

# Facility Space Optimization Plans

SAME Southeast Tri-Regional Joint Engineering Training Symposium (JETS)



Main Street

0 100 200 Feet

POND

# Presenting Today:



Kermit Lewis, GISP,  
LPS

*Senior Project Manager*  
*Pond*

**POND**



# Agenda

---

- Background
- Current State
- The FSOP Initiative
- A Comprehensive Solution
- Case Studies
  - Middle East Regional Planning
  - Master Planning Management Viewer



# Which one is true?

---

- I won a cheese curd eating contest in Wisconsin
- I was an extra in the movie Lethal Weapon
- I have been completely bald since I was 21

# Lifetime Balder!!

---





# Background

POND



# FSOP Purpose

---

- The FSOP provides an updated and accurate RPI with a way forward for best use of facilities space.
  - Complete a **Facility Utilization Study** to provide updated floorplans by use. FUS data provides an accurate GSF for each building and ensure accurate real property records for best planning, design, and management.
  - Complete a **Facility Space Optimization Plan (FSOP)**. The FSOP provides best use of building spaces, with associated programming documentation for identified projects.
  - Deliver all information in an **SDSFIE-compliant geodatabase** for use in GeoBase.
- ROI!!!!!!!!!!!!!!



# Space Optimization Defined

---

*the process of maximizing the efficiency and effectiveness of a physical space, whether it's an office, warehouse, or home.*

