SOUTH CENTRAL REGIONAL AIRPORT – IOWA

AIP NUMBER 3-19-0136-001-2013

ENVIRONMENTAL ASSESSMENT (EA)
FOR
REPLACEMENT AIRPORT

- ACQUIRE PROPERTY FOR REPLACEMENT AIRPORT
- DISCONNECT 220TH STREET / CONSTRUCT NEW AIRPORT
- FEDERAL RELEASE / CLOSE PELLA MUNICIPAL AIRPORT
- FEDERAL RELEASE / CLOSE OSKALOOSA MUNICIPAL AIRPORT

PREPARED BY:
SOUTH CENTRAL REGIONAL AIRPORT AGENCY (SCRAA)
CITY OF OSKALOOSA MAHASKA COUNTY CITY OF PELLA

October 2016

This environmental assessment becomes a Federal document when evaluated, signed and dated by the Responsible Federal Aviation Administration (FAA) Official.

_____ _____
Responsible FAA Official Date

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SECTION ONE

Purpose and Need

SECTION ONE: PURPOSE AND NEED

1.1 Requirements For Environmental Assessment (EA)

This EA has been prepared in compliance with requirements set forth in the National Environmental Policy Act of 1969, as amended, the regulations of the President's Council on Environmental Quality (CEQ) for NEPA compliance, and Federal Aviation Administration (FAA) Orders 1050.1F *(Environmental Impacts: Policies and Procedures)* and 5050.4B *(National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions).*

FAA Order 5050.4B refers to federal environmental requirements outside NEPA as "special purpose laws" (federal laws, regulations, executive orders, or departmental orders, i.e. Section 106, Section 303(c) or 4(f), Section 6(f), Section 7 of the ESA, Floodplains, etc.). FAA Order 5050.4B states the FAA must comply with these special purpose laws before FAA may approve a proposed federal action. FAA Order 1050.1F, Appendix A, provides more information on these special purpose laws and how to address their requirements.

1.2 Purpose And Need

1.2.1 Purpose

A new airport location and improvements that meet minimum standards as described in FAA AC 150/5300-13A *Airport Design* is needed for the purpose of accommodating operations by large (more than 12,500 pounds maximum certificated take off weight) aircraft (Group C-II) on a regular basis safely and efficiently.

The Pella Replacement Airport Feasibility Study concluded that the existing Pella Municipal Airport could not accommodate large approach Category C-II airplanes on a regular basis nor could the existing airport site support visibility minimums as low as ½ - mile and a decision height as low as 200-feet above ground level.

The Oskaloosa Municipal Airport was initially developed as an auxiliary field to the Ottumwa Naval Air Station. The site is not geographically located where it can accommodate aeronautical activity efficiently or provide a sustained level of aeronautical services.

The 2010 Iowa Aviation System Plan recognized the need to combine the service areas of the Pella and Oskaloosa Municipal airports and recommended development of a regional airport (Red Rock).

The proposed airport would replace the existing Pella Municipal Airport and the Oskaloosa Municipal Airport. The two (2) public owned airport locations (shown in Figure E-4 of Appendix E) will be closed at the time the proposed airport becomes operational.

1.2.2 Need

Neither of the two (2) existing airports can provide facilities and services that can accommodate existing and forecast aeronautical activity safely and efficiently. The forecast of aviation activity was approved by FAA on October 26, 2014 (see Appendix D - Forecast of Aviation Activity).

Past studies have documented site constraints associated with the existing Pella Municipal Airport that inhibit the ability of the airport to physically expand to accommodate aeronautical activities. These constraints include:

- Runway 16 and 34 threshold currently displaced 500 feet each end in order to provide runway safety area, runway object free area, and approach surfaces.
- The existing runway orientation and location of the Iowa Highway 163/ Washington Interchange, along with existing land uses limit the ability to extend RW 16 and provide for lower approach minimums.
- Existing residential development and recreation facilities together with Idaho Drive limit the ability to extend RW 34 (see Figure 3-11).
- The existing airport geometry does not provide the required seperational distance between RW 16/34, Future parallel taxiway and existing terminal buildings.
- The existing site prohibits the development of lower instrument approach minimums due to the runway protection zone requirements (roadways, concentrations of people) associated with lower minimums.
- Airport compatibility with surrounding residential land uses.
- The existing site cannot accommodate the development of a crosswind runway longer than 3,200 feet due to existing topography and land use (roadways, residential and commercial development).

An assessment of the existing Pella Municipal Airport concluded that the cost to develop a “Limited Build” Airport Reference Code (ARC) C-II facility would be comparable to the cost associated with a “Full Build” ARC C-II airport at an alternative airport location.

A “Limited Build” scenario is defined as one or more proposed improvements that when completed will accommodate some of the aeronautical activity (Need) but not all. A “Limited Build” scenario may be considered where there are no reasonable alternatives. The “Build Alternative” is one or more proposed actions (improvements) that will accommodate current and forecast aeronautical activity on a regular basis safely and efficiently.

The airport service area associated with the Oskaloosa Municipal Airport is constrained by its proximity to the Ottumwa Airport and distance from Pella. While the airport presently serves small airplanes, it cannot accommodate large airplane traffic generated within the service area. Additionally, the airport cannot sustain the delivery of aeronautical services because facilities needed to

accommodate and service large airplanes are not available. Furthermore, the airport is not geographically located to serve the combined (Pella/Oskaloosa) service areas (see Figure 4-2 and E-4).

Additional Information is summarized in Appendix E Background Summary: Airport Role – Federal and State Aviation System. Reference may also be made to the following documents:

- 2010 Iowa Aviation System Plan
- Pella Airport 2010 Feasibility Study
- Airport Master Plan – South Central Regional Airport

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SECTION TWO

Proposed Action

SECTION TWO: PROPOSED ACTION

2.1 Proposed Action

The proposed actions will require the ultimate acquisition of 582 acres of land to provide for the development of an airport to accommodate large approach category C-II airplanes on a regular basis.

The proposed development includes the following actions:

1. Acquire 582 acres of land in fee title.
2. Disconnect County Road - 220th Street.
3. Construct primary runway (Runway 14/32), concrete paved 100 feet in width and 6,700 feet in length.
4. Equip the primary runway with high intensity threshold and edge lights, visual guidance slope indicator lights, and lighted wind indicators.
5. Construct a full parallel taxiway, 35 feet in width, to serve the primary runway, install taxiway edge lights and install airfield guidance signage.
6. Construct terminal apron to accommodate 18 airplanes.
7. Construct vehicle access from Iowa Highway 163 via 220th Street to the terminal building and aircraft hangar facilities.
8. Construct terminal building.
9. Construct Fixed Base Operator (FBO) maintenance facility.
10. Construct aircraft storage facilities for 52 aircraft.
11. Install above ground fuel storage tanks and dispensing unit.
12. Provide water, sanitary sewer, electrical and communication services.
13. Install airport rotating beacon light and Automated Weather Observing System (AWOS).
14. Remove trees and other obstructions, and install perimeter and security fencing.
15. Rough grade crosswind runway (Runway 10/28), 120 feet in width and 4,380 feet in length (paving and lighting crosswind runway is anticipated 10+ years).
16. Develop new Instrument Approach Procedures to Runways 14 and 32.
17. Install approach light system (MALSR) on Runway 32.
18. Close the existing Pella Municipal Airport, dispose of airport assets and convert existing site to non-aeronautical uses.
19. Close the existing Oskaloosa Municipal Airport, dispose of airport assets and convert existing site to non-aeronautical uses.

Figure 2-1 shows the Area of Potential Effect (APE) and the proposed development. The Area of Potential Effect is represented by the proposed property acquisition and properties immediately surrounding the new proposed regional airport. The APE also includes the existing boundaries associated with the two existing public owned airports (see Figures 2-2 and 2-3).

The proposed actions are shown on the Airport Layout Plan (ALP) that was given conditional approval by the FAA on March 4, 2015 (see Appendix E).

2.2 Development Phases

2.2.1 Phase One (2016-2023)

The first phase of development includes:

- Acquisition of 582 acres of land for the purpose of constructing airport improvements shown on the Airport Layout Plan (ALP). The land acquisition process is expected to extend over a four (4) year period (2016-2019).
- Design and construction of Runway 14/32 and parallel Taxiway A. The phased construction is expected to extend over a multi-year period. Proposed is a runway 100 feet in width and constructed to an ultimate length of 6,700 feet. The runway and parallel taxiway pavement will be designed to accommodate a 60,000 pound dual wheel loading. High intensity runway threshold and edge lights are proposed for installation. Runway 14/32 will also be equipped with Runway End Identifier Light (REIL) units and Precision Approach Path Indicator (PAPI) lights. Taxiway A will also be equipped with edge lights. Pavement markings and airfield guidance signage will also be implemented.
- Terminal Area: Grading and drainage improvements within the terminal area will commence at the same time grading and drainage improvements associated with Runway 14/32 and Taxiway A are initiated. Proposed is the construction of a terminal building, Fixed Base Operation (FBO) facility, fuel facilities (Jet A and 100LL), aircraft storage for 52 aircraft, vehicle access and parking facilities, aircraft parking apron, airport ground equipment storage facility, electrical vault building, security fencing and utility infrastructure improvements.
- A rotating beacon light and Automated Weather Observing System (AWOS) is proposed for construction.
- Development of a new instrument approach procedure (Visibility minimum as low as ½ statute mile and 200 foot decision height for Runway 32), (Visibility minimum as low as ¾ statute mile, 250 foot decision height for Runway 14).

The intent of Phase One improvements is to provide an operational airport. The existing Pella Municipal Airport (see Figure 2-2) and Oskaloosa Municipal Airport (see Figure 2-3) will be closed.

The closure of the existing Pella Municipal Airport and Oskaloosa Municipal Airport would eliminate the airport environmental footprint associated with each of these airport facilities. While the proposed development of the new airport would create a new airport environmental footprint, the following facilities will be reduced:

- Existing and planned runways would be reduced from four (4) existing to two (2) proposed.
- Obligated airport land would be reduced from 729 acres existing to 582 acres proposed.

- Fuel storage facilities would be reduced from two (2) locations to one (1) location.
- Potential impacts to biotic resources would be reduced from two (2) locations to one (1) location.
- The proposed new airport site is centrally located within the combined Pella and Oskaloosa Airport Service areas, thereby reducing travel distance.
- Airport operating costs (snow removal, grounds maintenance, and energy usage) would be reduced, thereby reducing energy consumption and the need for airfield maintenance equipment.

The closure will provide the opportunity to:

- Develop land uses that are compatible with adjacent land uses.
- Provide a "critical mass" that would sustain the delivery of aeronautical services.
- Reduce the financial burden of maintaining two (2) public owned airport facilities.
- Accommodate aeronautical demand generated within the combined airport service areas.
- Utilize existing obligated airport assets to develop the replacement airport.

2.2.2 Phase Two (2024-2025)

Phase Two is intended to complement improvements made in Phase One.

- Provide all weather surface on 220th Street (Iowa Highway 163 – Terminal Area).
- Install Medium Intensity Approach Light System (MALSR), provided a favorable benefit/cost determination is made.
- Complete phased construction associated with Runway 14/32 and Taxiway A.

2.2.3 Phase Three (2026-2035)

Phase Three provides the development of the crosswind runway (Runway 10/28).

- Design and construction of Runway 10/28 to an ultimate length of 3,400 feet. The runway, 60 feet in width, would be equipped with medium intensity threshold and runway edge lights. Runway End Identifier Light (REIL) units and Precision Approach Path Indicator (PAPI) lights are proposed for installation on Runways 10 and 28.
- A full taxiway (Taxiway B) is recommended. The taxiway (35 feet in width) should be designed to accommodate small airplanes with a wingspan under 49 feet.
- The runway and taxiway pavement should be designed to accommodate an airplane with a gross landing or takeoff weight under 12,500 pounds.
- Additional aircraft storage and associated taxiways may be constructed in response to aeronautical demand.

The proposed actions meet the project purpose and need described in Section 1.2 and the minimum standards as described in *FAA AC 150/5300-13A – Airport Design.*

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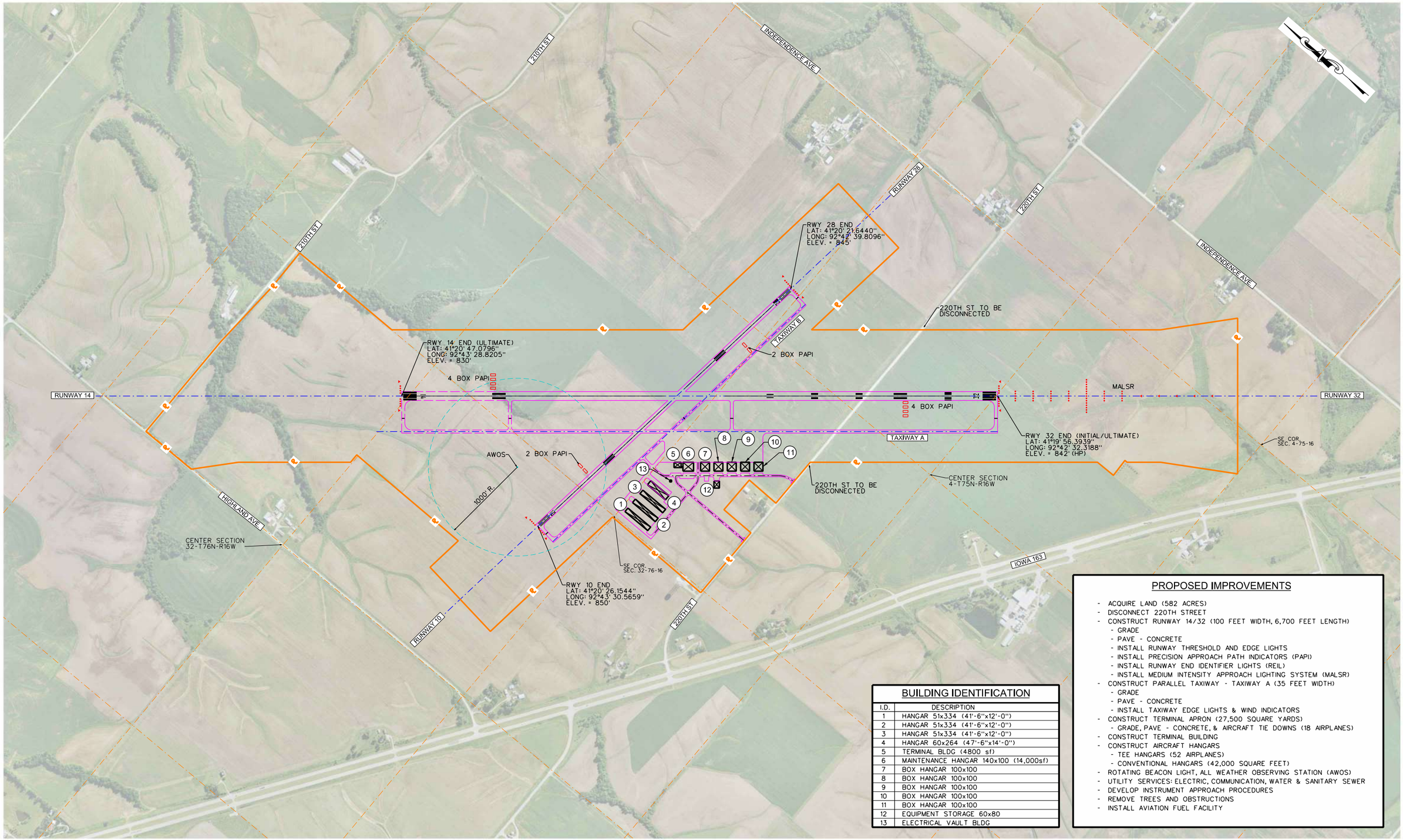


BUILDING IDENTIFICATION

I.D.	DESCRIPTION
1	HANGAR 51x334 (41'-6"x12'-0")
2	HANGAR 51x334 (41'-6"x12'-0")
3	HANGAR 51x334 (41'-6"x12'-0")
4	HANGAR 60x264 (47'-6"x14'-0")
5	TERMINAL BLDG (4800 sf)
6	MAINTENANCE HANGAR 140x100 (14,000sf)
7	BOX HANGAR 100x100
8	BOX HANGAR 100x100
9	BOX HANGAR 100x100
10	BOX HANGAR 100x100
11	BOX HANGAR 100x100
12	EQUIPMENT STORAGE 60x80
13	ELECTRICAL VAULT BLDG

PROPOSED IMPROVEMENTS

- ACQUIRE LAND (582 ACRES)
- DISCONNECT 220TH STREET
- CONSTRUCT RUNWAY 14/32 (100 FEET WIDTH, 6,700 FEET LENGTH)
  - GRADE
  - PAVE - CONCRETE
  - INSTALL RUNWAY THRESHOLD AND EDGE LIGHTS
  - INSTALL PRECISION APPROACH PATH INDICATORS (PAPI)
  - INSTALL RUNWAY END IDENTIFIER LIGHTS (REIL)
  - INSTALL MEDIUM INTENSITY APPROACH LIGHTING SYSTEM (MALSR)
- CONSTRUCT PARALLEL TAXIWAY - TAXIWAY A (35 FEET WIDTH)
  - GRADE
  - PAVE - CONCRETE
  - INSTALL TAXIWAY EDGE LIGHTS & WIND INDICATORS
- CONSTRUCT TERMINAL APRON (27,500 SQUARE YARDS)
  - GRADE, PAVE - CONCRETE, & AIRCRAFT TIE DOWNS (18 AIRPLANES)
- CONSTRUCT TERMINAL BUILDING
- CONSTRUCT AIRCRAFT HANGARS
  - TEE HANGARS (52 AIRPLANES)
  - CONVENTIONAL HANGARS (42,000 SQUARE FEET)
- ROTATING BEACON LIGHT, ALL WEATHER OBSERVING STATION (AWOS)
- UTILITY SERVICES: ELECTRIC, COMMUNICATION, WATER & SANITARY SEWER
- DEVELOP INSTRUMENT APPROACH PROCEDURES
- REMOVE TREES AND OBSTRUCTIONS
- INSTALL AVIATION FUEL FACILITY

DGR ENGINEERING

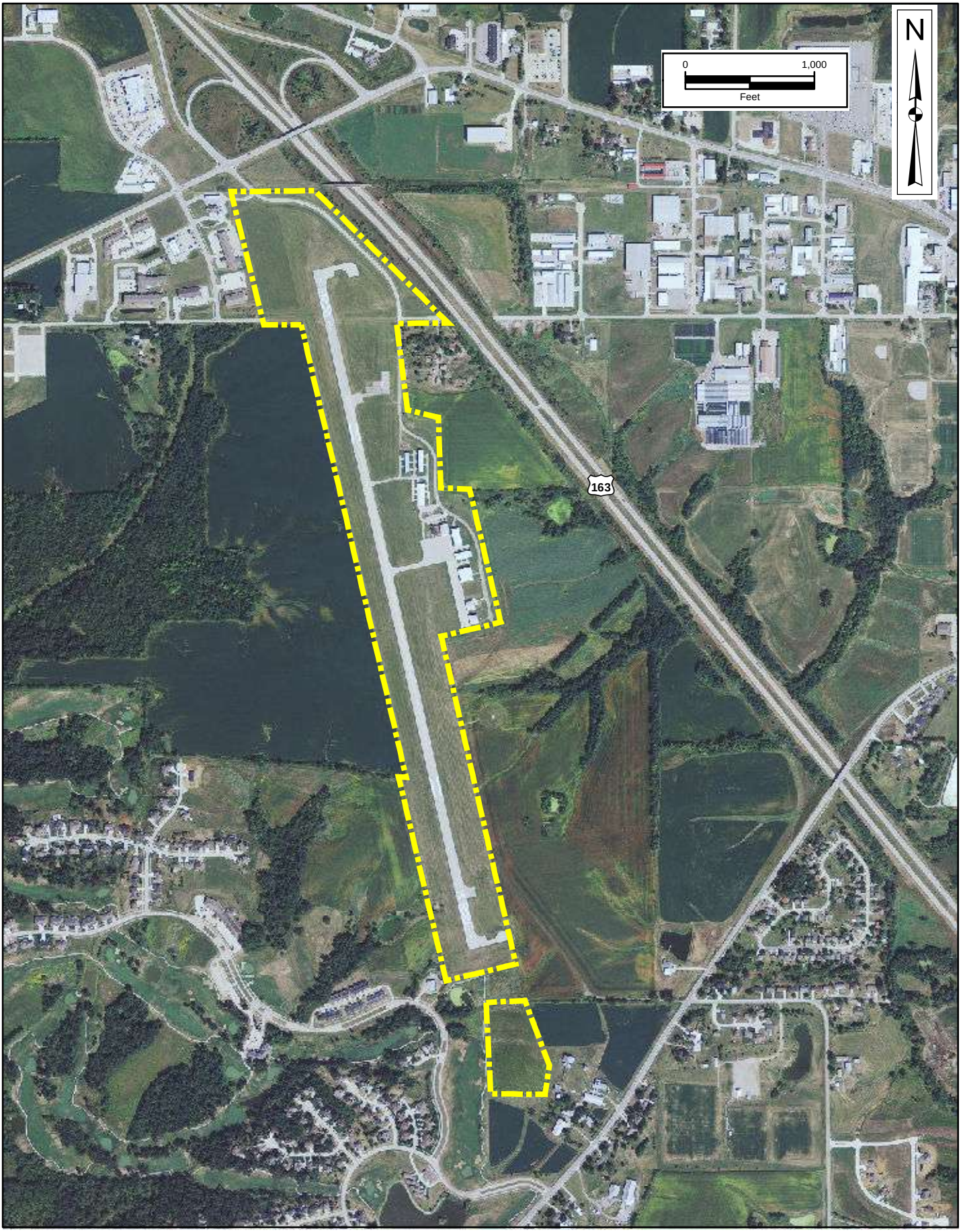
SNYDER & ASSOCIATES
Engineers and Planners

JS Consulting LLC

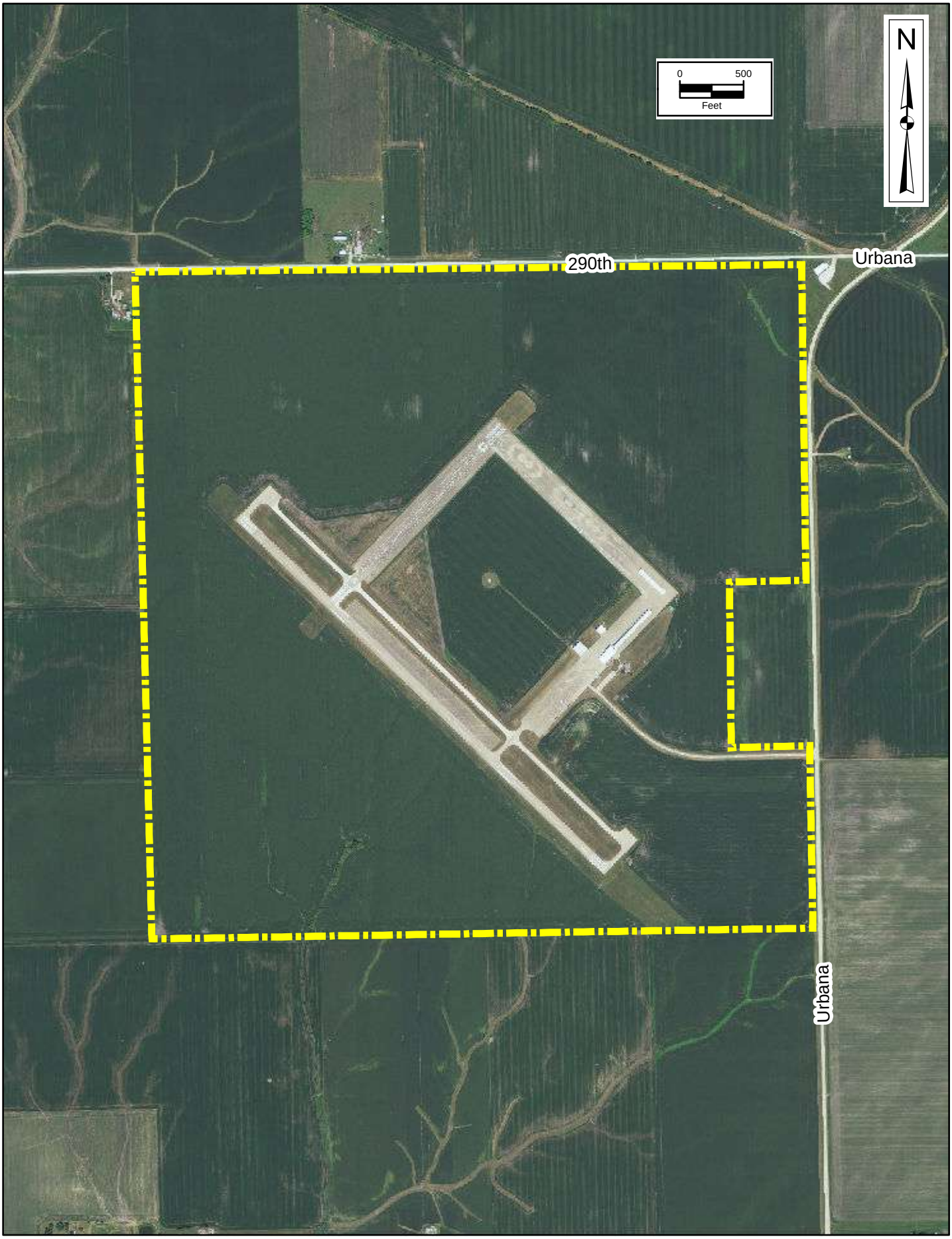
SOUTH CENTRAL REGIONAL AIRPORT
MAHASKA COUNTY, IOWA

PROPOSED AIRPORT DEVELOPMENT

FIGURE
2-1



DGR ENGINEERING	SNYDER & ASSOCIATES Engineers and Planners	JS Consulting LLC	SOUTH CENTRAL REGIONAL AIRPORT MAHASKA COUNTY, IOWA PELLA MUNICIPAL AIRPORT (PEA) PROPERTY	FIGURE 2-2



DGR ENGINEERING	SNYDER & ASSOCIATES Engineers and Planners	JS Consulting LLC	SOUTH CENTRAL REGIONAL AIRPORT MAHASKA COUNTY, IOWA OSKALOOSA MUNICIPAL AIRPORT (PEA) PROPERTY	FIGURE 2-3

SECTION THREE

Alternatives

SECTION THREE: ALTERNATIVES

3.1 Introduction

Section Three provides an overview of the range of alternatives considered.

3.1 Introduction
3.2 No Action Alternative
3.2.1 Service from Area Airports
3.2.2 Other Modes of Transportation
3.3 Reasonable Alternative One: Site B
3.4 Reasonable Alternative Two: Site A
3.4.1 Site A: Build Alternative 1
3.4.2 Site A: Build Alternative 2
3.4.3 Site A: Build Alternative 3
3.4.4 Site A: Terminal Area Build Alternative
3.5 Release/Closure – Pella Municipal Airport
3.6 Release/Closure – Oskaloosa Municipal Airport

3.2 No Action Alternative

The "No Action Alternative" provides a basis for comparison with other project alternatives. The "No Action Alternative" assumes that:

- The City of Pella would continue to operate the Pella Municipal Airport.
- The City of Oskaloosa would continue to operate the Oskaloosa Municipal Airport.

The City of Pella initiated a project to identify a site and develop an Airport Layout Plan (ALP) for a new airport to replace the existing Pella Municipal Airport. A site near Otley, Iowa was selected. An Airport Layout Plan (ALP) was prepared and submitted to FAA for review. The FAA gave a "Conditional" approval to the *Pella Replacement Airport Layout Plan* on December 16, 2011. Reference may be made to the:

- *Pella Replacement Airport Feasibility Study* dated January 10, 2010 and accepted by the FAA on May 7, 2010.
- *Pella Replacement Airport Layout Plan* dated December 2011 and given a "Conditional" approval on December 16, 2011.

An Environmental Assessment (EA) for the proposed Pella Replacement Airport was not initiated given the renewed dialogue between the City of Oskaloosa and the City of Pella. The proposed site near Otley does not meet the site selection parameters as set forth in the 28E Agreement (see Iowa Code Chapter 28E: Joint Exercise of Government Powers) between the City of Pella, Mahaska County and the City of Oskaloosa. Therefore, the Pella Replacement Airport (near Otley) does not meet the Purpose and Need as discussed in Section 1.2.

The *Pella Replacement Airport Feasibility Study* concluded that the existing Pella Municipal Airport could not accommodate large approach Category C-II airplanes on a regular basis nor could the existing airport site support approach visibility minimums as low as ½ statute mile and a decision height as low as 200 feet above ground level.

The Oskaloosa Municipal Airport was initially developed as an auxiliary field to the Ottumwa Naval Air Station. The site is not geographically located (see Figures 4-2, E-1, and E-4) where it can accommodate aeronautical activity efficiently or provide a sustained level of service within the combined Pella and Oskaloosa Service areas. The existing site does not meet the parameters set forth in the 28E Agreement between the City of Pella, Mahaska County and the City of Oskaloosa. The existing Oskaloosa Municipal Airport does not meet the Purpose and Need as set forth in Section 1.2.

The "No Action Alternative" is not consistent with recommendations set forth in the *2010 Iowa Aviation System Plan* (See Appendix E).

> *"It is recommended that the cities of Pella and Oskaloosa increase cooperation to develop a new regional airport to replace existing airports serving these communities. A mutually agreed upon location, in proximity of both Pella and Oskaloosa, will be essential to the successful development of a new airport."*
>
> Source: *2010 Iowa Aviation System Plan* (Iowa DOT – Office of Aviation)

The "No Action Alternative" does not meet the Purpose and Need described in Section 1.2. It will serve as a baseline comparison for the "Build Alternatives"; therefore, it is retained for analysis.

3.2.1 Service from Area Airports

Service from an area airport was addressed in the *Pella Replacement Airport Feasibility Study* (April 2009). The nearest airports that can accommodate approach category C-II airplanes on a regular basis were identified as follows:

- Des Moines International Airport (51.94 miles) (100% of Fleet)
- Ottumwa Industrial Airport (45.00 miles) (75% of Fleet)
- Newton Municipal Airport (30.04 miles) (75% of Fleet)
- Ankeny Regional Airport (48.26 miles) (75% of Fleet)

The distance was measured in miles between the Pella City Hall (Pella Municipal Airport Service Area Centroid) and the system airport using the state numbered highways. The utilization of an area airport to accommodate operations by large approach category "C" airplanes that are based at the Pella Municipal Airport does not meet the purpose and need described in Section 1.2.

In May 2012, the FAA issued a report entitled: *General Aviation Airports: A National Asset.* Within the report, the Pella Municipal Airport was classified as a "Regional" airport. The Oskaloosa Municipal Airport, Ottumwa Regional Airport and Knoxville Municipal Airport were classified as "Local" airports.

3.2.2 Other Modes of Transportation

The South Central Regional Airport service area is served by other modes of transportation. The highway network (Commercial Industrial Network, CIN) provides regional accessibility to the interstate highway system (Interstate 80) via Iowa Highway 163 and U.S. Highway 63. State Highways 23 and 92 provide access to U.S. Highway 63 and Iowa Highway 163. The existing highway network will provide regional accessibility to the proposed South Central Regional Airport.

The CIN is a roadway system over 2,000 miles consisting of primary highways designated by the Iowa Department of Transportation to support economic development and diversification through transportation investments. The CIN connects the State of Iowa's regional growth areas and carries a significant percentage of the state's commercial roadway traffic. The CIN does not include the interstate highway system. The area is also served by a farm to market road network, local county roads and municipal streets. The road network serves to move passengers and various types of freight.

Rail freight service is provided by Union Pacific Railroad. The Union Pacific Railroad extends through Mahaska County and the City of Oskaloosa.

Alternative modes of transportation do not reasonably meet the purpose and need. The highway network and proposed airport do however complement each other.

3.3 Reasonable Alternative One: Site B

Site B meets the purpose and need discussed in Section 1.2 and was retained by the South Central Regional Airport Agency (SCRAA) Board as an alternate location to the preferred location.

Site B is located in Black Oak Township (T76N, R16W) and extends over all or parts of Sections 26, 35 and 36. Based on the initial concept plan, the City of Leighton is located less than three-quarter mile from the crosswind runway (See Figure 3-1).

The proposed conceptual primary runway orientation is N24° 49' 23.33" W (true). The proposed conceptual crosswind runway orientation is N32° 50' 18.092" E. Based on the runway geometry, the optimal location for terminal development is between the intersecting runways with new road access constructed from Iowa Highway 163.

The Runway Protection Zones (RPZ) extending beyond Runway 16 (primary runway) extends over Iowa Highway 163 while the RPZ beyond Runway 34 extends over 220th Street.

The FAA issued (September 27, 2012) interim guidance regarding land uses within the RPZ. Where a public roadway extends through the RPZ, approval by the National Airport Planning and Environmental Division (APP-400) is required. Moving the RPZ and Runway 16 threshold so as to place Iowa Highway 163 outside the RPZ, would

extend the Runway 34 threshold farther to the south and into an area having greater topographic relief and defined drainage ways.

Development of Alternative One - Site B will require the closure of Elba Avenue from the intersection of 205th Street/Elba Avenue south 3,000 feet to an existing farmstead. A county road (220th Street) would need to be relocated or disconnected where it intersects with the RPZ extending beyond Runway 34. Should approval from the FAA National Airport Planning and Environmental Division (APP-400) be obtained and the ultimate runway length did not extend beyond 6,000 feet, consideration may be given to a potential 220th Street relocation, rather than being disconnected. The runway length justified within the 20 year planning horizon (See *Airport Master Plan – South Central Regional Airport*, Chapter Three – Facility Requirements) is 6,700 feet. Therefore, the reasonable conclusion is that 220th Street will need to be disconnected.

Development of Alternative One - Site B will require the acquisition of one (1) farmstead and the demolition of a house and out buildings. The airport geometry, as shown in Figure 3-1, would potentially impact sixteen (16) property owners.

Site B is located within the Muchakinock Creek drainage basin. There are two (2) water courses located within the project area:

- Muchakinock Creek Tributary (41° 21’ 13.65” N, 92° 46’ 25.68” W)
- Unnamed water course (41° 20’ 11.47” N, 92° 45’ 59.33” W)

Muchakinock Creek flows southeasterly to join the Des Moines River.

The current Federal Emergency Management Agency (FEMA) identified a 100-year floodplain associated with Muchakinock Creek Tributary 11 extending through the primary runway (Runway 16/34). To meet *Executive Order 11988*, Floodplains and U.S. Department of Transportation *Order 5650.2 Floodplain Management and Protection* all airport actions must avoid floodplains if a practical alternative exists (See Figure 3-3).

The National Wetland Inventory (NWI) map did not identify a wetland on Site B. Soil maps provided by the U.S. Department of Agriculture were used to identify the location of hydric soils. Hydric soils are used as wetland indicators. The project area contained approximately 472 acres of hydric soil. In addition to NWI maps and soil maps, aerial photography was reviewed to determine if potential wetlands might exist. Four (4) potential wetland areas located within drainage swales were identified on Site B. The drainage swales are located in the northwest, central and southeast sections of the proposed site (See Figure 3-3).

The Iowa Administrative Code (IAC) 314.23 considers land a woodland if the area consists of greater than three (3) acres of forested land having at least 200 trees per acre or connected to a larger tract of forested land with the entire forest being greater than three (3) acres. There are no areas designated as a potential woodland.

Based on the review of aerial photography, critical habitat associated with endangered, threatened or special concern species is minimal. As noted, the project area is farmland that is under cultivation (See *Technical Memorandum Airport Site Selection*, Biotic Communities, Page 37).

The National Resources Conservation Service (NRCS) classifies farmland by using a Prime Land Rating system. Based on the preliminary Concept Plan, approximately 306.5 acres of prime farmland may be impacted (see *Technical Memorandum Airport Site Selection*, Table 5: Site B Soil Properties, Page 42). A map exhibit showing prime farmland was prepared for Site B (see Figure 3-2: Site B Prime Land Rating). The proposed airport development will potentially impact 306.5 acres of prime farmland.

Mahaska County adopted a County Comprehensive Land Use Plan in September 2004. The County has not adopted Land Use Zoning Regulations. Existing land uses, as shown in Figure 3-1, are devoted to agriculture. The largest concentration of people is located within the incorporated City of Leighton (Population 162 – 2010 Census year). The proposed development will have minimal impact on existing residential, commercial, industrial, public and recreational land uses within the City of Leighton. The proposed development will have an impact on agricultural farming operations.

Mahaska County has a long history of coal mining activities. There are no known surface or underground coal mines located on Alternative One - Site B.

There are no known underground gas transmission lines extending through the site. There are overhead electrical transmission lines located adjacent to Iowa Highway 163. The transmission line would likely have to be relocated. A cell tower is located adjacent and north of Iowa Highway 163. The cell tower will not impact development of instrument approach procedures (see *Technical Memorandum Airport Site Selection* – Appendix A – FAA Airspace Analysis, March 18, 2013).

There are no places listed on the National Register of Historic Places located on Site B. It should be noted that the Vander Wilt Farmstead Historic District (1345 IA-163, Black Oak Township Section 22, T26N, R17W) was considered when identifying candidate sites. There are no known registered historical or archaeological sites located on Site B (see *Technical Memorandum Airport Site Selection* – Appendix C – Mahaska County Historical Society – Historic Places).

There are no public owned parks or recreational lands located on Site B. (see *Technical Memorandum Airport Site Selection*, Page 48). The planned approaches based on runway alignments will not extend over recreational land uses located within the City of Leighton. There are no Mahaska County owned and managed recreational areas located near Site B (see *Technical Memorandum – Airport Site Selection*, Exhibit 23, Page 49).

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Plot Date: 7/20/2015

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Model: AIRSPACE PLOT B

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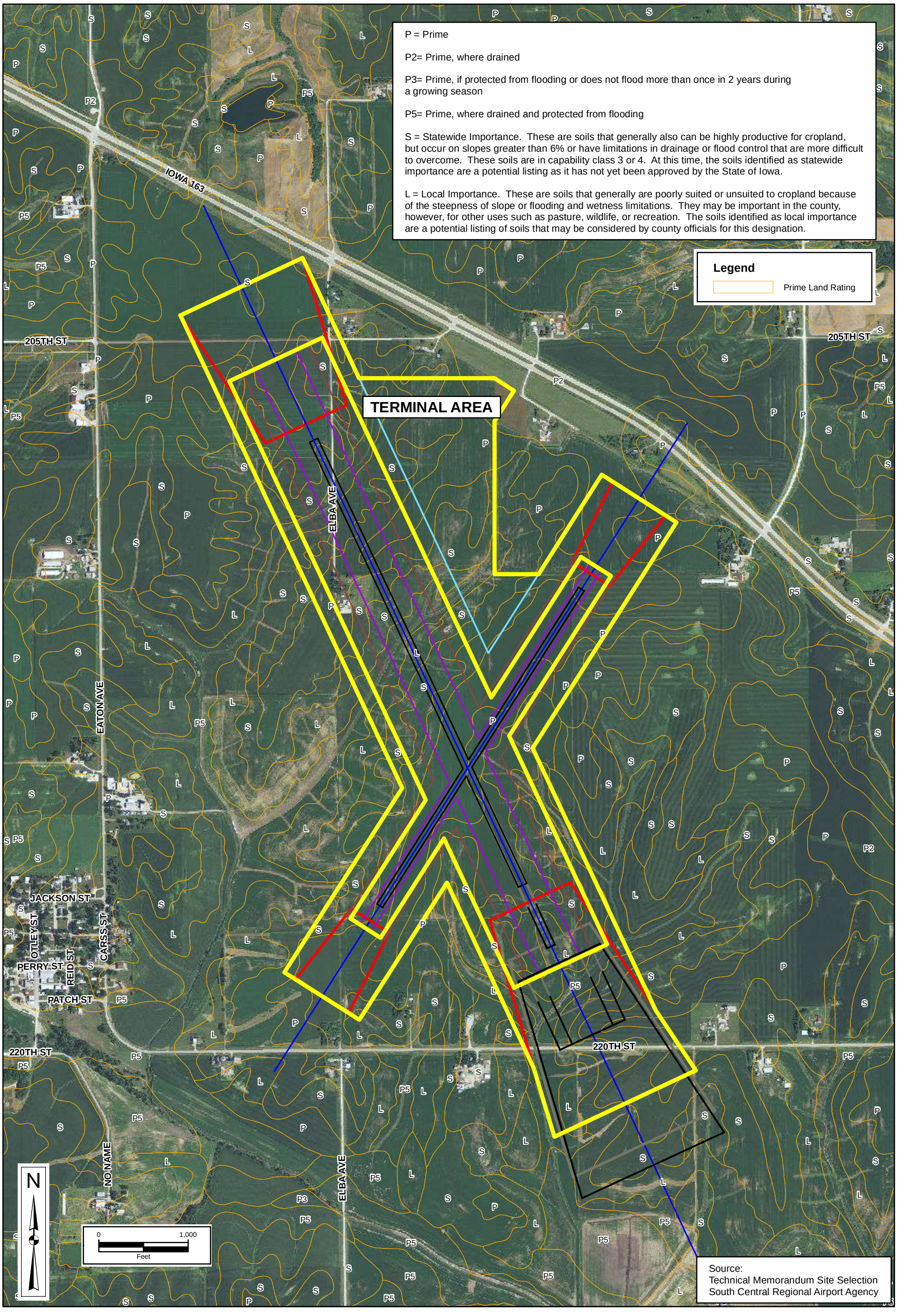
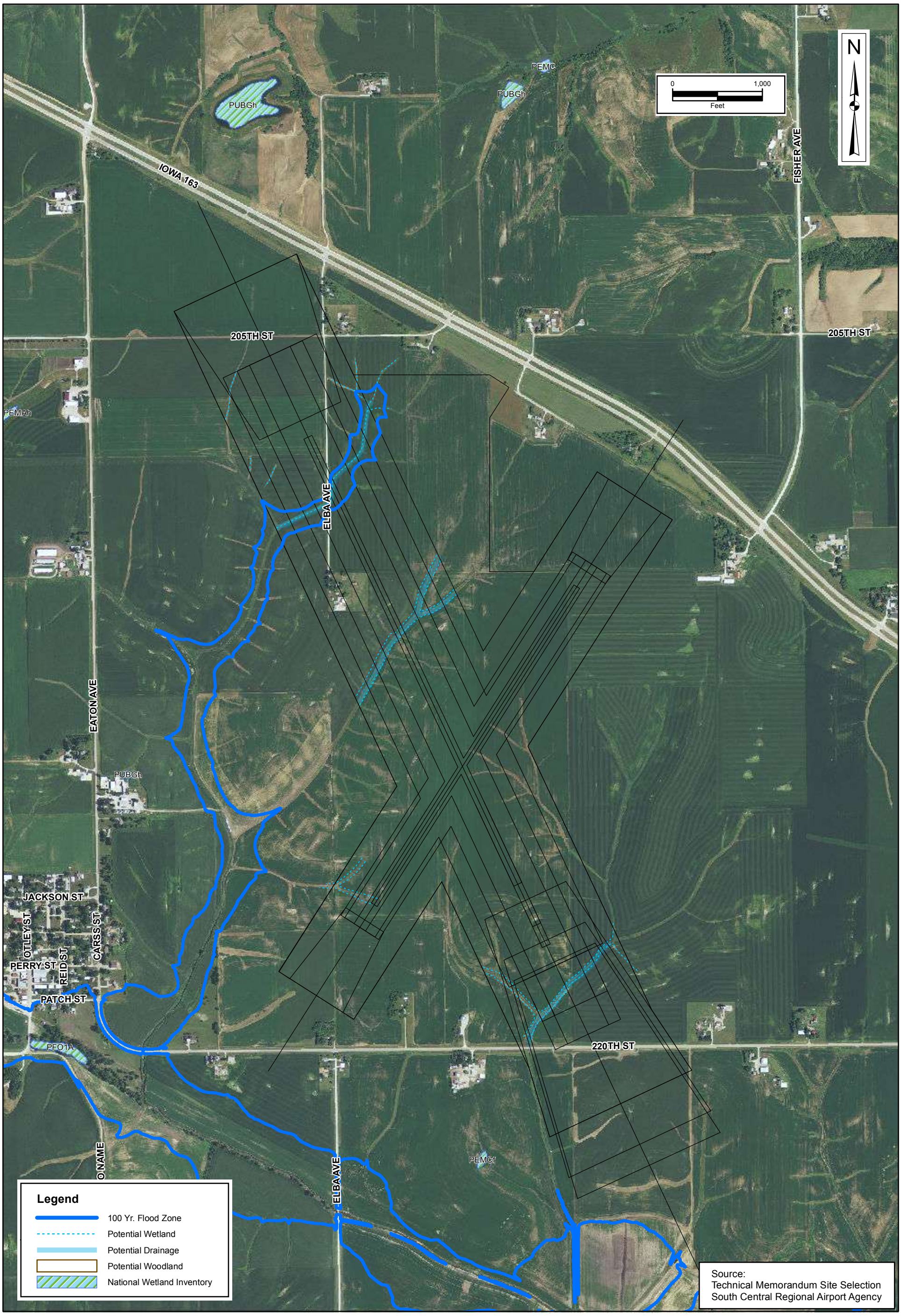
DGR ENGINEERING	SNYDER & ASSOCIATES Engineers and Planners	JS Consulting LLC	SOUTH CENTRAL REGIONAL AIRPORT MAHASKA COUNTY, IOWA	SITE B CONCEPT PLAN MAHASKA COUNTY, IOWA	FIGURE 3-1



DGR ENGINEERING	SNYDER & ASSOCIATES Engineers and Planners	JS Consulting LLC	SOUTH CENTRAL REGIONAL AIRPORT MAHASKA COUNTY, IOWA	SITE B SOILS PRIME LAND RATING	FIGURE 3-2



DGR ENGINEERING	SNYDER & ASSOCIATES Engineers and Planners	JS Consulting LLC	SOUTH CENTRAL REGIONAL AIRPORT MAHASKA COUNTY, IOWA	SITE B POTENTIAL ENVIRONMENTAL IMPACTS	FIGURE 3-3

3.4 Reasonable Alternative Two: Site A

Alternative Two - Site A meets the purpose and need discussed in Section 1.2 and has been selected as the preferred location by the South Central Regional Airport Agency Board.

Alternative Two - Site A is located in Madison Township, T76N, R16W, Sections 29, 32 and 33, and Garfield Township, T75N, R16W, Section 4.

As shown on the initial Concept Plan, the primary runway orientation is N38° 41' 17.88"W (True). The crosswind runway orientation is N74° 55' 29.16"E (True). The terminal area is shown as located between the intersecting runways and north of 220th Street (see Figure 3-4 – Site A Concept Plan).

The Runway Protection Zone (RPZ) located beyond the Runway 14 threshold extends over 210th Street. As discussed in Section 3.3, approval by the National Airport Planning and Environmental Division (APP-400) is required. Unlike Iowa Highway 163 (Site B), 210th Street is a gravel surfaced rural county road with lower traffic volumes. The Runway Protection Zone (RPZ) would also extend over Highland Avenue. Moving the Runway 14 threshold farther to the southeast, to place 210th Street and Highland Avenue outside the RPZ, was considered and incorporated into the Airport Layout Plan (ALP) (see *Airport Master Plan – South Central Regional Airport*, February 2015, Chapter Three – Facility Requirements and Chapter Four – Site A Alternatives).

The development of Site A will require the disconnection of 220th Street. At present, 220th Street is a gravel surface county road that extends between Iowa Highway 163 and U.S. Highway 63. Should 220th Street be disconnected, access to Iowa Highway 163 may be provided by Independence Avenue.

The initial Concept Plan (see Figure 3-4), prepared for Alternative Two - Site A, would have required the acquisition and relocation of a farmstead located within the Runway Protection Zone (RPZ) extending beyond Runway 14. By moving the Runway 14 threshold to the southeast, the farmstead is located beyond the Runway Protection Zone (RPZ) extending beyond Runway 14. The airport geometry as shown in Figure 3-4 would potentially impact twelve (12) property owners.

Nearly all of Site A drains in a northeasterly direction to the South Skunk River. The southeast area of Site A drains to the Des Moines River drainage basin. An unnamed water course is located beyond the Runway 14 threshold (41° 21' 4.67"N, 92° 44' 42.08"W).

There are no designated flood plains on Site A (see Figure 3-6).

