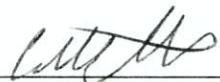


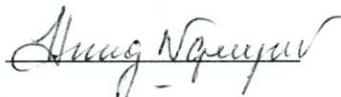
STATEMENT OF WORK
FOR
AVIATION ADD-ON PACKAGE/ AIR GROUND INTEGRATION (A-GI) VILLAGE
FOR THE
DRTS PROGRAM



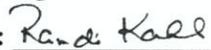
U.S. Army Program Executive Office for
Simulation, Training, and Instrumentation (PEO STRI)
12350 Research Parkway
Orlando, FL 32826-3276

Engineering

Prepared By: 
Carleton Stargel
Lead Systems Engineer
Date: 25 April 2012

Concurrence: 
Hung Nguyen
Chief Engineer, PM DT
Date: 04/25/12

Program Management

Submitted By: 
Randi Kahl
Project Director
Date: 26 April 2012

Approved By: 
LTC Craig Ravenell
Product Manager
Digitized Training
Date: 26 APR 12

Table of Contents

1	SCOPE.....	1
2	APPLICABLE DOCUMENTS.....	1
2.1	Department of Defense Standards/Directives	1
2.2	Other Government Documents, Drawings, and Publications.....	1
3	REQUIREMENTS	2
3.1	Overview.....	2
3.2	Conference /Site Survey/Meetings.....	3
3.3	Program Oversight.....	3
3.4	Item Unique Identification (IUID) of Tangible Items.....	4
3.5	Range and Training Assistance	4
3.6	Warranty.....	4
	Appendix A.....	A-1
	Appendix B.....	B-1

STATEMENT OF WORK
FOR
AVIATION ADD-ON PACKAGE/ AIR GROUND INTEGRATION VILLAGE
FOR THE
DRTS PROGRAM

1 SCOPE.

This Statement of Work (SOW) defines the effort required for the procurement of hardware (range devices/components), site preparation, hardware installation, integration/verification support, and documentation and new equipment training for the Aviation Add-On Package/Air Ground Integration (AGI) Village for Fort Carson, Colorado; Yakima Training Center, Washington; and Fort Bliss Digital Air Ground Integration Range (DAGIR), Texas.

2 APPLICABLE DOCUMENTS.

The following documents of issue shown on the Document Summary List (DSL) (Appendix A) form a part of this SOW to the extent specified herein. In the event of a conflict between documents referenced herein and the contents of this SOW, the contents of the SOW shall be the governing requirement.

2.1 Department of Defense Standards/Directives

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

DOD 5220.22 National Industrial Security Program Operating Manual

2.1.1 Availability of Department of Defense Standards

Copies are available on the WWW at URL: <http://assist.daps.dla.mil/quicksearch/>

2.2 Other Government Documents, Drawings, and Publications

29 CFR OSHA 1910 Occupational Safety and Health Standards

TC 25-8 Training Circular, Army Training Ranges

CEHNC 1110-1-23 USACE Open Range Design Guide

The above document is available at

<http://www.hnd.usace.army.mil/rtlp/DesignManuals.aspx>

2.2.1 Availability of Other Government Documents and Publications

Copies of the above documents are available at PEO STRI, ATTN: SFAE-STRI-KOL, 12350 Research Parkway, Orlando, FL 32826-3276

3 REQUIREMENTS

3.1 Overview.

You shall procure and fabricate materials, perform range preparation, install hardware, integrate range devices/components, support test and verification, and document and provide training for the devices/components in fulfillment of the requirements defined in Appendix B – Technical Requirements Document for Aviation Add-On Package/AGI Village .

3.1.1 Aviation Add-On Package/ AGI Village Range Devices/Components.

You shall procure and/or fabricate materials for the following to meet each site's Aviation Add-On Package/ AGI Village Range Devices/Components. The AGI Village Range Devices/Components shall be made up of the base structure(s) and associated components described in Appendix B. The building(s) and all required components shall be compliant to Appendix B and delivered to the following locations:

- Fort Bliss, TX
- Fort Carson, CO
- Yakima Training Center, WA
- Fort Bragg, NC (Option)

3.1.1.1 Range Site Preparation.

You shall perform all the tasks necessary to prepare each range site for the installation of the Aviation Add-On Package/ AGI Village in accordance with USACE Open Range Design Guide – CEHNC 1110-1-23. These tasks shall include, at a minimum, the following:

- a. Shall prepare the area by leveling the ground and installing gravel pads to install the containers.
- b. Report any damage or accidents to the on-site Government representative as soon as possible upon occurrence, but not later than the next business day.
- c. Ensure the installation team is equipped with all the standard tools required for the system installation.