*Key Strategies:*

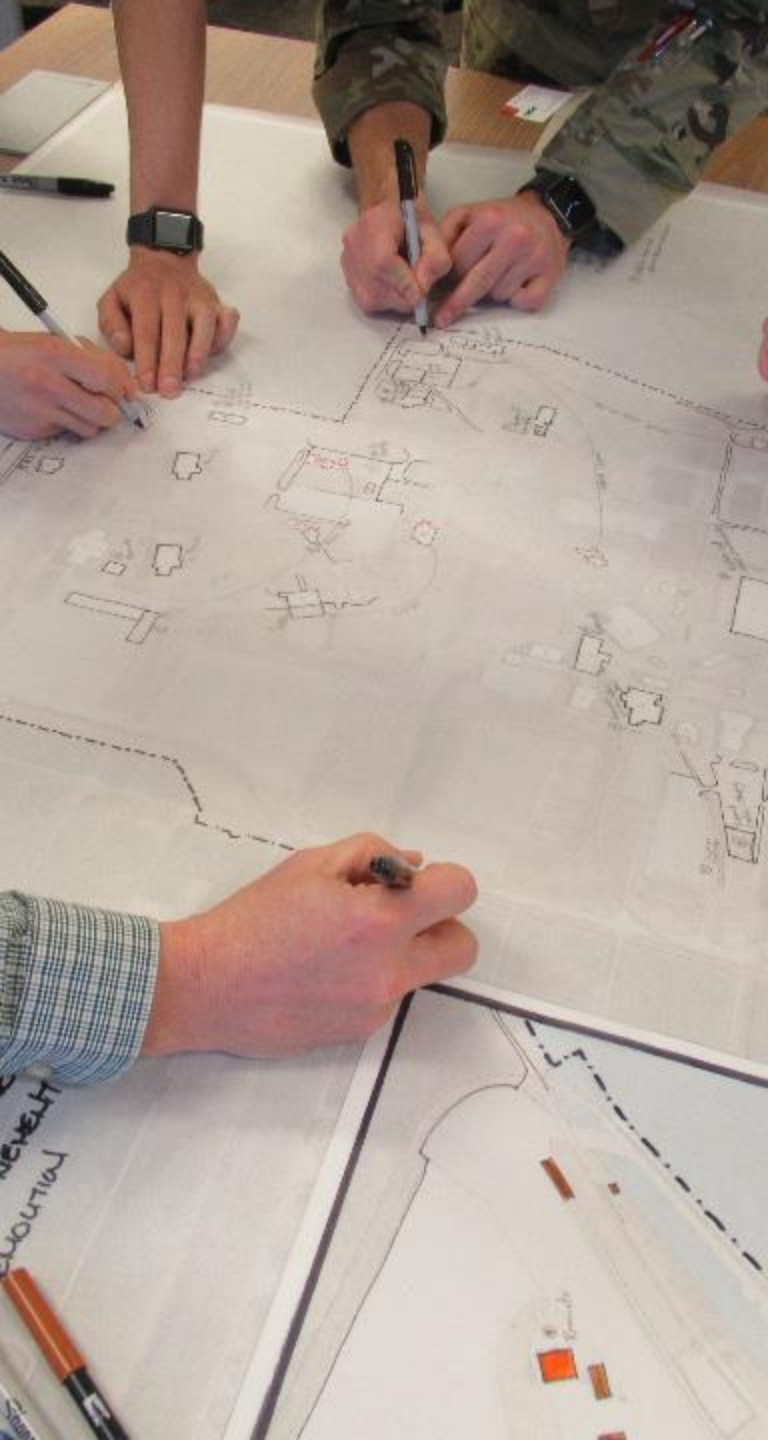
*Data Collection and Analysis*

*Flexibility*

*Strategic Layout*

*Technology Integration*

# Current State



# Current State

---

- There is a lot of great planning and design in our field, but not all are based on limiting a need for new construction
- Projects need to be completely executable and driven by need and mission
- This means providing the baseline for programming and design, with a show of good faith to the taxpayer
- Plans need to be easily updatable, as the targets change often
- Moving targets need to be addressed

# Facility Space Optimization Planning Initiative



# Overarching Guidance

---

- Air Force Instruction (AFI) 32-9005, Real Property Accountability and Reporting
- AFI 32-1015, Integrated Installation Planning
- Department of the Air Force Manual (DAFMAN) 32-1084, Standard Facility Requirements
- Objective FH2.7 of the AF Strategic Master Plan (SMP), Eliminate 20% of the single point(s) of failure for facility energy associated with Air Force owned and operated critical infrastructure by FY25



# Deliverable Types

---

- Drawing of Record
- Customer Authorization Worksheets
- Space Optimization Plan
  - Updated planning design of proposed best space use at building and room levels
  - Optimized space use with stepped Capital Investment Strategy for prioritized execution
  - Programming documentation
- Space Utilization Dataset (SUDS)



# Plan Development

---

- Phased initiative
- Auditable and tailored process
- Considerations
  - Customer List
  - Customer Representatives
  - Pre-Visit Questionnaire
  - Unit Manning Document
  - Organizational Chart
  - Host-Tenant Support Agreement
  - Materiel Requirements
  - Contracts
  - Space Accountability Report
  - Drawing of Record (DoR)
  - Functional-Specific Policy or Facility Guidance

