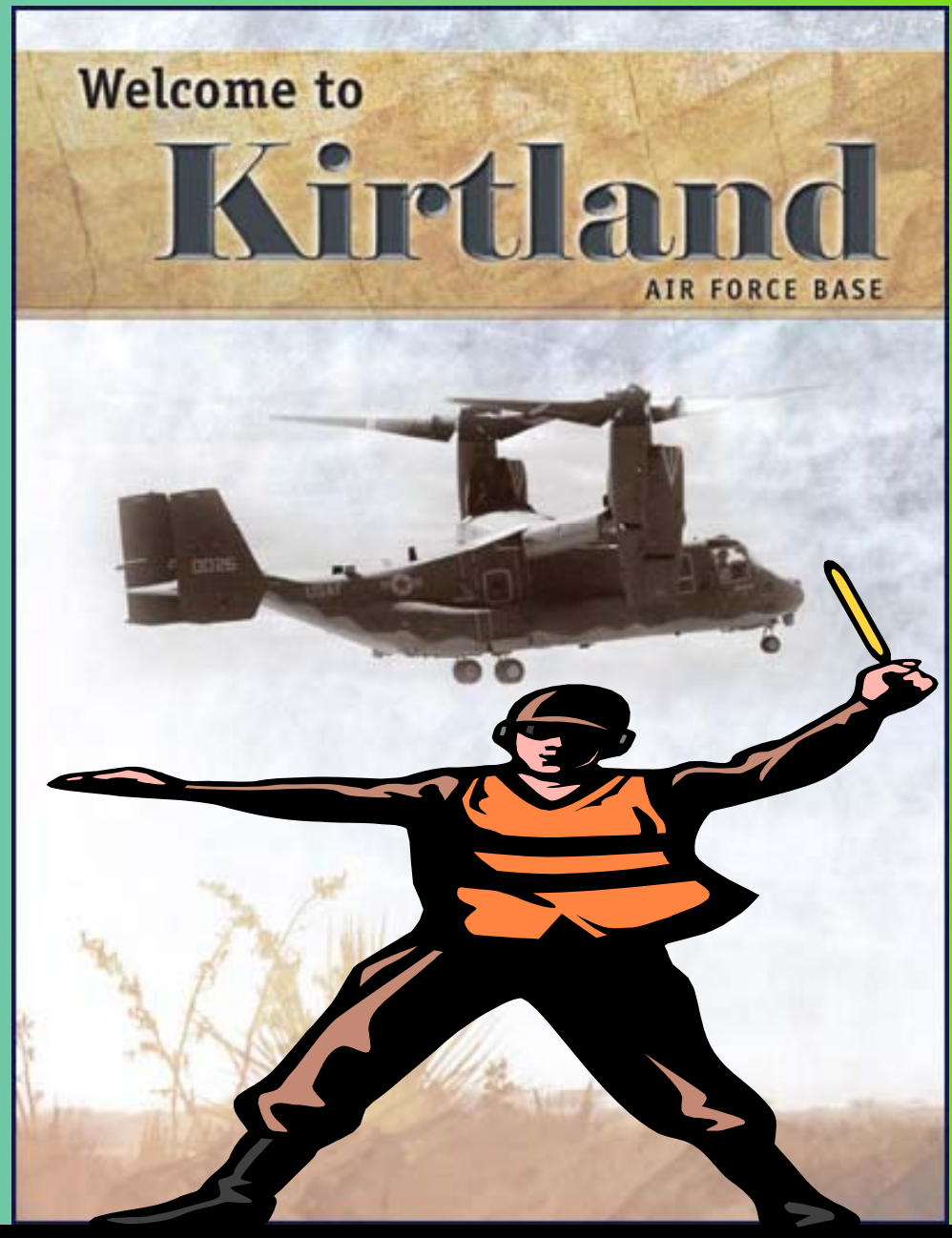


# A Practical Guide to Implementing AT/FP and Secure Environments in support of Mission Readiness

SAME

Albuquerque Post



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**AECOM**

# AGENDA

## AT/FP Overview

- Basics
- Threat Levels
- Human Factors
- Practical Examples

## Secure Environments Overview

- Basics
- Threat Levels
- Human Factors
- Practical Examples

## Recommendations and Practical Tips

# AT/FP & MISSION READINESS

# WHAT IS AT/FP?

# Antiterrorism Force Protection

Required by Uniform Facilities Criteria, Referenced Standards and **Common Sense**

- **UFC 4-010-01, DoD Minimum Antiterrorism Standards for Buildings, 8 October 2003 including Change 1, 22 January 2007**

- “These standards provide **appropriate**, **implementable**, and **enforceable** measures to establish a level of protection against terrorist attacks for all inhabited DoD buildings where no known threat of terrorist activity currently exists. While complete protection against all potential threats for every inhabited building is cost prohibitive, the intent of these standards can be achieved through prudent master planning, real estate acquisition, and design and construction practices.”

