ROSECRANS MEMORIAL AIRPORT

in cooperation with the

ST. JOSEPH CHAMBER OF COMMERCE

Airport Business Plan & Air National Guard 139th Air Lift Wing Community Reinvestment Program

MAY 2020

JVIATION

in association with

DSG Advisors
Chabin Concepts
Urban Scenarios
Research Consultants International

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Tables and Figures

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Executive Summary

The Rosecrans Memorial Airport (STJ) in St. Joseph, Missouri is home to the 139th Airlift Wing of the Missouri Air National Guard (ANG). The ANG is in the process of relocating from the south end of the airport to the north end as part of a plan to upgrade and modernize operations. As relocation takes place, existing ANG buildings and selected properties will become available for development thereby augmenting the airport's current inventory of available developable assets.

In the Fall of 2019 STJ airport administration sought assistance in developing a Rosecrans (STJ) Air Guard Facilities Re-Use and St. Joseph Area Economic Development Strategy (here-to-fore Business Plan) that will help guide economic development at the airport over the next three to five years. The project was funded by Missouri Department of Economic Development (DED) and Missouri Department of Transportation (MODOT) grants. Project objectives include:

- Utilize ANG assets for the betterment of the airport and region
- Support the ANG in their transition to new facilities
- Enhance Rosecrans Airport development assets
- Grow airport activity
- Support economic diversification in the St. Joseph region

Jviation and DSG Advisors along with team partners Chabin Concepts, Urban Scenarios, and Research Consultants International were selected to develop the plan. The consultant team approached this assignment with a long-established understanding that the key to economic development success is understanding the business drivers of emerging, growing, and legacy industries and translating these drivers into community and real estate readiness. Communities that respond to industry needs are more likely to capture opportunities originating locally and from the outside.

The *community/real estate readiness concept* was applied by the consultant team to a study of STJ and the St. Joseph region. Preliminary data gathering took place in December 2019 and January 2020. Don Schjeldahl (DSG Advisors) and Thatch Moyle (Urban Scenarios) then conducted field research at the airport and in the greater St. Joseph region February 10 to 13, 2020. Field investigation included:

- Tour of STJ airport facilities, ANG southern operations and selected buildings on the base, and northern ANG base development in progress
- Interviews with over 30 local business leaders, ANG commanders, airport administrators, city elected officials, utility representatives, port authority managers, and representatives from education and workforce development
- Tour of Hillyard Technical School
- Visits to eight area manufacturing and distribution facilities
- Community tours including neighborhoods, commercial districts, and areas of office and industrial development

The consultant team studied Rosecrans Memorial Airport within the context of the greater St. Joseph region, the objective being to identify investment opportunities that align with the airport and also compliment the regional economy. The Economic Development Plan project involved five steps:

1. Asset Inventory – Document ANG facilities, airport assets, and the economic development assets of the St. Joseph region.

2. Gap Analysis – Identify gaps that may stifle development of the ANG southern base, the airport in general, and the St. Joseph region, and identify remediation strategies
3. Value Proposition – Select investment targets (e.g. industries, government agencies, NGOs) that align with STJ and St. Joseph assets and prepare a value proposition for each target
4. Messaging – Develop marketing materials that follow the value proposition of each investment target
5. Market Outreach – Use investment targets and value propositions to develop a database of prospective companies, agencies, and organizations aligned with locating at the airport, and initiate outreach to create relationships with ten potential companies

Findings

The primary goal of this investigation was to identify companies that can take advantage of STJ and regional assets to make job-creating investments in available ANG buildings, other STJ developable real estate, or locate elsewhere within the greater St. Joseph area.

The process of arriving at logical industry targets includes documenting ANG/STJ and St. Joseph economic development assets. Assets are then aligned with the needs of specific industries. The DSG Team identified four industry sectors that best align with ANG/STJ and regional assets:

Aviation – STJ has assets that will support successful MRO[1] on aircraft of many types— from small personal aircraft and corporate fleets to 737s and C-130 sized equipment. Potential MRO uses that can be supported at STJ include major and minor aircraft maintenance such as engine overhaul, "hotwork" such as welding, torching, cutting, aircraft storage, refits, major repair, and overhauls. The St. Joseph region augments the MRO value proposition with a strong transportation infrastructure, a local MRO supply chain, and a large pool of skilled labor, and industry-specific training programs.

Tactical Training – The Advanced Airlift Tactics Training Center (AATTC) coursework offered at STJ, combined with a robust array of airfield assets and training facilities, is perfectly positioned to meet the needs of crews working in an ever more volatile world. Training focuses on defensive maneuvering, countermeasures, and tactics for mobility forces. STJ has the physical setting, airport operations, on-site assets, and skilled trainers to offer customized tactical training that meets the challenges facing crews of aircraft of all types.

Back Office – There is growing awareness within organizations worldwide that large centralized back office operations are vulnerable to disruption by man-made and natural disasters and other business disruption factors. That is why smaller decentralized facilities are increasingly attractive and a part of a sustainable business strategies. The St. Joseph area provides modern transportation infrastructure, good travel connections to other parts of the country, a low cost of doing business, and an available hard-working labor force. DSG believes St. Joseph can offer back office operations an efficient and sustainable operating environment that fosters business success.

Manufacturing - Today's highly competitive manufacturing environment intensifies the importance of location factors like market-ready sites and buildings, market access, efficient transportation systems, skilled workers, and reasonable operating costs. DSG believes the St. Joseph area provides manufacturers an efficient and sustainable operating environment that fosters business success. St. Joseph assets include a workforce with a long history in manufacturing and a strong Midwest work

[1] MRO: Maintenance, Repair, and Operations or Overhaul

ethic, existing ready-to-build sites and market-ready buildings, and modern transportation and utility infrastructure.

The DSG Team's overall assessment finds that STJ and the St. Joseph region are well positioned to meet the needs of new and expanding industry. One truth about site selection – no one location is perfect; every location has readiness gaps. However, if STJ and St. Joseph gaps are addressed the likelihood that job-creating investments will come is improved. The DSG Team identifies the readiness gaps in this report and addresses each with suggested mitigation strategies.

Report Contents

The report is presented in seven sections:

1. Asset Inventory – a summary of economic development assets available at the ANG Base, STJ Airport, and the St. Joseph Region
2. Gap Analysis - a listing of gaps in the portfolio of economic development assets along with a remediation strategy
3. Value Proposition – the strategic alignments of area assets with target industries are presented as a STJ/St. Joseph business investment value proposition
4. Story Map – value proposition is turned into story telling for each of the industry targets
5. Emerging Aviation Markets – an identification of emerging aviation markets and airport airspace considerations
6. Market Outreach – value proposition messaging was used to identify specific companies within each industry target with a potential interest in locating in the St. Joseph region
7. Next Steps

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1.0 Asset Inventory

This chapter provides a summary of development assets available at the ANG, STJ Ariport, and St. Joseph region.

1.1 STJ Airport

Rosecrans Memorial Airport (STJ) is located at the Missouri/Kansas border in the City of Saint Joseph. The Airport sits on the west side of the Missouri River immediately west of the city center. The airport is accessed via Highway 36. The airport accommodates the Air National Guard (ANG) and civilian operations. This means that the airport is used for both military and civil uses. Home to the 139th Airlift Wing, STJ plays a significant economic and aeronautical role within the region and provides services to support aeronautical users.

Table 1-1: Primary Airport Data

Airport Name	Rosecrans Memorial Airport
FAA Designation	STJ
Airport Sponsor	City of Saint Joseph
Associated Town	City of Saint Joseph
Airport Management	Airport management provided by City of Saint Joseph
ARFF Index	A, Provided by Air National Guard, C available upon request
Airport Services	Avgas (100LL), Jet-A, major airframe and power plant service, bulk oxygen, hangar rental and tiedowns, charters, flight instruction, avionics, sales, survey
Fixed Base Operator	Express flight, Inc.
Airport Elevation	826.5' mean sea level (MSL)
Air Traffic Control	Operational from 0700 to 1900
Acreage	1,707
Sectional Chart	Kansas City
Based Aircraft (2018)	59 (10 Military Aircraft)
Operations	18,000

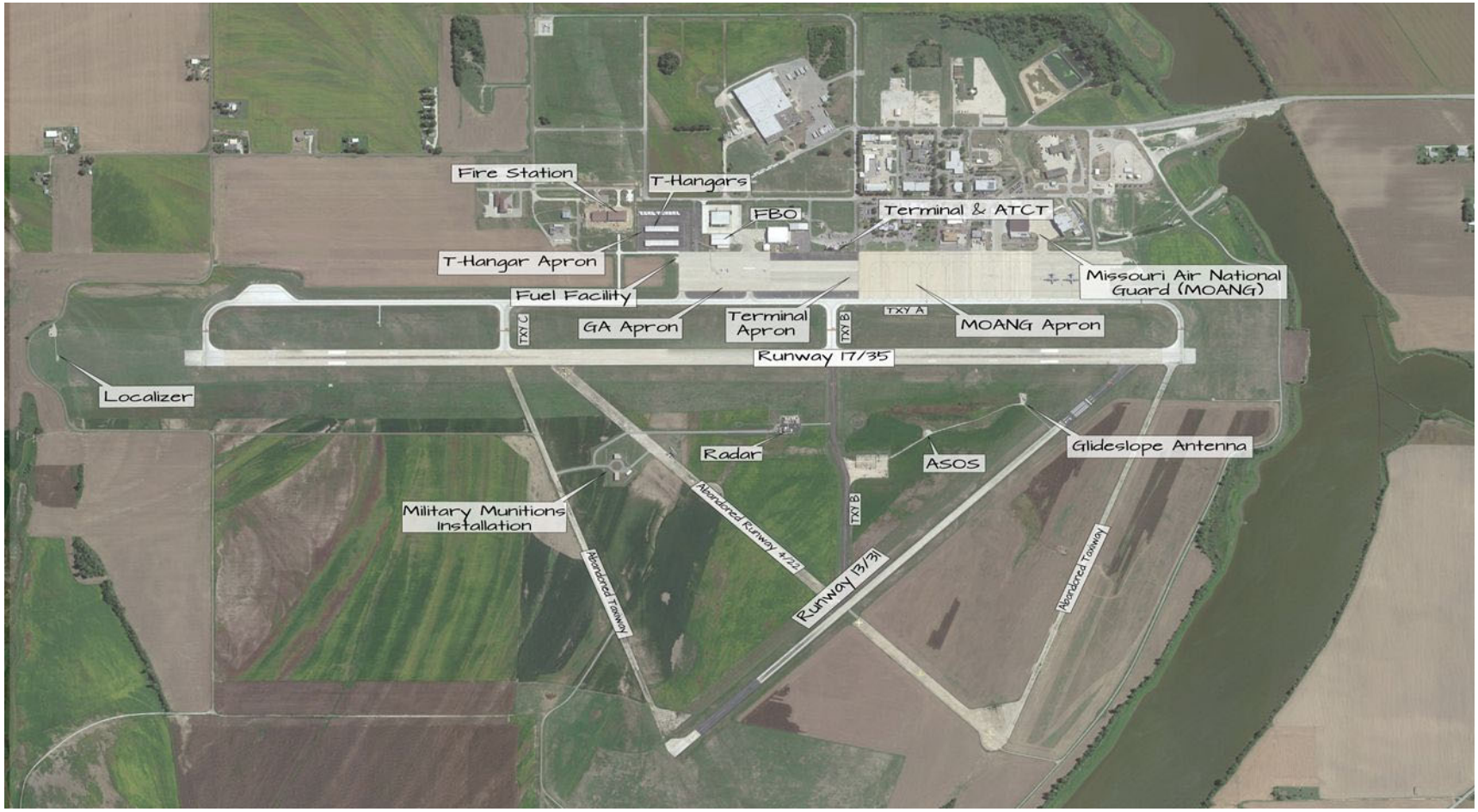
Source: Airnav.com, Airport IQ 5010

1.1.1 Airfield Facilities

Airside facilities consist of aircraft movement areas and associated airfield facilities such as runways, taxiways, apron, airfield lighting, and visual and electronic navigational aids (NAVAIDs) associated with the runways.

Figure 1-1 and **Table 1-2** presents an overview of STJ's airside facilities.

Figure 1-1: STJ Airside Facilities



Source: Jviation

Table 1-2: Existing Airside facilities

Data Element	Runway 17/35	Runway 13/31
Dimensions (Length x Width)	8,061' x 150'	4,797' x 75'
Runway surface type	Concrete	Concrete
Runway condition	Good	Good
Pavement strength (1,000 lbs.)	Single Wheel (SWG): 75,000 lbs. Dual Wheel (DWG): 130,000 lbs. Duel Wheel Tandem (2D): 220,000 lbs. Double Dual Tandem (2D2) 220,000 lbs.	Single Wheel (SWG): 75,000 lbs. Dual Wheel (DWG): 110,000 lbs. Duel Wheel Tandem (2D): 180,000 lbs. Double Dual Tandem (2D2) 180,000 lbs.
Pavement Classification Number (PCN)	50/R/C/W/T	40/F/D/W/T
Runway end elevation	R17: 826.5' R35: 812.1'	R13: 811.3' R31: 811.5'
Displaced threshold	N/A	N/A
Effective gradient	.07%	.0%
Traffic pattern	R17: Left R35: Left	R17: Left R35: Right
Markings	Precision Instrument (PI)	Non-Precision (NPI)
Edge lighting	High Intensity Runway Lighting (HIRL)	Medium Intensity Runway Lighting (MIRL)
VGSI	R17: VASI-4 R35: VASI-4	R13: PAPI-4 R31: PAPI-4
Instrument Approach	R17: N/A R35: ILS	R13: N/A R31: N/A
Other runway lighting	R17: Runway End Identifier Lights (REIL) R35: Runway End Identifier Lights (REIL	N/A
RDC	C-IV-4000	B-II

Taxiway Data

Taxiway	Type	Width	Condition
A	Parallel	50'	Good
B	Connector	50' west of 17/35 75' east of 17/35	Fair Good
C	Connector	50'	Good

Source: FAA 5010 Form

The airport is located near Interstate 29 and 229 and is less congested for aircraft and vehicles compared to Kansas City International Airport. The airport is located in Buchanan County which is in compliance with the

National Air Quality Standards set by the Environmental Protection Agency. The airport is also located away from residential areas and is not in a noise sensitive area.

