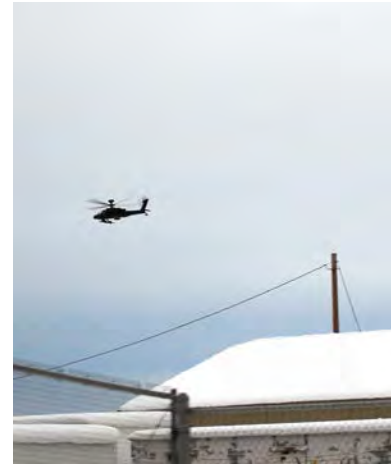


FINAL

# FORT WAINWRIGHT

## LADD ARMY AIRFIELD DISTRICT AREA DEVELOPMENT PLAN



DECEMBER 2016

U.S. ARMY

# Fort Wainwright

## Ladd Army Airfield District

## Area Development Plan

Prepared By:

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# **PART I**

## EXECUTIVE SUMMARY





# Area Development Planning

## Real Property Master Plan

The US Army is responsible for managing millions of acres of land and billions of dollars in plant replacement value of facilities and infrastructure worldwide. The effective long-term management of these resources requires thoughtful and thorough planning. This planning is accomplished primarily at the installation level through **a comprehensive and collaborative planning process** that results in a Real Property Master Plan (RPMP). This plan provides a means for sustainable installation development that supports mission and environmental requirements, and establishes and prescribes planning philosophies and strategies applicable across the Army.

## Unified Facilities Criteria

The Unified Facilities Criteria (UFC) 2-100-01 on Installation Master Planning establishes a consistent approach for master planning across the Department of Defense, while Army Regulation (AR) 420, Chapter 10, provides the specific guidance for Army installations. The RPMP will be sufficiently flexible to permit installation expansion, reduction, and changes in mission and ensure that installation assets can meet mission requirements. The RPMP is the **road map** to ensure installation real property supports **long-term mission requirements**. A well-prepared RPMP expresses a long-term commitment to provide a high-quality, sustainable, enduring installation. It covers a minimum 20-year planning horizon (3-5 years for contingencies) and provides the map to executing that commitment.

## Fort Wainwright

The RPMP Vision Framework Plan divided Fort Wainwright into identifiable and connected districts based on geographical features, land use patterns, building types, and/or transportation networks. Focusing on districts allows for the identification of needs due to mission, requirements, or command priority changes. As part of the Long-Range Component, Area Development Plans (ADPs) are prepared for each district identified in the Framework Plan. ADPs follow an iterative and collaborative planning process. This ADP includes the following components:

- Analysis of Real Property Vision, Goals and Objectives
- Analysis of Existing Conditions
- Analysis of Planning Standards
- Development and Evaluation of Alternatives
- Fully Developed Preferred Alternative
- Preparation of the Regulating Plan / Form Based Code
- Illustrative Plan
- Implementation Plan

## REAL PROPERTY MASTER PLAN PROCESS AND PRODUCTS

### 1. DEVELOP VISION PLAN

Vision, Goals, Objectives	Framework Plan	Network & Green Infrastructure Plans
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### 2. PREPARE INSTALLATION PLANNING STANDARDS

Building Standards	Street Standards	Landscape Standards
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### 3. UPDATE LONG-RANGE COMPONENT

Area Development Plans *For Each District in the Framework Plan		
Constraints and Opportunities Maps		
Illustrative Plan	Regulating Plan	Street and Transit Plan
Green Infrastructure Plan	Sidewalk and Bikeway Plan	Primary Utility Plan

### 4. DOCUMENT CAPITAL INVESTMENT STRATEGY

Project Lists	Analysis of Requirements	Future Development Plan
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### 5. CREATE PLAN SUMMARY

Vision Plan	ADP Executive Summaries	Network Plans	CIS Executive Summary
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# Fort Wainwright Real Property Vision

Following a collaborative process held in February 2013, stakeholders developed a Real Property Vision to guide real property decisions across Fort Wainwright. From the Planning Vision, four Planning Goals emerged to guide the development process. Each Goal was further defined to provide meaningful guidance in implementing the Real Property Vision. The overall Fort Wainwright Real Property Vision served as a starting point for the Ladd Army Airfield District ADP.