3.1.1.2 Range Installation.

You shall provide the requisite engineering and technical expertise to install the containers. You shall complete installation of each village within 30 days of the start of installation. You shall notify the PCO, in writing, 7 days prior to completion of installation so an acceptance inspection can be scheduled. Upon completion of the range installation, you shall be responsible for the cleanup and removal of all debris from the site.

3.2 Conference /Site Survey/Meetings

3.2.1 Post Award Conference.

A Post Award Conference/Early Integration Meeting shall be held at your facility ten (10) days after award of the Delivery Order. The conference shall introduce the key IPT participants, identify points of contact, and discuss both parties' understanding of the scope of work and other contract issues.

3.2.2 Site Survey(s)/Design Review Meeting(s).

You shall support one site survey/design review meeting per range. You shall support the meeting where key participants and leads will layout the aviation capabilities requirements for the AGI village. A Site Survey(s)/Design Review Meeting(s) shall be conducted for each site/range to be fielded, with meetings synergized for maximum efficiency. The meeting shall be a formal technical review of the basic design approach/layout of the site/range to be fielded.

3.3 Program Oversight.

You shall perform programmatic oversight and tasks.

3.3.1 Program Management.

You shall provide the overall management and administrative effort necessary to ensure that the requirements of this Delivery Order are accomplished. You shall plan, implement, and maintain a life cycle cost (LCC) management process to minimize the system cost and use LCC to evaluate the design and select the resource support requirements. You shall track program progress utilizing metrics. You shall define and monitor metrics and Technical Performance Measures (TPM) to evaluate the performance of each critical technical and management process and conformance of the evolving products with Delivery Order requirements and objectives. You shall have bi-weekly telephone conferences to provide progress reports, which should containing the following:

- a. Time-lines and schedules
- b. Problems and solutions
- c. Minutes of all technical interchange meetings and/or program reviews
- d. Plan of next month activities

3.3.2 Installation/Range Access and Identification of Employees.

You shall comply with all DOD, Service, and Installation specific access regulatory doctrine or directives. You shall provide and display ID Badges. If required by the Installation, you shall also arrange for the personnel to obtain the necessary local badges. In order to obtain a security clearance, the following website is provided: Defense Security Service (DSS) Website (www.dss.mil) National Industrial Security Program Operating Manual (NISPOM) (DOD 5220.22-M).

3.4 Item Unique Identification (IUID) of Tangible Items.

You shall implement an IUID of tangible items in accordance with MIL-STD-130, paragraph 5.2.

Unique item identifier means a set of data marked on items that is globally unique, unambiguous, and robust enough to ensure data information quality throughout life and to support multi-faceted business applications and users. These requirements apply to developed and commercial items. You shall provide unique item identification, or a DoD recognized IUID equivalent, for all identified items delivered. IUID marking of items shall be both machine readable and human readable in accordance MIL-STD-130, paragraph 5.2.

(DI-MISC-80711) Scientific and Technical Reports (A001)

3.5 Range and Training Assistance

You shall provide additional support for the effort to include training, logistics, engineering functions, support, maintenance services, and operations as requested by the Government and as specified in accordance with individual work order(s).

3.6 Warranty

You shall provide a warranty of all equipment provided for a period of five (5) years. The warranty shall include replacement of parts that have factory defects or are broken, except when evidence of misuse or abuse is present. You shall provide all POC information for maintenance instructions, replacement parts, and warranty claims.

3.6.1 Contractor Support.

You shall provide support for all system-unique repair parts for a minimum of five (5) years after the delivery/installation of the system. System-unique repair parts are manufactured specifically for the items installed on this type of range, and do not have an application or use on similar systems manufactured by others. System unique repair parts normally consist of parts manufactured from drawings controlled by the contractor, or items procured for use on the range that only have application to similar ranges.

Appendix A
 Document Summary List
 For The
 Aviation Add-On Package/ Air Ground Integration (A-GI) Village
 Effort

Definition of Categories (Cat):

Cat 0. The requirements contained in the directly cited document are not mandatory and are for guidance and information only. Unless otherwise specified in the solicitation, contract or contract modification, all requirements contained in the directly cited document and all referenced and subsequently referenced documents are not contractually applicable and are for guidance and information only.