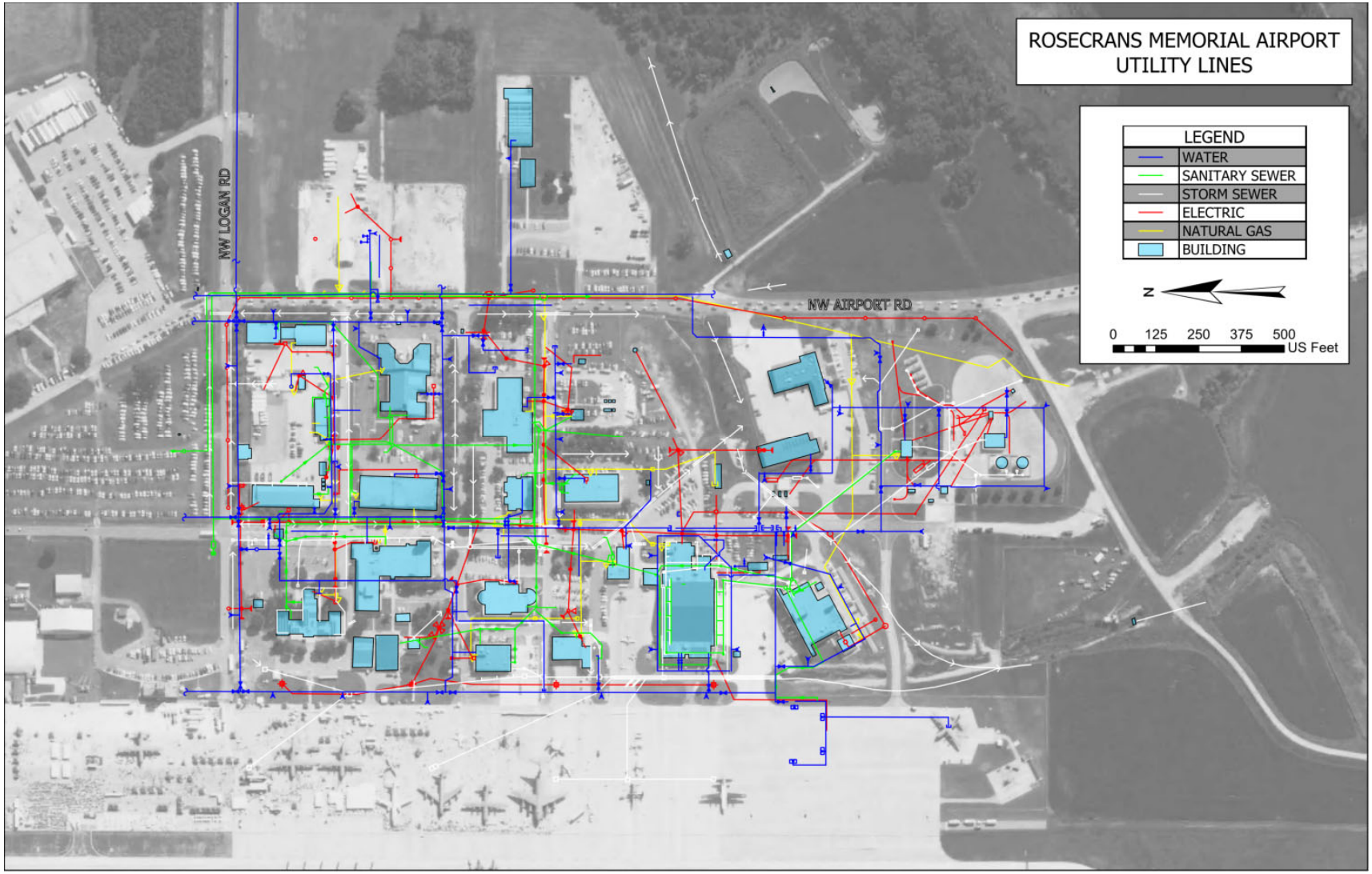
1.1.2 Airport Utilities

Rosecrans Memorial Airport currently has the following utilities:

- Water
- Sanitary Sewer
- Storm Sewer
- Electric
- Natural Gas
- Telephone and Internet

Several local companies and the City of St. Joseph provide utility services to STJ and its tenants including the ANG. **Figure 1-2** depicts the location of the major utility lines serving the current ANG facilities.

Figure 1-2: ANG Utility Map



Source: Jviation, City of Saint Joseph Planning and Development

1.1.3 Available Development Areas

Available development land at STJ includes four areas identified as Area A, B, C, and D and shown on **Figure 1-3.**

- Area A: Approximately 561,600 square feet. This area is the largest of the development areas and similar to B is currently used for agriculture. It has access to the same utilities as Area B.
- Area B: Approximately 353,800 square feet. This area is currently utilized for agriculture. Due to its close proximity to utilities and access roads, could be easily repurposed and developed.
- Area C: Approximately 85,000 square feet. This area is located along Avenue A and has access to the apron.
- Area D: Approximately 60,000 square feet. This area is immediately adjacent to the terminal building which houses the airport administration offices and the control tower.

Existing facilities that will be available includes the four areas identified as Area E, F, G, and H. These facilities will become available as the ANG relocates their operations further to the north.

- Area E: 9,600 square foot equipment storage and maintenance building.
- Area F: 15,000 square foot equipment storage, maintenance, and warehouse building.
- Area G: Includes building's 1 and 22. Building 1 is the primary hangar facility. Building 22 is a smaller supporting facility.
    - Building 1 totals 50,720 square feet.
    - Building 22 totals 2,000 square feet.
- Area H: Includes buildings 18, 70 and 2. Building 18 is the primary hangar in this area. Buildings 2 and 70 are supporting facilities.
    - Building 18 totals 20,206 square feet.
    - Building 2 totals 1,274 square feet.
    - Building 70 totals 1,600 square feet.

These areas are depicted in **Figure 1-3.** The buildings are further discussed in the building inventory section.

Figure 1-3: Available Development Land and Select ANG Facilities

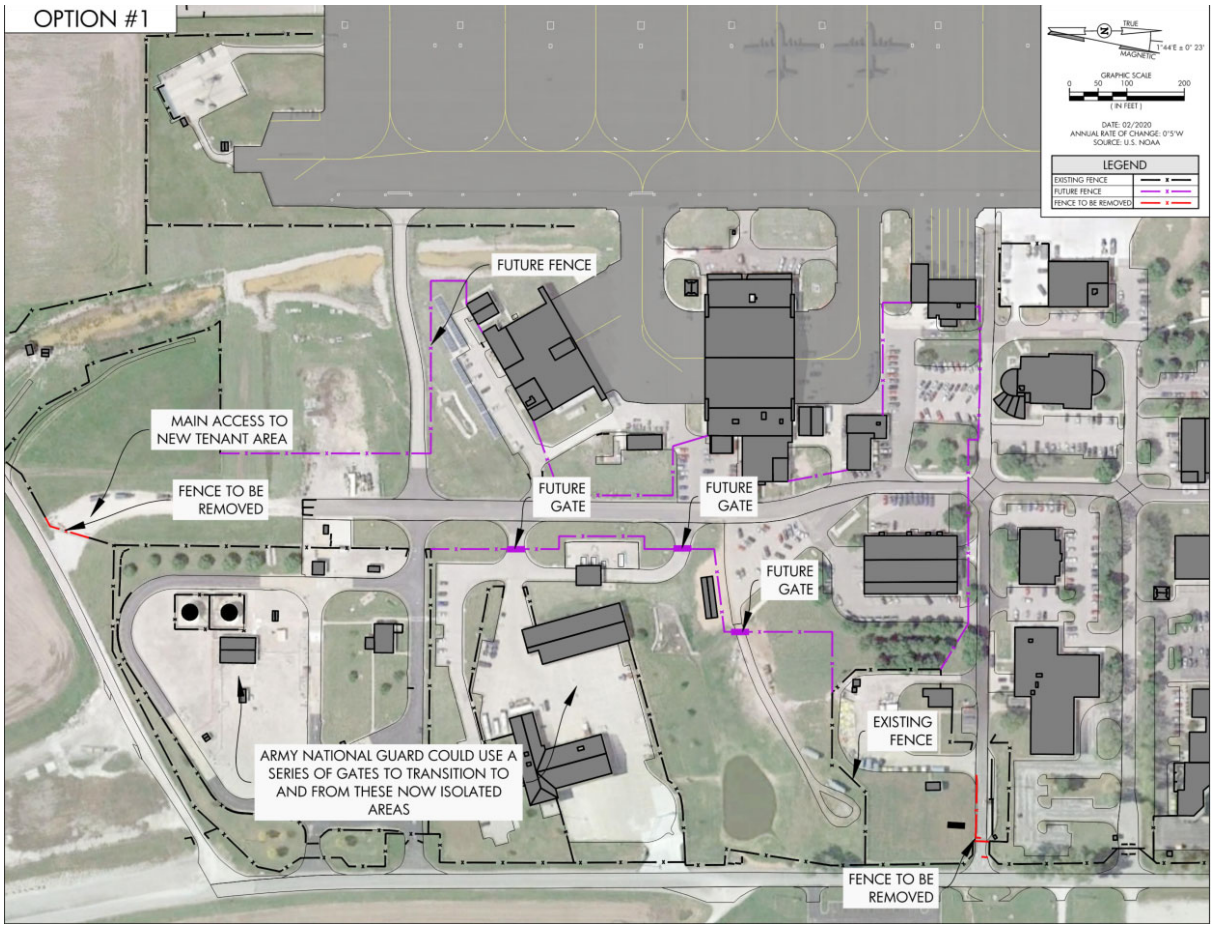
Source: Jviation

1.1.4 Proposed Fencing and Security Options

Security is an essential aspect of both the airport and ANG facilities located at STJ. The airfield itself is secured with fencing and gates to protect the aircraft and operators from outside interference. The ANG facilities are further secured by additional fencing, gates, and armed guards at the base entrance checkpoints. As a United States Military establishment, this base has highly complex and proprietary technology in addition to munitions and weapons that must be protected.

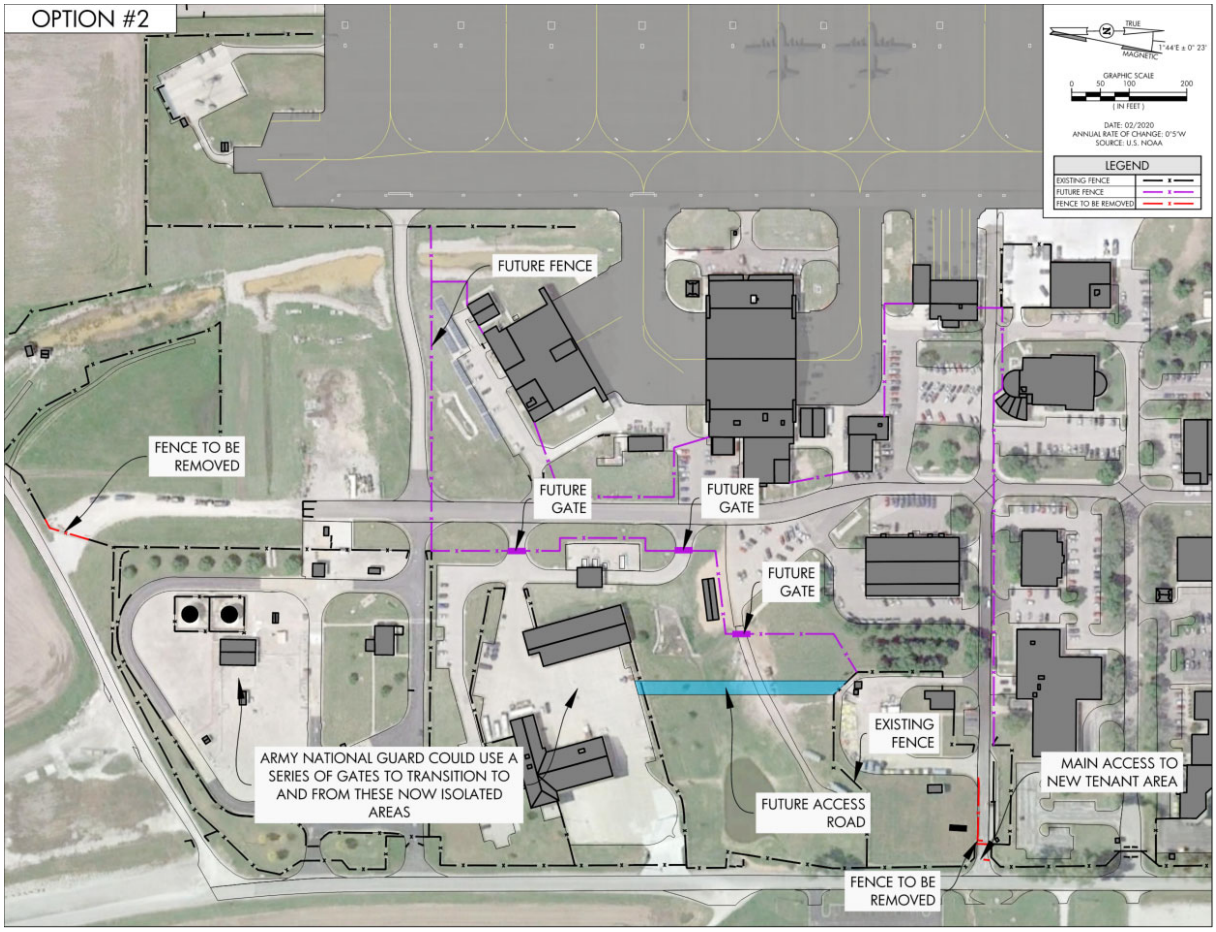
As the ANG begins to relocate to newly built facilities further to the north, the facilities they vacate will need to be made publicly accessible. The following options shown in **Figure 1-4** and **Figure 1-5** have been created to show how this can be accomplished and still maintain security of the airport and of the remaining ANG areas. These options include the installation of new fencing, removal of some old fencing and new vehicle gates. The primary focus of Option 1 is to provide public access to the available facilities from the south using a current airport perimeter road. Option 2 would provide access to these facilities directly off of Airport Road on the east side of the base.