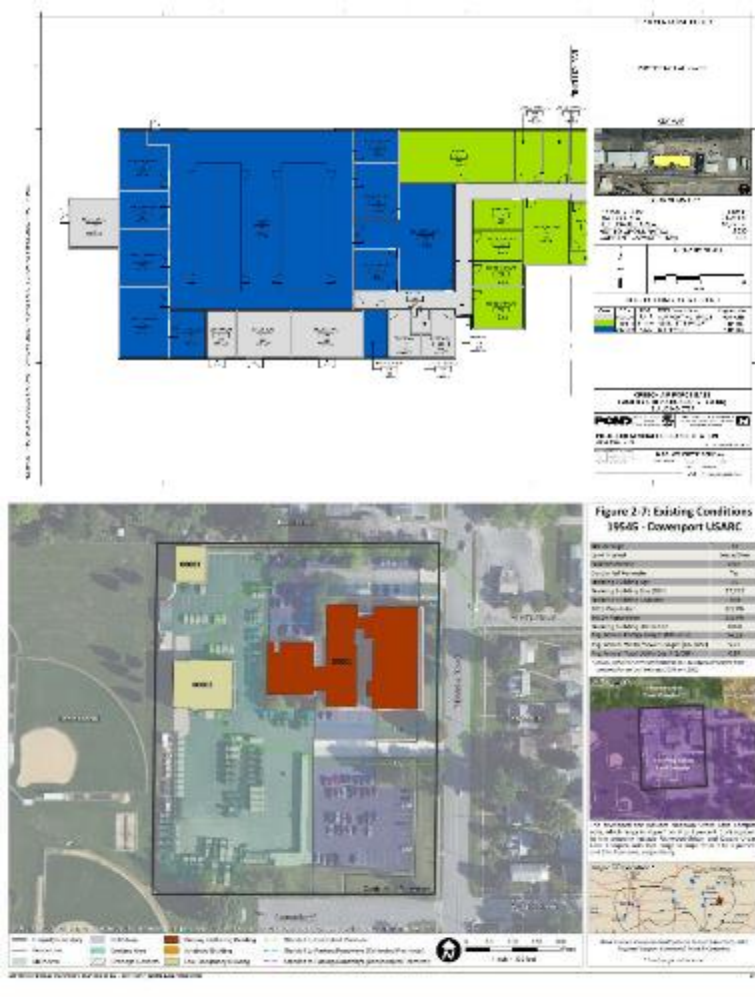
# Programming and Plan Implementation

---

- Perform annual review of allocations on the DoR
- Focused on maintaining accurate facility space allocations and customer authorizations to develop plans that increase building utilization rates
- Fundamental to the AF's ability to manage space effectively at installations
- Accurate allocations keeps track of where, what kind, and how much space units occupy
- Enables installation asset managers, planners, and commanders to make more effective decisions on the use of facilities
- Generates AF Form 123 and DD Form 1354 for recording updates to the APSR

# A Comprehensive Solution

POND



# RPMP Support

- Plans need to be requirements based to be fully auditable and executable
- Need to get away from big picture plans
- Focus on FSRM as well as major MILCON
- Develop plans that truly set the end user up for success
  - Auditable and executable plans
  - Provide more than the baseline for programming
  - Resiliency is a focus so make it a focus
  - Update capabilities

4,206

TOTAL  
FACILITIES



863

20.5%  
CRITICAL



3,343

79.5%  
NON-CRITICAL



113

TIER ONE



299

TIER TWO



451

TIER THREE



## RPMP Support

- Plans need a solid baseline to be successful
  - Most successful plans have a real property reconciliation exercise built into the tasks
- Resiliency is a primary focus now and, in the future
  - There is opportunity to implement these planning practices using many COAs and CAPs
- Plans need to be developed with a focus on update complexity
  - Application implementation is needed