The National Wetland Inventory (NWI) map identified one (1) freshwater pond (PUBGH). The pond (approximately 0.23 acres) is defined as a palustrine emergent unconsolidated bottom wetland that is diked. In addition to NWI maps, a review of soil maps and aerial photography was undertaken. Site A has three (3) potential wetland areas consisting of drainage ways and drainage swales in addition to the pond. Within the project area, there is potentially 390.7 acres of hydric soil.

The Iowa Department of Natural Resources (IDNR) website was used to identify potential threatened and endangered plant and animal species within the project area. Based on aerial photography, there appears to be a low risk for impacting habitat that would be associated with threatened and endangered species (see Appendix D – *Indiana Bat and Long-Eared Bat Assessment* – June 15, 2015).

The *Technical Memorandum – Airport Site Selection* summarizes soil properties for each of the candidate sites (see Table 4 – Site A Soil Properties, page 40). Figure 3-5 shows the extent of prime farmland as well as soils classified of state and local importance. There is approximately 346.1 acres of land classified as prime farmland within the project area (see Figure 3-5).

Site A is located approximately nine (9) miles from the Mahaska County Landfill. There are no known hazardous waste sites on Site A.

There are no documented above or underground coal mines within the project area.

An elevated rural water storage facility is located adjacent to 220th Street and the proposed terminal area. The elevated rural water storage facility will not impact the development of instrument approach procedures (see *Technical Memorandum - Airport Site Selection* - Appendix A – FAA Airspace Analysis - March 18, 2013). There are overhead electrical power transmission lines extending along Iowa Highway 163 and immediately west of Independence Avenue.

The Prine Cemetery is located within the project area associated with Site A. Given the location, it is possible to align the primary runway so the cemetery is located outside the area that may ultimately be acquired to accommodate airport development (see Site A – Build Alternative 3).

There are no places listed on the National Register of Historic Places located within the Site A project area. A Phase I – Archaeological Assessment was done as part of the U.S. Highway 63 Corridor Study for Mahaska and Poweshiek Counties. The report prepared by Tallgrass Historians LLC, dated November 2012, reported that there are no archaeological sites in Mahaska County that have been listed in the National Register of Historical Places. There is a previously recorded archaeological site identified in Section 32, T76N, R16W (see Section 5.10).

There are no public owned parks or recreational lands located on Site A. There are no Mahaska County owned and managed recreation areas located under the proposed approach surfaces. Recreational facilities located within the City of Oskaloosa will not be impacted.

There are no residential dwelling units, farmsteads or commercial businesses proposed for acquisition. The proposed acquisition of land will impact current agricultural practices and farming operations.

Mahaska County adopted a Comprehensive Land Use Plan in September 2004. The county has not adopted a Land Use Zoning Ordinance. The City of Oskaloosa, the nearest incorporated city to Site A, has in place a future Land Use Plan and Land Use Zoning regulations.

Three (3) "Build" Alternatives were prepared and referenced as:

- Site A: Build Alternative 1
- Site A: Build Alternative 2
- Site A: Build Alternative 3 (Proposed Action)

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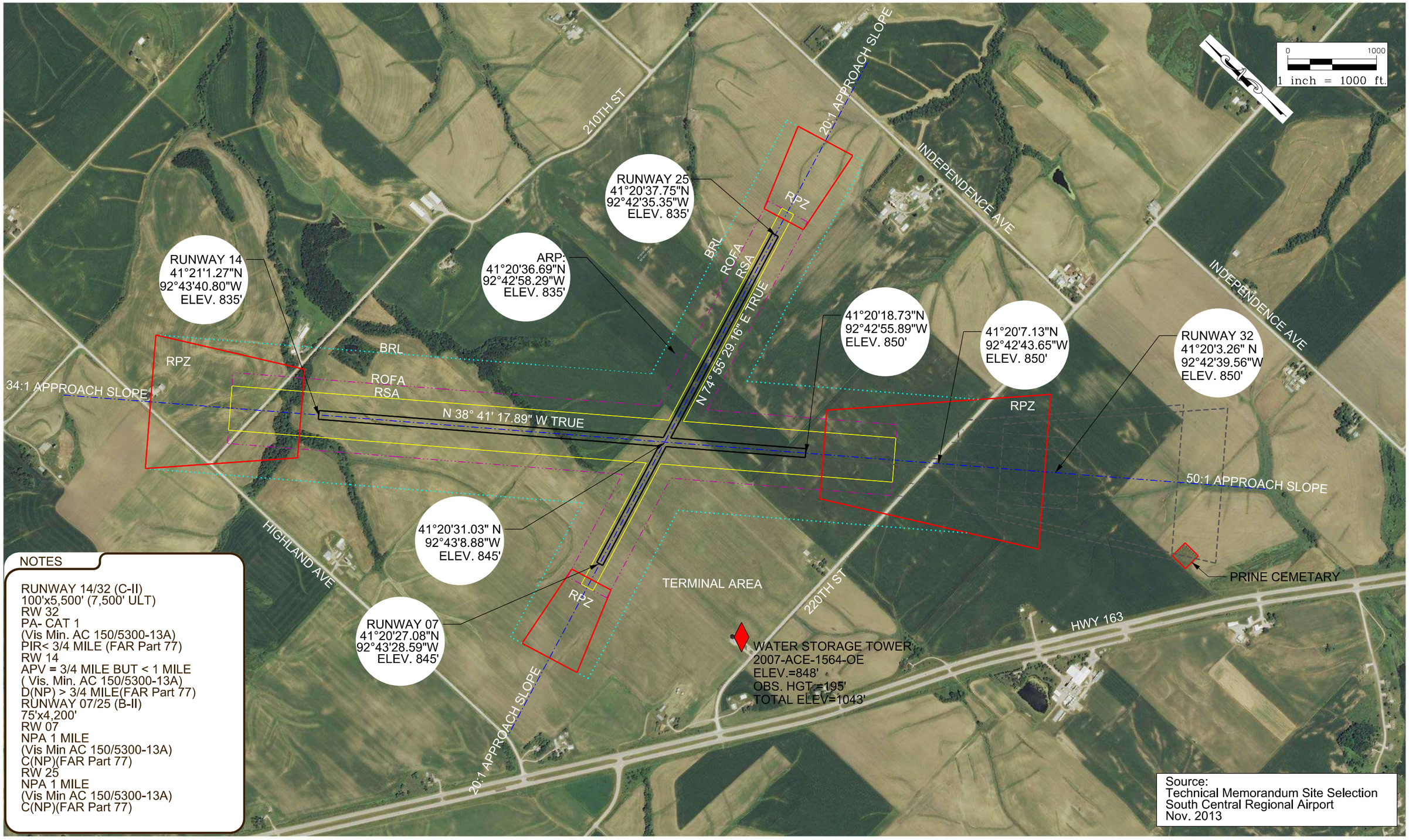

NOTES

RUNWAY 14/32 (C-II)
100'x5,500' (7,500' ULT)
RW 32
PA- CAT 1
(Vis Min. AC 150/5300-13A)
PIR< 3/4 MILE (FAR Part 77)
RW 14
APV = 3/4 MILE BUT < 1 MILE
(Vis. Min. AC 150/5300-13A)
D(NP) > 3/4 MILE(FAR Part 77)
RUNWAY 07/25 (B-II)
75'x4,200'
RW 07
NPA 1 MILE
(Vis Min AC 150/5300-13A)
C(NP)(FAR Part 77)
RW 25
NPA 1 MILE
(Vis Min AC 150/5300-13A)
C(NP)(FAR Part 77)

DGR ENGINEERING

SNYDER & ASSOCIATES
Engineers and Planners

JS Consulting LLC

SOUTH CENTRAL REGIONAL AIRPORT
MAHASKA COUNTY, IOWA

SITE A CONCEPT PLAN
MAHASKA COUNTY, IOWA

FIGURE
3-4

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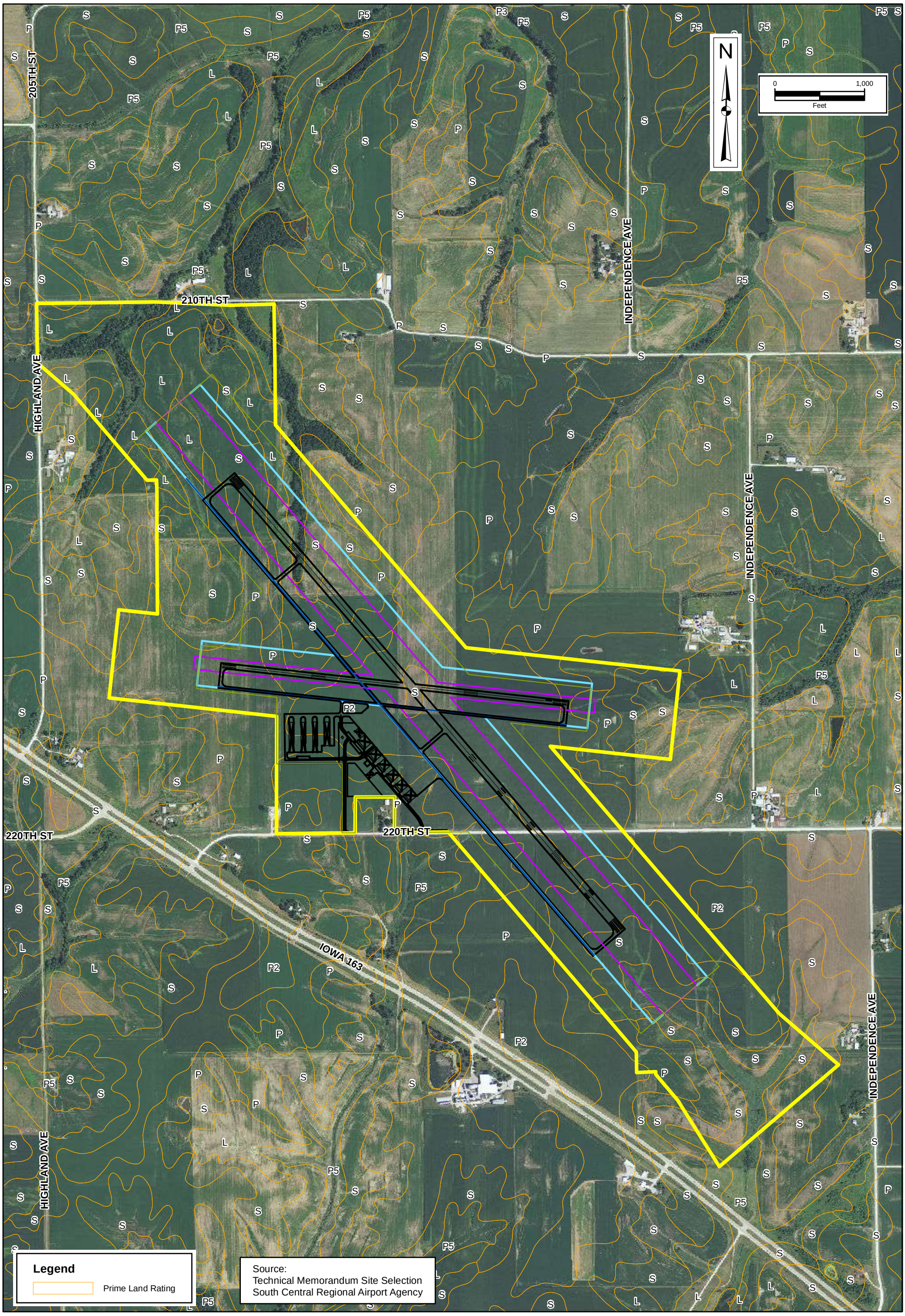
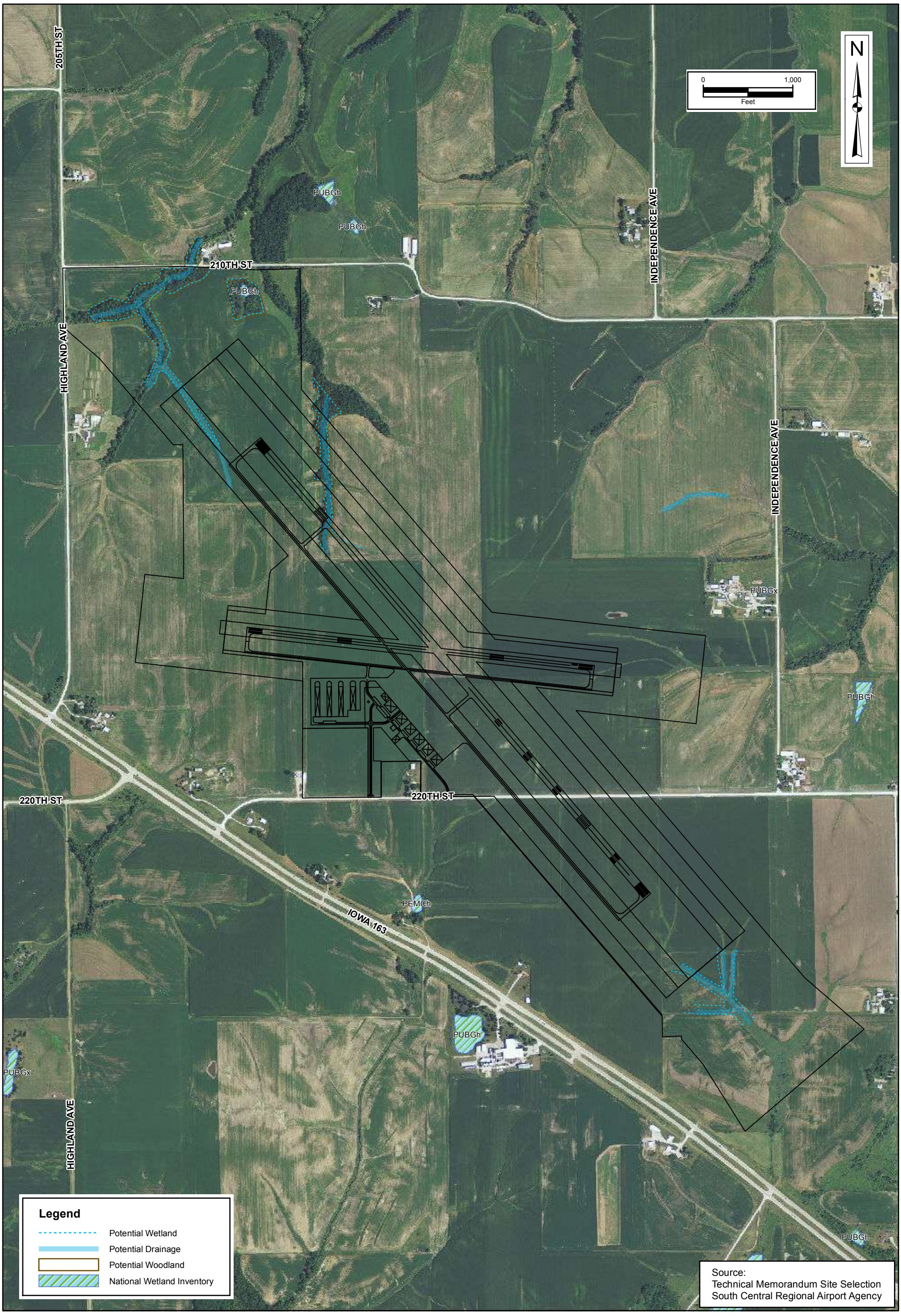


DGR ENGINEERING	SNYDER & ASSOCIATES Engineers and Planners	JS Consulting LLC	SOUTH CENTRAL REGIONAL AIRPORT MAHASKA COUNTY, IOWA	SITE A SOIL PRIME LAND RATING	FIGURE 3-5



DGR ENGINEERING	SNYDER & ASSOCIATES Engineers and Planners	JS Consulting LLC	SOUTH CENTRAL REGIONAL AIRPORT MAHASKA COUNTY, IOWA	SITE A POTENTIAL ENVIRONMENTAL IMPACTS	FIGURE 3-6

3.4.1 Site A: Build Alternative 1

Site A Build Alternative 1 shows the primary runway (Runway 14/32) oriented N85° 31' 12.58"W (see Figure 3-7). The orientation provides optimum wind coverage when considering site conditions. If the primary runway were constructed in phases, the minimum length that may be considered is 5,500 feet. A runway 5,500 feet in length would not accommodate the two (2) design airplanes (Gulfstream 200 and Learjet 45XR) on a regular basis (see *Airport Master Plan – South Central Regional Airport* – February 2015, Page 3-7).

The proposed crosswind runway (Runway 7/25) provides supplemental wind coverage to the primary runway. The crosswind runway (oriented N75° 55' 29.16"E) is intended to serve small airplanes with a wingspan under 79 feet and an approach speed under 121 knots (see *Airport Master Plan – South Central Regional Airport* – February 2015, page 3-12).

Site A Build Alternative 1 identifies an area southeast of Runway 14/32 and Runway 7/25 for the ultimate development of the terminal area with access provided from Iowa Highway 163 via 220th Street. Build Alternative 1 would require the disconnection of 220th Street and potentially impact Prine Cemetery.

Site A Build Alternative 1 represents a minimum level of development and would not accommodate the design aircraft (Gulfstream 200 or Learjet 45XR) on a regular basis when temperatures exceeded 90 degrees and/or the pavement was wet. Therefore, Site A Build Alternative 1 does not meet the purpose and need as described in Section 1.2.

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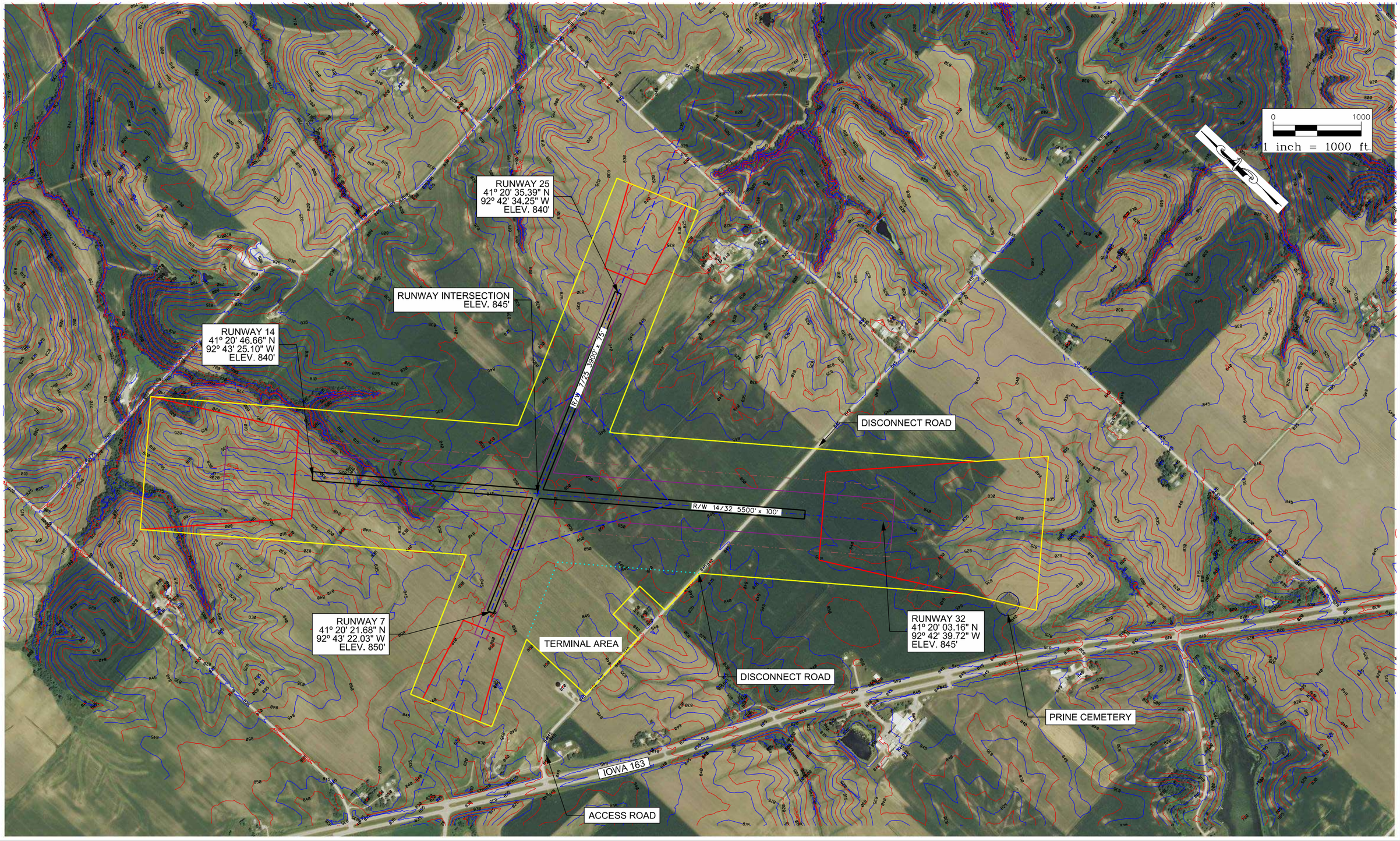

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DGR ENGINEERING

SNYDER & ASSOCIATES
Engineers and Planners

JS Consulting LLC

SOUTH CENTRAL REGIONAL AIRPORT
MAHASKA COUNTY, IOWA

SITE A
BUILD ALTERNATIVE 1

FIGURE
3-7

3.4.2 Site A: Build Alternative 2

Site A Build Alternative 2 differs from Alternative 1 in that it provides for a primary runway no less than 6,500 feet in length. It also shows a different crosswind runway orientation (see Figure 3-8).

While the primary runway (Runway 14/32 orientation N85° 31' 12.58"W) remains the same, an additional 1,000 feet was placed on the Runway 32 end to provide an ultimate length of 6,500 feet. A runway 6,500 feet in length would accommodate the design aircraft Gulfstream 200 when the runway pavement was dry and temperatures were within 60 to 70 degrees Fahrenheit and there was no wind.

As with Build Alternative 1, a precision instrument approach was recommended for Runway 32 with a vertical approach procedure recommended for Runway 14.

The rationale for placing additional length on Runway 32 was based on existing topography and land uses. In either scenario, 220th Street would have to be disconnected. There are no residential and/or business relocations anticipated. The topography beyond Runway 32 would better accommodate the Runway Safety Area (RSA), Runway Obstacle Free Zone (ROFZ), and Runway Object Free Area (ROFA), existing land uses, power transmission line and the desired approach. Placing the additional 1,000 feet of runway length on Runway 14 would require significantly more grading and encroaches more into the two existing drainage ways located south of 210th Street.

An effort was made on Site A - Alternatives 1 and 2 to locate the threshold of each runway so that no part of the required Runway Protection Zones (RPZ) would extend across an existing road.

The crosswind runway alignment (S83° 45' 40.84"E) shown in Build Alternative 2 would require less grading than the alignment shown in Build Alternative 1. The alignment shown in Build Alternative 2 would appear to be less disruptive to farming operations while providing adequate wind coverage. The crosswind runway, as shown in Figure 3-8, is intended to be constructed to the same length and width as that proposed in Build Alternative 1.

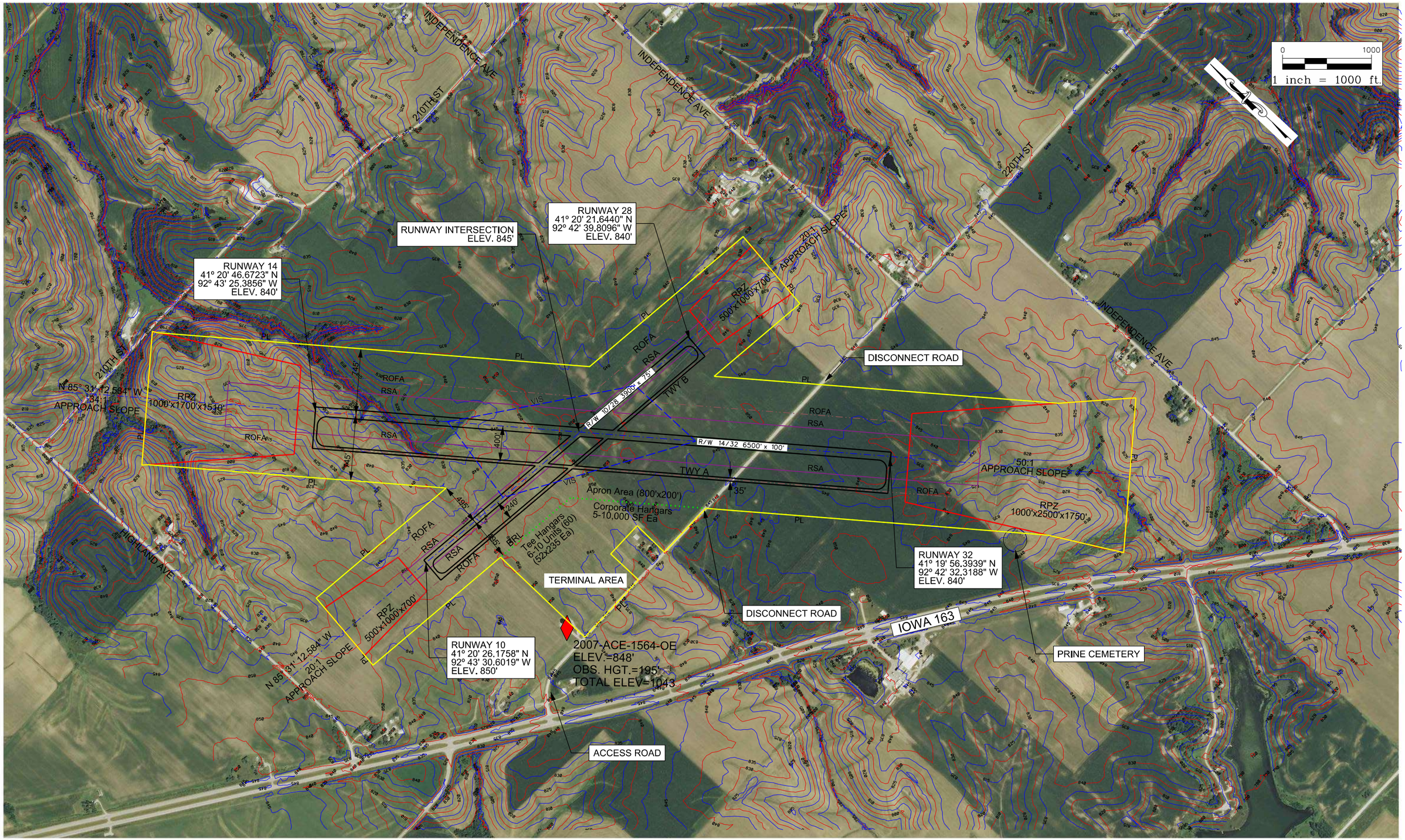
A non-precision instrument approach procedure (NPA-1 mile) is recommended to Runways 10 and 28.

Runway threshold and edge lighting improvements recommended in Build Alternative 1 would also be applicable in Build Alternative 2. An Approach Light System (ALS) could be installed on Runway 32 with the only difference being the approach mast would be higher to compensate for the terrain that slopes away from Runway 32.

The terminal area is shown as located west of Runway 14/32 and south of Runway 10/28. As in Build Alternative 1, access is provided from Iowa Highway 163 via 220th Street.

Build Alternative 2 may potentially impact the Prine Cemetery. Build Alternative 2 would also require the disconnection of 220th Street.

Based on comments from airport users, a third alternative was developed. The primary concern was that a runway 6,500 feet in length would not accommodate the Gulf Stream 200 when temperatures exceeded 70 degrees and/or the runway pavement was wet. The proposed length would not accommodate the design aircraft on a regular basis. Therefore, Site A Build Alternative 2 did not meet the purpose and need as described in Section 1.2. Build Alternative 2 was discarded from further consideration.



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Model: FIG 4-2

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DGR ENGINEERING	SNYDER & ASSOCIATES Engineers and Planners	JS Consulting LLC	SOUTH CENTRAL REGIONAL AIRPORT MAHASKA COUNTY, IOWA	SITE A BUILD ALTERNATIVE 2	FIGURE 3-8

3.4.3 Site A: Build Alternative 3 (Proposed Action)

Site A Build Alternative 3 incorporates comments from a "users" group meeting (April 16, 2014). Several comments were made regarding the primary runway and the use of a clearway to provide additional takeoff distance beyond the 6,500 feet of runway.

The concept of using a clearway was found to be acceptable and could be applied to Runway 14 to provide a computed takeoff distance of 7,000 feet. Where a clearway is used, the Runway Safety Area (RSA) is increased by the length of the clearway. Given a 500 foot clearway, a Runway Safety Area 1,500 feet in length, would be required. The same safety requirement would be applied to Runway 32. After review by the FAA Flight Standards and the Airports Division, it was concluded that while the concept was acceptable, it would not provide a significant cost savings since the grading with an extended Runway Safety Area (RSA) would have to be provided.

Application of the clearway was also discussed with the Flight Departments operating the two (2) most demanding aircraft that will use the airport on a regular basis. It was generally agreed that since the additional safety area had to be graded, having pavement useable in both directions was desired and should be evaluated.

Airport users concluded that a primary runway (Runway 14/32) 6,700 feet in length would provide an acceptable level of service at present and into the foreseeable future.

The Runway 14/32 orientation, as shown in Build Alternative 2, was moved approximately 1° 33' to the west so as to place an existing residential structure located north of 210th Street outside the Runway Protection Zone (RPZ) (see Figure 3-9).

Given the proposed ultimate length of 6,700 feet, the approach/departure standards were applied to each runway end. There were no known penetrations to the approach and departure surfaces (Threshold Siting Surfaces (TSS)).

The Runway Protection Zone (RPZ) is shown as beginning 200 feet from the thresholds associated with Runway 10, 28, 14 and 32.

Runway 10	250' x 1,000' x 450'	(Approach & Departure)
Runway 28	250' x 1,000' x 450'	(Approach & Departure)
Runway 14	1,000' x 1,700' x 1,510'	(Approach)
	500' x 1,700' x 1,010'	(Departure)
Runway 28	1,000' x 2,500' x 1,750'	(Approach)
	500' x 1,700' x 1,010'	(Departure)

Interim guidance on land uses within the Runway Protection Zone (RPZ) identifies a public road as being an incompatible land use. Reference may be made to FAA Memorandum entitled: *Interim Guidance on Land Uses within a Runway Protection Zone* (September 27, 2012) regarding the approval process.

There are no public roads extending through the Runway Protection Zones (RPZ).

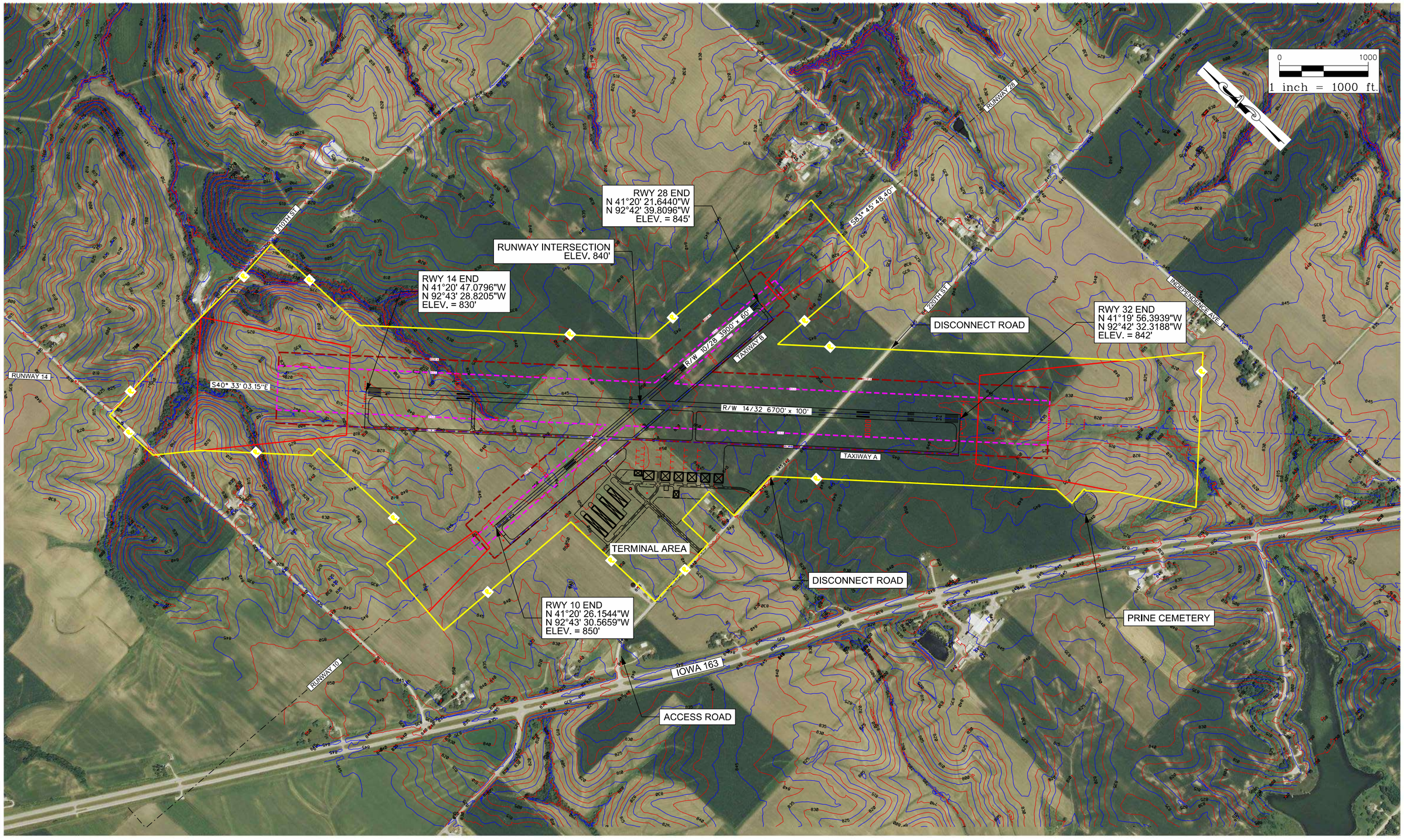
Proposed, as in Build Alternative 1 and 2, is a precision instrument approach (PA-CAT I) to Runway 32 with visibility minimums down to ½ mile forward visibility and a 200 foot decision height. As in Build Alternatives 1 and 2, an approach light system is recommended. A vertically guided approach (APV $\geq$ ¾ mile) was recommended for Runway 14. Non-precision approaches (NPA) are recommended for each end of the crosswind runway.

Build Alternative 3 depicts the crosswind runway being constructed to an ultimate length of 3,900 feet and width of 60 feet. Runway 10/28 should be designed to accommodate Approach Category A and B airplanes with a wingspan less than 49 feet (A-I and B-I). Based on usage by A-I and B-I airplanes, a taxiway 25 feet in width is recommended (see *Airport Master Plan – South Central Regional Airport*, February 2015, page 3-34).

Site A-Build Alternative 3 was selected by the South Central Regional Airport Agency for continued evaluation and development of the Airport Layout Plan (see Appendix E).

As shown in Site A Build Alternative 1, 2 and 3, the most logical location for a terminal area was near the intersection of the primary and crosswind runways, with vehicle access provided from Iowa Highway 163 via 220th Street. There was no consideration given to locating the terminal area elsewhere on Site A.

Site A Build Alternative 3 meets the purpose and need as described in Section 1.2.



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DGR ENGINEERING

SNYDER & ASSOCIATES
Engineers and Planners

JS Consulting LLC

SOUTH CENTRAL REGIONAL AIRPORT
MAHASKA COUNTY, IOWA

SITE A
BUILD ALTERNATIVE 3

FIGURE
3-9

3.4.4 Site A: Terminal Area Build Alternative

The terminal area concept plan was presented to the airport users group in April 2014 (see Figure 3-10). Several recommendations were made by those in attendance and are as follows:

- Provide vehicle parking for tee hangar tenants.
- Create an open space area adjacent to the apron.
- Locate the FBO Facility adjacent to the proposed terminal building.
- Provide a heated hangar that may be used for overnight itinerant aircraft storage.
- Provide a sidewalk to facilitate pedestrian movement from the vehicle parking areas to the terminal building.
- Provide security fencing and additional gate locations with access control.

Several comments that were taken into consideration included the following:

- Fuel trucks would most likely be used to upload fuel to aircraft.
- Above ground fuel storage may not necessarily be located adjacent to the apron.
- One or more of the tee hangar structures should be sized to accommodate cabin class airplanes.

Vehicle access to the proposed terminal area is provided by an airport access road extending north from 220th Street. Envisioned within the terminal area is the ultimate development of the following infrastructure components:

- Three (3) 14-unit tee hangar structures
  - 42 aircraft
  - Clear door: 41’-6” x 12’-0”

- One (1) 10-unit tee hangar structure
  - 10 aircraft (cabin class twins)
  - Clear door: 47’-6” x 14’-0”

- FBO Maintenance/Storage Hangar
  - 4 to 6 aircraft
  - 14,000 SF

- Aircraft Storage Hangar
  - 5 to 10 aircraft
  - 10,000 SF +/- (heated overnight itinerant use)

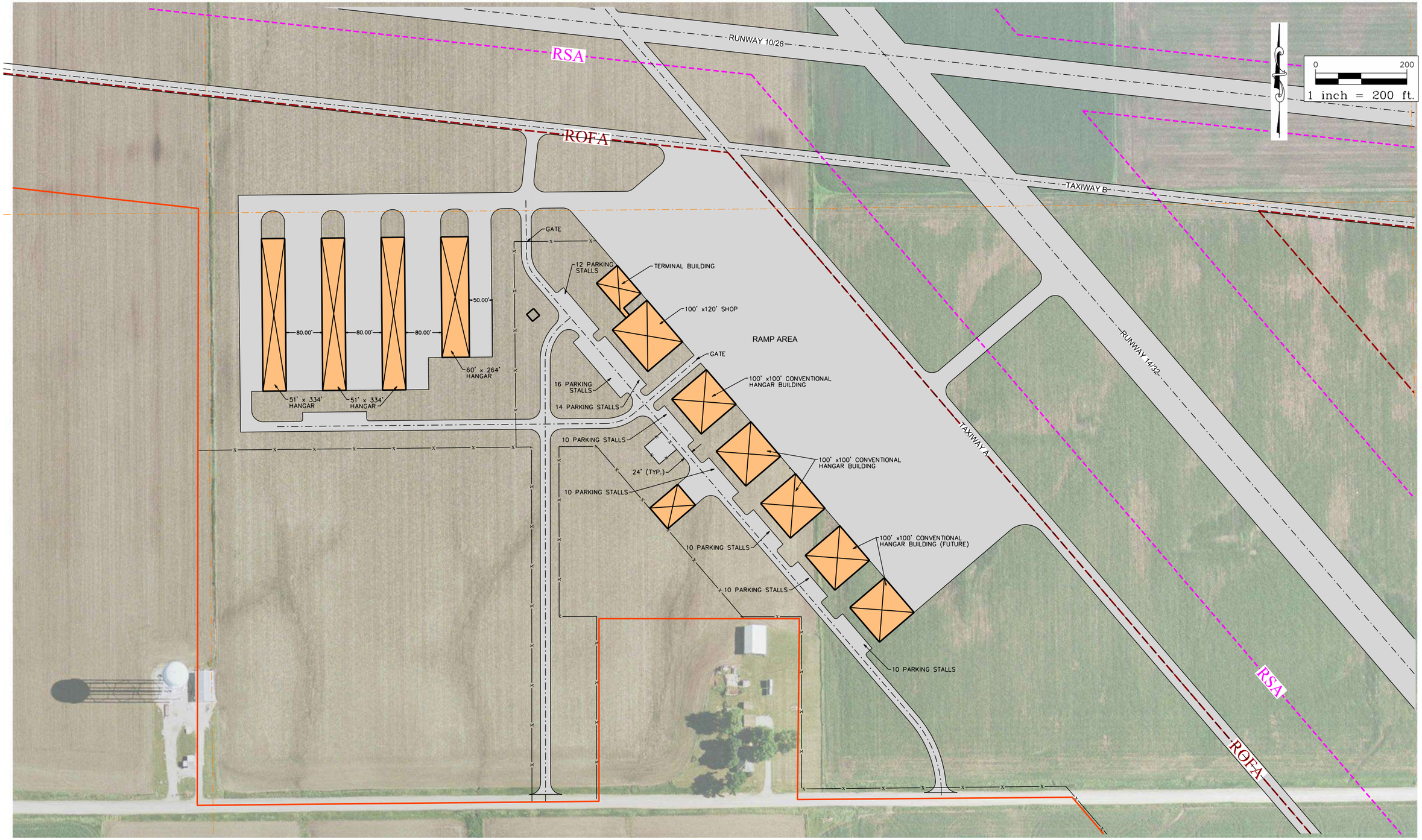
- Four (4) Large Box Hangars
  - 2 to 6 aircraft each
  - 10,000 SF +/-
  - May be constructed by the private sector

- Terminal Building
  - 4,800 SF +/-

- Airport Maintenance Equipment Storage
  - 4,800 SF +/- (60’ x 80’)

- Vehicle Parking
  - As needed
  - 50 to 90 stalls

The terminal area concept meets the purpose and need as described in Section 1.2.



DGR ENGINEERING	SNYDER & ASSOCIATES Engineers and Planners	JS Consulting LLC	SOUTH CENTRAL REGIONAL AIRPORT MAHASKA COUNTY, IOWA	TERMINAL CONCEPT ALT 1

FIGURE
3-10

Plot Date: 10/20/2015
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3.5 Pella Municipal Airport: Release and Closure

The Pella Municipal Airport is owned, maintained and operated by the City of Pella. The airport is located on 109 acres of land owned in fee title by the City of Pella.

By accepting federal assistance under the FAA Airport Improvement Program (AIP), the City has agreed to grant assurances set forth in the grant agreements. The City will request a release from its federal obligations at the time the proposed replacement airport is operational.

Revenue from the disposal of the 109 acres and the airport assets will be reinvested in the proposed South Central Regional Airport. Some assets (for example snow removal equipment) will be transferred to the South Central Regional Airport.

The Pella Municipal Airport is located within the City of Pella. The City has experienced a 55.2 percent increase in population from 1970 to 2010. Based on a 0.5 percent growth rate, the City population is projected to increase to 11,550 by 2035. If the City was able to sustain the growth rate (1.39%) experienced from 1960 to 2010, the population would reach 14,097.

The City adopted a new Comprehensive Plan in August 2014 (see City of Pella Comprehensive Plan – 2014). Figure 3-11 depicts existing land uses as of 2014. The existing Pella Municipal Airport is located west of Iowa Highway 163, south of Washington Street and north of Idaho Drive. Existing residents and a golf course (Bos Landen) are located west of the airport. A commercial node is located around the Iowa Highway 163/Washington Street interchange. Residential development extends along the Idaho Drive corridor south of the airport.

The Future Land Use Plan adopted by the City is depicted in Figure 3-12. The plan shows the existing airport site being ultimately developed for low, medium and high density residential uses.

- Low Density Single Family Residential
  - Density is 1 to 4 units per acres, although these areas may include some single family attached with density up to 6 units per acre.
- Medium Density Residential
  - Density is 4 to 12 units per acre.
- High Density Residential
  - Density is 12 units per acre

The Future Land Use Plan envisions medium and high density residential development being developed on approximately one-third of the airport site (area between Washington Street and the existing airport terminal area). Low density residential development is envisioned over the remaining airport site.

As noted in Figure 3-12, a framework for streets and open space is shown. A collector street is shown extending along the west side of the existing airport with termini at Washington Street and Idaho Drive. This street will collect traffic from the local residential streets.

The proposed development will be provided with municipal services including:

- Sanitary Sewer
- Storm water/sewer
- Water
- Fire & EMS Services
- Law Enforcement
- Parks/Recreation

The Comprehensive Plan addresses environmentally sensitive areas and identifies such areas that should not be developed for high intensity uses and that may be preserved as open space.

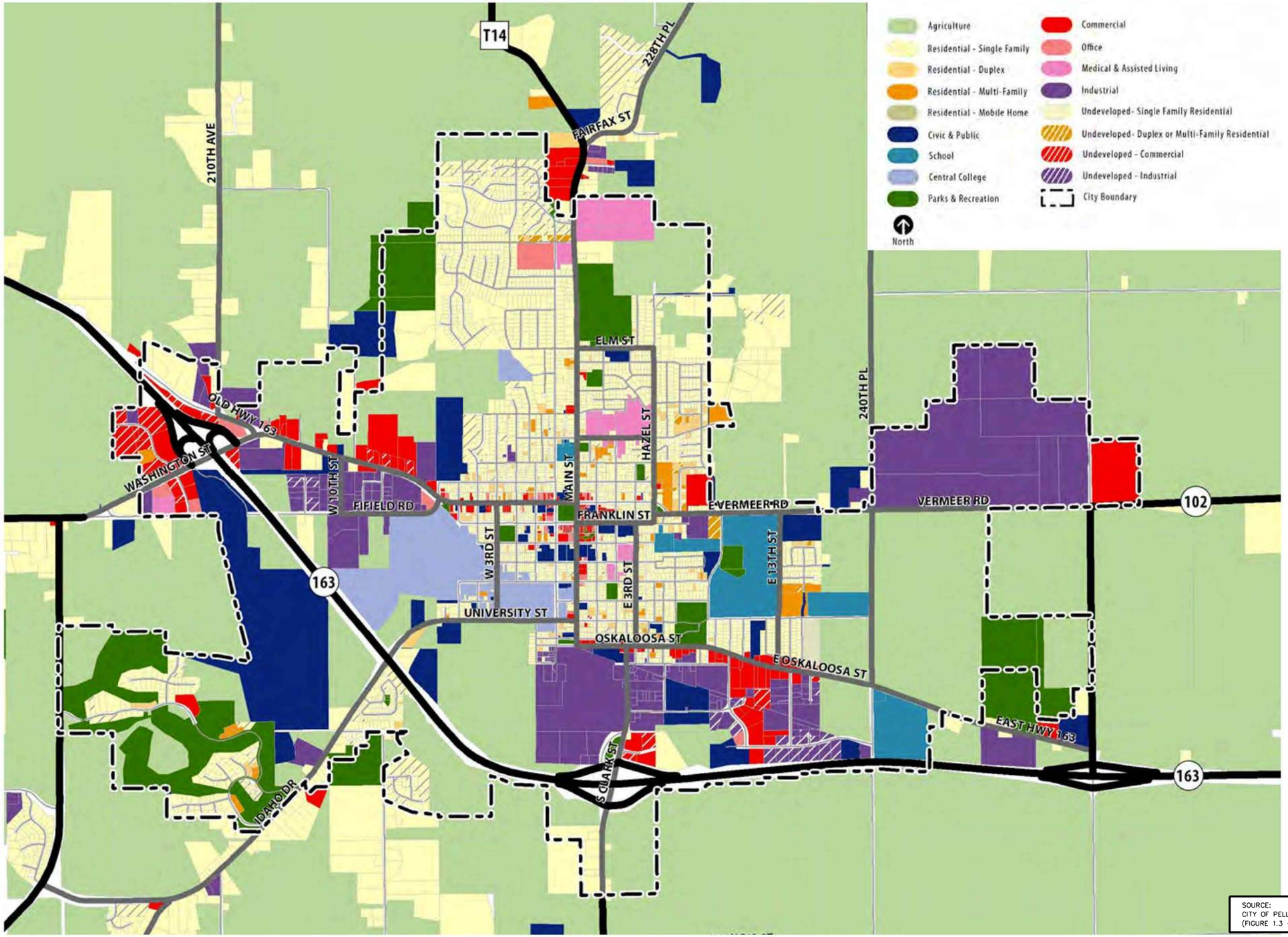
The ultimate closure of the airport will provide an opportunity to "in fill" the area between Iowa Highway 163 and the existing Bos Landen Development. More specifically, the development opportunity for non-airport uses will take advantage of the municipal infrastructure and minimize urban encroachment into areas more suited for agricultural use.

The existing terminal building will be converted to other uses while the aircraft storage buildings and fuel system will be removed.

The City of Pella has adopted site plan, subdivision and land use zoning regulations. Future development of the existing airport will be subject to such regulations the City of Pella has adopted.

The closure of the Pella Municipal Airport will eliminate potential land use conflicts with adjacent residential uses and provide an opportunity to develop land uses that are consistent with the land use compatibility matrix set forth in the Pella Comprehensive Plan.