Figure 1-4: Fencing and Security Option 1



Source: Jviation

Figure 1-5: Fencing and Security Option 2



Source: Jviation

1.2 ANG Building Inventory

STJ is home to the 139th Airlift Unit of the Air National Guard (ANG) and the Advanced Airlift Tactics Training Center (AATTC) which offers hostile environment training to C-130 crews and trains aircrew from the U.S. Air Force and Marine Corps, and from allied nations. Attributes of ANG base include:

- Facilities are well maintained and in good useable order
- Main hangar was recently renovated
- The ANG is capped at certain square footage limits for specific uses (determined by ANG in DC)
- 1,100 guardsmen/women on base; total workforce on base is approximately 1,200 (500 FTE, 700 PTE)
- 500-600 trainees on site for tactical operations training
- Ten full-time C-130s in operation
- A functioning drop zone is used by Missouri ANG and by domestic and international organizations
- Georgia Tech Research Institute (GTRI) develops tactical defense systems and provides crew training on campus

When marketing airport facilities to potential clients, it is important to provide detailed information in the form of a building inventory. Hangars and aviation facilities can be specialized to fit specific needs, such as providing heavy or light maintenance or be used for painting. There are other, more simplified hangars, used for the basic internal storage of aircraft. These storage hangars will typically have less specialized internal systems. These systems can include but are not limited to overhead fall-restraints, gantry cranes for aircraft engine removal, foam fire suppression systems, and air filtration. This chapter describes the facilities that will first become available as the ANG proceeds with its development plan and shifts its facilities further north. Each facility description will include their specifications, current use, characteristics, utilities, potential uses, and security consideration.

1.2.1 Building 1

Type of Construction: Metal Frame and Reinforced Concrete

Building Condition: Good to Excellent

Predominant Use: Aircraft Maintenance

Facility Specifications:

- Hangar Space: 25,720 square feet
- Electric Hangar Door
- Space: 25,000 square feet, Northside Concrete Apron: 37,000 square feet
- Southside Concrete Apron: 37,000 square feet

Current Facility Use: The current primary use of this facility is to conduct aircraft maintenance work to C-130 aircraft.

Hangar Characteristics and Features:

- Aircraft Drive-Through Capability
- High Expansion Foam System
- Sprinkler System
- Hangar Heater System
- Overhead Fall-Protection System
- Floor Protection Coating
- Channel Drains
- Supporting Office Space, Warehouse and Workshop Space
- Dedicated Parking Lot for 30 Vehicles
- Cinderblock Wall Separating Hangar from Supporting Spaces
- Aviation Use
- Airside

Utilities:

- Power, City Water, High Speed Internet, City Sewer, Natural Gas

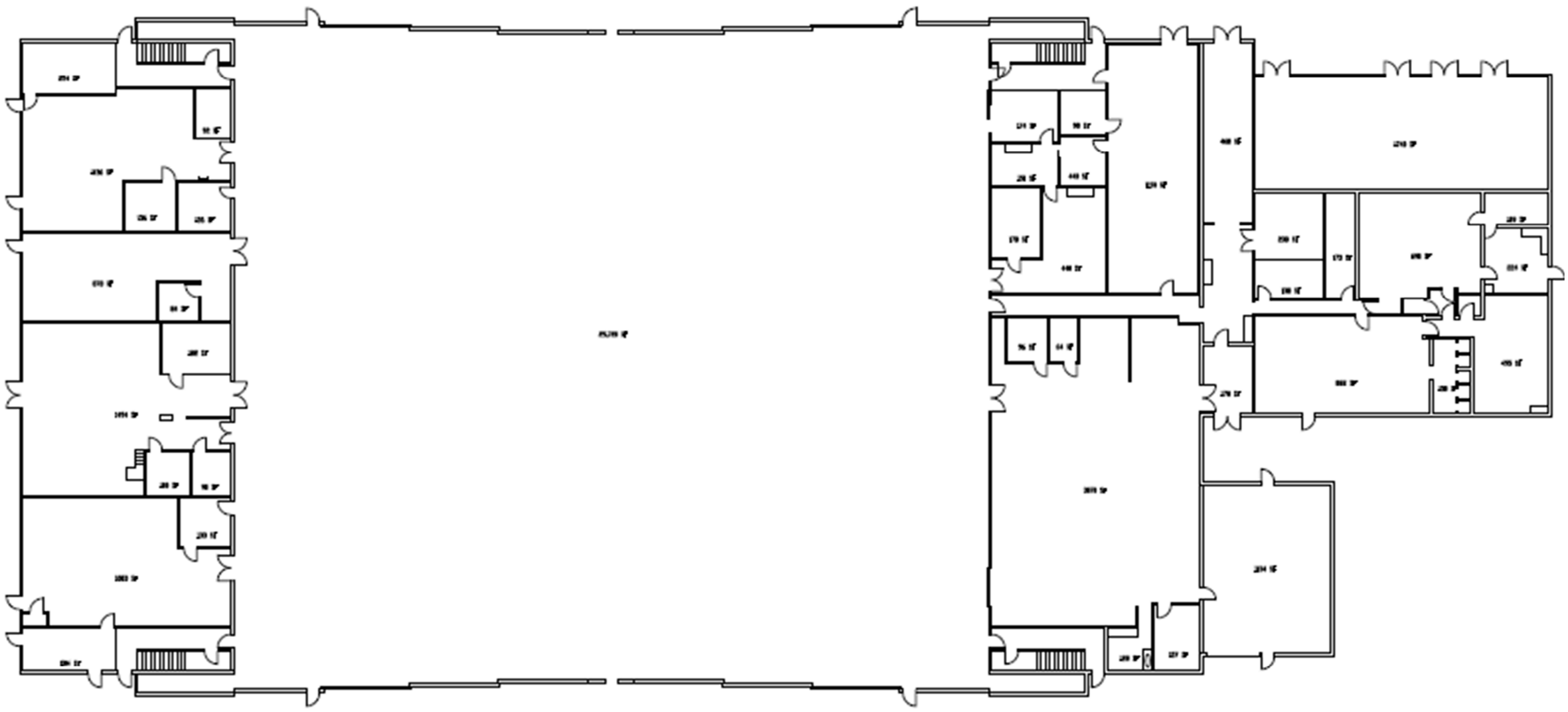
Potential Uses: Large aircraft maintenance, large aircraft storage, corporate aircraft storage, military aircraft storage, heavy aircraft maintenance.

Security Considerations: Facility has both landside and airside access. No fencing around the facility as it resides within the ANG area. Since this facility has access to the airside and landside, security must be considered. This hangar is at the south end of the airfield ramp area and ANG area making it possible to give it a separate fenced access route from the public road.

Figure 1-6: Building 1 Location

Source: Jviation

Figure 1-7: Building 1 - First Floor Layout



Source: Air National Guard

Figure 1-8: Building 1 - Second Floor Layout

Source: Air National Guard

Figure 1-9: Building 1 - Hangar Bay

Source: Jviation

Figure 1-10: Building 1 - Hangar Bay South Door

Source: Jviation

Figure 1-11: Building 1 - Shop Space

Source: Jviation

Figure 1-12: Building 1 - Shop Space

Source: Jviation

1.2.2 Building 18

Type of Construction: Metal Frame Concrete Walls and Metal Panels

Building Condition: Fair to Good

Predominant Use: Aircraft Wash Bay and Maintenance

Facility Specifications

- Hangar Space: 15,460 square feet
- Electric Hangar Doors
- Supporting Building Space: 4,746 square feet
- Concrete Apron: 15,000 square feet

Current Facility Use: The current primary use of this facility is to conduct aircraft maintenance work to C-130 aircraft and also act as an aircraft wash-bay.

Hangar Characteristics and Features:

- High Expansion Foam System
- Sprinkler System
- Large Hangar Fans
- Hangar Heating System
- Channel Drains
- Internal Paint Booth
- Supporting Office Space, Warehouse and Workshop Space
- Dedicated Parking Lot for 25 Vehicles

Utilities:

- Power, City Water, High Speed Internet, City Sewer, Natural Gas
- Solar Panel Array Along Southside of Parking Lot

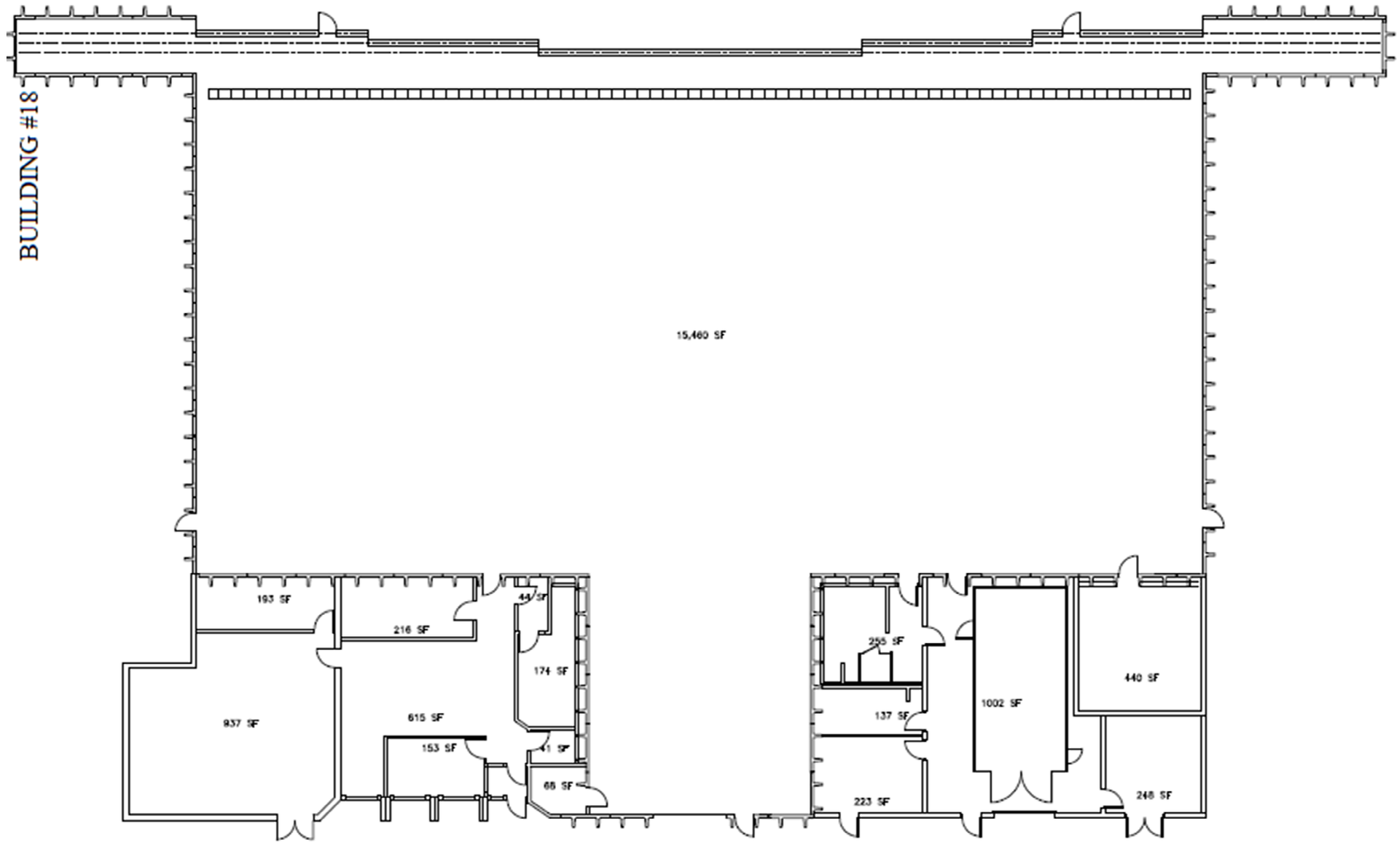
Potential Uses: Large aircraft maintenance, large aircraft storage, corporate aircraft storage, military aircraft storage, heavy aircraft maintenance, aircraft wash-bay.

Security Considerations: Facility has both landside and airside access. No fencing around the facility as it resides within the ANG area. Since this facility has access to the airside and landside, security must be considered. This hangar is at the south end of the airfield apron area and ANG area making it possible to give it a separate fenced access route from the public road.

Figure 1-13: Building 18 Location

Source: Jviation

Figure 1-14: Building 18 Layout



Source: Air National Guard

Figure 1-15: Building 18 - Hangar Circulation Fan

Source: Jviation

Figure 1-16: Building 18 - Hangar Heaters

Source: Jviation

Figure 1-17: Building 18 - Internal Paint Booth

Source: Jviation

Figure 1-18: Building 18 - Solar Panel Array

Source: Jviation

1.2.3 Building 70

Type of Construction: Metal Frame

Building Condition: Fair to Good

Predominant Use: Shop Space

Facility Specifications:

- Shop Space: 1,600 square feet
- Garage Door: 14’ wide x 14’ tall
- Building Space: 1,600 square feet

Current Facility Use: The current primary use of this facility is to support Hangar 18 with additional warehouse storage space.

Hangar Characteristics and Features:

- Sprinkler System
- HVAC
- Sand Blasters
- Supporting Workshop Space

Utilities:

- Power, City Water, Natural Gas

Potential Uses: Equipment storage, chemical storage, equipment maintenance, shop space.

Security Considerations: This is a support building for Hangar 18 and has both airside and landside access. Though it may seem unimportant operationally, security is still an important consideration given its location and lack of existing fencing.

Figure 1-19: Building 70 Location

Source: Jviation

Figure 1-20: Building 70

Source: Jviation

1.2.4 Building 16

Type of Construction: Brick and Stucco

Building Condition: Good

Predominant Use: Aircraft Engine Repair and Rehab

Facility Specifications

- Building Space: 15,000 square feet
- Electric Garage Doors

Current Facility Use:

The current primary use of this facility is to conduct maintenance work to aircraft engines and propellers with supporting office and shop space.