## Fort Wainwright's Real Property Planning Vision:

Our planning vision is to create an **energy-efficient installation** with **compact districts**, **versatile buildings**, and **interconnected transportation networks**.

1

**Energy-Efficient Installation** – In all aspects of planning for Fort Wainwright, energy-efficiency should be paramount to ensure the installation's viability in an era of fiscal uncertainty.

2

**Compact District** – Compact development creates sustainable installations through measures including consolidation, multi-use, multi-story, and walkability.

3

**Versatile Buildings** – The planning of buildings concerns more than housing a function, and buildings at Fort Wainwright should be used to enhance architectural themes, encourage compact development, preserve cultural heritage, and enhance force protection, among other things.

4

**Interconnected Transportation Networks** – Transportation at Fort Wainwright should incorporate many different characteristics and not focus only on automobiles, but include public transportation, sidewalks, and paths and include the installation Access Control Points (ACPs) in the design.





# Ladd Army Airfield District Planning Overview

The Ladd Army Airfield District ADP is a critical component of the consolidated master plan for Fort Wainwright, Alaska. The practicum was held on 25–29 January 2016, with the purpose of crafting a long-range development plan for the Ladd Army Airfield District which supports the overall Real Property Vision of Fort Wainwright.

Garrison Commander Colonel Sean C. Williams kicked off the workshop by first welcoming returning stakeholders who had participated in the South Post District ADP charrette and those who were new to the planning process. He started by providing insight on the master planning needs of Fort Wainwright and the Ladd Army Airfield District.

He noted prior to the Attack on Pearl Harbor, Fort Wainwright and Ladd Army Airfield had been an important site for cold-weather testing of aircraft and equipment. This event halted the testing as the military needed all aircraft for defense. From the late 1940s to 1950s, Ladd Army Airfield was centrally involved in the Cold War missions of the Alaskan Command and the transient missions of other military units. COL Williams noted that this history is evident in Hangar 1, Fort Wainwright's most significant building that was once shared by the United States and the Soviet Union and is still partitioned today. COL Williams stated his interest in reusing the facility but adhering to the design guidelines agreed upon by Fort Wainwright, the City of Fairbanks, and the State Historic Preservation Officers (SHPO) to preserve the historic integrity of the entire Ladd Army Airfield District.

Ms. Casey Woster, Directorate of Public Works (DPW) Environmental Architectural Historian, noted these guidelines were followed during the construction of Ladd Army Airfield's two newest hangars. She also noted altering the interior of Hangar 1 may be easier than the exterior, and it may be best to maintain an aviation type of use. Lastly, she emphasized a constraint does not necessarily mean a road block.

Lastly, Mr. Robert "Ski" Marcinkowski, Ladd Army Airfield Manager, spoke briefly on the operations of Ladd Army Airfield and the necessity to satisfy all Airfield customers such as U.S. Army Alaska (USARAK), Bureau of Land Management-Alaska Fire Service (BLM-AFS), and Gray Eagle Unmanned Aircraft Systems (UAS). He stated the Ladd Army Airfield could benefit becoming a year-around airfield by improving its winter, cold-weather facilities and services. The Airfield can then successfully be used to its full potential, and Fort Wainwright would not rely as heavily on Eielson Air Force Base. Using Eielson Air Force Base for its deployment capabilities results in increased personnel and maintenance costs due to travel time (50 miles round-trip) and loading and unloading vehicles. In addition, Eielson Air Force Base continues to increase in the number of squadrons and opportunities for combat training, which may limit their support capacity for Fort Wainwright.

The leadership introduction was followed by a facilitated exercise focused on identifying the Ladd Army Airfield District's strengths, weaknesses, opportunities, and threats. Afterwards, basic Army Master Planning theory and the tenets of sustainability were presented to the participants.