- “...comprehensive protection against the range of possible threats may be cost prohibitive, but that an **appropriate** level of protection can be provided for all DoD personnel at a **reasonable cost**.”

# WHAT IS AT/FP? cont.

## UFC 4-023-03, Design of Buildings to Resist Progressive

### Collapse, 14 July 2009 including Change 1, 27 January 2010

- “...Significant casualties can result when collapse occurs. This is illustrated by the April 19, 1995 bombing of the Alfred P. Murrah building in Oklahoma City, in which the majority of the 168 fatalities were due to the partial collapse of the structure and not to direct blast effects. “



# HOW DOES IT AFFECT MISSION READINESS?

The AT/FP criteria mandates measures to be taken in both site and building design, can have appreciable impact on site and building planning, and on construction cost and schedule. Designers are encouraged to incorporate AT/FP requirements and strategies at the **earliest** stages of planning, programming & design.

- Maximize Standoff Distance
- Prevent Building Collapse
- Minimize Hazardous Flying Debris
- Provide Effective Building Layout
- Limit Airborne Contamination
- Provide Mass Notification
- Facilitate Future Upgrades



# KNOW YOUR THREAT LEVELS

Although AT/FP is required to be uniformly applied, local and regional threat levels provide additional guidance and requirements for assuring mission readiness. “It would be **cost prohibitive** to provide protection against the **worst-case** scenario in every building.”

In addition to USAF and DOD guidance, it is important to have on-going relationships with the Department of Homeland Security (DHS), Federal Bureau of Investigation (FBI), Drug Enforcement Administration (DEA), Bureau of Alcohol, Tobacco and Firearms (ATF) and have effective counter intelligence measures in place.

# KNOW YOUR THREAT LEVELS

Know what your adversary knows - Google and other public information is readily available



# HUMAN FACTORS

Balance costs of physical security (labor) with technological solutions (equipment) and facility solutions (O&M, SRM and MILCON)

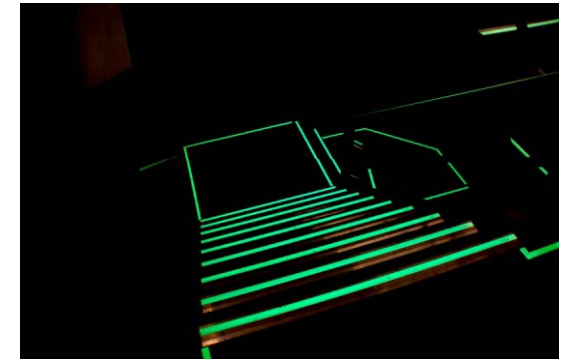
- Security Forces personnel; Physical Security equipment (PTZ cameras, sensors, CCTV head end & video racks; and facilities (building hardening, perimeter fence, pop-up barriers, plazas, gates)

