

CENTER OF STANDARDIZATION FOR NON-PERMANENT FACILITIES CATALOG



U.S. Army Corps of Engineers
Middle East District

CENTER OF STANDARDIZATION FOR NONPERMANENT FACILITIES

Established on 3 January 2012, the Center of Standardization for Non-Permanent Facilities is an Army's Design Agent for Temporary and Semi-Permanent Facilities world-wide. CoS responsibilities include evaluating UFC compliance for all Non-Permanent Facilities; and maintaining a catalog of Non-Permanent Designs, Facility Standards, and functional interior spaces. The CoS offers a wide variety of completed design options that are adaptable, scalable and modular for flexibility based on the location and purpose.

POINT OF CONTACT

Dale Hartmann, P.E. - Chief CoS

NIPRNet: dale.r.hartmann@usace.army.mil

SIPRNet: dale.r.hartmann.civ@mail.smil.mil

Phone: 540-665-2684 DSN: 312-265-2684

Tricia Torok, P.E. - CoS Program Manager

NIPRNet: patricia.l.torok@usace.army.mil

Phone: 540-665-4067 DSN: 312-265-4067

Ivelisse Ayala, VMA - CoS Project Manager

NIPRNet: ivelisse.ayala@usace.army.mil

Phone: 540-665-3726 DSN: 312-265-3726

Group Email: TCXCOSMED@usace.army.mil

Website: <https://mrsi.erdc.dren.mil/cos/tam>



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OUR VISION

Eliminate the adage - If you've seen one FOB you've seen one FOB. We are dedicated to eliminating the custom design paradigm of designing a unique facility to perform a single mission.

OUR MISSION

To ensure UFC compliance of all non-permanent facilities and the safety of existing facilities in support of military operations, while meeting current and future contingency operational needs.

We maintain a library of non-permanent facility standards for use worldwide and create designs based upon these standards which can be customized for specific user needs at additional cost.

OUR GUIDING PRINCIPLES

- Maximize use of local materials and methods
- Minimize use of heavy equipment
- Avoid use of fire sprinklers
- Maintain troop constructability
- Minimize maintenance inventory
- Eliminate load bearing interior walls

SERVICES WE OFFER

- Functional space analysis to match customer needs to facility standards
- Ballistically protected facilities
- Facility envelope designs available in a range of materials
- Base camp layouts utilizing standard building designs
- Full construction estimates and itemized material listings for each facility and compound design
- Custom designs based on CoS standard designs
- Full color 3D printed models of designs
- High resolution 3D rendering/animation
- Compliance reviews to ensure life safety in accordance with UFC 1-201-01
- Consultation and inspections for existing facilities per UFC 1-201-02

TYPES OF DESIGNS

Off-the-Shelf (OTS) Designs

CoS for non-permanent facilities collects 1% of the Construction PA prior to sending designs for oversight, requests for information, and quality assurance.

Assembly Designs / OTS Design Modifications

Design modifications are at cost, typically range is between \$50k-\$500k.

Site Adaptation of Designs

At cost of geographical district, CoS, or other entity.

HOW TO USE THIS CATALOG

All facilities are designed to be scalable with the flexibility to either be lengthened or shortened by the standard "bay" length, and are based on the same size to meet all mission requirements.

1. Decide Which Type of Construction Level

- Initial: Occupied for 6 Months
(tents, containers and fabric structures)
- Temporary: 5 Years
(Low cost, expedient and local material)
- Semi-Permanent: 25 Years
(Enduring presence, similar to permanent)

2. Considerations in Selecting a Design

- What local material is available?
(wood, concrete, CMU, sil rich in clay, etc.)
- What is the time frame you need this constructed?

3. Select Your Design

Select an Envelope

Select an envelope based on the parameters (i.e., available materials, duration of facility need). CoS offers a variety of exterior for <25 year operations, single story, 2 story, or warehouse space.

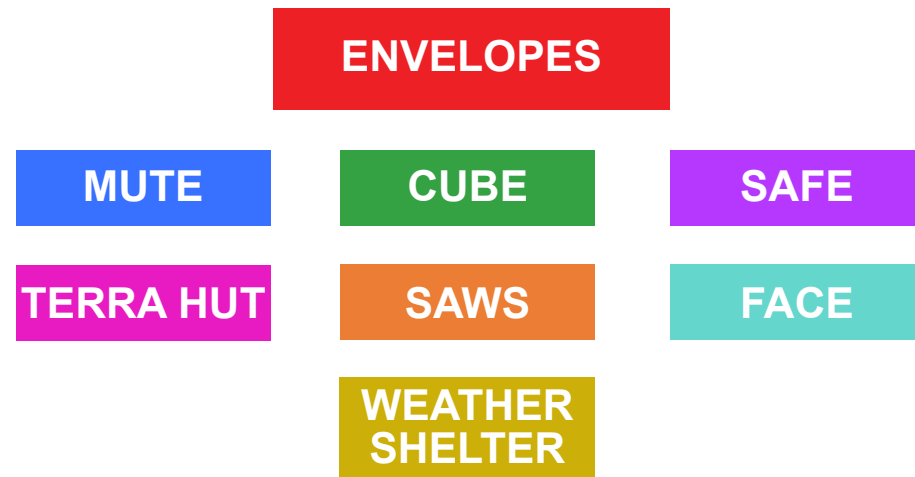
Select an Interior Layout

Choose from one of our many ready to use designs, or build your own layout from our pre-designed assemblies.

Rough Order of Magnitude (ROM):
= (Envelope Cost + Assembly Cost)*
Area Cost Factor* 1% (CoS Oversight)

CoS FOR NON-PERMANENT FACILITIES

Standard Designs Available for Execution, Any Layout in Any Envelope



- MUTE**
Multi Use Tall Envelope
Single story metal frame
- CUBE**
Common Uniform Building Envelope
Single story panelized modular facility
- SAFE**
Standard Adaptive Facility Envelope
Single or two story structure with integral ballistic protection
- TERRA HUT**
Tactically Earthen Rapidly Raised Assembly Hut
Single story constructed with onsite soil
- SAWS**
Standard Adaptive Wood Structure
Single or two story wood structure
- FACE**
Four Area CMU Envelope
Single story CMU envelope with direct fire protection
- Weather Shelter**
Single story Hangar or Warehouse with metal
and concrete construction

INTERIOR LAYOUT READY FOR USE

- | | |
|--|----------------------------|
| Medical | Operations |
| Troop Medical Center | Administration |
| ROLE - 1 | Armory |
| ROLE - 2 | HQ |
| ROLE - 2 + | Logistics |
| Blood Storage | Aircraft |
| | Warehouse |
| Services | Weather Shelter |
| Laundry | Tactical Operations Center |
| MWR | Joint Operations Center |
| Barber Shop | |
| Exchange | Life Support |
| Post Office | Barracks |
| Religious Facility | Cold Storage |
| Fire Station | Dining |
| Security | Latrine |
| ECP | |
| Search House | |
| Physical Fitness Center | |
| Tactical Equipment Maintenance Facility (TEMF) | |

Reduced Design Cost

CoS Standard Design: 1% of PA
Compared to -
New Design: 6-10% of PA

*All CoS facility standard designs are compliant with the latest version of UFC 1-201-01, Non-Permanent Facilities in Support of Military Operations

ENVELOPES SUMMARY - MASONRY STRUCTURES

*Area Cost Factor = 1.0

	TERRA HUT Option 1	TERRA HUT Option 2	FACE	SAFE
Occupied Duration	Up to 25 Years	Up to 25 Years	Up to 25 Years	Up to 25 Years
Construction Material	Compressed Earth Block Structure	Compressed Earth Block Structure	CMU	Concrete Framing w/ CMU infill
Default Dimensions	3 Bay, 8m x 14.7m 118.3m ²	14 Bay, 12.9m x 34.3m 442.5m ²	14 Bay, 12.9m x 34.3m 442.5m ²	14 Bay, 12.9m x 34.3m 442.5m ²
Stories	Single	Single	Single	Single/Two Story
R Value	Wall 20; Roof 40	Wall 20; Roof 40	Wall 20; Roof 40	Wall 21; Roof 40
Roof Options	Thatch, wood truss, metal truss, protected	Wood truss, metal truss, protected	Wood truss or metal truss	Protected roof with or without parapet

TERRA HUT (Option 1)



TERRA HUT (Option 2)



FACE

SAFE

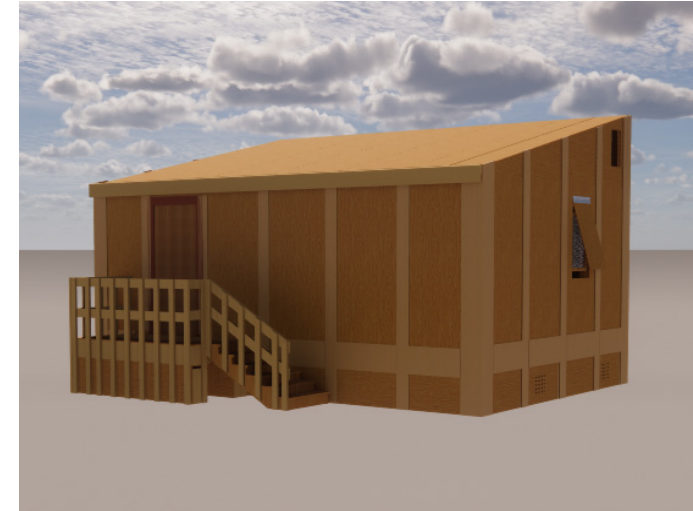


ENVELOPES SUMMARY - WOODEN STRUCTURES

*Area Cost Factor = 1.0

	CUBE	CUBE Tower	CUBE Wide	SAWS
Occupied Duration	Up to 5 Years	Up to 5 Years	Up to 5 Years	Up to 25 Years
Default Dimensions	1 Bay, 7.3m x 4.9m 35.77m ²	1 Bay, 4.9m x 4.9m 24m ²	2 Bay, 12.2m x 7.3m 89.2m ²	14 Bay, 12.9m x 34.3m 442.5m ²
Stories	Single	3-4 Story	Single	Two Story
R Value	Wall 20; Roof 40	Wall 20; Roof 40	Wall 20; Roof 40	Wall 20; Roof 40
Additional Information	Original CUBE design	Currently under design, for watch tower purposes	Currently under design, for more space than CUBE, but occupied duration not as long as SAWS	Only wooden envelope designed to semi-permanent. Concrete foundation

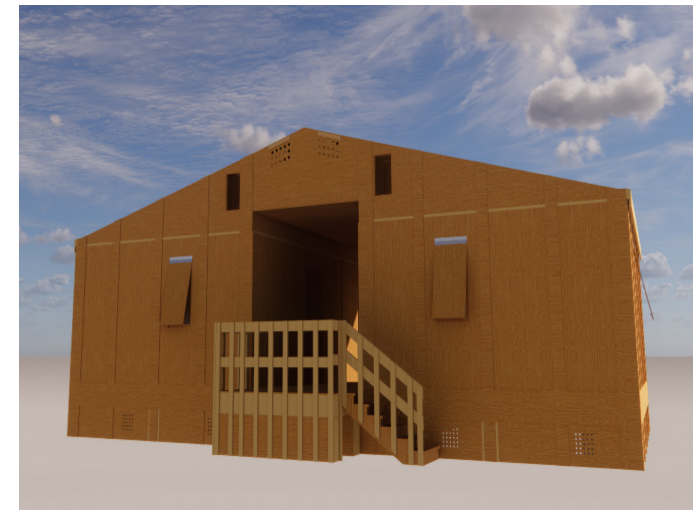
CUBE



CUBE Tower



CUBE Wide



SAWS



ENVELOPES SUMMARY - METAL STRUCTURES

*Area Cost Factor = 1.0

	MUTE 4	MUTE 6	Weather Shelter Hangar	Weather Shelter Warehouse
Occupied Duration	Up to 25 Years	Up to 25 Years	Up to 25 Years	Up to 25 Years
Default Dimensions	30 Bay, 12.4m x 90.5m 1122.2m ²	30 Bay, 12.4m x 90.5m 1122.2m ²	961m ² , 26m x 38.3m	961m ² , 26m x 38.3m
Eave Height	4m	6m	9.35m	9.35m, can be shortened
R Value	Wall 20; Roof 40	Wall 20; Roof 40	Wall 20; Roof 40	Wall 20; Roof 40
Additional Information	Metal building primary use is warehouse -eave height complies with fire code	Metal building primary use is nonwarehouse uses, for ex-Vehicle maintenance	Hangar space for aircraft, has large hangar door and office space	Warehouse or vehicle maintenance space. Eave height can be shortened to comply with fire code

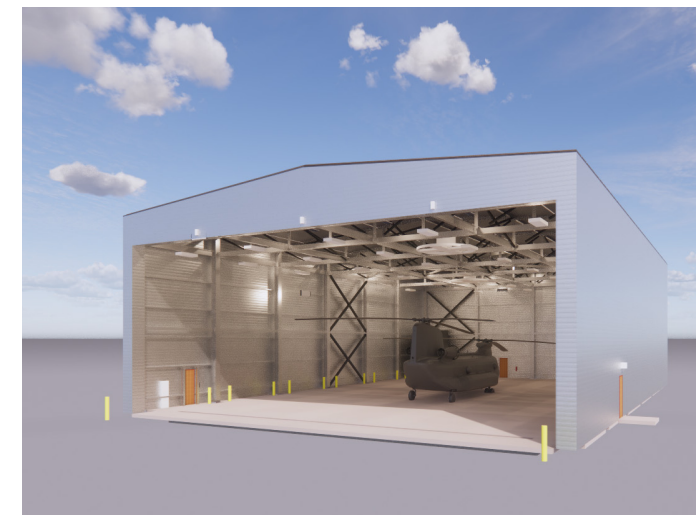
MUTE 4



Tactical Equipment Maintenance Facility (TEMF)



Weather Shelter Hangar



Weather Shelter Warehouse



COST OF SERVICES / USE OF STANDARD DESIGNS

Design Standards Review

CoS performs at no cost

UFC Compliance Review

CoS performs at cost

Use of Standard CoS Design

CoS Receives 1% of Construction PA

Construction oversight if needed

Contracting at Cost

Site Adaptation of CoS Design

At cost by Geographical District, CoS, or other entity

CoS review of Site Adaptations at cost

No Cost

At Cost

1% of PA

CoS NONPERMANENT DESIGN BUILDER

Utilize our easy to use Design Builder, which is an excel file that provides pricing, a design preview, and a detailed description based on your selections. The database can be accessed at-

<http://mrsi.erd.c.dren.mil.cos.tam.aspx>

Non-Permanent Design Menu

Facility Envelope Type

Single Bay Envelope

- Common Uniform Building Envelope (CUBE)
- Single Story Envelopes**
- Four Area CMU Envelope (FACE)
- Multi Use Tall Envelope (MUTE)
- Standard Adaptive Facility Envelope (SAFE1) Single Story
- Tactical Earthen Rapidly Raised Assembly Hut (TERRA HUT)

Two Story Options

- Standard Adaptive Wood Structure (SAWS) Two Story
- Standard Adaptive Facility Envelope (SAFE) Two Story

Off the Shelf Designs

- Blank Floor Plan
- Housing 14 Bw, 48 PN with Latrine/shower
- Housing, 14 bay, 56 PN Full floor open
- Low Density Barracks, 14 Bay, 24PN
- Low Density Barracks, 14 Bay, w/Bath, 12PN
- Operations Center, 14 Bay, Full Floor**
- Operations Center, 14 Bay, Full Floor, Option 2
- Headquarters, 14 Bay, Full Floor, 41PN
- Dining Facility, 500 PN, 14 Bay, 12PN
- Dining Facility, 224PN, 14 Bay, Full Floor Seating
- Joint Operations Center, 14 Bay, Full Floor
- Joint Operations Center, 14 Bay, Option 2
- Fitness Center, 14 Bay
- Mosque, 14 bay, full floor
- Latrine/Shower, 240 PN, 14 Bay, Full Floor
- Laundry, 300 PN, 14 Bay, Full Floor
- Role 2+ Medical Facility, 22 Bay, Full Floor
- Role 1 Medical Facility, 14 Bay, Full Floor
- Fire Station Admin Facility

Roof Type

- Metal Truss
- Wood Truss

Proposed Location

- Bahamas
- Bahrain
- Belgium
- Belize
- Bolivia
- Bosnia
- Brazil
- Bulgaria
- Cambodia
- Chile
- Colombia
- Costa Rica
- Czech**
- Croatia
- Cuba
- Czech Republic
- Diego Garcia

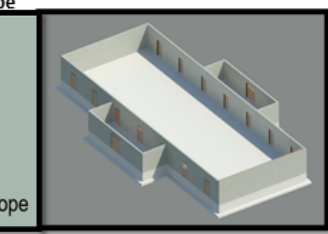
Labor Execution

- Troop Labor
- Contractor

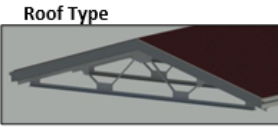
CoS NP Design Builder

Envelope

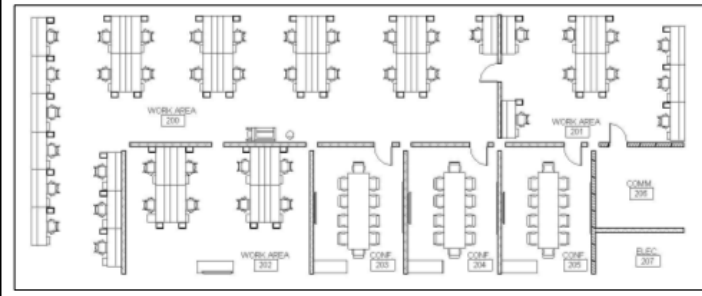
Four Area CMU Envelope



Roof Type



Interior Layout



Design Selection Criteria

Design Selection Criteria	Design Preview
Roof Type: Metal Truss	Stories: Single Story
Proposed Location: Crete	Dimensions: 14 Bay, 9.8m x 34.3m, 442.5 m2
Labor: Troop Labor	R-value: Wall 20; Roof 40
Interior Layout Detail: Open Office Area with 3 Conference Rooms	Construction Material: CMU

Design Title

Operations Center, 14 Bay, Full Floor

High Order of Magnitude (ROM)

ACF	1.13
\$/Unit	\$1,808
Size (M2)	442.5
ROM Breakdown	
Roof	\$113,000
Envelope	\$412,450
Interior	\$274,703
Total Facility	\$800,153
CoS Oversight (1)	\$8,002
Total ROM	\$808,155

NOTE: This ROM does not include any FF&E, site work or utility connections. Area Cost Factors are based on 2018 P&X Newsletter

Description

A "bay" consists of a 24x16 section. The default FACE Envelope consists of 14 Bays. The facilities can be stretched or shortened modularly per "bay" width.

Construction Material: Load Bearing CMU

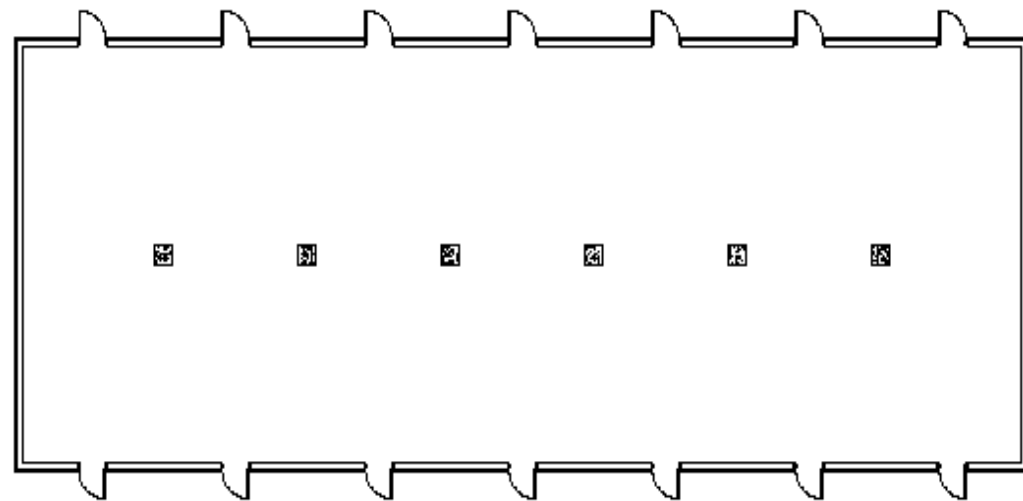
Occupancy: semi-permanent facility to be occupied no more than 25 years

ENVELOPES

The building envelope, which includes the walls, windows, roof, and foundation, forms the primary thermal barrier between the interior and exterior environments, or the “shell”.

ENVELOPES - SAFE 1 (SINGLE STORY)

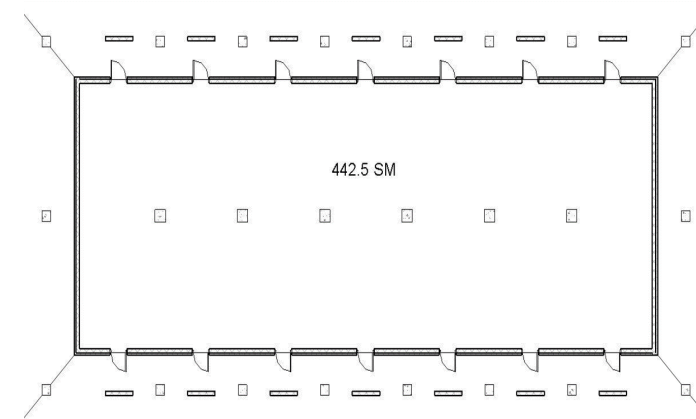
Standard Adaptive Facility Envelope



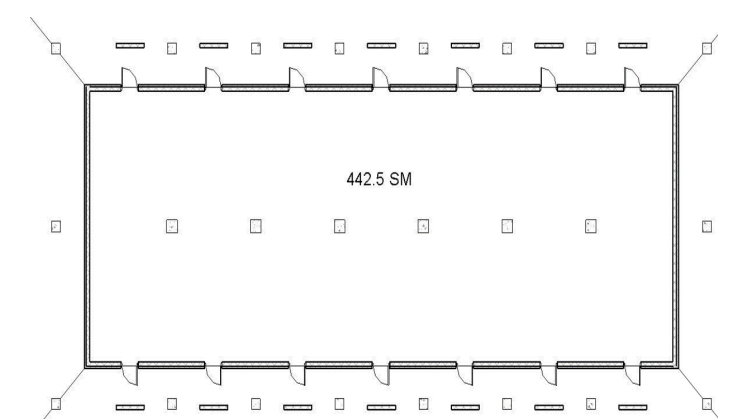
Description	
Occupied Duration	Up to 25 years
Construction Material	Concrete Framing w/ CMU infill
Default Dimensions	14 Bay, 9.8m x 34.3m, 442.5 m2
Stories	Single
R-value	Wall - 21; Roof 40

ENVELOPES - SAFE (TWO STORY)

Standard Adaptive Facility Envelope



1st Floor

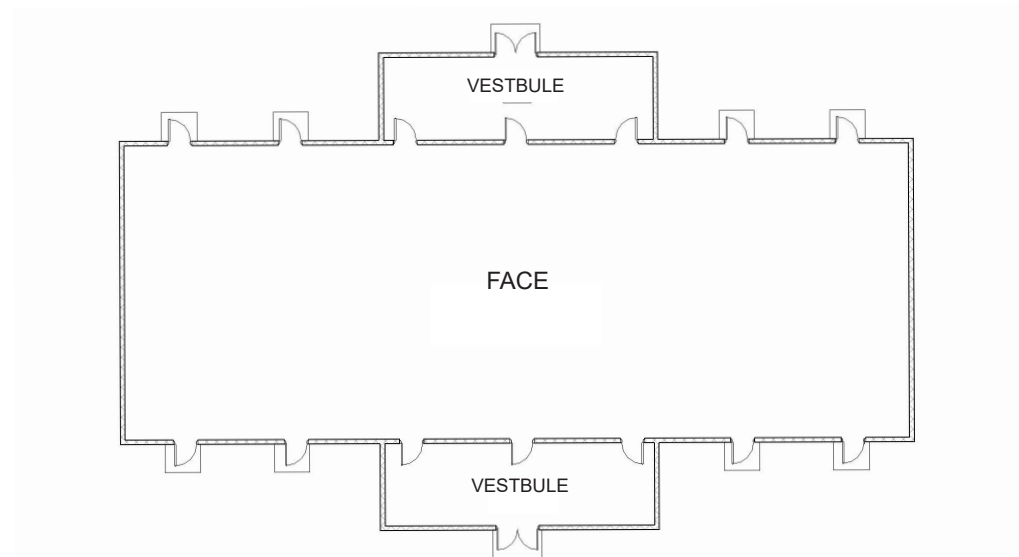


2nd Floor

Description	
Occupied Duration	Up to 25 years
Construction Material	Concrete Framing w/ CMU infill
Default Dimensions	14 Bay, 9.8m x 34.3m, 442.5m2
Stories	Two
R-value	Wall - 21; Roof 40

ENVELOPES - FACE

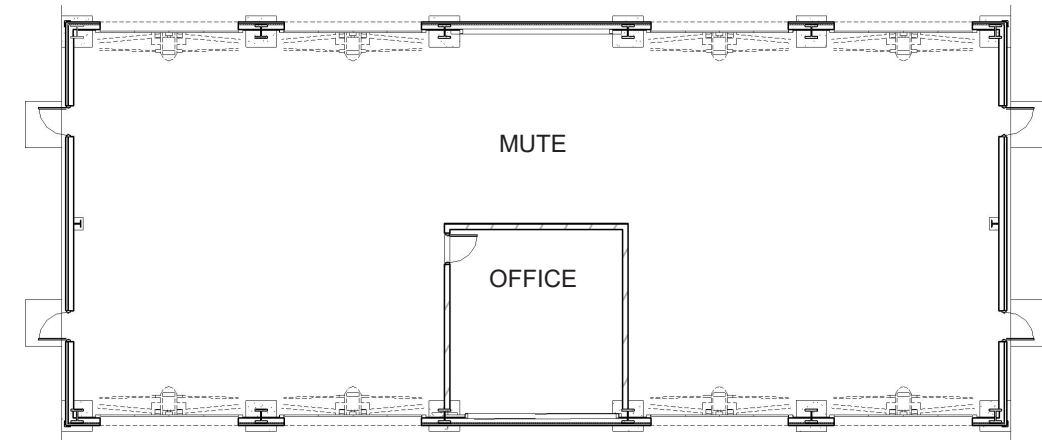
Face Area CMU Envelope



Description	
Occupied Duration	Up to 25 years
Construction Material	CMU
Default Dimensions	14 Bay, 9.8m x 34.3m, 442.5m ²
Stories	Single
R-value	Wall - 20; Roof 40

ENVELOPES - MUTE

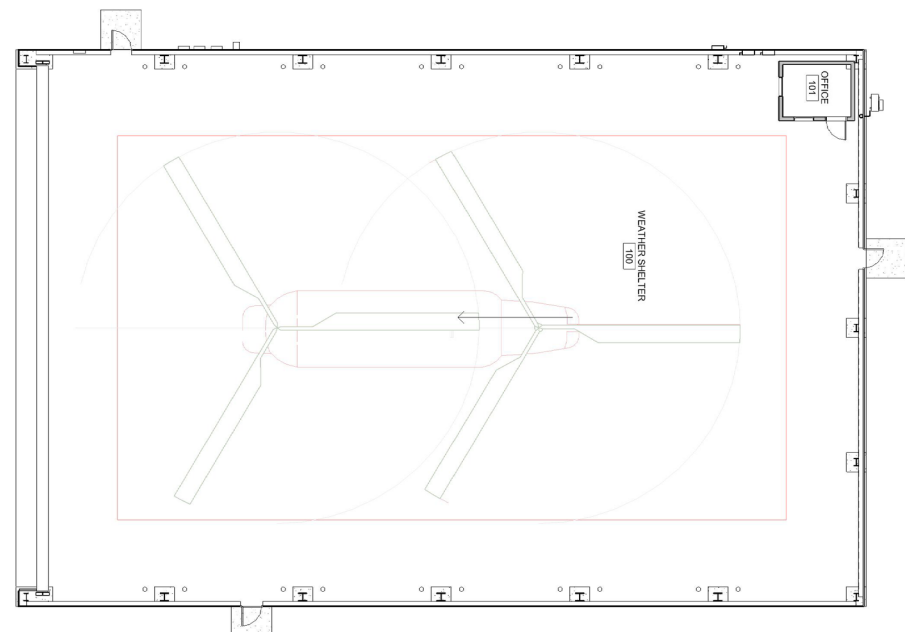
Multi Use Tall Envelope



MUTE 4	4m eave height for warehouse (complies with 12' high stacking max)
MUTE 6	6m eave height for non-warehouse use (e.g. vehicle maintenance)