# Case Study

# Goodfellow AFB FSOP



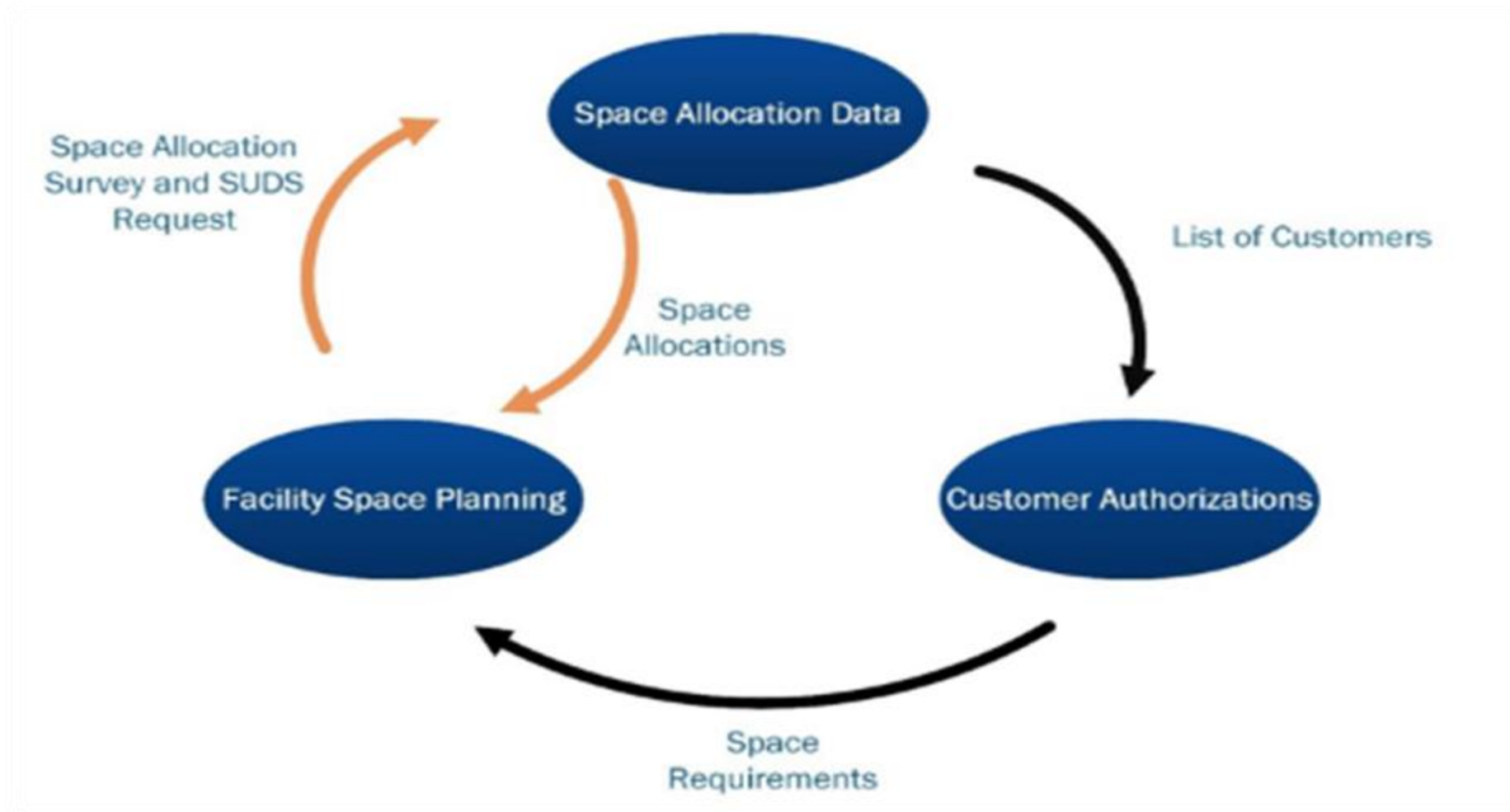
# Goodfellow AFB FSOP

---

- Included a Facility Space Allocation Study (FSAS) for buildings at Goodfellow AFB, stakeholder interviews, the preparation of Customer Authorization Worksheets (CAWs), and finally a workshop to synthesize this data into this Facility Space Optimization Plan.
- The FSAS provided a basis of existing space, while the CAWs provide unit-by-unit authorizations based on manpower and mission requirements.
- Together, these highlight excesses and deficits of space which the FSOP aims to help correct.