Be aware of the outside threat and the inside threat

- training and educating personnel – having an OPSEC plan

Emergency evacuation

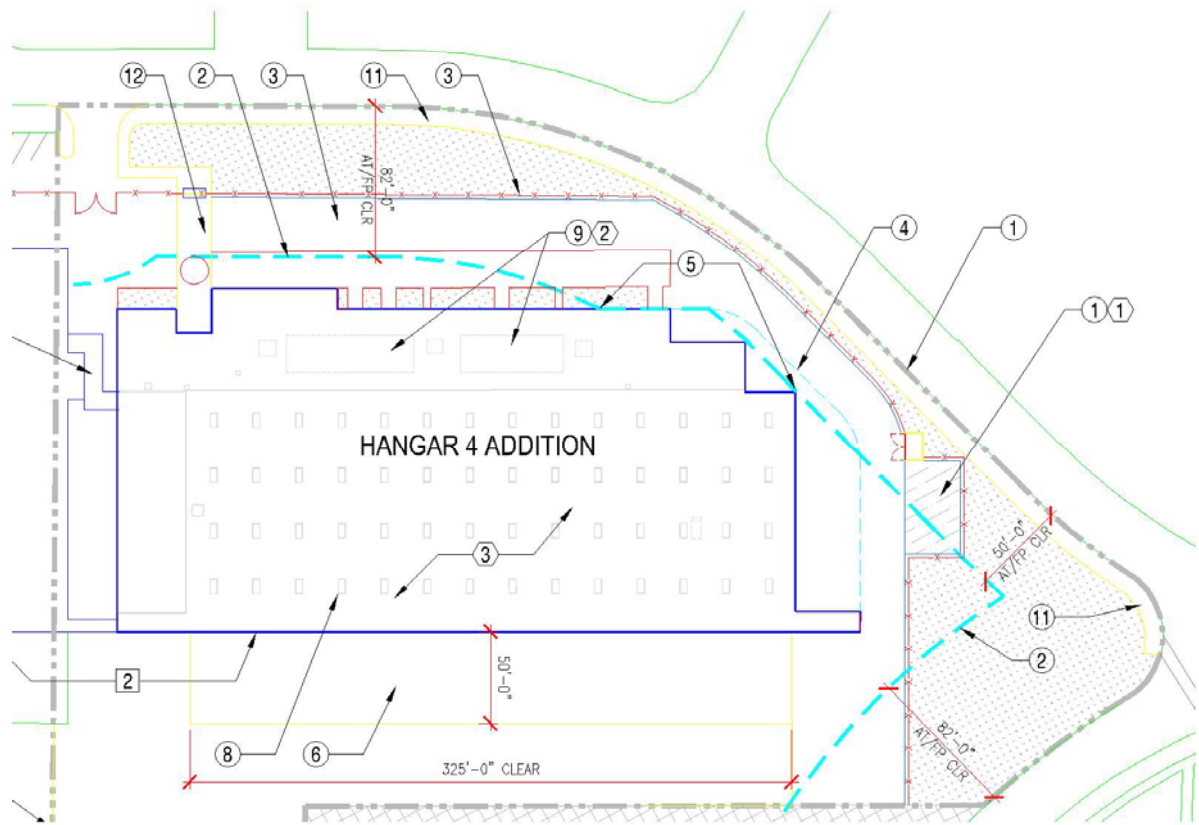
- getting safely out of the box
- egress path lighting and markings



# PRACTICAL EXAMPLES

## Required Setbacks - 33' vice 50' vice 82'

- Building shapes and distances
- Limit or eliminate glazing
- Limit or eliminate doors
- Do not provide outside door hardware on emergency egress doors