Cat 1. The requirements contained in the directly cited document are contractually applicable to the extent specified. Unless otherwise specified in the solicitation, contract or contract modification, all requirements contained in referenced and subsequently.

	Document Number	Document Title	Contract Reference	Date	Cat. Code
1.	CEHNC 1110-1-23	USACE Open Range Design Guide	SOW Para 3.1.2, 3.1.2.1a, and 3.1.2.1c	1Dec04	Cat 1
2.	MIL-STD-130N	Identification Marking of US Military Property	SOW Para 3.4	17 Dec 07	Cat 1
3.	DOD 5220-22	National Industrial Security Program Operating Manual	SOW Para 3.3.2	27 Sep 04	Cat 1
4.	29 CFR OSHA 1910	Occupational Safety and Health Standards	SOW Appendix B Para 13 and 14	27 Apr 99	Cat 1

Appendix B
Technical Requirements
For The
Aviation Add-On Package/ Air Ground Integration (A-GI) Village

Requirements:

1. The base structures shall be preferred first use but no more than second use 40' and 20' standard ISO (8' W x 8'6" H x 40'/20'L) steel shipping containers. The entire container (outside and inside) shall be covered with a rust, rot, mildew, and mold resistant coating.
2. The A-GI Village shall have 14 base structures. The following types of base structures shall be provided to meet this requirement:
 - 10x 40' Base Structure
 - 4x 20' Base Structure
3. The A-GI Village shall have 13 buildings that meet the building specific requirements below. All buildings shall have a base pad. The A-GI Village shall have the following quantity of buildings:
 - 5x A-GI 001
 - 1x A-GI 002, 003, 004, 005, 006, 007
 - 2x A-GI 008
4. The structures and buildings shall have no electric, plumbing, and/or data hook-ups
5. The structures and buildings exteriors shall be Tan in color.
6. All structures and buildings shall be non-permanent, reconfigurable and easily relocatable. Base structures shall be relocatable by a five ton fork truck or smaller without disassembly or damage to the structure. All other hardware shall be capable of safely surviving normal air and surface transport conditions.
7. All structures and buildings shall be grounded to prevent injury in the case of a lightning strike.

Building Associated Component Requirements

The following subparagraphs describe the general requirements of associate components that make up the buildings of the A-GI.

8. Interior partition walls

The interior walls shall be reconfigurable within the structures. The interior walls shall be easily reconfigurable by no more than two soldiers. Interior walls shall have a minimum useable training height of 94" or 36" to be specified during design review. Interior walls shall have a thickness of no more than 3".

9. Exterior walls

Exterior walls shall have the same joint system for connecting walls to other walls, ceilings and floors without gaps. Surfaces of exterior walls facing the interior of a structure shall be flat and smooth. Exterior walls shall have a wind resistance of 80 mph. Bracing methods used to meet wind resistance requirements shall not create tripping hazards. Exterior walls shall be A36 (Structural) Steel or equivalent. Exterior walls shall resist rust and corrosion for no less than 10 years.

10. Base Pad

The base pad shall provide at least a 48" wide perimeter around the exterior of the structure.

11. Structure Floors

Floors shall be flat and level. Floors shall be designed and constructed to carry a working load of 100 lbs/square foot (psf) and shall be capable of supporting a concentrated load of 1000 psf.

12. Doors

The doors of the structures may consist of breach, standard pre-hung, and/or roll up doors. All doors shall be lockable by key in the fully closed position.

13. Breach Doors

Breach doors shall be capable of withstanding a tactical breach (kick/ram) with no damage to the frames and latch system. The amount of force required to breach the doors shall be adjustable with a minimum of three adjustment options. Breach doors shall not deteriorate or detach from the frame through the use of their designated breaching tactics. Sacrificial elements to allow for the longevity and ease of use are allowed. Breach doors shall possess a method of being secured in both the full open position and full closed position. The securing mechanism shall have a means of being disabled during breaching operations. Breach doors shall include a handle.

14. Standard Pre-Hung Doors

Standard pre-hung doors and associated frames shall be installed in the openings specified during the design review. Doorway frames shall not present tripping hazards. Standard pre-hung doors shall be 36" wide x 80" tall x 1-3/4" thick. Doors shall be capable of being mounted to form a Double Door.