The release from federal obligations and closure of the Pella Municipal Airport meets the project purpose and need as described in Section 1.2.



SOURCE:
CITY OF PELLA COMPREHENSIVE PLAN
(FIGURE 1.3 – PELLA EXISTING LAND USE, 2014)

DGR ENGINEERING	SNYDER & ASSOCIATES Engineers and Planners	JS Consulting LLC	SOUTH CENTRAL REGIONAL AIRPORT MAHASKA COUNTY, IOWA	CITY OF PELLA COMPREHENSIVE PLAN EXISTING LAND USE, 2014	FIGURE 3-11

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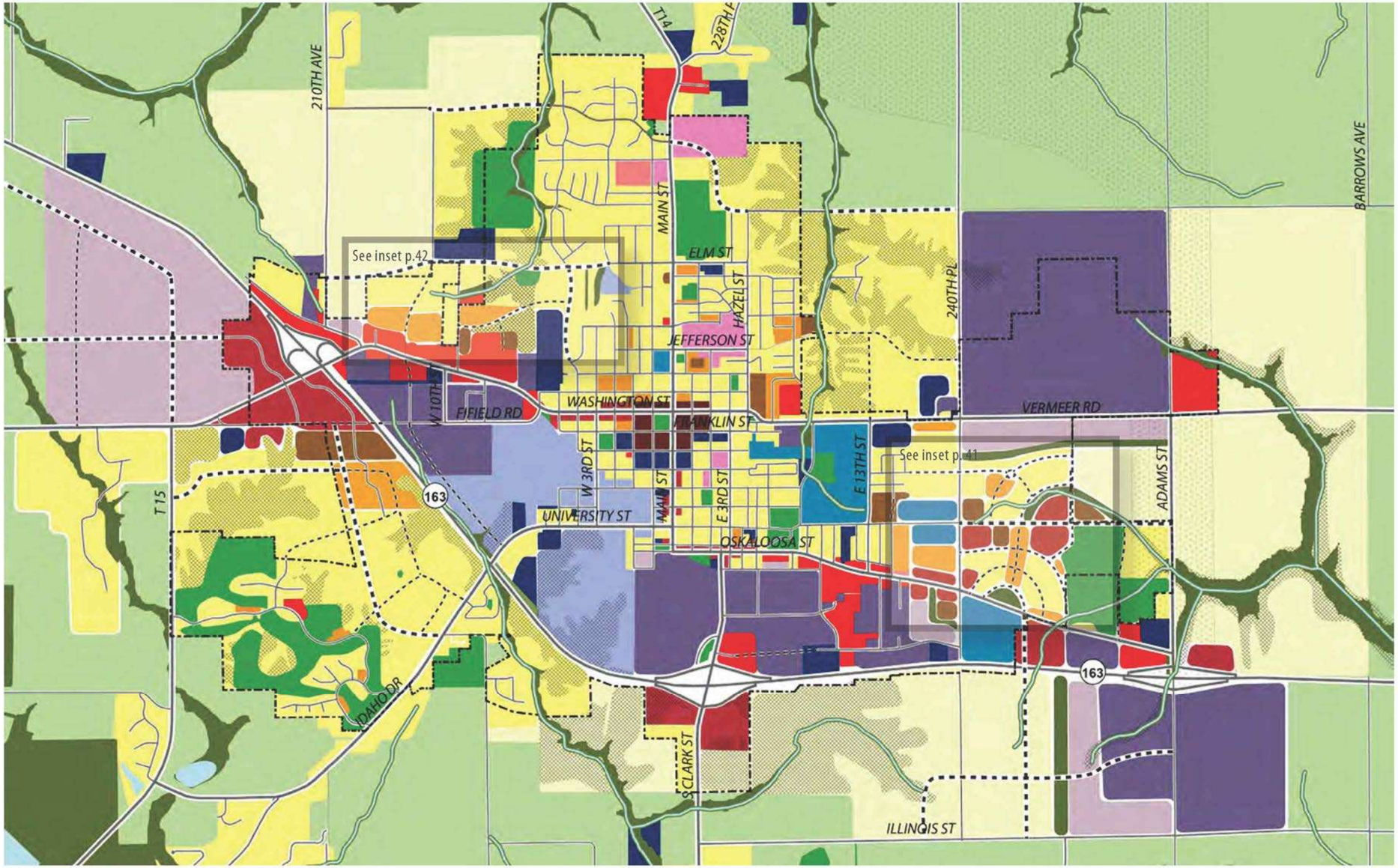

Agriculture and Ag Residential
Preserve
Environmentally Sensitive
Low Density Residential
Medium Density Resident
High Density Residential
Parks and Recreation
Civic & Public
School
Central College
Commercial
Mixed Use
Medical & Assisted Living
Downtown Mixed Use
Light Industrial
General Industrial
Urban Reserve
Water
I-80 Connector Study Corridor
Existing Arterial Roads
Existing Collector Roads
Existing Local Roads
Proposed Collector Roads
Proposed Local Roads
City Boundary

North

SOURCE:
CITY OF PELLA COMPREHENSIVE PLAN
(FIGURE 1.6a – PELLA EXISTING LAND USE MAP)

DGR ENGINEERING

SNYDER & ASSOCIATES
Engineers and Planners

JS Consulting LLC

SOUTH CENTRAL REGIONAL AIRPORT
MAHASKA COUNTY, IOWA

CITY OF PELLA COMPREHENSIVE PLAN
FUTURE LAND USE MAP

FIGURE
3-12

Plot Date: 10/14/2015
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3.6 Oskaloosa Municipal Airport: Release and Closure

The Oskaloosa Municipal Airport is located in rural Mahaska County approximately 13.5 miles from Oskaloosa Central Business District. The airport is owned, operated, and maintained by the City of Oskaloosa.

The 620 acre site (see Figure 3-14) was an auxiliary airfield to the Ottumwa Naval Air Station. The federal government, upon closure of the Ottumwa Naval Air Station, declared the auxiliary field as surplus federal property and transferred the site to the Federal General Services Administration for disposal. The City of Oskaloosa acquired the property by quit claim deed on March 5, 1959.

The Oskaloosa Municipal Airport is included in the National Plan of Integrated Airport Systems (NPIAS) and is obligated to federal assurances set forth in various airport related agreements between the City and federal government.

The City of Oskaloosa will request a release from its airport related federal obligations. The City may initially request a release for approximately 330 acres while the proposed South Central Regional Airport is being constructed. The City will continue to operate and maintain the airport until such time the proposed airport becomes operational. Upon closure of the existing airport, the City will request a release for the balance of the 620 acres and dispose the remaining airport assets.

The rural character is represented by family farms along with expanding multi-generational farm operations. The predominate soil type is Mahaska-Taintor silt clay loam, considered suitable for row crops. Of the 620 acres (613 net taxable acres), 521 acres are tillable. The remaining acreages supports two runways, aircraft apron, aircraft maintenance and storage facilities, residential structure, vehicle access and parking facilities.

The existing split level single family structure was constructed in 1975 and has approximately 1,790 square feet of living space. The structure is currently rented and would have some appeal as a residence for employers of a large grain farming operation or to a commuter resident.

The tee type hangars may be used for storage although their size and structural conditions are limiting factors. The aircraft maintenance hangar and adjoining office area would have fair to average utility as a farm office and machinery maintenance shop for a large farm operator.

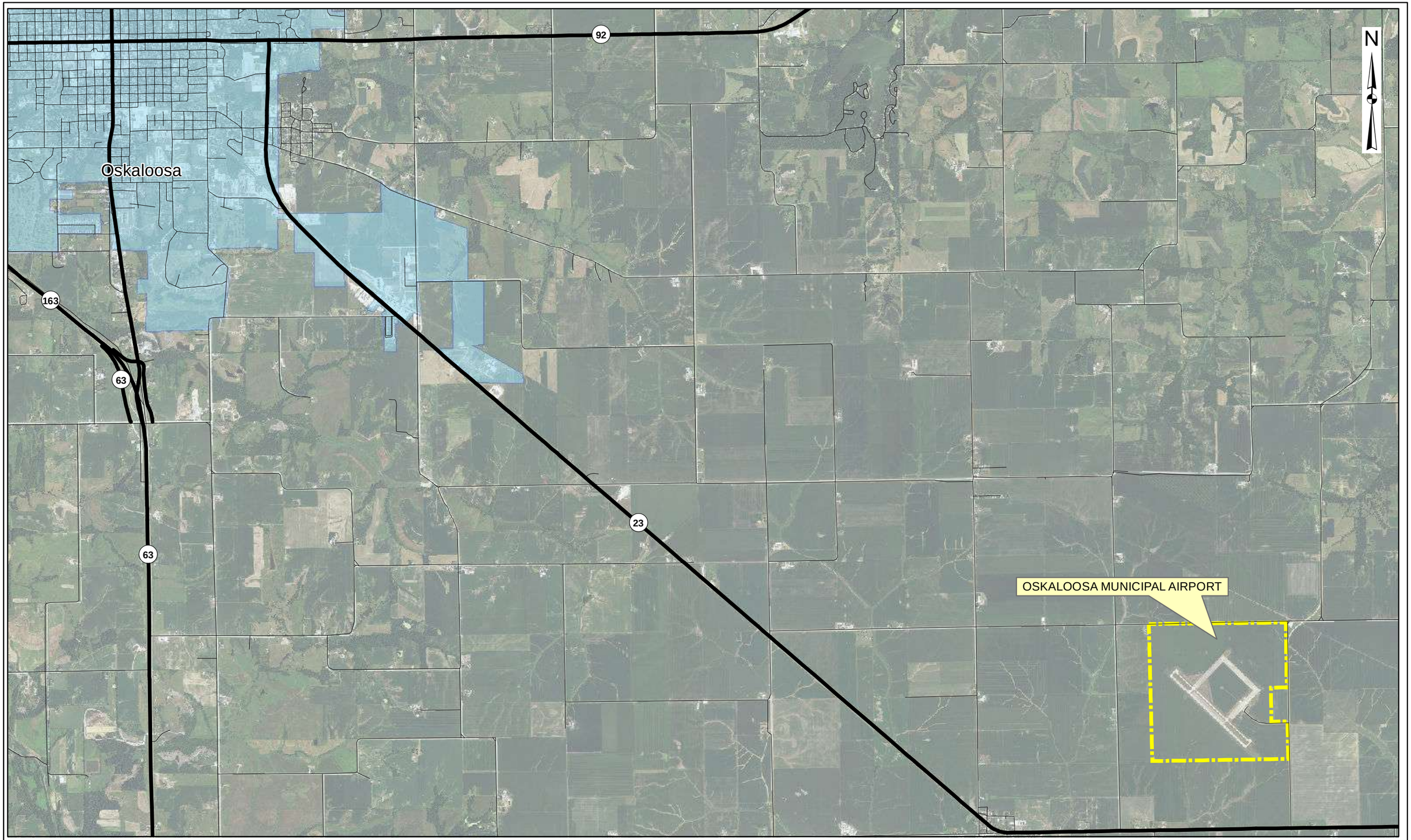
The paved surfaces have limited agricultural utility. The paved area may be used for on-site grain storage and/or equipment storage. Since livestock feeding is generally vertically integrated and consolidated into large confinement operations, the existing pavement has, at present, limited agricultural utility. Given the location of the airport to large urban communities, there is limited opportunity to utilize the paved areas for non-agricultural uses.

The highest and best use of the airport site is for agricultural row crops. The Mahaska-Taintor soils are highly productive. The site is not located in a flood-prone area and is well drained. Mahaska-Taintor soils comprise 94 percent of the 521 tillable acres. These soils have a corn suitability rating (CRS) of 88 to 97. The weighted average CRS value for the entire 521 acres is 88.7 placing this site among some of the most productive soils in Iowa.

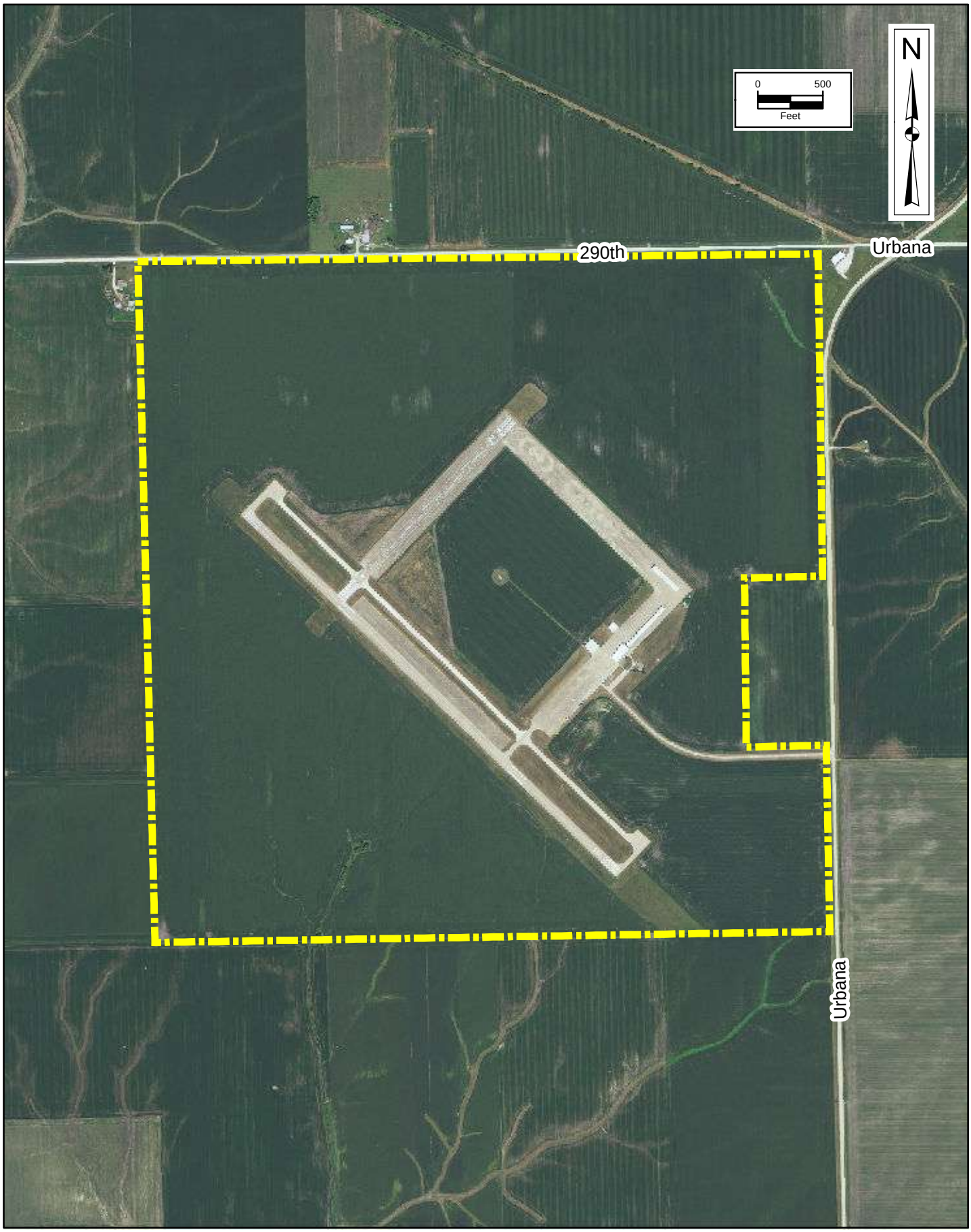
Removing the airport's environmental footprint will complement the rural family farm character of the area. Figure 3-13 shows existing land use patterns within the airport environs. Mahaska County adopted a County Comprehensive Plan in 2004 (see Section 4.8). The county has not adopted land use zoning regulations.

Revenue from disposal of the airport assets will be available to the City of Oskaloosa and reinvested in the proposed South Central Regional Airport. Given the multi-jurisdictional structure of the South Central Regional Airport, the operational and maintenance burden will be less while having an airport facility capable of accommodating aeronautical demand generated by users within the City of Oskaloosa. Travel distance and time will be reduced thereby contributing to reduction in vehicle emissions.

The release from its federal obligations and closure meets the project purpose and need.



DGR ENGINEERING	Snyder & Associates Engineers and Planners	JS Consulting LLC	OSKALOOSA AIRPORT PROXIMITY MAP CITY OF OSKALOOSA	SOUTH CENTRAL REGIONAL AIRPORT MAHASKA COUNTY, IOWA	FIGURE 3-13



DGR ENGINEERING	SNYDER & ASSOCIATES Engineers and Planners	JS Consulting LLC	SOUTH CENTRAL REGIONAL AIRPORT MAHASKA COUNTY, IOWA OSKALOOSA MUNICIPAL AIRPORT (PEA) PROPERTY	FIGURE 3-14

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SECTION FOUR

Affected Environment

SECTION FOUR: AFFECTED ENVIRONMENT

4.1 Introduction

This section describes the social, economic and environmental settings within the proposed South Central Regional Airport service area, existing Oskaloosa Municipal Airport and the existing Pella Municipal Airport.

4.2 South Central Regional Airport Agency (Airport Sponsor)

The South Central Regional Airport Agency (SCRAA) was created by the City of Pella, Mahaska County, and the City of Oskaloosa. The 28E Agreement was filed with the Iowa Secretary of State on March 24, 2012. The FAA Office of Regional Council determined (February 24, 2012) that the South Central Regional Airport Agency had the legal authority to act as a "Sponsor". The South Central Regional Airport Agency will own, operate, and maintain the proposed airport (South Central Regional Airport).

4.3 Airport Role

The *2010 Iowa Aviation System Plan* recommended that consideration be given to the development of an "Enhanced Service Airport" to replace the existing Pella Municipal Airport and the Oskaloosa Municipal Airport. An "Enhanced Service Airport" is defined within the *2010 Iowa Aviation System Plan* as follows:

> *"These airports have runways 5,000 feet or greater in length with facilities and services that accommodate a full range of general aviation activity, including most business jets. These airports serve business aviation and are regional transportation centers and economic centers."*

The airport has been entered into the National Plan of Integrated Airport Systems (NPIAS). It is reasonable to conclude that FAA will classify the proposed airport as a "Regional" airport in the national system. A "Regional" airport, as defined by FAA, supports regional economies by connecting communities to regional and national markets. These airports have high levels of activity with some jets and multi-engine propeller aircraft. These airports average about 90 total based aircraft, including three (3) jets.

4.4 Past, Present, and Reasonably Foreseeable Actions

4.4.1 Past Actions

The City of Pella and City of Oskaloosa have undertaken efforts to develop a joint use facility dating back to 2001 (see *Red Rock Airport Master Plan Draft* – 2005). The proposed Red Rock Airport site extended over a Section 4(f) resource (Vander Wilt Historic District) and as such, efforts associated with the Red Rock site were discontinued. The City of Pella and the City of Oskaloosa, together with

Mahaska County, renewed their joint airport dialogue in 2011 that led to the creation of the South Central Regional Airport Agency in 2012.

4.4.2 Present Actions

The City of Pella and City of Oskaloosa continue to operate and maintain their respective airport facilities. While minimizing the present investment, some level of investment will need to be made in the existing facilities (i.e., pavement maintenance, airfield lighting, obstruction removal, and building maintenance).

At present, neither of the existing airport facilities can accommodate aeronautical demand (as discussed in Section 1.2 – Purpose and Need). There are no actions being proposed by either entity to expand their existing airside facilities.

4.4.3 Reasonably Foreseeable Actions

The South Central Regional Airport Agency proposes to implement the improvements as shown on the Airport Layout Plan for Site A over a 20 year time horizon.

The Iowa Department of Transportation is considering U.S. Highway 63 alternative alignments extending around the northwest quadrant of Oskaloosa. The Iowa DOT Project Management Team (PMT) proposes to construct an interchange at Iowa Highway 163. The proposed interchange is located approximately one (1) mile from the proposed Runway 32 threshold. The Iowa Department of Transportation considers the proposed highway transportation improvement and the proposed airport improvement projects as independent actions.

The City of Oskaloosa is the nearest urban area and is expected to extend its corporate boundary to accommodate development, if any, around the highway interchange. Municipal utilities and services would be extended commensurate with the need to accommodate growth within the community. The area immediately adjacent to the airport is expected to retain its rural character in the foreseeable future.

4.5 Pella Municipal Airport Environs

The Pella Municipal Airport is located in Marion County and within the City of Pella corporate boundary. The community has historically been a regional employment hub centered around Pella Corporation (window/door manufacture), Vermeer (agricultural equipment manufacturer), Central College, and several smaller service and manufacturing establishments.

The City has experienced a significant increase in population. While the recession had a negative impact on employment associated with the housing market, the recent commodity prices for corn and soybeans has had a positive impact on employment associated with the private sector. The diversified economic base of the community has

contributed to the historic and present community growth (see Section 4.9 - Socioeconomic Setting and Section 3.5 - Pella Municipal Airport Closure).

Closure of the Pella Municipal Airport will eliminate the airport environmental footprint that now extends over an urban area. The existing 109 acre site is constrained with displaced thresholds on each runway end so as to provide for the runway safety and object free area extending beyond the runway thresholds.

The airport site is currently served by City's water utility and could be serviced by a gravity sanitary sewer system. The site is accessible from Iowa Highway 163 and the City's arterial and collector street system. The city can reasonably provide municipal services (to include potable water) to the site.

Residential, recreational, and commercial/retail uses have developed adjacent to the airport. Residential and recreational uses are generally not compatible with airport operations.

The City has contemplated replacement of the existing airport over the past 10 years. The Comprehensive Plan and Future Land Use Plan envisions the airport site ultimately accommodating low to high density residential development (see Section 3.5).

The highest and best use of the airport site is for urban residential development. The proposed residential use is compatible with existing adjacent and future planned land uses (see Section 3.5).

The proposed action to close the Pella Municipal Airport will provide an opportunity for the City to:

- Provide for "in-fill" development
- Minimize conversion of farmland to urban uses as the city continues to grow
- Complement existing non-agricultural land and residential land uses within the airport environs
- Participate in a multi-jurisdictional effort to develop an airport that will accommodate aeronautical demand.
- Convert a constrained site that does not provide for current FAA airport design standards
- Reduce the burden of supporting a constrained facility where a significant investment is in rehabilitating the existing airfield pavement and electrical infrastructure
- Contribute to obtaining the delivery of aeronautical services
- Eliminate the airport environmental footprint

4.6 Oskaloosa Municipal Airport Environs

The Oskaloosa Municipal Airport is located in a loosely defined neighborhood between Oskaloosa, Sigourney, and Ottumwa that has a significant row crop agricultural influence due to the productive Mahaska-Taintor soils that are found in this region.

The area is primarily rural in nature with a mix of stable small to medium size family farms and expanding large multi-generational farm operators. High quality farm land is desired and tightly held with limited land available for sale.

The average weighted tillable Corn Suitability Rating (CSR) is approximately 88.7. There is approximately 521 tillable acres on the airport at present. The Taintor and Mahaska soil complex are some of the most productive soils in Iowa and are well suited for corn and soybean production. The Taintor silty clay loam (0 to 2 percent slope) is found extending over 71.7 percent of the 521 tillable acres with a CRS noting of 88. Mahaska silty clay loam (2 to 5 percent slope) covers 15.4 percent while the same soil with 0 to 2 percent slope extends over 6.9 percent of the tillable acres. The Mahaska silty clay loam has a CRS rating of 92 and 97 respectively. The entire site is well drained with the exception of approximately 6.8 acres or 1.3 percent of the tillable acreage.

The highest and best use is for agricultural row crop production. The conversion of the Oskaloosa Municipal Airport to an agricultural use will eliminate aeronautical activity from the area. The proposed action to close the airport will allow for maximum use of the site and soil resources for agricultural production. The proposed action will contribute to sustaining the rural, social, and economic setting of the areas (see Section 3.6).

The proposed closure is consistent with goals set forth in the 2004 Mahaska County Comprehensive Plan. The closure will sustain the rural agricultural character within the existing airport environs.

4.7 Physical Setting

4.7.1 Introduction

The two (2) alternative sites (Alternative One Site B and Alternative Two Site A) are located in Mahaska County and on the Southern Iowa Drift Plain. The two site locations are located on an upland divide that extends between the Des Moines River and South Skunk River watersheds. Iowa Highway 163 extending between the City of Oskaloosa and the City of Pella is located on an upland divide. The land surface is characterized by rolling hills or alluvial lowlands along the Des Moines and Skunk Rivers. The upland divide can be described as relatively leveled. While the topography varies across both sites, the high point on each site is approximately 850 feet above mean sea level.

4.7.2 Drainage Patterns

Alternative One is located within the Muchakinock Drainage Basin that extends out from the Des Moines River. The north half of Alternative Two is drained by an unnamed tributary extending out from the South Skunk River while drainage on the south half of the site is provided by an unnamed tributary extending out from the Des Moines River.

There are no FEMA (Federal Emergency Management Agency) designated 100 year flood plains on Alternative Two, while there are on Alternative One. Both site locations have pronounced drainage patterns, stream corridors, and potential wetland areas.

4.7.3 Soils

The Mahaska-Taintor association consists of soils on wide ridge tops or divides. The larger of these areas form the divide between the Skunk River and the Des Moines River. The Mahaska-Taintor soils are formed in loess under a cover of grasses and are poorly drained as are the Taintor soils. Drain tiles have generally been installed in areas under cultivation. The surface layer consists of black silty clay loam and a subsoil of mottled, gray silty clay.

There are minor soils found in the Mahaska-Taintor association. Sperry soils are found in slight depressions and are poorly drained. Givin soils are found on slightly convex, nearly level upland ridges and benches. Colo and Ely soils are found along drainage ways.

All of the soils in the Mahaska-Taintor association have high available water capacity and are well suited for agricultural row crops. These soils were formed when the predominant vegetation was prairie.

The Otley-Ladoga-Nina association is characterized by gently sloping to strongly sloping, moderately well drained soils that have a subsoil of silty clay loam. Otley soils are found on ridgetops and upper side slopes, and formed in loess under a cover of grasses. The Ladoga soils are found on ridges and at lower elevations having been formed under a cover of grasses and trees. Nina soils are generally found at the head of waterways and on side slopes.

The Otley-Ladoga-Nina association occupies about 31 percent of the county while the Mahaska-Taintor association covers about 16 percent of the county. Figure 4-1 depicts the two dominant soil associations found along the ridge line extending between Pella and Oskaloosa.

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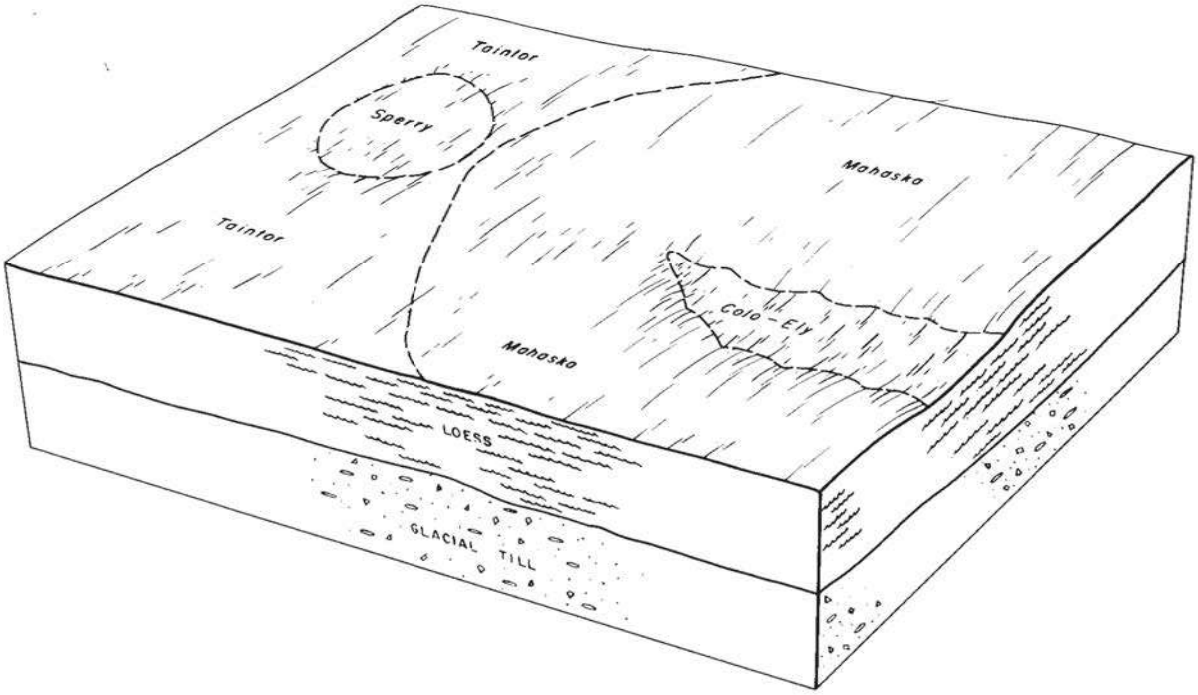
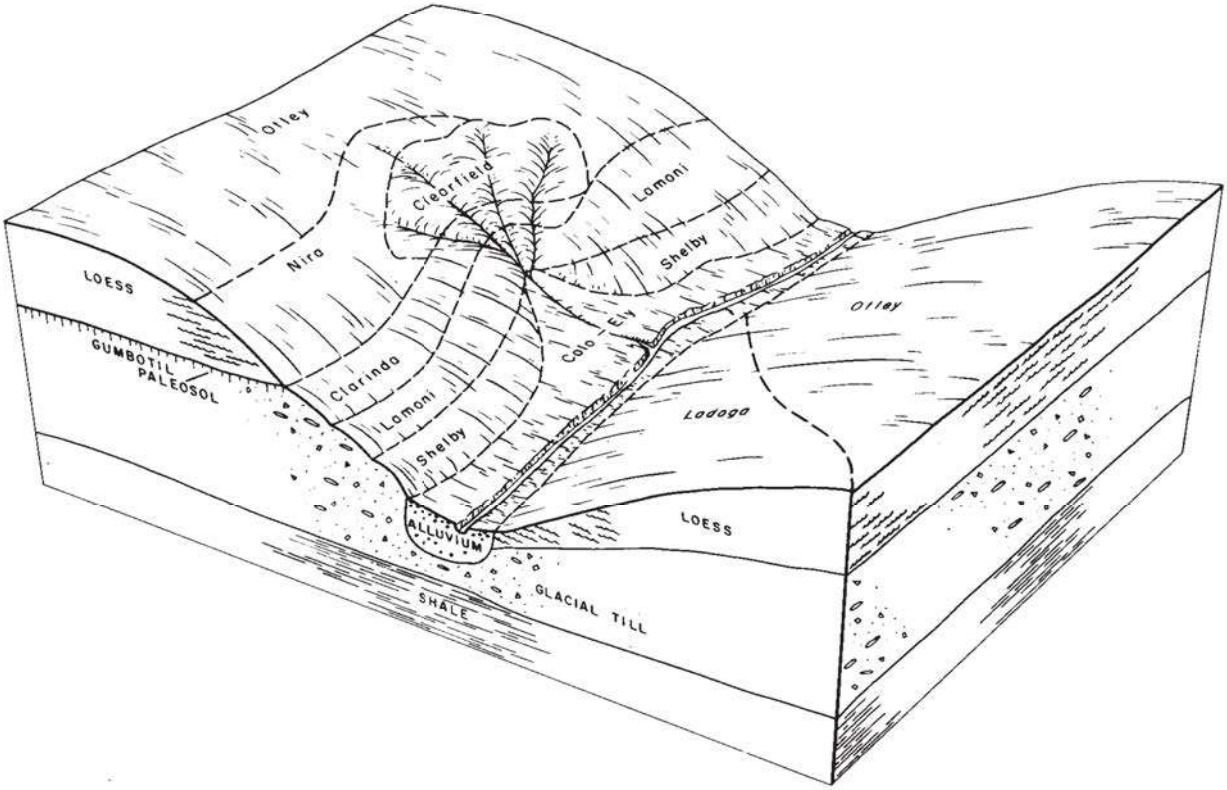
MAHASKA COUNTY, IOWA





DGR ENGINEERING	Snyder & Associates Engineers and Planners	JS Consulting LLC	SOUTH CENTRAL REGIONAL AIRPORT MAHASKA COUNTY, IOWA MAHASKA-TAINTOR SOIL ASSOCIATION OTLEY-LADOGA SOIL ASSOCIATION	FIGURE 4-1

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4.7.4 Climate

The climate within the Area of Potential Effect (APE) is sub humid with an average growing season of 165 days. The average annual rainfall is 32 inches with about two-thirds of the annual precipitation occurring from April to September. On average, there are 48 days with one (1) or more inches of snow. The average daily maximum temperature (87 degrees Fahrenheit) occurs in July. The average daily minimum (13 degrees Fahrenheit) occurs in January.

Table 4-1
Temperature/Precipitation Summary

Month	Average (°F) Daily Maximum	Average (°F) Daily Minimum	Average Monthly Precipitation (inches)
January	32	13	1.2
February	35	16	1.2
March	47	27	2.1
April	62	39	3.0
May	73	50	3.9
June	81	60	4.6
July	87	64	3.7
August	85	62	3.5
September	78	54	3.5
October	66	42	2.4
November	49	29	1.9
December	36	18	1.3

Source: USDA Soil Survey of Mahaska County February 1977

4.7.5 Natural Resources

There are significant coal deposits located in Mahaska County. Coal mining activities were concentrated in the southwest part of Mahaska County. There are no recorded above or underground coal mines within Alternative Sites One and Two. The natural resources currently extracted in commercial quantities within Mahaska County are limestone, sand, and gravel.

4.7.6 Woodlands

Woodlands are generally along river and stream corridors. There are no woodlands on Alternative One (Site B) with the exception of small groves planted around farmsteads. Woodlands are found along a stream corridor on Alternative Two (Site A).

4.8 Land Use – Unincorporated Mahaska County

Mahaska County adopted a Comprehensive Plan on December 20, 2004. The primary focus of the planning document was on the unincorporated Mahaska County. The 2004 Comprehensive Plan classified 91 percent of the land uses within the unincorporated area as agricultural. Of the 91 percent, five (5) percent was devoted to pasture, woodland, and other uses. The remaining 86 percent was classified as cropland. Of the nine (9) percent classified as non-agricultural, three (3) percent was devoted to residential, four (4) percent to roads, and the remaining two (2) percent was devoted to business/industrial uses.

While land use patterns have changed since 2004, the rural agricultural character of the area within unincorporated areas has not undergone significant changes. The Comprehensive Plan examined future land use needs and concluded with a "Summary of Findings".

- Prime agricultural land is a vital resource of Mahaska County and preservation of the prime agricultural land should be a priority. Potential conversion of such land should be given careful consideration, with thought as to soil types and optimal land use.
- Any development in unincorporated areas of Mahaska County should be carefully planned and measures should be taken to ensure that development does not adversely affect the rural environment of Mahaska County.
- To the greatest extent possible, future development should be located adjacent to paved roads in clusters near existing public services.
- Industrial development should be directed towards urban areas to see that adequate infrastructure is available to service the industry.
- Rural development should be primarily located in low quality agricultural land along major traffic routes and in unincorporated communities.
- Preservation of unique environmental resources such as wetlands and timbered areas is necessary if such land is to remain undeveloped.

Source: Mahaska County Comprehensive Plan September 2004; Page 47.

Mahaska County has not adopted a land use zoning ordinance. The 2004 Comprehensive Plan set forth land use goals, objectives, and policies which were intended to provide guidance to the county on the development and implementation of land use regulations. Goals set forth in the Comprehensive Plan establish a broad framework upon which general development objectives and policies were formulated (see Mahaska County Comprehensive Plan, December 20, 2004, Page 48).

Mahaska County has not adopted land use zoning regulations. Iowa Code - Chapter 414, Municipal Planning and Zoning, Section 414.23 - Extending Beyond City Limits allows a city to extend its zoning jurisdiction two (2) miles beyond its corporate boundary if the county has not adopted a zoning ordinance. Whenever a county in which the power is being exercised by a municipality adopts a county zoning ordinance, the power exercised

by the municipality must be terminated within three (3) months or as mutually agreed upon by the municipality and county.

Alternative One (Site B) is located within two (2) miles of the City of Leighton. Alternative Two (Site A) is located more than two (2) miles beyond the corporate boundary of an incorporated city.

4.9 Socioeconomic Setting – Combined Oskaloosa and Pella Airport Service Area

4.9.1 Airport Service Area

The South Central Regional Airport service area includes nearly all of the geographic area that comprised the airport service area previously associated with the Oskaloosa Municipal Airport and the Pella Municipal Airports. The proposed airport site is located adjacent to Iowa Highway 163 and within two (2) miles of the proposed U.S. Highway 63/Iowa Highway 163 interchange. The proposed U.S. Highway 63 bypass around the west side of Oskaloosa will provide improved regional surface access.

The airport service area is shown in Figure 4-2. The primary airport service area includes all of Mahaska County and an area within Marion County that is defined by the Des Moines River and Iowa Highway 44. The primary service area includes the following incorporated cities:

- Barnes City
- Keomah Village
- Oskaloosa
- Beacon
- Leighton
- Pella
- Fremont
- New Sharon
- Rose Hill
- University Park

A secondary service area extends into Keokuk County. Aircraft owners from this secondary area that currently base airplanes at the Oskaloosa Municipal Airport may choose to use the proposed South Central Regional Airport, the Washington Municipal Airport, or the Ottumwa Regional Airport.

Given the proposed airport location, aircraft owners within the primary airport service area would most likely base their aircraft at the proposed airport.

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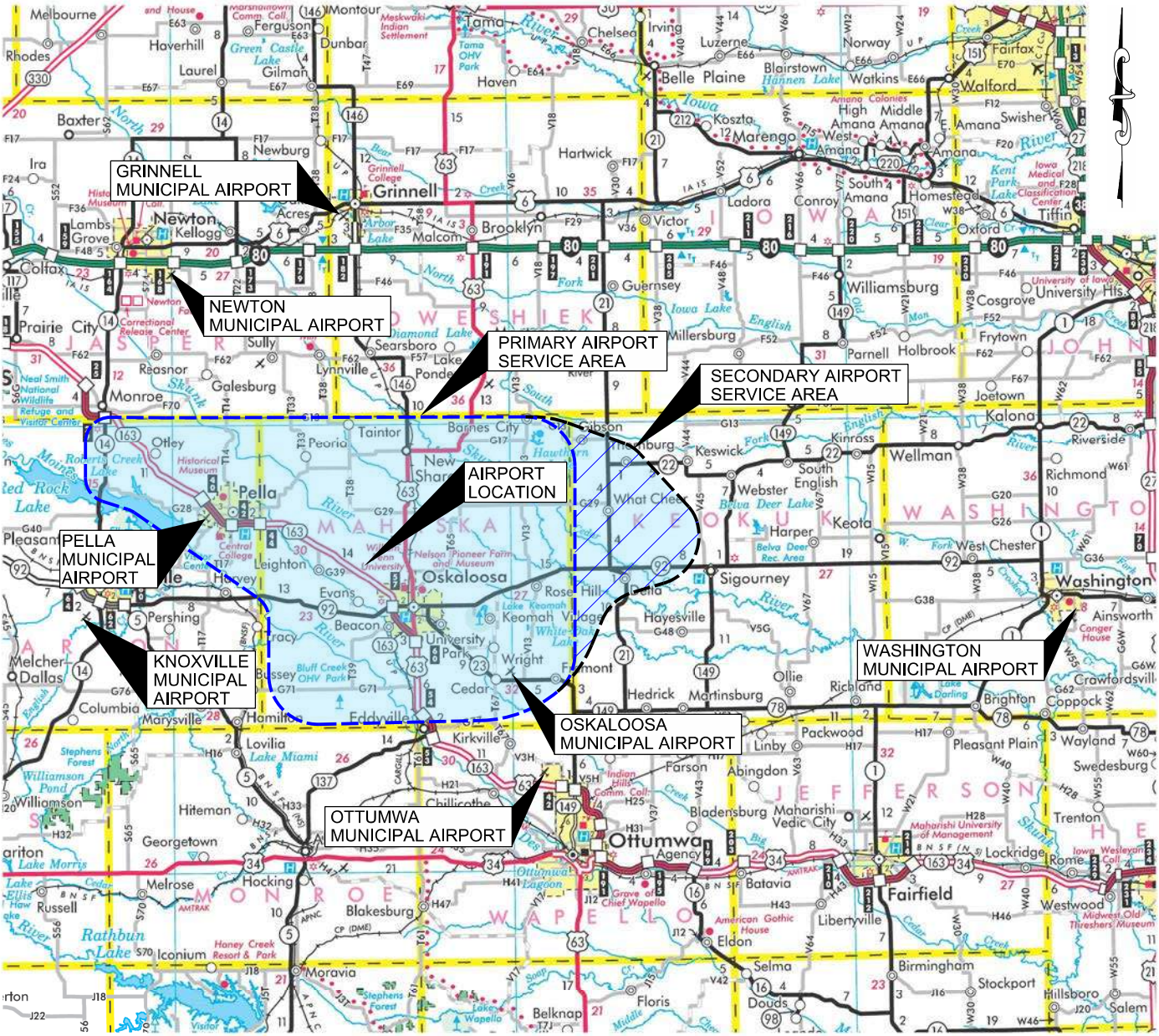

LEGEND

PRIMARY SERVICE AREA

SECONDARY SERVICE AREA

DGR ENGINEERING

SNYDER & ASSOCIATES
Engineers and Planners

JS Consulting LLC

SOUTH CENTRAL REGIONAL AIRPORT
MAHASKA COUNTY, IOWA

AIRPORT SERVICE AREA

FIGURE
4-2

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4.9.2 Population

There were 36,623 persons residing within the South Central Regional Airport Service Area in 2010. Of those, 69.4% resided within the eight (8) incorporated cities located in the airport service area. The City of Pella and City of Oskaloosa combined account for 59.6% of the 2010 airport service area population. Table 4-2 shows, by township, the resident population for the census years 1990, 2000, and 2010.

Table 4-2
Total Population in SCRA Service Area Townships: 1990-2010

Geographic Area Township	Population			Change	
	1990	2000	2010	No.	%
Adams township, Mahaska County	312	288	242	-70	-22.00%
Black Oak township, Mahaska County	594	637	753	159	26.80%
Cedar township, Mahaska County	1,075	1,111	1,108	33	3.10%
East Des Moines township, Mahaska County	268	281	273	5	1.90%
Garfield township, Mahaska County	1,237	1,287	1,232	-5	-0.40%
Harrison township, Mahaska County	570	622	608	38	6.70%
Jefferson township, Mahaska County	369	351	324	-45	-12.20%
Lake Prairie township, Marion County - Pella	10,771	11,763	12,498	1,727	16.00%
Lincoln township, Mahaska County	410	448	402	-8	-2.00%
Madison township, Mahaska County	434	404	361	-73	-16.80%
Monroe township, Mahaska County	290	259	232	-58	-20.00%
Oskaloosa City township, Mahaska County	10,632	10,938	11,463	831	7.80%
Pleasant Grove township, Mahaska County	355	352	297	-58	-16.30%
Prairie township, Mahaska County	1,534	1,735	1,671	137	8.90%
Richland township, Mahaska County	522	459	472	-50	-9.60%
Scott township, Mahaska County	482	425	712	230	47.70%
Spring Creek township, Mahaska County	1,443	1,647	1,583	140	9.70%
Summit township, Marion County	676	1,141	1,444	768	113.60%
Union township, Mahaska County	370	312	331	-39	-10.50%
West Des Moines township, Mahaska County	120	164	170	50	41.70%
White Oak township, Mahaska County	505	525	447	-58	-11.50%
Total	**32,969**	**35,149**	**36,623**	**3,654**	**11.10%**

Source: U.S. Bureau of the Census 1990-2010

Approximately 38% of the service area population resides in Marion County (Lake Prairie Township and Summit Township). The balance of the population resides in Mahaska County. It should be noted that there are two (2) public airports in Marion County (Pella and Knoxville). The balance of the Marion County population (62%) is served by the Knoxville Municipal Airport. As noted in Table 4-2, Lake Prairie Township (Pella City) accounts for 52.7% of the South Central Regional Airport Service Area population increase within the period of 1990-2010. The population within Pella increased from 9,270 persons in 1990 to 10,352 in 2010, or by 11.6%. Within the same period the population of Oskaloosa increased by 863 persons, or by 8.14%.

While the discussion on the previous page focused on population change within the past 20 years, Table 4-3 summarizes the population change for incorporated cities over a 40 year period. The City of Pella experienced significant growth from 1970 to 2010 (55.2%) with the most significant increase occurring between 1970 and 1990. The City of Oskaloosa, within the same period, experienced a modest population growth.

Table 4-3
Population Incorporated Cities: 1970-2010

City	Population					Change	
	1970	1980	1990	2000	2010	No.	%
Barnes City	238	266	221	201	176	-62	-26.10%
Beacon	338	530	509	518	494	156	46.20%
Fremont	480	730	701	704	743	263	54.80%
Keomah Village	N/A	99	99	97	84	-	-
Leighton	140	137	142	153	162	22	15.70%
New Sharon	944	1,225	1,136	1,301	1,293	349	37.00%
Oskaloosa	11,224	10,989	10,632	10,938	11,463	239	2.10%
Pella	6,668	8,349	9,270	9,832	10,352	3,684	55.20%
Rose Hill	192	214	171	205	168	-24	-12.50%
University Park	534	645	598	536	487	-47	-8.80%
Total	**20,758**	**23,184**	**23,479**	**24,485**	**25,422**	**4,664**	**22.47%**

Source: U.S. Bureau of the Census 1990-2010

Given the concentration of population and employment opportunities within a 14-mile corridor, extending between Pella and Oskaloosa, there is merit to the development of a new airport along the Iowa Highway 163 corridor that can serve both population and employment nodes.

Population growth in the South Central Regional Airport Service Area is expected to continue through 2025. Table 4-4 summarizes forecast population change in the Marion and Mahaska Counties as well as five (5) adjacent counties.

Table 4-4
Seven County Population Projection: 2015-2025

County	Population				Change	
	2010	2015	2020	2025	No.	%
Jasper	36,636	36,817	37,067	37,351	715	2.00%
Keokuk	10,608	10,402	10,215	10,037	-571	-5.40%
Mahaska	22,326	22,367	22,451	22,555	229	1.00%
Marion	32,909	33,793	34,737	35,714	2,805	8.50%
Monroe	7,532	7,430	7,342	7,262	-270	-3.60%
Poweshiek	18,658	18,853	19,083	19,331	673	3.60%
Wapello	35,328	34,913	34,566	34,251	-1,077	-3.00%

Source: Woods & Poole Economics Inc. 2010 State Profile: Iowa

4.9.3 Commuting Patterns

Worker commuting patterns are an indicator of regional economic relationships. People are often employed outside of the city or county within which they reside. The willingness to travel has an impact on a number of economic indicators. People will purchase goods and services in a location where they work.

The development of a new airport, located between Pella and Oskaloosa, represents a component of the transportation infrastructure that will contribute to the development of a regional population and employment center. Seventy (70) percent of employed Pella residents work in Marion County, while only 46% of employed Oskaloosa residents work in Mahaska County. More specifically, 51% of employed Pella residents work in Pella compared to 37% of employed Oskaloosa residents that work in Oskaloosa. Five (5) percent of employed Oskaloosa residents commute to Pella, while three (3) percent of employed Pella residents commute to Oskaloosa.

Table 4-5
Worker Inflows-Outflows: Pella & Oskaloosa 2011

City	Employed In - Living Elsewhere	Employed & Living In	Living in - Employed Elsewhere
Pella	4,268	2,183	2,129
Oskaloosa	3,947	1,903	3,260

Source: Iowa State University Department of Economics
FY 2013 Retail Trade Analysis: Pella, Oskaloosa

Given the good correlation between population and employment with aeronautical activity, it is reasonable to consider the laborshed studies for Pella and Oskaloosa (Mahaska County). The laborshed studies were published by the Iowa Workforce Development – Labor Market and Workforce Information Division. The *Pella Laborshed Analysis* was released in February 2013. The *Mahaska Community Analysis* was also released in February 2013. While each of the above referenced studies followed the same methodology, it is not reasonable to simply combine the two (2) data sets. A request was made to the Iowa Workforce Development to prepare an analysis for a combined laborshed to more accurately represent the South Central Regional Airport Service Area.

Figure 4-3 shows the two major employment nodes within the combined Pella and Oskaloosa labor shed. The study (*South Central Regional Airport Service Area Laborshed Analysis* report) concluded that persons accepting employment within the Pella and Oskaloosa employment nodes area will commute an average of 28 miles one way.