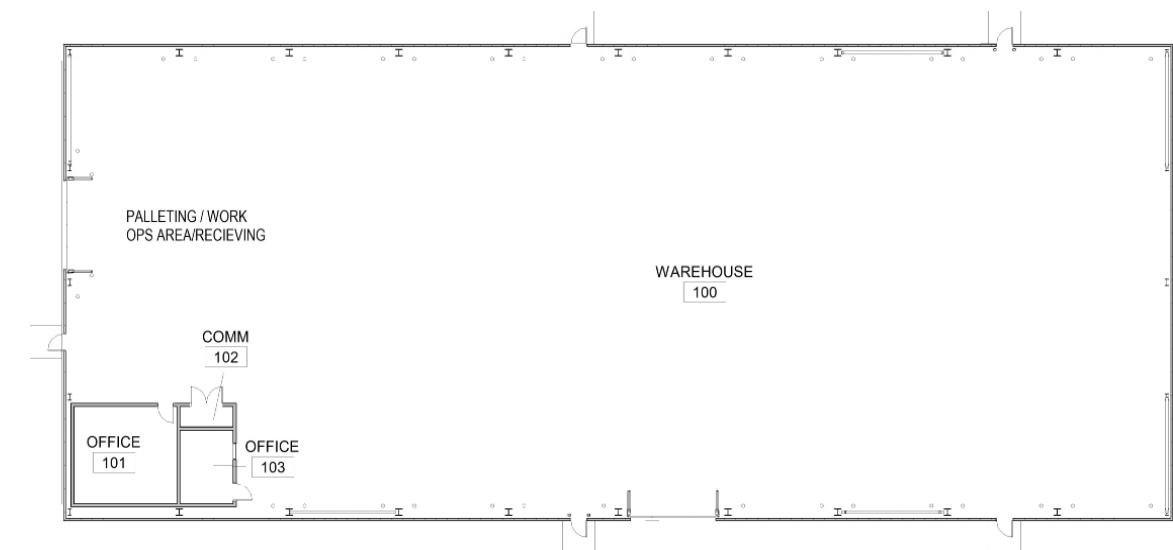
Description	
Occupied Duration	Up to 25 years
Construction Material	Metal
Default Dimensions	5 Bay, 12.8m x 30.5m, 390m ²
Stories	Single
R-value	Wall - 20; Roof 40

ENVELOPES - Weather Shelter (Hangar Version)



Description	
Construction Material	Metal with Concrete Columns
Size	26m x 38.3m, 961m ²
Details	Weather shelter for CH-47 Chinook Helicopter with officer space

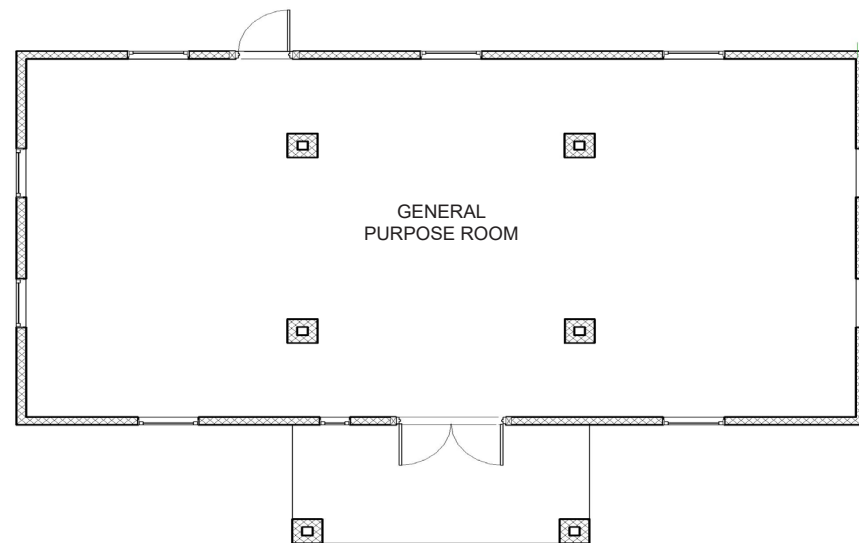
ENVELOPES - Weather Shelter (Warehouse Version)



Description	
Construction Material	Metal with Concrete Columns
Size	26m x 38.3m, 961m ²
Details	One-story version for use as non-hangar space/warehouse

ENVELOPES - TERRA HUT (Option 1)

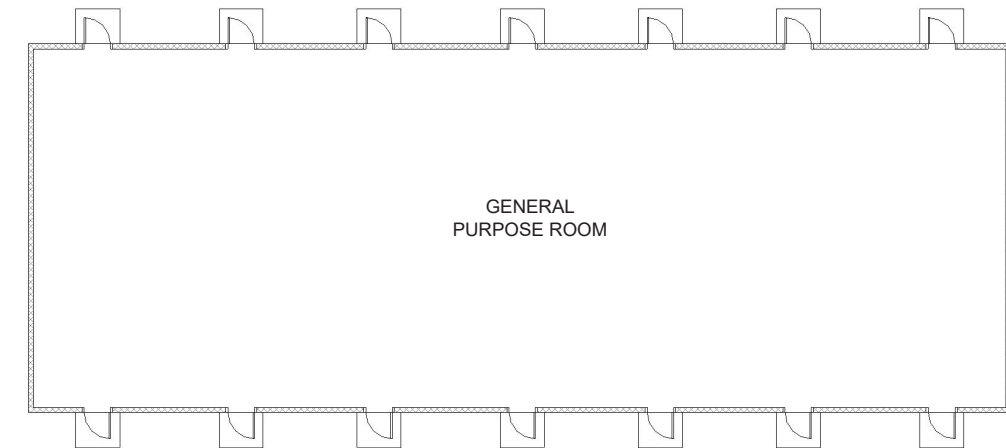
Tactically Earthen Rapidly Raised Assembly Hut
Protective Roof, other options available upon request.



Description	
Occupied Duration	Up to 25 years
Construction Material	Compressed Earth Block Structure with protective roof
Default Dimensions	3 Bay, 8m x 14.7m, 118.3m ²
Stories	Single
R-value	Wall - 20; Roof 40

ENVELOPES - TERRA HUT (Option 2)

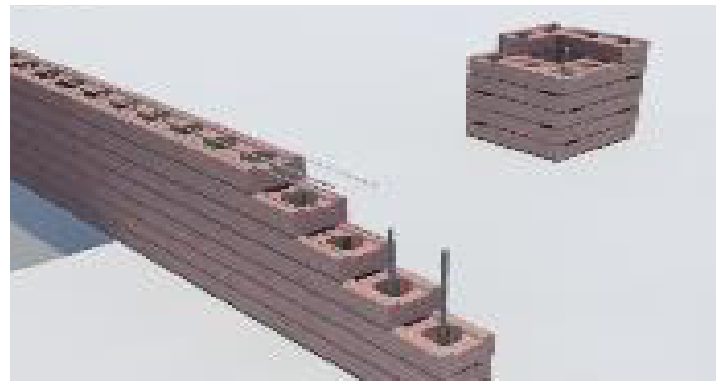
Tactically Earthen Rapidly Raised Assembly Hut
Other roof types available upon request.



Description	
Occupied Duration	Up to 25 years
Construction Material	Compressed Earth Block Structure with Wood Roof Frame
Default Dimensions	14 Bay, 12.9m x 34.3m, 442.5m ²
Stories	Single
R-value	Wall - 20; Roof 40

TERRA HUT CONSTRUCTION PROCESS

Tactically Earthen Rapidly Raised Assembly Hut



Description	
Brick Material	Onsite soils, min. 15% clay, 30% sand, 7% cement
Brick Production Rate	Machine makes 240 bricks+/hr, to be cured for 6 days
Bricks needed for 3-bay TERRA Hut (Option 1)	Non-Protected - 2,720 bricks, non-hardened, 3,825 lbs. of cement (11 hours of continuous brick making)
Bricks needed for 3-bay TERRA Hut SAFE protective roof	Protected - 6,000 bricks, hardened, 8,438 lbs. of cement (25 hours of continuous brick making)
Bricks needed for 14-bay TERRA SAFE (Option 2)	Non-Protected - 12,700 bricks, non-hardened, 17,900 lbs. of cement (53 hours of continuous brick making)

31 COURSES (TOTAL)

2 COURSES

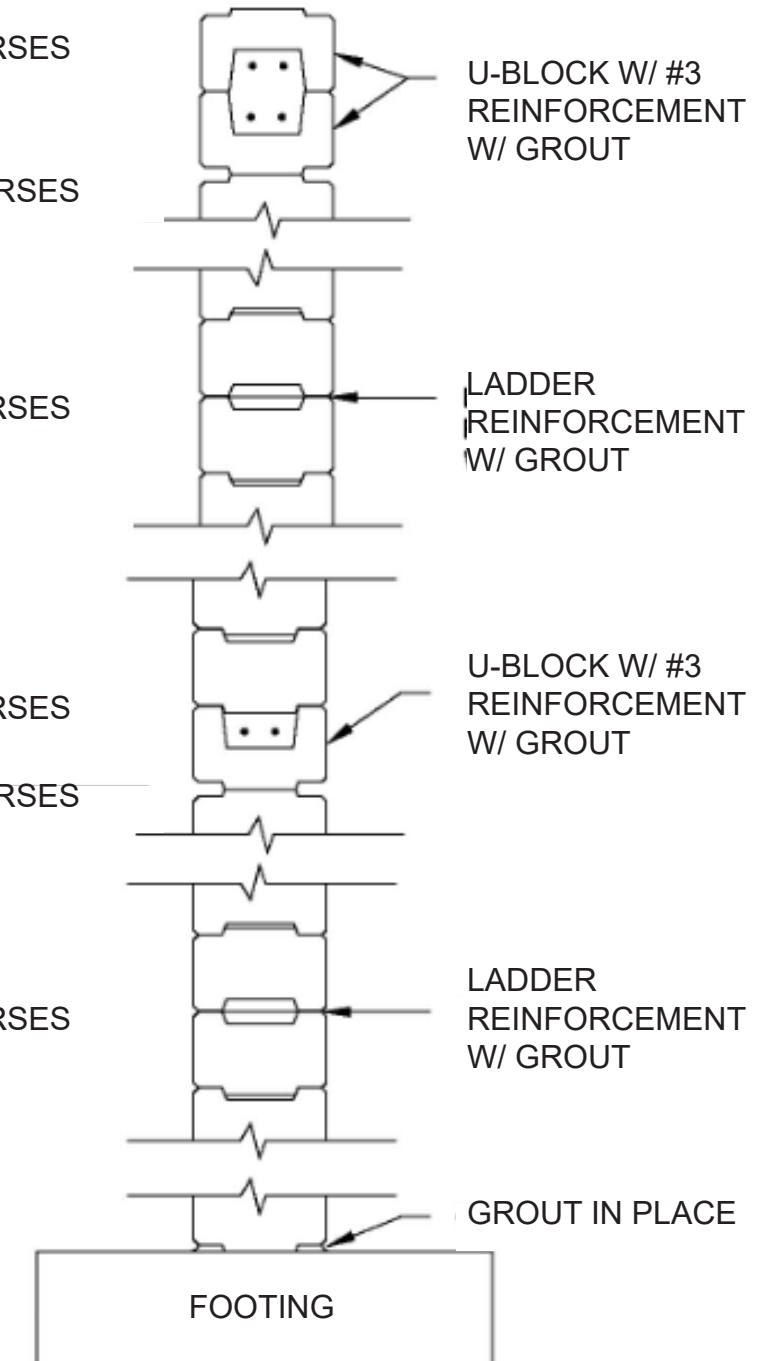
14 COURSES

7 COURSES

1 COURSES

14 COURSES

7 COURSES



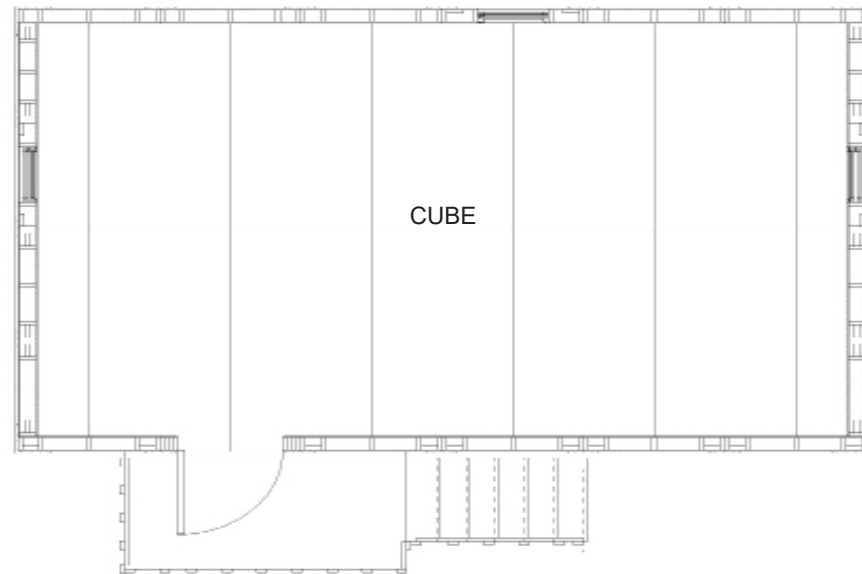
TYPICAL WALL SECTION (NTS)

Equipment Needed: Dwell Earth Block Machine

ENVELOPE - CUBE

Common Uniform Building Envelope

Patented 19 May 2020 Patent #10655350

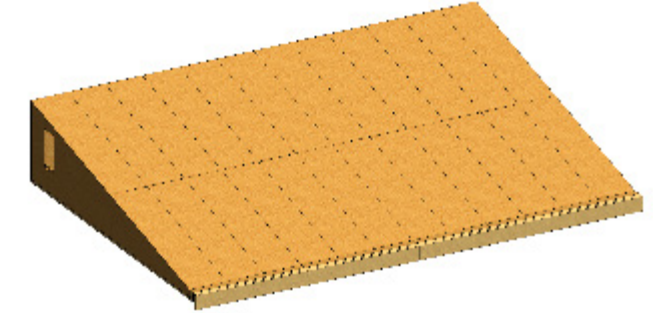


Description	
Occupied Duration	Up to 5 years
Construction Material	Panelized Wood
Default Dimensions	1 Bay, 7.3m x 4.9m, 35.77m ²
Stories	Single
R-value	Wall - 20; Roof 40
Ceiling Height	2.4m

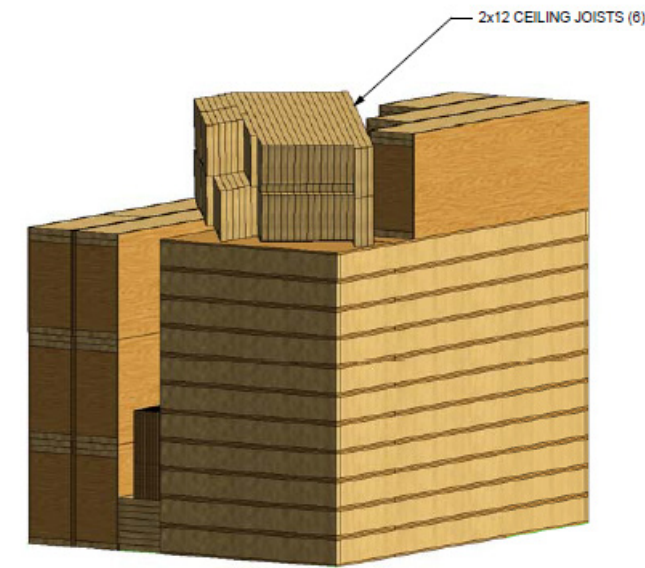
CUBE NEW ROOF OPTIONS

Common Uniform Building Envelope

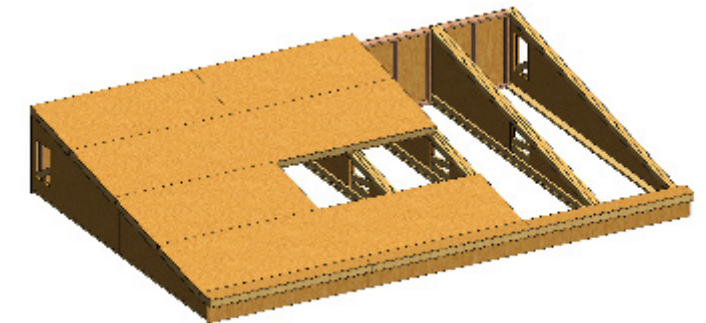
- Lighter than the previous truss roof
- Less complicated fabrication
- Easier to install



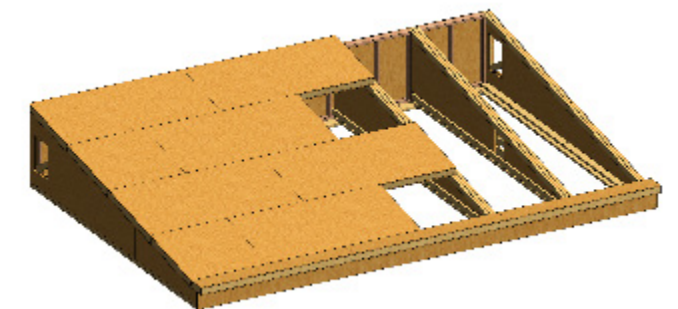
Truss Assembly Roof



PALLET 2 - FRONT ISO



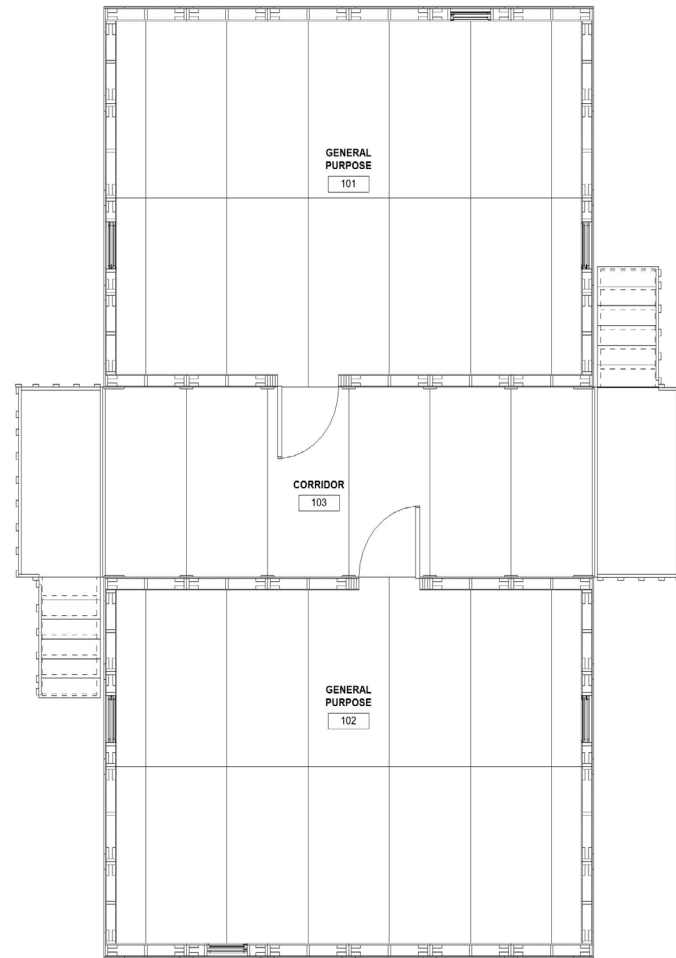
16' Truss Assembly



16' Spliced Truss Panel

ENVELOPE - CUBE WIDE

Common Uniform Building Envelope



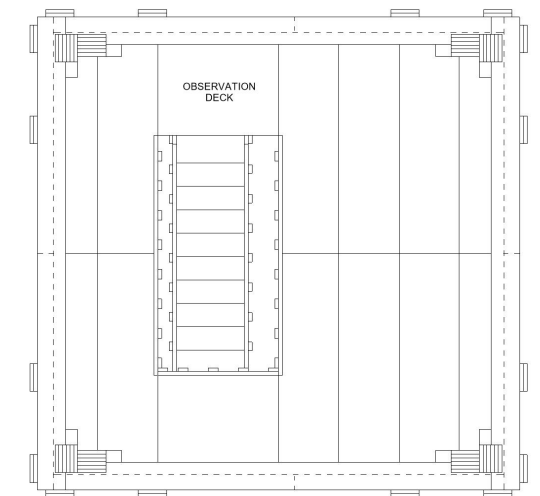
Description	
Occupied Duration	Up to 5 years
Construction Material	Panelized Wood
Default Dimensions	1 Bay, 12.2m x 7.3m, 89.2m ²
Stories	Single
R-value	Wall - 20; Roof 40
Additional Information	Maintains many CUBE components. Similar to SAWS, but does not have a concrete foundation.

ENVELOPE - CUBE TOWER

Common Uniform Building Envelope



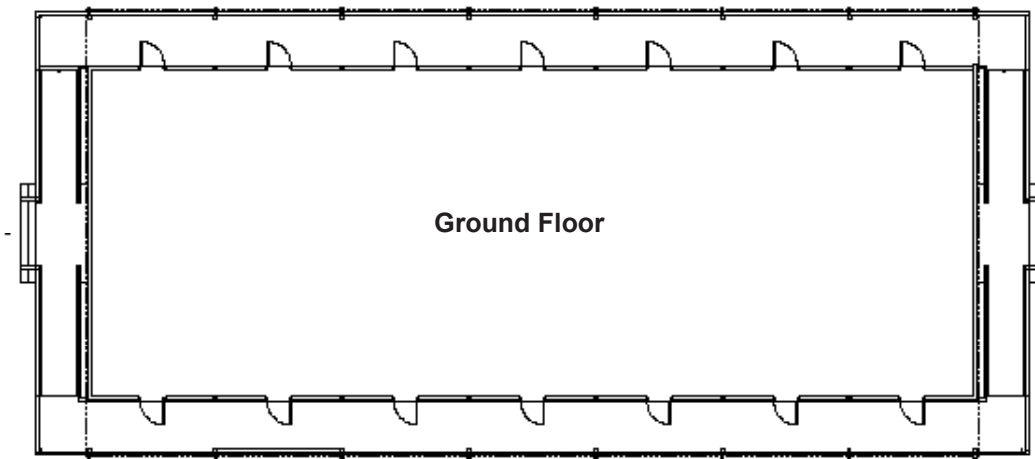
CUBE Tower Viewing Deck
Observation Distance = 6+ Miles/ 9.6+ Kilometers



Description	
Occupied Duration	Up to 5 years
Construction Material	Panelized Wood
Default Dimensions	1 Bay, 4.9m x 4.9m, 24m ²
Stories	Single
R-value	Wall - 20; Roof 40
Additional Information	Maintains as many original CUBE parts as possible. Cab on top floor can be 16' - no outer walkway, or 10' to 8' for an outer walkway

ENVELOPES - SAWS 1

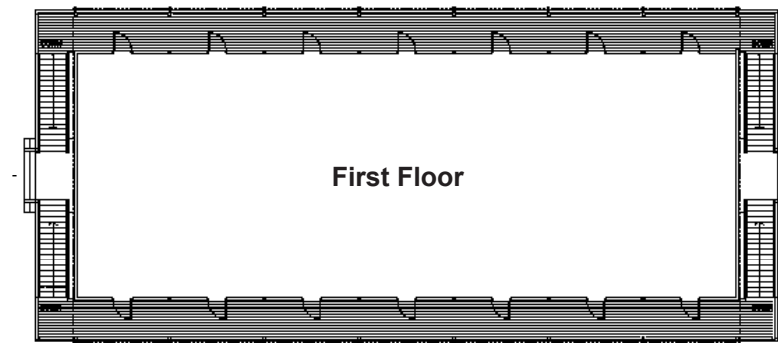
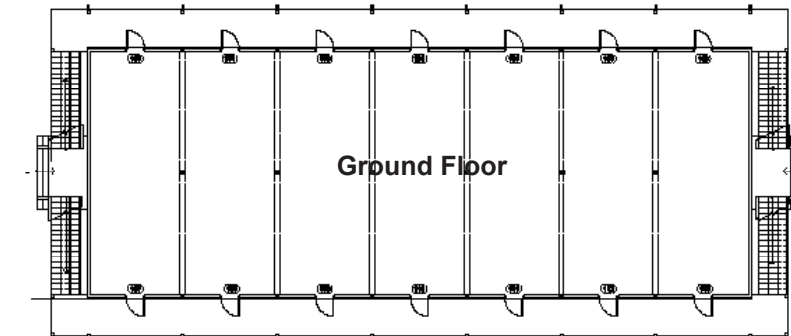
Standard Adaptive Wood Structure



Description	
Occupied Duration	Up to 25 years
Construction Material	Wood
Default Dimensions	14 Bay, 9.8m x 34.3m, 442.5m ²
Stories	Single
R-value	Wall - 20; Roof 40

ENVELOPES - SAWS (TWO STORY)

Standard Adaptive Wood Structure



Description	
Occupied Duration	Up to 25 years
Construction Material	Wood
Default Dimensions	14 Bay, 9.8m x 34.3m, 442.5m ²
Stories	Two
R-value	Wall - 20; Roof 40

OFF-THE-SHELF DESIGNS

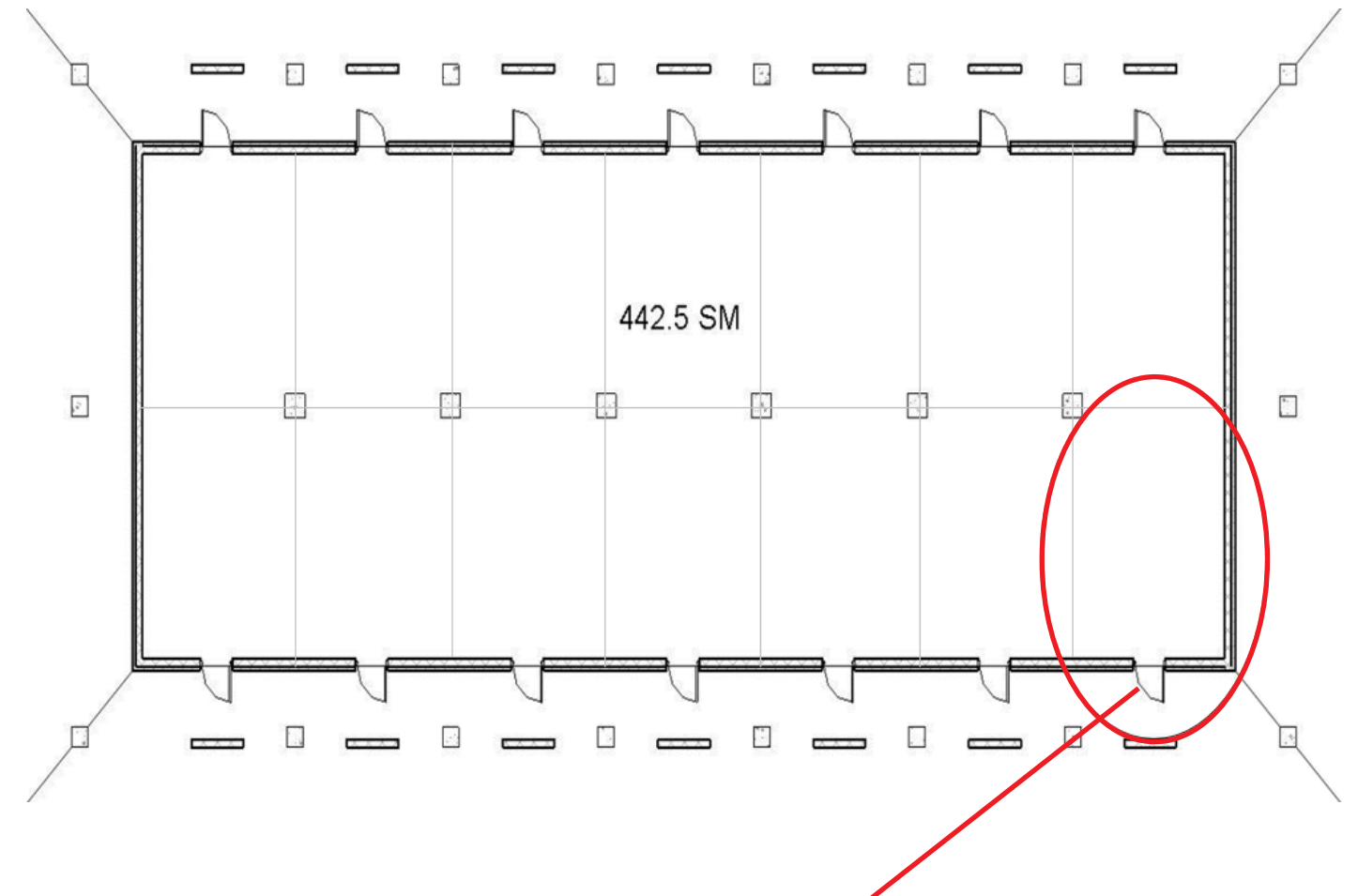
Off-the-Shelf Designs is the interior layouts which include; barracks, weapons storage, dining facilities, operations centers, headquarters, etc.