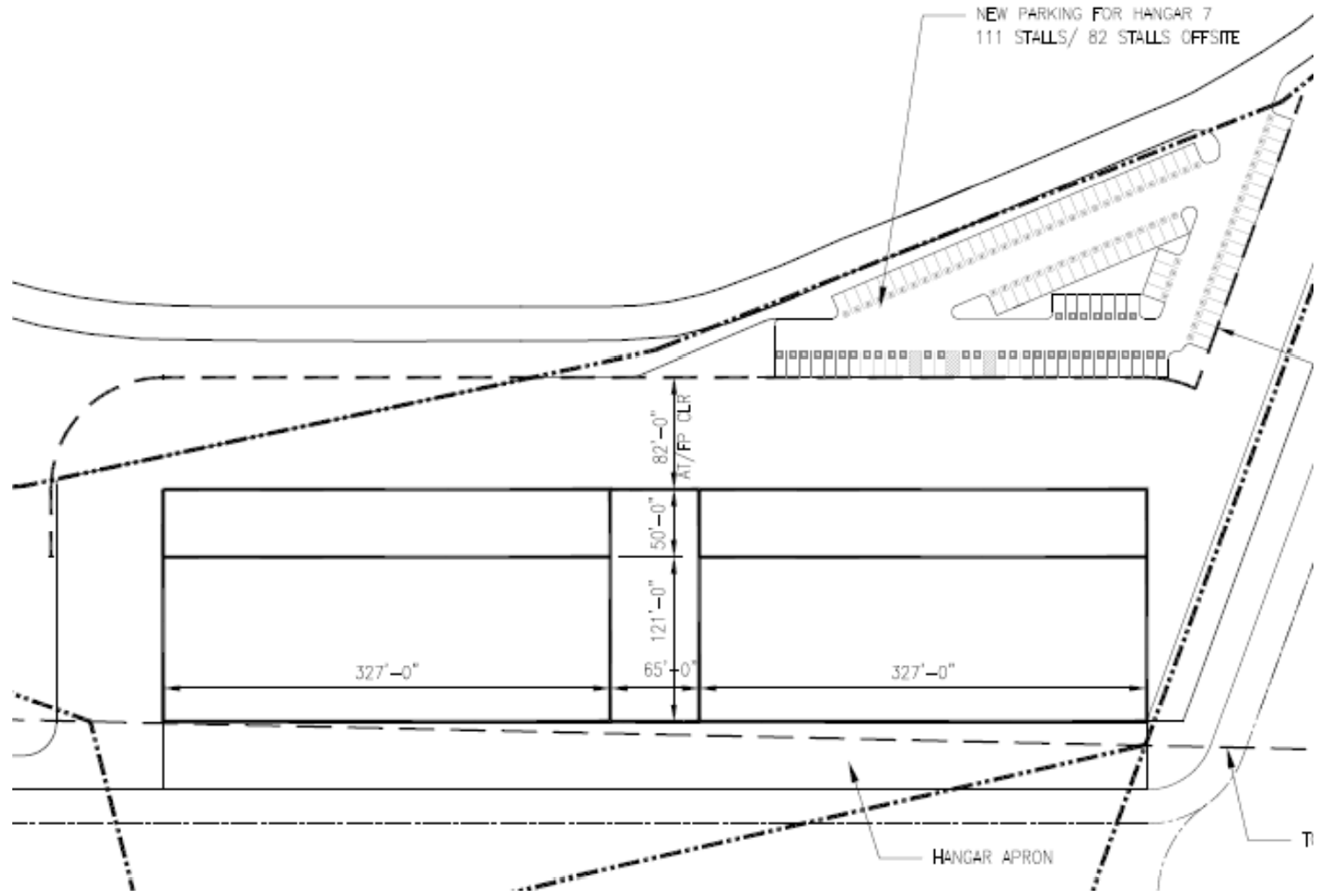
# PRACTICAL EXAMPLES

Protected  
area within a  
base,  
isolation by  
geographic  
location



# PRACTICAL EXAMPLES

Parking –  
Maintain 82’  
setback  
Emergency  
Response  
routes with  
removable  
bollards



# PRACTICAL EXAMPLES

## Pedestrian plaza & landscape as the AT/FP barrier – AFSPC



rather than



# PRACTICAL EXAMPLES

Gates and  
Entry –  
climate  
appropriate  
and  
serpentine  
route



# PRACTICAL EXAMPLES

Waste  
Transfer  
Station &  
fueling  
stations  
Maintaining  
service and  
emergency  
access



# PRACTICAL EXAMPLES

Metal detectors, package scanning equipment, screening at entrance, EPOs and emergency shut offs at air intakes

Let technology help you! ...but, plan for physical space, power, cooling, training & maintenance!



# SECURE ENVIRONMENTS & MISSION READINESS

# WHAT IS A SECURE ENVIRONMENT?

Intelligence Community Directive Number 705, Sensitive Compartmented Information Facilities, 26 May 2010 rescinds Director of Central Intelligence Directive 6/3 Protecting Sensitive Compartmented Information Within Information Systems

SCIFs and STCs

Munitions Storage Areas

Other Specialized Secure Environments

# HOW DOES IT AFFECT MISSION READINESS?

Secure environment criteria mandates measures to be taken in both site and building design, can have appreciable impact on site and building planning, and on construction cost and schedule. Designers are encouraged to incorporate specific secure environment requirements and strategies at the **earliest** stages of planning, programming & design.

- Campus/Building siting
- Building envelope
- Room envelope
- Door & Window systems
- Access control
- Secure/ Non-secure communication
- Quality of Life



# KNOW YOUR THREAT LEVELS

Operational Security plans, policies and protocols are essential.