Approximately 25 people attended this first session, including COL Williams, Directorate of Public Works (DPW) Master Planning, Environmental, and Engineering, Ladd Army Airfield Management, BLM-AFS, Directorate of Plans, Training, Mobilization, and Security (DPTMS), the Logistics Readiness Center (LRC), and the Plans, Analysis, and Integration Office (PAIO). In addition, the USARAK Aviation Task Force (UATF) and USARAK G3 Aviation (AVN), the Alaska (AK) National Guard, the Network Enterprise Center (NEC-AK) 59<sup>th</sup> Signal Battalion, the 1<sup>st</sup> Brigade-25<sup>th</sup> Infantry Division Stryker Brigade Combat Team (1/25th SBCT), and many other units and organizations of the Ladd Army Airfield District and Fort Wainwright participated throughout the charrette.

The following four days consisted of information-gathering exercises and analysis syntheses. The participants worked collaboratively to analyze the existing conditions of the Ladd Army Airfield District, create concept maps documenting stakeholder preferences, craft a guiding Real Property Vision Statement and Goals, and develop long-range alternatives.

On the morning of 29 January, the participants briefed the senior leadership, including COL Williams and the USARAK UATF Brigade Commander COL S. Blake Alexander on the results of the practicum.

# Ladd Army Airfield District Vision and Goals

**Ladd Army Airfield District Real Property Vision:**  
A full-service, year-round airfield capable of supporting manned and unmanned aerial systems to **enable readiness** and **force projection** for DOD and entrusted partners.

From this Real Property Vision, three Planning Goals emerged to guide the development process:

**Goal 1: Present a Full-Service, Year-Round Airfield** by providing a cold regions capable airfield supporting manned and unmanned aerial systems by maximizing ground support, runway use, and aviation maintenance capacity.

**Goal 2: Enable Readiness** by providing infrastructure and facilities that support airfield operations and serve as a platform for training and access to the Joint Pacific Alaska Range Complex (JPARC) and the surrounding environment.

**Goal 3: Support Force Projection** by serving as an airfield capable of aerial deployments with infrastructure and resources for worldwide embarkation and debarkation.



## LADD ARMY AIRFIELD DISTRICT KEY ASSUMPTIONS

1. The study area for this analysis is limited to Fort Wainwright's Ladd Army Airfield District boundary.
2. New development will be consolidated in compatible districts to maximize flexibility.
3. Demolition of existing facilities to be based on each facility's condition and compatibility with the District's Vision and Regulating Plan.
4. Existing Anti-Terrorism/Force Protection policies will be followed.
5. New development will occur within the District boundary while incorporating considerations of critical natural, cultural, or mission constraints.
6. New projects will be developed in alignment with the Regulating Plan and Building Envelope Standards.





# Planning Objectives

The Planning Objectives define how the Goals in the Vision can be achieved. Each Objective is **specific and measurable**. The rationale for the selection of the Objectives was based on the consideration of the Fort Wainwright Mission, analysis of the existing conditions in the Ladd Army Airfield District, desired end state, and the overall Fort Wainwright Real Property Vision. The District Vision, Goals, and Objectives work in concert to achieve the desired development pattern within the Ladd Army Airfield District.

In *A Pattern Language*, Christopher Alexander argues that we need a common language for planning if we are to avoid the sterile and disjointed environments that are so prevalent today. The Planning Objectives were developed to provide clear, actionable guidance to Fort Wainwright in implementing the Vision and Goals.