OFF-THE-SHELF DESIGN OPTIONS

Other options available by request.

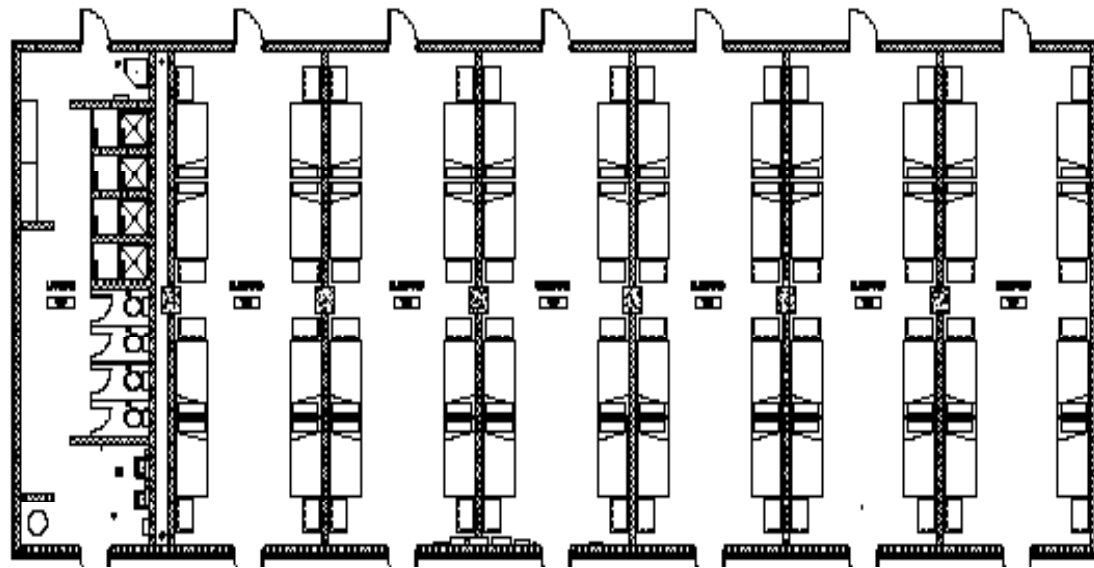
Designs		# of Options
1	Billeting	2
2	Low Density Barracks	2
3	Headquarters	1
4	Laundry	1
5	Operations Center	2
6	Admin	2
7	DFAC Facility	2
8	Fire Station	1
9	Fitness Facility	1
10	Joint Operations Center	2
11	Latrine	2
12	Religious	2
13	Medical Facility	5
14	Tactical Equipment Maintenance Facility (TEMF)	1
15	Weather Shelter	2
16	CUBE Lounge Area	2
17	CUBE Joint Operations Center	1

STANDARD BAY EXAMPLES



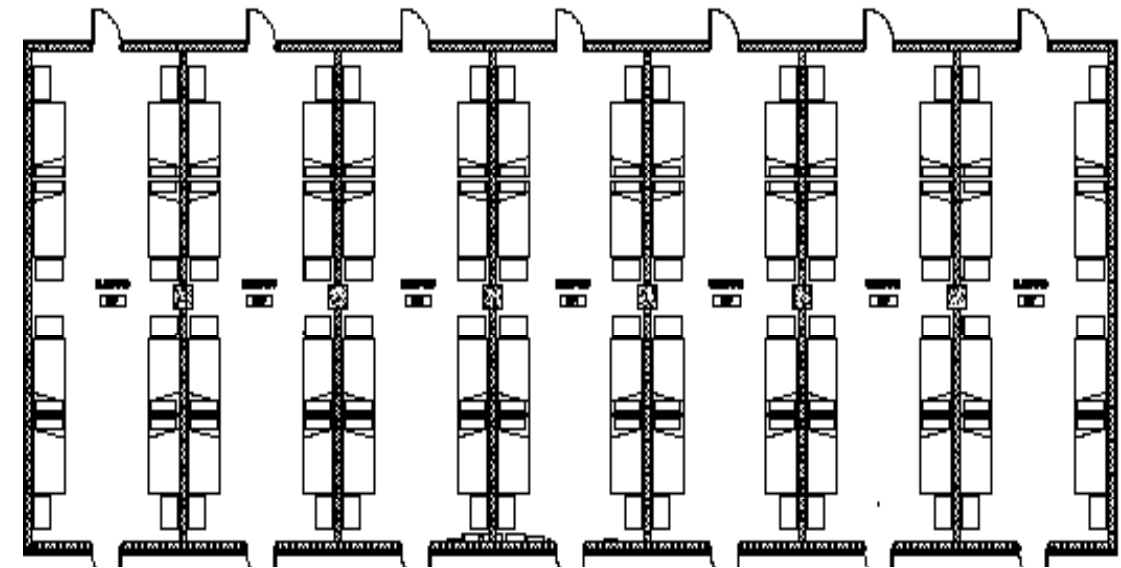
A "Bay" = 7.3m x 4.9m (35.77m²)
Standard Envelopes have 14 Bays

BILLETING (OPTION 1)



Description	
Size	48 PN
Details	Semi-open billeting w/ Latrine & Showers

BILLETING (OPTION 2)



Description	
Size	56 PN
Details	Semi-open billeting

LOW DENSITY BARRACKS (OPTION 1)

Dry Facility Room

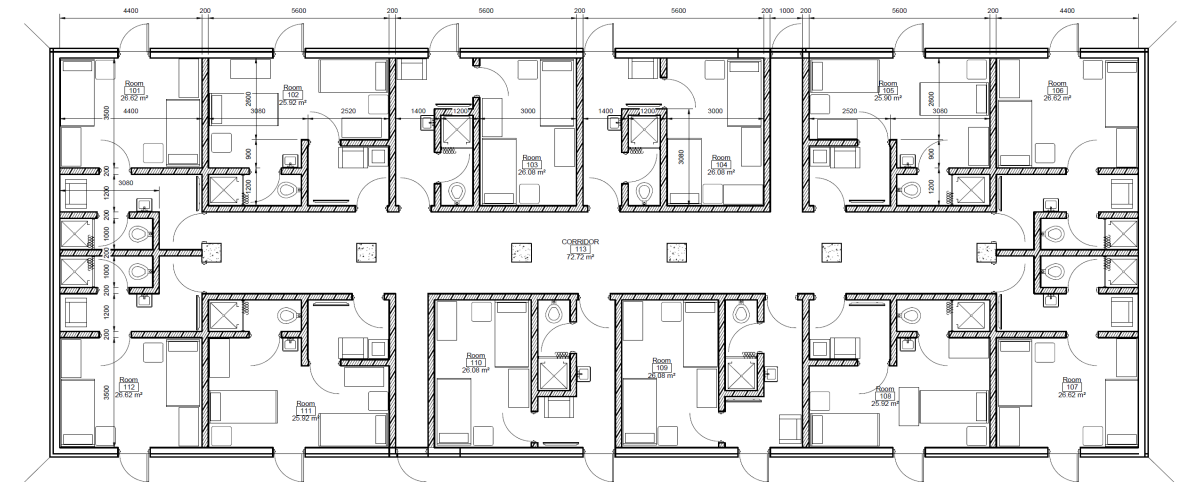
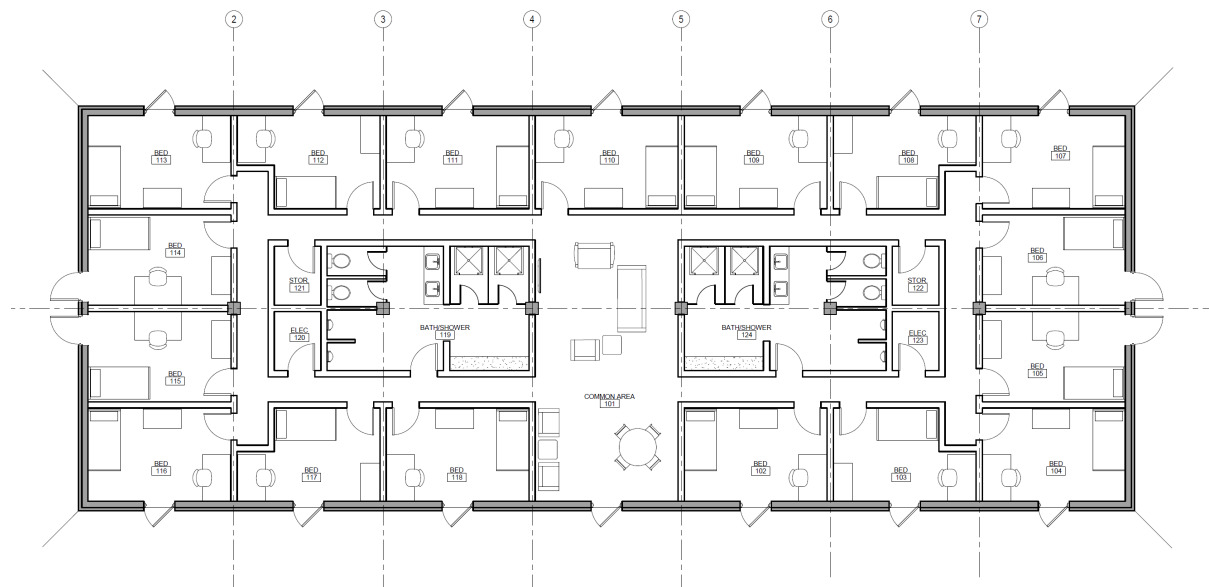
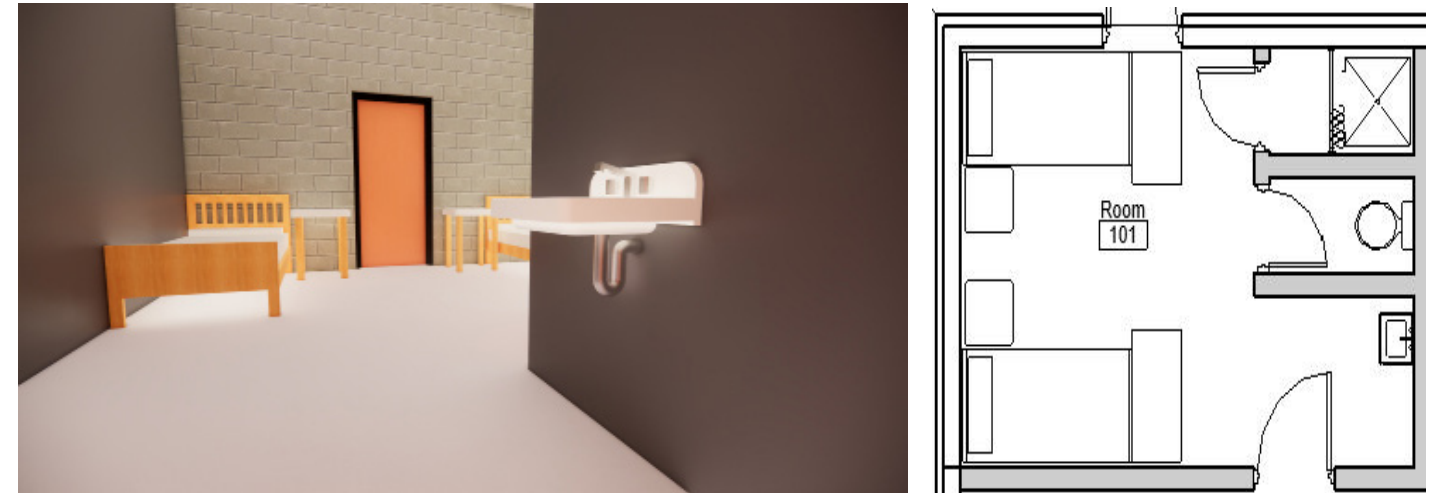
Area: 14.66m²



LOW DENSITY BARRACKS (OPTION 2)

Room with Bathrooms

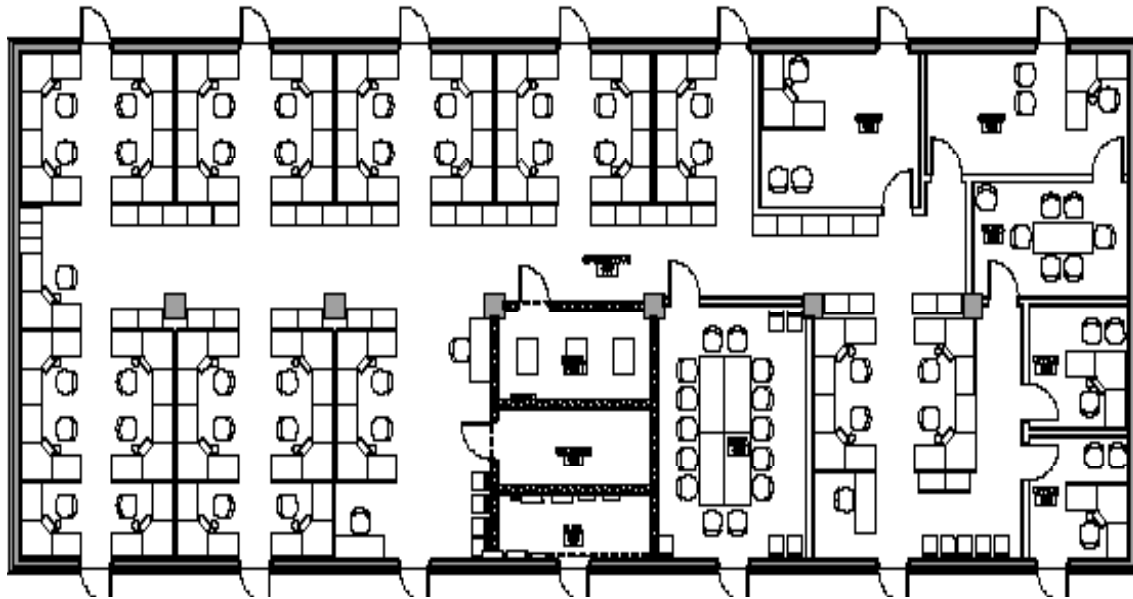
Area: 17.26m²



Description	
Size	38 PN
Details	19 Rooms, 2 Beds per Room, with Office Area

Description	
Size	22 PN
Details	11 Rooms, 2 Beds per Room, with Office Area & Bathrooms

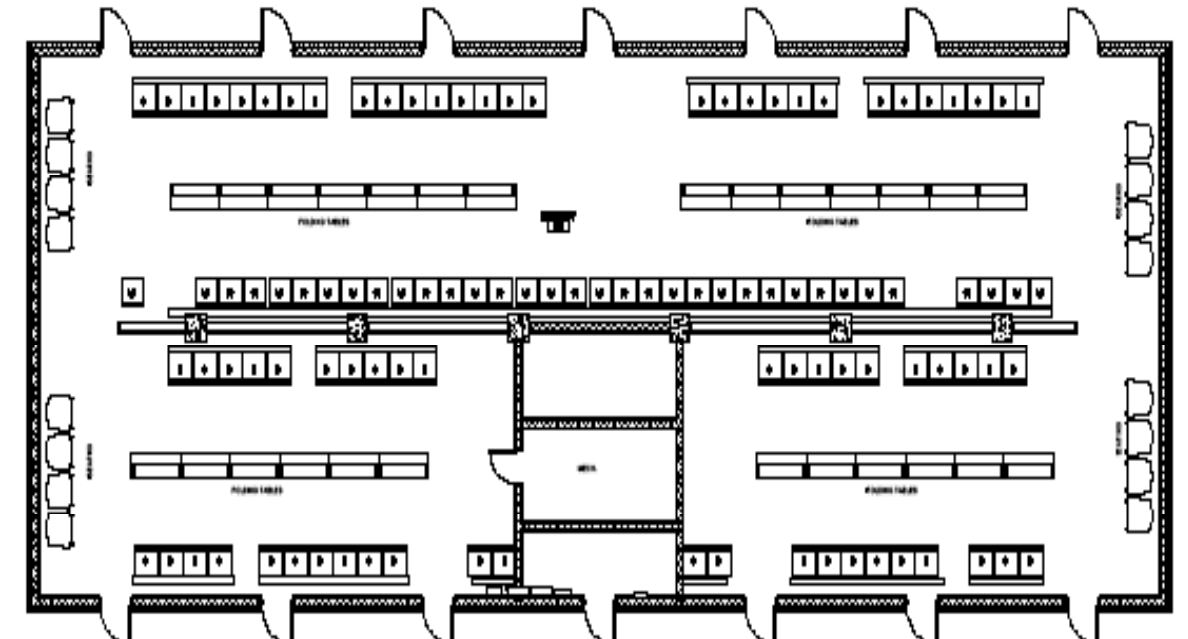
HEADQUARTERS



Description	
Size	44 PN
Details	Open Area Seating, 4 offices, and multiple conference spaces

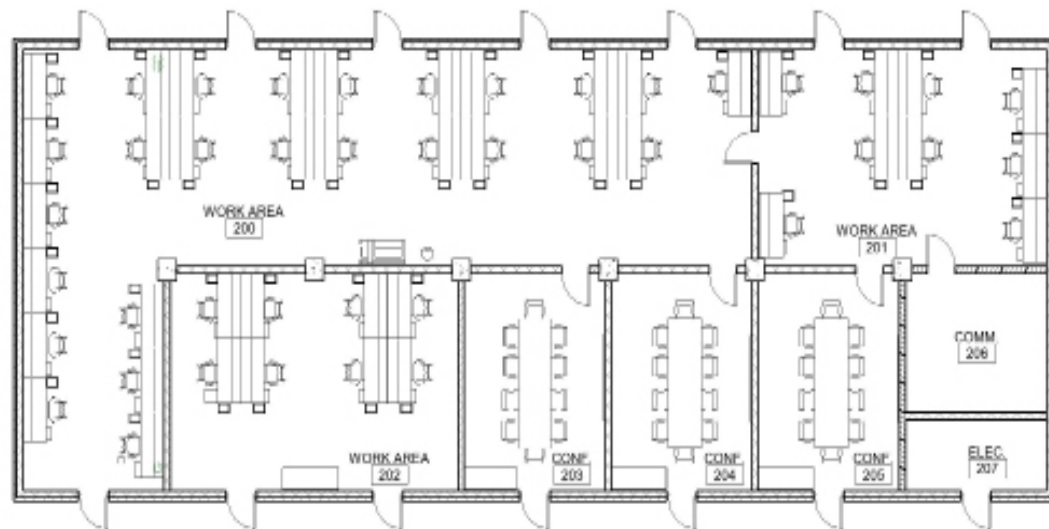
LAUNDRY

14 Bay, Open Area



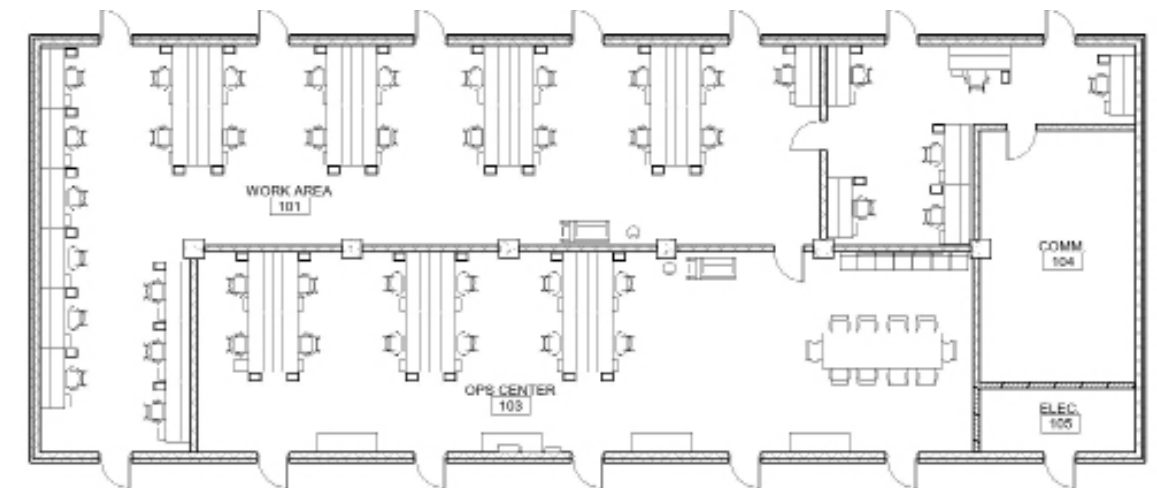
Description	
Size	900 PN
Details	Open Laundry

OPERATIONS CENTER (OPTION 1)



Description	
Size	43 PN
Details	Open office area with 3 conference rooms

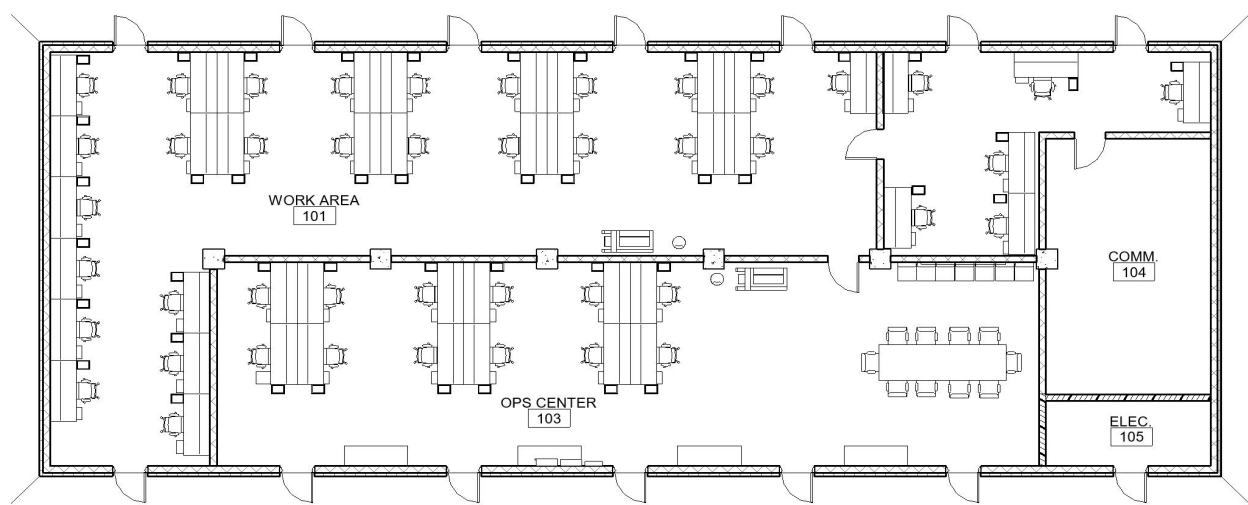
OPERATIONS CENTER (OPTION 2)



Description	
Size	44 PN
Details	Open office are with conference space

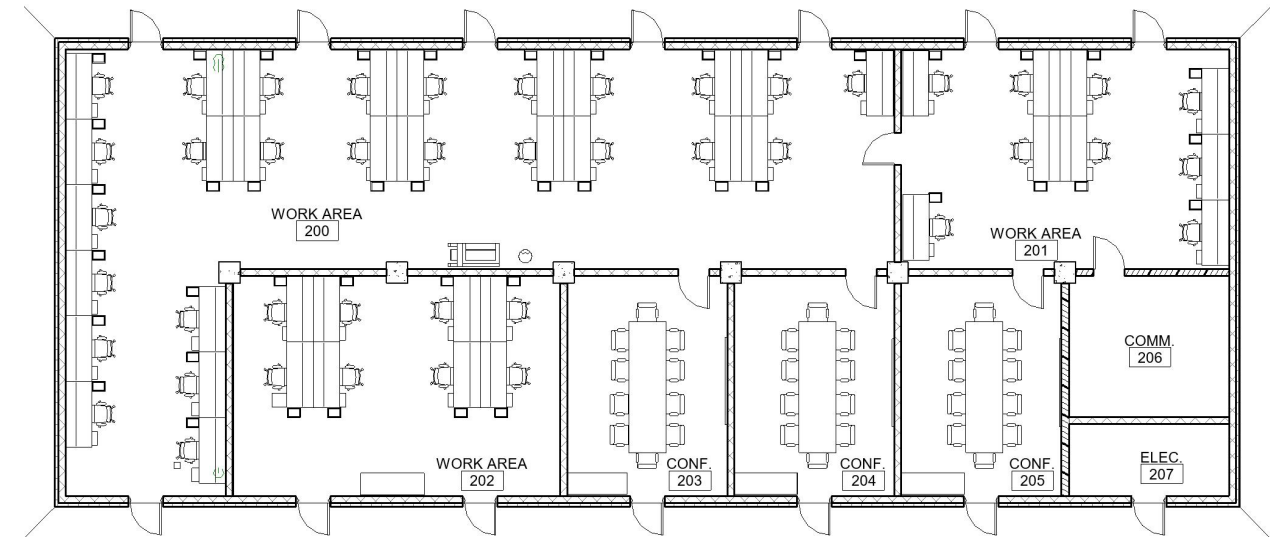
ADMIN (OPTION 1)

CUBE Admin layout available upon request.