## Potential Operational Threats

- Visual
- Audio
- Measures and Signals
- Routines and Patterns
- Data Spills
- The Human Target



# HUMAN FACTORS

Balance costs of physical security (labor) with technological solutions (equipment) and facility solutions (O&M, SRM and MILCON)

- Security Forces personnel; Physical Security equipment (PTZ cameras, sensors, CCTV head end & video racks; and facilities (perimeter fence, pop-up barriers, plazas, gates)

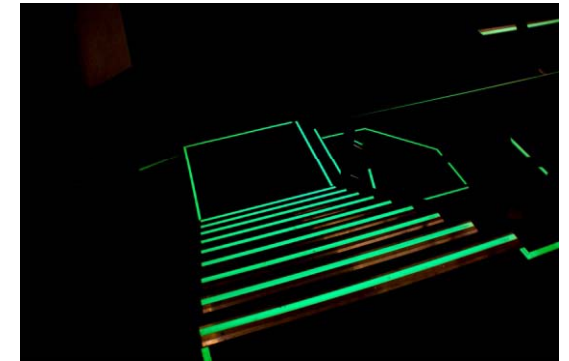
Be aware of the outside threat and the inside threat

- Training and educating personnel – having an OPSEC plan

Emergency evacuation

- Getting safely out of the box
- Egress path lighting and markings

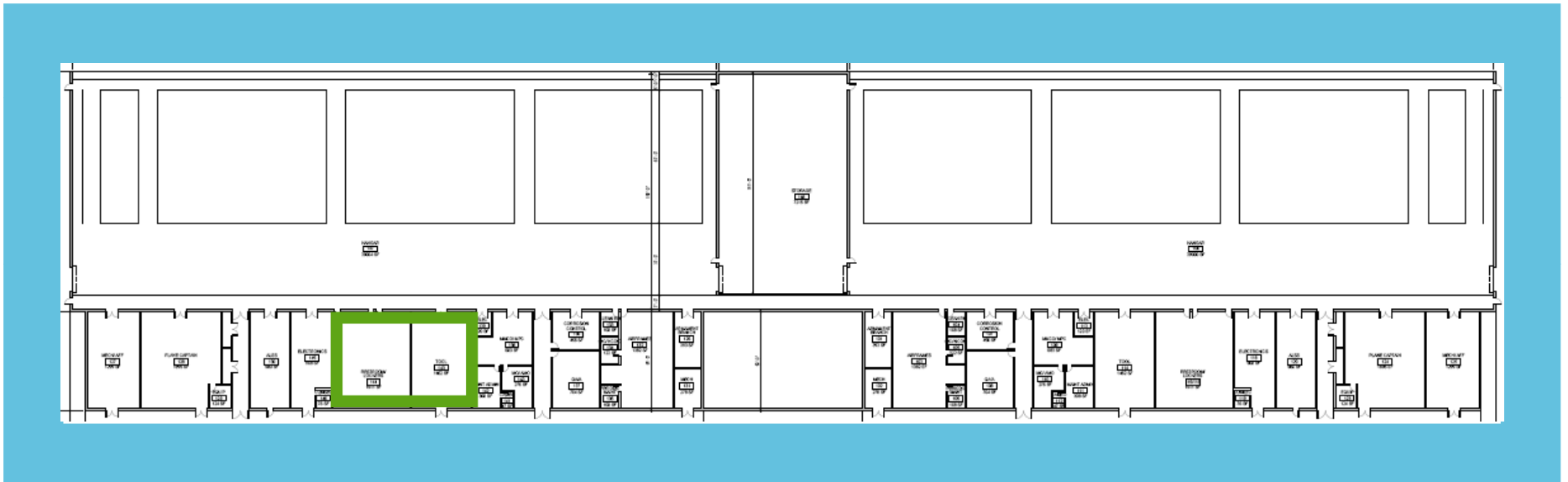
QOL Amenities



# PRACTICAL EXAMPLES

Secure environments within non-secure environments

Protected area within a base or building



# PRACTICAL EXAMPLES

## Sound Transmission Class (STC) ratings

| STC | What can be heard   |
|-----|---|
| 25  | Normal speech can be understood quite easily and distinctly through wall                                      |
| 30  | Loud speech can be understood fairly well, normal speech heard but not understood                             |
| 35  | Loud speech audible but not intelligible  |
| 40  | Onset of "privacy"  |
| 42  | Loud speech audible as a murmur   |
| 45  | Loud speech not audible; 90% of statistical population not annoyed  |
| 50  | Very loud sounds such as musical instruments or a stereo can be faintly heard; 99% of population not annoyed. |
| 60+ | Superior soundproofing; most sounds inaudible   |