## Goal 1: Present a Full-Service, Year-Round Airfield

- Maximize Ground Support Capability
- Maximize Aviation Maintenance Capacity
- Provide Cold-Region Services and Capabilities
- Provide Sustainable, Supporting Utility Infrastructure Networks
- Establish a Safe and Secure Airfield

## Goal 2: Enable Readiness

- Improve Runway and Taxiway Pavement
- Provide Functional, Flexible, Energy-Efficient Facilities
- Renovate and Repurpose Existing Hangars and Facilities
- Ensure New Construction and Renovations Reflect Historical Architecture
- Serve as a Platform for Cold-Region Training
- Enhance Pedestrian Connections Between Living and Working Areas

## Goal 3: Support Force Projection

- Create a Premier Power Projection Platform
- Expand Fuel Capacity
- Capitalize on Future Growth Areas



# Preferred Alternative

Practicum participants worked in groups to develop alternatives for future development of the Ladd Army Airfield District. The resulting alternatives were generated using guidance from the planning team members, informed by the District Vision, Goals, and Objectives. Three different courses of action were established in order to encourage diversity and creativity between alternatives. The stakeholders evaluated the alternatives based on how well the proposed alternative achieved the Vision and Goals set forth for the Ladd Army Airfield District. The common themes and best ideas from each of the alternatives were combined and refined into a Preferred Alternative for the Ladd Army Airfield District.

The Preferred Alternative, shown in the Illustrative Plan, incorporates all of the known requirements at this time for future program requirements in phased plans. This Illustrative Plan represents only one construction variation, a snapshot in time, that meets the Planning Vision.

The Illustrative Plan developed for the Ladd Army Airfield District supports the successful achievement of the Goals set out in the Vision by capitalizing on the strengths and opportunities identified for the area. During the charrette, participants stressed the need to improve the Airfield's services and capabilities in order to better serve its clients all year. Specifically, the Airfield's capabilities are limited during the cold, winter months. The Illustrative Plan aims to provide amenities such as a snow barn and plowing capability and additional facilities and warm storage for aviation equipment and vehicles.

The Ladd Army Airfield serves the National Guard, BLM-AFS, the Shadow Tactical Unmanned Aircraft System (TUAS), and the soon-to-be complete Gray Eagle UAS facility. Planning for the current tenants and needed space requires additional hangars and renovation of existing hangars, proper runways, taxiways, and launch pads, and fueling capacity. The Illustrative Plan depicts an extension of the southern runway to properly serve the UAS. In addition, the Plan outlines a launch pad for TUAS, and increased fueling capacity for BLM-AFS and the Airfield. Renovation of Hangars 1, 7, and 8 provide additional capacity for the National Guard and other tenants, and the construction of additional facilities fulfill the necessary requirements for Shadow, Heavy Expanded Mobility Tactical Trucks (HEMTT), aviation simulators, and base operations.

As a continuation from the South Post District ADP, many of the Soldiers living in the South Post District work on the Ladd Army Airfield. Although the walk is short, it is often dangerous due to a lack of proper crosswalks and lighting along Montgomery Road. The Ladd Army Airfield District Illustrative Plan incorporates the realignment of Montgomery Road and traffic circles proposed for the South Post District and plans for enhanced crosswalks consisting of raised pavement, lighting, and reflective signage at highly active pedestrian points along Montgomery Road.

As the U.S. Army's needs grow and adapt to the changing political and fiscal climate, a flexible plan that allows Fort Wainwright to achieve its vision is required. The Capacity Plan shows how much

development capacity the Ladd Army Airfield District can sustain in the event expansion is required at Fort Wainwright.

The Capacity Plan for the Ladd Army Airfield District was created within the context of planning for future growth, utilizing the Airfield to its full potential, and increasing its service capabilities. Cold, winter weather services are further enhanced with the construction of an aircraft deicing facility. Development capacity is available north of the northern runway to construct two additional tenant hangars and a hangar for Battalion growth south of the southern runway. The old railyard is also available for future development.

Similar to the Illustrative Plan's extension of the southern runway to support UAS, the Capacity Plan recommends extending the northern runway and constructing a C-17 ramp to accommodate future tenants. To achieve the District's Goal to become a resource for worldwide embarkation and debarkation, the Capacity Plan aims to create a Deployment Passenger Assembly Point by renovating Buildings 2107 and 2110. Future growth of the Ladd Army Airfield District requires proper infrastructure and clear service roads. By converting Gaffney Road to an internal service road, the Airfield will become accessible internally and more secure within Fort Wainwright. With these developments, the Ladd Army Airfield District can create a Premier Power Project Platform to rapidly and effectively deploy and sustain forces to respond to crises, to contribute to defense, and to enhance regional stability.