Description	
Size	43 PN
Details	Desks for 43 PN, space for one conference table

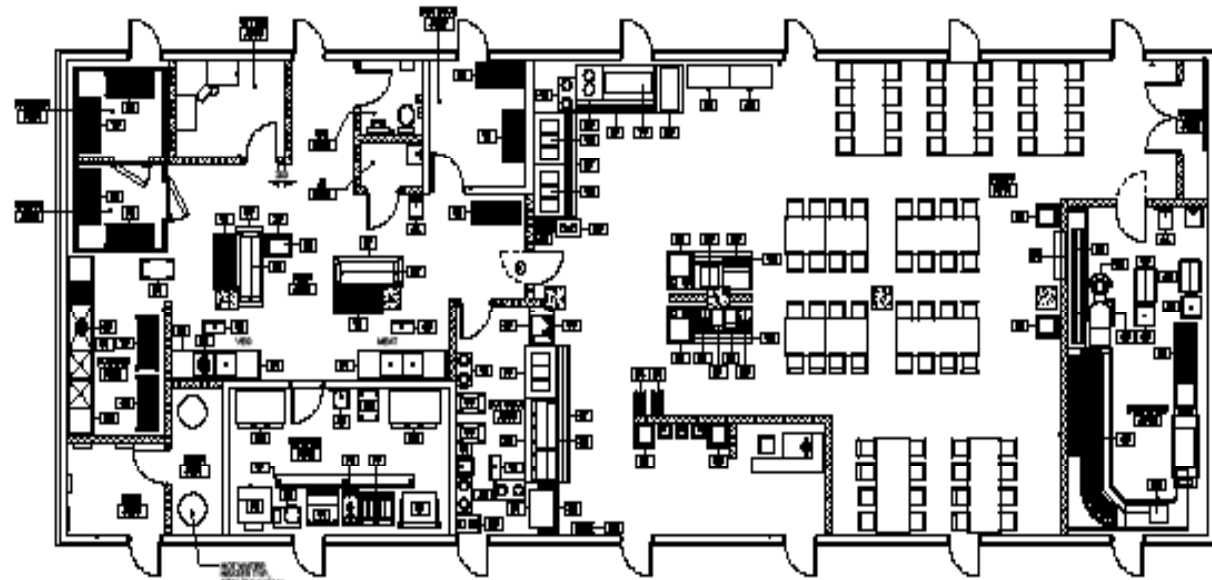
ADMIN (OPTION 2)



Description	
Size	43 PN
Details	Desk for 43 PN, three separate conference rooms

DINING FACILITY (OPTION 1)

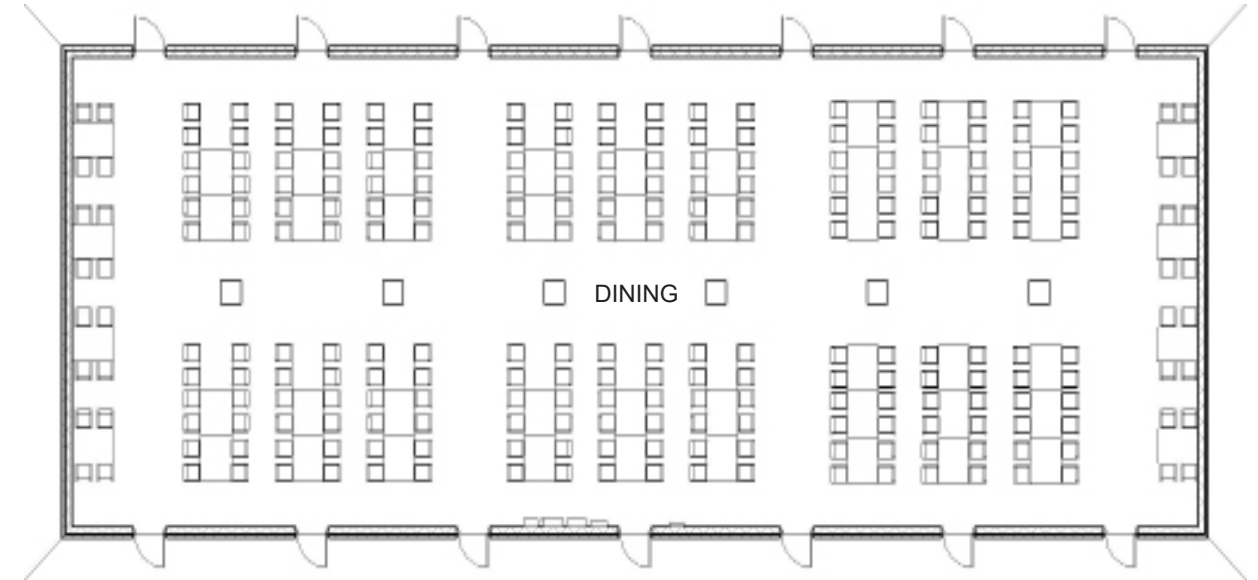
Open floor with kitchen, 72 seats



Description	
Size	500 PN Kitchen
Details	Open seating with kitchen & serving space

DINING FACILITY (OPTION 2)

Open seating

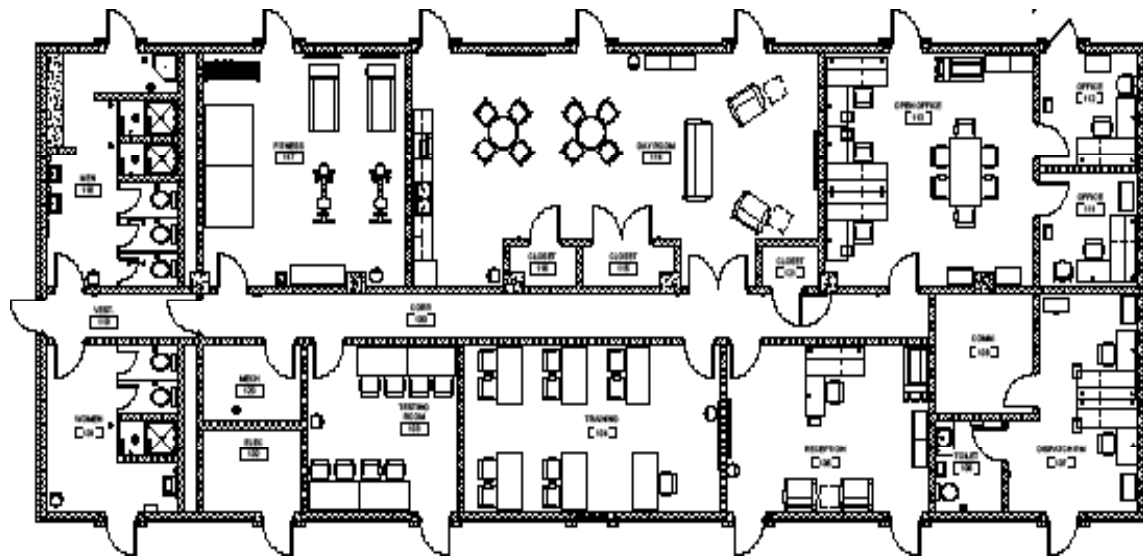


Description	
Size	224 PN Kitchen
Details	Open seating

FIRE STATION

Fire Station Apparatus Bay

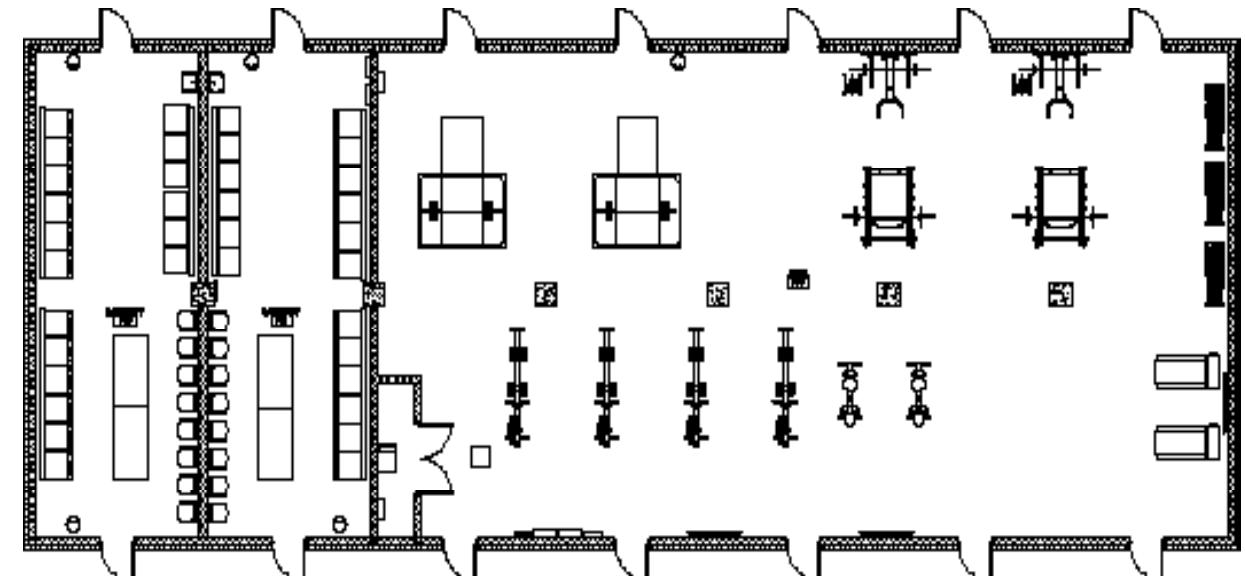
*Fire Station Complex Also Available



Description	
Size	395m2
Details	3 Apparatus Bays, Gear Room, Medical, Laundry

FITNESS FACILITY

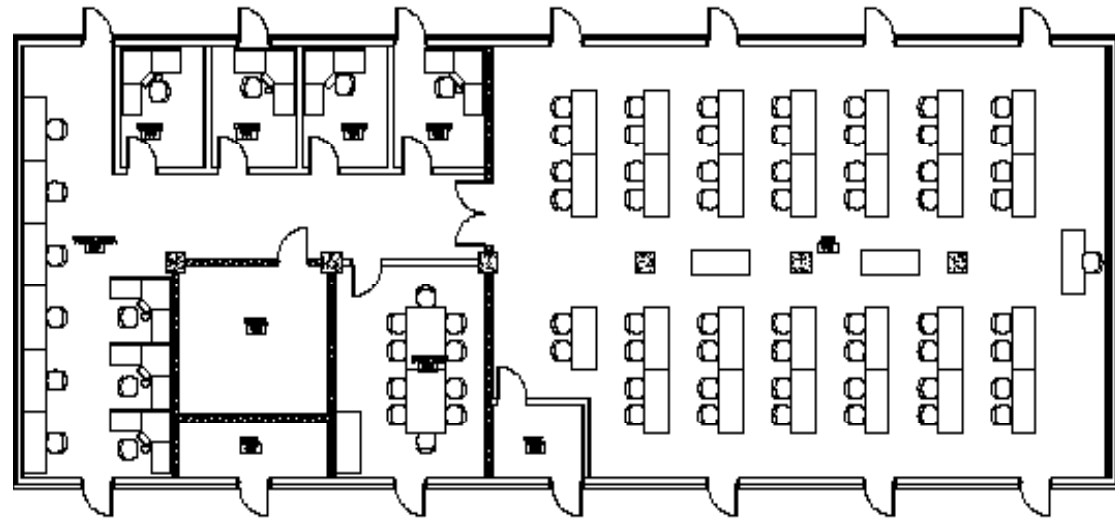
Other options available upon request.



Description	
Size	442.5m2
Details	Various interior options based upon user needs and population

JOINT OPERATIONS CENTER (OPTION 1)

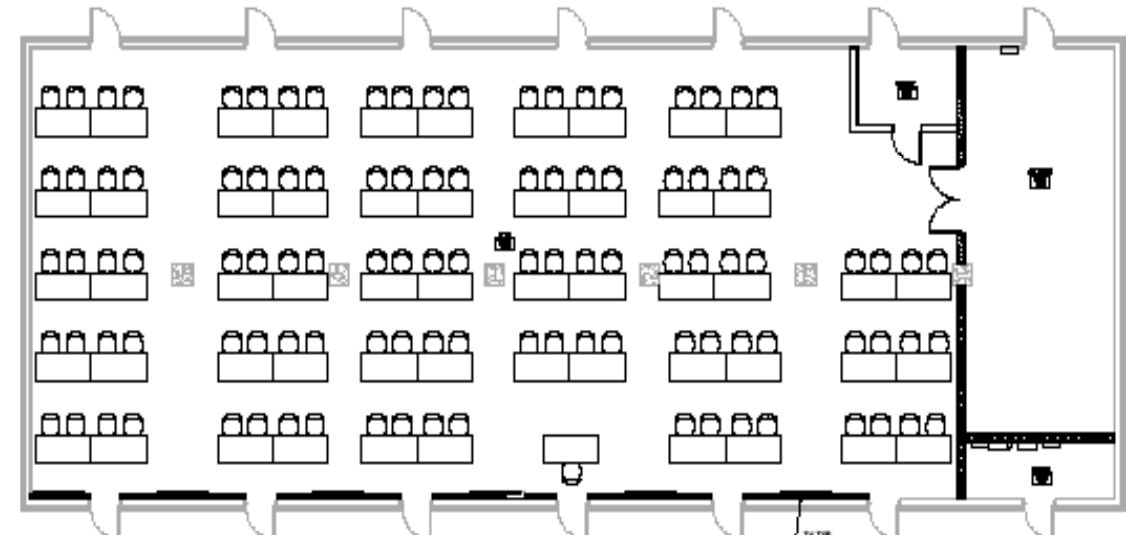
Option 1: Open seating w/ offices and conference rooms



Description	
Size	107 PN
Details	Open seating with offices and conference rooms

JOINT OPERATIONS CENTER (OPTION 2)

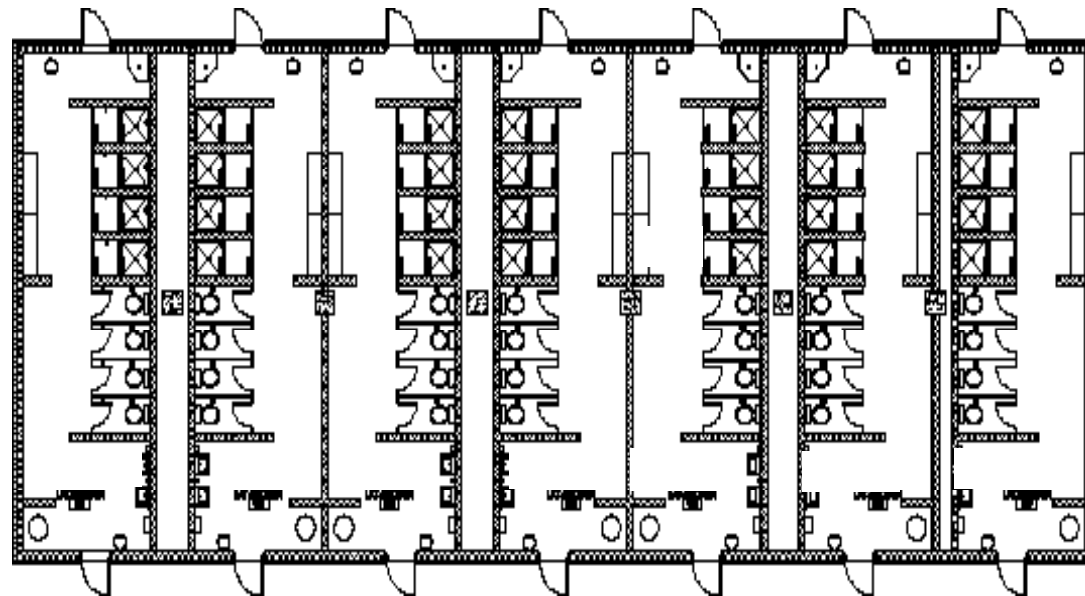
Option 2: Open seating



Description	
Size	109 PN
Details	Open seating

LATRINE (OPTION 1)

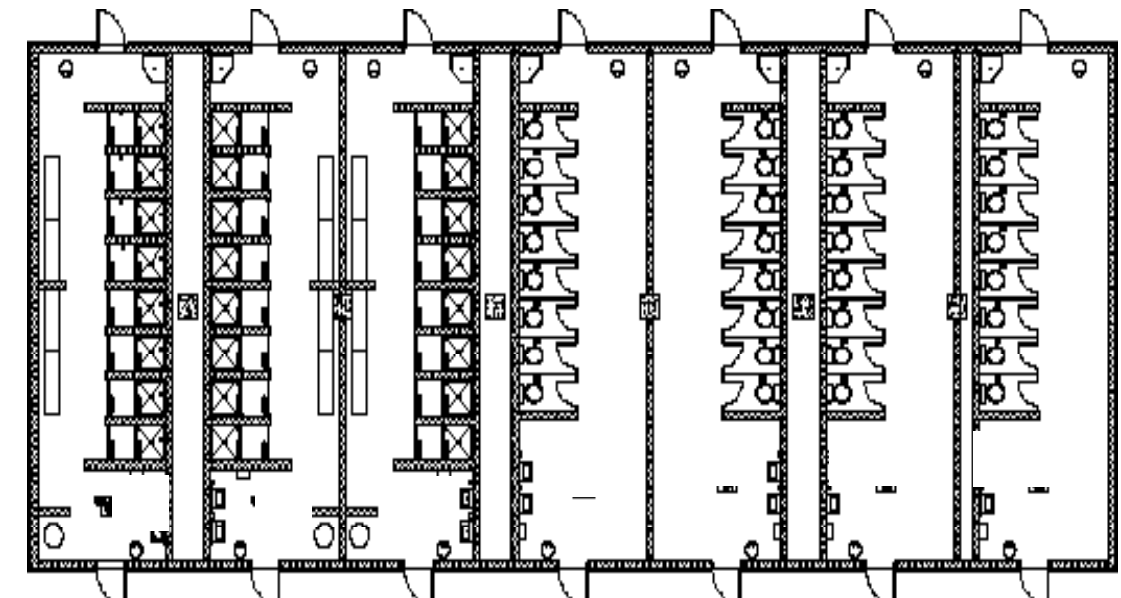
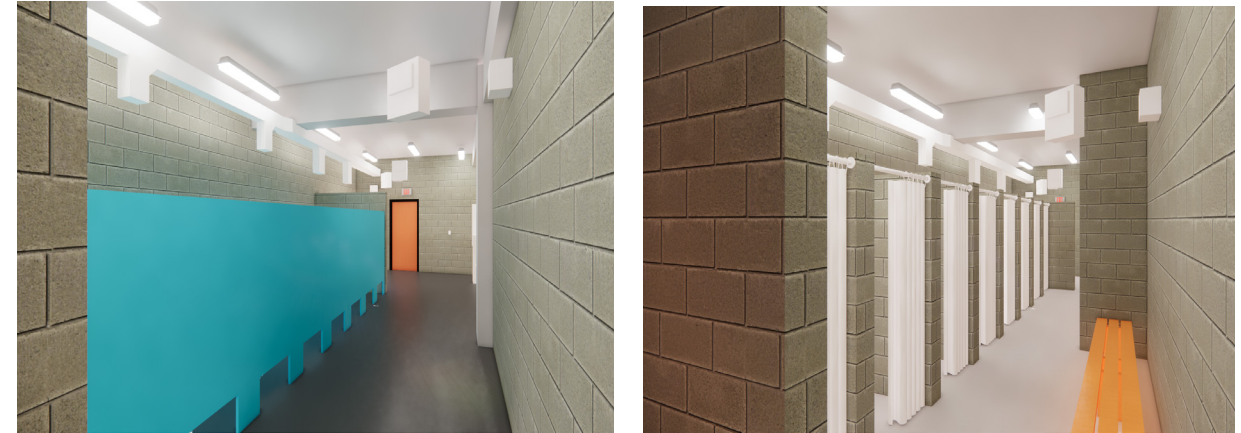
Option 1: 7 Latrine/Shower Combined Spaces



Description	
Size	240 PN
Details	7 separate latrine areas, inclusive of showers, toilets, and wash areas

LATRINE (OPTION 2)

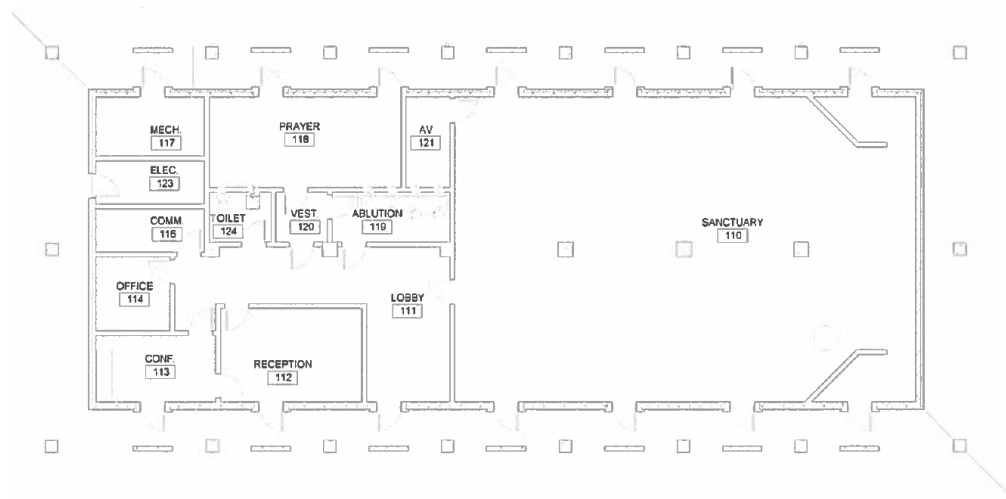
Option 2: 7 Latrine/Shower Combined Spaces



Description	
Size	240 PN
Details	7 separate latrine areas, inclusive of showers, toilets, and wash areas

RELIGIOUS FACILITY (OPTION 1)

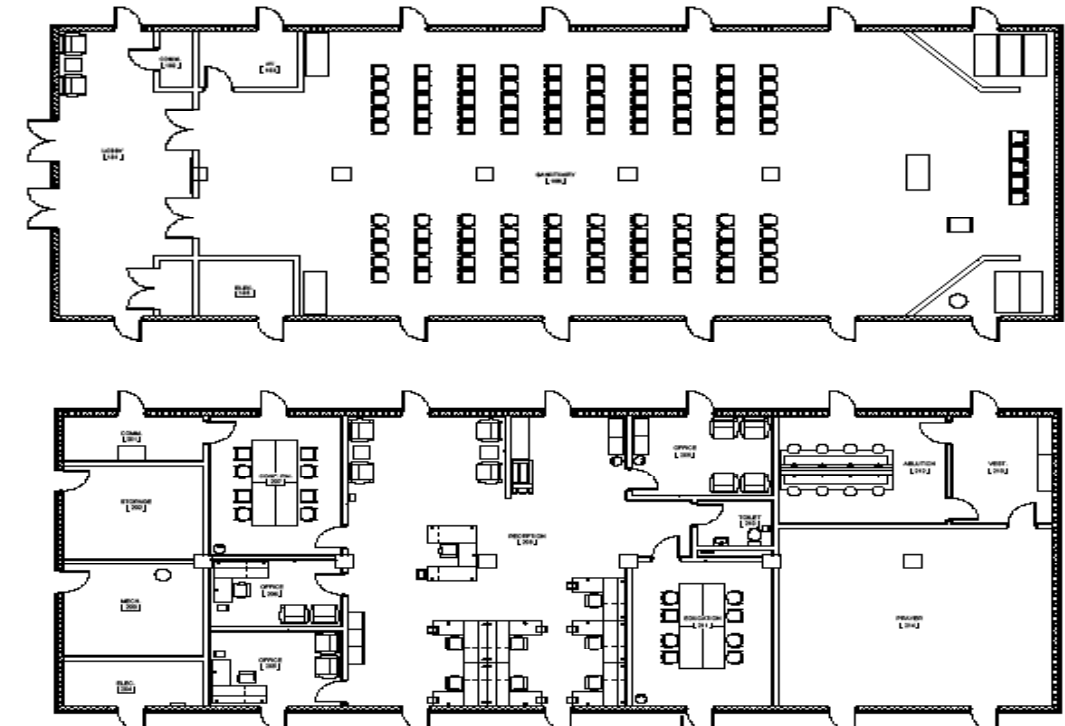
Option 1: 14 Bay, 1 Floor, Open sanctuary with offices



Description	
Size	442.5m2
Details	Open sanctuary with offices, restrooms, prayer room, and conference room

RELIGIOUS FACILITY (OPTION 2)

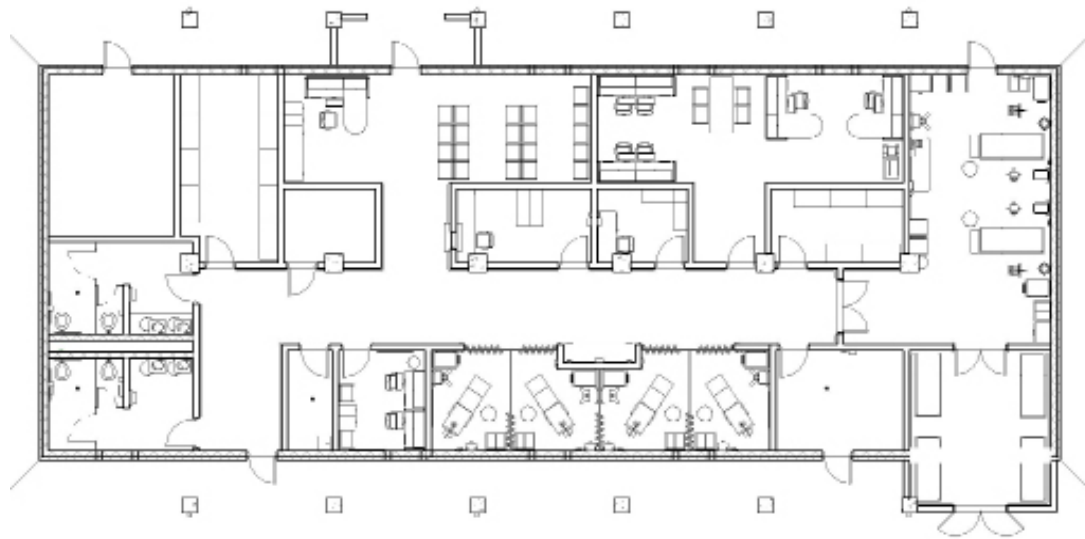
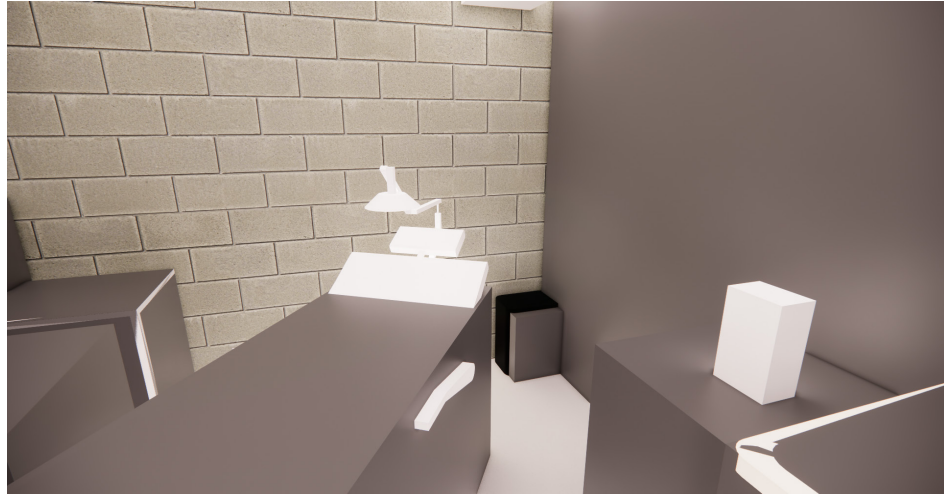
Option 2: 14 Bay, 2 Floor, Open sanctuary with offices



Description	
Size	850m2
Details	Open seating sanctuary on ground floor and offices/classrooms/storage/prayer on 1st floor

MEDICAL FACILITY (OPTION 1)

Option 1: Role 1 Medical Facility



Description	
Size	442.5m2
Details	Trauma Room, Exam Rooms, Pharmacy, Utilities, Laboratory

MEDICAL FACILITY (OPTION 2)

