles are secured (latched) and shall not swing open on their own.

- Note: the Government does not require titles or documentation.

3.1.1.15 Faux Improvised Explosive Lab (IEL)

A FAUX IEL that contains simulated but realistic IEL equipment/materials.

- The laboratory size and amount of materials incorporated shall be scaled to the space provided.
- Materials shall be packaged and displayed as work in process or in storage condition.
- Containers and bags required to store the items when not in use.
- Culturally accurate design that incorporates faux items which may be found in a IEL laboratory such as but not limited to:

Wooden tables	Faux Semtex	Faux shells (1.55mm, 20mm, 50mm, 60mm)	hoses
Knives	Faux Kinexapax	Saw Blades	safety fuses
Pliers	Faux Dynamite	detonating cords	metal pipes
measuring cups/spoons	Faux booster rockets	Faux C4	metal tubes
crimping pliers	trip switches	Plywood	Faux black power
cutters, scissors	clocks	pots	Faux ammoniate nitrate
soldering irons	timers	mixing containers	IED how to posters and manuals
solder	circuitry and/or circuitry boards	batteries	buckets
clamps	butane torches	cell phones	pans
clips	connectors	long range cordless telephones	

3.1.1.16 Automotive/Motorcycle repair shop

A culturally accurate automotive and/or motorcycle repair shop design that takes in effect the culture being replicated, materials typically found in that replication. The design should affect all five senses from the standpoint of replicating, to the level of design (specified in the DO), as close as possible the desired cultural setting.

- This specification includes but is not limited to the following items:

Building exterior and interior signage	Exhaust pipes	Hardware
Shelves and counters Furniture	55 gallon drums, hand pumps	Motorcycle/Vehicle parts
Fuel pumps	Tires	Mufflers
Empty and/or Faux boxes/cans/plastic packaging/containers	Faux cases of oil/anti freeze	Motorcycles and automobiles/trucks under repair



Repair tools  
Jacks

Sheet metal

Spare parts

### 3.1.2 Environmental conditions

The environmental conditions for each element shall be as follows:

The components shall be capable of non-operating storage under the following environmental conditions:

- High Temperature - The maximum operating temperature is +50.0 °C (+122.0 °F). The maximum storage temperature is +65 °C (+149.0 °F).
- Low Temperature - The minimum operating temperature is -20 °C (-4.0 °F). The minimum storage temperature is -49° C (-56 °F).
- Humidity - The relative humidity ranges from 10 to 98 percent with possible condensation.
- Rain - The rainfall rates are anticipated to reach 10 centimeter/hour with droplet sizes from 0.5 millimeter to 4.5 millimeter blown by winds up to 64 kilometers/hour.
- Sand and Dust - The sand and dust limits are anticipated to reach the following:
  - Blowing dust air velocity: 8.9 meters/second
  - Blowing sand air velocity: 29 meters/second
  - Dust concentration:  $10.6 \pm 7\text{g} / \text{meter}^3$
  - Sand concentration:  $2.2 \pm 0.5\text{g} / \text{meter}^3$
  - Dust composition: Silicon Flour

#### 3.1.2.1 Transit Cases

Transit cases shall be used to protect components during transportation, storage, and handling. The transit cases shall provide interlocking ribs to support stacking. The transit cases shall be self-draining in the upright position. The transit cases shall be capable of supporting a minimum stack of three. The containers shall comply with Air Transport Association (ATA) 300m category 1 (threshold) and shall be designed to provide a custom made fit for the equipment.

#### 3.1.2.2 Materials

- a. The components and devices shall maximize the use of NDI products.

##### 3.1.2.2.1 Flammable materials

Materials shall be noncombustible or fire retardant in the most hazardous conditions of atmosphere, pressure, and temperature to be expected in their application. Non-permanent fire retardant additives shall not be used to achieve fire retardant.

##### 3.1.2.2.2 Fungus-inert materials

When the specified environment is conducive to fungus growth, the equipment shall be fabricated using fungus-inert materials.

#### 3.1.2.2.3 Hazardous materials

The equipment shall not expose personnel or the environment to excessive levels of toxic, carcinogenic, teratogenic, and otherwise hazardous materials as defined by OSHA and the Environmental Protection Agency (EPA). If hazardous materials must be used in order to meet the performance requirements of this specification, then the hazardous items shall be suitably marked, and all due precautions shall be taken to prevent whatever harm the hazardous material may cause.

#### 3.1.2.2.4 Metals

Metals shall be corrosion-resistant, or shall be coated or metallurgical processed to resist corrosion. The environmental conditions to which the equipment will be exposed shall not cause corrosion and shall not cause deterioration of metal parts.

#### 3.1.2.2.5 Wood products

Wood products shall be treated for preservation, fire-retardant, and termite protection, and shall conform to commercial Grade B or better.

#### 3.1.2.2.6 Radioactive material

Radioactive materials shall not be utilized.