15. Roll Up Doors

Roll up doors shall open from the ground level upward. Roll up doors shall be framed to have a minimum of 60" width x 72" height and a maximum of 72" width x 84" height.

16. Stairways

Stairways shall be galvanized steel and at least 30" wide. All other requirements of stairways shall be IAW OSHA standard 1910.24 for fixed industrial stairs.

17. Railings

Stairways shall have a railing made of galvanized steel and shall be IAW 1910.23(e) – 1910.23(e)(6) "Railing, toe boards, and cover specifications" of OSHA standards. All railings shall be capped or solid at the end to prevent sharp edges or hollow openings. Toe boards shall be installed with all railings.

18. Roofs

All structures shall be completely covered on top by a roof. Except when specified, roofs shall be physically attached to the structures and shall prevent weather effects from entering the structure through the roof. Roofs shall eliminate standing water from the top of the structure. Roofs shall be designed and constructed to carry a working load of 100 psf and shall be capable of supporting a concentrated load of 1000 psf.

19. Balconies

Balconies shall meet the weight load requirements of roofs and shall allow for personnel traffic. Balconies shall be flat and level. Balconies shall have hand, mid-, and vertical railing and toe boards that attach to the balconies and encase the exposed perimeter.

20. Framed openings

Framed openings shall be 36" width x 36" height for Windows and 36" x 80" for Pass Throughs. Framed openings shall be installed 42" to 48" above the floor of the associated structure. Framed openings shall have drip edges to eliminate water run-off or dripping water from entering the structure. Framed openings shall not compromise the structural integrity of the structure.

21. Framed opening covers

Framed openings shall have covers installed that are attached to the structure. Covers shall be securable in the fully open position and shall be lockable by key in the fully closed position. The key used to lock and unlock the covers shall be the same key as the doors. When fully closed, the covers shall prevent all forms of living organisms from entering the structure. Covers shall not be installed that open into the interior of the structure. Covers, when open, shall not be visible from the exterior of the structure. Covers shall have handles.

22. Domes

Domes shall resemble the hollow upper half of a sphere. Domes shall be easily relocated by one soldier. Once installed, domes shall be sealed and not allow intrusion of debris or precipitation. Domes shall be capable of being installed on all structures except A-GI-001. Dome colors shall consist of one of the following to be specified during the design review: Blue, Black, White, and Gold. Domes shall have two varieties, small and large.

23. Small dome

The small dome shall have a 96" diameter base and shall stand at least 72" in height. The small dome height shall not exceed the large dome height.

24. Large dome

The large dome shall have a 144" diameter base and shall stand at least 108" in height.

25. Courtyard walls

Courtyard walls shall be A36 steel or equivalent. Courtyard walls shall be either 4' or 8' high. Courtyard walls shall withstand a minimum of 80 mph winds without tipping over.

26. Courtyard doors

Courtyard doors shall be A36 steel or equivalent. Courtyard doors shall be 4' wide and available in heights of either 4' or 8'. The courtyard doors shall have a method of being secured in both the full open and full closed position.

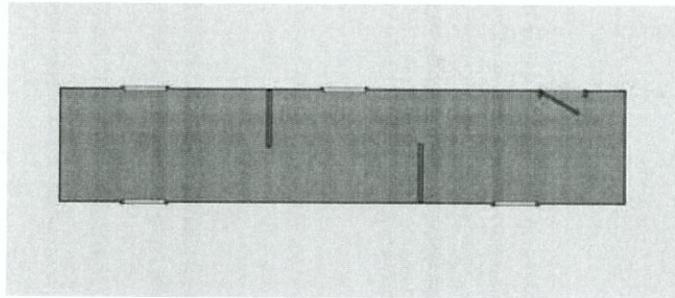
27. Gas Pump

Gas pumps shall be non working replicas of gas pumps.