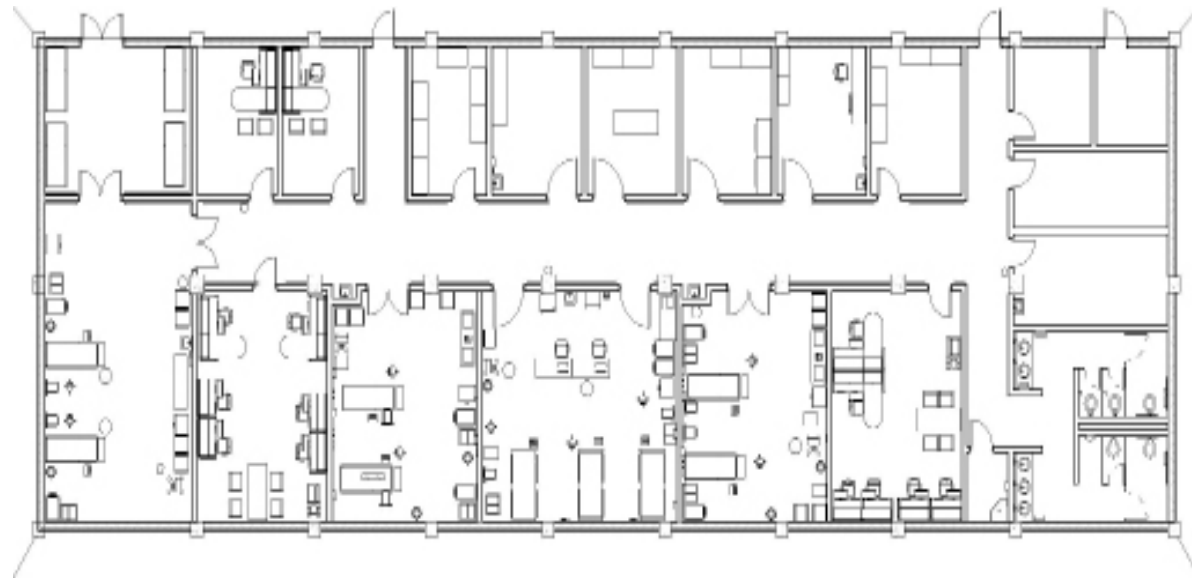
Option 2: Role 2 Medical Facility



Description	
Size	850m2
Details	Trauma, Exam Rooms, X-Ray, Physical Therapy, Dental, Optometry

MEDICAL FACILITY (OPTION 3)

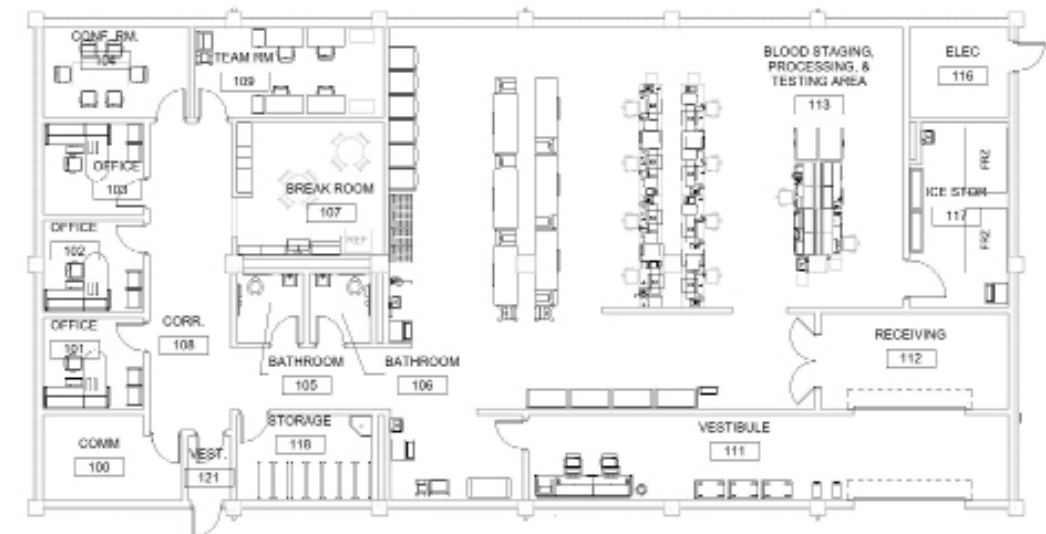
Option 3: Role 2+ Medical Facility



Description	
Size	665m2
Details	Trauma Room, Exam Rooms, Operating Room, Recovery, Utilities, Laboratory

MEDICAL FACILITY (OPTION 4)

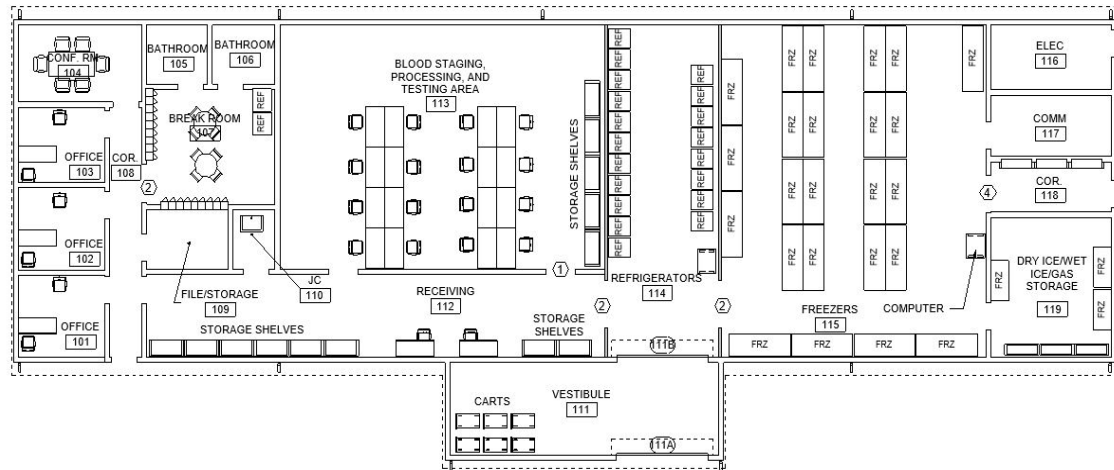
Option 4: Expeditionary Blood Transshipment (EBT)



Description	
Size	550m2
Details	Trauma Room, Exam Rooms, Operating Room, Recovery, Utilities, Laboratory

MEDICAL FACILITY (OPTION 5) - FACE ONLY

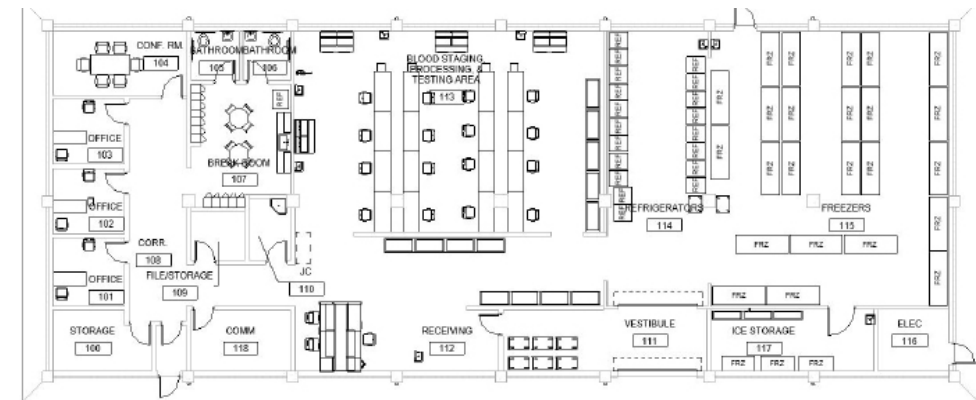
Option 5: Armed Services Whole Blood Processing Laboratory



Description	
Size	570m2
Details	Developed in coordination with HFPA and JMSLA white paper. Includes separate office spaces, conference room, blood processing, testing and storage.

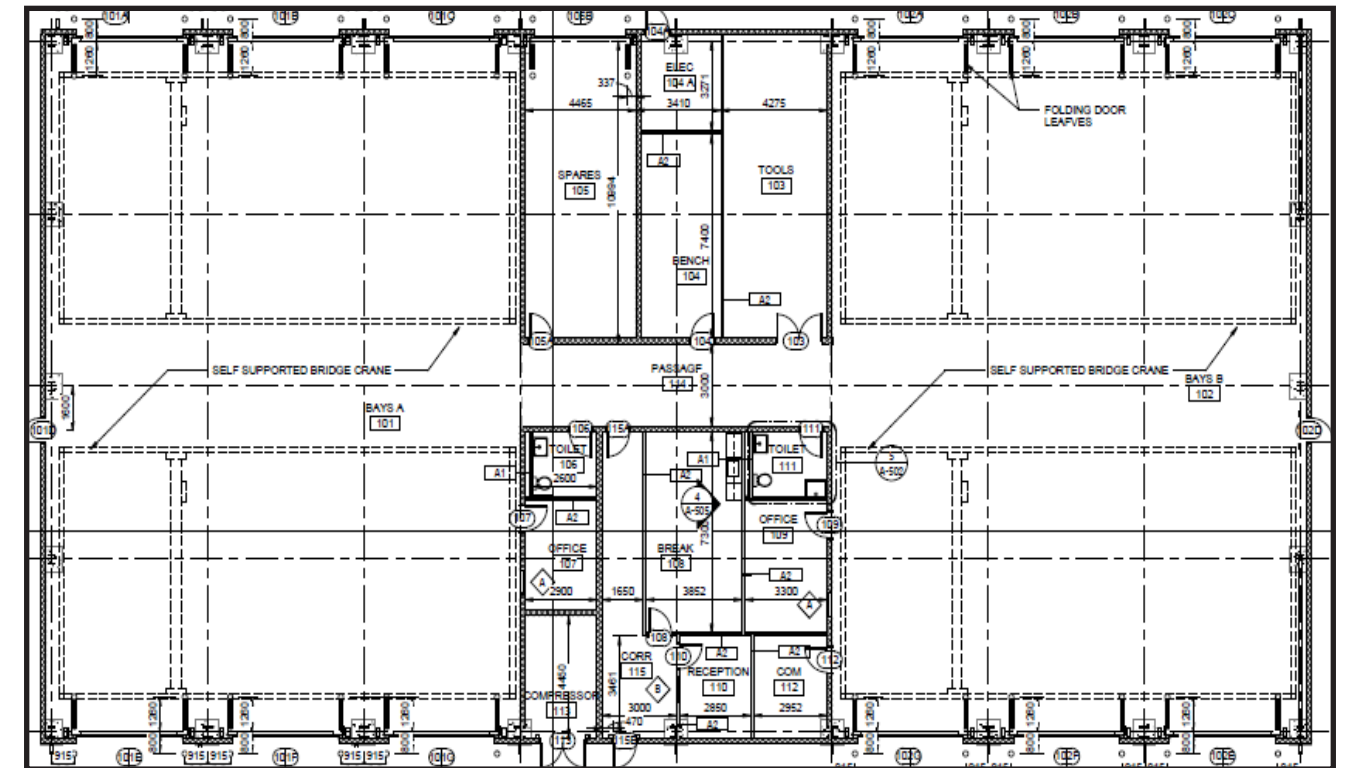
MEDICAL FACILITY (OPTION 5) - SAFE 1 ONLY

Option 5: Armed Services Whole Blood Processing Laboratory



Description	
Size	668m2
Details	Developed in coordination with HFPA and JMSLA white paper. Includes separate office spaces, conference room, blood processing, testing and storage.

TACTICAL EQUIPMENT MAINTENANCE FACILITY (TEMF)

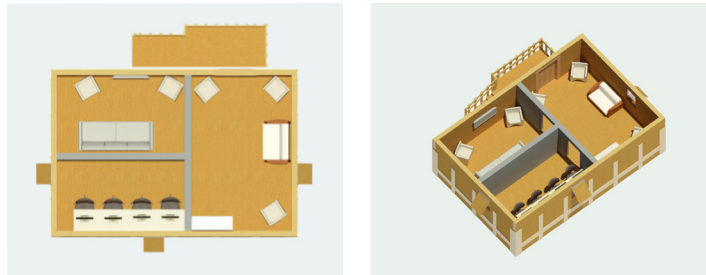


Description	
Size	1,300m2
Details	Two separate working bays, offices, restrooms, break room and tools storage

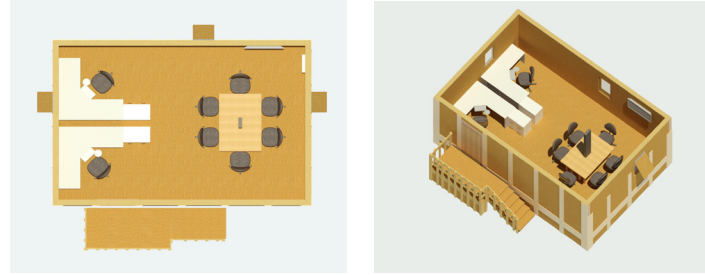
OFF-THE-SHELF CUBE DESIGNS

Other designs include billeting, phone room, DFAC, etc.
Several other options are available upon request.

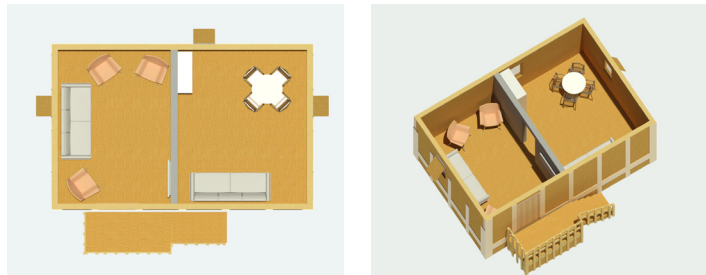
Lounge Area- Option 1



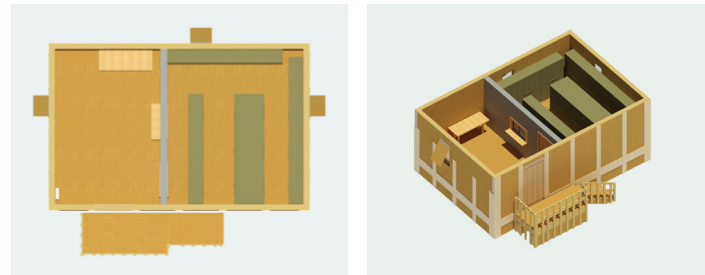
Tactical Operations Center



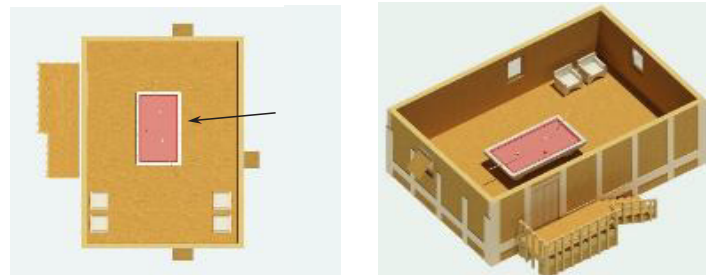
Lounge Area- Option 2



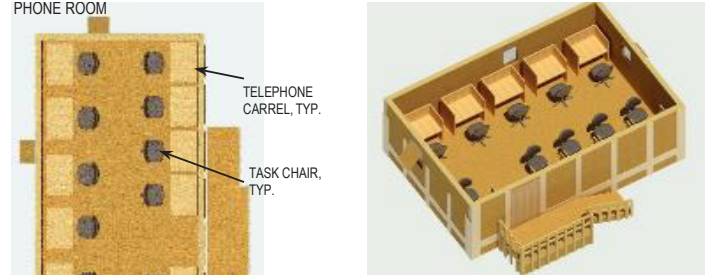
Weapon Storage



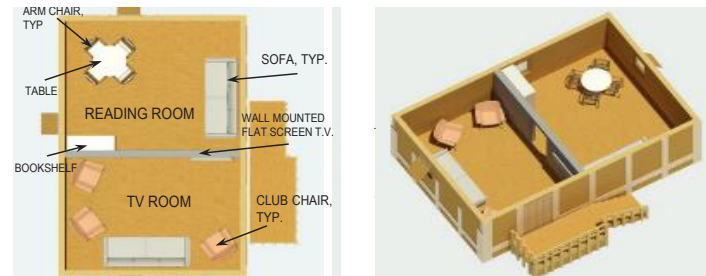
Lounge Area- Option 3



Phone Room



Lounge Area- Option 4



CUBE Designs	
1	Tactical Operations Center
2	Lounge Area Option 1
3-4-5	Lounge Area Option 2-3-4
6	Phone Room
7	Weapons Storage
8	DFAC

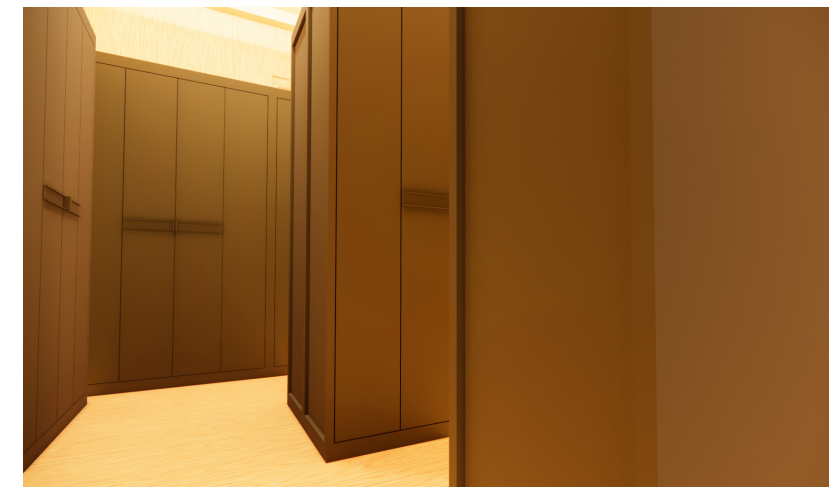
Tactical Operations Center



Lounge Area- Option 2



Weapons Storage

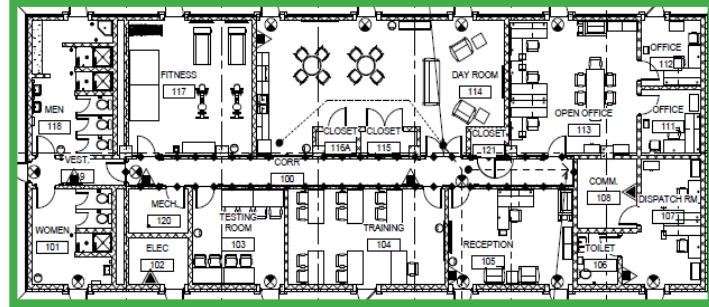


OFF-THE-SHELF DESIGNS

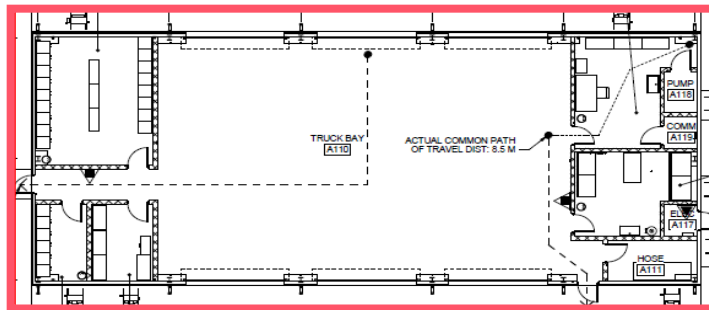
Fire Station Complex

Training Area, Fitness, Offices, Dispatch, Barracks, Truck Bay

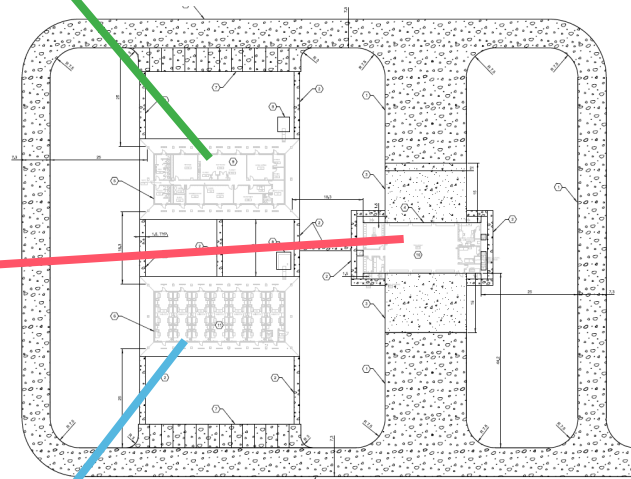
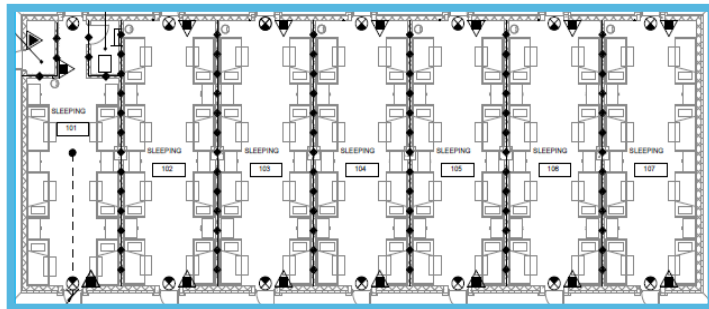
Administrative Building (442.5m²)



Apparatus Bay (374m²)



Barracks (442.5m²)



RELOCATABLE BUILDINGS UNITS, WORLDWIDE

Relocatable Building (RLB), prefabricated structures manufactured to be deployable (transportable over public roads), erected, disassembled, stored.

- Dimensions: 7' 8" (2300 mm) W x 19' 5" (5900 mm) L x 7' 8" (2300 mm) H
- Insulation: Walls and floor R-20; Roof R-40
- Expected Life: 15 years, can be re-deployed up to 3 times
- Systems: Included Mechanical, Electrical, and Communication systems
- Warrant: 1, 5, 10, or 15 year options
- Assembly: Can be performed by untrained personnel
- Compliance: UFC 1-201-01 Non-Permanent DoD Facilities in Support of Military Operations are Semi-Permanent
- See UFGS 13 34 23.12 10 available at https://wbdg.org/ffc/dod/ufgs_13_34_23.12_10.pdf



MATOC RELOCATABLE BUILDING UNITS, CENTCOM

RLB Type A: Billeting or Administrative (Single 160 SF or 14.8 SM)

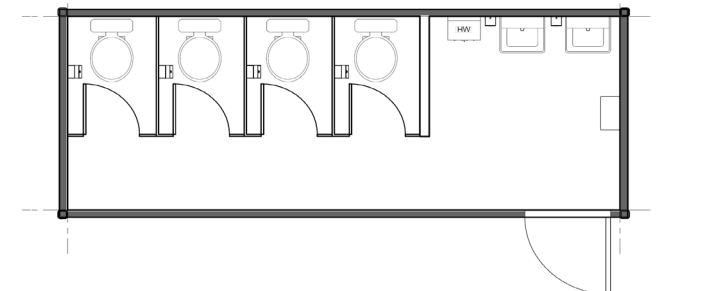
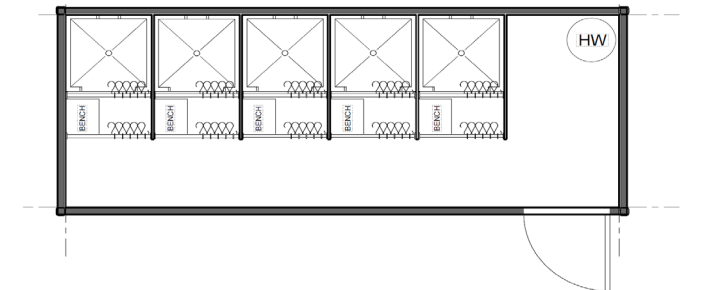
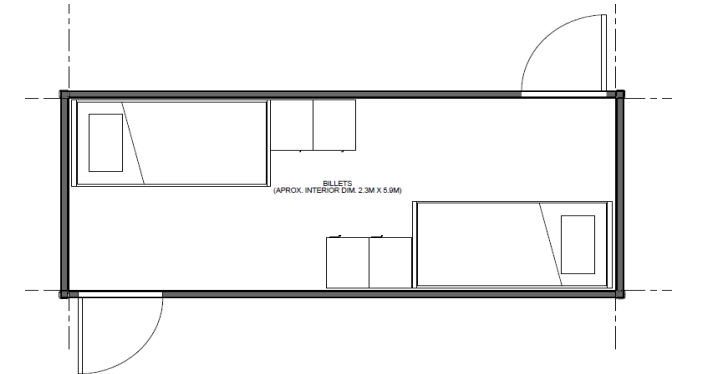
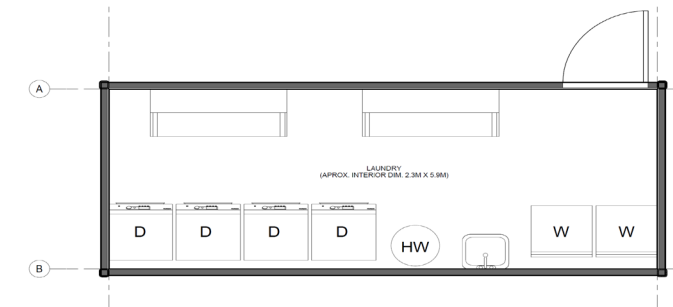
RLB Type B: Latrine, Shower/Shave (LSS) (Two 320 SF)

RLB Type C: Laundry Services (Single 160 SF or 14.8 SM)

RLB Type D/E: Medical and Dental Clinics (Four 640 SF or 59.5 SM)
(Type D - Risk category 2/Type E - Risk category 3)

RLB Type F: MWR, Religious, Open Space, Admin, Fitness, DFAC, wetc. (Four 640 SF or 59.5 SM)

*Type A & B can be stacked or connected to

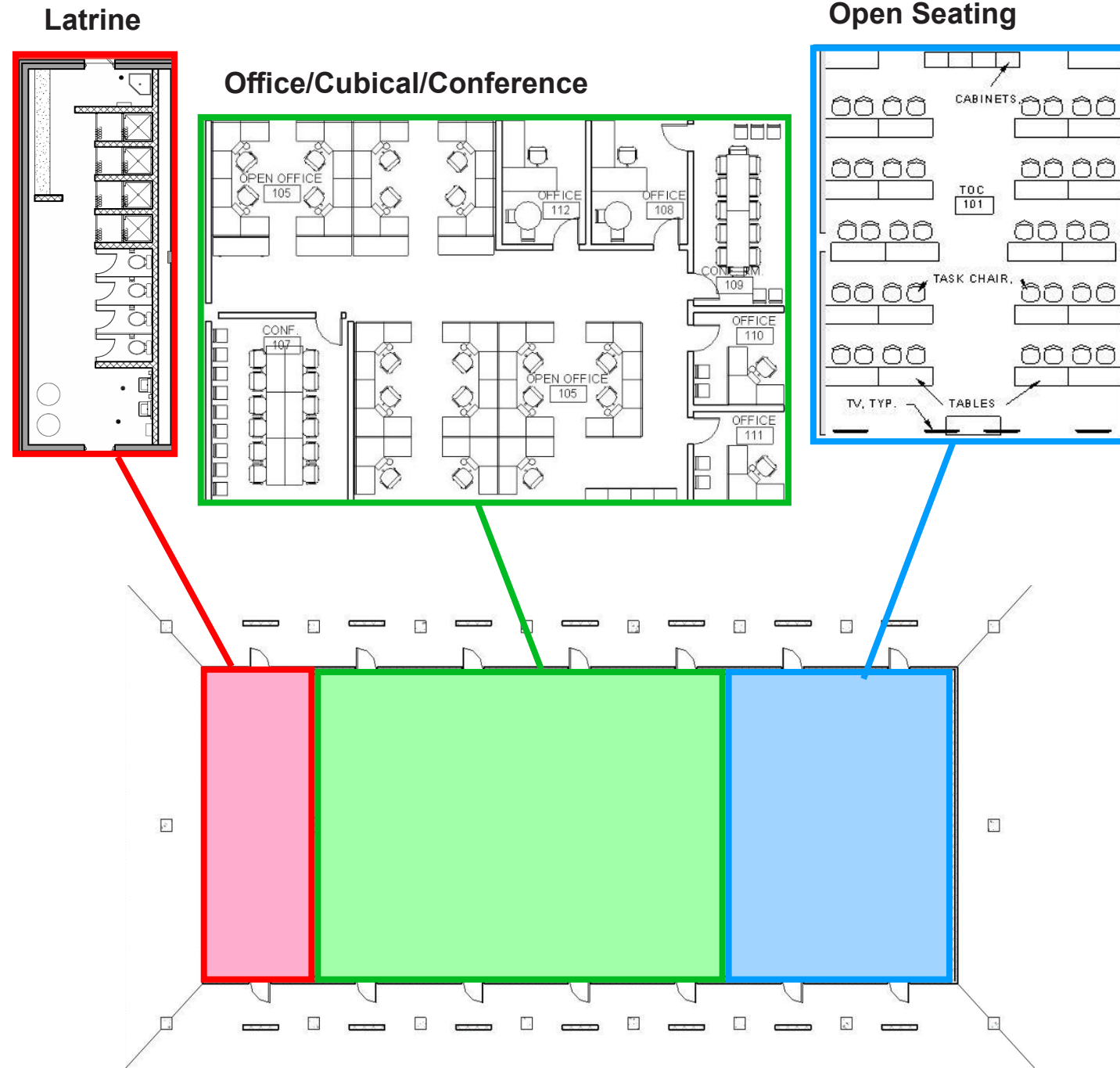


ASSEMBLIES

GENERAL OVERVIEW

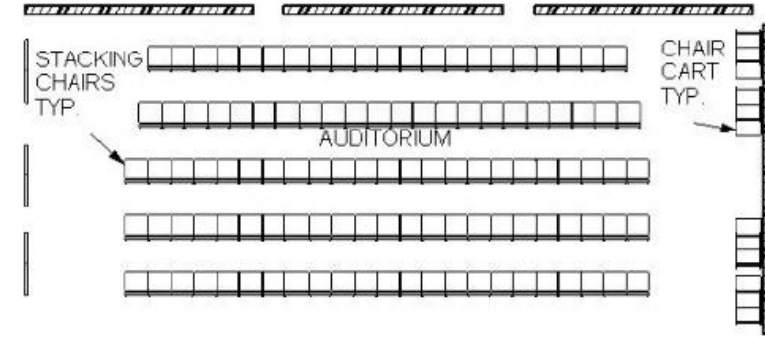
Once the Envelope has been chosen, one can customize their build by organizing off-the-shelf designs into their design. This allows for customization and flexibility.