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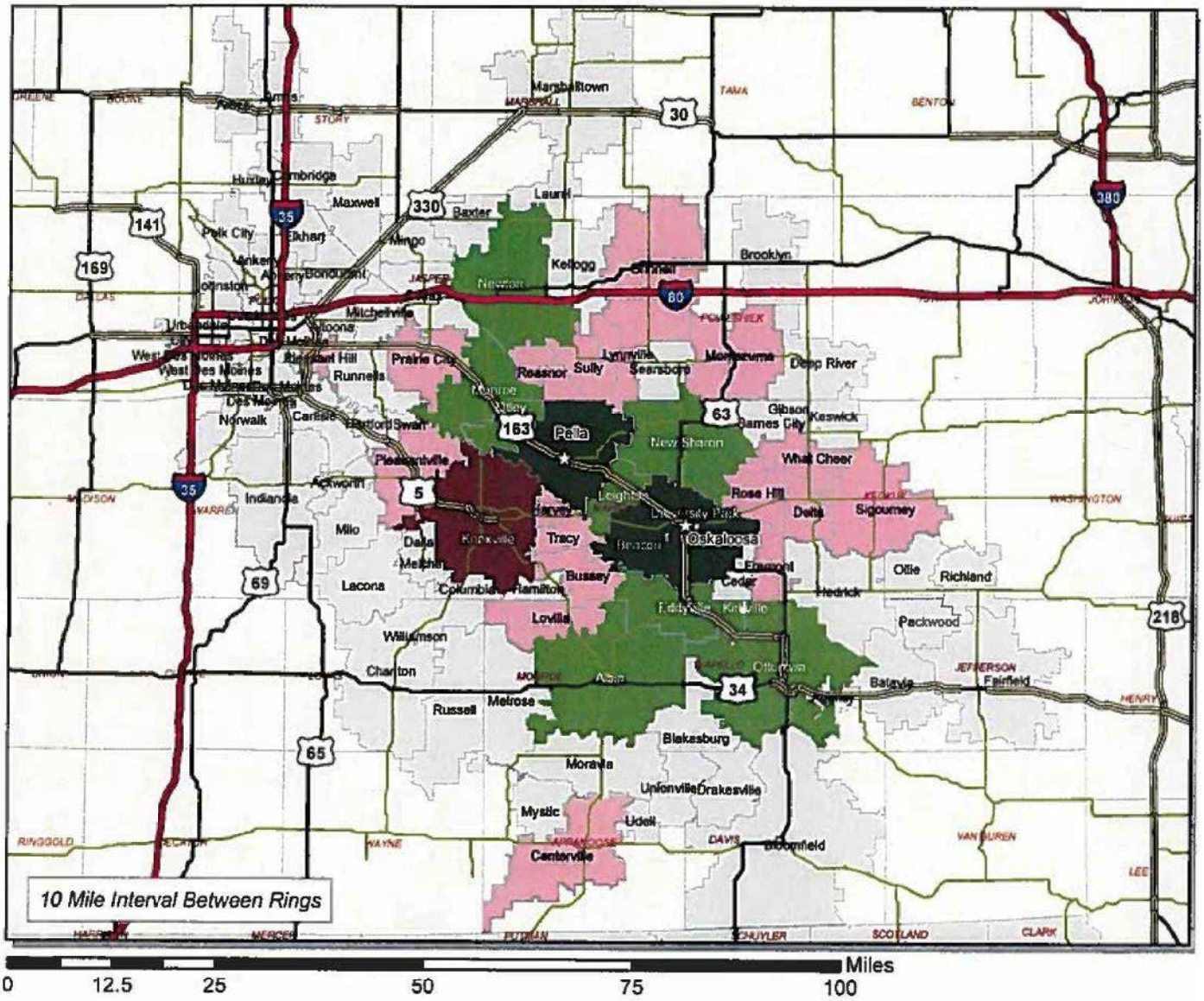

DGR ENGINEERING	SNYDER & ASSOCIATES Engineers and Planners	JS Consulting LLC	SOUTH CENTRAL REGIONAL AIRPORT MAHASKA COUNTY, IOWA COMMUTER CONCENTRATION BY PLACE OF RESIDENCE INTO OSKALOOSA AND PELLA	FIGURE 4-3

Plot Date: 10/14/2015 Scale: 1:65000 Model: exhibit File: C:\Projects\205 South Central RAA\02\dgn\figures\EA\EA_fig4_3.dgn

4.9.4 Retail Sales

Retail sales are an indicator of a community's economic well-being. The City of Pella and the City of Oskaloosa each show a trade surplus. Given the proximity to the Des Moines Metropolitan Area, a surplus indicates that persons travel to each community to purchase goods and services.

Table 4-6
Retail Trade Surplus: Pella & Oskaloosa FY 2006-2013

Fiscal Year[1]	Pella		Oskaloosa	
	Surplus ($1,000)	% of Actual Sales	Surplus ($1,000)	% of Actual Sales
2006	19,110	13.50%	48,818	27.90%
2007	20,449	14.40%	50,945	29.20%
2008	26,853	18.00%	48,564	28.00%
2009	24,188	16.50%	42,225	25.40%
2010	32,681	22.70%	46,388	28.60%
2011	34,400	23.10%	49,173	29.50%
2012	36,564	23.80%	44,580	27.20%
2013	45,572	28.30%	42,712	26.60%

Source: Iowa State University Department of Economics
Retail Trade Analysis report: Pella, Oskaloosa – March 2014
[1]State Fiscal Year Ending June 30

As evident in Table 4-6, Oskaloosa has historically been a strong retail center. Of significance is the increase in surplus retail sales in Pella. Actual sales in Oskaloosa decreased by 7.9%, while actual retail sales in Pella increased by 13.9% from FY 2006 to FY 2013. The increase in actual sales is related, in part, to the increase in population. The surplus sales are a more salient indicator of the geographic extent of the retail trade service area. In some communities, the retail trade service area mirrors the airport service area.

4.9.5 Employment

According to the *South Central Regional Airport Service Area Laborshed Analysis* report, manufacturing employment accounted for 24.8% of the total employment (see Table 4-7). Those employed in education accounted for 16.8%. There are two 4-year institutions of higher learning located within the airport service area. Central College is located in Pella and has an enrollment of 1,500 students. William Penn University is located in Oskaloosa and has an on campus enrollment of 900 students.

Persons employed within the healthcare and social service occupations accounted for 12.6% of the employment followed in turn by persons employed in wholesale and retail trade.

Table 4-7
Industrial Classification of the Employed
Oskaloosa/Pella Labor shed Survey: 2013

Industry	% of Laborshed
Manufacturing	24.80%
Education	16.80%
Healthcare/Social Services	12.60%
Wholesale & Retail Trade	10.70%
Finance, Insurance, Real Estate	6.10%
Transportation, Communication Utilities	5.10%
Personal Services	4.90%
Professional Services	4.70%
Construction	3.80%
Agriculture, Forestry	3.30%
Entertainment	0.90%
Active Military	0.20%

Source: Iowa Workforce Development

The Pella Chamber of Commerce posted the following on their website (www.pella.org):

> *"Pella Boasts 6,500 plus manufacturing and industrial jobs and ranks ninth in the state in the capacity. This abundance of jobs attracts commuters from communities within a 50-mile radius. Major employers within each of the two (2) South Central Regional Airport Service area employment nodes are summarized below:*
>
> | *Oskaloosa* | *Pella* |
> |---|---|
> | *Clow Value Company-350* | *Pella Corporation-2,224 (Pella Location)* |
> | *Cargill, Inc.-600* | *Vermeer Corporation-2,364 (Pella Location)* |
> | *Cunningham Inc.-90* | *Pella Regional Health Center-819* |
> | *Musco-450* | *Central College-469* |
> | *Interpower Corp-81* | *Precision Inc.-193* |
> | *Mahaska Bottling-97* | *Van Gorp Corp-60* |
> | *William Penn-225* | *Heritage Lace-45* |
> | *Midland Metals-62* | *Pella Products-39* |
> | *Mahaska Health Partnership-489* | *Christian Opportunity Center-122* |
>
> *A number of the companies located within the airport service area use aviation on a regular basis. The Pella Corporation and MUSCO own and operate airplanes that are identified in FAA AC 150/5325-4B Table 3-2, Remaining 25 Percent of Airplanes that Make Up 100 Percent of Fleet."*

SECTION FIVE

Environmental Consequences

SECTION FIVE: ENVIRONMENTAL CONSEQUENCES AND MITIGATION

5.1 Introduction

Section Five examines the probable beneficial and adverse social, economical and environmental impacts anticipated from implementation of the proposed project actions. The following subsections address each of the specific impact categories referenced in the Federal Aviation Administration (FAA) Order 5050.4B, *NEPA Implementing Instructions for Airport Actions* and FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures.* Order 5050.4B supplements Order 1050.1F by providing NEPA instructions, especially for proposed federal actions to support airport development projects. FAA Order 5050.4B follows the Council on Environmental Quality's (CEQ's) NEPA implementing regulations that include CFR 1500-1508.

5.2 Resources Not Affected

The following resource(s) are either not present or would not be affected by the proposed airport improvements or airport closures. These resources were evaluated but not discussed in the document since the proposed improvements would not impact them.

- Coastal Resources

5.3 Resources Affected

The No Action, Reasonable Alternative One - Site B, Reasonable Alternative Two - Site A Build Alternative 3 (Proposed Action), Pella Municipal Airport closure and Oskaloosa Municipal Airport closure would likely affect the following resource(s):

- Air Quality (5.4)
- Biotic Resources (5.5)
- Climate (5.6)
- Department of Transportation Act Section 4(f) (5.7)
- Farmlands (5.8)
- Hazardous Materials, Solid Waste and Pollution Prevention (5.9)
- Historic Architectural, Archaeological, and Cultural Resources (5.10)
- Land Use (5.11)
- Natural Resources and Energy Supply (5.12)
- Noise and Noise Compatible Land Use (5.13)
- Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks (5.14)
- Visual Effects (5.15)
- Water Resources (5.16)
- Cumulative Impacts Summary (5.17)

5.4 Air Quality

5.4.1 Introduction

Under the Clean Air Act (CAA), the U.S. Environmental Protection Agency (EPA) developed the Nation Ambient Air Quality Standards (NAAQS) for six (6) common air pollutants, namely:

- Carbon monoxide (CO)
- Nitrogen dioxide (NO_2)
- Ozone (O_3)
- Particulate Matter (PM)
- Sulfur dioxide (SO_3)
- Lead (Pb)

The EPA determined that these criterial air pollutants may harm human health and the environment, and cause property damage.

The Iowa Department of Natural Resources (Iowa DNR) Air Quality Bureau is responsible for keeping Iowa's air in attainment (within the limits of) of the National Ambient Air Quality Standards (NAAQS). The Code of Iowa Chapters 455A and 455B gives authority to regulate air quality to the Iowa DNR. Iowa's statewide ambient air quality standards are the same as the National Ambient Air Quality Standards (see Iowa Administrative Code – IAC Chapter 28 – Ambient Air Quality Standards).

The National Ambient Air Quality Standards are set forth in Table 5-1.

Table 5-1
National Ambient Air Quality Standards (NAAQS)

Pollutants	Primary Standards Value	Primary Standards Averaging Period	Secondary Standards
CO	9 ppm (10 mg/m^3)	8 hours	None
CO	35 ppm (40 mg/m^3)	1 hour	None
NO_2	53 ppb	Annual (Arithmetic average)	Same as Primary
NO_2	100 ppb	1 hour	None
O_3	0.075 ppm	8 hours	Same as Primary
PM_{10}	150 µg/m^3	24 hours	Same as Primary
$PM_{2.5}$	15.0 µg/m^3	Annual (Arithmetic average)	Same as Primary
$PM_{2.5}$	35 µg/m^3	24 hours	Same as Primary
SO_2	75 ppb	1 hour	None
SO_2	None	None	500 ppb average period of 3 hours
Pb	0.15 µg/m^3	Rolling 3-month average	Same as Primary

Source: EPA's NAAQS website at: http://www.epa.gov/air/criteria.html. The information in the table is current as of September 2012. The Standards are codified at 40 Code of Federal Regulations (CFR) part 50.

Note: CO = carbon monoxide; Pb = lead; NO_2 = nitrogen dioxide; PM_{10} and $PM_{2.5}$ = particulate matter with an aerodynamic diameter equal to or less than 10 microns and 2.5 microns, respectively; O_3 = ozone; SO_2 = sulfur dioxide; mg/m^3 = milligram per cubic meter; ppb = part per billion; ppm = part per million; µg/m^3 = microgram per cubic meter

There are two designated non-attainment areas in Iowa.

- Pottawattamie County – Lead
- Muscatine County – Sulfur dioxide

The Iowa Department of Transportation created the Iowa Clean Air Attainment Program to help finance transportation projects and programs that result in attaining or maintaining the National Ambient Air Quality Standards within Iowa.

5.4.2 Analysis

The alternatives as discussed in Section Three are located within an area that does not exceed the National Ambient Air Quality Standards. The State Hygienic Laboratory at the University of Iowa maintains a network of sites located throughout the state to monitor the following pollutants:

- Carbon monoxide (CO)
- Nitrogen dioxide (NO_2)
- Ozone (O_3)
- Reactive Nitrogen
- Speciation
- Air Toxics
- Meteorological Conditions
- Particulate Matter (PM)
- Sulfur dioxide (SO_3)
- Lead (Pb)

Historical air quality data and meteorological conditions are also maintained by the State of Iowa Hygienic Laboratory.

Regional meteorological conditions are conducive to pollution dispersion. Topographic conditions within the area will have minimal influence on air flow and/or air temperature. There are no land uses or large emission sources within the study area.

No single universal criterion exists for deciding whether an ambient pollutant concentration analysis (NAAQS Analysis) is necessary. Since the alternatives being discussed are not located in a non-attainment area and the south central Iowa region including Mahaska County has not had a history of NAAQS pollutant exceedances, a NAAQS Analysis was not conducted.

5.4.3 Potential Impacts

5.4.3.1 No Action Alternative

The “No Action Alternative” assumes that there will be no airport related expansion at the two (2) existing public owned airports nor will the replacement airport be constructed.

5.4.3.2 Pella Municipal Airport: Release and Closure

Closure of the Pella Municipal Airport will eliminate aircraft emissions as well as airport generated vehicle emissions from the airport vicinity.

Residential development to accommodate a projected increase in population will occur even if the airport is not closed. Therefore, closure of the existing

airport will not contribute to an increase in pollutants as a result of a potential increase in population as the City anticipates a population increase even if the airport is not closed.

5.4.3.3 Oskaloosa Municipal Airport: Release and Closure

Closure of the Oskaloosa Municipal Airport will eliminate aircraft emissions as well as airport generated vehicle emissions from the airport vicinity.

The conversion of the existing airport to row crops will result in a net decrease in emissions as an opportunity to utilize more efficient farming practices will be introduced.

5.4.3.4 Reasonable Alternative One – Site B

An increase in emission (aircraft, vehicles) will be introduced into the area. There are no anticipated impacts to air quality that would exceed the National Ambient Air Quality Standards (NAAQS) as a result of construction or after the airport becomes operational. During construction, reasonable precautions to prevent fugitive dust will be utaken in accordance with Iowa Administrative Code Chapter 23.

The combined aeronautical activity will result in a net decrease in emissions within the airport service area since one airport will be maintained (snow removal, grass mowing) rather than two airport facilities.

5.4.3.5 Reasonable Alternative Two – Site A Build Alternative 3 (Proposed Action)

An increase in emissions will occur from construction related activities. During construction, reasonable measures will be taken to mitigate fugitive dust.

The combined aeronautical activity will result in a net decrease in emissions within the airport service area since one airport will be maintained rather than two airport facilities. Emissions from ground maintenance vehicles and vehicular traffic will be less than if two airports were maintained.

5.4.4 Mitigation

Other than mitigating for fugitive dust during construction, there are no mitigation requirements proposed. Fugitive dust resulting from construction activities are anticipated from movement of heavy construction equipment and exposure and disturbance to surface soils. These impacts are expected to be both temporary and localized. Mitigation measures (see Section 5.17 – Table 5-6) will be established to reduce fugitive dust and potential nuisance impacts. During construction dry periods, these measures could include:

- Cover all materials being transferred by truck.
- Use dust suppressant on unpaved travel paths.
- Minimize unnecessary vehicular and machinery activities.

- Minimize soil track-out by washing or cleaning trucks before leaving the construction site

5.5 Biotic Resources

5.5.1 Introduction

For purposes of this document, the term "biotic resources" means various types of flora (plants) and fauna (fish, birds, reptiles, etc.) in a particular area. The term also refers to habitat that supports flora and fauna such as rivers, wetlands, forests and other types of habitat. Impacts to biotic resources are determined based on whether a proposal would cause a minor permanent alteration of existing habitat or whether it would involve the removal of a sizeable amount of habitat which supports a rare species, or a small, sensitive tract.

5.5.2 Analysis

The "No Action Alternative" will have a less than significant impact on biotic resources. Reasonable Alternatives One and Two will require the conversion of farmland to airport use. Activities associated with the construction of a new airport facility may potentially impact the natural habitat.

The natural habitat has been significantly altered due to historic and current agricultural practices. The primary agricultural activity is related to corn and soybean production. Some natural habitat exists along drainage ways, streams, and within wooded corridors.

The Iowa Department of Natural Resources (Iowa DNR) website was used to identify potential state listed threatened and endangered flora and fauna species within Mahaska County. The U.S. Fish and Wildlife Service (USFWS) website was used to identify federally listed endangered and threatened species. Potential habitat of the listed species was investigated during the onsite review.

Section 7 of the Endangered Species Act of 1973, as amended, requires "all Federal Agencies shall, in consultation with and with the assistance of the Secretary, ensure that any action authorized, funded, or carried out by such agency ("agency action") is not likely to jeopardize the continued existence of an endangered or threatened species, or result in destruction or adverse modification of a critical habitat of a species." Furthermore, Section 7a(4) requires that "all Federal Agencies must confer with the Secretary on any agency action likely to jeopardize the continued existence of any species proposed to be listed, or result in destruction or adverse modification of proposed critical habitat."

The term "endangered species" relates to any species which is in danger of extinction throughout all or a significant portion of its range. Endangered species do not include species of the Class Insecta determined by the Secretary of the Interior that constitute a pest and would present an overwhelming and overriding risk to people.

The term "threatened species" relates to any species in decline which is likely to become an endangered species within the foreseeable future throughout all or a significant part of its range.

Table 5-2
Federally Listed Threatened and Endangered Species

	Common Name	Scientific Name	Classification
Mammals	Indiana Bat	Myotis Sodalis	Endangered
	Northern Long-eared Bat	Myotis Septentrionalis	Threatened
Plants	Prairie Bush Clover	Lespedeza Leptostachya	Threatened
	Western Prairie Fringed Orchid	Plantanthera Praeclara	Threatened

Source: U.S. Fish and Wildlife Service: http://www.fws.gov/midwest/endangered/lists/iowa_cty.html

In addition to the federally listed species, the Iowa DNR has identified those species of state concern (Threatened, Endangered, and Special Concern). The Iowa DNR defines those species listed as "Special Concern" as any species about which problems of status or distribution are suspected, but not documented.

- 571 Iowa Administrative Code (IAC) Chapter 77

Table 5-3
State Listed Threatened, Endangered, and Special Concern Species

	Common Name	Scientific Name	Classification
Birds	Bald Eagle	Haliaeetus leucocephalus	Special Concern
	Barn Owl	Tyto alba	Endangered
	Henslow's Sparrow	Ammodramus henslowii	Threatened
Insects	Regal Fritillary	Speyeria idalia	Special Concern
Mammals	Indiana Bat	Myotis sodalis	Endangered
	Southern Bog Lemming	Synaptomys cooperi	Threatened
Plants (Dicots)	Creeping Bush-clover	Lespedeza repens	Special Concern
	Curved-pod Corydalis	Corydalis curvisiliqua ssp grandibracteata	Endangered
	Downy Woodmint	Blephilia ciliata	Threatened
	Earleaf Foxglove	Tomanthera auriculata	Special Concern
	Frost Grape	Vitis vulpina	Special Concern
	Hill's Thistle	Cirsium hillii	Special Concern
	Larkspur	Delphinium carolinianum	Special Concern
	Paw Paw	Asimina triloba	Special Concern
	Rough Bedstraw	Galium asprellum	Special Concern
	Rough Buttonweed	Diodia teres	Special Concern
	Roundstem Foxglove	Agalinis gattingeri	Threatened
	Spring Avens	Geum vernum	Special Concern
	Winged Monkey Flower	Mimulus alatus	Threatened
Plants (Monocots)	Glomerate Sedge	Carex aggregata	Special Concern
	Meadow Bluegrass	Poa wolfii	Special Concern
	Oval Ladies'-tresses	Spiranthes ovalis	Threatened
	Pale Green Orchid	Platanthera flava	Endangered
	Slender Ladies'-tresses	Spiranthes lacera	Threatened
	Soft Rush	Juncus effusus	Special Concern
	Virginia Spiderwort	Tradescantia virginiana	Special Concern
Plants Pteriodophytes	Crowfoot Clubmoss	Lycopodium digitatum	Special Concern
	Northern Adder's-tongue	Ophioglossum pusillum	Special Concern
Reptiles	Smooth Green Snake	Liochlorophis vernalis	Special Concern

Source: Iowa Department of Natural Resources https://programs.iowadnr.gov/naturalareasinventory

5.5.3 Potential Impact

5.5.3.1 No Action Alternative

The "No Action Alternative" will have no impact on biotic resources as airport expansion or related projects would not occur.

5.5.3.2 Pella Municipal Airport: Release and Closure

Closure of the Pella Municipal Airport will not have an adverse effect on biological resources as there is no critically designated habitat on the existing airport site.

5.5.3.3 Oskaloosa Municipal Airport: Release and Closure

Closure of the Oskaloosa Municipal Airport will not have an adverse effect on biological resources as there is no critically designated habitat on the existing airport site.

5.5.3.4 Reasonable Alternative One – Site B

With the exception of a farmstead, county roads (220th Street, Elba Avenue) and grass waterways, the balance of the site is under cultivation. The location of any habitat associated with threatened, endangered, and special concern species on the site is minimal. There are no woodland or trees located on the site. Therefore, Reasonable Alternative One – Site B will have no adverse effect on critical habitats associated with threatened, endangered, and special concern species.

5.5.3.5 Reasonable Alternative Two – Site A Build Alternative 3 (Proposed Action)

Nearly all of Site A is under cultivation with the exception of a pond, two intermittent streams, wooded areas around the intermittent streams, one ephemeral drainage way and road right of way (220th Street).

Snyder & Associates Inc. assessed the project area for the presence of the Indiana Bat and Northern Long-Eared Bat habitat. Pedestrian surveys were conducted on May 6, 2015 and May 18, 2015 (see Technical Memorandum: *Indiana Bat and Northern Long-Eared Bat Habitat Assessment* – Snyder & Associates, Inc. – June 19, 2015) (Appendix I).

The proposed project will cause minor permanent alterations of the existing woodland habitat. The impact is considered minor because the proposed project would remove woodland habitat that supports a minimal number of biotic resources in the effected area. A bat habitat survey was completed during the spring of 2015. This project will not have a permanent impact on threatened, endangered, or special concern species. The identified roost trees will be removed during the hibernation season from October 1 through March 31.

There are no local, state or federally designated forest, grasslands, or wildlife refuges on or adjacent to Site A.

5.5.4 Mitigation

Throughout the accessible project area, 89 potential roost tree locations met the habitat requirements listed in the Iowa DNR and USFWS guidance.

Based on the result of the Indiana Bat and Northern Long-Eared Bat Habitat survey, the proposed actions may affect, but not likely adversely affect the Indiana Bat and Northern Long-Eared bat. The recommendation is that removal of any potential roost trees identified during the habitat study or during the project construction should be removed from October 1 to March 31 (see USFWS letter dated 2-10-16 - Appendix B).

To protect migratory birds, construction activities will not occur where active nests are present until the birds have fledged and left the nest. If evidence of migratory

bird nesting is discovered after the beginning of construction, or if migratory bird nests become established, constructions should immediately stop within the vicinity of the nest. All non-active, existing migratory bird nests should be removed and properly disposed and monitored weekly to prevent the establishment of active nests.

5.5 Climate

5.6.1 Introduction

Of growing concern is the potential impact of proposed projects on climate change. Greenhouse gases (GHG's) are those gases that trap heat in the earth's atmosphere and include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), ozone (O_3), and water vapor (H_2O). FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures* (July 2015), requires that FAA give considerations to the effects of climate change and greenhouse gas emissions. The FAA guidance provides that potential climate impacts be documented in a separate section of the NEPA document, distinct from air quality (Section 5.4).

5.6.2 Analysis

The Proposed Action, when combined with the closure of the existing Pella and Oskaloosa Municipal Airports, will result in a reduction of greenhouse gases. The reduction will be provided by reducing the fuel burned to maintain (snow removal, mowing) the facility. Further reduction will be provided by reduced surface travel distances to an alternative airport location

5.6.3 Potential Impacts

5.6.3.1 No Action Alternative

The "No Action Alternative" will result in no changes to GHG emissions at the Pella and Oskaloosa Municipal Airports as there will be no changes to existing facilities or traffic patterns.

5.6.3.2 Pella Municipal Airport: Release and Closure

Closure of the Pella Municipal Airport will eliminate GHG's within the airport environs as there would be no CO_2 emissions from aircraft operations and grounds maintenance.

The ultimate development of the existing airport to accommodate projected population increase will contribute to a potential reduction of greenhouse gases (GHG's) within the community, since the site represents an opportunity to minimize urban sprawl and the conversion of undeveloped land to urban residential uses.

5.6.3.3 Oskaloosa Municipal Airport: Release and Closure

Closure of the Oskaloosa Municipal Airport will eliminate GHG's within the airport environs as there would be no CO_2 emissions from aircraft operations and grounds maintenance.

The opportunity to introduce efficient farming practices will result in a net reduction of greenhouse gases.

5.6.3.4 Reasonable Alternative One – Site B

There will be an increase in CO_2 emission equal to the emissions by aircraft that will be relocated from the Pella, Oskaloosa, and Ottumwa Municipal Airports.

Within the combined airport service area, there will be a net reduction of greenhouse gases since there will be one airport to maintain and operate rather than two airport facilities.

5.6.3.5 Reasonable Alternative Two – Site A Build Alternative 3 (Proposed Action)

There will be an increase in CO_2 emission equal to the emissions by aircraft that will be relocated from the Pella, Oskaloosa, and Ottumwa Municipal Airports.

The increase in greenhouse gases will be offset by removal of aircraft generated greenhouse gases at the Pella Municipal Airport and Oskaloosa Municipal Airport.

5.6 Department of Transportation Act – Section 4(f) and Related Lands

5.7.1 Introduction

Section 4(f) of the Department of Transportation Act of 1966 [49 USC Section 303(c)] is intended to preserve public-owned parks and recreation lands, wildlife and waterfowl refuges of national, state or local significance or any historic site of natural, state or local significance.

5.7.2 Analysis

Section 4(f)/303(c) of the Department of Transportation Act of 1966 provided that the Secretary of Transportation shall not approve any program or project which requires the use of any land from a public park, recreation area, wildlife and waterfowl refuge, or historical site listed or eligible for listing, unless there are no feasible and prudent alternatives to the use of such land and such a program includes all possible planning to minimize harm to such areas.

When proposed improvements affect lands purchased or developed using Land and Water Conservations Funds [LAWCON Section 6(f)], changes in use to other than

public recreation cannot be made without prior approval of the Secretary of the Interior.

Section 4(f) resource determinations are made by FAA.

5.7.3 Potential Impacts

5.7.3.1 No Action Alternative

The "No Action Alternative" would have no adverse effect on public-owned parks and recreation areas, wildlife or waterfowl refuges or historic sites as no changes to aircraft traffic patterns or construction would be undertaken.

5.7.3.2 Pella Municipal Airport: Release and Closure

There are no Section 4(f) resources on the Pella Municipal Airport; therefore, the release and closure will have no adverse effect.

5.7.3.3 Oskaloosa Municipal Airport: Release and Closure

There are no known Section 4(f) resources on the Oskaloosa Municipal Airport; therefore, the release and closure will have no adverse effect.

5.7.3.4 Reasonable Alternative One – Site B

There are no Section 4(f) resources on or adjacent to the site; therefore, there are no adverse effects anticipated.

There are no Section 6(f) funded parks or recreation facilities located on or adjacent to the site.

5.7.3.5 Reasonable Alternative Two – Site A Build Alternative 3 (Proposed Action)

If the proposed action results in the physical use or constructive use of a resource listed or eligible for listing on the National Register of Historic Places, the potential impact must be evaluated.

Wapsi Valley Archaeology conducted a reconnaissance level historic architectural survey to identify properties within the area of potential effect that may be eligible for listing. Of the 13 properties, only one (1) property, at 1795 220th Street, may retain sufficient integrity to meet criteria for listing on the National Register. In addition to the residential structure, an associated earth cellar may be individually significant and eligible for listing.

Wapsi Valley Archaeology conducted an intensive level survey and evaluation of the Prine Cemetery. The evaluation concluded that the Prine Cemetery is eligible for listing because it retains a high level of integrity (see Section 5.10 Historic, Architectural, Archaeological, and Cultural Resources).

There is a previously recorded prehistoric lithic artifact site (13MK341) located on land proposed for acquisition.

The residence and earth cellar, located at 1795 220th Street, as well as the Prine Cemetery are located outside the area proposed for acquisition. Based on proposed mitigation measures, the proposed action will not result in the constructive use of the cultural resources eligible or potentially eligible for listing.

Constructive use occurs when the impacts of a project on a Section 4(f) resource are as severe that the activities, features, or attributes that qualify the property for protection under Section 4(f) are substantially impaired (See Section 5.10 Historical, Architectural, Archaeological, and Cultural Resoures/ 5.10.3.5 – Reasonable Alternative Two – Site A Build Alternative 3).

Section 5.10 discusses measures to protect the Prine Cemetery and artifacts associated with site 13MK341 and the residential structure/earth cellar located at 1795 220th Street.

5.7.4 Mitigation

See Section 5.10 Historic, Architectural, Archaeological and Cultural Resources and Section 5.15 Visual Effects.

Recommendations from the Cultural Resources Studies and consultation with the Iowa State Historical Preservation Office (SHPO) conclude that the potential constructive use of these sites can be reduced below a substantial impairment by inclusion of mitigation measures.

5.8 Farmlands

5.8.1 Introduction

The Farmland Protection Policy Act (FPPA) (Public Law 97-98, Subtitle 1 of Title XV, Section 1539-1549) authorizes the U.S. Department of Agriculture (USDA) to develop criteria for identifying the effects of federal programs on the direct or indirect conversion of farmland to non-agricultural uses. Federal agencies are directed to: (1) use the criteria established; (2) identify the quantity of farmland actually converted by the federal programs; (3) identify and take into account the adverse effects of federal programs on the preservation of farmland; (4) consider alternative actions, as appropriate, that could lessen such adverse effects; and (5) assure that such federal programs, to the extent practicable, are compatible with state and local units of government, as well as private programs and policies in order to protect farmland.

The project actions will involve acquisition of farmland that will be converted to non-agricultural uses. Therefore, it must be determined whether any of the

converted farmland is protected by the FPPA. Farmland protected by the FPPA is either (1) prime farmland, which is land that possesses the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, oilseed, and other agricultural crops with minimal use of fuel, fertilizer, pesticides or products, but is being used currently to produce livestock and timber; (2) unique farmland, which is land other than prime farmland that is used for production of specific high-value food and fiber crops; or (3) other farmland, other than prime or unique farmland, that is of statewide or local importance for the production of food, feed, fiber ,etc., as determined by the appropriate state or unit of local government agency or agencies, and that the Secretary of Agriculture determines should be considered as farmland for this purpose.

Prime farmland subject to FPPA requirements does not include land already in or committed to urban development or water storage.

5.8.2 Analysis

As part of the early coordination process, the Soil Conservation Division of the Iowa Department of Agriculture was contacted. The Natural Resource Conservation (NRCS) Office completed the Farmland Conversion Impact Rating worksheet (Form AD-1006). Reference may be made to Appendix B for early coordination and Form AD-1006. The Iowa Department of Agriculture and Land Stewardship were contacted during the early coordination phase.

5.8.3 Potential Impacts

5.8.3.1 No Action Alternative

The "No Action Alternative" would have no impact on prime or unique farmland as there would be no construction occurring and no farmland acquisition required.

5.8.3.2 Pella Municipal Airport: Release and Closure

Closure of the Pella Municipal Airport will have no adverse impact on farmland as the land will ultimately be converted from a federally obligated airport to urban uses. Initially, the 109 acre airport site will be converted to an agricultural use. The agricultural use will be maintained until it is converted to land uses consistent with the City's Future Land Use Plan.

5.8.3.3 Oskaloosa Municipal Airport: Release and Closure

Federally obligated land (620 acres) that now compromises the Oskaloosa Municipal Airport will be converted to an agricultural use.

5.8.3.4 Reasonable Alternative One – Site B

Development of Site B will require the acquisition of approximately 524 acres. The land acquired will be federally obligated.

The total points (164 from Part V and Part VI does not exceed the maximum point threshold of 260 (see Appendix B – Form AD-1006).

A score below 160 does not require further analysis. Where the total points equal or exceed 160, alternative actions, where appropriate, should be considered.

5.8.3.5 Reasonable Alternative Two – Site A Build Alternative 3 (Proposed Action)

The Proposed Action will require the acquisition of 582 acres of land in fee with approximately 303 acres being directly converted to airside and landside facilities and approximately 279 acres being indirectly converted from agricultural use without restrictions to agricultural uses with restrictions (as may be set forth in FAA grant assurances).

The combined Part VI score (see Appendix B Form AD-1006) for the proposed Build Alternative was 95. Total combined scores on Form AD-1006 below 160 do not require further analysis. The total point score from Part V (Relative value of farmland) and Part VI (Site Assessment Points) was 175. The total points (175) from Part V and Part VI does not exceed the maximum point threshold of 260.

Where the total points equal or exceed 160, alternative actions, where appropriate, should be considered. Alternative actions may include an alternative site, modification to the airport geometry or other mitigation (See Section 5.8.4).

Except for areas required for an aeronautical purpose (i.e. runway, taxiway, airport hangars and facilities, and associated object free areas), the remaining 279 acres could remain under agricultural production. This area may be leased back and would generally include the land within the Runway Protection Zone (RPZ) and the area extending out from the Runway and Taxiway Object Free Areas (ROFA/TOFA) to the proposed airport property line. Areas of agricultural production including land within the Runway Protection Zones (RPZ) and the areas extending beyond the Runway and Taxiway Object Free Areas (ROFA/TOFA) to the proposed airport property line require crop restrictions, as shown on the Airport Layout Plan (ALP) – Land Use Plan Sheet (see Appendix E).

The acquisition of agricultural property for the project action will be carried out in accordance with the *Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970* (URA), as amended, 49 CFR Part 24.

5.8.4 Mitigation

The release and disposal of the Pella Municipal Airport and Oskaloosa Municipal Airport will mitigate, in part, the impact associated with the conversion of land from an agricultural use to a non-agricultural use.

The 620 acre Oskaloosa Municipal Airport site is federally obligated. Closure will result in the removal of land use restrictions associated with airport facilities and operations. The 620 acres will be converted to agricultural uses without restrictions associated with airport operations.

The National Resource Conservation Service (NRCS) Web Soil Survey (WSS) was used to identify prime farmland and prime farmland if drained on the Oskaloosa Municipal Airport. The report showed that 469.7 acres were classified as Taintor silty clay loam (prime farmland if drained) and 128.9 acres classified as Mahaska silty clay loam (prime farmland).

Of the 582 acres acquired for the Replacement Airport, 279 acres will be available for farming. The 279 acres represent non-safety critical areas of the proposed airport and would be available for certain types of crops.

5.9 Hazardous Materials, Solid Wastes and Pollution Prevention

5.9.1 Introduction

A hazardous material is any substance or material that has been determined to be capable of posing an unreasonable risk to health, safety, and property. The term hazardous materials include hazardous wastes and substances as well as petroleum and natural gas substances and materials.

To identify these materials and protect the environment from harmful interaction of potential hazardous wastes, several federal laws and regulations have been enacted including: The Nation Priorities List (Superfund Sites), the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the Resource Conservation Recover Act (RCRA).

In addition to federal regulations, the State of Iowa – Iowa Department of Natural Resources (Iowa DNR) has developed regulations and guidance related to abandoned water wells, leaking underground storage tanks (LUST) and fuel storage facilities.

5.9.2 Analysis

The Iowa Department of Natural Resources was contacted regarding the potential location of hazardous wastes or hazardous substances on the existing Pella Municipal Airport, Oskaloosa Municipal Airport and Reasonable Alternative One – Site B and Reasonable Alternative Two – Site A (Proposed action). The U.S. Environmental Protection Agency (EPA) listing (CERCLA) of potential suspected and known hazardous waste and substance sites was reviewed.

Compliance with local, state and federal regulations that relate to disposal of construction debris must be adhered to. The Solid Waste Disposal Act notes that the term “solid waste” includes garbage, refuse, or sludge from a waste treatment

plant, water supply treatment plant or an air pollution control facility. Solid waste also includes solid, liquid, semi-solid or contained gaseous materials.

5.9.3 Potential Impacts

5.9.3.1 No Action Alternative

The "No Action Alternative" assumes that there will be no new construction or expansion of the existing airport facilities. The No Action Alternative would not generate construction debris or solid, semi-solid, or gaseous material and substances beyond what would be generated from maintaining the existing two (2) airports

5.9.3.2 Pella Municipal Airport: Release and Closure

Closure of the Pella Municipal Airport will have no adverse impacts. Existing pavement will be left in place. The existing buildings will be converted to other uses when, and if, disposed of by the City of Pella. Closure of the airport will remove, from the site, potential sources of pollution that may result from fuel spills.

There are two (2) 10,000 gallon underground fuel storage tanks located on the airport. One (1) tank is used to store Jet A fuel and the other for 100LL fuel. There is a monitoring system in place.

The conversion to residential uses will result in an increase in stormwater runoff and potentially hazardous wastes. The City has, in place, a site plan checklist (see Municipal Code Chapter 165: Zoning Code) and subdivision regulations (see Municipal Code Chapter 170: Subdivision Regulations) to address stormwater. The City of Pella contracts with Midwest Sanitation for the collection of solid waste, recycling, and yard waste (see Municipal Code: Chapter 105: Solid Waste Control, Chapter 106: Solid Waste Collection, and Chapter 28: Hazardous Waste Spills).

5.9.3.3 Oskaloosa Municipal Airport: Release and Closure

Closure of the Oskaloosa Municipal Airport will have no adverse impacts. Existing pavement will be left in place. The existing building structure will be converted to other uses. If building demolition would occur the asbestos (if any) will be removed and materials having no salvage value transported to the Mahaska County Landfill.

The Oskaloosa Airport will be converted to agricultural uses. Should an animal confinement and feeding operation be considered, the proponent must adhere to guidelines set forth by the Iowa Department of Natural Resources. The Air Quality Bureau conducts field studies near animal feeding operations to evaluate air quality. The Iowa DNR Field Services and Compliance Bureau reviews manure management and nutrient management plans. The Iowa DNR also issues NPDES and stormwater permits applicable

to feeding and confinement operations (see Iowa Code Chapter 65: Animal Feeding and Confinement Operations).

There is one (1) 12,000 gallon underground fuel storage tank divided into three (3) compartments of which one (1) compartment is used to store 100 LL and the remaining two (2) for Jet A. A monitoring system is in place to detect leaks. Tanks are subject to requirements set forth in the Iowa Administrative Code (IAC) – Chapter 134 *Underground Licensing and Certification Program.*

5.9.3.4 Reasonable Alternative One – Site B

There are no known hazardous materials or substances within the area proposed for acquisitions or on property adjacent to the proposed site.

Fuel (Jet A, 100LL) will be stored in double wall above ground storage tanks. The above ground storage tanks will not exceed 12,000 gallons each.

5.9.3.5 Reasonable Alternative Two – Site A Build Alternative 3 (Proposed Action)

There are no known hazardous materials on Alternative Two – Site A. The volume of solid waste generated will not be disproportionally greater than the volume generated by the two (2) existing airports. The Mahaska County Landfill is located 11 miles from the proposed site. Therefore, the Mahaska County Landfill is not considered a potential wildlife attractant.

Fuel (Jet A, 100LL) will be stored in double wall above ground storage tanks. The storage tanks and fuel dispensing units will be subject to regulations set forth by the Office of the Iowa State Fire Marshall and Iowa Department of Natural Resources.

5.10 Historical, Architectural, Archaeological, and Cultural Resources

5.10.1 Introduction

There are two (2) basic federal laws in this category that apply to the proposed project:

- National Historic Preservation Act of 1966
- Archaeological and Historical Preservation Act of 1974

Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended, requires federal agencies to take into account the effects of their undertakings on historic properties and determine if any properties are in, or eligible for inclusion into, the National Register of Historic Places. In addition, it affords the Advisory Council on Historic Preservation a reasonable opportunity to comment. The historical preservation review process mandated in Section 106 is outlined in regulations issued by the Council. The current regulations, Protection of Historic

Properties (36 CFR Part 800), were amended on August 5, 2004, and incorporates the statutory changes mandated by the 2001 amendments to the NHPA.

The Archaeological and Historic Preservation Act of 1974 (AHPA) describes the process that occurs when consultation with resource agencies indicates that there may be impact on significant scientific, prehistoric, historic, archaeological, or paleontological data when such data may be destroyed or lost as a result of the implementation of proposed project action. The process provides for the preparation of a professional resource survey of a proposed project area. Should the survey identify significant resources, the National Register process described above is then followed. Should the survey be inconclusive, a determination is made on whether or not it is appropriate to halt construction (if resources are uncovered) in order for a qualified professional to evaluate their importance and provide for data recovery if needed.

5.10.2 Analysis

The purpose of a Phase I Cultural Resources Investigation is to locate, identify and evaluate all archaeological resources within the Area of Potential Effect (APE) in order to provide federal and state reviewing agencies with documentation of a project's potential impact on historical properties. Cultural resources include archaeological, architectural, and historic resources. Historic properties are those resources that have been determined to have some potential eligibility for inclusion in the National Register of Historic Places (NRHP).

Mr. Jon Sellars, Principal Investigator with Consulting Archaeological Services (CAS), completed a Phase I Cultural Resources Investigation on 319 acres of the 582 acres proposed for acquisition.

The abstract of the Phase I Cultural Resource Investigation, performed by Consulting Archaeological Services, for the proposed project can be found in Appendix H.

5.10.3 Potential Impacts

5.10.3.1 No Action Alternative

The "No Action Alternative" will have no adverse effects on historical, architectural, archaeological, and cultural resources as no airport related expansion project would occur.

5.10.3.2 Pella Municipal Airport: Release and Closure

The Phase IA Archaeological Assessment prepared by Wapsi Valley Archaeological Inc. (April 2016) recommended a Phase I intensive archaeological survey for two (2) areas on the airport (see Appendix H). The Phase I intensive archaeological survey will be undertaken prior to the disposal of airport property.

A reconnaissance level architectural survey of the Pella Municipal Airport concluded that none of the buildings were individually eligible and the airport as a whole was not eligible for listing on the National Register of Historic Places (see Appendix H).

5.10.3.3 Oskaloosa Municipal Airport: Release and Closure

A Phase I intensive archeological survey was recommended by Wapsi Valley for three (3) farmsteads that were illustrated on the 1904 plat map and visible on late 1930's aerial photography. In addition, the southwestern portion of the existing airport site should be investigated for prehistoric archaeological sites as well as material traces from the period (1942-1947). The airport site was operated as a "Naval Outlying Landing Field" associated with the Ottumwa Naval Air Station. The Oskaloosa Municipal Airport may be eligible for the National Register of Historic Places. A Phase I intensive level historic architectural evaluation and documentation is to be completed to determine eligibility for the National Register.

The Phase I intensive archeological survey and architectural survey will be undertaken prior to disposal of all of part of the Oskaloosa Municipal Airport (See Appendix H).

The existing site will be converted to agricultural uses.

5.10.3.4 Reasonable Alternative One – Site B

There are no known historical, architectural, archaeological and cultural resources on Site B. A Phase I Cultural Resource survey will be done prior to the acquisition of the land and/or construction.

5.10.3.5 Reasonable Alternative Two – Site A Build Alternative 3 (Proposed Action)

Surface analysis and the implementation of the subsurface testing led to the identification of four (4) archaeological sites within the proposed project area. One (1) previously recorded site, 13MK341, was also investigated as part of the Phase I survey. The two (2) archaeological sites (13MK610 and 12MK611) identified within the project boundaries, do not appear to meet minimum requirements for nomination to the National Register of Historical Places. No further testing was recommended by Consulting Archaeological Services. Consulting Archaeological Services concluded that a previously recorded prehistoric lithic artifact site (13MK341) does not meet minimum requirements for inclusion on the National Register of Historic Places (NRHP). Section 4(f) protects only historic or archaeological properties on or eligible for inclusion on the National Registry of Historic Places (see Section 5.7).

Prine Cemetery

Wapsi Valley Archaeology Inc., conducted an intensive level survey and evaluation of the Prine Cemetery. The 104 acre site is located adjacent to property to be acquired for the proposed airport.

Wapsi Valley Archaeology Inc. concluded that the Prine Cemetery is eligible for listing on the National Register of Historic places on a local level under criterion A and D. Criterion A is defined as those properties associated with events that have made a significant contribution to the broad patterns of our history. Criterion D are properties that have yielded or may be likely to yield information important in prehistory or history. The period of significance for the cemetery is 1845 through 1920.

The Prine Cemetery is eligible under Criterion A for its role in the early settlement and history of the surrounding area. It is also eligible under Criterion D for its potential to contribute information that would shed light on the initial settlement of Mahaska County, Iowa.

Development of Alternative Two- Site A will not result in the direct use nor temporary (use) occupancy during construction of the proposed airport.

A constructive use occurs when the proximity impacts of a proposed project adjacent to, or nearly by, a section 4(f) property results in substantial impairment to the property's activities, features, or attributes that qualify the project for protection under Section 4(f) (see Section 5.7 – Department of Transportation Act – Section 4(f) and Related Lands).

Potential airport related noise impacts were evaluated. The evaluation revealed that the aircraft noise would not have an adverse effect (see Appendix K – Noise).

Wapsi Valley Archaeology Inc. conducted a view shed impact study and concluded that the proposed action would have no adverse visual impact to the Prine Cemetery (see Section 5.15 – Visual Effects and Appendix H).

1795 220th Street

Wapsi Valley Archaeology Inc. recommended that a Phase I intensive level historic architectural evaluation of the house and earth cellar be undertaken to determine National Register eligibility. The property at 1795 220th Street may retain sufficient integrity to meet criteria for listing under Criterion C.

Criterion C is defined as properties that embody the distinctive characteristics of a type, period, or method of construction that possess high artistic value, or that represents a significant and distinguishable entity whose components may lack individual distinction.

Wapsi Valley Archaeology Inc. concluded that the residence and earth cellar will be adversely impacted by the proposed airport development.

To mitigate the adverse effects should the property be found to be eligible, Wapsi Valley Archeology suggested that a National Register Multiple Property Documentation Form be prepared for earth contact cellars in Iowa.

The Section 106 process has been completed for 16 of the 28 parcels proposed for acquisition.

5.10.4 Mitigation

In order to ensure that there are no adverse impacts to known and/or undocumented burials, the Prine Cemetery boundary will be clearly defined and an airport boundary fence or temporary construction fence maintained where the airport property line and cemetery property line coincide. The intent of the Runway Protection Zone (RPZ) is to protect persons on the ground and prohibit land uses that provide the concentration of people. Therefore, the RPZ serves as a "buffer" zone extending out from the east edge of the Prine Cemetery.

Improvements involving excavation could uncover archaeological, cultural or human skeletal remains. It is recommended that any set of contract documents and specifications include a provision for the contractor to stop work and to contact the State Historical Preservation Office in the event of an archaeological, cultural or skeletal discovery.

To mitigate the visual impact to the property at 1795 220th Street, a visual screen (trees, shrubs) will be planted where the proposed property line coincides (see Section 5.15 – Visual Effects and Section 5.17 – Table 5-6).