Hangar Characteristics and Features:

- Sprinkler System
- Large Warehouse Fans
- Hangar Heating System
- Overhead Winch System
- Supporting Office Space, Warehouse and Workshop Space
- Dedicated Parking Lot for 35 Vehicles
- Landside
- Aviation and non-aviation possible

Utilities:

- Power, City Water, High Speed Internet, City Sewer, Natural Gas
- Solar Panel Array on Roof

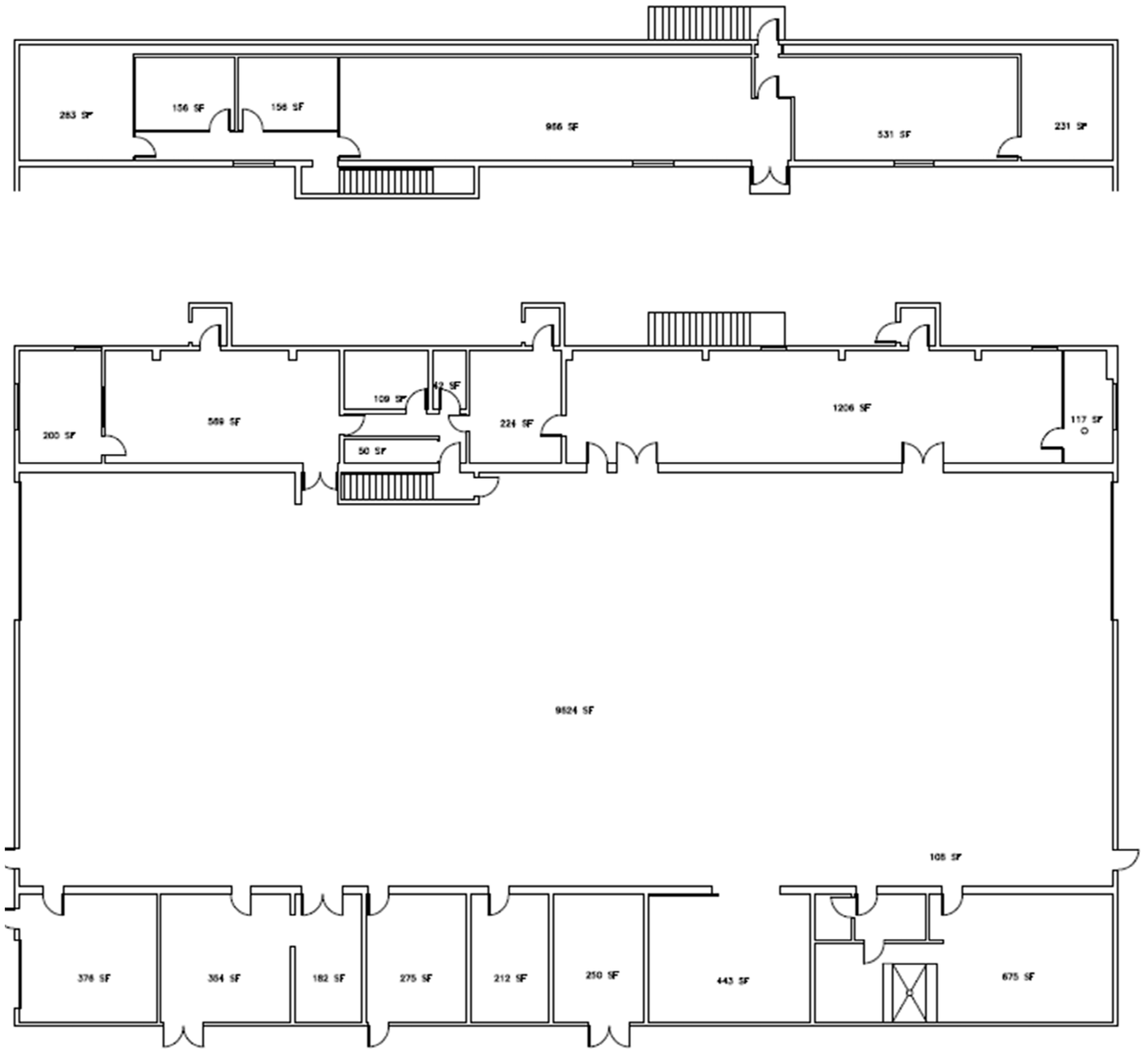
Potential Uses: Equipment storage, supply storage, chemical storage, equipment maintenance, shop space, engine maintenance.

Security Considerations: This facility is located within a specific landside area. Given its location within the ANG area, security should be thought about carefully to separate from the rest of the ANG area.

Figure 1-21: Building 16 Location

Source: Jviation

Figure 1-22: Building 16 Layout



Source: Air National Guard

Figure 1-23: Building 16 Bay

Source: Jviation

Figure 1-24: Building 16 Bay

Source: Jviation

1.2.5 Building 2

Type of Construction: Brick and Concrete

Building Condition: Fair

Predominant Use: Storage

Facility Specifications:

- Storage Space: 1,274 square feet
- Electric Hangar Doors: 10’ wide x 10’ tall

Current Facility Use:

The current primary use of this facility is storage and warehouse space for miscellaneous and flammable materials

Hangar Characteristics and Features:

- Storage/Warehouse
- Supports Hangar’s 1 and 18
- Facility is generally landside with access to airside apron
- Aviation and Non-aviation

Utilities:

- Power and City Water

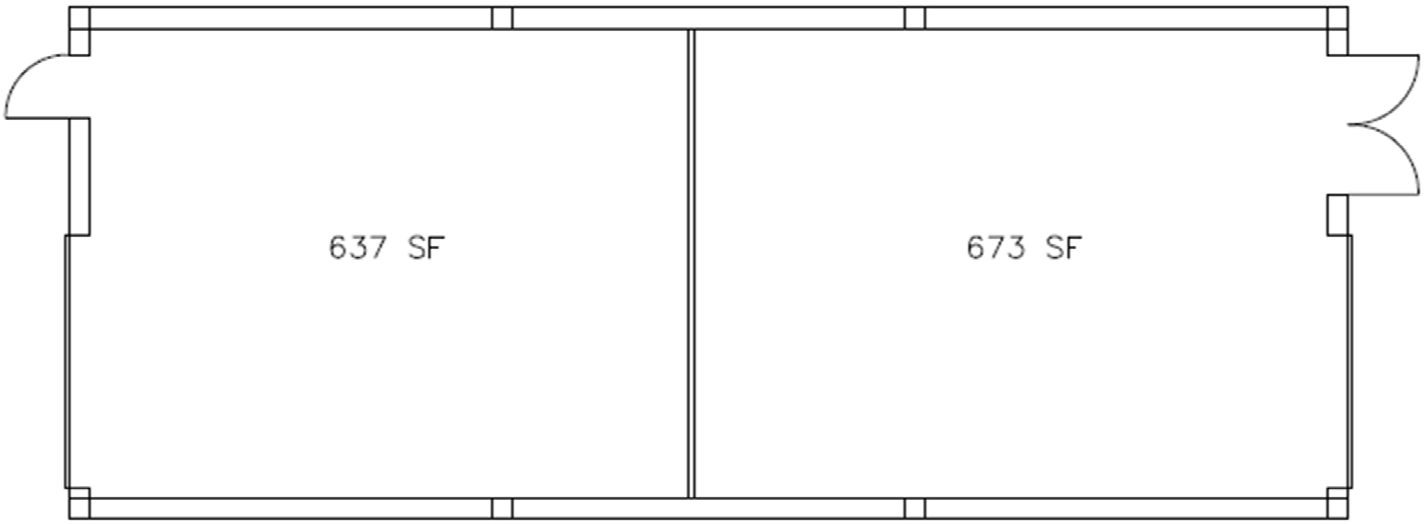
Potential Uses: Equipment storage, chemical storage, equipment maintenance, shop space

Security Considerations: This facility is in close proximity to Hangar 1’s and Hangar 18’s apron area and can act in support of both. This facility will need to be considered as anything moves forward with either Hangar 1 or 18

Figure 1-25: Building 2 Location

Source: Jviation

Figure 1-26: Building 2 Layout



Source: Air National Guard

1.2.6 Building 22

Type of Construction: Metal Frame and Panel

Building Condition: Good

Predominant Use: Warehouse / Storage Space

Facility Specifications:

- Storage Space: 2,000 square feet
- Electric Hangar Doors: 10’ wide x 10’ tall

Current Facility Use:

The current primary use of this facility is storage and warehouse space.

Hangar Characteristics and Features:

- Apron Access
- Storage/Warehouse
- Supports Hangar 1

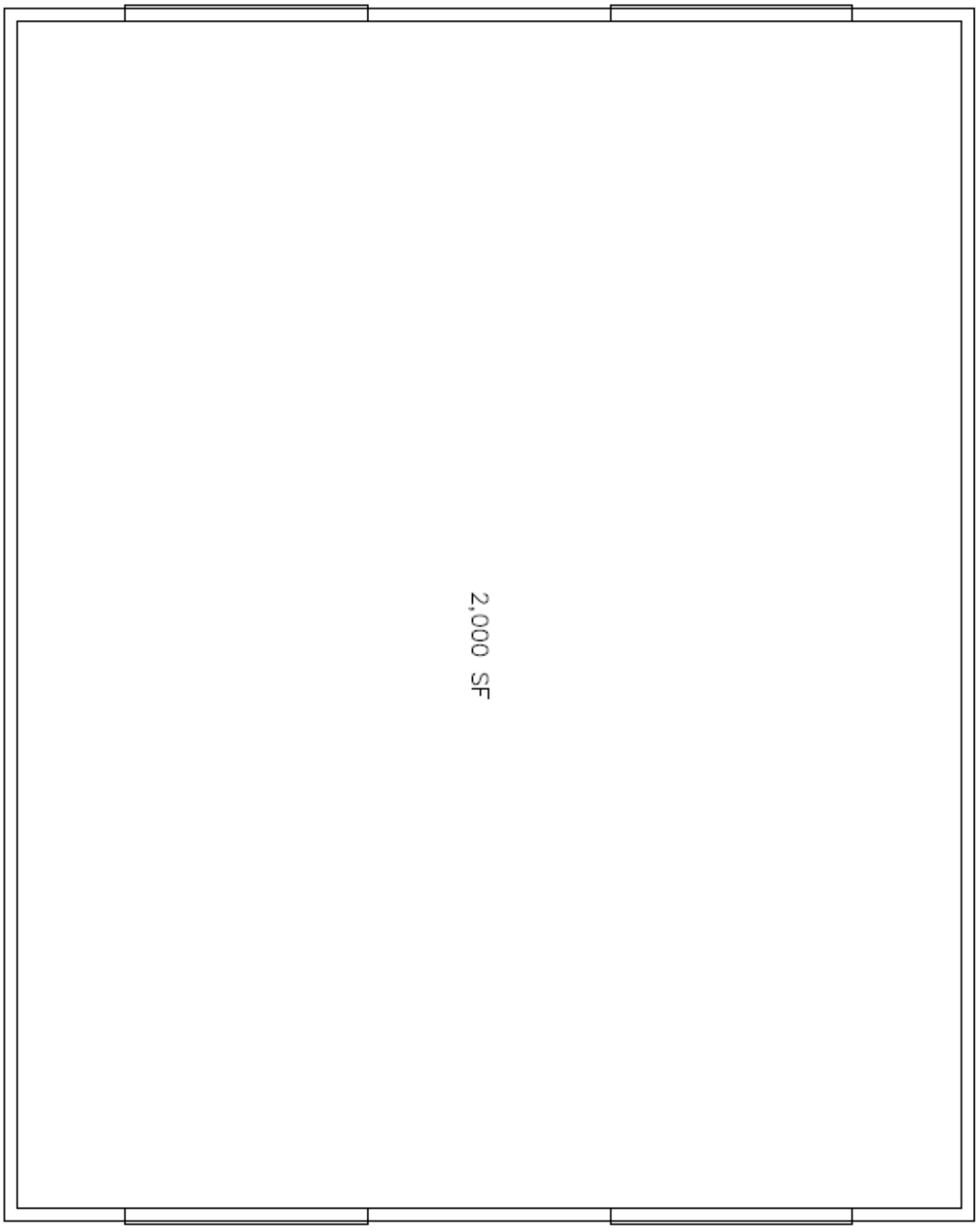
Utilities:

- Power and City Water

Potential Uses: Equipment storage, chemical storage, equipment maintenance, shop space.

Security Considerations: This is a support building for Hangar 1 and has both airside and landside access. Though it may seem unimportant operationally, security is still an important consideration given its location to Hangar 1 and its airside ramp access.

Figure 1-27: Building 22 Layout



Source: Air National Guard

1.2.7 Building 3

Type of Construction: Metal Frame with Brick and Cinderblock

Building Condition: Good

Predominant Use: Equipment Maintenance and Offices

Facility Specifications:

- Building Space: 9,600 square feet
- 5 Vehicle Maintenance Bays
- Bay Doors: 10’ wide x 15’ tall
- Airside Concrete Apron Area: 13,000 square feet

Current Facility Use: The current primary use of this facility is to conduct maintenance to vehicles and National Guard equipment.

Hangar Characteristics and Features:

- Sprinkler System
- Mounted Overhead Compressor Lines
- Bay Heating System
- Facility HVAC
- Overhead Winch Systems
- Channel Drains
- Exhaust Ventilation Systems
- Vehicle Lifts
- Direct Apron Access
- Supporting Office Space, Warehouse and Workshop Space
- Adjacent Parking Lots for 30 Vehicles
- Airside and Landside
- Aviation and Non-Aviation

Utilities:

- Power, City Water, High Speed Internet, City Sewer, Natural Gas

Potential Uses: Equipment storage, equipment and vehicle storage, equipment maintenance, shop space, office space.

Security Considerations: This facility has both airside and landside access and no fencing as it resides within the ANG area. Given its central location and prime real estate along the main ANG apron area, security should be given prime consideration.