# FSOP Workflow

---



# FSOP Study Area

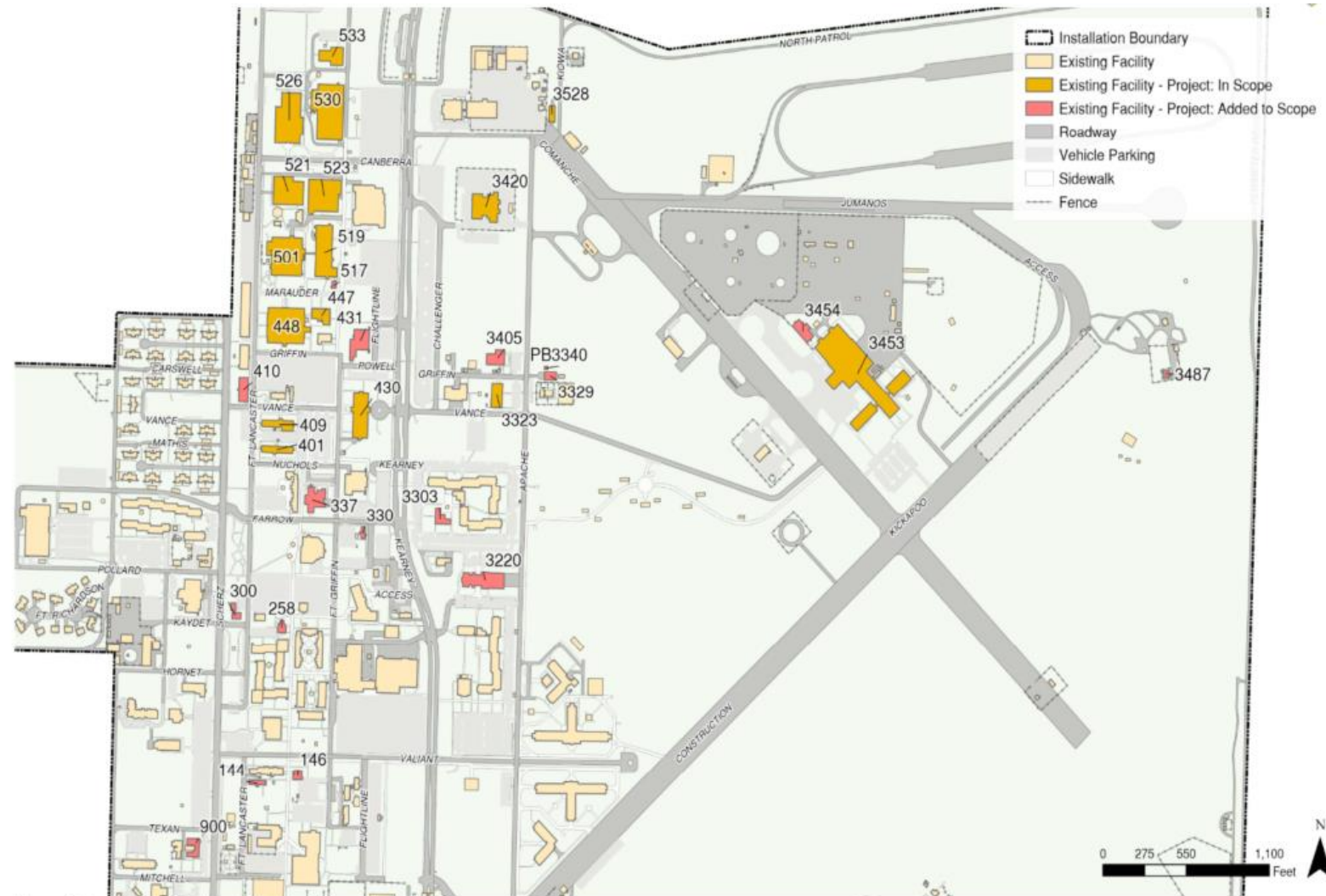


Figure 2: Installation Map

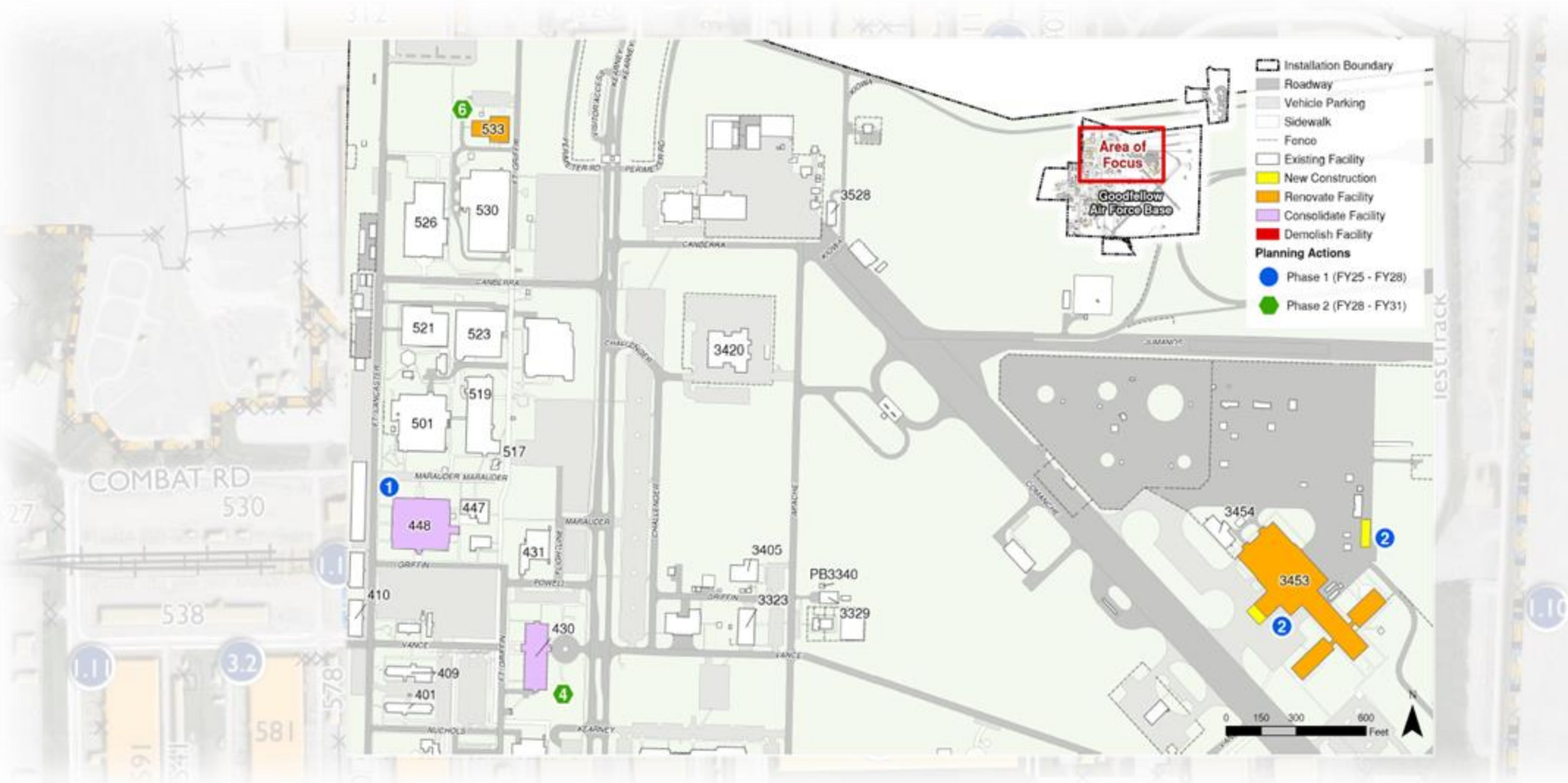
# FSOP Findings

- The preferred Couse of Action (COA): ADD ALTER (ADAL)/Renovation/Demolition

A two phased approach that included:

- Renovating the interior of 2 facilities
- Constructing 2 new facilities
- Consolidating 2 Facilities
- Creating Universal Classrooms
- Demolished a failing facility

# FSOP Findings



# FSOP PROCESS

Upon confirmation of accuracy for the space use data, the Gap Analysis is performed to determine the utilization rate of each facility.