5.11 Land Use

5.11.1 Introduction

The Federal Aviation Administration and the Iowa Department of Transportation – Office of Aviation has established guidance as well as regulation requirements to encourage compatible land uses around and within the airport environs. The intent of these guidelines and regulations is to protect the public and airport user's health, safety, and welfare while maintaining the operational capabilities of the airports aviation operations.

5.11.2 Analysis

Land use conflicts are a common problem surrounding many airports in Iowa. The most common compatibility risks are land uses that place people on the ground and in the air in harm's way. Residential subdivisions, schools, hospitals, recreational facilities, commercial retail, and office buildings within the approach surface and in close proximity of the runway end are generally not considered compatible land

uses. These land uses provide for a concentration of persons on the ground and should be prohibited.

Airport obstructions (trees, towers, electrical transmission lines, wind turbines, and elevated water storage facilities) that would interfere with aircraft flight or distract pilots should be discouraged. It is important that compatible land use polices are put in place to protect and secure runway approaches and departure areas in order to maintain obstruction-free airspace. Agriculture is the primary land use within the immediate vicinity of Oskaloosa Municipal Airport (see Section 3.6).

As an Airport Sponsor, the South Central Regional Airport Agency, City of Pella and the City of Oskaloosa have at various times accepted federal assistance to carry out airport studies and improvements. Upon accepting the federal assistance, the airport sponsor is obligated to comply with specific grant assurances (Grant Assurances, Airport and Airway Improvement Act of 1982 United States Code (USC) Title 49, subtitle VII as amended). Specifically, Grant Assurance 21 requires all airport sponsors to take appropriate actions to promote compatible land uses within the immediate vicinity of the airport.

The City of Oskaloosa and the City of Pella have adopted an airport tall structures zoning ordinance to protect the airport facilities. The tall structures zoning ordinance, based in Federal Aviation Regulation (FAR) Part 77, provides airport airspace thresholds that are used to determine if a specific object is an obstruction and potential hazard to aircraft. While the tall structures zoning ordinance regulates the height of structures extending into airports airspace, it does not regulate land uses.

The Pella Municipal Airport is located within the City's corporate boundary. The City of Pella has adopted a Comprehensive Land Use Plan and Land Use Zoning Ordinance. The future land use plan shows the existing airport site being ultimately developed for residential uses (see Section 3.5).

The Oskaloosa Municipal Airport is located in unincorporated Mahaska County. Mahaska County has adopted a comprehensive plan. The county has not adopted land use zoning regulations. The airport is located more than two (2) miles beyond the City's corporate boundary and as such cannot use its extraterritorial powers as provided under Iowa Code, Chapter 414 *Municipal Planning and Zoning*.

5.11.3 Potential Impacts

5.11.3.1 No Action Alternative

The "No Action Alternative" would result in no changes to existing land use and agricultural practices as no airport related construction would occur.

5.11.3.2 Pella Municipal Airport: Release and Closure

The proposed closure of the Pella Municipal Airport and conversion of the existing airport to non-airport land uses is consistent with local planning

initiatives that have been carried out by the City of Pella. Elimination of the airport's environmental footprint is consistent with objectives set forth in the City's Comprehensive Plan. The conversion of the existing 109 acre airport site to a residential use will not have an adverse impact on adjacent land uses, municipal infrastructure and services, the local road network, or natural resources. The conversion to urban land use will provide "in-fill" development opportunities and minimize the conversions of agricultural land on the fringe areas of the community that might otherwise be converted to urban uses needed to accommodate the projected increase in population (see Section 3.5). The "Release and Closure" of the Pella Municipal Airport will have no adverse effects on existing and planned future land uses.

5.11.3.3 Oskaloosa Municipal Airport: Release and Closure

The proposed closure of the Oskaloosa Municipal Airport and conversion of 620 acres of airport obligated land to non-airport uses is consistent with existing rural agricultural environs within which the Oskaloosa Municipal Airport is located. The release and disposal of airport obligated land will not have an adverse impact on the economic or social fabric within the airport's environs. It will place additional land on the county's tax roll and eliminate the airport's environmental footprint. Closure of the airport will contribute to maintaining the rural agricultural character of the area. The "Release and Closure" of the Oskaloosa Municipal Airport will have no adverse effects on existing agricultural land uses.

5.11.3.4 Reasonable Alternative One – Site B

The development of Site B will require the acquisition of approximately 524 acres of land in unincorporated Mahaska County. The proposed site with the exception of drainage and grass waterways, country road, and a farmstead is under cultivation with corn and soybeans being the dominant agricultural crop.

The City of Leighton is located within 3,000 feet of the proposed crosswind runway and within 4,000 feet of the nearest point on the primary runway. The approach surfaces associated with the primary and crosswind runways do not extend over the city with agricultural uses primarily found under the runway approach surfaces. The City of Leighton is the largest concentration of people (Population 162 based on 2010 U.S. Census).

The concept plan (see Figure 3-1) may ultimately require the disconnection and/or the relocation of 220th Street. The county road (220th Street) is a paved all weather road providing access from the east to the City of Leighton. It, along with Eaton Avenue, are the primary roads providing access to the City from Iowa Highway 163.

Conversion of Site B will require the relocation of one (1) farmstead and building demolition. The farmstead is located west of the primary runway.

Access to the farmstead (from 205th Street and Iowa Highway 163) is provided by Elba Avenue. To develop the conceptual airport, Elba Avenue will need to be abandoned south of 205th Street and the farmstead.

The optimum location for a terminal area is between the intersecting runways. The location would require a new public roadway be constructed from Iowa Highway 163. Other than provide access to the proposed terminal and abutting agricultural land uses, the access road will not provide an impetus for non-agricultural development.

While agricultural land uses are generally compatible with airport operations, the South Central Regional Airport Agency, City of Leighton and Mahaska County need to adopt an airport height restriction ordinance (based on FAR Part 77) and develop land use guidelines to ensure the agricultural character of the adjacent land uses are sustainable.

5.11.3.5 Reasonable Alternative Two – Site A Build Alternative 3 (Proposed Action)

The development of Site A Build Alternative 3 (Proposed Action) will require the acquisition of 582 acres of land. The site, with the exception of road right-of-way (220th Street) and an unnamed drainageway located north of the crosswind (Runway10/28) and primary runway (Runway 14/32) intersections, is under cultivation. The other exception is a grass waterway located beyond the south end of the proposed primary runway.

Unlike Site B, there are no farmsteads proposed for relocation. There are no proposed residential or farmstead relocations or demolition of building structures.

The Proposed Action will require the disconnection of 220th Street. The optimum location for the terminal area is south of the crosswind runway and west of the primary runway. Access from Iowa Highway 163 will be provided by 220th Street. At present, 220th Street is a gravel surfaced roadway that will ultimately be paved.

The Mahaska Rural Water Association maintains an elevated water storage facility adjacent to the proposed terminal area. The proposed airport development will have no adverse effect on the water storage facility, nor will the structure have an adverse impact on airport operations.

There is a vineyard located approximately one (1) mile southwest of the proposed crosswind runway (Runway 10). The proposed airport will have no adverse effect on the vineyard. Rainbow Seed Company, located south of the site, will have no adverse impact of airport operations. The seed company maintained a turf runway (Pierson Field – IA 32) adjacent to the seed processing facility. The airfield is no longer in use.

The proposed airport will have an impact on current farming practices. Of the 582 acres of land that will be federally obligated, 279 acres of the converted land will be available for agricultural use.

Agricultural land uses are generally compatible with airport operations. Row crop production of corn and soybeans is the primary economic activity that exists on and around the proposed airport site. It is anticipated that the surrounding land, not directly converted to aviation operations, will retain the capacity to continue current economic activities. Generally, land uses such as row crop production, grain and pasture ground are compatible with airport operations.

Existing land uses in the vicinity of the proposed airport will have no adverse effect on airport operations. The South Central Regional Airport will work with Mahaska County and the City of Oskaloosa to ensure the rural agricultural character of the area within unincorporated Mahaska County and adjacent to the proposed airport site is sustained.

To ensure land use compatibility, the South Central Reginal Airport Agency in cooperation with the City of Oskaloosa and Mahaska County is working to address future land uses and develop an airport height restriction ordinance to protect the airport airspace.

5.11.4 Mitigation

There are several sources of information available for the planning and implementation of land use controls for airport projects. They include:

- FAA Advisory Circular 150/5050-6, Airport Land Use Compatibility Planning
- FAA Advisory Circular 150/5020-1, Noise Control and Compatibility Planning for Airports
- FAA Advisory Circular 150/5190-4A, A Model Zoning Ordinance to Limit Height of Objects Around Airports
- Iowa DOT Office of Aviation – Land Use Guidebook

Agricultural land uses, as previously stated, are generally compatible with airport operations. Reference to the Iowa Department of Transportation – Office of Aviation publication titled *Iowa Airport Land Use Guidebook* (January 2008) provides guidance of regarding agricultural land use compatibility (see Table 5-4).

Table 5-4
Airport Zone Chart for Agricultural Activities

Iowa Airport Zone Chart					
C *= Compatible*	***AR*** *= Additional Review Required*			***NC*** *= Not Compatible*	
Land Uses	Zone A	Zone B	Zone C	Zone D	Zone E
Infrastructure Activities					
Agricultural Uses (i.e. commercial cultivation of plants, livestock production)					
Plant-related (i.e. crop farming, vegetable, fruit, and tree, wholesale plant nurseries)	AR	AR	AR	C	C
Animal-related (i.e. livestock operations, dairy farms, horse farms)	AR	AR	AR	C	C
Resident-related (i.e. single-family home, mobile home if converted to real property and taxed)	NC	AR	NC	AR	C
Facility-related (i.e. fuel bulk storage/pumping facility, grain elevator, livestock/seed/grain sales)	NC	NC	NC	AR	AR

Source: Iowa DOT – Office of Aviation: *Iowa Airport Land Use Guidebook* (January 2008)

The South Central Regional Airport Agency will request the City of Oskaloosa (Site A, if implemented) and/or the City of Leighton (Site B, if implemented) and Mahaska County to adopt an Airport Height Restriction Ordinance in accordance with Iowa Code 329. The height restriction ordinance is based on the airport imaginary surfaces as defined in Federal Aviation Regulation (FAR) Part 77.

At a minimum, airport related land use ordinances that should be considered in order to protect airport operations and the safety of the public are:

- Height Hazard Ordinances
- Land Use Ordinances

5.12 Natural Resources and Energy Supply

5.12.1 Introduction

Energy requirements associated with the daily operation or related expansion of an airport generally fall into two (2) categories: those which relate to changed demands for stationary facilities (i.e. airfield lighting and terminal building heating), and those which involve the movement of air and ground vehicles (i.e. fuel consumption). Project development includes the use of natural resources such as fuel, construction materials, water and labor.

According to FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Projects*, an impact arises when a project will have a measurable effect on local energy supplies or would require the use of an unusual material, or one in short supply. Increased consumption of fuel by aircraft is examined where ground movement or run-up times are increased substantially without offsetting efficiencies in operating procedures or if the action includes a change in flight patterns. Fuel consumption by ground vehicles is examined only if the action would add appreciably to access time, or there would be a substantial change in movement patterns for on-airport services or other vehicles.

5.12.2 Analysis

The consumption of energy by the proposed stationary facilities (buildings, airfield lighting systems, parking lot, apron, rotating beacon) will be less given the proposed closure of the existing public owned airports.

The consumption of aircraft fuel will be comparable to fuel presently consumed by aircraft to be relocated from the Pella, Oskaloosa and Ottumwa Airports. Given the proposed facilities, aircraft fuel consumption is expected to increase commensurate with an increase in based aircraft. Fuel is procured through the private sector and will not have an adverse impact on energy supplies.

The Proposed Action (if implemented) will more effectively serve existing and forecasted aeronautical demand by reducing vehicle travel distance. The consumption of fuel needed for grounds maintenance (i.e. snow removal, mowing, etc.) for two (2) airports will be reduced to one (1) airport.

Natural resources used to construct a new airport will be offset by the use of natural resources to maintain the two (2) existing airports. Based on the life-cycle of the existing facilities, a commitment of natural resources to rehabilitate or replace existing pavement, building structures, and airfield electrical systems at the two (2) airports will not be required.

Design of the new facilities will incorporate energy saving components.

The Proposed Action does not require the use of unusual materials or materials in short supply. When compared to the "No Action Alternative", the use of natural resources and energy over a 20-year time horizon will be less.

5.12.3 Potential Impacts

5.12.3.1 No Action Alternative

The "No Action Alternative" would have no impacts on the commitment of fuel, energy, construction materials or natural resources beyond current demands as no construction activities would take place.

Under the "No Action Alternative", vehicle fuel consumption by airport users may increase due to increased travel distance to the nearest system

airport that can accommodate aeronautical demand not serviced by the two (2) existing airports.

5.12.3.2 Pella Municipal Airport: Release and Closure

Closure of the Pella Municipal Airport will reduce the consumption of energy and use of natural resources.

Development of the 109 acre site over several years will be in response to the demand for residential housing within the City of Pella. The existing airport site offers an opportunity to accommodate future residential demand at a location that can be served by the municipal infrastructure as opposed to other locations that may not be as conveniently and efficiently served. In-fill development should result in the most efficient uses of natural and energy resources.

5.12.3.3 Oskaloosa Municipal Airport: Release and Closure

Closure of the Oskaloosa Municipal Airport will reduce the consumption of energy and use of natural resources by eliminating restrictions to agriculture associated with airport and aircraft operations.

5.12.3.4 Reasonable Alternative One – Site B

Natural resources used in construction are available within the region and are not in short supply. Energy consumed in the construction is not expected to be significantly greater than the energy used to maintain and rehabilitate the pavement infrastructure at the two existing airports. Energy used to construct aircraft storage facilities will not be disproportionately greater given the need to construct additional storage at Pella and to replace structures no longer adequate to accommodate the forecast aircraft mix.

5.12.3.5 Reasonable Alternative Two – Site A Build Alternative 3 (Proposed Action)

Alternative Two – Site A will consume less energy to construct than would Alternative One as there is less grading. When compared to Alternative One, the consumption of natural resources is comparable.

The Proposed Action (if implemented) will reduce the consumption of energy used to maintain and operate the airport. New building construction may be more energy efficient than existing structures located at the two existing airports.

5.12.4 Mitigation

The proposed actions are not anticipated to have an adverse impact on the consumption of energy and use of natural resources.

5.13 Noise and Noise Compatible Land Use

5.13.1 Introduction

Noise is considered unwanted sound that can disturb routine activities. Aviation noise results from the operation of aircraft (fixed wing, rotary wing) on approach, departure, taxiing, and engine run-ups. Concerns regarding aircraft noise may arise where an airport is undergoing an expansion that would provide for a different aircraft operation mix or change in traffic patterns. The development of the proposed airport would introduce noise into a rural agricultural area.

5.13.2 Analysis

A noise analysis is required for a new airport location where forecast operations exceed the following thresholds.

- 90,000 annual operations by piston powered aircraft in Approach Category A through D.
- 700 annual jet aircraft operations

The Cessna Citation 500 and other jet aircraft producing noise levels less than or equal to the Beech Baron 58P may be counted as propeller aircraft. The FAA has established a standard process to evaluate aircraft noise. The Integrated Noise Model (INM), the accepted model at the time the site selection and Airport Layout Plan was initiated, has been replaced by a new system that combines INM and EDMS (Emissions and Dispersion Modeling System) into a single model (AEDT2b) (see Appendix K).

A noise analysis would typically not be prepared for the No Action Alternative, the Pella Municipal Airport and the Oskaloosa Municipal Airport, since aviation activity would not exceed the aircraft operation thresholds noted above.

Agricultural land uses are generally compatible with airport operations.

Land uses within the airport surroundings associated with Reasonable Alternative One and Reasonable Alternative Two – Site A Build Alternative 3 (Proposed Action) are compatible.

> *"Individual, isolated, residential structures may be considered compatible within the DNL 65 dB noise contour where the primary use of land is agriculture and adequate noise attenuation is provided."*
> Source: FAA *Order 1050.1F, Paragraph 11-5.b(8)*

5.13.3 Potential Impacts

5.13.3.1 No Action Alternative

The "No Action Alternative" will not result in a significant increase in aircraft generated noise associated with the Oskaloosa Municipal Airport or

Pella Municipal Airport. Given this alternative, aircraft noise would not be introduced into the surroundings associated with Reasonable Alternative One and Two.

5.13.3.2 Pella Municipal Airport: Release and Closure

Closure of the Pella Municipal Airport will eliminate the aircraft noise footprint within the airport environs.

5.13.3.3 Oskaloosa Municipal Airport: Release and Closure

Closure of the Oskaloosa Municipal Airport will eliminate the aircraft noise footprint within the airport environs.

5.13.3.4 Reasonable Alternative One – Site B

The approach and departure surfaces associated with the primary runway (see Figure 3-1) extends over land devoted to agricultural uses. Given the proposed runway length and wind coverage, nearly all jet operations and operations by large airplanes would be completed using the primary runway (Runway 16/34).

The nearest concentrated non-agricultural land use consists of the City of Leighton with a population of 162 based on 2010 U.S. Census data. The City of Leighton is located within 4,000 feet of the nearest point on the primary runway and 3,000 feet of the nearest point on the crosswind runway.

5.13.3.5 Reasonable Alternative Two – Site A Build Alternative 3 (Proposed Action)

Construction related noise would exist as the airport is developed. Daytime construction during the period April to November is typical of the time frame when grading, drainage and paving activities would occur. These activities would generally extend over a three (3) to four (4) year period when Runway 14/32, Taxiway A and the terminal area are being constructed. A second concentrated construction period would occur when the crosswind runway (Runway 10/28) is constructed. Construction related noise is considered less than significant given the existing agricultural land uses adjacent to the project site.

Increased vehicle traffic from Iowa Highway 163 via 220th Street to the terminal area will be less than significant, meaning traffic delays or congestion would not be anticipated. The existing rock surfaced 220th Street will be hard surfaced thereby reducing dust and noise both for existing users of the facility as well as airport related users.

Given the rural agricultural character within the proposed airport surroundings, potential aviation noise is considered less than significant.

Based on the noise impact criteria stated in FAA Order 1050.1F, the proposed project would not result in significant noise impacts. There are no noise sensitive land uses within the limits of DNL 65 dB noise contour (see Appendix K).

5.13.4 Mitigation

The South Central Regional Airport Agency (SCRAA) will work with Mahaska County to develop compatible land use guidelines and ordinances to restrict non-compatible land uses (see Appendix F).

5.14 Socioeconomic, Environmental Justice and Children's Environmental Health and Safety Risks

5.14.1 Introduction

The existing Pella and Oskaloosa Municipal Airport service areas will be served by a single public owned airport. The Council on Environmental Quality (CEQ) Regulations require an analysis of social and economic effects that may result from the closure of the two existing public owned airports and development of the replacement airport.

5.14.2 Analysis

Section Four, Affected Environment, provides an overview of the physical and socioeconomic characteristics within the airport service area including the following topics:

4.5 Pella Municipal Airport Environs
4.6 Oskaloosa Municipal Airport Environs
4.7 Physical setting – Alternative One and Two
4.8 Land Use – Alternatives One and Two
4.9 Socioeconomic: Population and Employment

When compared to the "No Action Alternative", the Reasonable Alternative One and Two will result in a change in land use patterns. The consolidation of the two public owned airports will result in one location from which aeronautical services will be provided. Consolidating airport operations into one location will provide a critical mass that will enhance the delivery and contribute to the sustainability associated with the delivery of aeronautical services.

The two reasonable alternatives provide a site located between the two major population and employment centers that is served by a regional four-lane divided highway. The airport role, as defined by the Iowa Department of Transportation, will contribute to the improvement and sustainability of air service within the region. It will indirectly sustain current levels of employment and contribute to population growth with the incorporated cities located in the airport service area.

The airport environmental footprint associated with Pella Municipal Airport and Oskaloosa Municipal Airport will be eliminated. Conversion of the airports to non-

airport uses as discussed in Section 5.11 is consistent with local land use objectives and plans.

Alternative One – Site A and Alternative Two – Site B are located in Mahaska County. Selected population and housing data (2014) from the U.S. Census Bureau are summarized as follows:

Total County Population:	22,370	(2014 Estimate)
Person Under 5 years:	1,365	(6%)
White:	21,453	(95.5%)
Black, African American:	291	(1.3%)
American Indian:	89	(0.4%)
Asian:	268	(1.2%)
Hispanic or Latino:	269	(1.2%)
Housing Units:	9,726	(Persons per Household: 2.40)
Home Ownership:	6,857	(70.5%) (2009-2013)
Person below poverty level:	3,556	(15.9%) (2009-2013)

5.14.3 Potential Impacts

5.14.3.1 No Action Alternative

The "No Action Alternative" would not safely and efficiently accommodate aeronautical activity and indirectly impact the ability to sustain employment levels within the airport service areas.

5.14.3.2 Pella Municipal Airport: Release and Closure

Closure of the Pella Municipal Airport will not have a disproportionate impact on low and moderate income persons or households. It will remove potential environmental and safety risks form the existing airport environs. The fixed-based operator (FBO) may relocate to the proposed replacement airport.

5.14.3.3 Oskaloosa Municipal Airport: Release and Closure

Closure of the Oskaloosa Municipal Airport will remove aeronautical activity from the existing airport environs. Closure of the airport will not have a disproportionate impact on low and moderate income persons or households that derive their livelihood from the airport.

The closure will remove restrictions to agricultural operations and practices and compensate, in part, for land acquired to accommodate the proposed replacement airport. The existing fixed-base operator (FBO) may relocate to the proposed replacement airport facility.

Closure of the Oskaloosa Municipal Airport will have no adverse impact on persons and/or households within the airport environs.

5.14.3.4 Reasonable Alternative One – Site B

The development of Site B will alter the rural character in the area and require the relocation and demolition of one (1) farmstead. There are no other relocations or displacement of persons. The proposed development will cause the disconnection or relocation of 220th Street. The average 2014 annually daily traffic (AADT) on 220th between Iowa Highway 163 and the City of Leighton was 420 vehicles per day.

The development of Site B will not have a disproportionate impact on minority population within the area of potential effect (see U.S. Census of Population).

The development of Site B will not have an adverse impact of the safety, health and welfare of children. The proposed development will induce an increase in population within unincorporated Black Oak Township and place a burden on the public infrastructure.

The development of Site B will not contribute significantly to new aviation/employment opportunities. Aviation related jobs will likely be filled by the persons currently working at the two existing public owned airports.

5.14.3.5 Reasonable Alternative Two – Site A Build Alternative 3 (Proposed Action)

The "Build Alternative" will require the acquisition of 582 acres of land. Of the 582 acres, approximately 302 acres will be directly converted from agricultural use to land that is used to accommodate proposed airside and landside facilities. 279 acres will be managed as "on-airport" agricultural land.

Neither the closure of the existing public owned airports nor the development of the replacement airport cause a shift in population or a decrease in employment opportunity. The proposed actions may potentially sustain and expand employment opportunities within the combined airport service area.

Potential effects, as a resulting from the introduction of aircraft noise, will have a less than significant impact on land uses adjacent to the proposed site.

During the site selection phase of the project planning process, Mahaska County was consulted regarding the disconnection of 220th Street. The County Engineer, in a letter dated July 1, 2013, indicated that action to disconnect would be undertaken if acceptable mitigation actions are identified (see Appendix G). The proposed disconnect would occur at the

proposed airport property line (see Appendix E, Airport Layout Plan, and Figure 5-1).

220th Street, located west of the disconnect point, will continue to provide access to Iowa Highway 163 for three (3) residential units and out buildings. 220th Street will also provide access to the elevated water storage tower owned and operated by the Mahaska Rural Water Systems, Inc. (see Figure 5-1).

The South Central Regional Airport Agency proposes using 220th Street, west of the disconnect point, to provide access to the terminal area. The roadway extending between Iowa Highway 163 and the terminal access point will ultimately be upgraded and hard surfaced. The proposed roadway improvements are included as a proposed capital project within the Airport Master Plan.

There are no residential acreages or farmsteads located on 220th Street east of the proposed disconnect point to Independence Avenue. 220th Street, east of the disconnect point, would be maintained to provide access to abutting agricultural land.

Independence Avenue provides access to Iowa Highway 163. The distance from the intersection of 220th Street/Independence Avenue to Iowa Highway 163 is approximately 5,520 feet. The distance from the same point along existing 220th Street to Iowa Highway 163 is approximately 7,900 feet (see Figure 5-1).

The Proposed Action may result in increased vehicle travel on Independence Avenue. The potential increase in traffic on Independence Avenue is expected to be less than significant. 210th Street and Highland Avenue are gravel surfaced county roads and may experience a less than significant increase in traffic.

The Iowa Department of Transportation is proposing the relocation of U.S. Highway 63 from a point south of the Oskaloosa Water Treatment Plant to a point of intersection with Iowa Highway 163.

Two alternative alignments (Alternative 1A and 4) were carried forward (See Appendix G, Iowa DOT Northwest Bypass, NEPA/Section 404 Concurrence Point Meeting 3). Alternative 1A is shown on Figure 5-2. Alternative 4 is shown on Figure 5-3. Neither of the two alternatives would have an adverse effect on planned approaches to the proposed airport.

The Iowa DOT Project Management Team (PMT) met on June 2, 2016. Of the two alternatives being considered, the PMT selected Alternative 1A as the preferred alternative.

The proposed U.S. 63 alignment will enhance regional accessibility to the proposed airport. Semi-trailer trucks are used to haul grain to Eddyville as well as livestock to packing plants. The proposed highway will reduce traffic congestion within the City of Oskaloosa.

The county road system is important in that it provides access to abutting properties and is used to move agricultural products. While trucks may be used, the county road network accommodates large and slow moving equipment. The disconnection of 220th Street may potentially impact the ability to move farm equipment over a low volume roadway. Concerns have been expressed with having to use a high traffic volume roadway such as Iowa Highway 163 to move farm equipment. As shown in Figure 5-1, the 220th Street/Iowa Highway 163 intersections are offset causing vehicles entering Iowa Highway 163 to travel a short distance and change travel lanes. A portion of Iowa Highway 163 would need to be used even if it were not disconnected.

The Proposed Action will disrupt current agricultural practices and potentially affect future farm generated income. The potential effect will be potentially reduced given the closure of two (2) existing airports. Land now within the crop restriction lines and consequentially not devoted to agriculture may be used for row crops and grain in the future.

The proposed site and airport development will have no adverse effects on facilities such as schools, hospitals, recreational lands, and designated 4(f) resources. Closure of two (2) existing airports will reduce the environmental footprint associated with the Pella Municipal Airport and the Oskaloosa Municipal Airport.

The proposed actions will have no disproportionate effect on the environmental health and safety of children.

All land proposed for acquisition will be acquired in accordance with the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended 49 CFR Part 24.

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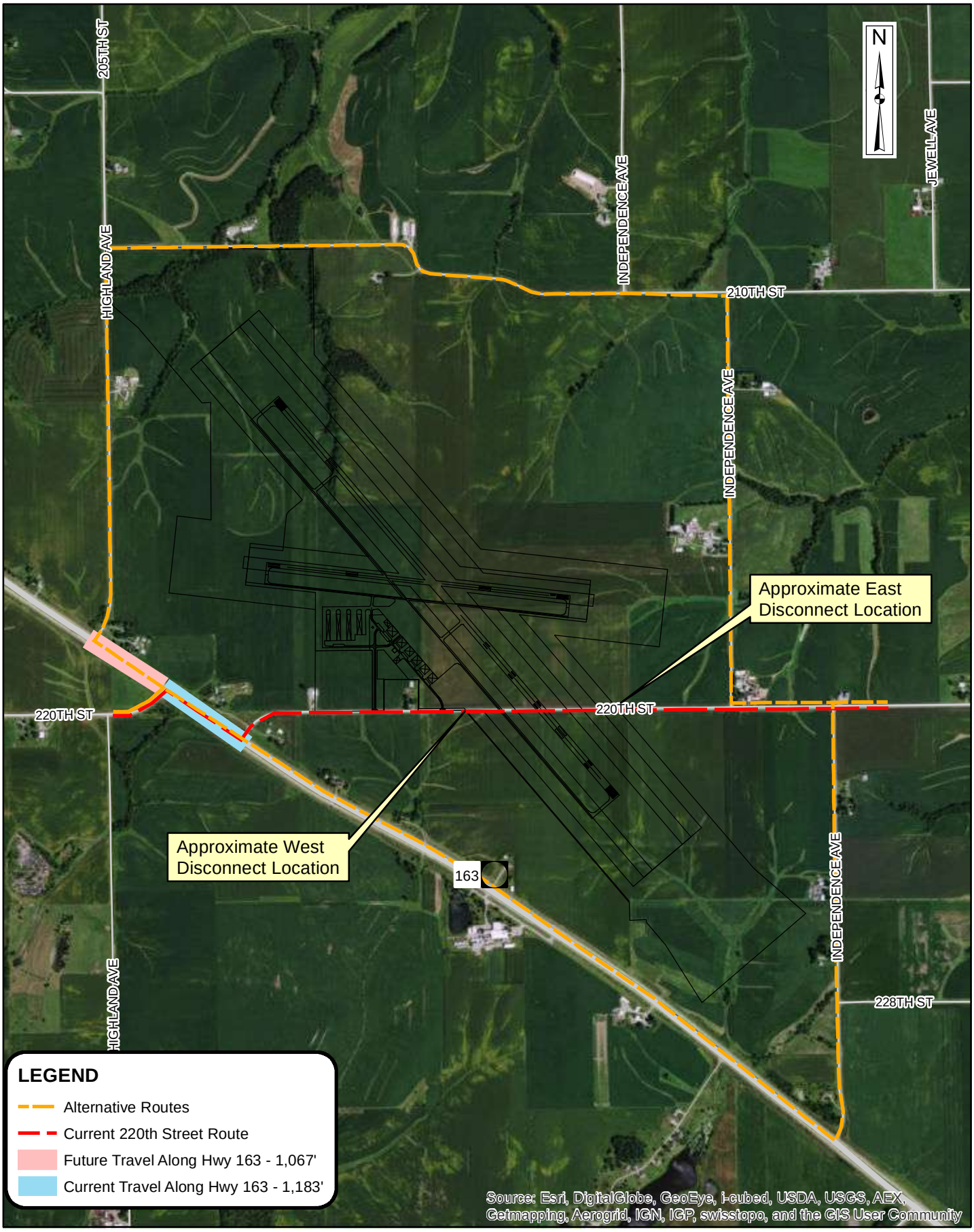
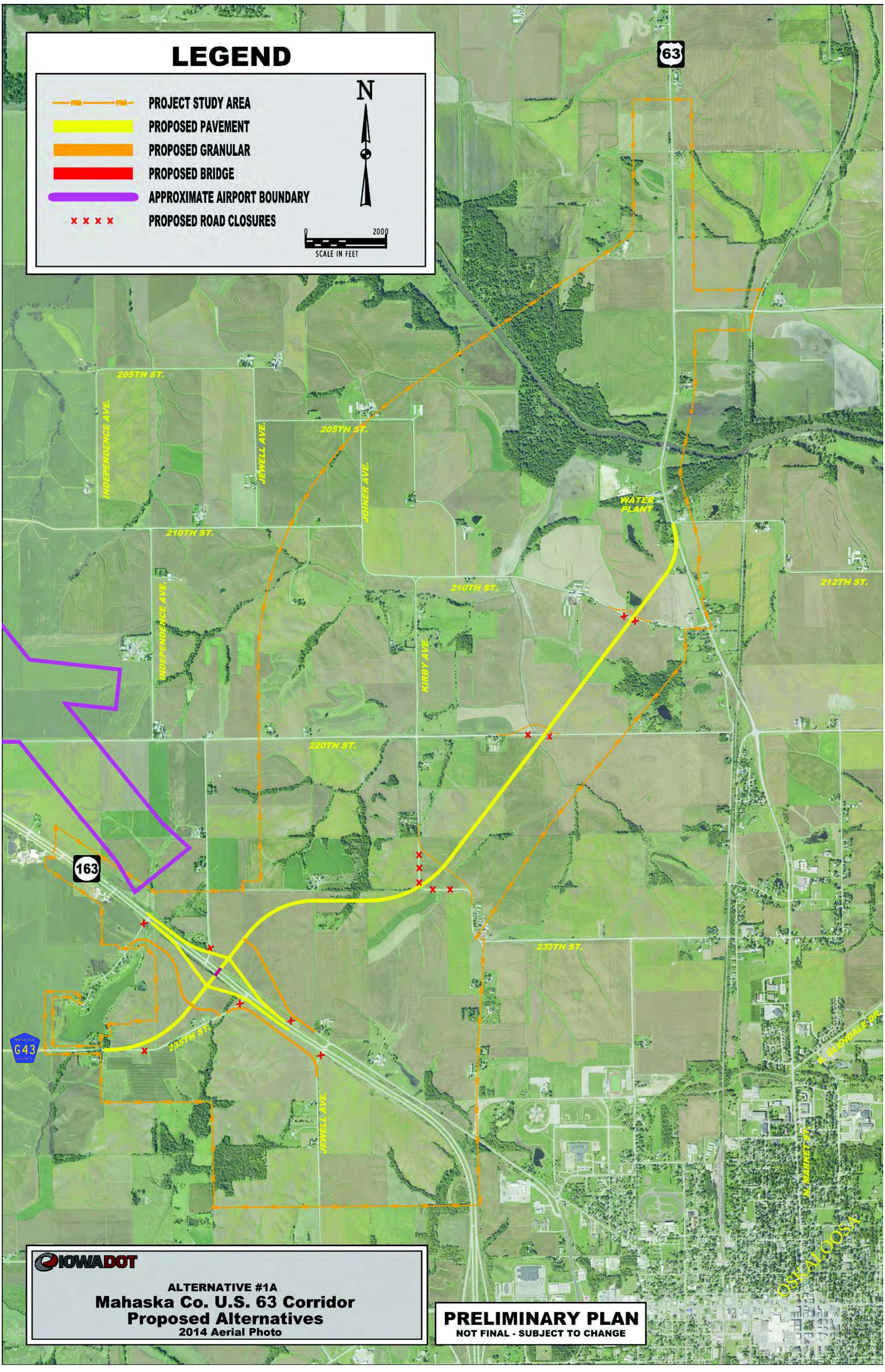


DGR ENGINEERING	SNYDER & ASSOCIATES Engineers and Planners	JS Consulting LLC	SOUTH CENTRAL REGIONAL AIRPORT MAHASKA COUNTY, IOWA 220TH STREET DISCONNECT	FIGURE 5-1


LEGEND
PROJECT STUDY AREA
PROPOSED PAVEMENT
PROPOSED GRANULAR
PROPOSED BRIDGE
APPROXIMATE AIRPORT BOUNDARY
PROPOSED ROAD CLOSURES
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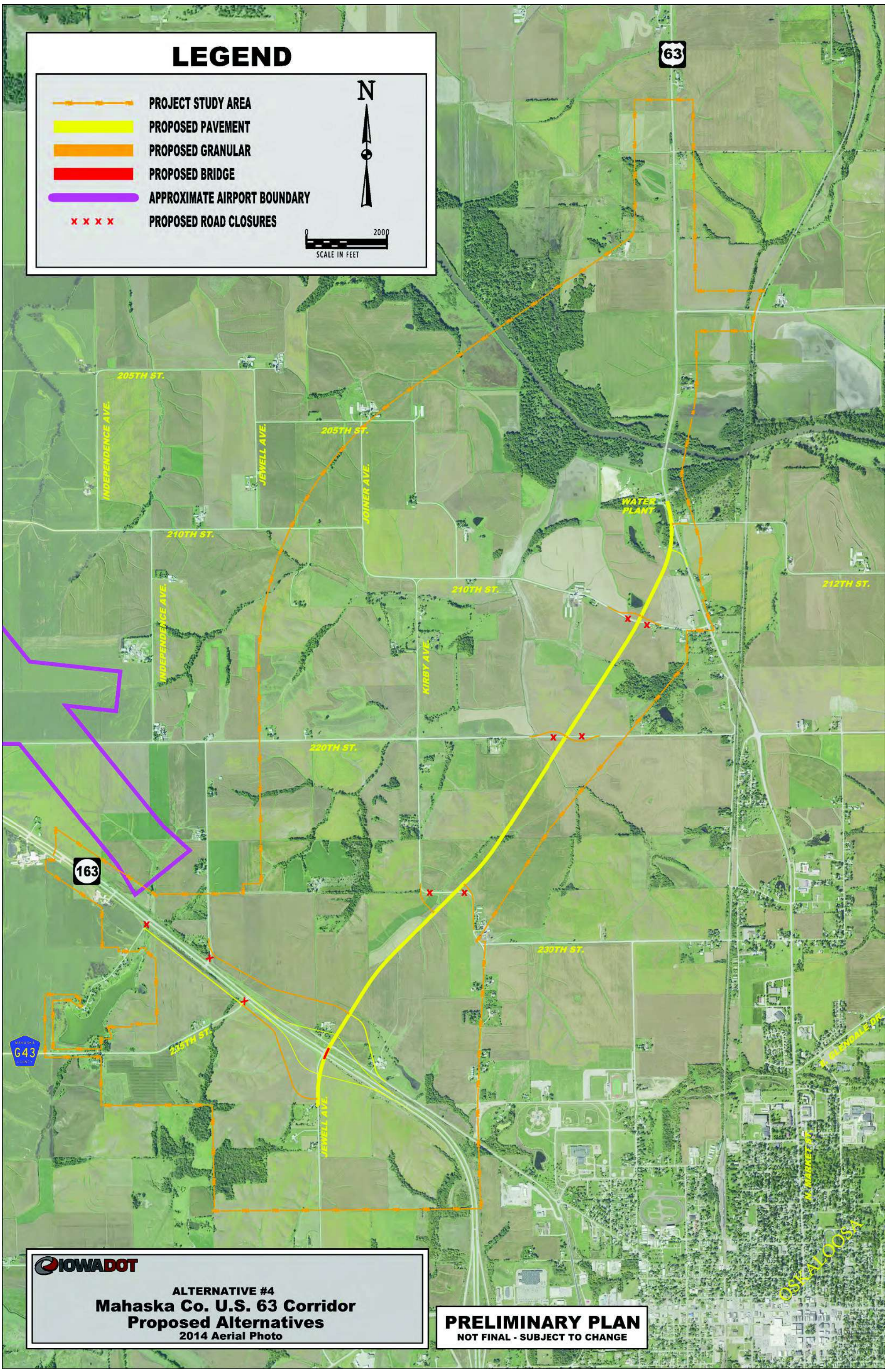
0
2000
SCALE IN FEET
63
205TH ST.
INDEPENDENCE AVE.
JEWELL AVE.
JOINER AVE.
WATER PLANT
210TH ST.
212TH ST.
KIRBY AVE.
220TH ST.
163
230TH ST.
235TH ST.
G43
GLENDALE DR.
N. MARKET ST.
OSKALOOSA
IOWADOT
ALTERNATIVE #1A
Mahaska Co. U.S. 63 Corridor
Proposed Alternatives
2014 Aerial Photo
PRELIMINARY PLAN
NOT FINAL - SUBJECT TO CHANGE


LEGEND
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PROPOSED GRANULAR
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JOINER AVE.
WATER PLANT
210TH ST.
212TH ST.
KIRBY AVE.
220TH ST.
163
230TH ST.
235TH ST.
G43
GLENDALE DR.
N. MARKET ST.
OSKALOOSA
IOWADOT
ALTERNATIVE #4
Mahaska Co. U.S. 63 Corridor
Proposed Alternatives
2014 Aerial Photo
PRELIMINARY PLAN
NOT FINAL - SUBJECT TO CHANGE

The improvement of 220th Street from Iowa Highway 163 to the disconnect point will provide an all weather hard surface roadway to the three (3) residential dwellings having driveway access located on 220th Street. The 220th Street improvement will also provide an all weather surface to the Mahaska Rural Water System 500,000 gallon elevated water storage facility.

The "Alternative Two – Site A Build Alternative" (Proposed Action) will require the acquisition of 582 acres of agricultural land. While there are no farmsteads, residential structures, or commercial businesses proposed for acquisition, the Proposed Action will disrupt current farming practices.

5.14.4 Mitigation

Land will be acquired in accordance with requirements set forth in the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended.

The "Request for Release" from federal assurances associated with the Oskaloosa Municipal Airport site will allow the entire 620 acre site to be converted to agricultural activities without airport related restrictions.

5.15 Visual Effects

5.15.1 Introduction

Visual effects concern the extent for which the proposed action would:

- Produce light emissions that create annoyance or interfere with activities
- Detract from the visual resources and/or character of the existing environment.

There are no federal special purpose laws or requirements for visual effects; however, there are requirements associated with resources on or potentially eligible for the National Register of Historic Places.

5.15.2 Analysis

Aviation lighting required for the purpose of security, obstruction marking, rotating beacon, and landing aids are the primary contributors to light emissions radiating from airports. Airport lights have a potentially greater impact if the terrain surrounding the airport is at a higher elevation.

Closure of the two existing airports will eliminate airport related lighting within the airport environs. Reasonable Alternatives One and Two will result in light emissions associated with the rotating airport beacon light, runway threshold and edge lighting, taxiway edge lights, guidance signage, visual guidance slope indicator lights, runway end identifier lights, and approach lighting system. Overhead airfield and security lighting, within the terminal build area, will also be introduced. New structures (i.e. hangar, terminal building) will be visible from

adjacent properties and more specifically related to properties on or eligible for the National Register of Historic Places.

5.15.3 Potential Impacts

5.15.3.1 No Action Alternative

The "No Action Alternative" assumes that no expansion to the existing Pella Municipal and Oskaloosa Municipal Airports would occur. Therefore, there would be no increase in light emissions nor new structures introduced into the airport environs.

5.15.3.2 Pella Municipal Airport: Release and Closure

Closure of the Pella Municipal Airport will eliminate airport light emissions within the existing airport environs.

5.15.3.3 Oskaloosa Municipal Airport: Release and Closure

Closure of the Oskaloosa Municipal Airport will eliminate airport light emission within the existing airport environs.

5.15.3.4 Reasonable Alternative One – Site B

New light emissions will be introduced into an area that is absent of light emissions from urban, residential, commercial, institutional, or industrial land uses. The City of Leighton is located within 3,000 feet of the crosswind runway. Runway lighting associated with the crosswind runway will have a less than significant impact on the community. Approaches to the primary runway do not extend over the City. Airfield lighting associated with the primary runway will have no adverse impact on the City of Leighton.

5.15.3.5 Reasonable Alternative Two – Site A Build Alternative 3 (Proposed Action)

The Airport Layout Plan shows the orientation of the two (2) runways and terminal areas proposed for construction. The runway and taxiway lighting will have no adverse effect on adjacent agricultural land uses. There are no residential structures or farmsteads located under approach surfaces (FAR Part 77) and within close proximity of the runway ends.

The proposed approach light system will be installed over terrain with a downward slope and will have no adverse effect on vehicle movements on Iowa Highway 163 (see Airport Layout Plan).

The terrain beyond the proposed site is relatively level with elevations generally decreasing away from the site. Therefore, the light beam from the rotating beacon light will have no adverse effect on adjacent land uses. Airfield lighting will be operational during periods of low visibility or darkness and will be activated by the aircraft pilot.

The introduction of proposed building structures (pre-engineered hangars) have architectural elements similar to modern farm buildings. The building elevations would not typically exceed forty (40) feet in height. The terminal building will not exceed two (2) stories.

The rural agricultural character of the area has been altered by improvements to Iowa Highway 163. An elevated water storage facility is located adjacent to the proposed terminal area. The views to the east, west, and south of the Prine Cemetery will retain their agricultural character. Several non-farm structures exist within the immediate view from Prine Cemetery. These elements include an elevated water storage facility – Mahaska Rural Water Systems and the Pierson Seed Producers Facility. The terminal building as proposed will be located approximately one half mile northwest. The structure (if located on the building restriction line) will not exceed a height of 35 feet. Wapsi Valley Archaeological Inc. concluded that the proposed undertaking will have no adverse visual impact to the Prine Cemetery.

The house and earth cellar, located at 1795 220th Street, may be eligible for the National Register of Historic Places. Terminal area development will be located immediately north of the house and earth cellar. The proposed aircraft storage hangars and terminal building will be visible. As previously noted, the structures (pre-engineered) will resemble modern farm buildings.

A view shed impact study was completed by Wapsi Valley Archaeology Inc. for the property located at 1795 220th Street. Wapsi Valley Archaeology Inc. concluded that the house and associated earth cellar are within the view shed of the proposed airport and would be adversely affected should the property be determined eligible for listing on the National Register of Historic Places (see Appendix H).

5.15.4 Mitigation

The South Central Regional Airport Agency will plant trees and shrubs along the airport property line in common with the property at 1795 220th Street and the Prine Cemetery. The trees and shrubs will provide a visual screen that will minimize adverse visual effects from development within the terminal area (see Section 5.17 and Table 5-6).

5.16 Water Quality

5.16.1 Introduction

Water resources include rivers, lakes, ponds and other surface water bodies as well as groundwater. Surface water, groundwater, floodplains and wetlands represent a single functional integrated natural system.

Floodplains perform many important functions that include nutrient retention and removal, erosion control and flood desynchronization. Regulatory floodplains are those with a designated 100-year floodplain that are mapped on National Flood Insurance Rate Maps by the Federal Emergency Management Agency (FEMA).

Executive Order 11988, *Floodplain Management* directs Federal agencies to "take actions to reduce the risk of flood loss, minimize the impact of floods on human safety, health and welfare and restore and preserve the natural and beneficial value served by floodplains." The U.S. Department of Transportation Order 5650.2 *Floodplain Management and Protection* establishes a policy of avoiding the 100-year floodplain if a practical and reasonable alternative exists.

Wetlands are defined in the U.S. Army Corps of Engineers (USACE) regulation 33 CFR 328.3(b) as those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support and that under normal circumstance, do support a prevalence of vegetation, typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas, such as sloughs, prairie potholes, wet meadows, river overflows, mudflats and natural ponds. Wetlands also include estuarine areas, tidal overflows and shallow lakes and ponds with emergent vegetation. Furthermore, a wetland ecosystem includes those areas which affect or are affected by the wetland itself (e.g. adjacent uplands or upstream and downstream regions).

The USACE issues permits under Section 404 of the Clean Water Act (CWA) for the discharge of dredged or fill materials into jurisdictional "waters of the United States". Activities that require a Section 404 permit include placing stream bank protection, temporary or permanent stockpiling of excavated material, grading that involves the filling of low areas or leveling of land, construction weirs or diversion tanks, constructing approach fills, and discharging dredged or fill material as part of any other activity.

Waters of the United States are considered jurisdictional under the Clean Water Act (CWA) unless a determination is made by the USACE that the water body is non-jurisdictional. The limits of jurisdiction are also discussed in 33 CFR 328.4.

Section 401 of the CWA requires a Water Quality Certificate from the Iowa Department of Natural Resources (Iowa DNR) to ensure that proposed construction activities do not violate State of Iowa water quality standards.

A Federal National Pollutant Discharge Elimination System Permit (NPDES) authorizing point source discharges into navigable waters of the United States is required under Section 402 of the Clean Water Act.

There are two basic types of NPDES permits: individual and general permits. An individual permit is a permit specifically tailored to an individual facility, and would typically be required for point source discharges. Once a facility submits the

appropriate application(s), the permitting authority develops a permit for that particular facility based on the information contained in the permit application (e.g. type of activity, nature of discharge, receiving water quality, etc.). The permit authority issues the permit to the facility for a specific time period (not to exceed five years) with a requirement that facility reapply prior to the expiration date.

The NPDES Construction General Permit is a type of general permit that is required if construction activities would disturb 1 acre or more of land. Under this permit, construction refers to any action that result in disturbance of the land, including clearing, grading, and other similar activities. It also includes construction-related activities, which occur in areas that support the construction project such as stockpiles, borrow areas, concrete truck washouts, fueling areas, material storage areas, and equipment storage areas.

A requirement of NPDES permits, for both operations and construction activities, is development of a Storm Water Pollution Prevention Plan (SWPPP). A SWPPP outlines how stormwater run-off, erosion, and sediment will be controlled in order to minimize polluted stormwater run-off into nearby waters.