# Preferred Alternative – Illustrative Plan



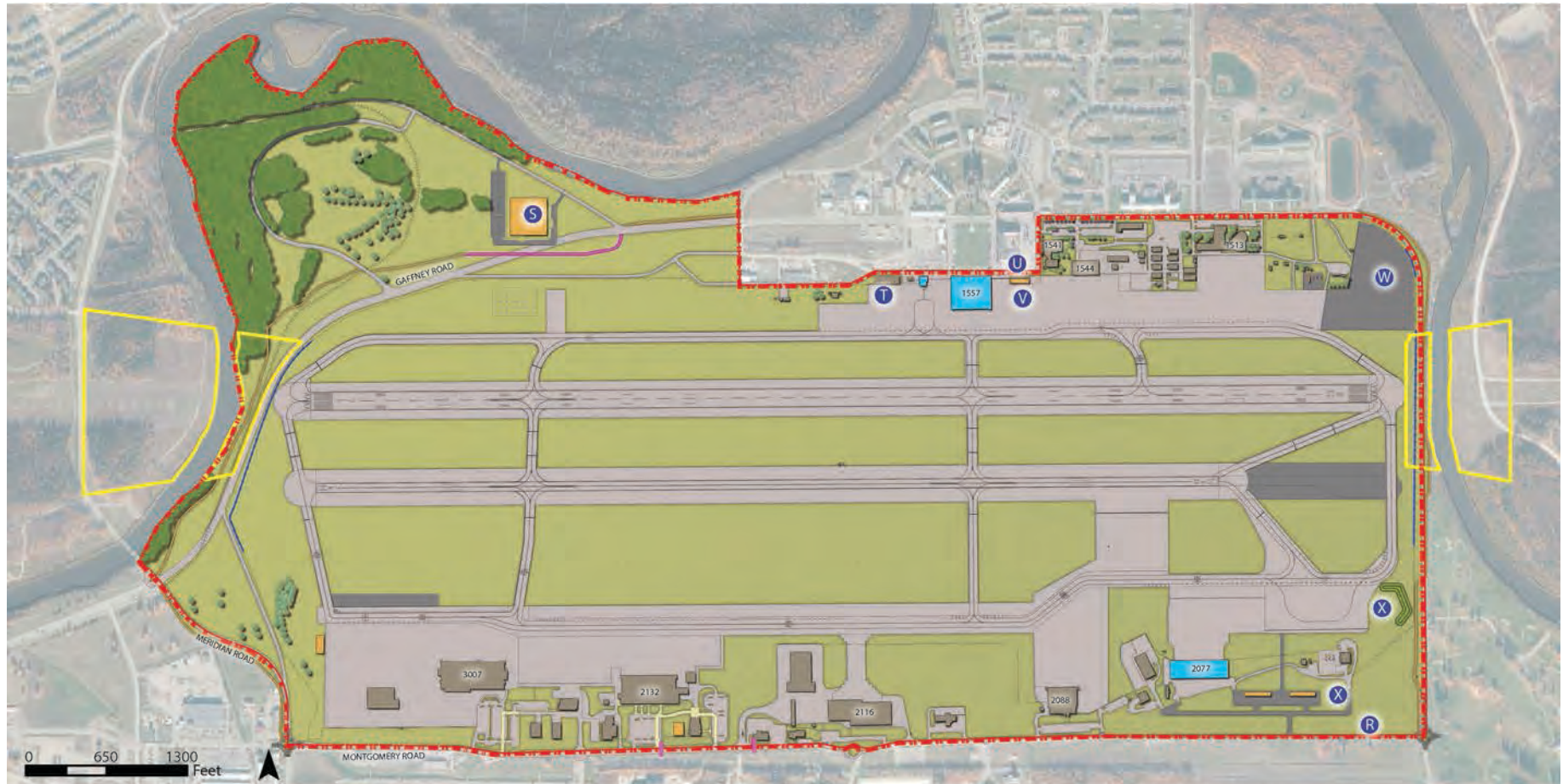
## Ladd Army Airfield District Preferred Alternative - Illustrative Plan