Building specific requirements

1. A-GI 001 (Corresponds to UOS-002)

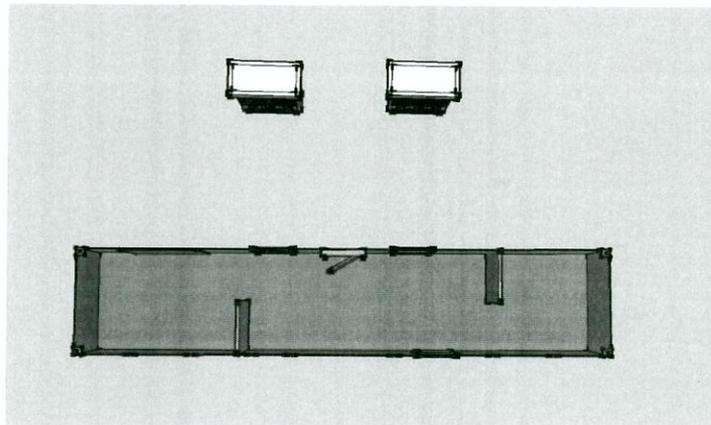
- 1x 40' Base Module with reinforced roof
- 1x Breach Door (36" x 80")
- 2x Partition Wall (48" x 96")
- 4x Framed Openings (Windows)



A-GI 001 Layout

2. A-GI 002 (Corresponds to UOS-007)

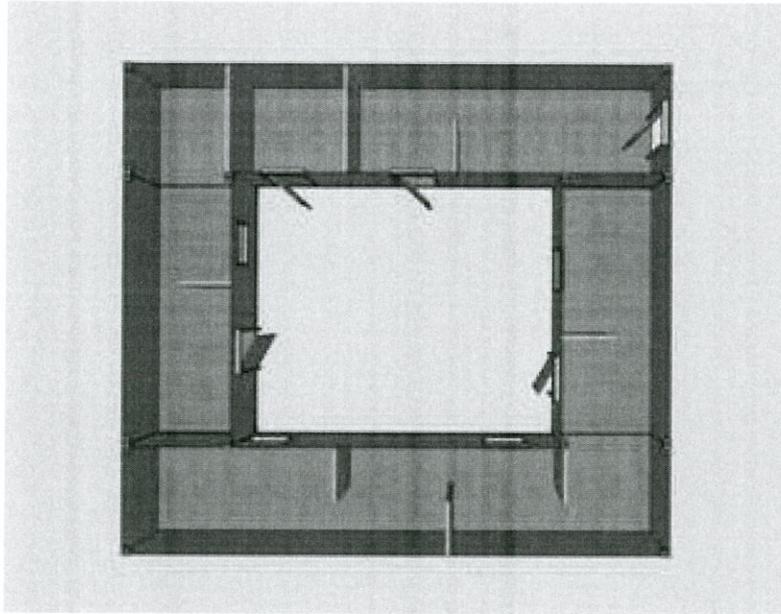
- 1x 40' Base Module with reinforced roof
- 1x Breach Door (36" x 80")
- 1x Roll Up Door (72" x 72")
- 2x Partition Wall (48" x 96")
- 2x Gas Pump



A-GI 002 Layout

3. A-GI 003 (Corresponds to UOS-012)

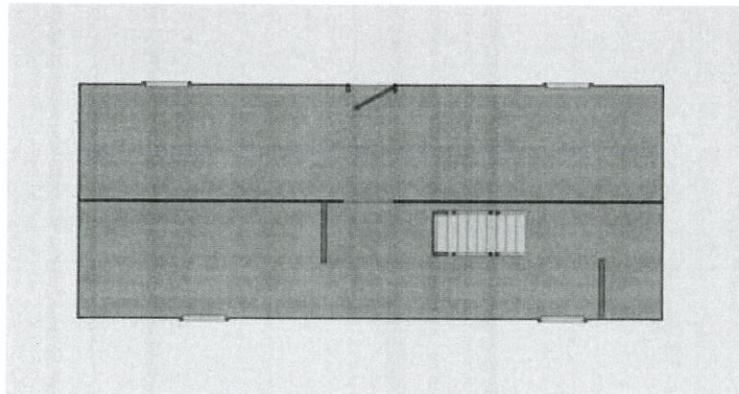
- 2x 40' Base Structure with reinforced roof
- 2x 20' Base Structure with reinforced roof
- 4x Standard Pre-hung Doors (36" x 80")
- 1x Breach Door (36" x 80")
- 6x Partition Wall (48" x 96")
- 4x Partition Wall (96" x 96")
- 4x Framed Openings (Windows)