5.16.2 Analysis

Construction of airport facilities can temporarily or permanently affect the quality of surface water, groundwater, wetlands and floodplains. Pollution affecting water quality has either a point or non-point source of origin. Point source pollution includes discrete conveyances, such as stormwater runoff or other types of discharges from a specific source, such as a wastewater treatment plant, sanitary sewer system, collection basin, or other waste collection device that flows through a pipe and discharges into a waterway. In addition, consideration must be given to the storage and dispensing of aviation related fuel, petroleum products and solvents. Non-point source pollution includes indiscrete stormwater runoff from a diffuse source, such as an airport runway, taxiway, apron, vehicle parking lot, construction area, or from agricultural lands.

Surface water locations were preliminarily determined from a review of aerial photography, topographic maps, National Wetland Inventory (NWI) maps and soils reports. Further onsite review was completed during the wetland delineation. Where property access was granted, the project team completed wetland delineation of drainageways and wetlands located within the Proposed Action Alternative airport property boundary.

5.16.3 Potential Impacts

5.16.3.1 No Action Alternative

The “No Action Alternative” will have no adverse effect on water quality as no airport related expansion projects at the two (2) existing airport or the replacement airport facility will be constructed.

5.16.3.2 Pella Municipal Airport: Release and Closure

Closure of the Pella Municipal Airport will have no adverse effect on water resources. The existing site will be converted to urban land uses consistent with the City of Pella's Future Land Use Plan. The City of Pella has adopted a site plan ordinance and subdivision regulations. The City has review and approval authority over proposed development. The City can provide public utilities and has a stormwater management ordinance in place.

5.16.3.3 Oskaloosa Municipal Airport: Release and Closure

Closure of the Oskaloosa Municipal Airport will have no adverse effect on water resources. The site will be converted to an agricultural use. Mahaska County has adopted the following ordinances that may be applicable to future agriculture related activities at the site:

- Chapter 30 Groundwater Protection and Solid Waste Disposal
- Chapter 31 On Site Wastewater Treatment and Disposal
- Chapter 34 Hazardous Substances

5.16.3.4 Reasonable Alternative One – Site B

Site B is located within the lower Des Moines River watershed. Muchakinock Creek Tributary 11 extends through Site B. The proposed primary runway (Runway 16/34) would extend through the 100-year floodplain associated with the tributary (see Figure 3-3). Mahaska County, in cooperation with the Iowa DNR and USACE, is responsible for permitting any construction activities in floodplains. Mahaska County adopted a floodplain ordinance in 2011 (see Mahaska County Code of 2014 – Chapter 33 – Floodplain Management Ordinance).

Provided there is no reasonable alternative to impacting the floodplain, the South Central Regional Airport Agency (SCRAA) will be required to submit a "Joint Application" to the USACE and Iowa DNR to obtain the required regulatory permits to construct in the floodplain associated with Muchakinock Creek Tributary 11. A significant encroachment on the floodplain may potentially have an adverse impact on the floodplain's natural and beneficial values as well as its value to agriculture.

Provided there is no reasonable alternative to avoiding the designated floodplain on Site B, then the following mitigation action may be considered:

- Minimizing fill placed in the floodplain while adhering to FAA design standards as set forth in FAA *AC 150/5300-13A: Airport Design.*
- Adherence to Best Management Practices (BMPs) to minimize erosion and sedimentation.
- Controlling runoff while ensuring the runoff control measures do not become a wildlife attractant.

- Controlling waste and soils disposal to prevent contaminating ground and surface water.

Development of the proposed terminal area and the crosswind runway (Runway 3/21) will have no adverse effect on the floodplain provided erosion and sediment control measures are put in place.

The National Wetland Inventory (NWI) did not identify wetland areas on Site B. From a review of aerial photographs and soil maps, four (4) potential wetland areas located within drainage swales were identified.

Construction related activities would occur on land for which land had been acquired. It is anticipated that no off-site borrow would be needed. Materials not available on-site would be transported to the site via Iowa Highway 163 and Elba Avenue.

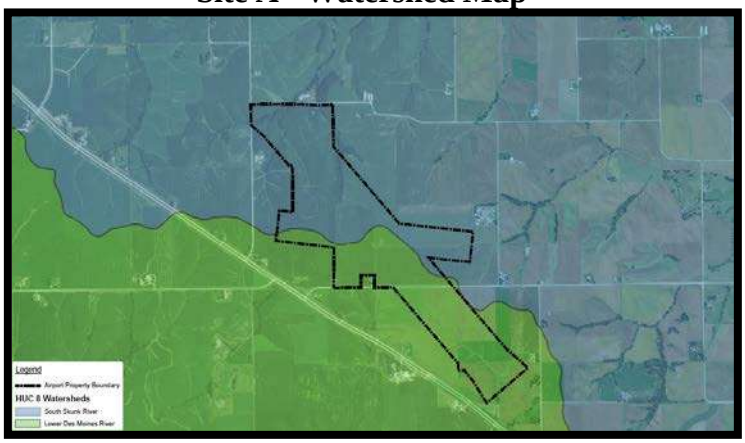
Construction activity would likely extend over a three to five year period.

5.16.3.5 Reasonable Alternative Two – Site A: Build Alternative 3 (Proposed Action)

The project study area is located within the South Skunk River and Lower Des Moines River Watersheds (see map below). The South Skunk River has a drainage area of approximately 1,844 square miles and covers parts of 13 counties in Iowa. The watershed begins in northern Hamilton County and ends in Keokuk County. The banks of the South Skunk River include a mix of woodland and agricultural land. The South Skunk River flows through the City of Ames and eventually empties into the Skunk River.

The Lower Des Moines River has a drainage area of approximately 2,142 square miles and covers parts of 10 counties in Iowa as well as Hancock County, Illinois and Clark County, Missouri. The watershed begins in southeastern Marion County, Iowa located downstream of Red Rock Lake and ends at the border of Lee County, Iowa and Clark County, Missouri. The Lower Des Moines River flows through the City of Ottumwa and empties into the Mississippi River.

Site A - Watershed Map



Source: Iowa DNR NRGIS Library

There are no FEMA designated 100-year floodplains on Site A.

The *1987 Corps of Engineers Wetland Delineation Manual* and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0) (2010 Midwest Supplement)* procedures were followed in identifying streams and delineating wetlands. Wetlands were identified through an analysis of vegetation, soils pits and hydrologic indicators. Wetland boundaries were then determined by analyzing groundcover for a shift from wetland to upland habitat.

Delineated Wetlands include:

Emergent Wetland	0.05 Acres (Field Verified)
Pond	0.20 Acres (Field Verified)

Potential Wetlands include:

Potential Emergent Wetland	Approximately 3.11 Acres (Secondary Sources)

Snyder & Associates, Inc. did not have permission from landowners to field verify the potential wetland (approximately 3.11 acres). The approximate acreage was determined from review of the potential wetland from an adjacent roadway, aerial photographs, and soils information. The potential wetland includes an emergent wetland adjacent to an ephemeral drainageway (identified as Stream C in the wetland delineation report) located within the Runway Protection Zone (RPZ) extending beyond Runway 32. The ephemeral drainageway is located beyond the anticipated Runway Safety Area (RSA) grading limit associated with Runway 14/32 (see Appendix J, Figures 5-1, 5-4). The installation of an approach light system would impact less than 0.10 acres of the potential wetland. The emergent wetland (0.05 acres) is located east of Runway 14 and outside the

anticipated grading limits associated with Runway 14/32 (see Appendix J, Figures 4-1, 5-2). The 0.20 acre pond is located beyond the anticipated grading limits associated with Runway 14/32 (see Appendix J Figures, 4-1, 5-2).

The U.S. Army Corps of Engineers provided a preliminary jurisdictional determination on December 21, 2015 and indicated that the pond and associated wetland are not jurisdictional and therefore mitigation would not be required.

Snyder & Associates, Inc. identified two (2) intermittent streams and one (1) ephemeral drainageway within the project area (see Appendix J). Potential Stream Impacts include:

Stream Identifier	Type	Length	Potential Impact
A	Intermittent Stream	3,470 feet	Zero (0)
B	Intermittent Stream	2,679 feet	Approx. 598 feet
C	Ephemeral Drainageway	672 feet	Zero (0)

Stream A is located within the Runway Protection Zone (RPZ) and beyond the anticipated grading limit associated with the Runway Safety Area (RSA) extending beyond Runway 14. Therefore, Stream A would not be impacted.

The upper reaches of Stream B would be impacted. Approximately 598 linear feet of Stream B, located within the anticipated grading limits associated with Runway 14/32, would be impacted (see Appendix J). The upper reaches of Stream B could not be confirmed during the wetland delineation due to restricted access to the property. A portion of the length of Stream B was estimated through LIDAR contours and aerial imagery. Impacts to Stream B will require U.S. Army Corps of Engineers preconstruction notification and permitting.

Stream C is located beyond Runway 32 and outside the Runway Safety Area (RSA) extending beyond Runway 32. Stream C would not be impacted by the proposed action. The potential wetland may have impacts less than one-tenth acre. Preconstruction notification will occur with the U.S. Army Corps of Engineers prior to impacting this area. The project design team will complete the wetland delineation upon obtaining access permission from the land owner. Should an approach lighting system be installed on Runway 32, the light units will be spaced by 200 feet on center. Permanent impacts to the potential wetland would be under one-tenth acre, but may need a 404 permit.

Construction activities associated with Site A – Build Alternative 3 may result in noise, air and water quality impacts. The potential impacts would be confined to the project site provided Best Management Practices (BMP's) were adhered to.

Construction related activities would occur on land for which a property interest in fee title or easement had been acquired. The design phase will consider the potential impact associated with significant storm events to ensure adequate silt basins and erosion control measures are incorporated into the project.

Construction materials not available on site will be transported via Iowa Highway 163 (4-lane divided) and 220th Street. Potential traffic impacts are considered less than significant. 220th Street extending from Iowa Highway 163 to the proposed terminal area will be hard surfaced.

Construction activities, as with Alternative One – Site B, will extend over a three (3) to five (5) year period. It is anticipated that all grading and drainage improvements associated with the primary runway, parallel taxiway and terminal area be completed as one project. Given this scenario, grading and drainage improvements can be constructed in a manner that will enhance erosion control efforts and provide appropriate stormwater detention facilities early on.

Areas on land acquired and beyond construction limits may be farmed while construction is taking place. The use of cover crops and current farming practices will minimize potential erosion.

5.16.4 Mitigation

Preconstruction notification will be provided to the Corps of Engineers to determine the appropriate level of permitting and mitigation, if necessary, for impacts to wetlands and stream areas. The proposed improvement may impact approximately 598 linear feet of Stream B. Mitigation for potential stream impacts would include compensatory mitigation onsite and offsite by constructing new stream lengths or stream enhancements within the proposed airport site boundary. A mitigation plan may be required. The USACE issued a "Preliminary Jurisdictional Determination" on information provided. A Final Jurisdiction Determination cannot be made until access to those parcels, where access was restricted, is obtained.

Potential impacts to the emergent wetland, pond, and potential wetland would be less than 0.10 acres. The ephemeral drainageway length would not be impacted. Therefore, mitigation would not be required.

The preferred alternative provides the least amount of resource impacts out of all of the alternatives. Impacts to wetland and streams have been minimized to the extent possible within the project limits of the preferred alternative.

The pond and vegetation may be managed to mitigate the 0.20 acre pond and adjacent 0.05 acre wetland from being a potential wildlife attractant.

The Iowa DNR has developed guidance that minimizes stormwater runoff impacts within Iowa watersheds. Within the design and construction phases, references will be made to the *Iowa Stormwater Management Manual* and the *Iowa Construction Site Erosion Control Manual*. Reference will also be made to the *Iowa Statewide Urban Design and Specifications (SUDAS) Manual: Erosion and Sediment Control*.

Part of the National Pollution Discharge Elimination System (NPDES) process is the completion of a pollution prevention plan that outlines construction measures minimizing soil erosion and pollutant movement to areas receiving waters from the construction site.

- NPDES Permitting:
  - General Permit Number 1 is required as a result of the proposed fueling activities.
  - General Permit Number 2 to include stormwater pollution prevention plan (SWPPP) will be required.

Temporary and permanent erosion control measures, as part of Best Management Practices (BMP's), will include silt fencing, temporary mulching and seeding, sediment traps at intakes, sediment basins, stream flow velocity controls, the use of temporary dikes, basins and ditches. After construction is complete, slopes and denuded areas will be re-seeded to aid in the vegetation process further reducing soil erosion impacts. Permanent erosion control measures include periodic site reviews for eroded areas and an identified maintenance program.

Erosion, sedimentation, siltation and air pollution emission (primarily dust) associated with construction will be minimized by the use of procedures set forth in the FAA Advisory Circular 150/5370-10C, *Standards for Specifying Construction of Airports*. Water quality will be maintained throughout construction with implementation of site-specific BMP's. Precautions will also be taken to minimize pollution concerns, such as the accidental spilling of fuels, lubricants, bitumen, raw sewage, or wash water from concrete mixing operations.

BMPs are structural or non-structural practices, or a combination of practices designed to act as an effective practicable means of minimizing the impacts resulting from implementation of a proposed improvement. BMP's may include careful application of site design principles, construction techniques to prevent erosion or siltation, source controls to keep pollutants out of stormwater flows, or treatment facilities to reduce pollutants. BMP's are required to minimize environmental impacts for meeting requirements of the National Environmental Policy Act (NEPA). BMP's referenced in FAA AC 150/5370-10C, [*Standards for Specifying Construction of Airports*], will be adhered to.

5.17 Summary of Environmental Consequences and Mitigation

Tables 5-5 and 5-6 summarize the environmental consequences and conceptual mitigation, if any, for each of the impact categories associated with the five (5) alternatives.

- No Action Alternative
- Pella Municipal Airport: Release and Closure
- Oskaloosa Municipal Airport: Release and Closure
- Reasonable Alternative One - Site B
- Reasonable Alternative Two - Site A Build Alternative 3 (Proposed Action)

The impact may result in a positive benefit or have negative consequences. Less than significant means some impact will occur but does not exceed thresholds considered unacceptable provided an effort is made to minimize harm, avoid and/or provide mitigation. Where the environmental footprint associated with the existing airports is removed, the less than significant impact extends a benefit by allowing the existing airport sites to be converted to non-airport uses commensurate with land uses surrounding the existing site. The cumulative impact of the proposed "Build Alternative 3" (Proposed Action), when combined with the release and closure of the two existing public owned airports, is discussed in Section 6.

Since preliminary design has not been done, the project design team will work with the Corps of Engineers in advance of construction to determine permitting and mitigation requirements.

Table 5-5
Potential Impact Summary

	No Action - Alternative		Pella Municipal Airport		Oskaloosa Municipal Airport	
RESOURCE CATEGORY	**Impact**	**Mitigation**	**Impact**	**Mitigation**	**Impact**	**Mitigation**
Air Quality	None	None	None	None	None	None
Biotic Resources	None	None	None	None	None	None
Climate	None	None	None	None	None	None
DOT Section 4(f)	None	None	None	None	None	None
Farmland	None	None	None	None	Remove Environmental Footprint	None
Hazardous Materials, Solid Waste & Pollution Prevention	None	None	Remove Environmental Footprint	None	Remove Environmental Footprint	None
Historic, Architectural & Cultural Resources	None	None	[1]	[1]	[1]	[1]
Land Use	None	None	Remove Environmental Footprint	None	None	None
Natural Resources & Energy Supply	None	None	None	None	None	None
Noise & Noise Compatible Land Use	None	None	Remove Environmental Footprint	None	None	None
Socioeconomic, Environmental Justice & Children	None	None	Remove Environmental Footprint	None	Remove Environmental Footprint	None
Visual Effects	None	None	None	None	None	None
Water Resources	None	None	None	None	None	None
			Release and closure of Airport. Remove Environmental Footprint from Airport Environs.		Release and closure of Airport. Remove Environmental Footprint from Airport Environs.	

[1] Prior to the release and sale of the existing Pella and Oskaloosa Municipal Airports, a Phase 1 Intensive Archaeological survey of selected areas of the airports will be completed as recommended by the Phase IA Archaeological Assessment of the Pella and Oskaloosa Airports (April 2016) and the report submitted to SHPO (see Appendix H).

Table 5-6 Potential Impact Summary

	Reasonable Alternative One - Site B		Reasonable Alternative Two - Site A - Build Alt 3 (Proposed Action)	
RESOURCE CATEGORY	**Impact**	**Mitigation**	**Impact**	**Mitigation**
Air Quality	None	None	None	Obtain construction and/or operating permits for portable equipment and processing plants Follow state requirments on open burning fugitive dust and opacity
Biotic Resources	Less than Significant	-Best Management Practices FAA AC 150/5370-10 Standards for Specifying Construction of Airport -Joint Application - USACE/IDNR (404 Permit, 401 Permit, 402 NPDES Permit (No. 1, No. 2)) -U.S. Fish & Wildlife Service Concurrence	None	-Best Management Practices FAA AC 150/5370-10 Standards for Specifying Construction of Airport -Joint Application - USACE/IDNR (404 Permit, 401 Permit, 402 NPDES Permit (No. 1, No. 2)) -U.S. Fish & Wildlife Service Concurrence
Climate	None	None	None	None
DOT Section 4(f)	None	None	Since the proposed action will not constitute a use or constructive use of the cultural resource eligible or potentially eligible, Section 4(f) resources will not be affected	None
Farmland	Less than Significant	None (Reference form AD 1006)	Less than Significant	None (Reference form AD 1006)
Hazardous Materials, Solid Waste & Pollution Prevention	Less than Significant	None	Less than Significant	None
Historic, Architectural & Cultural Resources	Less than Significant	None	Less than Significant	-State Historic Preservation Office Concurrence '-Complete Phase I Cultural Resources Investigation on 263 acres after obtaining access to property House and Cellar 1795 - 220th Street a. The undertaking will not acquire the house and cellar. b. The undertaking will plant a row of trees to visually screen the airport terminal area from the house and cellar along the airport's Southern and Western boundary Prine Cemetery a. The undertaking will not acquire the cemetery. b. The undertaking will avoid the cemetery. c. The undertaking will plant a secondary row of trees to further visually screen the airport from the cemetery along the airport's common property line. The trees will be maintained in perpetuity by the South Central Regional Airport Agency
Land Use	Less than Significant	The South Central Regional Airport Agency will work with Mahaska County to develop compatible land use guidelines and ordinances to restrict non-compatible land uses.	Less than Significant	The South Central Regional Airport Agency will work with Mahaska County to develop compatible land use guidelines and ordinances to restrict non-compatible land uses.
Natural Resources & Energy Supply	None	None	None	None
Noise & Noise Compatible Land Use	Less than Significant	None	Less than Significant	None
Socioeconomic, Environmental Justice & Children	Less than Significant	None	Less than Significant	None
Visual Effects	Less than Significant	None	Less than Significant	Plant trees and shrubs where the proposed airport and house / earth cellar property line coincide
Water Resources	Less than Significant	-Submit Joint Application - USACE/IDNR (404 Permit, 401 Permit, 402 NPDES Permit (No. 1, No. 2)) -Where property access was restricted, complete field survey for potential wetlands and streams -Submit report to the USACE for a final jurisdictional determination -During construction, adhere to Best Management Practices (BMP's) during construction	Less than Significant	-Submit Joint Application - USACE/IDNR (404 Permit, 401 Permit, 402 NPDES Permit (No. 1, No. 2)) -Where property access was restricted, complete field survey for potential wetlands and streams -Submit report to the USACE for a final jurisdictional determination -During construction, adhere to Best Management Practices (BMP's) during construction

SECTION SIX

Cumulative Impact

SECTION SIX: CUMULATIVE IMPACT ANALYSIS

6.1 Introduction

Cumulative impacts are "the incremental impact of an action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such other actions" (40 CFR 1508.7). Cumulative impacts may result from individually minor but collectively significant actions taking place over a period of time. For further discussion, see Executive Order 1050.1E, 405f(1)(c), as well as Council of Environmental Quality (CEQ), *Considering Cumulative Effects Under the National Environmental Policy Act* (January 1997).

6.2 Analysis

The proposed actions will result in the closure of the Oskaloosa Municipal Airport and the Pella Municipal Airport.

The closure of the two (2) existing airports will reduce the environmental footprint from two (2) to one (1). Development of the proposed replacement airport will introduce an airport associated environmental footprint into an area where none previously existed.

At present, there are 729 acres of land defined by FAA as airport owned land that is federally obligated.

- Pella Municipal Airport 109 Acres (Obligated)
- Oskaloosa Municipal Airport 620 Acres (Obligated)

The Federal obligations that the City of Oskaloosa and the City of Pella assumed are mandated by the federal statue and incorporated into grant agreements and property conveyance instruments that are entered into by the airport sponsor (City of Pella, City of Oskaloosa) and the United States Government (see FAA Order 5090.4B *FAA Airport Compliance Manual*, Pages 1-5 through 1-7). The cities of Pella and Oskaloosa will request a release from current federal obligations associated with their respective airports.

- Oskaloosa Municipal Airport:
  - Surplus Property (see FAA Order 5190.6B, Paragraph 22.17)
- Pella Municipal Airport:
  - Replacement Airports (see FAA Order 5190.6B, Paragraph 22.20)

The existing airport assets will be disposed of or transferred to the proposed replacement airport. Reinvestment of the total net proceeds is required if the sponsor will own a public airport to include a replacement public airport (South Central Regional Airport). The existing airports will be converted to land uses compatible with adjacent land uses.

- Oskaloosa Municipal Airport:
  - 620 acres of federally obligated land will return to the private sector and will be used for agriculture (see Section 3.6).

- Pella Municipal Airport:
  - 109 acres of federally obligated land will be converted to land uses consistent with the *City of Pella Future Land Use Plan (*see *Pella Comprehensive Plan Update* – August, 2014). The Future Land Use Plan shows the airport being ultimately developed and converted by the private sector to the following land use:
    - Residential: Low to High Density (see Section 3.5).

While the proposed action is generally compatible with agricultural activities, it will disrupt current farming practices by removing 582 acres from private sector ownership. The 582 acres, when acquired, will be federally obligated and subject to conditions set forth in various FAA Orders and Advisory Circulars regarding future use.

The proposed Airport Land Use Plan (see Appendix E, Airport Layout Plan, Sheet 12) shows areas that may be used for row crops, grain, and/or hay. When ultimately developed, approximately 279 acres of crop will remain.

The first priorities will be to acquire 582 acres of land in fee title upon which to construct Runway 14/36, a parallel taxiway and terminal area to include aircraft parking, maintenance and storage facilities, a terminal building, and a fuel facility. Vehicle access and parking facilities will also be constructed within the initial development phase. Instrument approach procedures will be developed to each runway. Other improvements include weather, approach, and landing aids. The third phase of development contemplated is the construction of a crosswind runway (Runway 10/28). Within the 20-year time horizon, additional aircraft parking and storage facilities will be constructed commensurate with aeronautical demand. The cumulative development actions are shown on the Airport Layout Plan.

The proposed actions are not expected to induce non-agricultural related development adjacent to the proposed airport site. The proposed actions will indirectly help sustain current levels of employment within the airport service area.

The proposed actions complement the existing and planned transportation infrastructure improvements in South Central Iowa. The proposed actions will accommodate current and forecast aviation demand.

The proposed U.S. Highway 63 bypass around Oskaloosa to include the proposed U.S. Highway 63/Iowa Highway 163 interchange and proposed airport improvements are

considered independent actions. Non-agricultural development may occur near the proposed highway interchange provided municipal utility services are provided by the City of Oskaloosa. The proposed actions will not displace persons or existing businesses, nor cause a dramatic shift or increase in population. It will, however, indirectly contribute to sustaining existing business.

6.3 Summary

The cumulative effects on resources when combined with other past, present, and reasonably foreseeable actions will not have a significant impact on the resources discussed in Section Five.

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APPENDIX A

List of Preparers

APPENDIX A: LIST OF PREPARERS

Jerald Searle, Project Manager / Airport Planner
Mr. Searle was the project manager and principal author of the Site Selection Study, and Airport Master Plan / Airport Layout Plan for the proposed South Central Regional Airport. Within the EA, Mr. Searle assisted in the preparation of Sections 1, 2, 3, 4, 6 and sub-sections 5.6, 5.7, 5.9, 5.11, 5.12, 5.14, 5.15 and 5.17 of Section 5. Mr. Searle has over 40 years of airport experience to include site selection for six (6) new airports, Airport Master Plans/Airport Layout Plans and eleven (11) Airport Environmental Assessment documents. Mr. Searle has a BA degree from St. Cloud State University and a MA degree in Urban Studies from Mankato State University.

Jeff Walters, Principal Environmental Scientist
Mr. Walters, Snyder & Associates, Inc., assisted in the preparation of subsections 5.5 Biotic Resources and 5.16 Water Resources of Section 5. Mr. Walters has fifteen years of professional experience as an environmental scientist. He has assisted in the preparation of several NEPA documents for airports in Iowa. Mr. Walters has a BS in Agronomy from Iowa State University.

Nichoel Church, Environmental Scientist
Ms. Church, Snyder & Associates, Inc., assisted in the preparation of subsections 5.5 Biotic Resources and 5.16 Water Resources of Section 5. Ms. Church has five years of professional experience as an environmental scientist. She has assisted in the preparation of numerous technical memorandums in Iowa related to wetland and stream delineations and habitat surveys. Ms. Church has a BS in Environmental Science from Iowa State University.

Mike Fisher
Mr. Fisher, Vice President, Impact 7g, prepared the noise analysis. Mr. Fisher has 25 years of environmental documentation experience and has assisted in the preparation of subsection 5.4 and 5.13 of Section 5. Mr. Fisher has a B.G.S. degree from the University of Kansas. His environmental experience includes extensive experience with the National Environmental Policy Act (NEPA) and brownfields redevelopment.

Dustin Leo
Mr. Leo, DGR Engineering, assisted in the preparation of subsection 5.8 of Section 5, map exhibits, and edits. Mr. Leo has 6 years of professional experience as a civil engineer and has assisted in the preparation of numerous Environmental Assessments for airport improvement projects. Mr. Leo has a BS in Civil Engineering from Iowa State University.

Jon Sellars
Mr. Sellars has worked as a professional archaeologist in Iowa and adjacent states for over 26 years. He completed subsection 5.10 of Section 5. Currently President of Consulting Archaeological Services, Sellars has served as director or Principal Investigator for over 1,000 cultural resource investigations in Iowa, Nebraska, Minnesota, Missouri, and Wisconsin. He has also performed archaeological research overseas in the Levant and the Arabian Peninsula. Mr. Sellars has been President and owner of Consulting Archeological Services since April of 1993. Prior to becoming President, he was a Vice President and member of the Board of Directors of Bear Creek Archaeological Inc. from 1989-1993. Mr. Sellars has a M.A. in Anthropology from the University of Tulsa.

Nurit Finn, Project Manager/Principal Investigator
Nurit Finn has an M.A. in Anthropology from the University of New Mexico and is a Ph.D. Candidate at the University of Michigan. She is majority owner of Wapsi Valley Archaeology, Inc. Her areas of expertise include prehistoric hunter-gatherers, lithic analysis, ceramic analysis, statistical analysis and sampling, project management, quality control, contracts/ Programmatic Agreement/ Memorandum of Agreement preparation, Historic Preservation Management Plans, with a regional emphasis on the archaeology of the Midwest and Southeast. Nurit has over 20 years experience in archaeology and has served as Project Manager for most projects completed by Wapsi Valley Archaeology, Inc. Past and present professional memberships include Board of Directors, American Cultural Resources Association (former small firm representative); Association of Iowa Archaeologists (Past President); Society for American Archaeology (SAA); Society of Historic Archaeology (SHA); Iowa Archaeological Society; Jones County Historic Preservation Commission (former Vice-Chair). Nurit Finn meets the professional qualifications standards of the Secretary of the Interior for archaeology.

Michael Finn, Principal Investigator (Archaeology)
Michael Finn has an M.A. in Anthropology from the University of Iowa and is a Ph.D. Candidate at Michigan State University. Michael is co-owner of Wapsi Valley Archaeology, Inc. and serves as Chief of Operations. Michael's areas of expertise include research design and field implementation, lithic analysis, ceramic analysis, faunal analysis, geomorphology, and prehistoric and historic archaeology. Michael has years of on-the-ground experience directing Phase I, Phase II, and Phase III research projects and a broad regional emphasis that includes states across the Midwest, Southeast, and Eastern United States. Michael Finn has over 30 years of experience in archaeology and meets the professional qualifications standards of the Secretary of the Interior for archaeology.

Toby Morrow, Principal Investigator (Archaeology)
Toby Morrow has an M.A. in Anthropology from the University of Iowa and is a Ph.D. Candidate at the University of Wisconsin. His areas of expertise include lithic analysis, ceramic analysis, faunal analysis, geomorphology/soils, chert sourcing, prehistoric and historic archaeology, and human osteology. Toby is a seasoned archaeologist who has directed Phase I, Phase II, and Phase III research projects across the state of Iowa. He has also worked

professionally in Arkansas, Minnesota, Missouri, Kansas, Nebraska, and North Dakota. He is a skilled craftsman in prehistoric technologies including woodworking, bone, and ground stone tool manufacture. He is one of only a few expert flint knappers in the region. He is the author of *Iowa Projectile Points*, the type book for the state, and is currently writing a book on prehistoric stone tool technologies for the Minnesota State Historical Society. Toby has over 30 years of experience in archaeology and meets the professional qualifications standards of the Secretary of the Interior for archaeology.

Colleen Vollman, Principal Investigator (Architectural History)
Colleen Small-Vollman has worked in the field of Cultural Resource Management for twenty-one years. She is currently completing an M.A. in History/Public History at the University of Illinois at Springfield (expected completion Summer 2016). She received a B.A. in Anthropology (emphasis Archaeology) and Art History at Northern Illinois University in 1996. Over the course of her career, she has conducted architectural and historical investigations as well as archaeological research for undertakings reviewed under the Section 106 process. Her experience includes project management for both architectural history and archaeological studies, and she has served as Principle Investigator for studies in historic architecture and history. She has broad experience in preservation planning, economic development, grant administration, and historic tax credits, and has worked for both federal and state agencies, including the Missouri SHPO. Geographic areas of interest and experience include the states of Iowa, Illinois, and Missouri, although she has also completed professional architectural history studies in Wisconsin, Kansas, Ohio, Michigan, Vermont, and New York. Her research interests include history and architecture of the pioneer era, cold war period, and monumental architecture, and areas of expertise include Section 106 and historic preservation. Colleen Small-Vollman meets the Secretary of the Interior professional qualification standards for architectural history and history.

Jason O'Brien, Principal Investigator (Architectural History)
Jason O'Brien received an M.A. in History from Colorado State University in 2014 and a B.A. in History from Colorado State University in 2011. Areas of specialization include architectural history, historic preservation, nineteenth and twentieth century U.S. history, and American environmental history. Jason has served as Principal Investigator for architectural history projects in Iowa. His experience includes architectural surveys, structure descriptions, historic context development, and narrative statements of significance for local landmark designations and Section 106, National Historic Preservation Act compliance projects for clients. While working as a Research Associate for the Public Lands History Center in Colorado, He inventoried and evaluated landscape features and structures in Zion National Park, Fort Collins, Colorado, and has researched and authored National Register of Historic Places nominations. Jason O'Brien meets Secretary of the Interior's professional qualifications standards for history and architectural history.

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APPENDIX B

Agency Coordination

APPENDIX B: EARLY COORDINATION

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City of Oskaloosa
220 S. Market Street
Oskaloosa, IA 52577

Oskaloosa Area Chamber & Development Group
124 N. Market Street
Oskaloosa, IA 52577

Mahaska Community Development Group
124 N. Market Street
Oskaloosa, IA 52577

Mahaska County Agricultural & Rural Development
124 N. Market Street
Oskaloosa, IA 52577

Pella Area Development Corporation
818 Washington
Pella, IA 50219

Tribal

Ms. Bobi Roush
Cultural Preservation Department
Iowa Tribe of Oklahoma
335588 E 750 Road
Perkins, OK 74059

Mr. George Strack
Tribal Historic Preservation Officer
Miami Tribe of Oklahoma
P.O. Box 1326
Miami, OK 74355

Mr. Tony Provost
Tribal Historic Preservation Officer
Omaha Tribe
P.O. Box 368
Macy, NE 68039

Ms. Lana Gravatt
Tribal Historic Preservation Officer
Yankton Sioux Tribe of South Dakota
P.O. Box 1153
Wagner, SD 57380-1153

AGRICULTURE AND LAND STEWARDSHIP
IOWA DEPARTMENT OF AGRICULTURE
Bill Northey, Secretary of Agriculture

June 3, 2015

Mr. Jim Hansen, Chair
South Central Regional Airport Agency
825 Broadway Street
Pella, IA 50219

RE: Proposed SCRAA Airport, Mahaska County – Environmental Assessment

Dear Mr. Hansen:

The Iowa Department of Agriculture and Land Stewardship - Division of Soil Conservation (IDALS – DSC) appreciates the opportunity to provide input regarding the proposed SCRAA airport in Mahaska County and respectively submits the following item for comment below.

IDALS-DSC greatest concern is controlling soil erosion. Erosion often occurs at significant levels during construction activities when large unvegetative areas are exposed and unprotected. Any soil erosion that does occur during construction shall be promptly mitigated with procedures outlined in a written erosion control plan to address this concern.

If you have any questions, we ask that you contact the Mahaska County Soil and Water Conservation District office located in Oskaloosa.

Kevin Funni, District Conservationist, Mahaska County USDA Service Center
Natural Resources Conservation Service
2503 Todd Street
Oskaloosa, IA 52577
(641) 673-3476

All personnel in the Soil and Water Conservation District office are well informed and stand ready to assist and advise you with problems that can arise from an undertaking of the size and scope that you have outlined in your letter.

Thank you for the opportunity to provide this information.

Sincerely,

Vincent Sitz

Vince Sitzmann, Field Services Bureau Chief
IDALS/Division of Soil Conservation

Jake Hansen

Jake Hansen, Water Resources Bureau Chief
IDALS/Division of Soil Conservation

Cc: Mahaska SWCD

IOWA DEPARTMENT OF AGRICULTURE AND LAND STEWARDSHIP

Bill Northey, Secretary of Agriculture

April 30, 2015

Jerald Searle, Project Manager
South Central Regional Airport Agency
825 Broadway
Pella, Iowa 50219

RE: Environmental Assessment – Early Coordination
South Central Regional Airport – Mahaska County, Iowa

Dear Mr. Searle and South Central Regional Airport Agency,

Thank you for contacting the Iowa Department of Agriculture and Land Stewardship – Division of Soil Conservation, Mines and Minerals Bureau. We have reviewed your letter and project location maps regarding the proposed airport location near northeastern Oskaloosa (Mahaska County, Iowa).

After reviewing our records of known surface and underground coal mines in the State, the proposed project area will have no impact on these areas. If, during construction, you encounter anything possibly mine related it would be wise to consult with our office before proceeding further.

If you have the need for further correspondence, please feel free to contact me at (515) 281-6147.

Sincerely,
Susan K. Kozak, Bureau Chief

Susan Kozak

IDALS-DSC Mines and Minerals Bureau
Susan.Kozak@iowaagriculture.gov

Jerald Searle <jeraldsearle@gmail.com>

Contact information - Business Assistance Meeting

1 message

Tahtinen, Sharon [DNR] <Sharon.Tahtinen@dnr.iowa.gov> Wed, Apr 29, 2015 at 2:49 PM

To: "Jerald Searle (jeraldsearle@gmail.com)" <jeraldsearle@gmail.com>

Jerald:

It was a pleasure to meet with you on Apr. 16 to preliminarily review your plans for a proposed development of a new airport. Attached is a list of DNR persons in attendance at the meeting along with some brief contact information for each.

Please do not hesitate to contact me for further assistance.

Sharon

SHARON TAHTINEN

Policy & Business Assistance Liaison

Environmental Services Division

Iowa Department of Natural Resources

515.238.4187 (Cell) 515.725.8299 (Office) | Sharon.Tahtinen@dnr.iowa.gov

502 E. 9th St. | Des Moines, IA 50319

WWW.IOWADNR.GOV

Leading Iowans in Caring for Our Natural Resources.

Airport Meeting Info.docx
16K

DNR Contact List – Meeting with SCRAA Reps – April 16, 2015

William Ehm, Administrator – Environmental Services Division
William.Ehm@dnr.iowa.gov
515-725-8300

Sharon Tahtinen, Business Assistance Liaison
Sharon.Tahtinen@dnr.iowa.gov
515-725-8299 (O) 515-238-4187 (Cell)
Provides new and expanding businesses with assistance related to permitting requirements in Iowa. Establishes pre-meetings with a host of experts to discuss various permitting needs that a company may have and can help with tracking progress of permit applications and with other permitting inquiries.

Water Quality:
Wendy Hieb, Environmental Specialist Sr. - Coordinator for industrial wastewater permits
Wendy.Hieb@dnr.iowa.gov
515-725-8405
I discussed permitting and wastewater disposal options for the on-site septic system, hydrostatic test water from installation of tanks, boiler blowdown water, geothermal water, etc.

Eric Wiklund, Environmental Specialist Sr. - Coordinator for municipal wastewater permits
Eric.Wiklund@dnr.iowa.gov
515-725-0313
Based on the brief discussion I had, all municipal wastewater will be non-discharging (septic tank and leach field) and all permitting will be handled by the county as the design is expected to be less than 1,500 gallons/day.

Chris Schwake, Environmental Specialist
Christine.Schwake@dnr.iowa.gov
515-725-8399
Section 401 Water Quality Certification
(She was not at meeting but provided a written letter that I gave to you.)

Debra Schiel-Larson, Environmental Specialist
Debra.Schiel-Larson@dnr.iowa.gov
515-725-8415
Storm water permitting assistance. (Debra sent you an email summarizing what she talked about at the business assistance meeting.)

Air Quality:
Michael Hermsen –Environmental Engineer Senior, air construction permit writer.
Michael.Hermsen@dnr.iowa.gov
515-725-9577
Discussed possible permitting actions that may be required, including air construction permits for sources the facility may have (fuel tanks, generators, boilers, repair shops, etc.).

Seth Moore, Environmental Specialist
Seth.Moore@dnr.iowa.gov
515-725-8464

Sovereign Land: Any construction on, above, or under state-owned lands and/or waters must secure a sovereign lands construction permit from the Department in advance of work.

Environmental Review: In response to a request for Environmental Review for natural resources, the Department will search records for state - and federal - listed endangered or threatened species, rare natural communities, sensitive habitat, and state lands and waters in a proposed project area.

Land Quality:
Alex Moon, Chief – Land Quality Bureau
Alex.Moon@dnr.iowa.gov
515-725-8327

Lori McDaniel, Supervisor – Flood Plain Management and Dam Safety
Lori.McDaniel@dnr.iowa.gov
515-725-8303
Provides assistance/guidance on flood plain related issues.
The location of the proposed airport as discussed in the March 18th letter to the Iowa DNR is in an Area of Minimal Flood Hazard per the Flood Insurance Rate Map.
DFIRM ID 19123C0250Cv.1.1.1.0
Effective 6/16/2011
NFHL Hazard Zone: X, Area of Minimal Flood Hazard

Elaine Douskey, Supervisor - Underground Storage Tank Section
Elaine.Douskey@dnr.iowa.gov
515-725-8311
The UST Section has three areas of responsibility: 1) Oversee the licensing of UST professionals – those who install, test, inspect, and remove tanks, and those who investigate and clean up petroleum releases from USTs, 2) administer regulations regarding the proper operation of UST systems to prevent releases, and 3) administer regulations on assessment and corrective action responses to petroleum releases. These regulations and responsibilities are designed to protect public health and safety, and the environment particularly our groundwater resources.

Theresa Stiner, Environmental Specialist Sr.
Theresa.Stiner@dnr.iowa.gov
515-725-8315
Addresses concerns with proper disposal of construction and demolition waste. I can also provide resources for recycling of materials from the old airports if they are torn down.

Amie Davidson, Supervisor – Solid Waste Section
Amie.Davidson@dnr.iowa.gov
515-725-8307

Amy Buckendahl, Environmental Specialist
Amy.Buckendahl@dnr.iowa.gov
515-725-8350
Provides guidance on any composting, land application projects and solid waste transfer stations.

Susan Johnson, Environmental Specialist Sr.
Susan.Johnson@dnr.iowa.gov

515-725-8317
Provides guidance on any special waste authorizations as well as permitting of CRT recycling and appliance demanufacturing.

Field Services:
Barb Lynch, Chief – Field Services
Barbara.Lynch@dnr.iowa.gov
712-260-1728
(Barb provided you with contact information for the Field Office covering your area)
Ted Petersen, Supervisor -Field Office 5
Ted.Petersen@dnr.iowa.gov
515-725-0268.

USDA

United States Department of Agriculture

April 17, 2015

Mr. Jerald Searle
Project Manager
South Central Regional Airport Agency
825 Broadway
Pella, Ia 50219

Dear Mr. Searle:

Thank you for the opportunity to provide input regarding the proposed Regional Airport in Mahaska County.

The USDA – Natural Resources Conservation Service has identified Prime Farmland for soils based on Soil Surveys for many decades. The importance of Prime Farmland is in meeting the Nation's short- and long-range needs for food and fiber. In addition, it is estimated that the world's population will rise to 9 billion by the year 2050 causing enormous need for producing food for this many people. Thus, protecting Prime Farmland is essential for future human needs for food.

The proposed Regional Airport will cover over 560 acres. I have approximated the location of this proposed airport using the NRCS Web Soil Survey based on the map you mailed. Over 35% of these acres, approximately 200 acres, are identified as Prime Farmland. An additional almost 29%, approximately 160 acres, is identified as Prime Farmland if Drained, most of which is likely to have had tile drainage sometime in the past or these areas would be too wet to farm most years. Please the see attached Web Soil Survey map, map legend, and summary by Farmland Classification – Soil Map Unit of the proposed Regional Airport.

Thus, over 64%, or nearly two-thirds, of the area of the proposed Regional Airport is either Prime Farmland or Prime Farmland if Drained. This is a very sizable area of some of the most productive farmland in not only Iowa, but the world. The loss of this land's potential agricultural use to meet future human needs for food should not be underestimated or overlooked. Once this Prime Farmland has been re-landscaped, its service in global human food production will be lost forever.

Therefore, I would strongly advocate locating any proposed airport to areas that are *largely* Not Prime Farmland. The area of the proposed airport is unfortunately *largely* Prime Farmland and should be avoided in favor of other areas with little Prime Farmland and mostly "Not Prime Farmland".

Thank you for your interest in input from the USDA – Natural Resources Conservation Service. Please consider relocating the airport to areas of very little Prime Farmland in order to protect the long-term future human food needs.

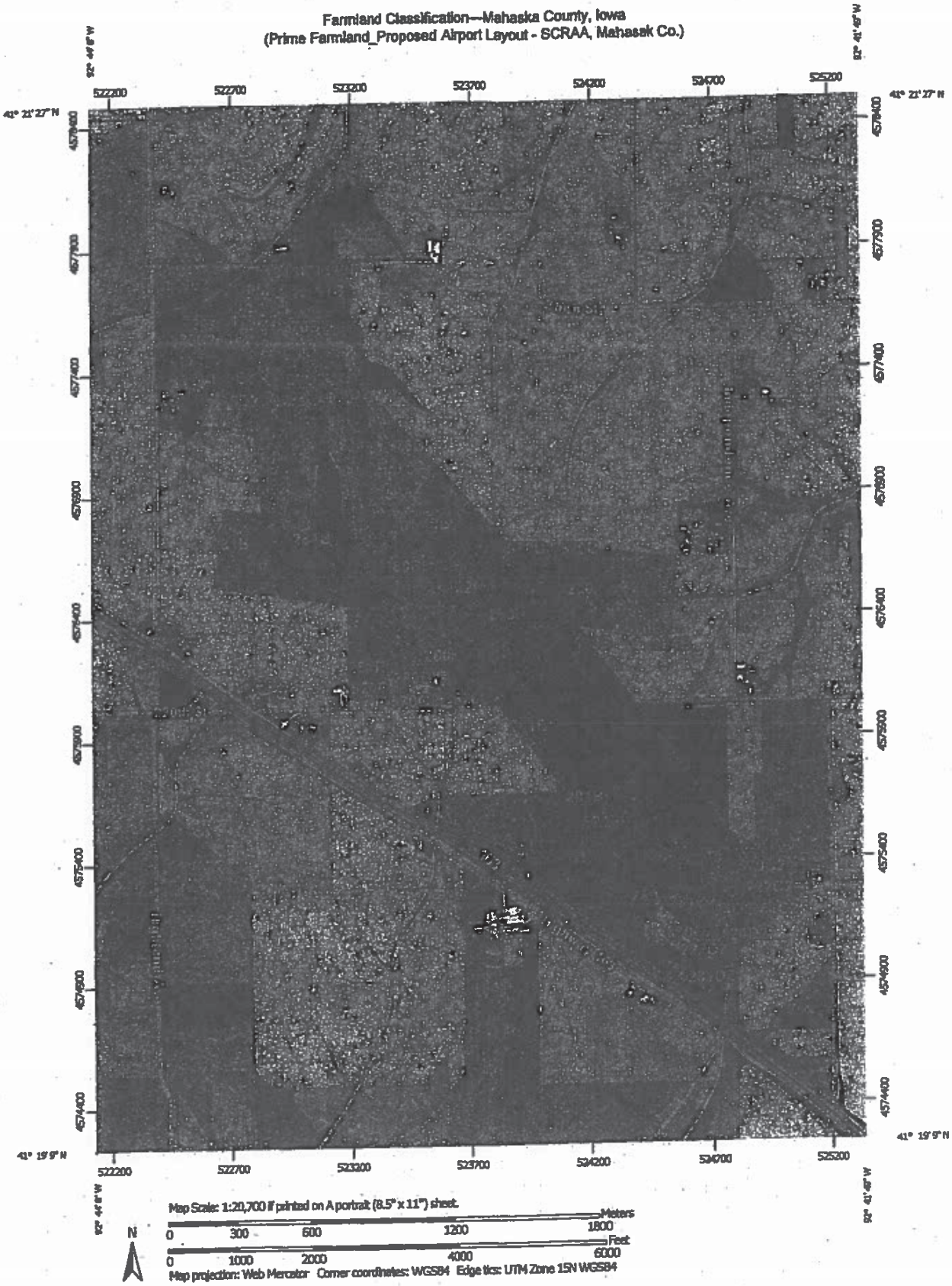
Thank you,

Kevin Funni

Kevin Funni
District Conservationist

Helping People Help the Land
Natural Resources Conservation Service
2503 Todd Street
Oskaloosa, Iowa 52577-1714
Voice (641) 673-3476 ext.3 – FAX (855) 233-1298
An Equal Opportunity Provider and Employer

Farmland Classification—Mahaska County, Iowa
(Prime Farmland_Proposed Airport Layout - SCRAA, Mahasak Co.)