- |  |   |  |                                |                                   |
|--|---|--|--------------------------------|-----------------------------------|
| <b>A</b> Use Old Railyard for Driver Training                          | <b>F</b> Demolish Buildings 3031 and 3033                                     | <b>L</b> Construct Shadow Facility               | District Boundary              | Existing Trail                    |
| <b>B</b> Construct BLM-AFS POL Facility                                | <b>G</b> Improve Intersection of Montgomery and Meridian Road with Roundabout | <b>M</b> Construct TUAS Launch Pad               | Existing Buildings             | Proposed Sidewalk/Trail Expansion |
| <b>C</b> Manage Trees for Airfield Clearance Requirements              | <b>H</b> Install Pedestrian Safety Improvements Across Montgomery Road        | <b>N</b> Construct Aviation BOF                  | Proposed Buildings             | Proposed Fence                    |
| <b>D</b> Construct Frangible Fence                                     | <b>I</b> Expand Fuel Capacity from 2 to 3 Tanks                               | <b>O</b> Repurpose Hangar 7/8 for National Guard | Renovated/Repurposed Buildings | Tree Management                   |
| <b>E</b> Remove Unneeded Pavement between Building 2088 and Hangar 7/8 | <b>J</b> Renovate Hangar 1 and Building 1558                                  | <b>P</b> Construct HEMTT Facility                | Existing Pavement              |                                   |
|  | <b>K</b> Extend Southern Runway for UAS                                       | <b>Q</b> Expand Fuel Capacity from 3 to 6 Tanks  | Proposed Pavement              |                                   |

The Illustrative Plan above demonstrates one possible alternative that incorporates the common themes, Planning Goals, and Objectives that were derived from the practicum.