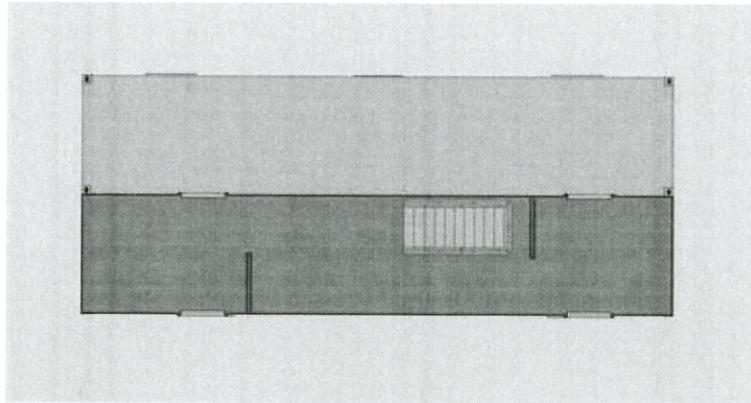
A-GI 003 Layout

4. A-GI 004 (Corresponds to UOS-015)

- 2x 40' Base Structure with reinforced roof
- 1x 40' Base Structure
- 1x Breach Door (36" x 80")
- 4x Partition Wall (48" x 96")
- 8x Framed Openings (Windows)
- 1x Interior Stairway with railing
- 1x Small Dome



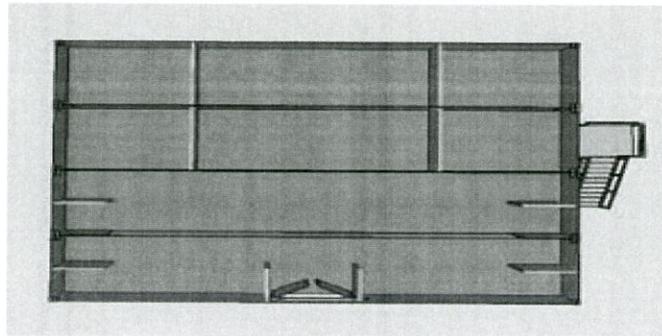
A-GI 004 Layout (1st Floor)



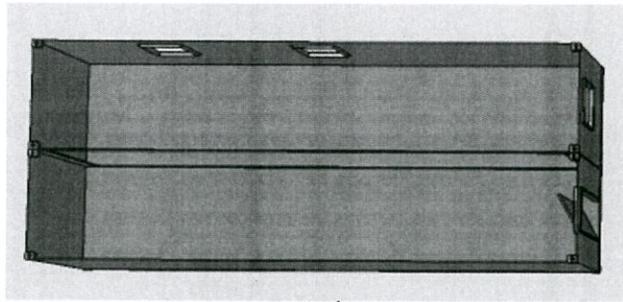
A-GI 004 Layout (2nd Floor)

5. A-GI 005 (Corresponds to UOS-019)

- 4x 40' Base Structure with reinforced roof
- 2x 40' Base Structure
- 2x Standard Pre-hung Door (36" x 80")
- 1x Breach Door (36" x 80")
- 10x Partition Wall (48" x 96")
- 4x Partition Wall (96" x 96")
- 3x Framed Openings (Windows)
- 1x Exterior Stairway with railing
- 1x Large Dome



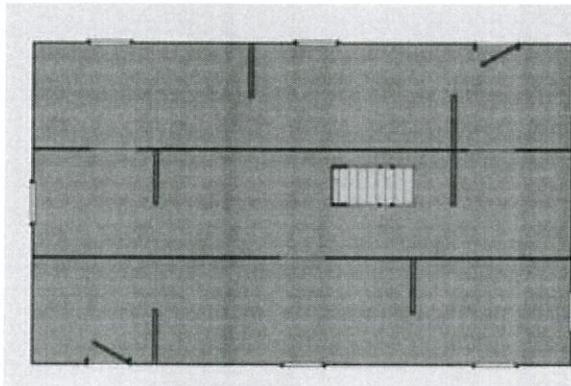
A-GI 005 Layout (1st Floor)



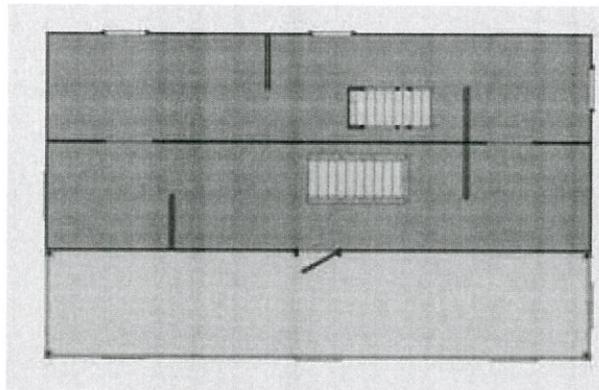
A-GI 005 Layout (2nd Floor)