All Envelopes are designed to be elongated or shorted by the standard “bay” length. The CoS offers a wide variety of compartmental assemblies that can be tailored to the desired requirements at a fraction of the cost/time of a new design.

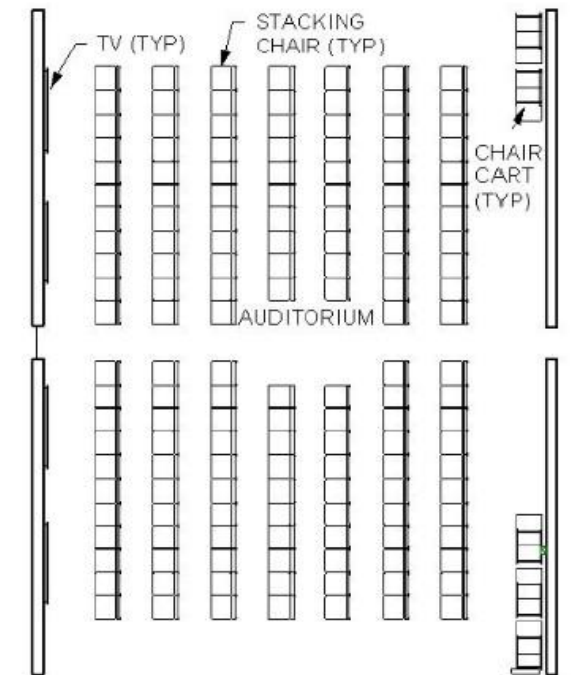


BRIEFING / ASSEMBLY

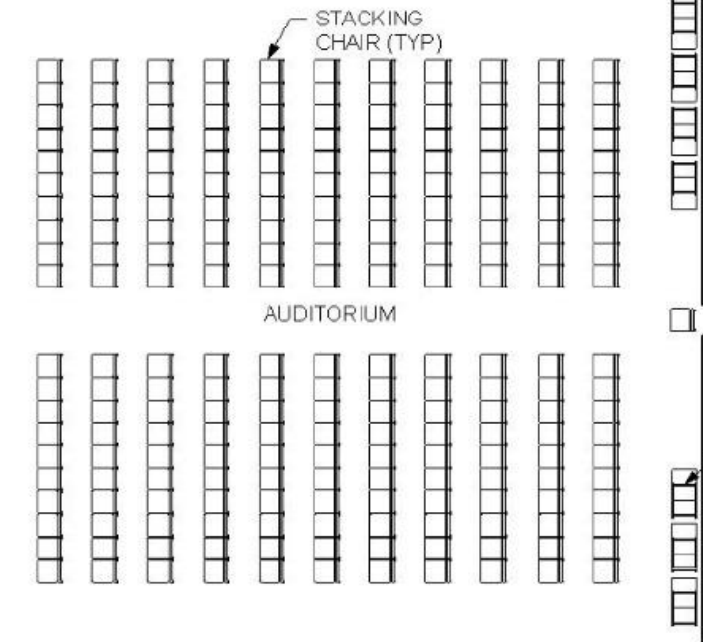
Option 1: 112 PN



Option 2: 150 PN

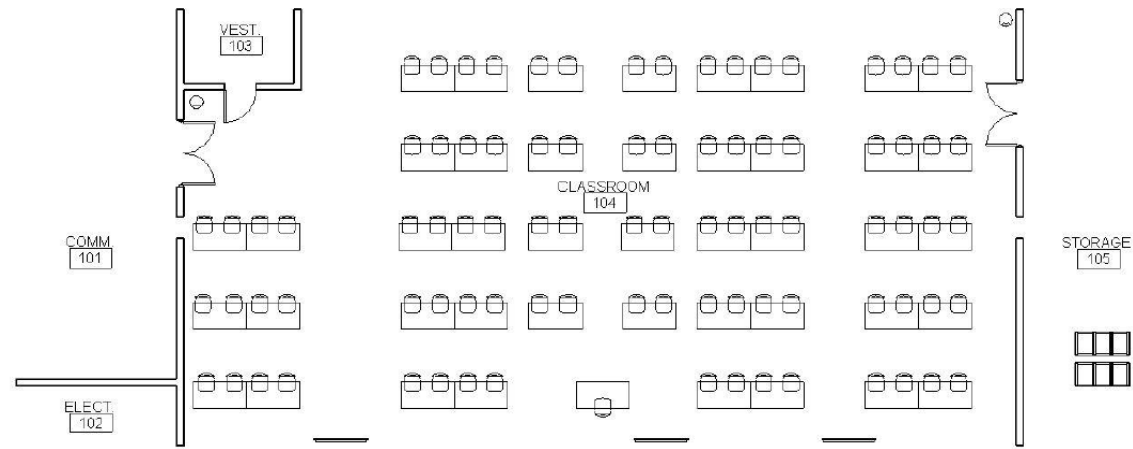


Option 3: 220 PN



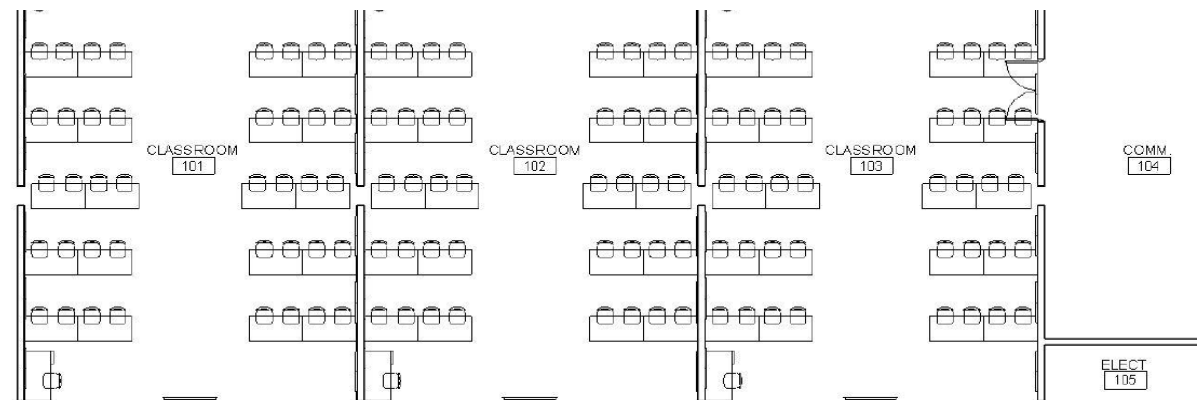
CLASSROOM

OPTION 1



Description	
Size	88 Students / 1 Teacher
Details	Open classroom space, comm room electrical, storage, and vestibule

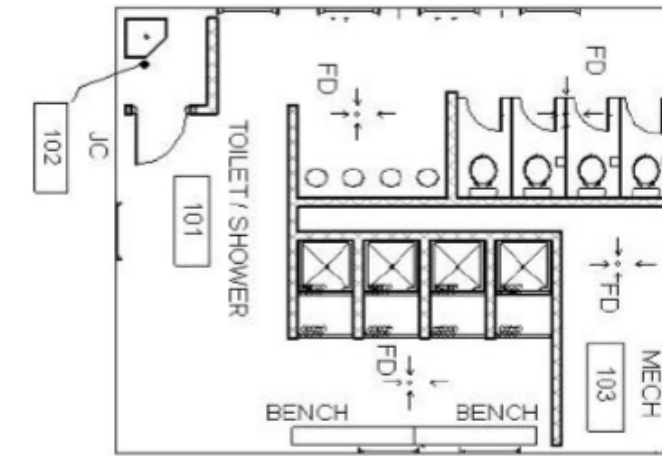
OPTION 2



Description	
Size	120 Students / 3 Teachers
Details	Three separate classrooms, comm and electric room

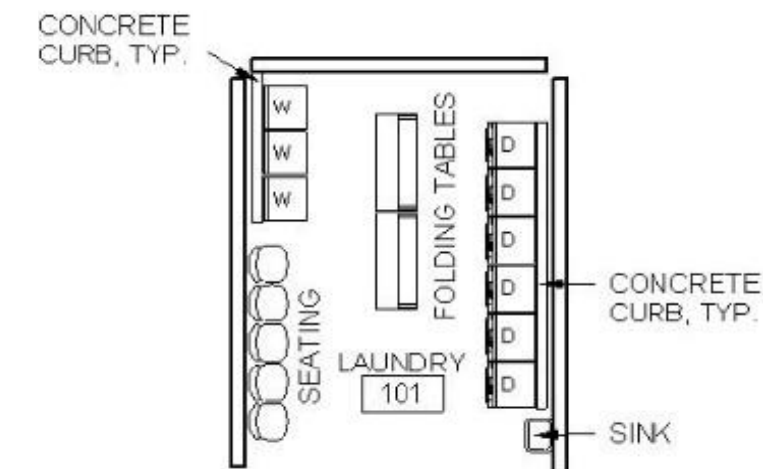
LATRINE & SHOWER / LAUNDRY

OPTION 1



Description	
Size / Capacity	2 Bays / 5 PN
Details	Four showers, four toilets, four sinks

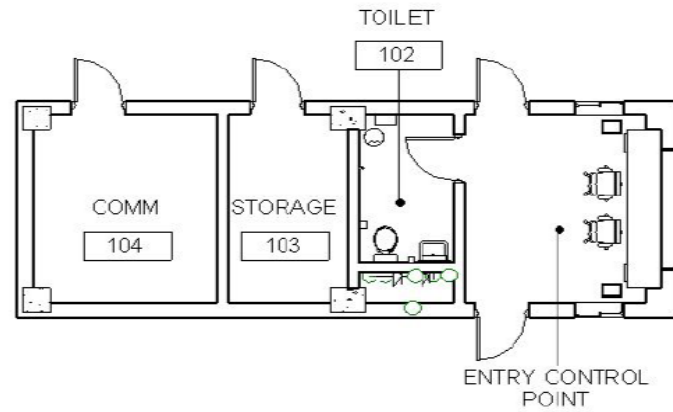
OPTION 2



Description	
Size	1 Bay
Details	3 washing machines, seating for 5, 2 folding tables, 6 dryers, sink

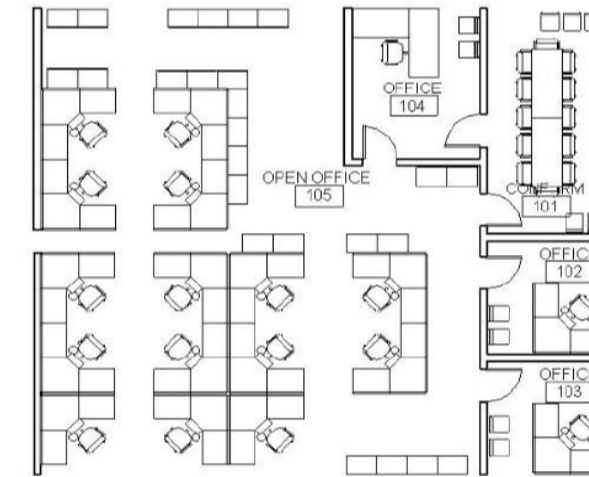
GUARD HOUSE / HQ

GUARD HOUSE



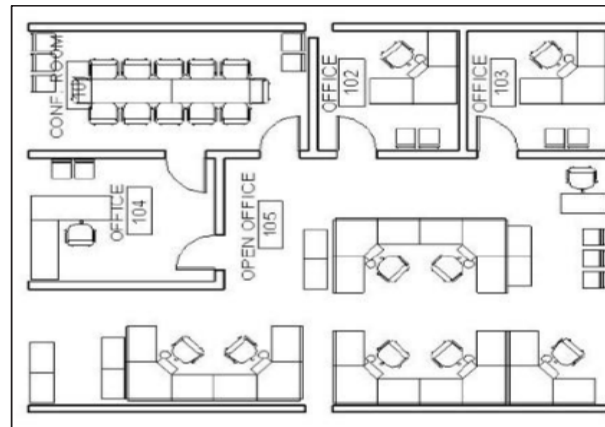
Description	
Size / Capacity	2 Bays / 2 PN
Details	Comm & storage accessible from the outside, latrine for 1 PN, entry control point room for 2 PN

HQ OPTION 2



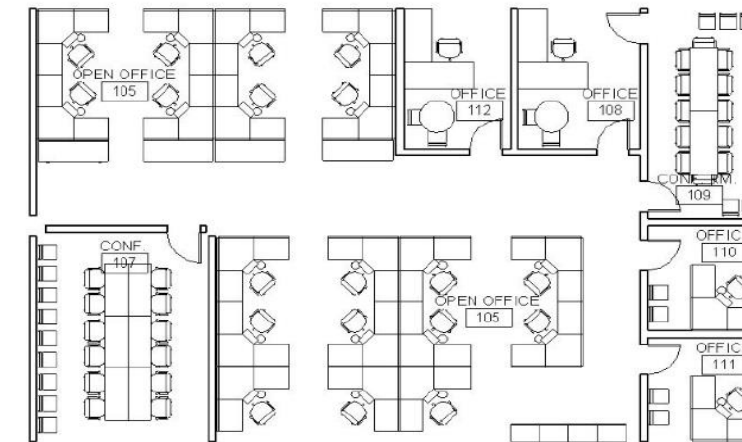
Description	
Size / Capacity	6 Bays / 18 PN
Details	Closed office for 3 PN, open office space for 15 PN. Conference space for 10-15 PN.

HQ OPTION 1



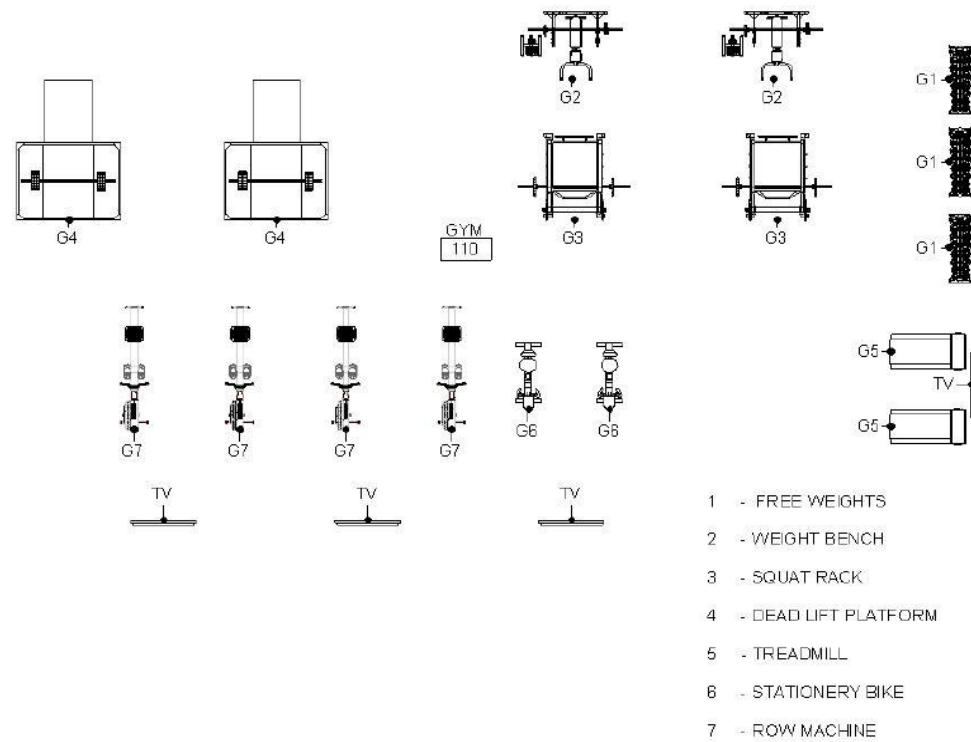
Description	
Size / Capacity	4 Bays / 11 PN
Details	Closed office for 3 PN, open office space for 8 PN. Conference space for 10-15 PN

HQ OPTION 3



Description	
Size / Capacity	8 Bays / 23 PN
Details	Closed office for 4 PN, open office space for 19 PN. Closed pace for 22-36 PN.

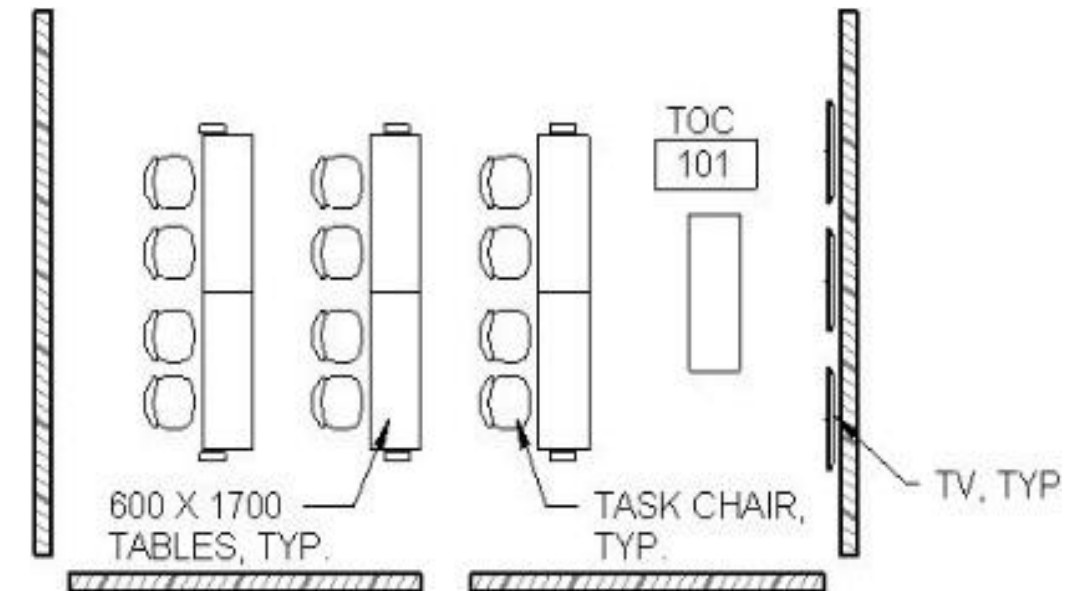
FITNESS



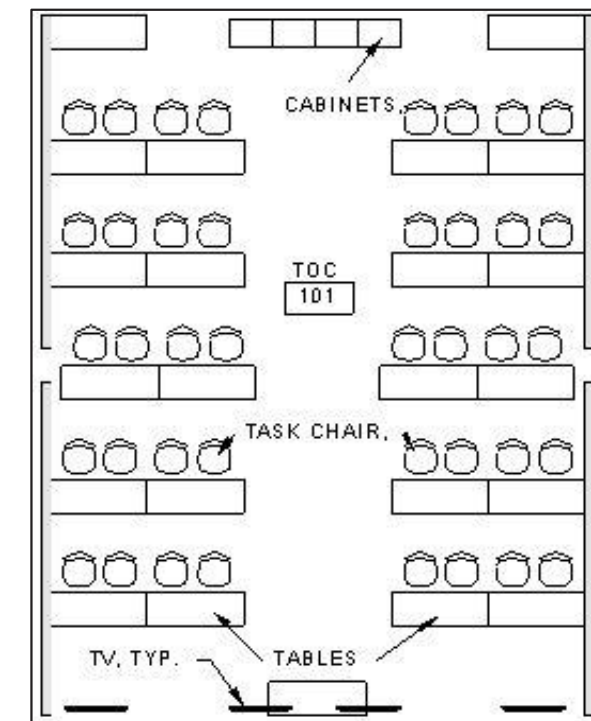
Description	
Size / Capacity	Varies by population served
Details	3 free weights stations, weight benches, 2 squat racks, 2 deadlift platforms, 2 treadmills, 2 stationary bikes, 4 row machines