#### 3.1.3 Nameplates and product markings

All equipment (to include assemblies, sub-assemblies, parts, and cables) shall be identified and marked in accordance with best commercial practices. Methods of applying, type of lettering, permanency, and legibility of markings may use MIL-STD-130 as a reference.

##### 3.1.3.1.1 Item Unique Identification Description (IUID)

If the equipment value is at or above \$5000.00, mission critical, or serially managed, then the equipment shall be marked with an IUID. The equipment IUID shall include a two-dimensional (2-D) Data Matrix bar code. The IUID markings shall include: Device Nomenclature, Manufacturer of the Training System/Year Manufactured, Part Number, Serial Number, Original Equipment Manufacturer (OEM), and Contract Number (optional). Methods of applying, type of lettering, permanency, and legibility of this nameplate shall be IAW MIL-STD-130. If an IUID is required, then the IUID shall be permanently affixed to the equipment in a prominent location designated by the contracting officer.

##### 3.1.3.2 Warning marking for simulated and modified equipment

The following types of equipment shall be identified and marked as shown below:

- a. GFE or CAE (Contractor Acquired Equipment) that has been modified for use
- b. Unmodified CAE that has not been fully tested and certified for military use
- c. Simulated equipment which has overall outward appearance which is substantially identical to the operational/tactical equipment for which it could be mistaken

### 3.1.3.2.1 Simulated-use-only identification

The simulated-use-only identification shall consist of a sticker or nameplate with yellow background and the legend shown below. The sticker or nameplate shall not obscure other identification or labeling. Method of applying, permanency, and legibility of reference designators shall be as specified in MIL-STD-130.



FIGURE 2 Simulated Use Only Identification

### 3.1.3.3 Safety markings

Danger, caution, and warning signs, labels, and markings shall be used to warn of specific hazards such as voltage, current, thermal, or physical. Method of applying, permanency, and legibility of reference designators shall be as specified in MIL-STD-130. Guards, barriers, and access doors, covers, or plates shall be marked to indicate the hazard that may be present upon removal of such devices. When possible, marking shall be located such that it is not removed when the barrier or access door is removed. Additionally, hazards internal to units shall be marked adjacent to hazards if they are significantly different from those surrounding items.

- a. Physical hazards shall be marked in accordance with ANSI Z53.1-79.
- b. Voltage hazards shall be marked in accordance with ANSI Z35.1-72, and ANSI Z35.4-73.
- c. Laser labels shall be in accordance with 21 CFR 1040.

### 3.1.4 Special tools

There shall be no need to use special tools for equipment maintenance unless common tools are inadequate. Special tools shall be retained in holders provided inside of the equipment near where the tools are normally used.

#### 3.1.4.1 Automotive/Motorcycle repair shop

A culturally accurate automotive and/or motorcycle repair shop design that takes in effect the culture being replicated, materials typically found in that replication. The design should affect all five senses from the standpoint of replicating, to the level of design (specified in the DO), as close as possible the desired cultural setting.

- This specification includes but is not limited to the following items:
  - Building exterior and interior signage
  - Fuel pumps
  - Shelves and counters Furniture
  - Empty and/or Faux boxes/cans/plastic packaging/containers

- Repair tools
- Spare parts,
- Motorcycles and automobiles/trucks under repair
- Exhaust pipes
- Faux cases of oil/anti freeze
- Hardware
- Jacks,
- Sheet metal
- Mufflers
- Tires
- 55 gallon drums, hand pumps
- Motorcycle/Vehicle parts

#### 3.1.4.2 Environmental conditions

The environmental conditions for each element shall be as follows:

- The components shall be capable of non-operating storage under the following environmental conditions:
  - High Temperature - The maximum operating temperature is +50.0 °C (+122.0 °F). The maximum storage temperature is +65 °C (+149.0 °F).
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#### 3.1.4.4 Materials

- b. The components and devices shall maximize the use of NDI products.

#### 3.1.4.4.1 Flammable materials

Materials shall be noncombustible or fire retardant in the most hazardous conditions of atmosphere, pressure, and temperature to be expected in their application. Non-permanent fire retardant additives shall not be used to achieve fire retardant.

#### 3.1.4.4.2 Fungus-inert materials

When the specified environment is conducive to fungus growth, the equipment shall be fabricated using fungus-inert materials.

#### 3.1.4.4.3 Hazardous materials

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#### 3.1.4.4.4 Metals

Metals shall be corrosion-resistant, or shall be coated or metallurgical processed to resist corrosion. The environmental conditions to which the equipment will be exposed shall not cause corrosion and shall not cause deterioration of metal parts.

#### 3.1.4.4.5 Wood products

Wood products shall be treated for preservation, fire-retardant, and termite protection, and shall conform to commercial Grade B or better.

#### 3.1.4.4.6 Radioactive material

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#### 3.1.5 Nameplates and product markings

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