| STC | Partition type  |
|-----|---|
| 33  | Single layer of 1/2" drywall on each side, wood studs, no insulation (typical interior wall)                          |
| 45  | Double layer of 1/2" drywall on each side, wood studs, batt insulation in wall  |
| 46  | Single layer of 1/2" drywall, glued to 6" lightweight concrete block wall, painted both sides                         |
| 54  | Single layer of 1/2" drywall, glued to 8" dense concrete block wall, painted both sides                               |
| 55  | Double layer of 1/2" drywall on each side, on staggered wood stud wall, batt insulation in wall                       |
| 59  | Double layer of 1/2" drywall on each side, on wood stud wall, resilient channels on one side, batt insulation         |
| 63  | Double layer of 1/2" drywall on each side, on double wood/metal stud walls (spaced 1" apart), double batt insulation  |
| 72  | 8" concrete block wall, painted, with 1/2" drywall on independent steel stud walls, each side, insulation in cavities |

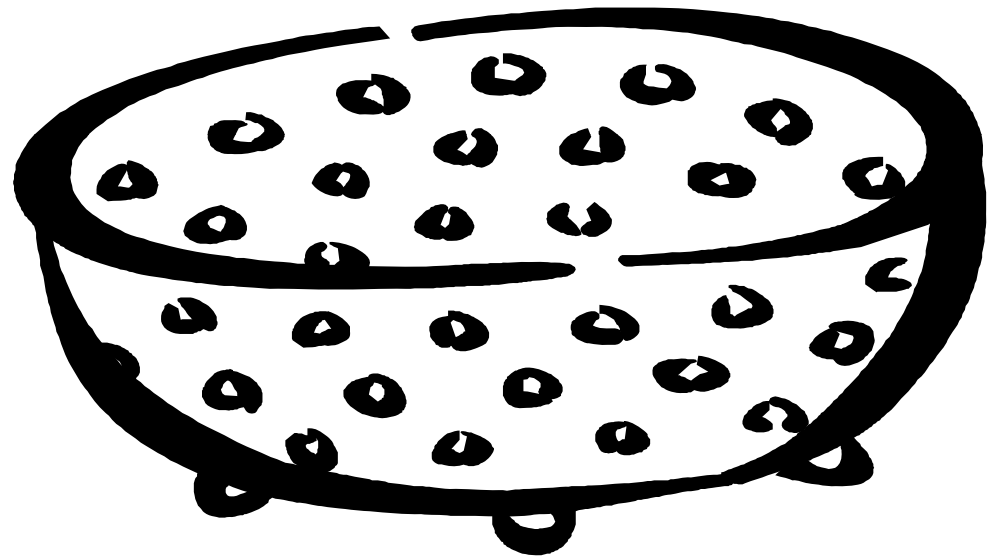
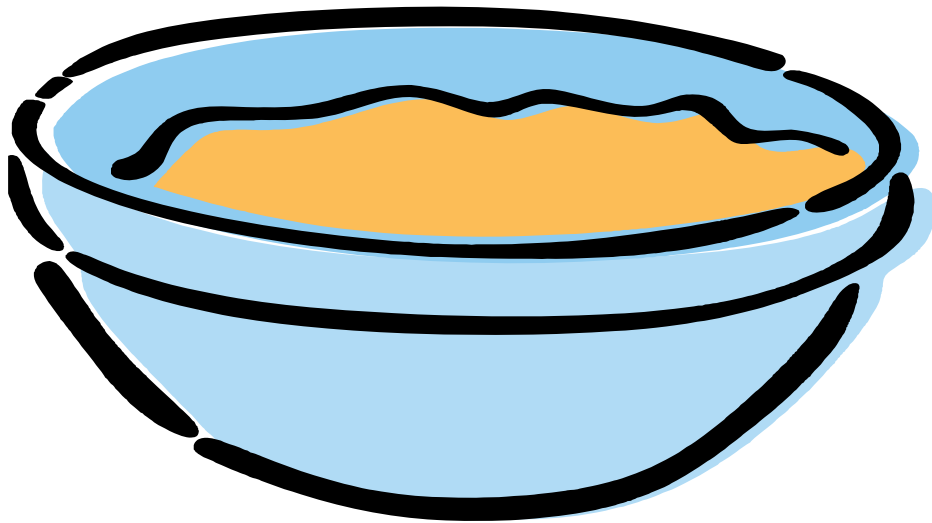
# PRACTICAL EXAMPLES

Minimize penetrations for access and for services:  
Communications, Electric ,HVAC & Plumbing