Figure 1-28: Building 3 Location

Source: Jviation

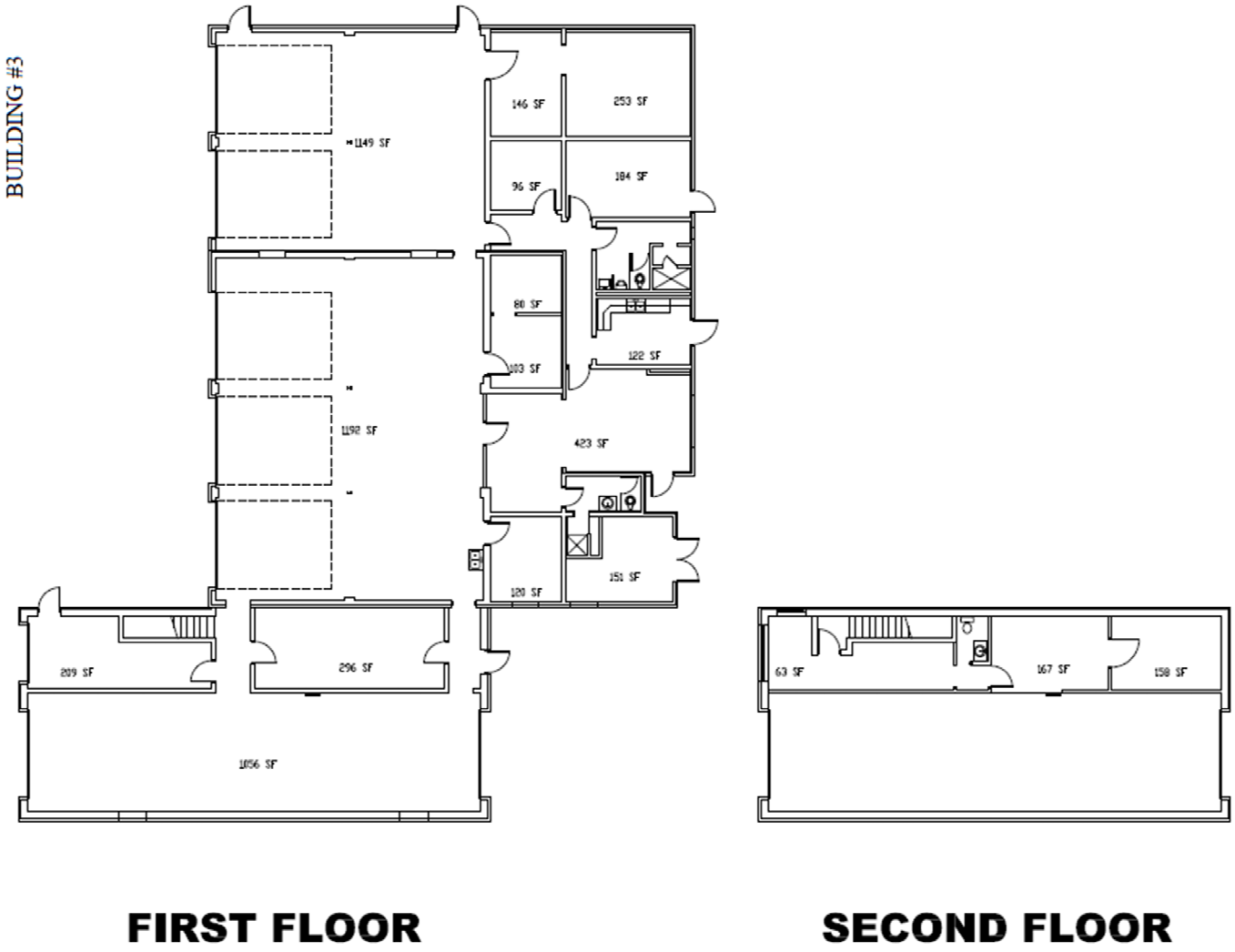
Figure 1-29: Building 3 Vehicle Bays

Source: Jviation

Figure 1-30: Building 3 Vehicle Bays

Source: Jviation

Figure 1-31: Building 3 Layout



Source: Air National Guard

1.3 St Joseph Region

St. Joseph is a city in and the county seat of Buchanan County, Missouri. St. Joseph is known for hosting the Kansas City Chiefs Training Camp every year at Missouri Western State University. It is the principal city of the St. Joseph Metropolitan Statistical Area, which includes Buchanan, Andrew, and DeKalb counties in Missouri and Doniphan County, Kansas.

As of the 2010 census, St. Joseph had a total population of 76,780, making it the eighth largest city in the state. Estimated population in 2018 was 77,000. St. Joseph is located thirty miles north of the Kansas City, Missouri city limits, 35-minute drive to Kansas City International Airport (MCI), and 125 miles south of Omaha, Nebraska.

The city is a crossroads for two major thoroughfares, Interstate 29 and U.S. Highway 36; intersects with U.S. Highway 71; and is only 45 minutes or less to Interstates 435, 70 and 35, some of the nation's most traveled roadways. St. Joseph is positioned within 500 miles of 44 percent of the total U.S. manufacturing establishments, and just 200 miles from the nation's population center.

Points of historic pride include St. Joseph as the birthplace of hip hop star Eminem, the death place of Jesse James, and the starting point of the Pony Express.

Economic Development Trends of Note:

- St. Joseph's long history of manufacturing and agricultural industries has evolved to include bioscience technology including global animal pharmaceutics manufacturer Boehringer Ingelheim.
- Schütz Container Systems, Inc., a German-based packaging company with locations worldwide, recently selected St. Joseph for a new manufacturing operation.
- Altec Inc. is a leading provider of products and services to the electric utility, telecommunications, tree care, lights and signs, and contractor markets delivering products and services in more than 100 countries. Altec is currently undergoing a major expansion of the St. Joseph facility
- Triumph Foods selected St. Joseph for a new state-of-the-art hog processing facility employing over 2,500
- Daily's Premium Meats, a Montana company, selected St. Joseph for a new 100,000 square foot facility, adding more than 200 jobs and $41.5 million in initial capital investment to the community

Real Estate Inventory:

The St. Joseph area has a diverse array of commercial and industrial real estate available for new and expanding industry. The DSG Team assessed these assets as part of the process for selecting industry targets to pursue in the Market Outreach phase of the project.

Four industry targets were selected: Aviation (MRO), Tactical Training (flight crews), Back Office, and Manufacturing. Local real estate assets were categorized by how each aligns with individual targets. Assignment of properties was based on criteria developed for each target:

- Aviation
- Tactical Training
- Back Office
- Manufacturing

Table 1-3: Summary of Available Real Estate for Industry Targets

Type of Real Estate	Number of Properties	Location	Aviation	Tactical Training	Back Office	Mfg.
Office Buildings Class A and Class B Properties	5	Downtown St. Joseph			X	
	16	I-29 corridor			X	
	3	Stockyards/Alabama St			X	
	1	Elwood			X	
	25	TOTAL				
Office Sites	12	Eastowne Business Park			X	
	3	Agri Business Expo Center			X	
	15	TOTAL				X
Industrial Buildings	6	Downtown St Joseph				X
	2	Hwy 169/Belt Hwy Corridor				X
	3	South of Town				X
	2	Elwood				X
	1	North of Town				X
	14	TOTAL				
Industrial Sites	2	Eastowne Business Park				X
	3	Stockyards/Alabama St				X
	1	Wathena				X
	1	Elwood				X
	5	TOTAL				
STJ Sites	4	North of Southern ANG	X	X	X	X
ANG Buildings available near-term	7	Southern end of current ANG	X	X	X	X
All Buildings	46	TOTAL				
All Sites	24	TOTAL				
All Properties	70	GRAND TOTAL				

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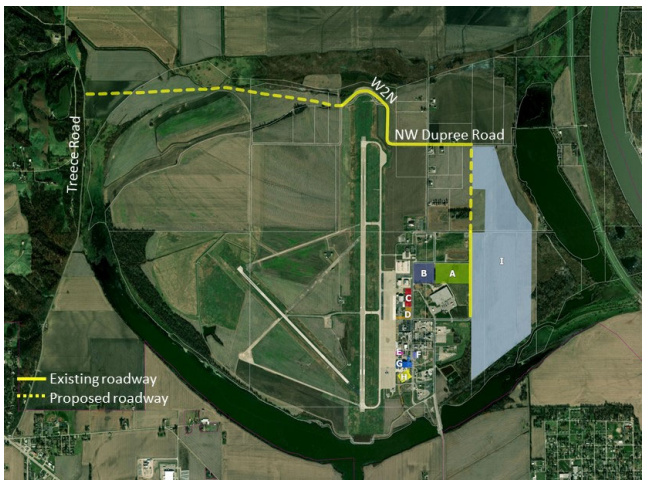
2.0 Gap Analysis

This gap analysis summarizes the DSG Team's assessment of the economic development competitiveness and readiness of STJ and the St. Joseph region. The assessment compares what an industry wants against what St. Joseph and/or STJ has to offer. Where a gap is identified, we suggest possible remedies.

Table 2-1: Asset Gap and Remediation Strategy

Economic Development – Asset Gap		Remediation Strategy
Infrastructure	Road Access to STJ: Businesses of all types depend on safe and reliable transportation access. Industrial operations often demand more than one point of ingress/egress to the outside world to ensure uninterrupted business operations. STJ has only one access road that is vulnerable in significant ways. Sections of the road are in the 100-year flood plain and the road includes a two-lane bridge. Both conditions are subject to failure that would isolate the airfield.	A route for a second STJ access road is W2N around Runway 17 approach, then west to Treece Road. This route would minimize involvement of the Missouri River channel remnant and tillable land. A second access road is strongly recommended. 
	Utility Services to STJ: Businesses look for sites with easy to access utilities that have excess capacity and are reliable. STJ's unique geography of being in Missouri but accessed through Kansas has created a tangle of service territories and state regulatory controls. Details of STJ's utility infrastructure and service characteristics are not readily available giving rise to concerns that there are vulnerabilities in service reliability and capacity.	Initially a comprehensive analysis of utility services (i.e. water, sewer, electric, natural gas, telecommunications, pipelines) is needed to understand service characteristics. The goal is to identify weak points at the airport itself and in the routing of lines that lead to the airfield. Remediation of weak points should then be completed to ensure that critical operations can be maintained under unplanned events.
	Utility Services to ANG Buildings: Along with capacity and reliability of utilities, another important factor to the site selection process is determining utility costs related to site development and operations. Currently some utility services are bundled and monitored at the base level. Modifications required to serve individual accounts at each building and the cost to complete these changes have yet to be established making building reuse less attractive to outside investors.	Reuse of surplus ANG buildings will require segregation of utility points-of-service. Further study is needed to establish how utility services (i.e. water, sewer, electric, natural gas, pipelines, telecommunications) are brought to each building. A plan is needed for separating service lines to efficiently and reliably meter services at individual buildings. Cost and schedule estimates for completion should be part of the study.
Risk Mitigation	Flood Plain: The presence of flood plains are a big-red-flag for site selectors and corporate managers. Risk	STJ has a good story to tell around flooding which makes efforts to mitigate the problem more meaningful. The $70.7 million improvement

Economic Development – Asset Gap		Remediation Strategy
	averse corporate managers are not necessarily repelled by undesirable conditions but want to understand the risk and how they are being mitigated. STJ has a particularly obvious history of flooding that is impossible to escape.	project now underway will raise and reinforce 12.4 miles of levee. The work, which includes widening berms and installing relief wells to control under-seepage, will go a long way to lowering flooding risk. Marketing materials that factually report on flooding risk and current mitigation efforts should be prepared and shared openly with potential investors.
	Housing: Businesses look for communities with a good mix of housing options at reasonable prices. Home ownership is a sign of a stable workforce. The mix of available housing should include entry level, family homes, and executive level houses. Business and community leaders report a shortage of both affordable and executive housing which has created barriers for new and expanding business. Attraction and retention of professionals in the St. Joseph area is hindered by limited executive housing. The hiring of line workers is similarly constrained by the lack of affordable housing. St. Joseph would likely grow faster in population if housing were available.	Initiatives led by community and business leaders to address the housing shortage are already underway in the St. Joseph area. Redouble efforts given that anything that hinders job growth can have a serious long-term negative impact.
Workforce	Full-Service Technical Training: Today's job market demands enhanced skillsets not readily found in most labor markets. Businesses want to see evidence of a pipeline of future workers and an existing labor market that includes skilled and unskilled workers; reasonable wages rates; and training programs in place. Hillyard Technical Center is a true community asset for creating a pipeline of high school students aligned with the needs of industry. A community shortcoming is the absence of comprehensive post-secondary technical training. Access to well-equipped training programs now requires travel outside the community.	A full-service community/technical college is needed in St. Joseph. Community and business leaders are encouraged to establish a priority of developing a strategy for addressing the local technical training shortfall. An obvious remedy is for Metropolitan Community College to establish a full-service campus in St. Joseph.
	Support for Small Business: Job growth through support for entrepreneurial businesses is a wise investment for any community. Small business programs are looked upon favorably by businesses of all sizes. The support for new business is evidence of a welcoming business climate. St. Joseph education institutions and the Partnership have taken steps to encourage small business through programs at Missouri Western State University Center for Entrepreneurship and the Northwest Missouri State University's Small Business Development Center. Employers interviewed for this project did not reference help from these programs.	Support for small business would seem a valuable part of economic development in the region. Stories about successful small business are valuable testimonials as they tell the outside world that St. Joseph is business friendly. Increase efforts to highlight stories and successes in marketing campaigns.
Economic Development Capacity	Coordinated Regional ED: Businesses like to locate in communities that have a vision for its future and groups are working together to achieve it. The St. Joseph Economic Development Partnership has a well-funded mission to support economic growth in the region. As the population and economic center of	Development of a stronger economic development strategy for STJ should include reinforcing development readiness and marketing capacity of Doniphan County. The St. Joseph Partnership and STJ Airport are encouraged to work closely with Doniphan County to create a more effective economic development team.

Economic Development – Asset Gap		Remediation Strategy
	the region, Buchanan County receives the lion share of Partnership attention. With increased attention on STJ the need to coordinate with Doniphan County on growth opportunities at STJ and nearby Wathena and Elwood is in order. However, Doniphan County's large geographic area and small population stretches economic development services thin making the full benefit of these services difficult to realize in the STJ area.	
	Availability of ANG Buildings: Available, ready for market buildings are an important economic development asset in that most site selection projects start out looking for an existing building. Buildings on the ANG base have no economic development value if they are not available for reuse. The planned transfer of property over five to 10 years does not give the certainty needed for promotion to potential investors.	St. Joseph Partnership, the Airport, and the ANG are encouraged to work on a timeline for transitioning properties for reuse. The tentative schedule for release of buildings can then be used by the Partnership to prepare collateral material and plan marketing promotion. To avoid delays in transiting property for non-ANG use, the transition plan must detail conditions for property reuse that can include date available, cost, maintenance, utility services, parking plan, and use restrictions.
	Marketing STJ Development Opportunities: Documentation of developable assets at STJ including ANG real estate, airport owned property, and private ownership parcels is largely non-existent. Attraction of investors to the airfield will require assets to be defined in detail including ownership/lease rules, property costs, zoning, utility services, transportation infrastructure, and other relevant information.	Identifying parcels that can be developed is a priority. The industry targeting strategy for STJ that is the focus of this report has little value if there are no properties to promote. St. Joseph Economic Development Partnership's website should include separate treatment of airport development opportunities.
	Office Space Availability: Office operators typically locate in leased space. St. Joseph is well positioned to attract back office operations with one exception, a shortage of available space in Class A and B buildings.	A Partnership-led effort should be undertaken to address the need for more lease office space. Certainly, as they come available ANG buildings can meet the needs of some companies seeking Class B space. Strategies for encouraging Class A and B space in downtown St. Joseph and east along I-29 should also be developed.