USDA Natural Resources Conservation Service

Web Soil Survey
National Cooperative Soil Survey

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Soil Rating Lines

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Soil Rating Points

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Water Features

MAP INFORMATION

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:15,800.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Mahaska County, Iowa
Survey Area Data: Version 20, Aug 20, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Nov 3, 2010—Nov 23, 2010

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Farmland Classification— Summary by Map Unit — Mahaska County, Iowa (IA123)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
280B	Mahaska silty clay loam, 2 to 5 percent slopes	All areas are prime farmland	23.9	4.2%
281B	Otley silty clay loam, 2 to 5 percent slopes	All areas are prime farmland	70.2	12.4%
281C2	Otley silty clay loam, 5 to 9 percent slopes, eroded	Farmland of statewide importance	16.3	2.9%
281D2	Otley silty clay loam, 9 to 14 percent slopes, eroded	Farmland of statewide importance	0.0	0.0%
570B	Nira silty clay loam, 2 to 5 percent slopes	All areas are prime farmland	19.7	3.5%
570C	Nira silty clay loam, 5 to 9 percent slopes	Farmland of statewide importance	3.4	0.6%
570C2	Nira silty clay loam, 5 to 9 percent slopes, moderately eroded	Farmland of statewide importance	35.9	6.3%
792D2	Armstrong loam, 9 to 14 percent slopes, moderately eroded	Farmland of statewide importance	7.4	1.3%
822D2	Lamoni silty clay loam, 9 to 14 percent slopes, moderately eroded	Farmland of statewide importance	0.0	0.0%
1313E	Munterville silt loam, 14 to 18 percent slopes	Not prime farmland	5.7	1.0%
1313F	Munterville silt loam, 18 to 25 percent slopes	Not prime farmland	7.2	1.3%
W	Water	Not prime farmland	0.2	0.0%
Totals for Area of Interest			566.9	100.0%

Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

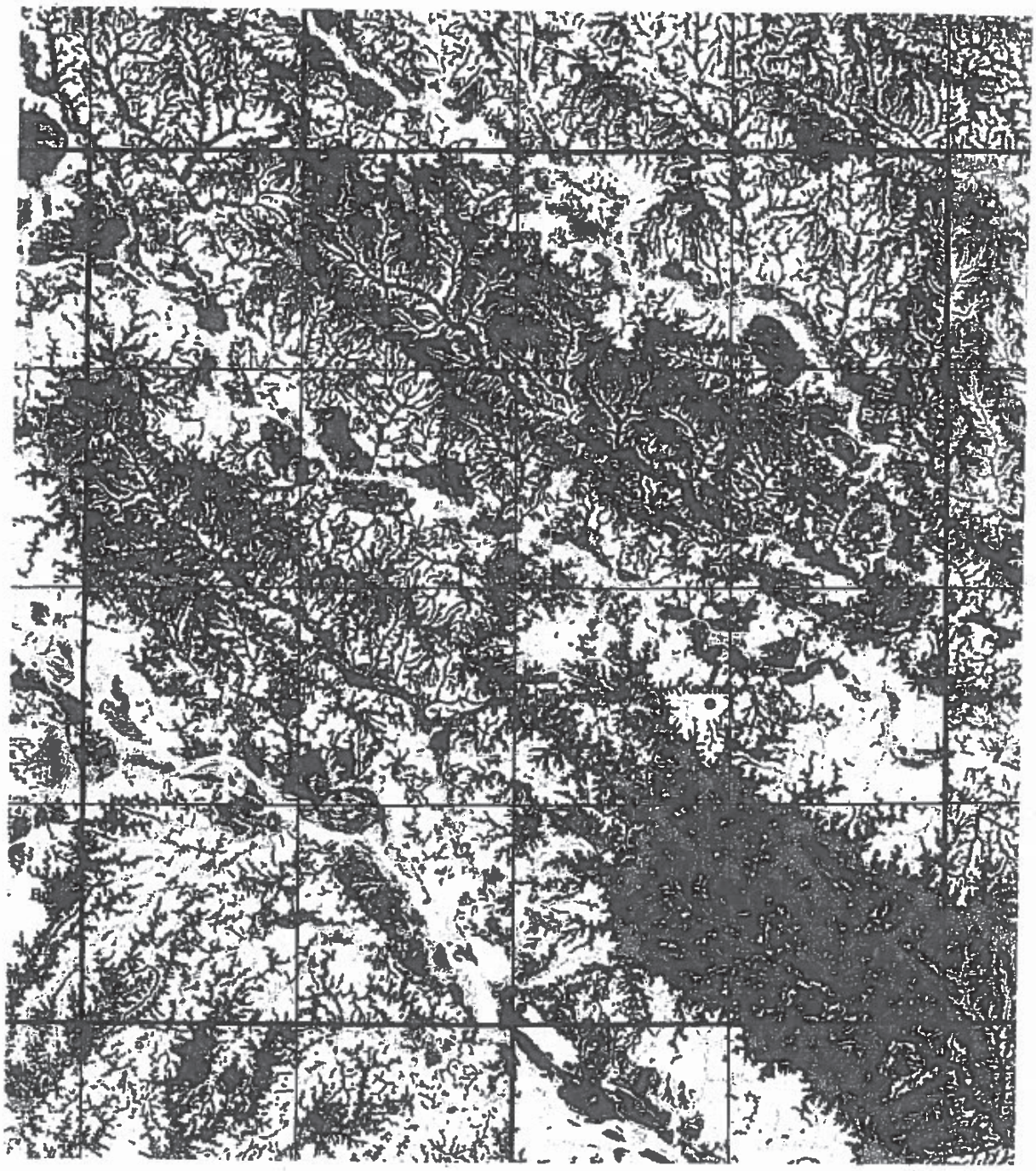
	Area of Proposed SCRAA Airport	
	Acres*	Percent
All areas are Prime Farmland	199.7	35.3%
Prime Farmland if Drained	163.8	28.9%
	363.5 ac	64.2%

* approx.

Farmland Classification

Farmland Classification— Summary by Map Unit — Mahaska County, Iowa (IA123)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
11B	Colo-Ely silty clay loams, 2 to 5 percent slopes	Prime farmland if drained	51.3	9.0%
24D2	Shelby loam, 9 to 14 percent slopes, moderately eroded	Farmland of statewide importance	4.4	0.8%
65E2	Lindley loam, 14 to 18 percent slopes, moderately eroded	Not prime farmland	3.7	0.7%
65F2	Lindley loam, 18 to 25 percent slopes, moderately eroded	Not prime farmland	5.3	0.9%
69C	Clearfield silty clay loam, 5 to 9 percent slopes	Farmland of statewide importance	21.9	3.9%
76B	Ladoga silt loam, 2 to 5 percent slopes	All areas are prime farmland	2.0	0.4%
76C2	Ladoga silt loam, 5 to 9 percent slopes, eroded	Farmland of statewide importance	37.2	6.6%
76D2	Ladoga silt loam, 9 to 14 percent slopes, eroded	Farmland of statewide importance	18.9	3.3%
80C2	Clinton silt loam, 5 to 9 percent slopes, eroded	Farmland of statewide importance	1.0	0.2%
122	Sperry silt loam, 0 to 2 percent slopes	Prime farmland if drained	2.7	0.5%
179D2	Gara loam, 9 to 14 percent slopes, moderately eroded	Farmland of statewide importance	9.7	1.7%
179E2	Gara loam, 14 to 18 percent slopes, moderately eroded	Not prime farmland	10.0	1.8%
222C	Clarinda silty clay loam, 5 to 9 percent slopes	Farmland of statewide importance	4.4	0.8%
222C2	Clarinda silty clay loam, 5 to 9 percent slopes, moderately eroded	Farmland of statewide importance	10.1	1.8%
222D2	Clarinda silty clay loam, 9 to 14 percent slopes, moderately eroded	Farmland of statewide importance	0.7	0.1%
279	Taintor silty clay loam, 0 to 2 percent slopes	Prime farmland if drained	109.8	19.4%
280	Mahaska silty clay loam, 0 to 2 percent slopes	All areas are prime farmland	83.9	14.8%

Prime Farmland
Mahaska County, Iowa



County Line
Township Boundary
Cities/Towns

Prime Farmland Category
- Prime Farmland
- Prime Farmland Where Drained
- Prime Farmland Where Protected From Flooding
- Prime Farmland Where Irrigated
- Prime Farmland Where Drained & Protected From Flooding
- Not Prime Farmland

N

NRCS Natural Resources Conservation Service

12/21/01

Fields of Opportunities

STATE OF IOWA

TERRY E. BRANSTAD, GOVERNOR
KIM REYNOLDS, LT. GOVERNOR

DEPARTMENT OF NATURAL RESOURCES
CHUCK GIPP, DIRECTOR

April 16, 2015

South Central Regional Airport Agency
Attn: Jim Hansen
825 Broadway Street
Pella, IA 50219

RE: Environmental Review for Natural Resources
South Central Regional Airport
Mahaska County
Section 4, Township 75N, Range 16W
Section 29,32,33, Township 76N, Range 16W

Dear Mr. Hansen,

Thank you for inviting Department comment on the impact of this project. The Department has searched for records of rare species and significant natural communities in the project area and found no site-specific records that would be impacted by this project. However, these records and data are not the result of thorough field surveys. If listed species or rare communities are found during the planning or construction phases, additional studies and/or mitigation may be required. If the construction plans change, the Department should be contacted for another review.

This letter is a record of review for protected species, rare natural communities, state lands and waters in the project area, including review by personnel representing state parks, preserves, recreation areas, fisheries and wildlife but does not include comment from the Environmental Services Division of this Department. This letter does not constitute a permit. Other permits may be required from the Department or other state or federal agencies before work begins on this project.

Please reference the following DNR Environmental Review/Sovereign Land Program tracking number assigned to this project in all future correspondence related to this project: 11506.

If you have questions about this letter or require further information, please contact me at (515) 725-8464.

Sincerely,

Seth Moore

Seth Moore
Environmental Specialist
Conservation and Recreation Division

FILE COPY: Seth Moore
Tracking Number: 11506

502 EAST 9th STREET / DES MOINES, IOWA 50319-0034
PHONE 515-725-8200 FAX 515-725-8201 www.iowadnr.gov

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, ROCK ISLAND DISTRICT
PO BOX 2004 CLOCK TOWER BUILDING
ROCK ISLAND, ILLINOIS 61204-2004

REPLY TO
ATTENTION OF

April 14, 2015

Regional Planning and
Environmental Division North (RPEDN)

Jerald Searle, Project Manager
South Central Regional Airport Agency
825 Broadway Street
Pella, Iowa 50219

Dear Mr. Searle:

I received your letter dated 18 March 2015, concerning proposed development of a new airport serving Mahaska County, IA. The US Army Corps of Engineers, Rock Island District (District) staff reviewed the information you provided and have the following comments:

a. Your proposal does not involve District administered land; therefore, no further District real estate coordination is necessary.

b. Any proposed placement of dredged or fill material into waters of the United States (including jurisdictional wetlands) requires Department of the Army authorization under Section 404 of the Clean Water Act. Additional information is needed for the determination if a Section 404 permit is required for this project. A completed application packet should be submitted to the Rock Island District for processing as soon as possible. The application should include final plans, wetland delineations using the Corps 1987 Wetland Delineation Manual and Midwest Regional Supplement, details of proposed impacts to wetlands and other waters of the United States, a statement explaining how impacts associated with the proposed activity are to be avoided, a description of planned components that are intended to minimize impacts to wetlands and streams, and a complete wetland/stream mitigation plan, impacts in accordance to National Environmental Policy Act (NEPA). The requirements for a complete mitigation plan are described in the Federal Register (Volume 73, No. 70) dated April 10, 2008, under "Compensatory Mitigation for Losses of Aquatic Resources; Final Rule".

If you have any questions regarding permitting requirements under Section 404 of the Clean Water Act, please contact Joey Shoemaker of our Regulatory Branch. You may reach Mr. Shoemaker by writing to our address above, ATTN: Regulatory Branch Joey Shoemaker, or by telephoning 309-794-5559

c. The Responsible Federal Agency should coordinate with Ms. Kathy Gourley, Iowa Historic Preservation Agency, ATTN: Review and Compliance Program, State Historical Society of Iowa, 600 East Locust, State Historic Building, Des Moines, IA, 50319 to determine impacts to historic properties.

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, ROCK ISLAND DISTRICT
PO BOX 2004 CLOCK TOWER BUILDING
ROCK ISLAND, ILLINOIS 61204-2004

REPLY TO
ATTENTION OF

April 14, 2015

Regional Planning and
Environmental Division North (RPEDN)

Jerald Searle, Project Manager
South Central Regional Airport Agency
825 Broadway Street
Pella, Iowa 50219

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c. The Responsible Federal Agency should coordinate with Ms. Kathy Gourley, Iowa Historic Preservation Agency, ATTN: Review and Compliance Program, State Historical Society of Iowa, 600 East Locust, State Historic Building, Des Moines, IA, 50319 to determine impacts to historic properties.

d. The Rock Island Field Office of the U.S. Fish and Wildlife Service should be contacted to determine if any federally-listed endangered species are being impacted and, if so, how to avoid or minimize impacts. The Rock Island (County) Field Office address is: 1511 - 47th Avenue, Moline, IL, 61265. Mr. Kraig McPeek is the Field Supervisor. You can reach him by calling 309/757-5800.

e. The Iowa Emergency Management Division should be contacted to determine if the proposed project may impact areas designated as floodway. Mr. Dennis Harper is the Iowa State Hazard Mitigation Team Leader. His address is: 7900 Hickman Rd., Suite 500, Windsor Heights, IA 50324. You can reach him by calling 515/725-3231.

No other concerns surfaced during our review. Thank you for the opportunity to comment on your proposal. If you need more information, please call Ms. Wendy Frohlich of our Environmental Compliance Branch, telephone 309/794-5573.

You may find additional information about the Corps' Rock Island District on our website at **http://www.mvr.usace.army.mil**.

Sincerely,

Kenneth A. Barr

Kenneth A. Barr
Chief, Environmental Planning Branch, (RPEDN)

Fields of Opportunities

STATE OF IOWA

TERRY E. BRANSTAD, GOVERNOR
KIM REYNOLDS, LT. GOVERNOR

DEPARTMENT OF NATURAL RESOURCES
CHUCK GIPP, DIRECTOR

April 14, 2015

MR JERALD SEARLE
SOUTH CENTRAL REGIONAL AIRPORT AGENCY
825 BROADWAY
PELLA IA 50219

RE: South Central Regional Airport Agency, Mahaska County

Dear Mr. Searle:

This letter is in response to the letter dated March 18, 2015 concerning the preparation of an Environmental Assessment for the South Central Regional Airport Agency project in S4, T75N, R16W and S29, 32 & 33, T76N, R16W, Mahaska County. Thank you for inviting our comments on the impact of this project.

As you know, waters of the United States (includes wetlands) should not be disturbed if a less environmentally damaging alternative exists. Unavoidable adverse impacts should be minimized to the extent practicable. Any remaining adverse impacts should be compensated for through restoration and creation activities (enhancement and/or preservation may be in addition to the restoration/creation). We would ask that Best Management Practices be used to control erosion and protect water quality near the project.

Any proposed placement of dredged or fill material into waters of the United States (including jurisdictional wetlands) requires Department of the Army authorization. When detailed plans are available, please complete and submit the joint application form to the Rock Island District Corps of Engineers (1 copy) and Iowa Department of Natural Resources (2 copies) for processing. The application form may be obtained at http://www.iowadnr.gov/InsideDNR/RegulatoryLand/FloodPlainManagement/FloodPlainDevPermits.aspx. An electronic copy of the application form and instructions may also be obtained on the Corps' website: http://www.mvr.usace.army.mil/Missions/Regulatory.aspx.

If you have any questions, please call me at (515) 725-8399.

Sincerely,

Christine M Schwake

Christine Schwake
Environmental Specialist

502 EAST 9th STREET / DES MOINES, IOWA 50319-0034
PHONE 515-725-8200 FAX 515-725-8202 www.iowadnr.gov

Jerald Searle <jeraldsearle@gmail.com>

USTs at Pella and Oskaloosa airports

1 message

Douskey, Elaine [DNR] <Elaine.Douskey@dnr.iowa.gov> Thu, Apr 16, 2015 at 5:05 PM
To: "jeraldsearle@gmail.com" <jeraldsearle@gmail.com>
Cc: "Tahtinen, Sharon [DNR]" <Sharon.Tahtinen@dnr.iowa.gov>, "Moon, Alex [DNR]" <Alex.Moon@dnr.iowa.gov>

Mr. Searle,

It was good to meet with you today. I thought I'd get back to with some information on USTs (underground storage tanks) and Leaking USTs (LUSTs) at these two airports. I pulled this information from the Tanks database – detailed information can be obtained from DNR's Records Center by calling 515-725-8218 and referencing the Registration # and/or LUST # for the file you want.

Pella Municipal Airport – Registration # **198601842** / No associated LUST #

Address listed as RR3 Box 334A, Pella

Two 4,000 gallon tanks were removed.

No current active USTs listed for this site, but it may be the same site as below.

City of Pella Airport – Reg. # **198916584** / No associated LUST #

501 W. 15th Street, Pella

10,000 gallon active gasoline tank, installed 1989

10,000 gallon active kerosene tank, installed 1989

Tank reg fees are current; but the database shows insurance expired 3/20/15 (it could have been renewed, and we just haven't received documents, yet)

Last inspected 6/17/13 – a cracked spill basin was identified; next inspection due June 2015.

Pella Corp Flight Operations Hanger – Reg. # **200600007** / No associated LUST #

403 W. 15th Street, Pella

550 gallon used oil tank – filled in place 2006/out of use & properly closed

Oskaloosa Airport – Reg. # **198605004** / LUST# 8LTB14

2973 Urbana Avenue, Oskaloosa

Three tanks removed in 1992 (2,000 gallon gas; 4,000 gallon gas; 4,000 gallon other)

One active 12,000 gallon tank with three compartments (two -4,000 gallon gas; one 4,000 gallon other); installed June 1992

Insurance current through October 2015; tank registration fees are current; inspection completed 3/31/15

LUST# 8LTB14: A release was identified in 1990 during an insurance investigation.

The release was assessed according to regulations and the site /LUST matter was closed in April 2001.

A No Further Action Certificate for this LUST site was issued in December 2001.

As I mentioned, above ground storage tanks are regulated by the State Fire Marshal's office. The contact person is **Jeff Miller** (515-725-6164)

I know that any tank removal activities may be well into the future, but here are some references that may be useful:

Tank Closure Guidance:
http://www.iowadnr.gov/InsideDNR/RegulatoryLand/UndergroundStorageTanks/USTOwnersOperators/TankClosureInformation.aspx

List of Licensed UST Removers:
http://www.iowadnr.gov/InsideDNR/RegulatoryLand/UndergroundStorageTanks/LicensedUSTProfessionals.aspx

Please don't hesitate to call with any questions you may have.

Elaine

ELAINE DOUSKEY Supervisor- Underground Storage Tank Section

cid:image001.jpg@01CE7981.B6312820

Iowa Department of Natural Resources

515.725.8311 | elaine.douskey@dnr.iowa.gov

502 East 9th Street | Des Moines, IA 50319

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scott.lener

Business assistance meeting today - information request - proposed South Central Regional Airport

Inbox x

Schiel-Larson, Deb [DNR] <Deb.Schiel-Larson@dnr.iowa.gov>
to me, Sharon, Joe

Mr. Searle;

I work with NPDES storm water permits. Here is a follow-up from the meeting with you today:

Proposed airport site:

- Required - General Permit 2, for storm water discharge associated with construction activities. This is required on sites with an acre or 50% of the total site (581 acres). A storm water pollution prevention plan (SWPPP) is required as part of the application.

- Required – General Permit 1, for storm water discharge associated with industrial activity. This is a result of the proposed fueling activ

Two existing airports to be demolished:

- We will need to verify if General Permit 2 will be required for demolition activities, on the two separate sites.

ess assistance meeting today - information request - p South Central Regional Airport

Inbox x

Schiel-Larson, Deb [DNR] <Deb.Schiel-Larson@dnr.iowa.gov>
to me, Sharon, Joe

Mr. Searle;

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Two existing airports to be demolished:

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<

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District 5 Office
307 W Briggs, PO Box 587 I Fairfield, Iowa 52556-0587
Phone: 641.777.8768 I Email: jason.huddle@dot.iowa.gov

April 17, 2015

Mr. Jerald Searle, Project Manager
South Central Regional Airport Agency
825 Broadway
Pella, IA 50219

Dear Mr. Jerald Searle:

This letter is in response to a letter received from the South Central Regional Airport Agency (SCRAA) dated March 18th, 2015. As you are probably aware, the Iowa Department of Transportation (DOT) is currently working on an Environmental Document regarding the potential U.S. 63 bypass improvements northwest of Oskaloosa.

The DOT and local governmental agencies have met with the SCRAA in the past, but this letter is to formally inform the SCRAA that our environmental study area's overlap. That said and at this time, the DOT is not aware of any concerns regarding the preferred proposed Site A location that was selected by SCRAA. A previous meeting between the two agencies determined that the DOT's proposed interchange at Iowa 163 would not interfere with the proposed location of the airport. The DOT's proposed schedule intends to have a completed Environmental Document approved by the Federal Highway Administration by Spring 2017 (Worst Case) with a preferred alignment selected and presented to the local community in January 2017. Once the environmental study has been completed and a preferred alignment has been selected, the proposed improvements for the U.S. 63 bypass would be able to move forward with the final design and could be considered for funding by the Iowa DOT Commission.

The DOT would like to also inform SCRAA to please work and coordinate with Brenda Sanders regarding any permits needed in the future regarding the proposed airport. If you have questions about the permits; please contact Brenda by phone at (641) 683-3331 or by email at Brenda.Sanders@dot.iowa.gov or visit http://www.iowadot.gov/district5/permits.htm for more information.

Please feel free to contact me if you have any additional questions or comments regarding the DOT's Environmental Document regarding the potential U.S. 63 bypass improvements northwest of Oskaloosa.

Sincerely,

J a Huddle

Jason Huddle
District 5 Transportation Planner

cc: James Armstrong, Iowa DOT District 5 Engineer
Mark Van Dyke, Iowa DOT District 5 Assistant Engineer
Wes Mayberry, Iowa DOT Office of Location and Environment
Brenda Sanders, Iowa DOT Ottumwa District Field Office

Fields of Opportunities

STATE OF IOWA

TERRY E. BRANSTAD, GOVERNOR
KIM REYNOLDS, LT. GOVERNOR

DEPARTMENT OF NATURAL RESOURCES
CHUCK GIPP, DIRECTOR

April 14, 2015

MR JERALD SEARLE
SOUTH CENTRAL REGIONAL AIRPORT AGENCY
825 BROADWAY
PELLA IA 50219

RE: South Central Regional Airport Agency, Mahaska County

Dear Mr. Searle:

This letter is in response to the letter dated March 18, 2015 concerning the preparation of an Environmental Assessment for the South Central Regional Airport Agency project in S4, T75N, R16W and S29, 32 & 33, T76N, R16W, Mahaska County. Thank you for inviting our comments on the impact of this project.

As you know, waters of the United States (includes wetlands) should not be disturbed if a less environmentally damaging alternative exists. Unavoidable adverse impacts should be minimized to the extent practicable. Any remaining adverse impacts should be compensated for through restoration and creation activities (enhancement and/or preservation may be in addition to the restoration/creation). We would ask that Best Management Practices be used to control erosion and protect water quality near the project.

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If you have any questions, please call me at (515) 725-8399.

Sincerely,

Christine M Schwake

Christine Schwake
Environmental Specialist

502 EAST 9th STREET / DES MOINES, IOWA 50319-0034
PHONE 515-725-8200 FAX 515-725-8202 www.iowadnr.gov

MAHASKA RURAL WATER SYSTEMS, INC.
P.O. Box 210 • 401 B Ave. West
Oskaloosa, IA 52577
641-673-8851 • FAX# 641-673-8568

Quality On Tap!

Jerald Searle, Project Manager
South Central Regional Airport Agency
825 Broadway
Pella, IA 50219

SCRAA:

Mahaska Rural Water System, Inc. has a 500,000 gallon Elevated Water Tower that is located directly south of the proposed airport. The tower is approx. 190' tall.

I-Wireless does have lease rights for cell phone antennas located on the catwalk.

MRWS will be able to provide adequate water for fire protection and water needs for the airport.

MRWS does have an 8" water main along 220th St. in private easement on the north side of road and according to the map would be under the runway.

Any question can call our office at 641-673-8851.

Sincerely,

Randy Pleima

Randy Pleima

General Manger

Jerald Searle <jeraldsearle@gmail.com>

150362076 South Central Regional Airport Agency Env Assessment Early Coordination for a New Airport in Mahaska County

Doershuk, John F <john-doershuk@uiowa.edu> Mon, Apr 13, 2015 at 5:39 PM
To: "scott.tener@faa.gov" <scott.tener@faa.gov>, "jeraldsearle@gmail.com" <jeraldsearle@gmail.com>
Cc: "Jones, Doug [DCA]" <Doug.Jones@iowa.gov>, "Thompson, Jerome [DCA]" <Jerome.Thompson@iowa.gov>, "Higginbottom, Daniel [DCA]" <Daniel.Higginbottom@iowa.gov>, "restlesswind777@hotmail.com" <restlesswind777@hotmail.com>

Scott:

Please be aware that my office has received communication from a local landowner whose property may be affected by the proposed airport project informing us that an archaeological site has been recorded on their property (site 13MK341). This site has never been evaluated as to it significance so should be treated as a possible historic property under Section 106 of the National Historic Preservation Act until demonstrated otherwise.

I would appreciate receiving a map depicting the APE for the SCRAA project and I will be happy to compare it to our records and let you know if this site is within the area so appropriate avoidance or evaluation steps can be coordinated.

Sincerely,

John F. Doershuk, Ph.D.

State Archaeologist and Director

Office of the State Archaeologist (OSA)

The University of Iowa

319-384-0751

archaeology.uiowa.edu

OSA: a UI research center since 1959

From: Jones, Doug [DCA]
Sent: Monday, April 06, 2015 11:01 AM

Jerald Searle <jeraldsearle@gmail.com>

Consultation Authorization for JS Consulting: R&C Project #150362076, South Central Regional Airport Agency, Env Assessment for a New Airport in Mahaska County

scott.tener@faa.gov <scott.tener@faa.gov> Mon, Apr 6, 2015 at 11:24 AM
To: Doug.Jones@iowa.gov, jeraldsearle@gmail.com
Cc: Ralph.Christian@iowa.gov, Steven.King@iowa.gov, SHPO106@iowa.gov, Kathy.Gourley@iowa.gov

Mr. Jones,

This e-mail message serves as the official notification that FAA authorizes Jerald Searle of JS Consulting (and their designees) to consult with the Iowa SHPO on behalf of the FAA on the subject project in accordance with 36 CFR Part 800.2(c)(5). You will not receive a letter of this notification, just this e-mail.

Note that all formal determinations will come from the FAA. Please contact me if you have questions.

Scott Tener, P.E.
Environmental Specialist

FAA Central Region Airports Division
901 Locust St., Room 364
Kansas City, Missouri 64106-2325
T 816.329.2639 | F 816.329.2611
http://www.faa.gov/airports/central/

From: Jones, Doug [DCA] [mailto:Doug.Jones@iowa.gov]
Sent: Monday, April 06, 2015 11:01 AM
To: jeraldsearle@gmail.com; Tener, Scott (FAA)
Cc: Jones, Doug [DCA]; Christian, Ralph [DCA]; King, Steve [DCA]; SHPO106 [DCA]; Gourley, Kathy [DCA]
Subject: 150362076 South Central Regional Airport Agency Env Assessment Early Coordination for a New Airport in Mahaska County

April 6, 2015

Dear Mr. Searle,

We have received your recent correspondence that you submitted to our office regarding the above referenced undertaking. We understand that this project will be a federal undertaking for your agency the Federal Aviation Administration (FAA) and will need to comply with Section 106 of the National Historic Preservation Act and the National Environmental Policy Act.

We will need the following types of information provided to our office to initiate the Section 106 review for this undertaking:

- The Area of Potential Effect (APE) for this project needs to be adequately defined (36 CFR Part 800.16 (d)) This includes both direct and indirect (such as visual or noise) effects.
- Information on what types of cultural resources are or may be located in the APE (36 CFR Part 800.4). Particularly, we need additional information on what types of background information have been examined to identify what types of historic properties are in the Area of Potential Effect that might be affected by the proposed undertaking. No information was provided on whether any previously recorded historic sites are located within the Area of Potential Effect that may be affected by the proposed undertaking.
- The significance of the historic properties in the APE in consideration of the National Register of Historic Places Criteria.
- A determination from the responsible federal agency of the undertaking's effects on historical properties within the APE (36 CFR Part 800.5).

The State Historic Preservation Office (SHPO) contains many sources of information concerning cultural resources within the state of Iowa. Included among these sources of information are

- Files with information on over 132,000 standing structures, objects, buildings, and historic districts in the Iowa Site Inventory which includes the National Register of Historic Places listings for Iowa;
- Historical and architectural surveys and thematic reports;
- Over 12,000 archaeological survey records and reports;
- Maps showing previously conducted archaeological survey locations;
- Copies of the Iowa Archaeological Site records from the Office of the State Archaeologist (OSA).

Information on cultural resources can also be found at local libraries, county engineer's office, universities and colleges, county historical societies and museums. The Office of the State Archaeologist (OSA) at the University of Iowa maintains the official Iowa Archaeological site

records, and we encourage applicants, agencies, organizations and hired consultants to check with the Site Records Clerk at the OSA ((319) 384-0735) for update information on previously recorded archaeological sites. A lot of the background research on cultural resources can be initiated through on-line searches such as I-Sites http://www.uiowa.edu/~osa/focus/information/isf.htm to conduct archaeological and architectural site background checks.

The State Historic Preservation Office does not have staffing to conduct extensive background research for Section 106 projects or other historic preservation projects. We encourage agencies, applicants, organizations, or hired consultants to come to our office to conduct the background research on projects. SHPO staff members are available to assist people in learning about and utilizing our resources. There is no charge for using our records unless copies are requested.

We recommend to the responsible federal agency that the best way to determine whether this proposed project will affect any significant historic properties at the proposed airport property is to conduct an architectural and archaeological surveys of the proposed project area. The survey should be conducted prior to any new land disturbance or construction activities. The purpose of the survey is to locate and evaluate any presently unidentified archaeological or historical sites which may be affected by the proposed undertaking. We recommend that the responsible federal agency should consider whether architectural and archaeological surveys need be conducted for this proposed project.

If your firm will be the primary contact for this project, the responsible federal agency, the Federal Aviation Administration, needs to notify us that they have authorized you to consult with our office on this project in accordance with 36 CFR Part 800.2(c)(5). Also, the responsible federal agency will need to identify and contact all potential consulting parties that may have an interest in historic properties within the project APE (36 CFR 36 Part 800.2 (c)).

Please reference the Review and Compliance Number provided above in all future submitted correspondence to our office for this project. We look forward to further consulting with you and the Federal Aviation Administration on this project.

We have made these **comments** and **recommendations** according to our responsibility defined by Federal law pertaining to the Section 106 process. The responsible federal agency does not have to follow our **comments** and **recommendations** to comply with the Section 106 process. It remains the responsible federal agency's decision on whether or not to provide additional information to our office or whether or not to proceed with the project without the concurrence of this office. It also remains the responsible federal agency's decision on how you will proceed from this point for this project.

We will be able to provide recommendations on this undertaking when this information has been addressed and provided to our office. Please reference the Review and Compliance Number provided above in all future submitted correspondence to our office for this project. We look forward to further consulting with you on this project.

We have provided this **technical assistance** according to our responsibility defined by Federal law. It remains the federal **agency's decision** on how you will proceed from this point for this project. If you have further questions, please contact me.

Douglas W. Jones

Review & Compliance Program Manager and Archaeologist, State Historic Preservation Office

doug.jones@iowa.gov | 515.281.4358 | iowahistory.org

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Iowa Department of Cultural Affairs

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Jerald Searle <jeraldsearle@gmail.com>

Early Coordination: South Central Regional Airport - Mahaska County, IA

Summerlin, Joe <summerlin.joe@epa.gov> Thu, Apr 2, 2015 at 9:27 AM
To: "jeraldsearle@gmail.com" <jeraldsearle@gmail.com>
Cc: "Beringer, Mike" <Beringer.Michael@epa.gov>, "Tapia, Cecilia" <Tapia.Cecilia@epa.gov>

Dear Mr. Searle:

Thank you for answering my questions on the South Central Regional Airport in Mahaska County, IA.

For the record, here are the things we discussed via phone:

- One airport footprint vs. two
- Noise reductions in Pella, IA and Oskaloosa, IA
- One wildlife attractant rather than two
- LUST at the two airports will be taken care of and an ABOVE ground storage tank will be placed at the new airport
- 404 permits
- Meet with Iowa DNR to determine other regulatory requirements
- Economic benefits for both Pella and Oskaloosa.
- Reduction in maintenance, painting, electricity/energy requirements for one facility instead of two
- Possible replanting of trees conducive for Indiana Bat habitat on old properties

Sincerely,

Joe Summerlin

NEPA Reviewer

EPA, Region 7

11201 Renner Blvd.

Lenexa, KS 66219

(913) 551-7029

Jerald Searle <jeraldsearle@gmail.com>

Response to SCRAA Environmental Assessment

Schmuecker, Sara <sara_schmuecker@fws.gov> Wed, Mar 25, 2015 at 10:19 AM
To: jeraldsearle@gmail.com

Mr. Searle,

Our response is attached. Please feel free to contact me with any questions.

Regards,

Sara Schmuecker
Biologist
Rock Island Field Office
U.S. Fish and Wildlife Service
1511-47th Avenue
Moline, IL 61265
309-757-5800 x203

2015 03-25 SCRAA_Mahaska County.pdf
122K

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Rock Island Field Office
1511 47th Avenue
Moline, Illinois 61265
Phone: (309) 757-5800 Fax: (309) 757-5807

IN REPLY REFER TO

Jim Hansen, Chair
South Central Regional Airport Agency
825 Broadway Street
Pella, Iowa 50219

Electronic Mail
March 25, 2015

Mr. Hansen:

Thank you for the opportunity to review the proposed development of a new airport extending over parts of Section 4 T-75 N, R-16 W, Section 29, 32 and 33 T-76 N, R-16 W within Mahaska County, Iowa. We are providing information concerning threatened and endangered species. Because the endangered Indiana Bat and proposed endangered Northern Long-Eared Bat are known to occur in Mahaska County, Iowa, we recommend a habitat assessment be conducted for the areas proposed for tree clearing.

Section 7 of the Endangered Species Act of 1973 requires that actions authorized, funded, or carried out by Federal agencies not jeopardize federally threatened or endangered species or adversely modify designated critical habitat. To fulfill this mandate, Federal agencies (or their designated non-federal representative) must consult with the Service if they determine their project "may affect" listed species or critical habitat.

In order for you to evaluate the potential effects of your project on federally listed species, you can download a list of species listed for Mahaska County from the Service's Region 3 Technical Assistance website at http://www.fws.gov/midwest/endangered/section7/spprangeS/index.html. Habitat descriptions for these species can also be found on our website. You may use these descriptions to help you determine if there is suitable habitat within your project area. If no suitable habitat exists within your project area or its area of impact, and no species or critical habitat is present, it is appropriate to determine the project will have "no effect" on listed species. If you determine the action will have "no effect" on listed species or critical habitat, concurrence with that determination from the Service is not required. Concurrence for **no effect** determinations will not be provided by the Rock Island Ecological Services Field Office for projects in Iowa or Illinois due to reductions in staff. We recommend you maintain a written record of why a "no effect" finding is warranted and include it in your administrative record. An example "no effect" memo can be found on our website at http://www.fws.gov/midwest/endangered/section7/s7process/letters.html.

If suitable habitat is found in the area of your project, the appropriate determination is that the project "may affect" listed species. In some instances surveys may be recommended to help make this determination. Additional information on how to make accurate effect determinations and how to document your determination can be found on our website athttp://www.fws.gov/midwest/endangered/section7/s7process/step1.html.

Additionally, the Service removed bald eagles from protection under the ESA on August 8, 2007. However, they remain protected today under the MBTA and the Eagle Act. The Eagle Act prohibits take which is defined as, "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest, or disturb" (50 CFR 22.3). Disturb is defined in regulations as, "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

The Corps of Engineers is the Federal agency responsible for wetland regulation, and we recommend that you contact them for assistance in delineating the wetland types and acreage within the project boundary. Priority consideration should be given to avoid impacts to these wetland areas. Any future activities in the study area that would alter these wetlands may require a Section 404 permit. Unavoidable impacts will require a mitigation plan to compensate for any losses of wetland functions and values. The U.S. Army Corps of Engineers, Clock Tower Building, P.O. Box 2004, Rock Island, Illinois 61201, should be contacted for information about the permit process.

These comments provide technical assistance only and do not constitute the report of the Secretary of the Interior on the project within the meaning of Section 2(b) of the Fish and Wildlife Coordination Act, do not fulfill the requirements under Section 7 of the Endangered Species Act, nor do they represent the review comments of the U.S. Department of the Interior on any forthcoming environmental statement.

If you have any questions regarding these comments, please contact me at this email address or the number below.

Sara Schmuecker
Fish & Wildlife Biologist
Ecological Services
U.S. Fish & Wildlife Service
1511 47th Avenue
Moline, IL 61265
(309) 757-5800, ext. 203
(309) 757-5807 Fax
sara_schmuecker@fws.gov

	Western prairie fringed orchid	*Platanthera praeclara*	Threatened	Wet prairies and sedge meadows
Lyon	Northern long-eared bat	*Myotis septentrionalis*	Proposed as Endangered	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests during late spring and summer.
	Topeka shiner Map of Topeka Shiner range in Iowa (PDF)	*Notropis topeka*	Endangered and Critical Habitat	Prairie streams and rivers
	Prairie bush clover	*Lespedeza leptostachya*	Threatened	Dry to mesic prairies with gravelly soil
	Western prairie fringed orchid	*Platanthera praeclara*	Threatened	Wet prairies and sedge meadows
Madison	Indiana bat Map of Indiana Bat range in Iowa (PDF)	*Myotis sodalis*	Endangered	Caves, mines (hibernacula);small stream corridors with well developed riparian woods; upland forests (foraging)
	Northern long-eared bat	*Myotis septentrionalis*	Proposed as Endangered	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests during late spring and summer.
	Prairie bush clover	*Lespedeza leptostachya*	Threatened	Dry to mesic prairies with gravelly soil
	Western prairie fringed orchid	*Platanthera praeclara*	Threatened	Wet prairies and sedge meadows
Mahaska	Indiana bat Map of Indiana Bat range in Iowa (PDF)	*Myotis sodalis*	Endangered	Caves, mines (hibernacula);small stream corridors with well developed riparian woods; upland forests (foraging)
	Northern long-eared bat	*Myotis septentrionalis*	Proposed as Endangered	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests during late spring and summer.
	Prairie bush clover	*Lespedeza leptostachya*	Threatened	Dry to mesic prairies with gravelly soil
	Western prairie fringed orchid	*Platanthera praeclara*	Threatened	Wet prairies and sedge meadows
Marion	Indiana bat Map of Indiana Bat range in Iowa (PDF)	*Myotis sodalis*	Endangered	Caves, mines (hibernacula);small stream corridors with well developed riparian woods; upland forests (foraging)
	Northern long-eared bat	*Myotis septentrionalis*	Proposed as Endangered	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests during late spring and summer.
	Prairie bush clover	*Lespedeza leptostachya*	Threatened	Dry to mesic prairies with gravelly soil
	Western prairie fringed orchid	*Platanthera praeclara*	Threatened	Wet prairies and sedge meadows
Marshall	Indiana bat Map of Indiana Bat range in Iowa (PDF)	*Myotis sodalis*	Endangered	Caves, mines (hibernacula);small stream corridors with well developed riparian woods; upland forests (foraging)
	Northern long-eared bat	*Myotis septentrionalis*	Proposed as Endangered	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests during late spring and summer.
	Prairie bush clover	*Lespedeza leptostachya*	Threatened	Dry to mesic prairies with gravelly soil
	Western prairie fringed orchid	*Platanthera praeclara*	Threatened	Wet prairies and sedge meadows
Mills	Northern long-eared bat	*Myotis septentrionalis*	Proposed as Endangered	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests during late spring and summer.
	Pallid sturgeon	*Scaphirhynchus albus*	Endangered	Large rivers
	Eastern massasauga	*Sistrurus catenatus*	Candidate	
	Prairie bush clover	*Lespedeza leptostachya*	Threatened	Dry to mesic prairies with gravelly soil
	Western prairie fringed orchid	*Platanthera praeclara*	Threatened	Wet prairies and sedge meadows

Jerald Searle <jeraldsearle@gmail.com>

Early Coordination Request - South Central Regional Airport

Lotz, Gail <gail_lotz@ios.doi.gov> Mon, Mar 23, 2015 at 3:23 PM
To: jeraldsearle@gmail.com

Mr. Searle,

We received the request for early coordination for the EA for this regional airport. Can you send electronic copies of the vicinity map and the proposed airport layout so I may forward them to the appropriate people? Thank you.

--
Gail L. Lotz
Regional Environmental Protection Assistant
Office of Environmental Policy and Compliance
(303) 445-2500

Jerald Searle <jeraldsearle@gmail.com>

Proposed South Central Regional Airport-Mahaska County, Iowa

Jerald Searle <jeraldsearle@gmail.com> Mon, Mar 23, 2015 at 8:52 PM
To: gail_lotz@ios.doi.gov

Gail L. Lotz
Regional Environmental Protection Assistant
Office of Environmental Policy and Compliance

As per your request, please find attached an electronic copy of the Vicinity Map for the Proposed South Central Regional Airport, Mahaska County Iowa. The proposed airport layout will be sent in a separate email.

Jerry Searle
Project Manager

vicinity_map_exh1.pdf
637K

Shoemaker, Joey R MVR

From: Shoemaker, Joey R MVR
Sent: Monday, October 26, 2015 2:24 PM
To: 'Nichoel Church'
Subject: RE: South Central Airport in Mahaska County, Iowa (UNCLASSIFIED)
Attachments: Airport.pdf

Classification: UNCLASSIFIED
Caveats: NONE

Nichoel,

I reviewed the delineation associated with this Airport proposal. We cannot approve the delineation at this time due to the need for additional data. I understand some of the areas were not accessible. Onsite delineation of these areas is required for permitting purposes. This information is also needed to complete an approved jurisdictional determination.

Please see the attached map of areas that need additional data collection.

Please check vegetation data for points 1 and 2. Your data shows hydrophytic vegetation meeting wetland definition.

Please let me know if you have questions. Thank you.

Joey Shoemaker
Project Manager - Iowa Section
Corps of Engineers, Regulatory Branch
309-794-5559

-----Original Message-----
From: Shoemaker, Joey R MVR
Sent: Wednesday, September 30, 2015 11:16 AM
To: 'Nichoel Church'
Subject: RE: South Central Airport in Mahaska County, Iowa (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Nichoel,

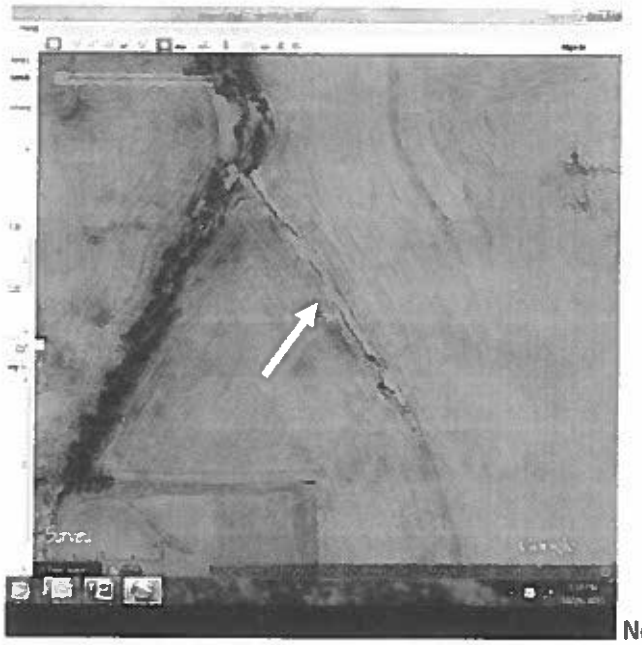
I provided comment to our Project Management Branch on this project this spring. The delineation was assigned to another PM in our office but I will be the contact, as I worked on it previously. Since we don't have a lot of information to work with, here are some general comments for the EA:

If the proposal involves discharge of dredged or fill material into waters of the United States, it may be subject to Corps of Engineers' jurisdiction under Section 404 of the Clean Water Act (CWA Section 404). Waters of the United States include navigable waters, their tributaries, and adjacent wetlands/waters (33 CFR § 328). CWA Section 301(a) prohibits discharges of dredged or fill material into waters of the United States, unless the work has been authorized by a Department of the Army permit under Section 404.

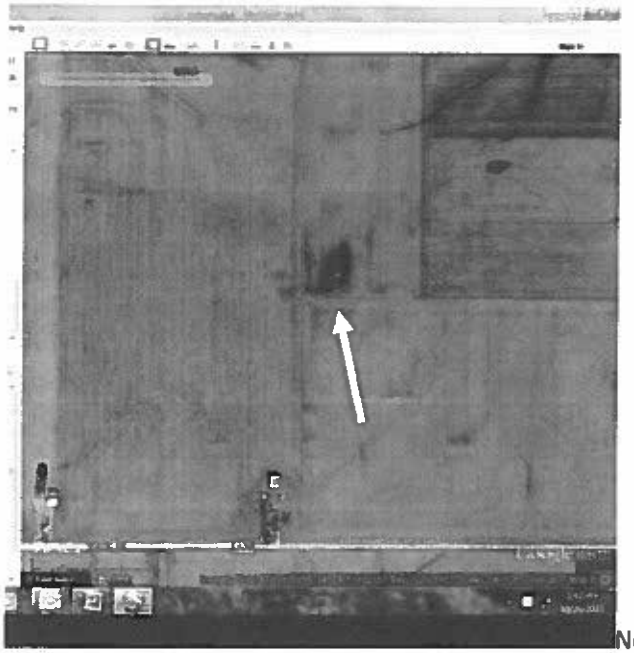
The Corps' evaluation of a Section 404 permit application involves multiple analyses, including (1) evaluating the proposal's impacts in accordance with the National Environmental

No Data. No Access. Wet Signatures

No Data, No Access. Wet Signatures



No Data. Potential stream channel and wetlands.



No Data. Wet signatures.

Data needed.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

District Office: Rock Island District | File/ORM #: CEMVR-OD-PP-2015-390 | PJD Date: Dec 21, 2015

State: IO | City/County: Oskaloosa/Mahaska

Nearest Waterbody: Unnamed Wateways/Wetlands

Location: TRS, LatLong or UTM: Section 29, 32-33, T. 76N. R. 16W. Section 4, T. 75N. R. 16W.

Name/ Address of Person Requesting PJD: South Central Regional Airport Agency, 213 South 1st Street, Oskaloosa, Iowa 52577

Identify (Estimate) Amount of Waters in the Review Area:

Non-Wetland Waters: 7,000 linear ft | 5 width | 0.64 acres | Stream Flow: Per. (seasonal)

Wetlands: 3.36 acre(s) | Cowardin Class: Palustrine, emergent

Name of Any Water Bodies on the Site Identified as Section 10 Waters: Tidal: | Non-Tidal:

☑ Office (Desk) Determination
☐ Field Determination: | Date of Field Trip:

SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- ☑ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
- ☑ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☐ Office concurs with data sheets/delineation report.
  - ☑ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps
- ☐ Corps navigable waters' study:
- ☐ U.S. Geological Survey Hydrologic Atlas:
  - ☐ USGS NHD data.
  - ☐ USGS 8 and 12 digit HUC maps.
- ☐ U.S. Geological Survey map(s). Cite quad name:
- ☐ USDA Natural Resources Conservation Service Soil Survey. Citation:
- ☐ National wetlands inventory map(s). Cite name:
- ☐ State/Local wetland inventory map(s):
- ☐ FEMA/FIRM maps:
- ☐ 100-year Floodplain Elevation is:
- ☐ Photographs: ☐ Aerial (Name & Date): ☐ Other (Name & Date):
- ☐ Previous determination(s). File no. and date of response letter:
- ☐ Other information (please specify):

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

12/21/2015

Signature and Date of Regulatory Project Manager (REQUIRED)

Signature and Date of Person Requesting Preliminary JD (REQUIRED, unless obtaining the signature is impracticable)

EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS:

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "preconstruction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

Appendix A - Sites

District Office: Rock Island District | File/ORM #: 2015-390 | PJD Date: Dec 21, 2015

State: IA | City/County: Oskaloosa/Mahaska | Person Requesting PJD: South Central Regional Airport Agency

Site Number	Latitude	Longitude	Cowardin Class	Est. Amount of Aquatic Resource in Review Area	Class of Aquatic Resource
W1	41.350957	-92.725138	Palustrine, emergent	0.25	
StreamA	41.351001	-92.724057	Riverine	2,700 LF	
StreamB	41.351234	-92.724057	Riverine	3,400 LF	
StreamC	41.326459	-92.703664	Riverine	900 LF	
PW1	41.327348	-92.703556	Palustrine, emergent	3.11	

Notes:

This is a preliminary determination based on information submitted in the Delineation Report completed by Snyder & Associates, dated July 1, 2015. This delineation is not complete, as the Corps requested additional information on October 26, 2015. The number and location of Aquatic Resources identified above are subject to change upon completion of the final delineation. This determination will be revisited upon approval of the final wetland delineation. For reference, please see attached information that was requested by the Corps.