# Preferred Alternative – Illustrative Plan

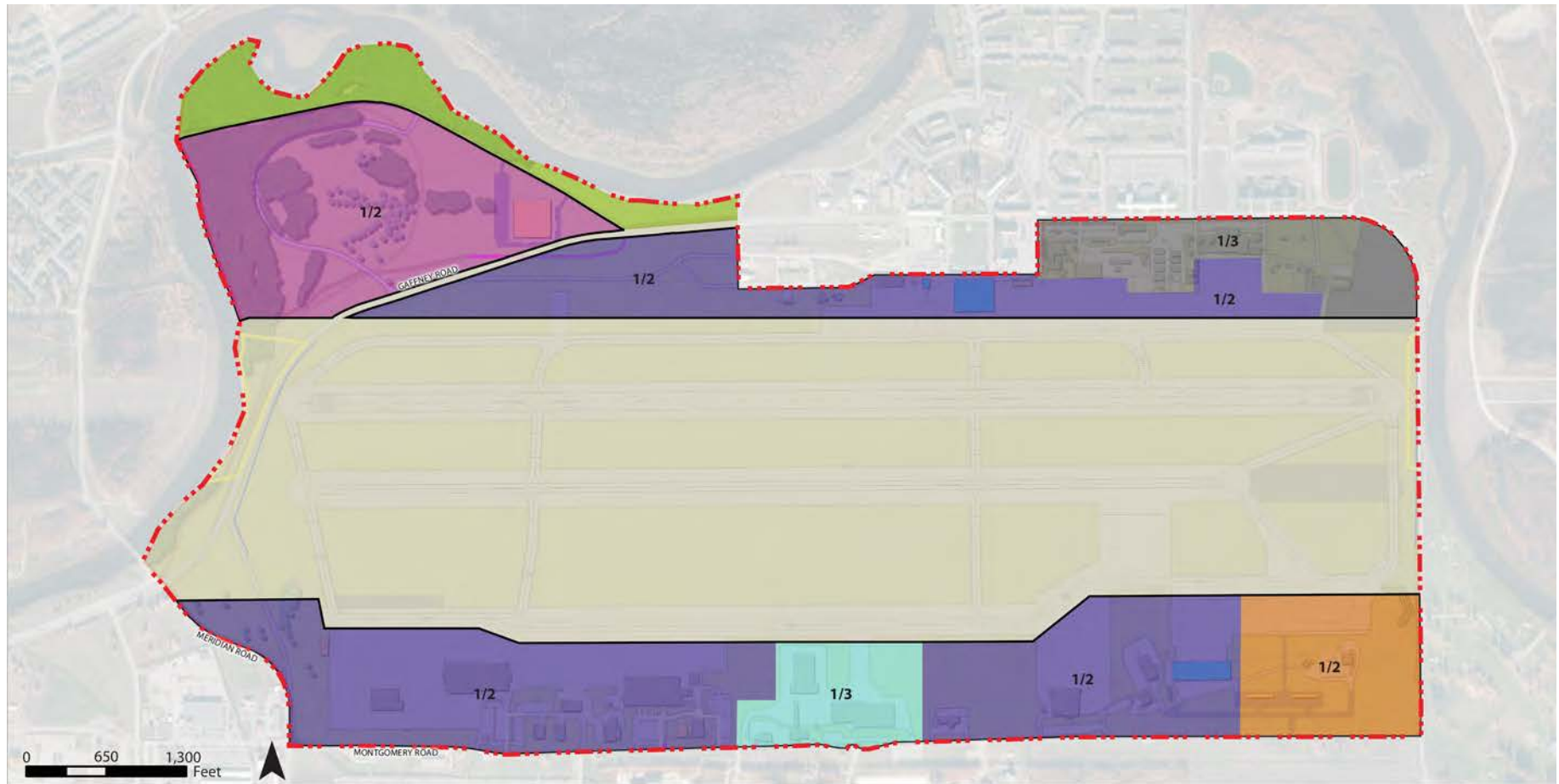


**Ladd Army Airfield District Preferred Alternative - Illustrative Plan**

- |   |   |                                |                                   |
|---|---|--------------------------------|-----------------------------------|
| <b>R</b> Realign Montgomery Road and Construct Roundabout | <b>X</b> Construct Aviation Support Complex - Snow Barn and Berming | District Boundary              | Existing Trail                    |
| <b>S</b> Construct Aviation Simulator Complex             |   | Existing Buildings             | Proposed Sidewalk/Trail Expansion |
| <b>T</b> Demolish Buildings 1563 and 1565                 |   | Proposed Buildings             | Proposed Fence                    |
| <b>U</b> Assess/Reuse/Repurpose Building 1556             |   | Renovated/Repurposed Buildings | Tree Management                   |
| <b>V</b> Construct Base OPS Facility                      |   | Existing Pavement              |                                   |
| <b>W</b> Construct BLM-AFS Ramp                           |   | Proposed Pavement              |                                   |

The Illustrative Plan above demonstrates one possible alternative that incorporates the common themes, Planning Goals, and Objectives that were derived from the practicum.

# Preferred Alternative – Regulating Plan



## Ladd Army Airfield District Regulating Plan

The Regulating Plan is the controlling document and principal tool for implementing the form-based code for the Ladd Army Airfield District. The Regulating Plan provides clear parameters for allowable uses, height, siting, and basic building elements.

All construction in proximity to the airfield must conform with imaginary surface requirements or be a permitted exception.

- |                              |  |
|------------------------------|--|
| District Boundary            | BLM Standard                                 |
| Buildable Line               | Deployment Passenger Assembly Point Standard |
| Non-Buildable Area           | Flex-Use Standard                            |
| Airfield Support Standard    | Open Space                                   |
| Aviation Operations Standard | 1/3 Min/Max Building Heights                 |