$$\text{Facility Space Allocation} \div \text{Occupying Customer Authorization} = \text{Facility Utilization Rate}$$

## Evaluation Factors

- *Facility Utilization*
- *Facility Condition*
- *Facility Age*
- *Customer Footprints*

## Considerations

- *Off-Base Leases*
- *Future Mission Changes*
- *Slated Manpower Variation*
- *Pending Projects*

| Facility | Total (SF) | Allocated (SF) | Allocated UR | Authorized (SF) | Authorized UR | BCI |
|----------|------------|----------------|--------------|-----------------|---------------|-----|
| 3528     | 4,155      | 4,155          | 100%         | 3,112           | 75%           | 98  |
| 526      | 50,480     | 50,563         | 100%         | 39,157          | 77%           | 91  |
| 3405     | 9,408      | 9,408          | 100%         | 10,131          | 108%          | 88  |
| 3220     | 400        | 400            | 100%         | 300             | 75%           | 87  |
| 258      | 2,782      | 2,782          | 100%         | 2,559           | 92%           | 86  |
| 3329     | 4,000      | 4,000          | 100%         | 4,307           | 108%          | 84  |
| 300      | 3,018      | 3,018          | 100%         | 2,776           | 92%           | 84  |
| 146      | 3,243      | 3,243          | 100%         | 2,386           | 74%           | 83  |
| 337      | 14,874     | 11,174         | 75%          | 10,495          | 94%           | 83  |
| 530      | 127,934    | 127,934        | 100%         | 93,333          | 73%           | 83  |
| 330      | 2,060      | 2,060          | 100%         | 1,895           | 92%           | 82  |
| 430      | 51,243     | 51,244         | 100%         | 39,068          | 76%           | 82  |
| 523      | 127,184    | 76,621         | 60%          | 56,345          | 74%           | 82  |
| 3303     | 6,477      | 6,477          | 100%         | 4,007           | 62%           | 82  |
| 3454     | 9,329      | 9,329          | 100%         | 11,117          | 119%          | 82  |
| PB3340   | 1,370      | 1,370          | 100%         | 1,475           | 108%          | 82  |
| 401      | 25,804     | 25,803         | 100%         | 18,981          | 74%           | 81  |
| 431      | 18,141     | 4,057          | 22%          | 2,984           | 74%           | 81  |
| 448      | 55,820     | 56,609         | 101%         | 44,198          | 78%           | 81  |
| 519      | 108,371    | 108,371        | 100%         | 87,597          | 81%           | 81  |
| 410      | 9,345      | 9,345          | 100%         | 9,322           | 100%          | 80  |
| 900      | 6,952      | 6,952          | 100%         | 5,531           | 80%           | 80  |
| 144      | 3,079      | 3,079          | 100%         | 2,265           | 74%           | 79  |
| 517      | 1,185      | 799            | 67%          | 716             | 90%           | 79  |
| 3420     | 25,996     | 25,996         | 100%         | 26,767          | 103%          | 79  |
| 409      | 26,685     | 26,685         | 100%         | 27,119          | 102%          | 78  |
| 447      | 9,273      | 9,274          | 100%         | 7,010           | 76%           | 78  |
| 3487     | 1,620      | 969            | 60%          | 985             | 102%          | 78  |
| 533      | 14,077     | 14,077         | 100%         | 11,798          | 84%           | 76  |
| 521      | 32,161     | 32,161         | 100%         | 24,688          | 77%           | 75  |
| 3323     | 10,278     | 10,278         | 100%         | 11,068          | 108%          | 75  |
| 501      | 53,441     | 56,445         | 106%         | 43,962          | 78%           | 74  |
| 3453     | 141,752    | 141,753        | 100%         | 169,853         | 120%          | 71  |

# Future FSOP Management

- Implementing the use of ArcGIS Indoors
- Custom applications developed through a hybrid of ArcGIS Indoors and Power BI
- Allows for a more agile planning environment and post-development management





# Questions?

POND