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3.0 Value Proposition and Messaging

An economic development *Value Proposition* is a promise that a community can deliver valued services to the business community. It is meant to convey that the community has the knowledge to deliver on what is important to companies operating in highly competitive industries. An effective value proposition describes how community assets - sites, labor force, utility services, training resources - benefit the company and can solve or mitigate problems.

The value proposition answers the question, "Why should my company locate in St. Joseph/STJ rather than another place?" A strong value proposition will differentiate St. Joseph from competitor locations.

3.1 Key Messaging

Establishing a Key Message Platform to support the value proposition guides marketing efforts and creates clarity and continuity for communications with target audiences. Key messages are the main things companies want people to know about the area; the first thing they will think of when they hear "St. Joseph" or "STJ."

The message should entice the audience to want to learn more about the benefits offered. As such, they require proof points that are based on specific, factual statements that prove the message. Consistent use and repetition of key messages reinforces a community's brand identity, generates awareness and interest. In summary:

- Value Proposition is your promise to deliver a product or service valued by your client
- Key Messages are statements related to how and what the community offers in the value proposition and are supported with facts drawn from current data available

Listed below is the messaging platform proposed by DSG Team for target industries that align with STJ and St. Joseph regional assets. The messages are used throughout the StoryMap marketing website.

Aviation MRO	
Value Proposition	The St. Joseph region's robust aviation sector has a well-established MRO supply chain and STJ has the physical assets that support airport operations.
Key Messages	• Available trained A & P mechanics and maintenance mechanics in the labor force • ANG mechanics and staff available for recruitment • Technical schools aligned with training needs • Established MRO supply chain • Two well-equipped and maintained hangars and associated shops • 8,061-foot and 4,797-foot concrete runways • STJ based controlled airspace • Low operating costs (utilities, labor) and low cost of living, housing

Tactical Training	
Value Proposition	STJ has the physical setting, airport operations, on-site assets, and skilled trainers for the customized tactical training that will meet the challenges crews of all aircraft types are facing.
Key Messages	• Dark airport nighttime landing • Runway adjacent drop zone • C-130 simulator • Large apron for on ground training • STJ-based controlled airspace • Modern training classrooms • Partner airfields for desert and mountain training • Ample hotel and hospitality assets nearby
Manufacturing	
Value Proposition	The St. Joseph area provides manufacturers an efficient and sustainable operating environment that fosters business success; a midwestern leader in regional and global manufacturing.
Key Messages	• 200,000 strong workforce that is ready to work • Existing ready-to-build sites and market-ready buildings • Business friendly environment with low barriers-to-entry • Excellent transportation system including air, highway, rail, and port
Back Office	
Value Proposition	The St. Joseph area provides back office operations an efficient and sustainable operating environment that fosters business success.
Key Messages	• Business friendly environment that understands and supports "fast startup" • A labor market of nearly 200,000 within a 40-minute commute • Low operating costs including labor, real estate, and taxes • Available office space at below average lease rates and ready-to-build sites in settings ranging from class A to C • Established skills training programs for high school, college, and adults • Telecommunications that provide fast, reliable data services • Energy redundancy and reliability through a balanced mix of wind power, coal, natural gas, and hydroelectric power

3.2 Adoption of the Messaging Platform

This messaging platform should be adopted by those organizations involved in marketing St. Joseph and STJ. Guidance on adoption is presented below.

- Incorporate the messaging and current data as electronic and print marketing materials are updated
- Use in press releases and by-lined articles
- Practice applying the value proposition and key messages to a variety of situations until you can use them easily and conversationally, for example when:
  - Business owner asks why he/she should move a business to St. Joseph/STJ

- Acquaintances asks what makes St. Joseph/STJ different?
- Small business owner says they are looking for a place to locate a family-owned business; why should they consider St. Joseph/STJ?
- Media inquiries about the new businesses opening in St. Joseph, what is attracting them?
- Business prospect quips, “every city I talk to says they have a great quality of life. It’s a cliché. What does St. Joseph have that other cities don’t?”

- Collect supporting materials, photos, and documentation, for example:
  - Brief case studies of companies that are in St. Joseph/STJ because of the location, workforce, training programs, supplier companies, etc.
  - Royalty-free photos of current employers, sites, events, housing, neighborhoods, etc.
  - Testimonials from local employers
  - Current wages, utility, and other operating costs for each industry
- Continue to advance your message platform as the economy and situations change, keeping in mind the messages must be:
  - Easy to understand
  - Meaningful to business and relevant to the industry
  - Believable and credible
  - Able to truly differentiate you from your competition
  - Conveying solutions to specific issues businesses may be facing in their current location
  - Supported with fact-based proof points drawn from the most-current data available

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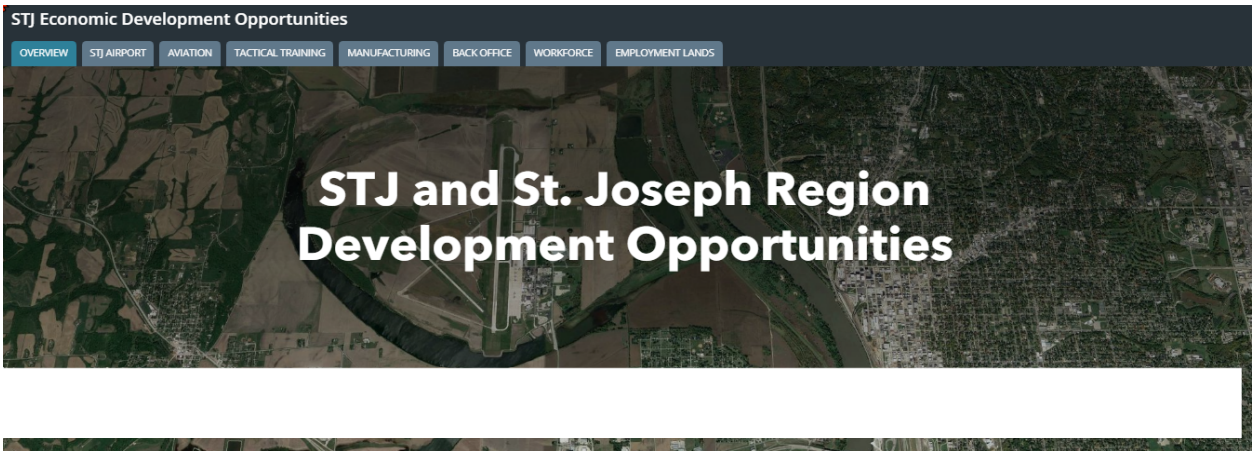
4.0 StoryMap

StoryMap is a powerful marketing and communication tool available through Esri ArcGIS[2]. This interactive and engaging web app combines maps, text, images, and videos to tell a story visually. The term "story" is used broadly. For example, a marketing campaign that promotes a community's value proposition to industry targets is a story that involves a broad array of factors. The StoryMap web based platform allows a seamless and easy to navigate presentation of complex relationships.

A StoryMap was produced as part of the deliverables for this project. The *STJ and St. Joseph Region Development Opportunities* StoryMap presents the economic development assets and opportunities at STJ and in the St. Joseph region (**Figure 4-1**).

Figure 4-1: STJ and St. Joseph Region StoryMap Home Page



The STJ StoryMap contains the following pages and content.

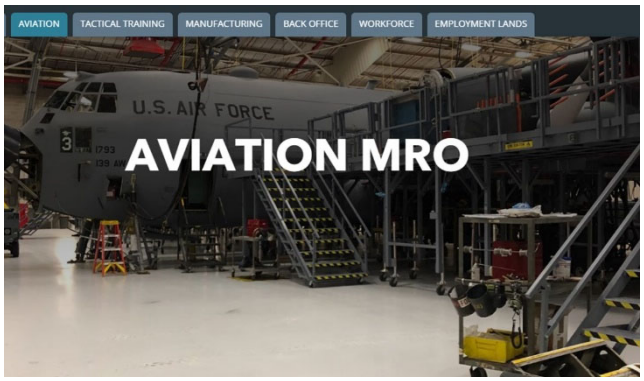
OVERVIEW The Overview offers an introduction of the greater St. Joseph region including demographics, the retail market, housing, cost of living, schools, economic base, and recreation/lifestyle.

STJ AIRPORT Details are provided on the STJ airport including runway stats, airport services, communications, and development plans.

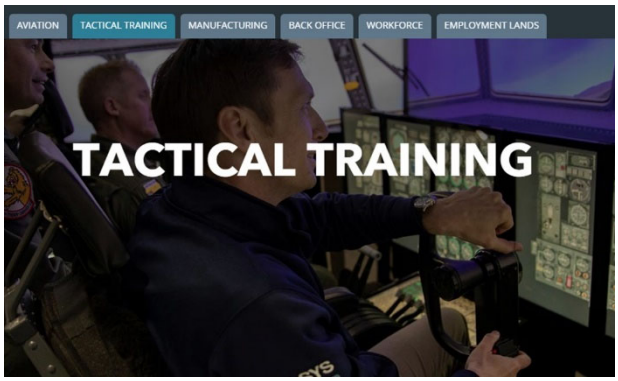
AVIATION, TACTICAL TRAINING, MANUFACTURING, BACK OFFICE Separate story tabs are dedicated to each of the four targeted industries—Aviation MRO, Tactical Training, Manufacturing, and Back Office (Figure 4-2). Each page presents the benefits of a STJ location, assets available to the specific industry, local employers within the same industry, wages and workforce for industry-critical occupations, and specifications for sites and buildings deemed appropriate for the particular use.

[2] Esri is a Redlands, California based company at the forefront globally of geographic information system (GIS) technology. GIS is a framework for gathering, managing, integrating, and analyzing data. ArcGIS StoryMaps is Esri's latest-generation storytelling tool.

Figure 4-2: Landing Pages for Target Industries



Aviation MRO Industry Tab



Tactical Training Tab

Manufacturing Industry Tab

Back Office Industry Tab

WORKFORCE One tab is dedicated to the regional workforce; it contains data on the existing labor market, talent pipeline, wage comparisons with similar markets, education and technical training programs and resources, and information on local workforce initiatives

EMPLOYMENT LANDS The final page of the StoryMap presents an overview of the St. Joseph economic development landscape including industrial parks and business parks available for industry (**Figure 4-3)**.

Figure 4-3: Economic Development Landscape

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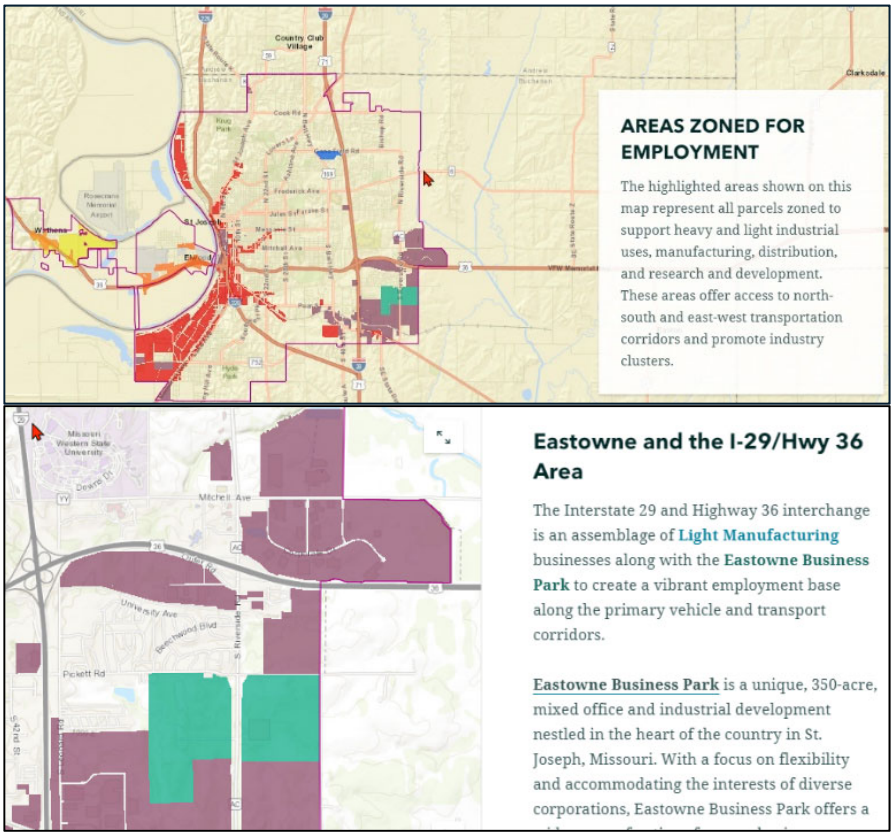

Final page of StoryMap shows areas within the region that are available for economic development.

4.1 Methodology for the STJ StoryMap

GIS data used on the maps and graphics within the STJ StoryMap platform were provided by Midland GIS Solutions out of their Maryville, MO office. Midland GIS Solutions is a private, third-party GIS consultant that provides GIS resources and online mapping technology for jurisdictions across the United States. Midland is under contract by both Buchanan County and Doniphan County to provide updated GIS resources. GIS data used on the STJ Airport StoryMap include the following:

- Assessor's parcels
- City and County jurisdictional boundaries
- Zoning designations
- Roads
- Railroads

Jviation, Inc provided building footprints and water, sewer, stormwater, and electric utility linework for Rosecrans. The building footprints were used in StoryMap as part of 3D visualization highlighting buildings appropriate for aviation-related industries. These properties will be released by ANG for re-use once the ANG transitions to the north end of STJ (**Figure 4-4)**. Utility mapping was also included on the Aviation tab to highlight existing utilities serving individual buildings.

Figure 4-4: Aviation Buildings with 3D Visualization Applied

4.2 Using StoryMap

The STJ StoryMap is designed specifically to market to and inform prospective job creating investors about the unique assets and development opportunities at STJ and the St. Joseph region. A good story pared with dynamic visuals affords the ability to demonstrate STJ and the region's assets and capabilities in unique ways. StoryMap is a platform that facilitates storytelling.

The portability of StoryMap offers the ability to use maps and other visuals at any time. The STJ StoryMap can be accessed from a desktop PC, laptop, tablet, or smartphone.