TACTICAL OPERATIONS CENTER

OPTION 1: 12 PN

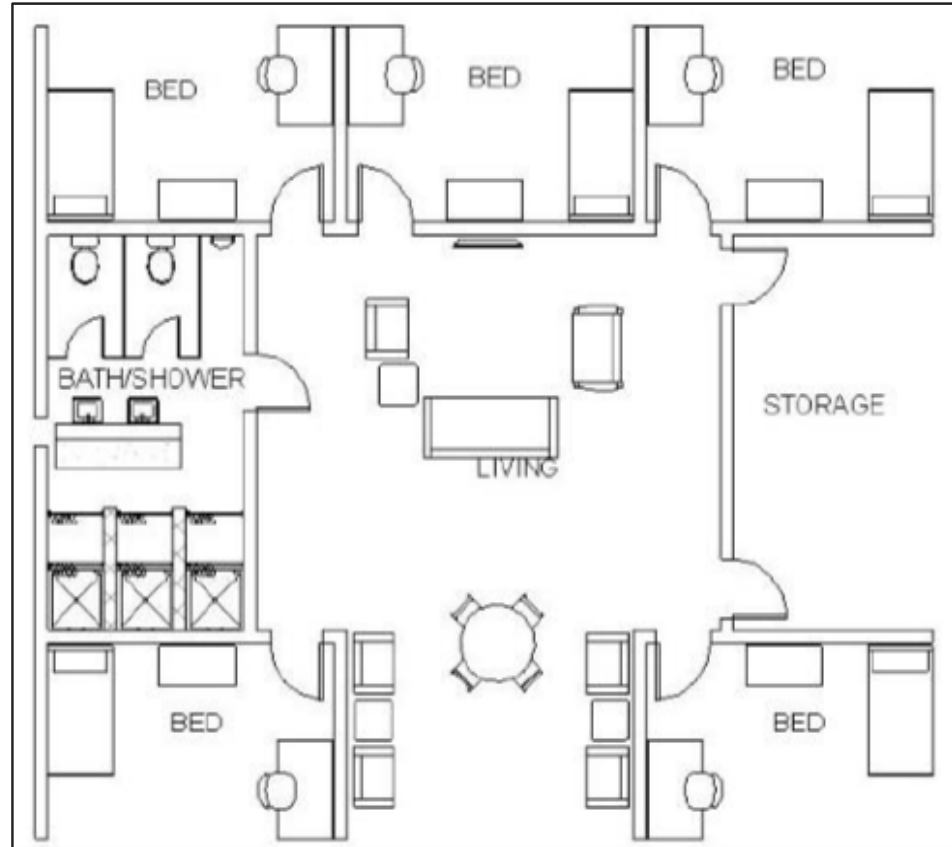


OPTION 2: 40 PN

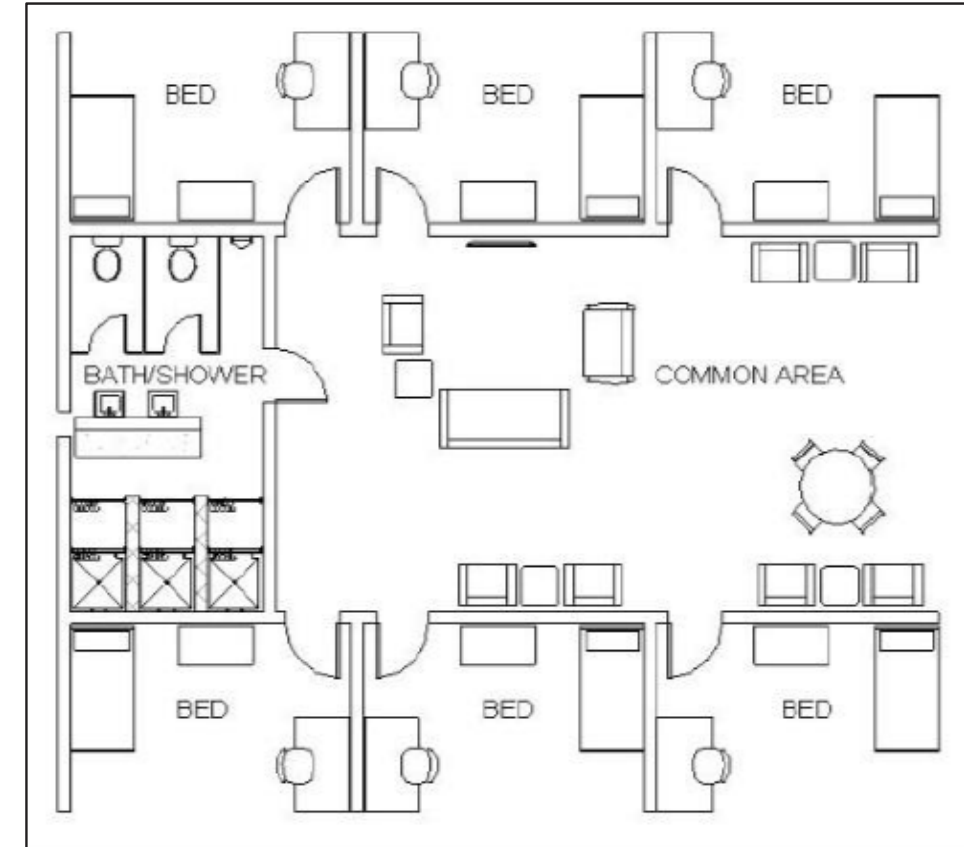


OFFICERS' QUARTERS

OPTION 1



OPTION 2



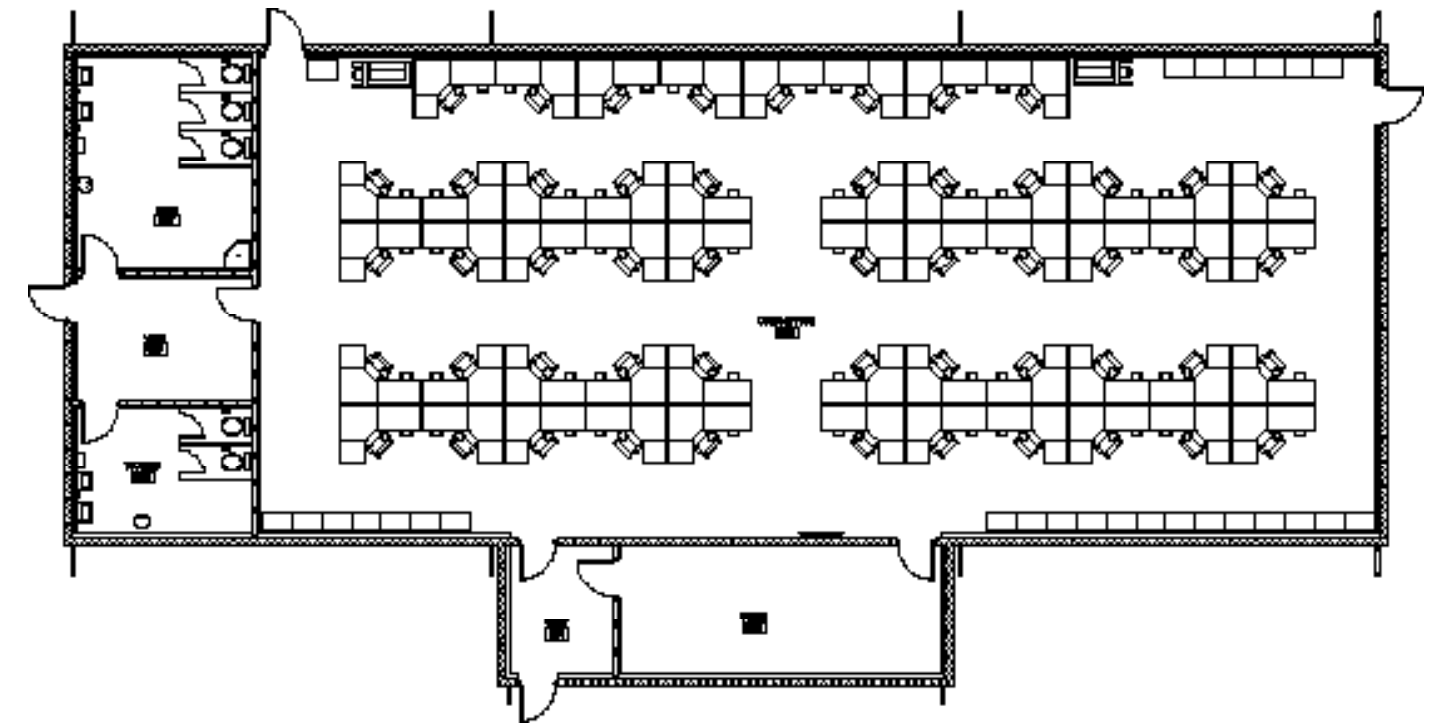
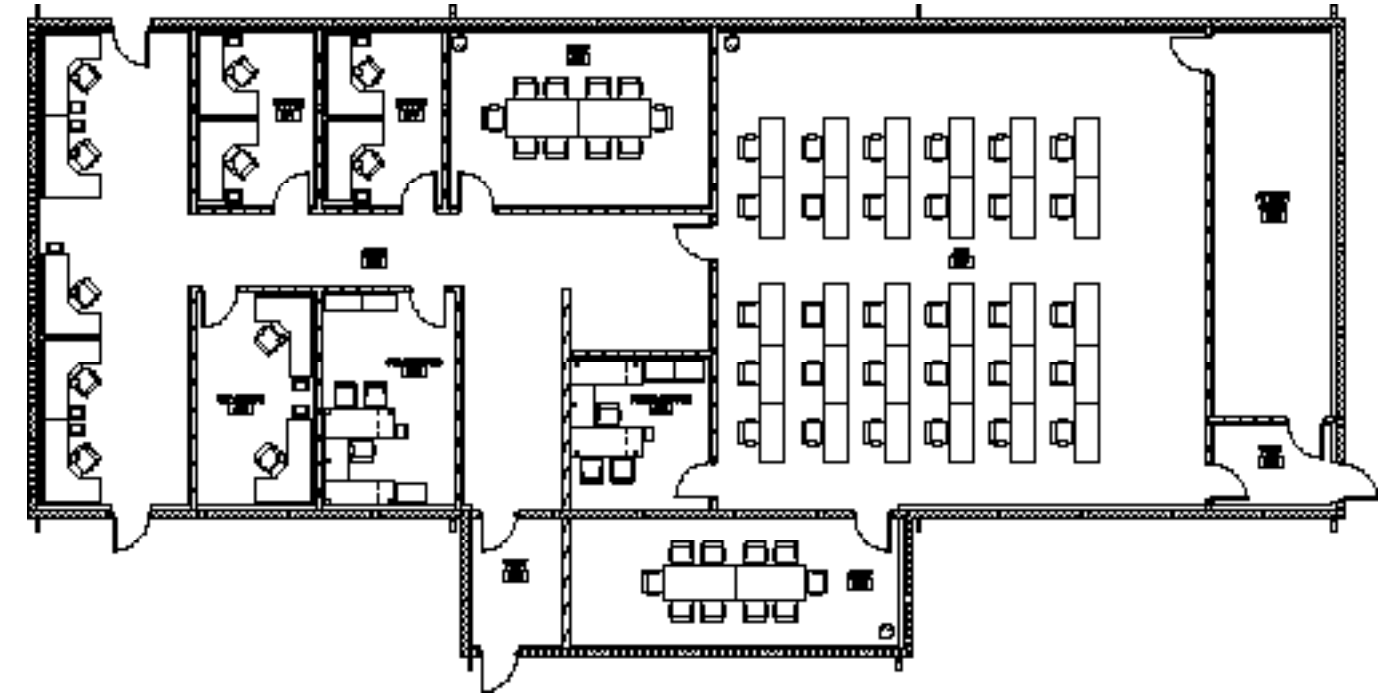
Description	
Capacity	5 PN
Details	5 rooms each with bed and desk for 1 PN, storage area, common living area, 3 showers, 2 toilets

Description	
Capacity	6 PN
Details	6 rooms each with bed and desk for 1 PN, common living area, 3 showers, 2 toilets

PROJECTS

JOINT LOGISTICS OPERATIONS CENTER, KUWAIT (FACE)

2019



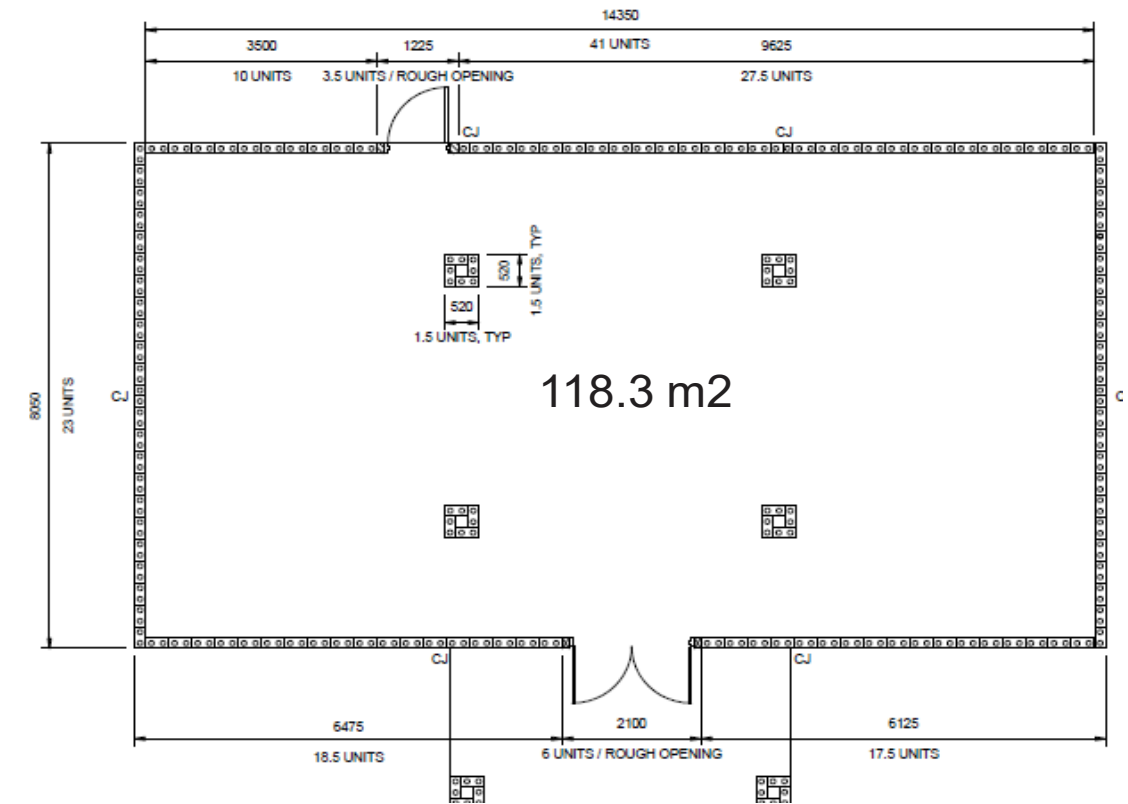
Design Type	
CoS Design	Four Area CMU Envelope (FACE)
Interior Layout	Joint Operations
Construction	
Labor Execution	Contractor
Duration	About 12 Months

23 TERRA HUTS, UNDISCLOSED LOCATION

2016



Design Type	
CoS Design	TERRA Hut
Interior Layout	N/A
Construction	
Labor Execution	Troop Labor
Duration	About 6 Months



CUBE BUILD, POLAND

2020 - \$13,000

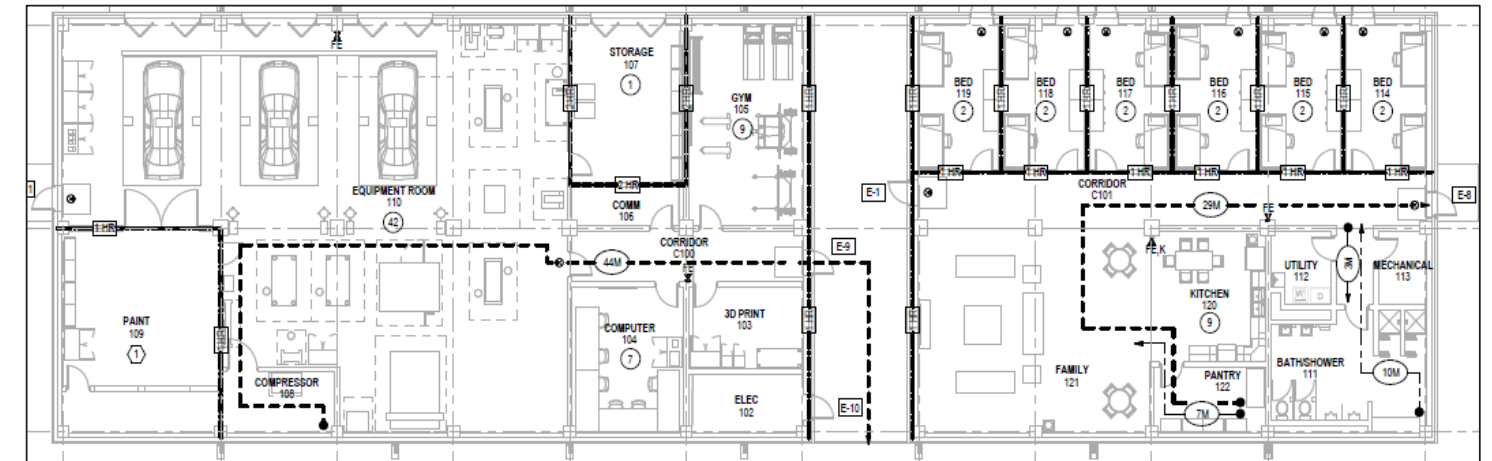
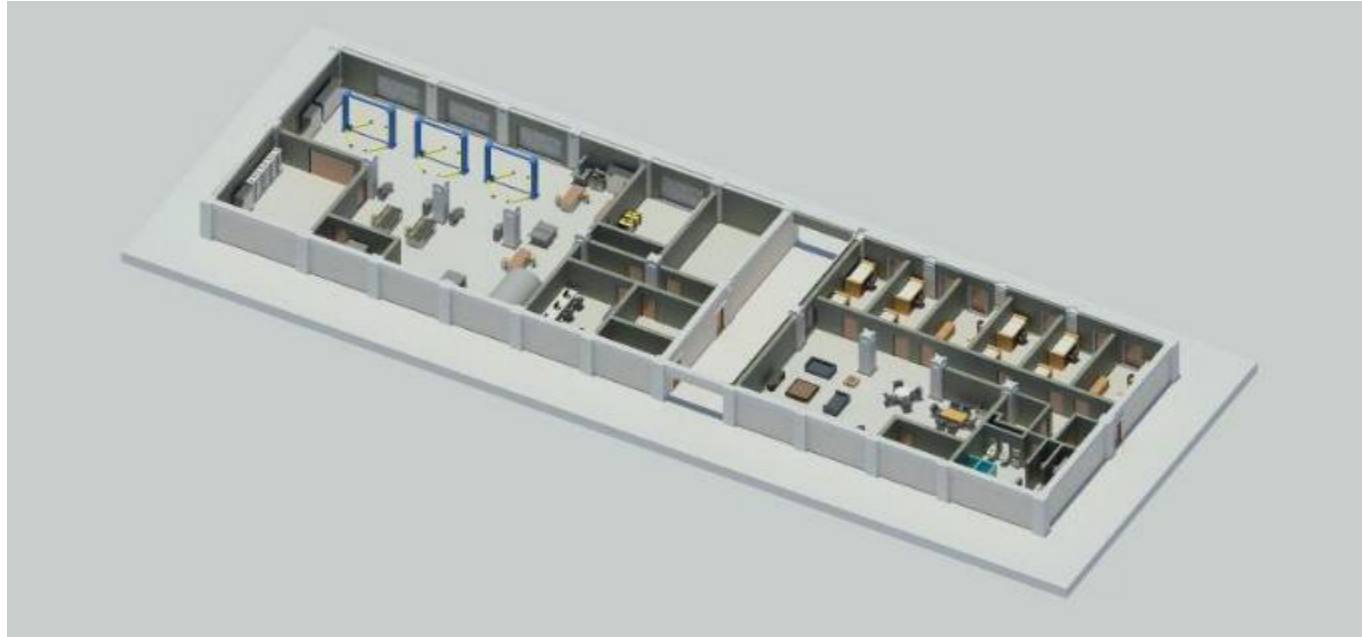


Design Type	
CoS Design	CUBE
Interior Layout	N/A
Construction	
Labor Execution	Troop Labor
Duration	48 Hours



MACHINE SHOP, UNDISCLOSED LOCATION

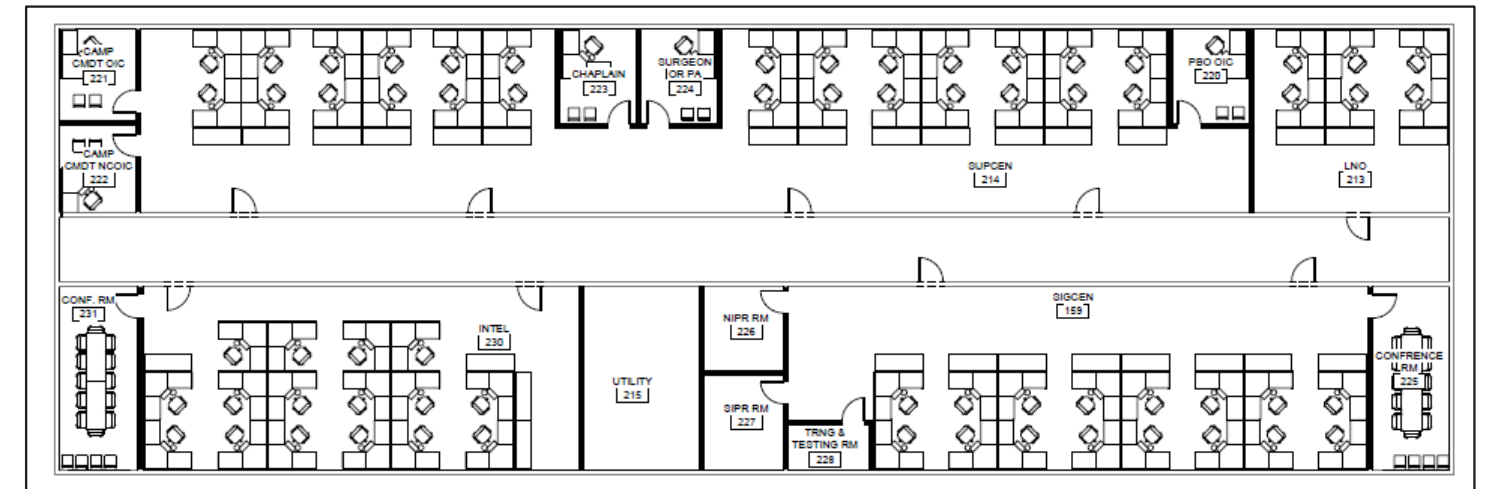
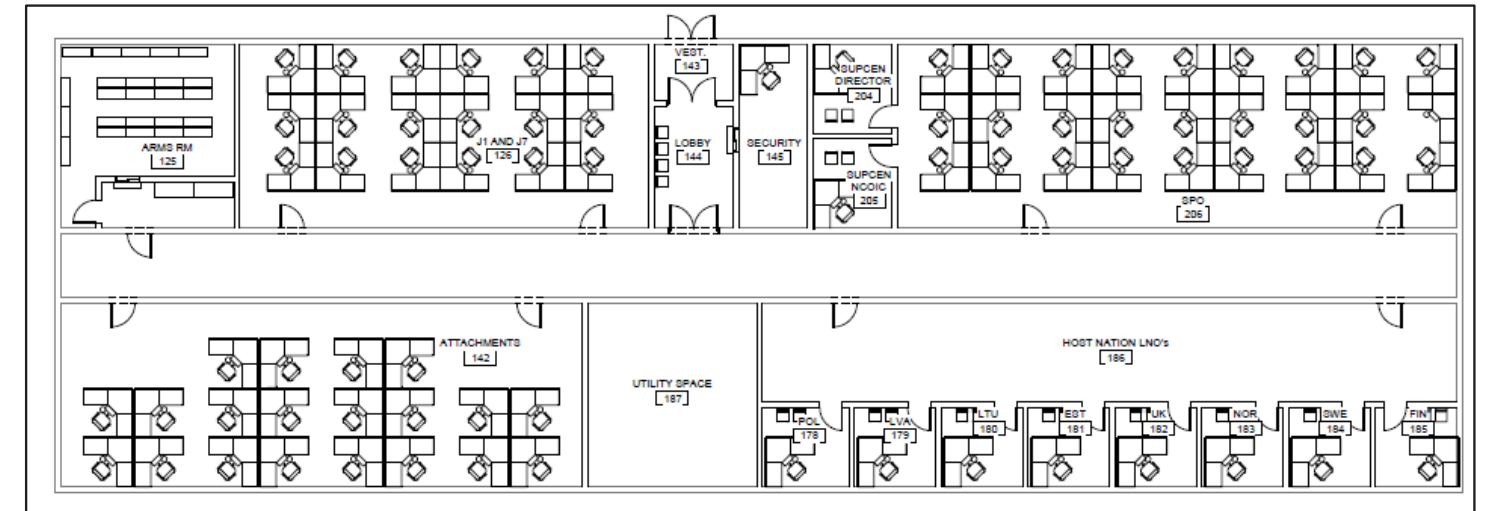
2018



Design Type	
CoS Design	SAFE 1
Interior Layout	Customized machine shop & housing
Construction	
Labor Execution	Troop Labor
Duration	About 12 Months

SOCEUR HQ DESIGN, UNDISCLOSED LOCATION

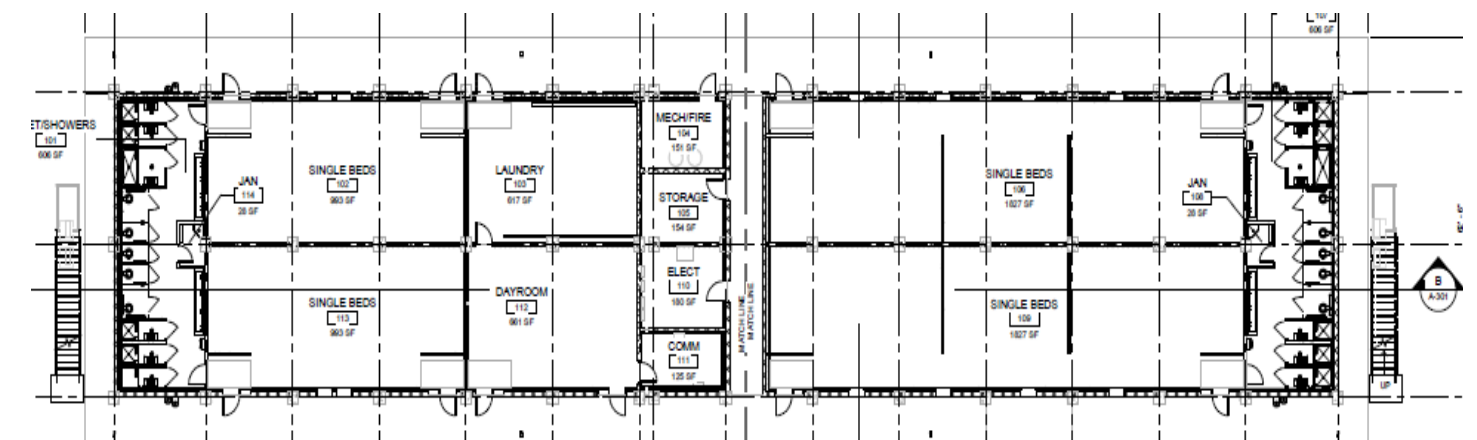
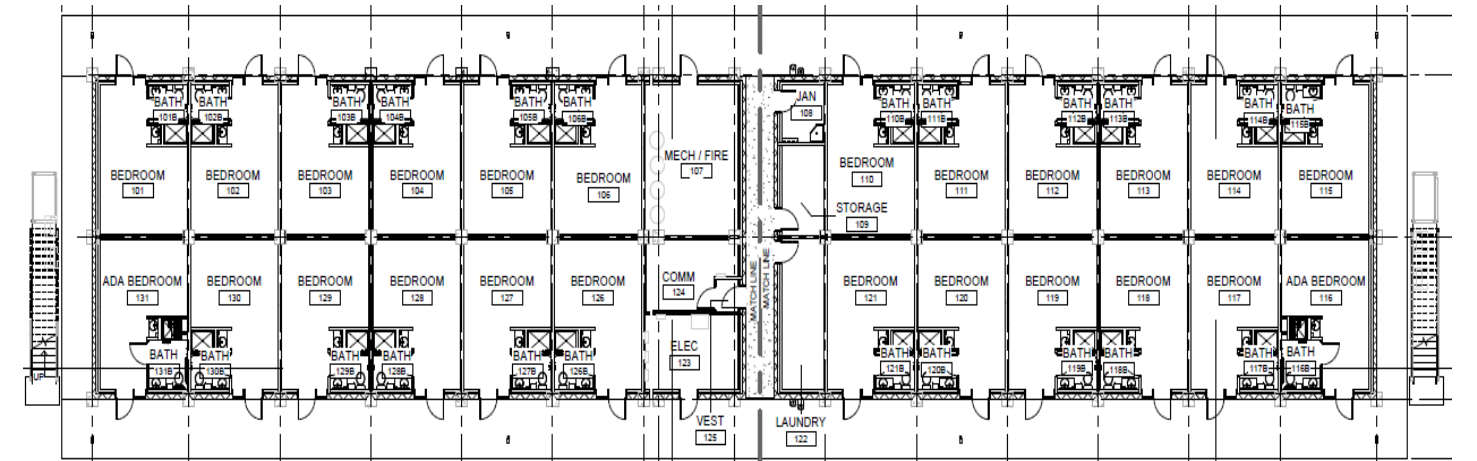
2018



Design Type	
CoS Design	SAFE
Interior Layout	Customized headquarters layout
Construction	
Labor Execution	Contract
Duration	About 18 Months

CAMP SANTIAGO JOINT TRAINING CENTER, PUERTO RICO

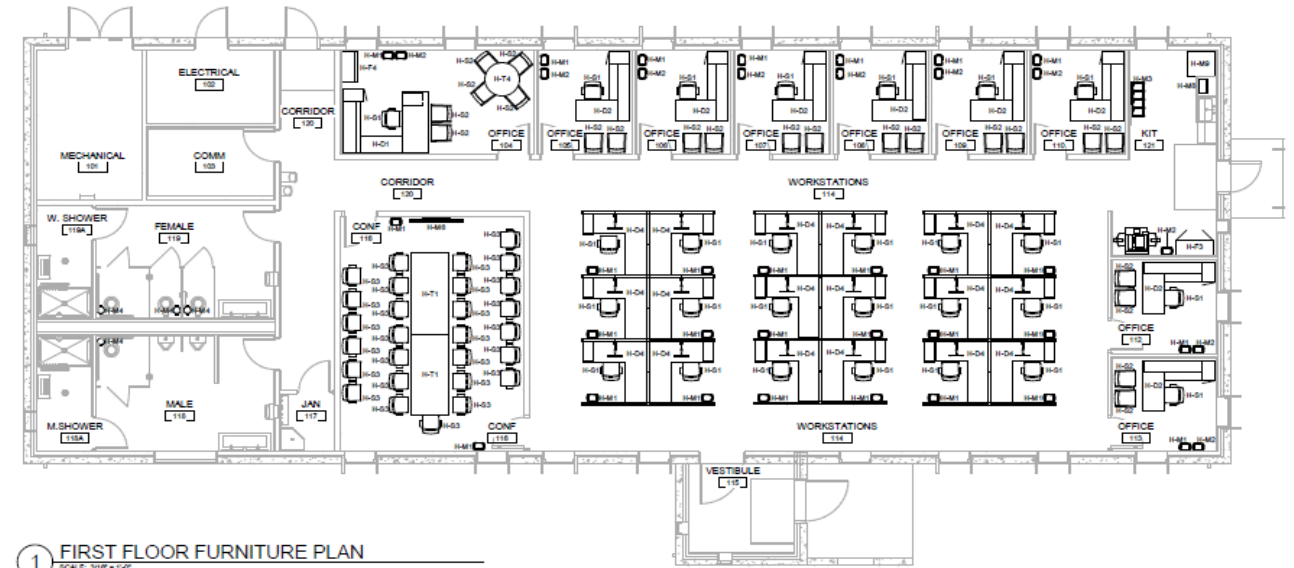
2020



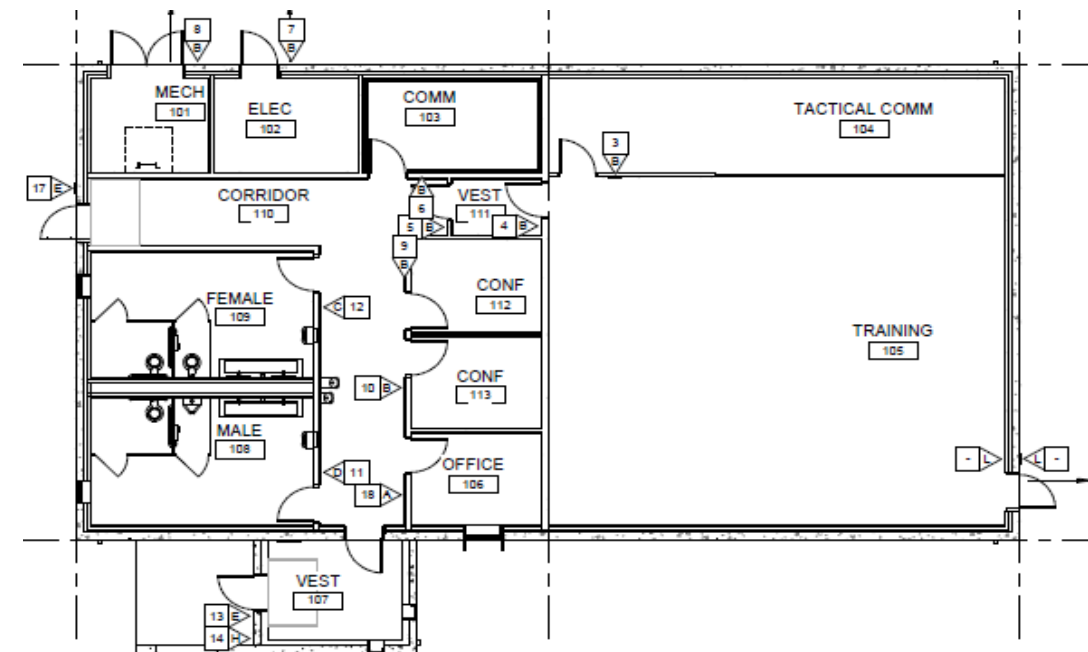
Design Type	
CoS Design	Two Story SAFE- converted to permanent construction per customer request
Interior Layout	Customized Barracks with 3 different layout s for 10 buildings total
Construction	
Labor Execution	Contract
Duration	About 24 Months