6. A-GI 006 (Corresponds to UOS-021)

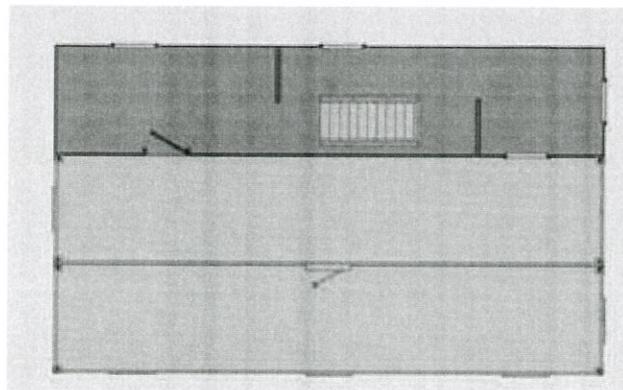
- 4x 40' Base Structure with reinforced roof.
- 2x 40' Base Structure
- 2x Standard Pre-hung Door (36" x 80")
- 1x Breach Door (36" x 80")
- 10x Partition Wall (48" x 96")
- 4x Partition Wall (96" x 96")
- 3x Framed Opening (Window)
- 1x Exterior Stairway with Railing
- 1x Large Dome
- 8x Railing (10' x 42")
- 4x Railing (8' x 42")



A-GI 006 Layout (1st Floor)



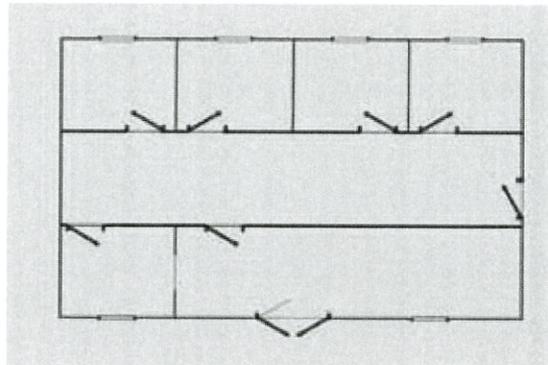
A-GI 006 Layout (2nd Floor)



A-GI 006 Layout (3rd Floor)

7. A-GI 007 (Corresponds to UOS-025)

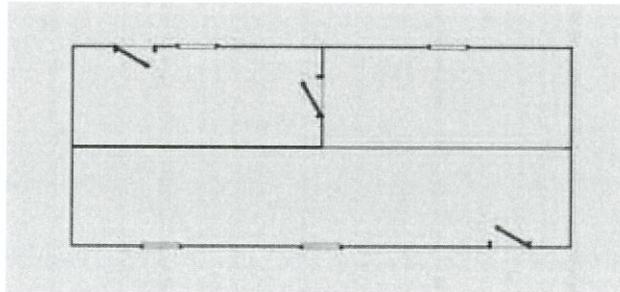
- 3x 40' Base Structure with reinforced roof.
- 6x Standard Pre-hung Door (36" x 80")
- 1x Breach Door (36" x 80")
- 1x Double Door (72" x 80")
- 4x Partition Wall (96" x 96")
- 1x Framed Opening (Pass through)
- 6x Framed Opening (Window)



A-GI 007 Layout

8. A-GI 008 (Corresponds to UOS-026)

- 2x 40' Base Structure with reinforced roof.
- 2x Standard Pre-hung Door (36" x 80")
- 1x Breach Door (36" x 80")
- 1x Partition Wall (96" x 96")
- 4x Framed Opening (Window)



A-GI 008 Layout

Environmental requirements

1. All equipment and structures shall withstand and shall not be degraded when subjected to random occurrences, unless otherwise specified, of the following environmental conditions for at least 5 years:
 - a. Temperature ranges of -20 to 120 degrees Fahrenheit.
 - b. Humidity of up to 100% at 120 degrees Fahrenheit.
 - c. Salt/Fog Conditions.
 - d. Direct sunlight up to 365 days per year.
 - e. Wind up to 80 mph.
 - f. Precipitation. There shall be sufficient drainage to dispose of liquids.
 - g. Hail up to baseball size.
 - h. Snow up to 36" on the top of the structure.