- Use the hyperlink, StoryMap (https://arcg.is/1v0Su0), in e-campaigns
- Use the hyperlink to share information directly with prospects, site selectors, brokers, etc.
- Use visuals from your StoryMap in print collateral to reinforce your messages
- Improve on the marketing effectiveness of your StoryMap by showing before-and-after comparisons, e.g. pre- and postconstruction plans
- Bring your PowerPoint presentation up a level by incorporating your StoryMap hyperlink which allows you to use live maps to orient your audience and introduce sites
- Take your tablet or laptop on the site tour to reference data and location while on site

4.3 Maintaining StoryMap

All content used is publicly available. The links below connect to the maps used within the StoryMap. Many of these maps are layered to more-effectively present possibilities.

- STJ 3D Buildings & Utilities
- 40 Minute Commute Map
- Regional Map including Kansas City MSA
- Zoning Map for St Joes, Elwood & Wathena

Figure 4-5: STJ 3D Aviation Buildings Layered Maps

The STJ StoryMap is built on Esri's secure cloud-based mapping and GIS platform. Updates can be completed by signing in to personalized account on ArcGIS Online. There is nothing to download or install.

ESRI ArcGIS licensed users can access these maps and edit the features within the maps. When maps were created for STJ, the sharing level was set to allow everyone access to the maps and data for future editing by anyone designated by the Partnership, the City, or STJ.

- Establish an Esri Arc/GIS account. We recommend that the Partnership, STJ, and/or the City acquire an ESRI ArcGIS license so that properties, demographic and other data can be kept current. The DSG Team is available to assist you when you are ready.
- Embed the StoryMap into the Partnership, City, and/or SJT website. The HTML code to embed the StoryMap is:

  <iframe width="100%" height="800px" src="https://urban-scenarios.maps.arcgis.com/apps/MapSeries/index.html?appid=6aa6a8f7c00340c6a4fe74687671bf90" frameborder="0" scrolling="no"></iframe>
- Designate someone to maintain the StoryMap. Like any other website, the content must be kept current and links working; add new properties as they become available; update utility info and maps, as necessary.
- Regularly check the accessibility and readability of the STJ StoryMap using a tablet or smartphone to ensure it is mobile-friendly.

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5.0 Emerging Aviation Markets

In the current environment and over the next five years, there is and will be a strong interest in the emerging markets of Urban Air Mobility and Unmanned Aircraft Systems. These emerging markets include the utilization of the three-dimensional space above the ground to improve upon the expense and congestion of ground-based transportation.

The two main markets are:

- Unmanned Aircraft Systems (UAS)
- Urban Air Mobility (UAM)

5.1 Unmanned Aircraft Systems

UAS are commonly referred to as drones. They frequently are depicted as four or eight rotor vehicles with a payload, and are typically powered by batteries. However, there are a significant number of fixed-wing UAS vehicles that can travel faster and fly longer due to their ability to use a wing for their primary aerodynamics.

Figure 5-1: Four Rotor Vehicle Example

Source: Jviation, Stock Photo

Figure 5-2: Eight Rotor Vehicle Example

Source: Jviation, Stock Photo

Figure 5-3: Fixed Wing Vehicle

Source: Jviation, Stock Photo

UAS also have a significant variation between vehicles in terms of how they are controlled. Most are remotely piloted. In these cases, they have an operator actively monitoring them through a video feed from an on-board system and they control the vehicle from a remote location.

There are also UAS that are more autonomous. Autonomous UAS vehicles have programming or guidance that allows them to fulfill their planned mission even if they must adjust to new information mid-flight.

5.2 Urban Air Mobility

UAM vehicles are a class of vehicles intended to transport people. Usually people think of some level of vertical take-off and landing component as part of the UAM concept. The most traditional level of UAM are legacy helicopters.

Figure 5-4: Legacy Helicopter Example

Source: Jviation, Stock Photo

Most UAM concepts include an effort to achieve a much larger scale than has ever been achieved with helicopters, creating vehicles that can provide return-on-investment at passenger costs that are in the same range as other transportation modes. The vision is not to create a small number of vehicles for wealthy travelers, but to create enough vehicles, at an affordable cost, to transport enough people to have a positive impact on the congested roadway infrastructure in major cities.

Figure 5-5: New Urban Air Concept

Sources: Jviation, Stock Photo

Figure 5-6: New Urban Air Concept

Source: Jviation, Stock Photo

While some concepts will require similar types of airspace access as airports, many will not. Are these new systems part of the national aviation system? Or are they more closely related to the highway ground infrastructure? The ideal capabilities of these systems will be to leapfrog the limitations and congestion on the ground but do it in a manner that is more accessible and frequent than traditional aviation. The strongest economic argument will be where these new systems can connect nodes of transportation between locations where there are large amounts of people/goods that need transported to other areas with similarly large amounts of people/goods that need to be moved.

There is also interest in the UAS market for package delivery, however this aspect is more difficult to reach profitability since it is a “one way” operation. A package is delivered, and the vehicle has to fly back to base empty. There are some markets that require time-critical deliveries. These locations may spur development near or on the airport to connect inbound air cargo to delivery services. Others may prioritize connectivity with the ground freight system and UAS fulfillment centers would only handle the last several miles of a package’s path.

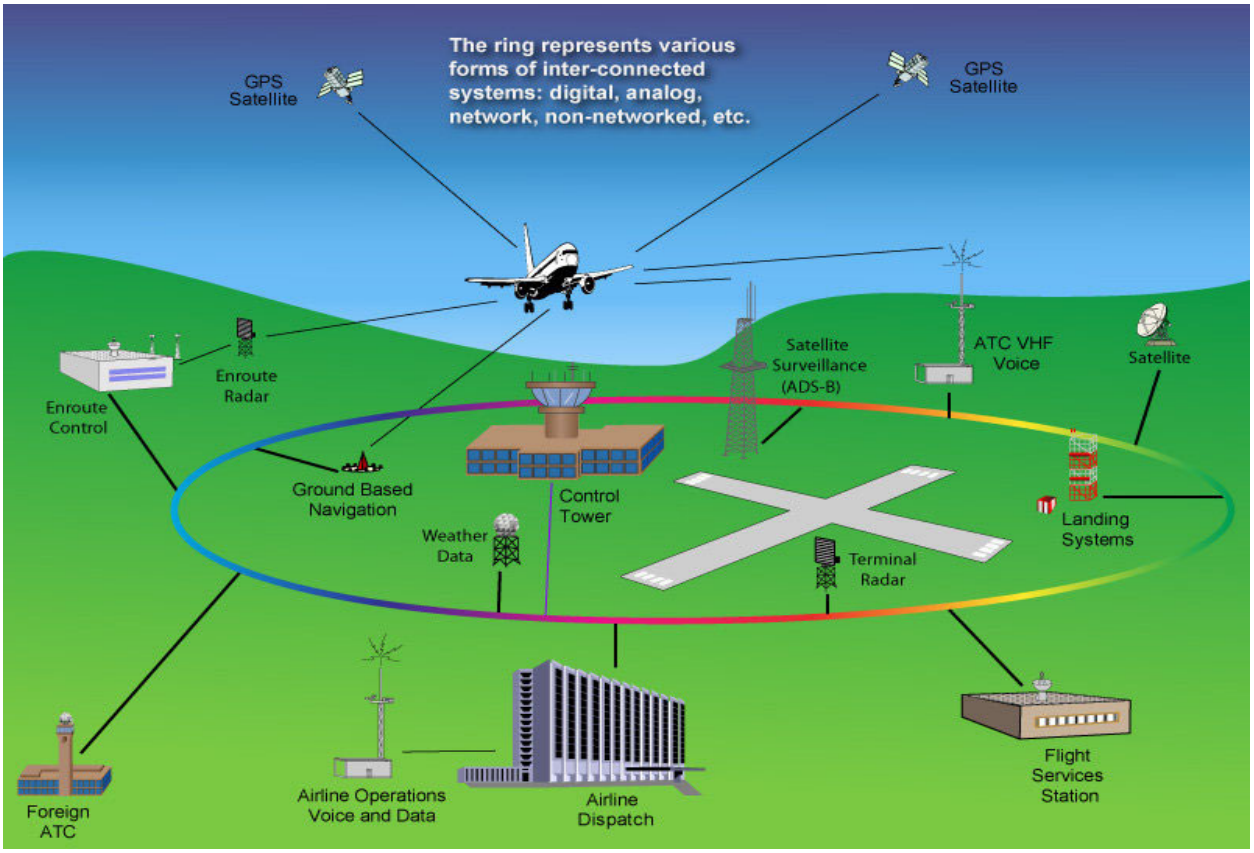
With both markets, there are two main obstacles to U.S. growth. UAS are not considered an “aeronautical” activity for the purposes of operational rights at an airport. They are viewed more like a trucking company in the eyes of the FAA. However, they are caught in a spot between the FAA’s jurisdiction (the atmosphere) and being an aeronautical activity that pays taxes or fees and is providing aviation services.

Airports located outside major urban areas may have the ability to support either of these emerging markets in terms of manufacturing and maintenance of these vehicles. The UAM market, with goals of creating a fleet and utility at a scale like the automobile industry, may offer opportunities for the right blend of freight nodes, workforce and facilities.

At this early stage of either industry, airports should be selective as they pursue new leases and attract new business. Some of these markets will mature and create a monetization flow for a potential airport, but since there currently are some limitations in what is considered an “aeronautical” use, and there are some new entrants that are seeking significant tax or real estate incentives, an airport should ensure a new business is structured for the long-term that extends beyond any initial incentive packages.

Another issue for UAS is they have yet to demonstrate an ability to function in the national airspace without creating unacceptable risk to manned aircraft. While there are technological advances coming, they are still significantly in the future.

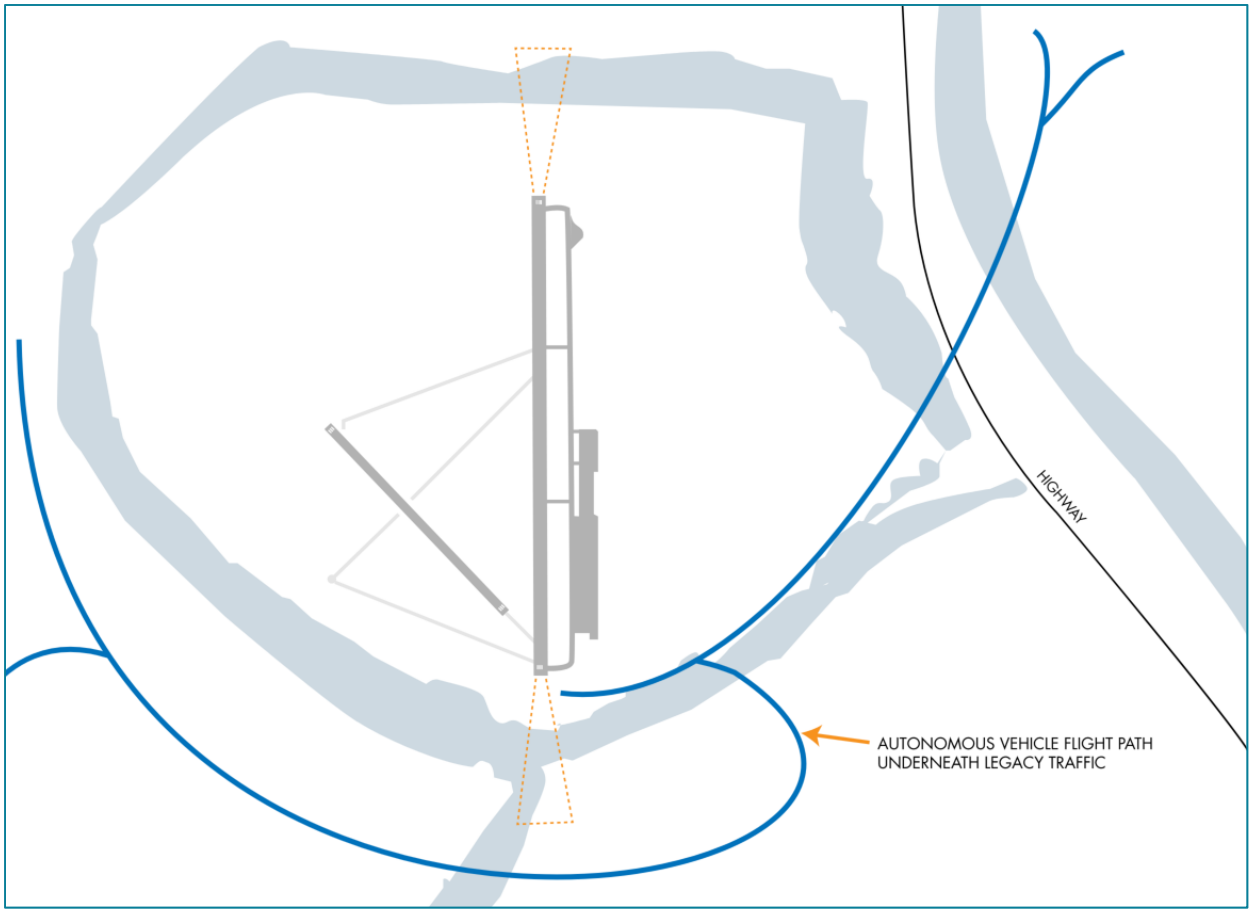
Figure 5-7: Major Components of the FAA's National Air Space System



Source: Researchgate.net

Figure 5-8 demonstrates what a Unmanned Aerial Vehicle (UAV) flight path could look like in proximity to STJ in order to fit around manned traffic. These paths may not be direct or as efficient as they could be in order to maintain the safety and separation from existing manned aircraft. This may cost the UAVs some miles and battery life.

Figure 5-8: Example of Potential UAV Paths to Avoid Manned Traffic



Source: Jviation

Once these two obstacles are solved, the industry will have extremely high potential to enhance many industries. An airport manager should monitor these developments closely, and be ready to consider how vehicle operations can be accommodated without creating risks for manned aircraft if the FAA makes the decision to classify UAS as aeronautical.

A major industry component of both the UAS and the UAM markets will be battery manufacturing and development. The design tradeoffs between battery capacity and weight means the incentive for innovation in this area will be very strong for the foreseeable future. While good research and development for enhancing battery performance has applications beyond aviation, it will be especially critical for these two emerging markets to attract an organization focused on this key enabler as it would provide a significant benefit for an airport/community.