Caulk & Glue are your best friends

Sound suppression and white noise machines in duct work

Maintain secure / non-secure separation



# PRACTICAL EXAMPLES

Use of Power Distribution Unit (PDU) and Computer Room Air Conditioning (CRAC) or Direct Expansion (DX) units

Consider task type units rather than central systems



# PRACTICAL EXAMPLES

Challenges of construction during mission – solutions in good tools - the sanding vacuum - easier than cleaning afterward



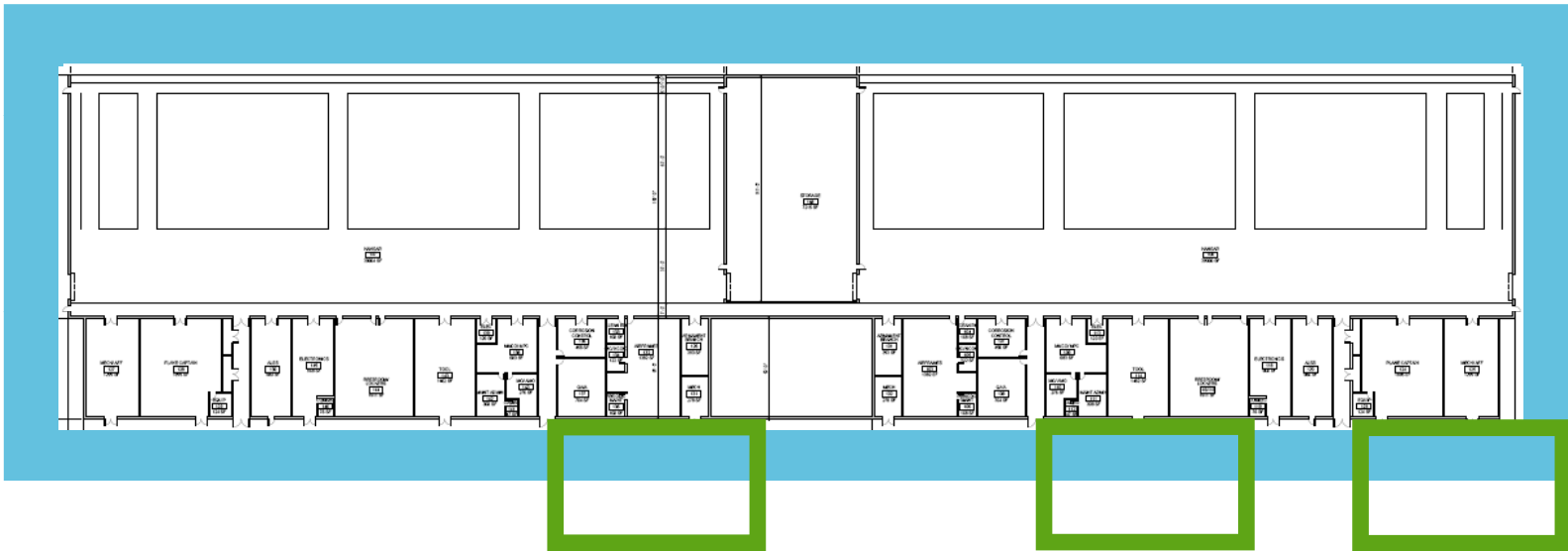
Black plastic, sound machines, escorts and their cost

Working outside of the fence vice inside of the fence or outside of the building (addition) vs. inside (renovation)

# PRACTICAL EXAMPLES

Quality of Life is essential

Personnel amenities - dining services, fitness centers, running tracks



# RECOMMENDATIONS & PRACTICAL TIPS

# RECOMMENDATIONS

- Be aware for proper planning, costs and implementation times - it costs more **AND** it takes longer
- Hidden Costs
  - Extra time to process in and out
    - +30-50% to cost and time line
  - Mission generated delays
  - Redundancy - what is required and what it costs
    - UPS, Gen Sets, water storage tanks, fuel farm
- Watch out for unintended consequences – think holistically!

# PRACTICAL TIPS

- Leave heavy equipment and tools inside - process people not trucks
- Work outside the fence or create a temporary fence line
- Building addition - break through near completion
- Isolate your work area
- Fewer penetrations, the better
- Smart site planning

# PRACTICAL TIPS

- Share your practical knowledge
  - SAME
  - Professional associations and networks
- No need to start from zero
  - Someone out there has already faced the same hurdle
  - Find them!
    - Means and methods
    - Vendors
    - Secure contractors
    - Practical knowledge

Thank You

Questions or Comments

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