CAMP SANTIAGO JOINT TRAINING CENTER, PUERTO RICO

2020



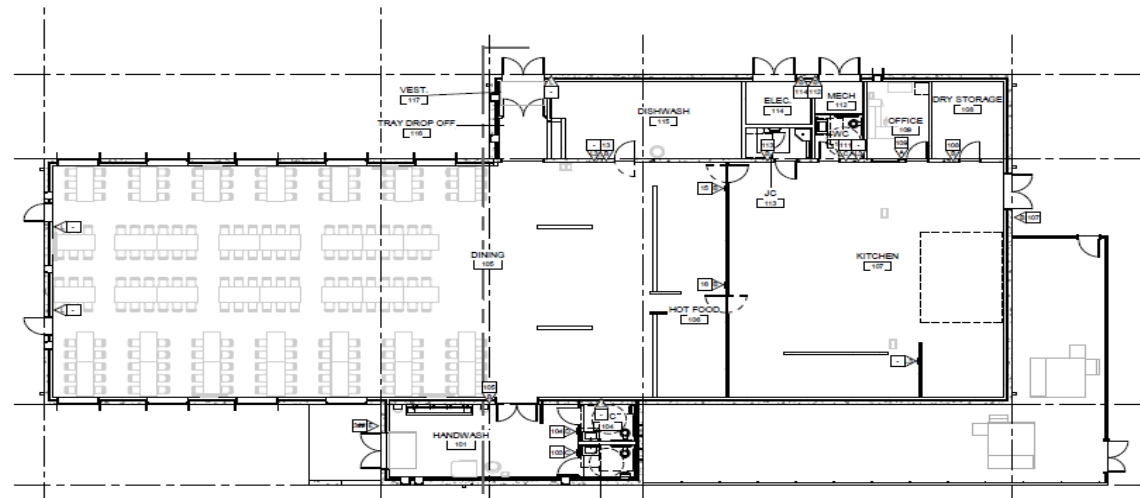
1 FIRST FLOOR FURNITURE PLAN
SCALE: 3/16"=1'-0"



Design Type	
CoS Design	FACE, converted to permanent construction per customer request
Interior Layout	Customized Headquarters with 5 different layouts for 17 buildings total
Construction	
Labor Execution	Contract
Duration	About 24 Months

CAMP SANTIAGO JOINT TRAINING CENTER, PUERTO RICO

2020



Design Type	
CoS Design	FACE, converted to permanent construction per customer request
Interior Layout	Customized DFAC with 2 different layouts
Construction	
Labor Execution	Contract
Duration	About 24 Months



**VIRGIN ISLAND ARMY NATIONAL GUARD,
US VIRGIN ISLANDS**

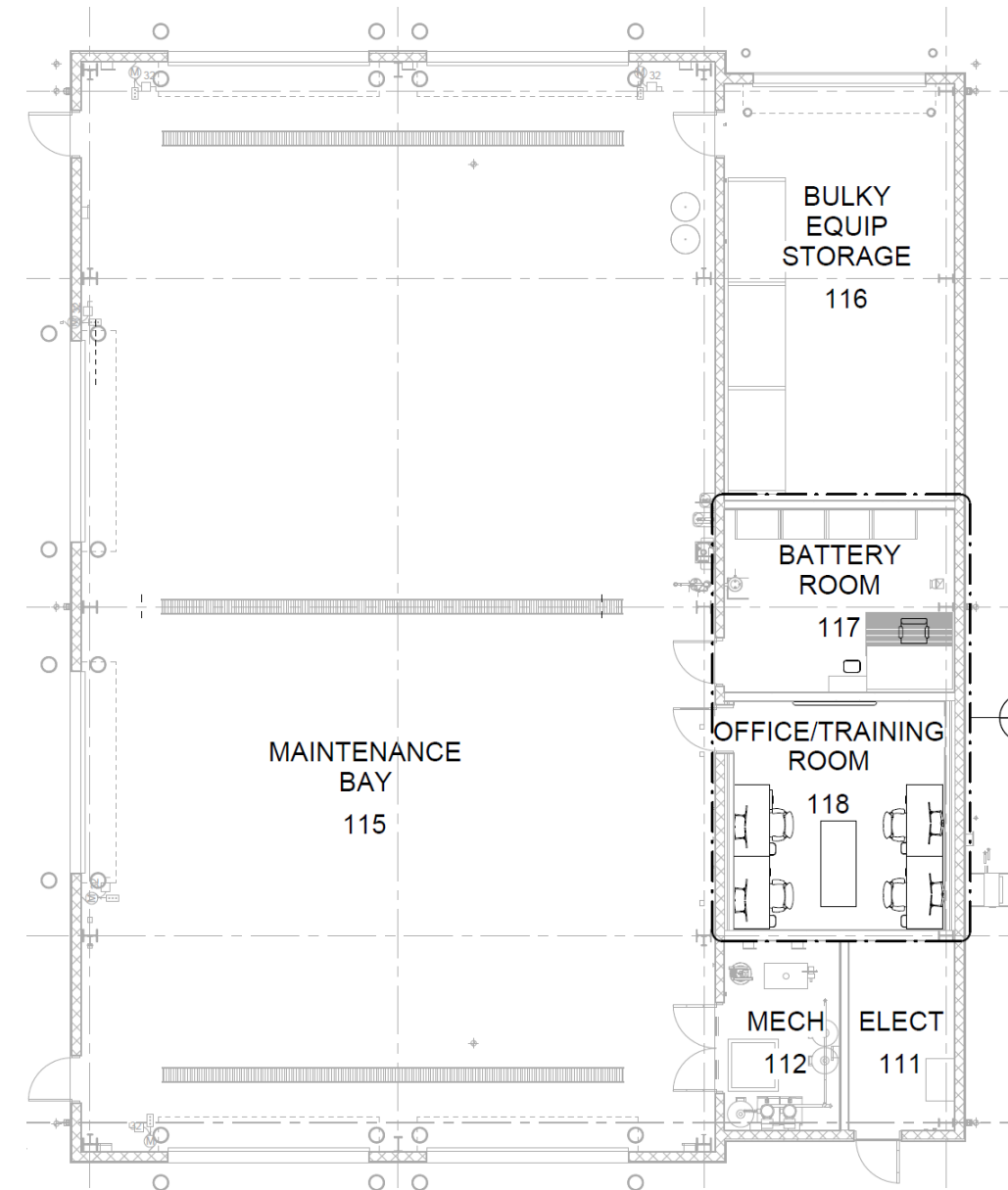
Modified MUTE for Vehicle Maintenance shop

2023



Design Type	
CoS Design	MUTE, converted to permanent construction per customer request
Interior Layout	Customized interiors
Construction	
Labor Execution	Contract
Duration	About 12 Months

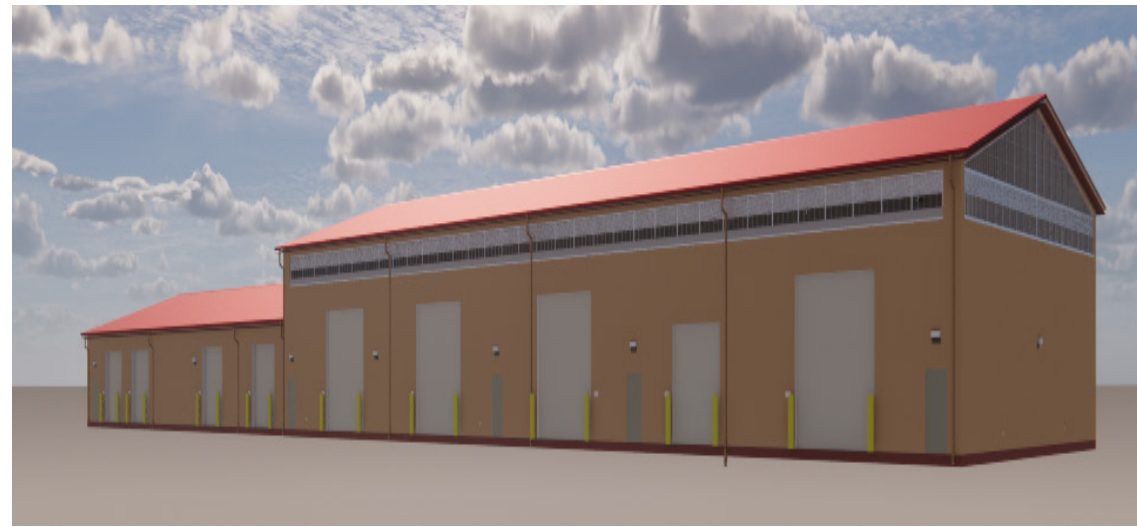
STX-St. Thomas Vehicle Maintenance Shop



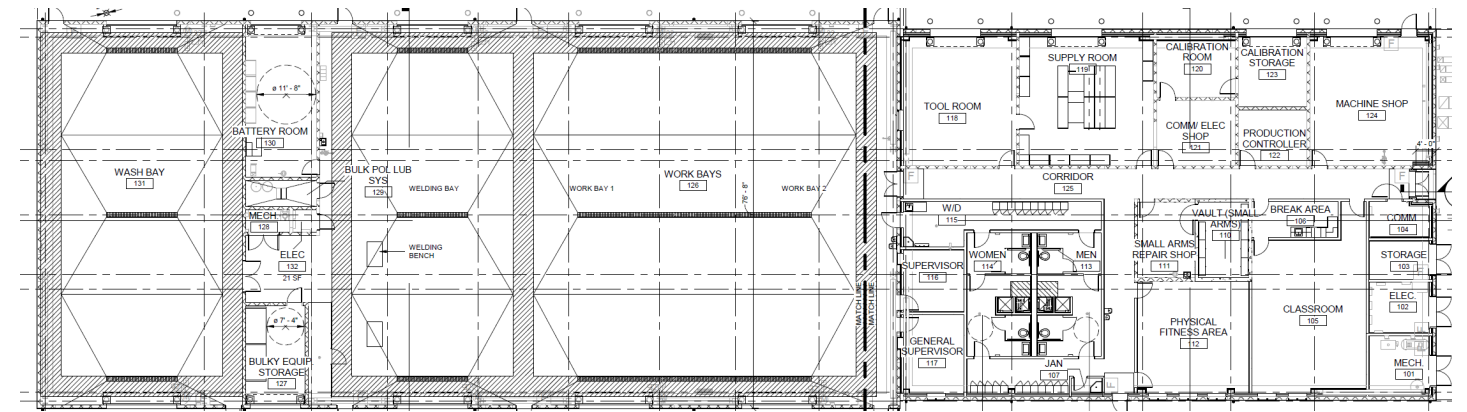
VIRGIN ISLAND ARMY NATIONAL GUARD, US VIRGIN ISLANDS

Modified MUTE for Vehicle Maintenance shop

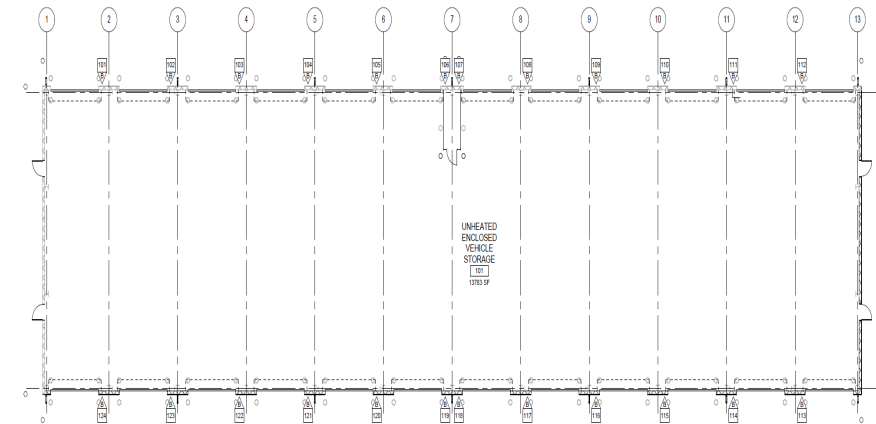
2025



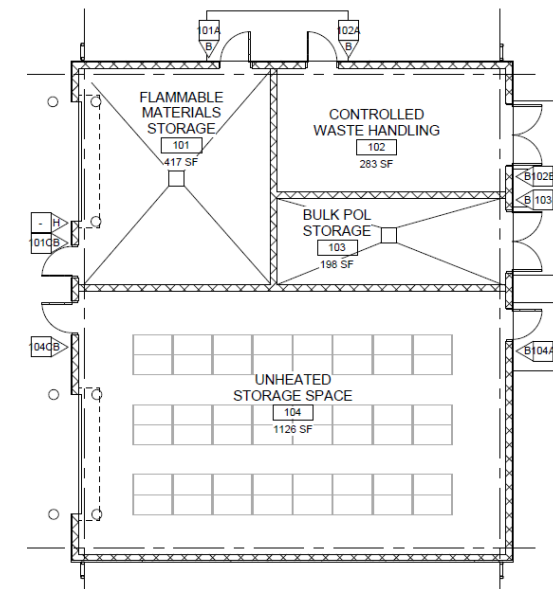
STX-St. Croix Vehicle Maintenance Shop



STX-St. Croix-Vehicle Storage



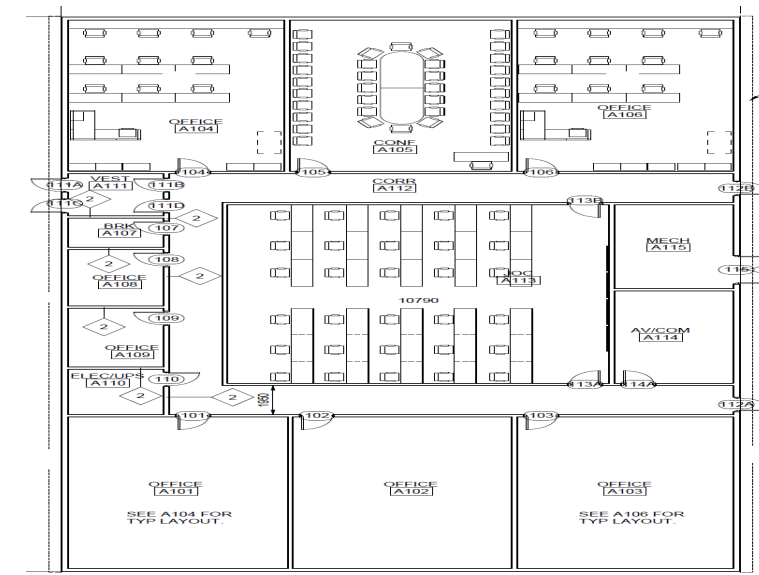
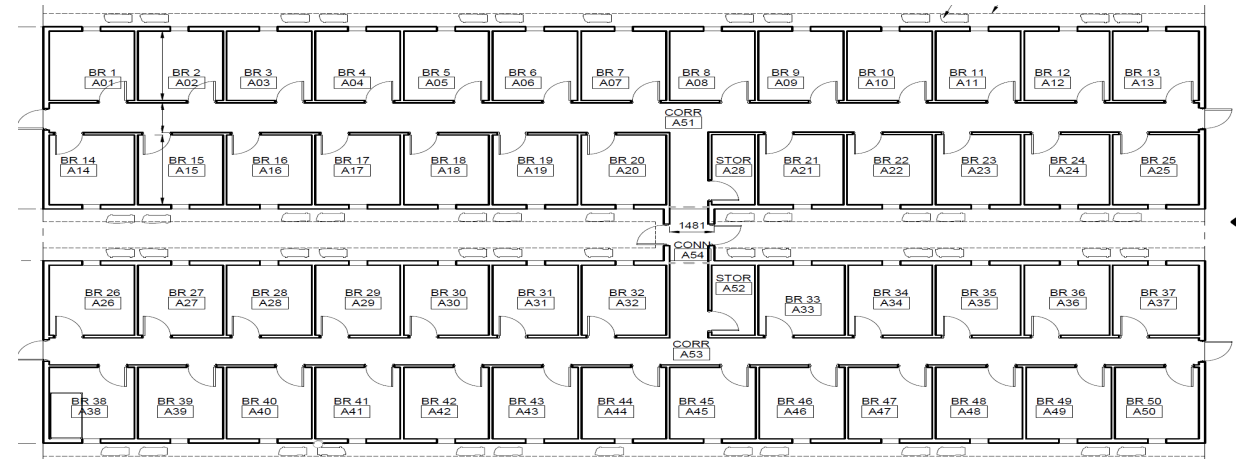
STX-St. Croix Enclosed Storage



Design Type	
CoS Design	MUTE, converted to permanent construction per customer request
Interior Layout	Customized interiors
Construction	
Labor Execution	Contract
Duration	About 22 Months

AUTOMATED COLD FORM METAL FRAMING SYSTEM, UNDISCLOSED LOCATION

2022



Design Type	
CoS Design	New Cold Form Design
Interior Layout	Customized Barracks and Admin layouts
Construction	
Labor Execution	Troop Labor
Duration	About 18 Months

ADDITIONAL INFORMATION

AREA COST FACTORS

PAX Newsletter, dated 5/25/2022

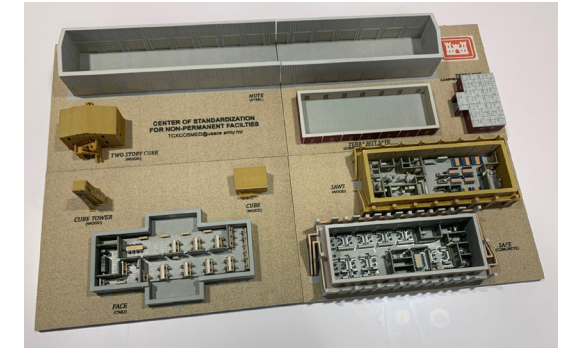
<https://www.usace.army.mil/Cost-Engineering/Area-Cost-Factors/>



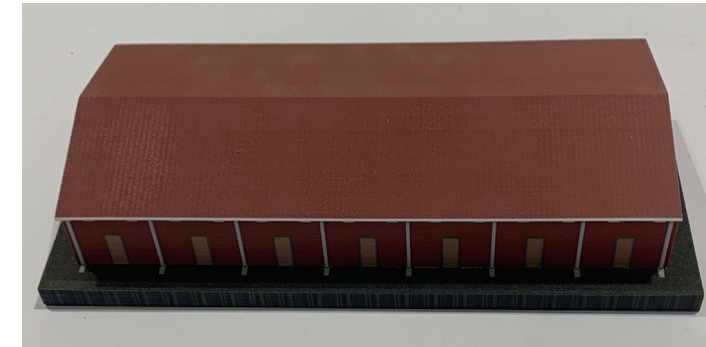
0.88	Alabama	1.16	Oregon	0.97	Germany
1.95	Alaska	1.16	Pennsylvania	0.87	Greece
0.85	Arizona	1.23	Rhode Island	3.21	Greenland
0.74	Arkansas	0.97	South Carolina	1.07	Honduras
1.23	California	1.00	South Dakota	1.57	Horn of Africa
0.99	Colorado	0.86	Tennessee	0.94	Hungary
1.15	Connecticut	0.88	Texas	1.84	Iceland
1.15	Delaware	1.07	Utah	1.70	Iraq
0.86	Florida	1.01	Vermont	1.25	Israel
0.87	Georgia	0.82	Virginia	0.91	Italy
2.33	Hawaii	1.11	Washington	2.04	Japan
1.00	Idaho	1.08	Washington D.C.	1.10	Kenya
1.07	Illinois	1.05	West Virginia	1.17	Korea - South
0.98	Indiana	1.05	Wisconsin	1.12	Kosovo
1.02	Iowa	1.01	Wyoming	1.20	Kuwait
0.89	Kansas			3.59	Kwajalein
0.86	Kentucky	1.89	Afghanistan	0.86	Latvia
0.84	Louisiana	1.03	Albania	0.80	Lithuania
0.99	Maine	1.97	American Somoa	1.10	Netherlands
1.03	Maryland	1.43	Australia	3.42	Northern Marianas
1.24	Massachusetts	1.50	Azores	1.12	Oman
0.99	Michigan	1.81	Bahamas	0.82	Peru
1.09	Minnesota	1.03	Bahrain	1.22	Philippines
0.71	Mississippi	0.82	Belgium	1.01	Poland
1.00	Missouri	0.83	Bulgaria	1.38	Puerto Rico
1.12	Montana	1.12	Cambodia	1.16	Qatar
0.92	Nebraska	0.83	Chile	1.86	Romania
1.16	Nevada	0.77	Columbia	1.23	Saudi Arabia
1.07	New Hampshire	1.33	Crete	1.19	Singapore
1.26	New Jersey	0.74	Croatia	1.23	Spain
0.92	New Mexico	2.31	Cuba	1.19	Thailand
1.08	New York	2.86	Diego Garcia	1.02	Turkey
0.91	North Carolina	1.08	Egypt	1.12	U.A.E
1.11	North Dakota	1.25	El Salvador	1.19	United Kingdom
0.94	Ohio	1.01	Estonia		
0.83	Oklahoma	1.07	Georgia Republic		

3D PRINTING SERVICES

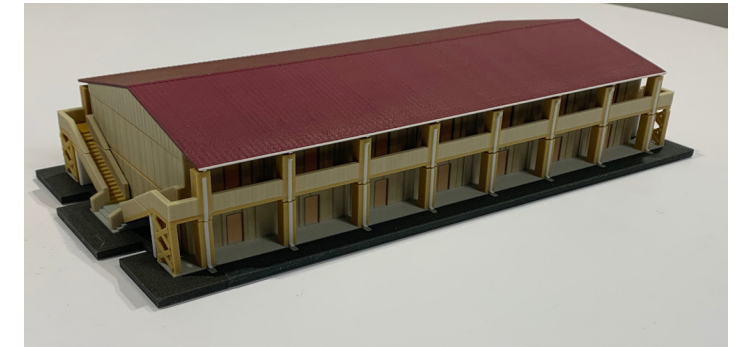
CoS Offers printing services of physical 3D models or all of our designs.



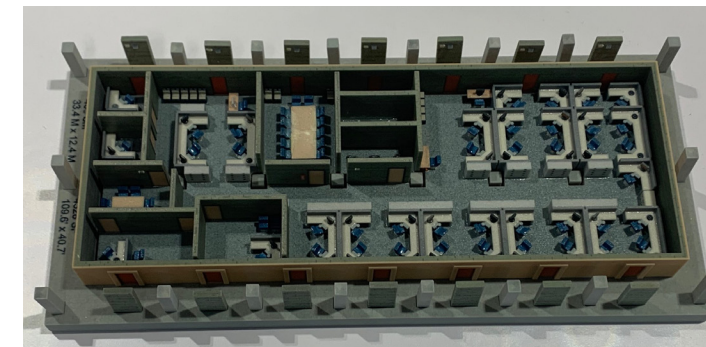
TERRA HUT



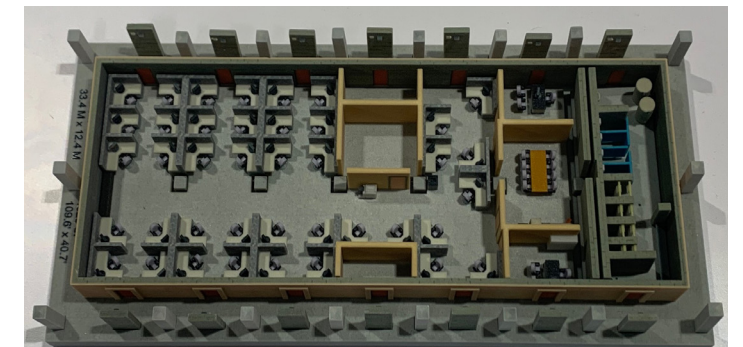
SAWS



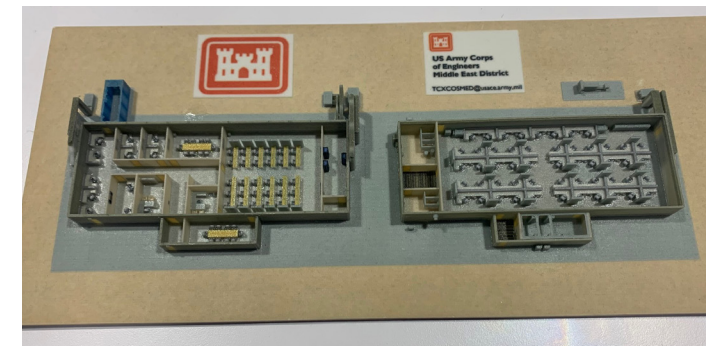
Headquarter Interior



Admin w/ Latrine Interior



2 FACES - JLOC



Bunker Bulkhead Retrofit



SQUARE FOOTAGE LIMITS FOR OCCUPANCY CATEGORIES

Per UFC 1-201-01 Chapter 3 & 4

Assembly	
Description	50 + Persons
Combustible Construction Limit	6000 sf (557 m ²)
Non-combustible Construction Limit	9,500 sf (883 m ²)
Story Limit	1, 2 if there are sprinklers

Business	
Description	Transaction of business other than mercantile
Combustible Construction Limit	9,000 sf (836 m ²)
Non-combustible Construction Limit	23,000 sf (2,137 m ²)
Story Limit	3

Industrial	
Description	Storage & Vehicle Maintenance
Combustible Construction Limit	8,500 sf (790 m ²) 1 story limit
Non-combustible Construction Limit	15,500 sf (1,440 m ²) 2 story limit
Additional	Mezzanines may only be used for storage or mechanical/electrical rooms

Residential	
Description	Sleeping accommodations not for healthcare or detention
Combustible Construction Limit	7,000 sf (650 m ²) 2 story limit
Non-combustible Construction Limit	15,000 sf (1,394 m ²) 4 story limit

Aircraft Hangars	
Protect hangar as followed if it exceeds sq(m ²) listed	Fire protection required
Single hangar over 15,000 sf (1,394 m ²)	Yes
Multiple hangars, <15,000 sf per hangar, <50 ft separation	Yes
Within 100 ft of a normally occupied structure	Yes