UAM includes those developing piloted vehicles and autonomous vehicles, both with the intent to transport people and reduce travel times over congested ground traffic. UAS are those vehicles either operated by an operator on the ground or based on an autonomous automation set to deliver goods or monitor agriculture/infrastructure on the ground.

There are over 100 companies developing these vehicles now. Some of those will need production space once a vehicle is certified. In the case of the UAM market, their stated goal is to produce vehicles in the thousands in order to significantly reduce drivers on the roads. These types of large-scale facilities will need room to grow and access to other nodes of transportation.

From an airspace perspective, airports will need to continue to emphasize their development opportunities with legacy manned aviation operations while considering what additional arrangements might be available to accommodate some or all of the emerging markets. Since FAA funding processes, grant requirements, and existing airport infrastructure area is built to support manned aviation activities, those markets will remain at the forefront as the airport's primary purpose. The airspace challenge will be to create ingress/egress paths for any new vehicles added to the operational mix that can work without compromising existing traffic patterns. Ideally, a new vehicle could be fully capable of interacting in the airspace as a manned aircraft. This would mean sequencing for the airport traffic pattern to not disrupt the existing operations to/from the runway. Eventually, the capabilities of these new vehicles will reach that status, but for now those capabilities are long-term. The vast majority of operational concepts currently being sought in these emerging vehicle markets require reserved airspace that is sterilized from other types of operations.

Regardless of the assumptions made with regards to how much a new vehicle operation can communicate and mix with other operations, the key will be to determine what the ingress/egress paths will be. As an example, if one considers the typical traffic pattern airspace around a U.S. airport and then builds arrival and departure paths that stay separate from manned traffic patterns, the resulting air tracks for the new vehicles will include some structure that adds to flight distances (as compared with a straight line). Even a modest airspace structure could easily add two to seven miles of flight distance for new vehicles as they approach/leave an airport. This increase in required flight time will reduce the amount of battery life available for payload trip length.

Similarly, as the new vehicles approach the proposed scale to reach the efficiencies planned, the sequencing and queuing of vehicles to arrive at verti-port facilities will require coordination and timing. Any "wait time" experienced in the air as vehicles line up for sequencing has substantial battery implications for each planned flight duration.

As these markets mature, the Rosecrans Memorial Airport team should update this document as key developments occur, and potential opportunities emerge. The new opportunities will need to integrate legacy aviation activities while safely designing the airspace and procedures necessary for these new types of vehicles.

6.0 Market Outreach

The objective of Market Outreach is to identify organizations with an interest in locating operations at STJ or in the greater St. Joseph region. DSG Advisors' strategic partner Research Consultants International (RCI) led the effort to identify qualified candidate companies.

RCI used investment targets identified in previous steps and the value proposition, and the StoryMap, to develop a database of prospective companies, agencies, and organizations aligned with locating in St. Joseph. The goal is to create relationships with 10 potential companies or agencies.

RCI conducted a methodical lead generation program to generate meetings with target industry companies considering expansion to STJ and the St. Joseph region. The steps listed below highlight RCI's lead generation program.

6.1 Outreach Process

Phase 1: Project Launch – RCI established key screening indicators for defining companies qualified as candidates in each industry target. Screening indicators included the number of company locations, number of employees, industry trends, and current activity. Screening criteria were developed around four target industries:

- Aviation – STJ has assets that will support successful MRO[3] on aircraft of many types, from small personal aircraft and corporate fleets to 737s and C-130 sized equipment. Potential MRO uses that can be supported at STJ include major and minor aircraft maintenance such as engine overhaul, "hotwork" such as welding, torching, cutting, aircraft storage, refits, major repair, and overhauls.
- Tactical Training – The Advanced Airlift Tactics Training Center (AATTC) coursework offered at STJ, combined with a robust array of airfield assets and training facilities, is ideally positioned to meet the needs of crews working in an ever more volatile world. Training focuses on defensive maneuvering, countermeasures, and tactics for mobility forces.
- Back Office – The St. Joseph region offers a reliable and cost-effective alternative for decentralized back office operations. St. Joseph aligns with the growing trend for multi-location organizations to operate facilities in places that are less vulnerable to disruption by man-made and natural disasters and other business disruption factors.
- Manufacturing – The St. Joseph area provides manufacturers an efficient and sustainable operating environment that fosters business success. St. Joseph assets include a workforce with a long history in manufacturing and a strong Midwest work ethic, existing ready-to-build sites and market-ready buildings, low operating costs, and modern transportation and utility infrastructure.

Phase 2: Research & Database Development – RCI created list of qualified companies in each target industry that meet STJ and St. Joseph criteria for investment attraction. RCI utilized internal as well as external databases to identify candidate companies. A sample of resources is listed below.

- FDI365 – In-house AI software that monitors growth indicators emanating from prospective companies
- MassInvestor – United States Venture Capital and Private Equity Database profiles VCs, PEs, Family Offices, Angels, and Accelerators

[3] MRO: Maintenance, Repair, and Operations or Overhaul

- Proprietary CRM – A cloud-based CRM containing over 1 million prospect companies and 2.7 million contacts
- CrunchBasePro – Primary data source for venture capital and equity investment firms including funding rounds
- S&P Capital IQ – Combines global financial intelligence with an array of tools for analysis, ideation, and efficiency
- fDi Markets – Database tracking real time companies announcing, opening, and considering greenfield FDI worldwide

Phase 3: Targeted Outreach – RCI identified qualified prospects with active site search or expansion projects. Outreach followed the steps outlined below.

- Understanding the Project – RCI researchers were first immersed in understanding the value proposition associated with each STJ and St. Joseph region industry target
- Understanding the Prospect – RCI researchers then investigated prospective companies prior to outreach to demonstrate to the targeted executives that there is a logical connection between the company's investment plans and St. Joseph
- Conversation Strategy – Researchers are held to a high standard of quality and professionalism when engaging targeted executives; interviews are mandated to uncover:
    - Project scope
    - Project timeframe
    - Project budget
    - Size and type of facility required
    - Drivers for project
    - Number and types of jobs to be created
    - Incentives sought and assistance required
    - Locations being considered
- Multi-Touch Cycle – Multi-channel marketing produces significantly better results than a single thread. RCI researchers incorporate a range of channels to reach targeted executives including phone, email, and social media

Phase 4: Qualified Meetings – The objective is to put the St. Joseph Partnership in front of 10 qualified leads with active expansion projects that fit St. Joseph and STJ target criteria.

6.2 List of Prospects

RESEARCH CONSULTANTS INTERNATIONAL

Thursday	1:00 PM	Aero Sport Power Mr. Rob Wharf, Owner & President Conference call: +1 (250) 376-2955	2020-04-16
Wednesday	9:30 AM	ACMT, Inc. Mr. Michael Scotto, VP Business Development Conference call: Brad to call Michael at 860-301-0381	2020-04-22
Friday	1:00 PM	Well Bilt Industries Mr. Mark MacDonald, CEO Conference call: 772-260-8588	2020-05-08
Friday	9:00 AM	OEMServices Mr. Rolf Royer, CEO Americas Conference call: +1 678-315-9439	2020-05-15
Monday	8:00 AM	Air Salvage International Ltd Mr. Mark Gregory, CEO Conference call: +1 (312) 757-3117, Access Code: 348-505-493	2020-05-18
Thursday	8:00 AM	Skysmart MRO Mr. Andy Webb, Managing Director Conference call: +1 (646) 749-3129 | Access Code: 998-779-453	2020-05-21
Thursday	9:00 AM	Fleuret Mr. Ludovic Denis, Comercial Director Conference call: +33 786 729 181	2020-05-28

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7.0 Next Steps

The Gap Analysis section of this report outlined opportunities for strengthening the economic development attractiveness of STJ and the St. Joseph region for job creating investments. Typical in a study of community readiness gaps with easy fixes along with those more complex in nature are identified. The DSG Team study of STJ and the St. Joseph region proved to be typical.

Presented below are readiness gaps identified by the DSG Team along with a suggested remediation strategy and stakeholders who should be involved in the effort. Assignments are listed in order of recommended completion – 60 Days, Six Months, One Year – the *low hanging fruit* first win provide early wins, followed by more complex and involved implementation.

7.1 60 Days

Readiness Gap	Recommended Remediation	Stakeholders
Flood Plain: The presence of a flood plain is a big-red-flag for site selectors and corporate managers. STJ has a long history of flooding issues. STJ also has a good story to tell around flooding which makes efforts to mitigate the problem more meaningful.	Develop marketing materials that factually report on flooding risk and current mitigation efforts. Share with potential investors, present as a positive. Post on ED websites.	– St. Joseph Partnership – STJ –
Market STJ Development Opportunities: Developable assets at STJ include ANG real estate, airport owned property, and private ownership parcels. These assets are now largely undocumented. Attraction of investors to the airfield will require assets to be defined in detail. You can't sell it until you know what it is.	Identify parcels that can be developed now and the timing for release of properties in the future. Incorporate this information on St. Joseph Partnership's website, STJ web pages, and the LOIS database.	– St. Joseph Partnership – STJ – ANG
Support for Small Business: Job growth through support for entrepreneurial businesses is a wise investment for any community. Small business programs are looked upon favorably by businesses of all sizes. The support for new business is evidence of a welcoming business climate.	Increase efforts to highlight stories and successes when marketing the community. Explore ways to expand broaden support for entrepreneurs across a wide spectrum in economic sectors.	– St. Joseph Partnership – Chamber of Commerce – SBDC – Hillyard Tech – MCC
Market Outreach: Not a gap, just an initiative underway that should be continued.	Continue to pursue the economic development leads generated by RCI. Take lessons learned from RCI lead qualification and apply to future internal lead generation efforts.	– St. Joseph Partnership

7.2 6 Months

Readiness Gap	Recommended Remediation	Stakeholders
Utility Services to STJ: A comprehensive analysis of utility services (i.e. water, sewer, electric, natural gas, telecommunications, pipelines) is needed to understand service characteristics to identify and remediate weak points	A study of the size, capacity, condition, and routing of utilities from the source to the airfield is needed to identify weak points in capacity, quality, and reliability of systems.	– St. Joseph Partnership – STJ – Utility providers
Availability of ANG Buildings: ANG buildings have no economic development value if they are not available for reuse. Undefined timing for the transfer of property from ANG to private sector use discourages investment.	A timeline for transitioning properties for reuse is needed to facilitate job creating investments. As the timing for reuse is identified, individual properties can be promoted for redevelopment. Post on Partnership, STJ, and LOIS websites.	– STJ – ANG – St. Joseph Partnership
Utility Services to ANG Buildings: Modification of utility services will be required to support individual accounts as ANG buildings are released for reuse. The timing, extent, and cost of utility system modifications are yet to be determined.	A plan is needed for separating service lines to efficiently and reliably meter services at individual buildings.	– STJ – ANG
Coordinated Regional ED: With a push for new STJ development will come increased attention on STJ/Doniphan County interface. Doniphan County has limited economic development support capacity to bring to the relationship.	Development of a stronger economic development strategy for STJ should include reinforcing the development readiness and marketing capacity of Doniphan County.	– STJ – St. Joseph Partnership – Doniphan County – Utility providers
Housing: Area business and community leaders report a shortage of both affordable and executive level housing which has created barriers for new and expanding business.	Redouble initiatives already underway to address the housing shortage.	St. Joseph region civic business, economic development, and housing development leadership

7.3 1 Year

Readiness Gap	Recommended Remediation	Stakeholders
Road Access to STJ: Office and industrial firms often demand more than one point of ingress/egress to ensure uninterrupted operations. STJ has one access road that is vulnerable to service disruption.	Routing for a secondary road connecting STJ to Treece Road was presented in this report. A study is needed to identify a preferred route and a plan is needed to implement recommendations.	– STJ – Corp of Engineers – Doniphan County – City of St. Joseph
Full-Service Technical Training: Today's job market demands enhanced skillsets not readily found in most labor markets. Comprehensive post-secondary technical training resources are not available locally.	A full-service community/technical college is needed in St. Joseph. An obvious remedy is for Metropolitan Community College to establish a full-service campus in St. Joseph.	St. Joseph region education, business, civic, and economic development leadership
Office Space Availability: Office operators typically locate in leased space. St. Joseph is well positioned to attract back office operations with one exception, a shortage of available Class A and B buildings.	A Partnership-led effort should be undertaken to address the need for more lease office space.	St. Joseph region business, civic, and economic development, and office development leadership

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Appendix

STJ Strategic Economic Development Plan

Plan Objectives – guide development over next three to five years:

- Utilize ANG assets for the betterment of the airport and region
- Support the ANG in their transition to new facilities
- Enhance STJ developable assets
- Grow airport activity
- Support economic diversification in the St. Joseph region

1

Project Team:

- DSG Team (Urban Scenarios, Chabin Concepts, Research Consultants International), Jviation, STJ Airport Authority, Economic Development Partnership of St. Joseph, and Air National Guard

STJ Economic Development Strategy Components:

1. Asset Inventory - ANG facilities, airport assets, St. Joseph region assets
2. Gap Analysis - Identify ANG, airport, and St. Joseph gaps that may stifle economic development at the airport and outline remediation strategies
3. Value Proposition - Prepare a value proposition for investment targets that align with the airport's *readiness attributes*
4. Messaging – Develop marketing materials for each investment target
5. Marketing Outreach – Use investment targets to develop a database of organizations that may have an interest in locating at the airport agencies

2

Investment Targets - Timing

Aviation - MRO	Tactical Training	Manufacturing	Back Office
STJ - 2021	STJ - now	STJ – 3 to 5 years	STJ – 3 to give years
		St. Joseph region - now	St. Joseph region - now

3

Schedule

Project Step	January	February	March	April	May
Project Kickoff - Discovery					
Step 1 - STJ/Region - Existing Conditions and Community Readiness					
Step 2 - Gap Analysis					
Step 3 - Identify Investment Targets - Value Proposition					
Step 4 - Messaging					
Step 5 - Target Marketing					
Presentation of Final Report					

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5. Marketing - Status

Purpose: Identify organizations with an interest in locating operations at STJ and in the greater St. Joseph region

- Economic Development Partnership of St. Joseph
- Research Consultants International

5

Deliverables

- Story Map
- Written report outlining project goals and objectives, methodology, stakeholders, and recommended actions
  - Infrastructure improvements that will enhance STJ marketability
  - Steps for incorporating Story Map content on City and Partnership websites
  - Other economic development readiness suggestions
- Marketing leads from Research Consultants International

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Story Map

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