Gmail by Google

Jerald Searle <jeraldsearle@gmail.com>

South Central Regional Airport

Summerlin, Joe <summerlin.joe@epa.gov> Mon, Feb 29, 2016 at 1:00 PM
To: "jeraldsearle@gmail.com" <jeraldsearle@gmail.com>

Jerald,

I am sending you a courtesy copy of the letter we sent to Anja Maslan of DGR Engineering. The comment letter is lengthy and addresses some concerns or questions we had on the document/project. EPA has no large concerns about the NEPA process and understands the Purpose and Need for this airport, however there are some questions we felt the document may have addressed better. There were portions of the document that had EXCELLENT analysis and answered questions better than most documents we review. So, that was great to see and I commented on those. The other questions EPA has should be easy to answer before the EA/FONSI goes final. If you feel that the document did answer these questions and maybe I arrived at my conclusions in error, please point those out so the public, who is the ultimate reviewer, can understand how I may have arrived at the wrong conclusion.

If you need clarification or have any general questions about any of these comments, please contact me via email at Summerlin.joe@epa.gov or by phone at (913) 551-7029.

Have a wonderful day!

Joe Summerlin

NEPA Reviewer

EPA, Region 7

South Central Regional Airport Cover Letter.pdf
111K

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 7
11201 Renner Boulevard
Lenexa, Kansas 66219

2 9 FEB 2016

Ms. Anja Maslan
DGR Engineering
1605 North Ankeny Boulevard, Suite 100
Ankeny, Iowa 50021

Dear Ms. Maslan:

Thank you for contacting the U.S. Environmental Protection Agency for the Preliminary Draft Environmental Assessment for the proposed South Central Regional Airport. EPA has evaluated this action and have some administrative comments which are included in the enclosure.

During our evaluation we consulted EPA's 404 Program to help consolidate comments that will help ensure compliance with Section 404 of the Clean Water Act. When reading the comments in the attachment please note the two sections. One section is purely NEPA Compliance and the other is 404 Compliance.

Also, our personal emails have been consolidated into a NEPA Program mailbox. This will allow any of our reviewers and managers to access your documents. We would appreciate it if you would ensure that your organizational records and data bases reflect this change of address. Again, thank you for contacting EPA. If you have any questions, please contact Joe Summerlin at 913-551-7029 or at R7_NEPA@epa.gov. If you have any 404 questions, please contact Jeannette Schafer at 913-551-7297 or schafer.jeannette@epa.gov.

Sincerely,

Joshua Tapp
Deputy Director
Environmental Sciences and Technology Division

Printed on Recycled Paper

South Central Regional Airport – Environmental Assessment Questions and Comments
NEPA Comments

From the document, this is what EPA has gathered as a Purpose and Need:

1. Purpose: to accommodate large aircraft.

2. Need:

    a. Longer runway

    b. RPZ's (Runway protection zones) for instrument approaches

    c. Airport land use compatibility

Comments:

Sections 1 & 2:

According to the document, Oskaloosa Municipal Airport is constrained by its location. The document doesn't explain how OMA is constrained as a GIS reconnaissance appears to show the airport is free from terrain constraints. Please explain how the OMA is constrained.

Also, the document states that "the airport cannot sustain the delivery of aeronautical services because facilities, such as a fixed based operator needed to attract and retain larger aircraft, are not available, and efforts to attract an FBO have not been successful." Why?

Would another purpose for the airport to be located centrally be to induce industrial, commercial and residential development that would enhance the partnership between the cities of Pella and Oskaloosa? Recommend including the plans for development and expansion of the two cities. It is an inferred purpose and would support the need for a centrally located airport.

Section 3 Alternatives:

3.2 No Action Alternative, P3-2: "The existing Oskaloosa Municipal Airport does not meet the Purpose and Need as set forth in Section 1.2. How? It can be inferred that Pella would not support development and investment of an airport on the opposite side of Oskaloosa from Pella, but the document doesn't state that as a reason.

3.2.2, p.3-3: Excellent section here! The document explains why roads and rail won't do. Good job!

3.3 Reasonable Alternative One: Site B, p.3-4: Good job using more than just the National Wetlands Inventory maps!

p.3-5: EPA cannot find the reference data for this statement: "Based on review of the aerial photography, critical habitat associated with endangered, threatened or special concern species is minimal (See Technical Memorandum Airport Site Selection, Biotic Communities, Page 37)."

3.4 Reasonable Alternative Two: Site A, p3-14: Were there other identification methods used to determine wetlands inventories besides NWI?

.5 Pella Municipal Airport: Release and Closure: Thank you for including the closure of the airports in this document. The idea of keeping this area for residential, parks or farming is a good idea; since it is located near the lake it would have negatively affected water quality had it been zoned for industrial or commercial.

3.6 Oskaloosa Municipal Airport: Release and Closure: Thank you again for including this section in the document.

Section 4: Affected Environment

4.4 Past, Present, and Reasonably Foreseeable Actions: The inclusion of this section shows past efforts and sound decision making. Good job!

4.5 Pella Municipal Airport Environs, p.4-3: With the new planned development in the area of Pella Municipal Airport, will there be a reliable drinking water source?

p.4-3 Bullet comments on opportunities: This is good analysis. It explains what will be affected and how. Great job here!

4.9 Socioeconomic Setting – Combined Oskaloosa and Pella Airport Service Area, p. 4-11: What is the most likely scenario that owners of aircraft currently based at OMA would choose to move to South Central Regional Airport over the other airports?

Figure 4-2: This is a great map that shows airport congestion in the area. The new airport would provide better air separation for instrument approaches while centralizing the ground commute between the two cities.

4.9.3 Commuting Patterns, p.4-17 through the rest of Section 4: Understandably, this section speaks about commuter patterns, retail sales, and employment. A small sentence or two about planned airport traffic would help explain the importance of such a large investment. For example, there are concerns that spending money on such an airport would be a waste of taxpayer dollars because those concerned feel that there would not be enough passenger traffic flying in and out of the airport to warrant such an investment. Maybe an explanation of the mix of recreation, freight, passenger and military traffic would help garner support.

Section 5: Environmental Consequences and Mitigation

5.4.3.2 Pella Municipal Airport: Release and Closure, p.5-3: The discussion on population increase is confusing and unclear as it pertains to the Air Quality Analysis. The document states that the airport will not contribute to an increase in pollutants as a result of a potential increase in population. It is true that a

closed airport will not contribute to increased greenhouse gas emissions or pollutants, but development could (even if it is only residential).

5.4.3.4 Reasonable Alternative One – Site B and 5.4.3.5 Reasonable Alternative Two – Site A Build Alternative 3 (Proposed Action), p.5-4: How did the lead agency arrive at the conclusion that emissions resulting from aircraft operations will have a less than significant impact on air quality?

5.5.3.5 Reasonable Alternative Two – Site A Build Alternative 3 (Proposed Action), p.5-8: Although tree harvesting will not occur during hibernation season from October 1 through March 31 for the Indiana Bat, permanent potential habitat will be removed. How does the lead agency propose compensating for habitat loss? Recommend working with state and Fish and Wildlife Service to create permanent habitat and to consider the lag time it will take for these tree plantings to grow.

5.13 Noise and Noise Compatible Land Use, p5-27: Although a dB level chart for aircraft is unnecessary, it might be helpful to show actual aircraft noise levels. Are there any CAFO's or livestock farms along the departure/approach paths or within the 5NM protected zone? If so, how would those farmers be protected/compensated?

5.14.3.5 Reasonable Alternative Two – Site Build Alternative 3 (Proposed Action), p. 5-33: The statement, "The proposed actions will have no disproportionate effect on the environmental health and safety of children." There is no information to make this claim. How did the document arrive at this conclusion?

5.16.4 Mitigation, p.5-49: "A Final Jurisdiction Determination cannot be made until access to those parcels, where access was restricted, is obtained." Although the document does it's best to reason without the data for actual impacts to streams and wetlands, a FONSI to wetlands and streams might be too early to determine without that analysis.

Section 6: Cumulative Impact Analysis

6.2 Analysis, p.6-2: The first paragraph states, "Reinvestment of the total net proceeds is required if the sponsor will own a public airport to include a replacement public airport." For clarity, is this stating that Pella will invest in another airport, or that it is generically stating that they will invest proceeds into whatever airport they plan on supporting (like South Central Regional)?

CWA 404 Comments
Contact: Jeannette Schafer, (913) 551-7297

We agree with the Corps that a final estimate of linear feet of stream and wetland acreage cannot be determined at this time because they have not obtained access to both properties to conduct on-site jurisdictional determinations and wetland delineations. Mr. Shoemaker has indicated areas that require additional information, and that data points 1 and 2 need to be reassessed since they show the presence of hydrophytic vegetation. The Corps has requested additional data be provided to complete an approved jurisdictional determination. Therefore, the statements made in Section 5.16 Water Quality of estimated impacts and Potential Impact Summaries 5-5 and 5-6 based on incomplete information at this point. It appears from the information provided in the Wetland Delineation and Stream Assessment in combination with the comments by Mr. Shoemaker, that the potential impacts may be greater than what are described in this section. They will need to obtain site access for an accurate estimate of water

quality impacts in the two proposed alternative sites in order to be compliant with Section 404 of the CWA.

In addition, the statement on page 5-49 that "...mitigation would not be required." is also not accurate. Requirements for mitigation must be based on conversations with the Corps of Engineers project manager. For example if a 404 nation-wide permit was deemed applicable, the CWA 404 Nation-wide permit's general condition #23 Mitigation states that, "For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment."

At a minimum, there should be a description of efforts to avoid and minimize impacts to aquatic resources with each alternative being considered. Once an accurate measurement of streams and wetlands within the proposed airport footprint is established for each alternative, minus the efforts to avoid and minimize, a true measure of permanent impacts to wetlands and streams can be discussed in the EA. As explained in the Corps of Engineers letter from Mr. Barr, the 404 permit application will need to make a statement explaining how impacts associated with the proposed activity are to be avoided, a description of planned components that are intended to minimize impacts to wetlands and streams, and a complete wetland/stream mitigation plan for those impacts that cannot be avoided or minimized.

The Corps letter from Mr. Barr states, "Any proposed placement of dredged or fill material into waters of the United States (including jurisdictional wetlands) requires Department of Army authorization under Section 404 of the Clean Water Act." There is no acreage limitation to this requirement. We recommend when discussing potential mitigation for impacts to streams, wetlands and ponds, that it consider conversations with the Corps of Engineers project manager.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Rock Island Field Office
1511 47th Avenue
Moline, Illinois 61265
Phone: (309) 757-5800 Fax: (309) 757-5807

IN REPLY REFER TO:
FWS/RIFO

February 10, 2016

DGR Engineering
Attn: Anja Maslan
1605 N. Ankeny Blvd.
Suite 100
Ankeny, IA 50021

Dear Ms. Maslan:

This responds to the request for comments on the Draft EA (AIP Number 3-19-0136-001-2013) for the proposed construction of the South Central Regional Airport in Mahaska County, Iowa, received for review on January 22, 2016. Upon review of the information and maps provided in the Draft EA, we provide the following comments.

The South Central Regional Airport Agency initiated federal threatened and endangered species consultation for this project through a letter dated March 18, 2015. We provided technical assistance by electronic mail (e-mail) on March 25, 2015, recommending a habitat assessment be conducted in areas of proposed tree clearing for the endangered Indiana bat (*Myotis sodalis*) and threatened Northern long-eared bat (*Myotis septentrionalis*), which are known to occur in Mahaska County, Iowa.

A bat habitat survey dated June 19, 2015, was completed by Snyder and Associates and transmitted to us on September 10, 2015. Eighty-nine potential roost trees were identified in the survey. As discussed in a September 21, 2015, telephone conversation with Snyder and Associates, the Proposed Action (Reasonable Alternative Two – Site A Build Alternative 3) will result in approximately 1.5 acres of clearing, including 13 of the 89 potential roost trees identified. The presence of bat species was assumed and concurrence was requested by Snyder and Associates for a may affect, not likely to adversely affect determination for both bat species, with the recommendation that removal of any identified potential roost trees would be conducted outside of the maternity season, between October 1 through March 31. We provided comments on September 29, 2015, recommending consideration be given to additional potential impacts including the introduction of noise associated with the aviation facility with respect to bat displacement, presence of maternity colonies, future facility expansion, and the availability of bat habitat adjacent to the project area.

As a result of the limited amount of proposed tree clearing and the clearing locations not resulting in potential bat habitat fragmentation, we concur with the findings of the bat habitat survey, that the Reasonable Alternative, as presented in the Draft EA, may affect but is not likely to adversely affect the endangered Indiana bat or the threatened Northern long-eared bat, provided all tree clearing occurs outside of the maternity season. This precludes the need for further action on this project as required under Section 7 of the Endangered Species Act of 1973, as amended. Should the project be modified or future airport improvements resulting in tree clearing be planned, please contact us early in the planning process to discuss avoiding and minimizing potential impacts to listed species.

In reference to Section 5.5.4 of the Draft EA, we appreciate the consideration given regarding impacts to migratory birds. Furthermore, in order to avoid any unforeseen conflicts with protected wildlife, we recommend that any tree or vegetation clearing efforts should be scheduled outside of nesting season for species that may be present.

This letter provides comments under the authority of and in accordance with provisions of the Endangered Species Act of 1973, as amended. Thank you for the opportunity to provide comments. If you have any additional questions or concerns, please contact Sara Schmuecker of my staff at 309-757-5800 x 203.

Sincerely,

Kraig McPeek
Field Supervisor

S:\Office Users\Sara\Non-River Projects\IOWA\Mahaska County\2015_03-25_SCRAA_MahaskaCounty\2016 02-05 ConcurrenceLetter

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

'ART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request 10/14/15
Name Of Project South Central Regional Airport EA	Federal Agency Involved FAA
Proposed Land Use Pella/Oskaloosa Airport Runway and terminal	County And State Mahaska County, Iowa
'ART II *(To be completed by NRCS)*	Date Request Received By NRCS 10/14/15

Does the site contain prime, unique, statewide or local important farmland? *(If no, the FPPA does not apply -- do not complete additional parts of this form).*	Yes ☑	No ☐	Acres Irrigated 00	Average Farm Size 320

Major Crop(s) Corn	Farmable Land In Govt. Jurisdiction Acres: 324,173 % 89	Amount Of Farmland As Defined In FPPA Acres: 180,932 % 49
Name Of Land Evaluation System Used Mahaska County, Iowa	Name Of Local Site Assessment System N/A - FPPA	Date Land Evaluation Returned By NRCS 10/15/15

'ART III *(To be completed by Federal Agency)*	Alternative Site Rating Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	302.7	314.6		
B. Total Acres To Be Converted Indirectly	0.0	0.0		
C. Total Acres In Site	302.7	314.6	0.0	0.0
'ART IV *(To be completed by NRCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	222.8	178.1		
B. Total Acres Statewide And Local Important Farmland	78.9	128.7		
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted	0.0	0.0		
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value	37.3	44.0		
'ART V *(To be completed by NRCS)* Land Evaluation Criterion Relative Value Of Farmland To Be Converted *(Scale of 0 to 100 Points)*	80	74	0	0

'ART VI *(To be completed by Federal Agency)* ite Assessment Criteria *(These criteria are explained in 7 CFR 658.5(b)*	Maximum Points	Site A	Site B	Site C	Site D
1. Area In Nonurban Use	15	15	15		
2. Perimeter In Nonurban Use	10	10	10		
3. Percent Of Site Being Farmed	20	20	20		
4. Protection Provided By State And Local Government	20	0	0		
5. Distance From Urban Builtup Area	15	15	10		
6. Distance To Urban Support Services	15	10	10		
7. Size Of Present Farm Unit Compared To Average	10	10	10		
8. Creation Of Nonfarmable Farmland	10	0	0		
9. Availability Of Farm Support Services	5	5	5		
10. On-Farm Investments	20	10	10		
11. Effects Of Conversion On Farm Support Services	10	0	0		
12. Compatibility With Existing Agricultural Use	10	0	0		
TOTAL SITE ASSESSMENT POINTS	160	95	90	0	0
'ART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland *(From Part V)*	100	80	74	0	0
Total Site Assessment *(From Part VI above or a local site assessment)*	160	95	90	0	0
TOTAL POINTS *(Total of above 2 lines)*	260	175	164	0	0

ite Selected:	Date Of Selection	Was A Local Site Assessment Used? Yes ☐ No ☒

eason For Selection:

See Instructions on reverse side) Form AD-1006 (10-83)

his form was electronically produced by National Production Services Staff

APPENDIX C

Tribal Coordination

Jerald Searle <jeraldsearle@gmail.com>

Tribal Coordination - South Central Regional Airport, IA

scott.tener@faa.gov <scott.tener@faa.gov> Mon, May 11, 2015 at 3:01 PM
To: jeraldsearle@gmail.com

Jerry,

Attached is the tribal coordination for the proposed South Central Regional Airport. To date, we have not received any responses for consultation. Please include in the EA.

Please let me know if you have any questions,

Scott Tener, P.E.
Environmental Specialist

FAA Central Region Airports Division
901 Locust St., Room 364
Kansas City, Missouri 64106-2325
T 816.329.2639 | F 816.329.2611
http://www.faa.gov/airports/central/

4 attachments

SCRAA - Tribal Coordination Letter.doc
59K

SCRAA - Tribal Coordination List of Contacts.docx
16K

vicinity_map_exh1.pdf south central.pdf
637K

720501_alp_exh2.pdf South Central.pdf
656K

U.S. Department
of Transportation
**Federal Aviation
Administration**

Central Region
Iowa, Kansas,
Missouri, Nebraska

901 Locust
Kansas City, Missouri 64106
(816) 329-2600

April 7, 2015

CERTIFIED MAIL

<NAME> [See Attached List]
<ADDRESS>

Re: Environmental Assessment (EA) – Early Coordination
Proposed Development of a New Airport – South Central Regional Airport
Mahaska County, Iowa

Dear <NAME>:

An Environmental Assessment is being prepared for the proposed development of a new airport. The proposed airport development will extend over parts of Section 4 T-75 N, R-16 W, Sections 29, 32 and 33 T-76 N, R-16 W. To assist with the analysis, we are enclosing a location map showing the proposed development along with a vicinity map.

The new airport is needed to accommodate operations of large aircraft (Group C-II) on a regular basis. The design aircraft include the Learjet 45 XR and Gulfstream G-200. The Learjet 45 XR is owned by a company located in Pella, Iowa and currently operates under restrictions from the Pella Municipal Airport. The G-200 is owned by a company based in Oskaloosa, Iowa. The aircraft cannot operate from the Oskaloosa Municipal Airport or Pella Municipal Airport. A new airport is being proposed to replace the existing Pella Municipal Airport and existing Oskaloosa Municipal Airport. The two existing public owned airports will be closed at the time proposed new airport becomes operational.

The proposed development includes:

1. Acquire in fee title 581.46 acres of land
2. Disconnect County Road – 220th Street
3. Construct primary Runway 14/32, 100 feet in width and 6,700 feet in length
4. Equip the primary Runway 14/32 with high intensity threshold and edge lights, visual guidance slope indicator lights, wind indicator, and runway identifier lights
5. Construct a full parallel taxiway 35 feet in width to serve the primary runway. Install taxiway edge lights
6. Construct terminal apron to accommodate 18 airplanes
7. Construct vehicle access from Iowa Highway 163 via 220th Street to the terminal building and aircraft hangar facilities
8. Construct Terminal Building
9. Construct Fixed Based Operator (FBO) maintenance facility
10. Construct aircraft storage facilities for 52 aircraft

11. Install above ground fuel storage tanks and dispensing unit
12. Provide water, sanitary sewer, electrical and communication services
13. Install airport rotating beacon light and All Weather Observing Station (AWOS)
14. Remove trees and other obstructions
15. Rough grade crosswind Runway 10/28, 120 feet in width and 4,380 feet in length (paving and lighting of crosswind runway is anticipated 10+ years)
16. Develop new Instrument Approach Procedures

The FAA is the lead federal agency for the NEPA document. Jim Johnson, FAA Central Region Airports Division Manager, will be making the final FAA decision on the EA.

To help in our preparation of the EA, we would appreciate your input (via mail or e-mail) within thirty (30) days. If you have questions or require additional information, please contact me at 816-329-2639 or scott.tener@faa.gov.

Sincerely,

Scott Tener, P.E.
Environmental Specialist

Enclosures

Tribal Coordination – Environmental Assessment
South Central Regional Airport, Mahaska County, IA

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APPENDIX D

Aviation Forecast

APPENDIX D – FORECAST OF AVIATION ACTIVITY SUMMARY

The aviation forecast is contained within Chapter Two of the South Central Regional Airport Master Plan. The entire Airport Master Plan and aviation forecast can be found on the South Central Regional Airport Agency website:

http://www.scraaiowa.com

The FAA approved the aviation forecast and critical design aircraft on October 26, 2014.

Appendix D summarizes selected metrics regarding forecast activity at the proposed South Central Regional Airport.

Based Aircraft: Pella Municipal Airport/ Oskaloosa Municipal Airport

Table D-1 summarizes the number of aircraft that were based at the Pella Municipal Airport and the Oskaloosa Municipal Airport from 2004 to 2014. The combined number increased from 60, in 2004 to 70 in 2014.

Table D-1
Pella/Oskaloosa Based Aircraft: 2004-2014

Year	Pella	Oskaloosa	Combined Total
2004	28	32	60
2005	28	32	60
2006	26	32	58
2007	26	33	59
2008	29	33	62
2009	29	33	62
2010	29	34	63
2011	29	34	63
2013	28	35	63
2013	27	34	61
2014	35(1)	37(2)	72

Source: Iowa Database 2004-2013
1 – Airport Manager – Pella 4-3-2014
2 – Airport Manager – Oskaloosa 4-3-2014

Of the 35 aircraft based at the Pella Municipal Airport, 24 were single engine piston powered fixed wing aircraft. There were four (4) multi-engine piston. The remaining five (5) aircraft include four (4) twin engine turbo-jets and one (1) single engine turbo-prop.

There were five (5) twin engine piston powered airplanes based at the Oskaloosa Municipal Airport. The remaining 29 aircraft were single engine piston powered aircraft. If all 70 aircraft were relocated to the proposed new airport site, the aircraft mix would include four (4) twin engine turbo-jets, one (1) single engine turbo-prop, nine (9) twin

engine piston aircraft and 56 single engine piston powered. It is unlikely that all existing based aircraft will be relocated to the proposed new airport.

The airport manager for each airport facility provided a listing of current (April 3, 2014) based aircraft to include the "N" number, make and model. Reference may be made to Tables D-2 and D-3.

Table D-2
Based Aircraft Pella Municipal Airport - 2014

	Registration	Type	AAC	ADG	Notes
1	N696RK	Experimental Vans RV6	A	I	
2	N9715Y	Beech P-35	A	I	
3	N317SW	Beech S-35	A	I	
4	N6552V	Beech V-34A	A	I	
5	N4769S	Piper PA-32-260	A	I	
6	N121SS	Cessna 150	A	I	
7	N8074K	Stinson 108-2	A	I	
8	N2352V	Cessna 140	A	I	
9	N6245V	Beech V-35	A	I	
10	N32TA	Beech 36	A	I	
11	N13380	Cessna 177B	A	I	
12	N9551Y	Beech 35	A	I	
13	N2806R	Piper PA28R-200	A	I	
14	N8089C	Piper PA28-181	A	I	
15	N7127G	Cessna 172K	A	I	
16	N733NK	Cessna 172N	A	I	
17	N6468	Cirrus SR22	A	I	
18	N922B	Beech 95B-55	B	I	*Multi-engine piston
19	N3196A	Beech A36	A	I	
20	N26LM	Beech 76	A	I	*Multi-engine piston
21	N3114N	Cessna 120	A	I	
22	N3463K	Piper J3C65	A	I	
23	N853DB	Cirrus SR20	A	I	
24	N257AC	American Champion 7GCBC	A	I	
25	N77149	Cessna 120	A	I	
26	N340CF	Cessna 340A	B	I	*Multi-engine piston
27	N12VU	Learjet 45	C	I	*Multi-engine jet
28	N9LV	Raytheon Premier 1	B	I	*Multi-engine jet
29	N863CD	Cirrus SR22	A	I	
30	N48VC	EMB500	B	I	VLJ - *Multi-engine jet
31	N404LR	Beechjet 400A	B	II	*Multi-engine jet
32	N583SR	Cirrus SR22	A	I	
33	4546S	BE95-B55	B	I	*Multi-engine piston
34	N4815B	TBM 850	C	I	*Single Engine Turbo prop
35	120DX	Exp. Vans RV 12	A	I	

Source: Shane VanderVoort, Airport Manager, Pella Municipal Airport, April 3, 2014
AAC = Airplane Approach Category
ADG = Airplane Design Group

Table D-3
Based Aircraft Oskaloosa Municipal Airport - 2014

	Registration	Type	AAC	ADG	Notes
1	N9003T	Challenger-Light Sport	A	I	
2		Kit-Fox	A	I	
3	N6603A	Cessna 172	A	I	
4	N75KP	Zenith 601-Kit Built	A	I	
5	N1645M	Zodiac 6DIXL-Kit Built	A	I	
6	N7515R	Piper Cherokee PA28-140	A	I	
7	N8911C	Piper PA22 Tri Pacer	A	I	
8	N819E	Aeronca 7AC Champ	A	I	
9	N15534	Piper Cherokee PA28-180	A	I	
10	N74276	Grumman Tiger	A	I	
11	N701KW	Zenith 701-Kit Built	A	I	
12	N44RG	Sonieral-Kit Bulit	A	I	
13	N3623G	Cougar-Built	A	I	
14	N7725F	Cessna 1724	A	I	
15	N19177	Fairchild 24	A	I	
16	N113HM	Piper PA 32 Cherokee 6	A	I	
17	N374PG	Zenith 701-Kit Built	A	I	
18	N437NG	Zenith 601-Kit Built	A	I	
19	N4106J	Piper PA 28 140 Cherokee	A	I	
20	N16269	Piper PA 28 Cherokee 6	A	I	
21	N8262D	Beech F33 Bonanza	A	I	
22	N8650E	Piper PA 28-190 Cherokee	A	I	
23	N6390E	Cessna 172	A	I	
24	N5521M	Piper PA 28-191 Warrior II	A	I	
25	N5569Q	Mooney M-20C	A	I	
26	N7678D	Cessna 140	A	I	
27	N5370	Citibria	A	I	
28	N7494P	Piper Comanche 250	A	I	
29	N421MZ	Cessna 421 B	B	I	*Multi-engine piston
30	N516HS	Spacewalker-Kit Built	A	I	
31	N501L	C421C	B	I	*Multi-engine piston
32	N88606	C421C	B	I	*Multi-engine piston
33	N6668E	Stinson 10B	A	I	
34	N2658Z	C421C	B	I	*Multi-engine piston
35	N5801X	Cessna 310F-Twin Piston	B	I	*Multi-engine piston

Source: Jerry Struck, Airport Manager, Oskaloosa Municipal Airport, April 3, 2014
AAC = Airplane Approach Category
ADG = Airplane Design Group

The airplane approach category (AAC) and the airplane design group (ADG) for each based aircraft was noted in Tables D-2 and D-3. For airport planning and design purposes, FAA defines aircraft by approach speed (See Table D-4), and wing span (See Table D-5).

Table D-4
Aircraft Approach Category Classification

Approach Category	Approach Speed (Knots)	Typical Aircraft Type
A	Less than 91	Beech Baron 55, Cessna 172
B	91 but less than 121	King Air, Citation II
C	121 but less than 141	Lear 25, Gulfstream III
D	141 but less than 166	Gulfstream II, IV, V
E	166 or greater	Blackbird 71, Tupolev 144

Source: FAA Advisory Circular 150/5300-13A, Airport Design

Table D-5
Aircraft Wingspan Classification

Airplane Design Group	Wingspan (feet)	Typical Aircraft
I	Less than 49	Cessna 172, Piper PA-23, Cessna 401, Cessna 414
II	49 but less than 79	Falcon 50, Beech King Air E-90, Citation II, Gulfstream III
III	79 but less than 118	Dash 8, Convair 580, Gulfstream V
IV	118 but less than 171	A-300, B-707, B-757, B-767, L1011, DC-10
V	171 but less and 197	B-747
VI	197 but less than 262	Future

Source: FAA Advisory Circular 150/5300-13A, Airport Design

All 35 aircraft based at Oskaloosa have a wing span less than 49 feet. With the exception of the four (4) Cessna 421 C airplanes and one (1) Cessna 310 F airplane, the remaining 30 aircraft have an approach speed less than 91 knots (A-I). The Cessna 421 C and Cessna 310 F have an approach speed greater than 91 knots but less than 121 knots (B-I).

There are two (2) aircraft (Learjet 45, TBM850) based at Pella that have an approach speed greater than 121 knots, but less than 141 knots (C-I). These two (2) airplanes have a wing span less than 49 feet. There is one (1) airplane (Beechjet 400) that has an approach speed greater than 91 knots, but less than 121 knots and a wing span greater than 49 feet, but less than 79 feet (B-II). There are 27 airplanes with an approach speed less than 91 knots and a wing span less than 49 feet (A-I). There are five (5) airplanes with an approach speed of 91 knots, but less than 121 knots and a wing span less than 49 feet (B-I). Table D-6, provides a summary of multi-engine airplanes based at the Oskaloosa Municipal Airport and the Pella Municipal Airport.

Musco has indicated that the two (2) aircrafts currently based at the Ottumwa Regional Airport will be relocated to the proposed South Central Regional Airport. These aircraft include the Gulfstream 200 and Cessna Citation II.

Table D-6
Multi-Engine Summary Combined Airports

Aircraft Model	Wing Span (in feet)	Tail Height (in feet)	Gross Weight (in pounds)	Approach Speed (in knots)	AAC/ADG	Engine Type
Beech 95-B55	37' 10"	9' 7"	5,100	-----	B/I	Piston
Beech 76	38' 0"	9' 6"	3,900	76	B/I	Piston
Learjet 45	47' 10"	14' 1"	21,500	123	C/I	Jet
Raytheon Premier 1	44' 0"	15' 0"	12,500	112	B/I	Jet
Beech 400A	43' 6"	13' 11"	16,100	120	B/II	Jet
EMB 500	40' 4"	16' 5"	4,750	100	B/I	Jet
Cessna 421C	41' 1"	11' 5"	7,450	110	B/I	Piston
Cessna 340	38' 1"	12' 7"	5,990	107	B/I	Piston

Source: DGR Engineering

Airplane characteristics associated with the single engine turbo-prop airplane based at the Pella Municipal Airport are noted in Table D-7

Table D-7
Single Engine Turbo-Prop Aircraft

Aircraft Model	Wing Span (in feet)	Tail Height (in feet)	Gross Weight (in pounds)	Approach Speed (in knots)	AAC/ADG	Engine Type
TBM850	41.6'	14.29'	7,394	122	C/I	Turbo-Prop

Source: DGR Engineering

Table D-8, summarizes by airplane approach category and airplane design group, the number of aircraft based at the two (2) existing airports.

Table D-8
Based Aircraft Combined Airports

	A-I	A-II	B-I	B-II	C-I	C-II
Oskaloosa	30	0	5	0	0	0
Pella	27	0	5	1	2	0
Total	57	0	10	1	2	0

Source: DGR Engineering

Three (3) of the total 70 airplanes are defined as large airplanes having a gross takeoff weight of 12,500 pounds or more.

The largest aircraft based (as of April 2014) at the two (2) existing airports, is the Learjet 45 XR (C-I).

Based Aircraft Forecast

Future numbers of based aircraft at the proposed South Central Regional Airport are expected to be initially lower in the first five (5) years than the combine 2014 total presented in Tables D-1 and D-8. As aircraft storage space is constructed and assuming the hangar lease rates are competitive with area airports, the based aircraft number will experience a modest increase.

A majority of the based aircraft will be small airplanes with a gross landing and/or takeoff weight under 12,500 pounds. Given the business mix and scale, it would not be unreasonable to sustain the three (3) airplanes currently based at the existing airports. The designated Cirrus sales and service facility currently located at the Pella Municipal Airport will contribute to an increase in the number of airplanes based at the airport. In addition, the Citation II (B-II) and Gulfstream 200 (C-II) will be relocated from the Ottumwa Regional Airport.

The forecast based aircraft assumes that the number of corporate aircraft based at the existing airport will be sustained over the 20 year planning period. The forecast also assumes that the airport facilities and environment will be able to accommodate approach category "C" operations.

The level of aeronautical services provided at the existing two (2) airports has contributed to the historic increase in based aircraft. The ability to sustain and expand these services (maintenance, instruction, rental, charter and sales) is a significant factor contributing to aeronautical activity. The availability of fuel and aircraft storage is additional facility components that have an impact on aeronautical activity.

The local economy is affected by national as well as global economic trends. The current downturn has had an impact on corporate air travel for one (1) company within the airport service area just as increased economic activity contributed an increase air travel, by several other major employers. Over the 20 year planning horizon, air travel for business airplanes based at the existing airport will be sustained with additional corporate aircraft being attracted to the new airport.

The forecast based aircraft mix by airplane reference code is noted in Table D-10. The based aircraft fleet will consist primarily of ARC A-I piston powered airplanes or those with wing span under 49 feet and an approach speed less than 91 knots. The Learjet 45 XR (ARC C-I) and Gulfstream 200 (ARC C-II) represent large airplanes with an approach speed of 123 knots and 140 knots, respectively. Both of these aircraft are classified as approach category "C" airplanes.

The new airport is not expected to be operational sometime within the period. For purpose of preparing the aeronautical forecast, the year 2020 was selected as the year the airport would be operational. As airside and landside facilities are completed, the based aircraft numbers are expected to increase following the initial startup period. Table D-9

sets forth based aircraft by type for the period 2020 to 2040. The year 2014 is included in the table as the base line year.

Table D-9
Based Aircraft by Type: 2014-2040

Year	Piston		Turbine		Rotocraft	Sport Other	Baseline Total	Annual Variation
	Single Engine	Multi Engine	Single Engine	Multi Engine				
2014(1)	45	9	1	4	0	11	70	----
2020	37	5	1	6	0	6	55	+/- 5
2025	41	6	2	6	0	12	67	+/- 4
2030	42	7	2	6	0	12	69	+/- 4
2040	43	7	3	6	0	13	72	+/- 4

Source: DGR Engineering
1 – 2014 –Baseline Year Existing Aircraft Count

The total number of aircraft based at the new airport is forecast to reach 72 in the year 2040. In the initial year of operation, 55 aircraft are forecast to be based at the airports. The number is expected to increase to 67 within five (5) years as aircraft storage facilities are completed. The based aircraft mix (based on approach speed and wing span) for the period 2014 to 2040 is shown in Table D-10.

Table D-10
Based Aircraft Mix: 2014-2040

Year	Piston			Turbine (Prop/Jet)			
	A-I	B-I	B-II	B-I	B-II	C-I	C-II
2014	57	8	0	2	1	2	0
2020	43	5	0	2	2	2	1
2025	53	6	0	3	2	2	1
2030	54	6	1	3	2	2	1
2040	56	6	1	3	3	2	2

Source: DGR Engineering

The majority of the based aircraft will have an approach speed under 91 knots and a wing span under 49 feet (A-I). While the piston powered aircraft numbers are expected to show little change over the 20 year period, the number of turbine aircraft based at the South Central Regional Airport is expected to increase. The anticipated growth is based on the analysis of changes in the based aircraft mix that has occurred at the Pella Municipal Airport over the past five (5) years.

- Turbine aircraft being relocated from an area airport to the new airport
- Replacement of multi-engine piston aircraft with very light jet aircraft

Operational Forecast

Forecast operational activity at the new airport is based on a number of variables. While national trends are a factor, local events within the South Central Regional Airport Service Area are more significant.

- Based aircraft by type
- Pilot and general population trends
- Economic trends to include employment growth in a diversified economy
- Aeronautical service and pricing
- Airport facilities to include airside, landside and approach minimums

There is a need at the existing Pella Municipal Airport for additional airplane storage space, and expanded maintenance facility and an airport operating environment that accommodates approach category "C" operations. In addition, aircraft storage space at the Oskaloosa Municipal Airport was reported as being full.

Should the constraints noted above be addressed, it is reasonable to expect a modest increase in operational activity over the 20 year planning horizon.

An aircraft operation is defined as the airborne movement of aircraft in controlled and non-controlled airport terminal areas and about given en route fixes or at other points where counts can be made. Each movement counts as an operation. A "touch and go," for example, counts as two operations.

Total annual aircraft operations are further broken down into local and itinerant operations. A local operation is defined as one by an aircraft that:

- Operates within the local traffic pattern or within sight of the control tower;
- Is known to be departing for or arriving from local practice areas; or
- Executes simulated instrument approaches of low passes at the airport.

An itinerant aircraft operation is one that operates outside the local traffic pattern.

A typical example of an itinerant operation is an air taxi operation. Aviation operations are most often discussed in terms of:

- Total annual aircraft operations
    - Total annual local
    - Total annual itinerant
- Peak day and peak hour operations

Table D-11
Total Annual Local/Itinerant Operations: 2020-2040

Year	Total Annual	Local	Itinerant
2020	14,700	7,056	7,644
2025	18,722	8,981	9,741
2030	19,530	9,374	10,156
2040	21,102	9,933	11,169

Source: DGR Engineering
Itinerant = 52%
Local = 48%

Approximately 52% of the total annual operations are expected to be itinerant in nature. Operations by airplanes with an approach speed under 91 knots will have a larger number of local operations (60%) as opposed to those with an approach speed of 121 knots or greater. The methodology set forth in the 2010 Iowa System Plan along with guidelines outlined in FAA Order 5090.3C Field Formulation of the National Plan of Integrated Airport Systems was used to estimate operational activity.

2010 Iowa Aviation System Plan

- Airports with 1 to 30 based aircraft forecasted were assigned 250 operations per aircraft, while airports with 31 to 99 based aircraft were assigned 350 operations per aircraft. Airports forecasted with 100 or more aircraft were assigned 450 operations per aircraft.

FAA Order 5090.3C

- 250 operations per based aircraft for rural general aviation airports.
- 350 operations per based aircraft for busier general aviation airports with more itinerant traffic.
- 450 operations per based aircraft for busy reliever airports.

The methodology used to prepare the South Central Regional Airport forecasts assume that annual operations per based aircraft will fall within the range of 250 operations for airplanes with an approach speed under 91 knots increasing to 450 operations for those with an approach speed of 121 knots or greater.

- A-I Airplanes 250 operations/based airplane
- B-I, B-II Airplanes 350 operations/based airplane
- C-I, C-II Airplanes 450 operations/based airplane

Total annual aircraft operations are projected to increase from 14,700 in 2020 to 21,102 in 2040. Table D-12, summarizes the operational mix from 2020 to 2040.

Table D-12
Total Annual Operational Mix: 2020-2040

LOCAL & ITINERANT						
Year	**A-I**	**B-I**	**B-II**	**C-I**	**C-II**	**Total**
2020	10,750	2,450	350	900	250	14,700
2025	13,250	3,433	700	1080	260	18,722
2030	13,500	3,717	763	1260	290	19,530
2040	14,000	4,284	826	1620	372	21,102
ITINERANT ONLY						
2020	4,081	2,083	350	900	250	7,664
2025	4,783	2,918	700	1080	260	9,741
2030	4,795	3,048	763	1260	290	10,156
2040	4,836	3,513	826	1620	372	11,169

Source: DGR Engineering
A-I: Zero (0) percent annual growth in operations/based airplane
B-I, B-II: 1.5%-1.8% annual growth; C-I, C-II: 3.5%-4.0% annual growth

Table D-13 summarized the Terminal Area Forecasts (TAF). The FAA uses the Terminal Area Forecast in part to determine if the forecast set forth herein are reasonable. Forecast of based aircraft and total operations are considered reasonable with the TAF if they differ by less than 10% in the 5-year forecast period and by less than 15% in the 10-year forecast period

Table D-13
APO Terminal Area Forecast – FAA 2014

Year	Oskaloosa		Pella	
	Based Aircraft	Total Operations	Based Aircraft	Total Operations
2010	31	13,950	22	8,399
2014	31	13,950	36	8,399
2020	32	13,950	44	8,399
2025	33	13,950	54	8,399
2030	33	13,950	64	8,399
2040	33	13,950	84	8,399

Source: FAA APO Terminal Area Forecast - February 2014

The TAF based aircraft numbers are well within 10% for the current year 2014 if Oskaloosa and Pella are combined. FAA has not prepared a terminal area forecast for a combined airport. Based on the combined TAF based aircraft numbers, the forecast for the South Central Regional Airport is considered reasonable. The TAF forecast for Oskaloosa (450 operations per based aircraft) is not consistent with the ratio of operations to based aircraft (250 operations per based aircraft) set forth in FAA Order 5090.3C.

Instrument Operations

Instrument approaches are defined as an approach made to an airport with Instrument Flight Rules (IFR) flight plan. IFR operations take place under the following conditions:

- When visibility is less than 3 miles or ceiling is at or below the minimum initial approach altitude.
- Where no weather reporting service is available at non-tower airports, the following criteria, in descending order, is used to determine valid instrument approaches:
    - A pilot report
    - If the flight has no canceled its IFR flight plan prior to reaching the initial approach fix
- The official weather as reported for any airport located within 30 miles of the airport to which the approach is made.

An instrument operation is any aircraft operation conducted in accordance with an IFR flight plan or an operation where IFR separation between aircraft is provided by a terminal control facility or air route control center (ARTCC).

The number of instrument operations may be used as a basis for determining justification for various public investments: air traffic control, landing and approach aids.

Annual instrument operations and approaches were based on total annual itinerant operations and estimating ratios for airports within the Minneapolis Air Traffic Control Center (ARTCC). The estimating ratios were obtained from a report entitled: *1995 Iowa Weather and Navigational Aid Plan.* The Study was prepared for the Iowa DOT by Thompson Consultants International Inc. in 1995.

For airports within the Minneapolis ARTCC:

Annual Instrument Approaches (AIA)	0.203573	x	Itinerant operations
Annual Instrument Operations (AIO)	0.132092	x	Itinerant operations

Table D-14
Annual Instrument Approaches/Operations: 2020-2040

Year	Total Annual Itinerant Operations	Annual Instrument Approaches	Annual Instrument Operations
2020	7,664	1,560	1,012
2025	9,741	1,983	1,286
2030	10,156	2,067	1,342
2040	11,169	2,274	1,475

Source: DGR Engineering

Annual instrument approaches are forecast to increase from 1,560 in 2020 to 2,274 in 2040. Annual instrument operations are forecast to grow from 1,012 in 2020 to 1,475 in 2040.

Peak Month/Day

The peak month will most likely occur in June, July or August. Fuel sales are typically used to identify the peak month. Based on the past Iowa DOT activity counts and fuel sales at other general aviation airports, the peak month would typically account for 12% of the total operational activity.

Table D-15
Peak Month and Day Operations: 2020-2040

Year	Total Annual Itinerant Operations	Peak Month(1)	Average Day Peak Month(2)	Peak Hour Average Day(3)	50% of Average Day
2020	7,661	920	30	3	15
2025	9,741	1,169	38	4	19
2030	10,156	1,219	39	4	20
2040	11,169	1,340	43	4	22

Source: DGR Engineering
1 - Peak Month Operations = 12% of annual itinerant operations
2 - Peak Month divided by 31 days
3 – Peak Hour Average 12 hour days = 110%

The 50% of the average day peak month suggests that one-half of the itinerant aircraft will be on the ground at any one time within a 12-hour period. The ramp area should be sized to accommodate no fewer than 15 airplanes in 2020 and 22 airplanes by 2040.

Passenger Enplanements

The South Central Regional Airport is expected to generate 10,290 enplanements in 2020 and upwards of 15,078 enplanements by 2040.

Table D-16
Passenger Enplanements: 2020-2040

Year	Itinerant Operations	Passenger Enplanements (1)(2)	Peak Hour Day Departures	Peak Hour Passengers
2020	7,664	10,346	2	5
2025	9,741	13,150	2	5
2030	10,156	13,711	2	5
2040	11,169	15,078	2	5

Source: DGR Engineering
1 – Based on 2.7 passengers per itinerant departure
2 – Annual itinerant operations divided by two (2) = departures

Design Aircraft

Table D-12, summarized the forecast operations mix for the period 2020-2040. Estimated 1,150 aircraft operations with an approach speed of 121 knots but less than 141 knots are forecast for horizon year 2020.

The Learjet 45 XR is the largest aircraft currently based at the Pella Municipal Airport and is representative of the family of airplanes that will use the South Central Regional Airport.

Learjet 45 XR

Maximum Gross Takeoff Weight	21,500 pounds
Wing Span	47'-1"
Approach Speed	123 Knots
ARC C-I	

The Beechjet 400A based at the Pella Municipal Airport is representative of turbo-jet aircraft that will use the South Central Regional Airport.

Beechjet 400A

Maximum Gross Takeoff Weight	16,100 pounds
Wing Span	37'-10"
Approach Speed	120 Knots
ARC B-II	

Musco Lighting operates two aircraft (Gulfstream 200, Cessna Citation II) that are currently based at the Ottumwa Regional Airport due to lack of adequate hangar space and runway length constraints at the existing Pella Municipal and Oskaloosa Municipal Airports. Musco Lighting has indicated their intent to base their two airplanes at the South Central Regional Airport.

The Gulfstream G-200 is defined as a large airplane.

Maximum Gross Takeoff Weight	34,450 pounds
Wing Span	58'-1"
Approach Speed	140 Knots
ARC C-II	

The Cessna Citation II, owned by the same company, would also be relocated to a Joint Pella/Oskaloosa Airport Facility.

Maximum Gross Takeoff Weight	13,300 pounds
Wing Span	51'-8"
Approach Speed	108 Knots
ARC B-II	

There are itinerant operations (on a less than regular basis) by approach Category "C" airplanes based elsewhere. These airplanes include the IAI Westwind, Beechjet 400, Citation III, Hawker 125, Learjet 55, Learjet 25, and Sabreliner 60.

A 500 annual itinerant operations threshold by critical aircraft of "family of aircraft" has been established by FAA to determine the Airport Reference Code (ARC) and AIP participation.

The Learjet 45 XR and Gulfstream 200 represent airplanes (up to 60,000 pound maximum certified takeoff weight) that comprise the remaining 25 percent of the airplanes that make up 100 percent of the fleet. (Reference FAA AC 150/5325-4B, Table 3-2).

Based on the 500 or more operations by critical aircraft (Composite C-II), the South Central Regional Airport shout be developed to accommodate large airplanes with an approach speed less than 141 knots and a wing span less than 79 feet.

APPENDIX E

Background Summary

Airport Role – Federal and State Aviation System

APPENDIX E – BACKGROUND – AIRPORT ROLE

Several studies have been completed in the past that are relevant to recommendations set forth herein. Recommendations and findings from those Studies and Technical Memorandums are summarized for the period 1999 to the present.

JOINT AIRPORT INITIATIVE: HISTORIC PERSPECTIVE

The City of Pella and the City of Oskaloosa have explored the concept of a new airport and closure of their existing airports since 2000.

1999-2005

In 1999, the City of Pella commissioned a Feasibility Study to assess future needs of the Pella Municipal Airport. The study, completed in July 2000 by Kirkham Michael Consulting Engineers, concluded:

- The Airport Reference Code (ARC) for the existing Pella Airport, B-II is not sufficient due to significant use by a based "C" category airplane, as well as, future activity by "C" category aircraft.
- The airport should be developed to ARC C-II standards.
- The cost to develop the existing airport to ARC "C-II" standards would exceed the cost of developing a new site.

The Feasibility Study-2000 also recommended the City of Pella seek to involve participation of other nearby communities. Based in part on this recommendation, the City of Pella, together with the cities of Knoxville and Oskaloosa, sought and received a grant from the Iowa Department of Transportation (IA DOT) Office of Aviation to examine the feasibility of developing a regional facility to replace three (3) public owned airports.

The Study, initiated by HR Green in 2001, culminated with the preparation of an Airport Master Plan in 2005. After the initial site selection, the City of Knoxville declined further participation. The cities of Pella and Oskaloosa proceeded with development of an Airport Master Plan for the preferred site. A draft of the Airport Master Plan referenced as the Red Rock Regional Airport was completed in August 2005 (See Exhibit E-1 – Site H).

2006-2010

During the development of the Red Rock Airport Master Plan, the City of Oskaloosa held a public referendum regarding the City's participation. Following the referendum, the Oskaloosa City Council discontinued their participation in the Red Rock Regional

Airport Initiative. The referendum, combined with the impact of the 4(f) resource, led to the discontinuation of the Red Rock Regional Airport Initiative.

Following termination of the joint effort in 2005, the City of Pella formed an Aviation Review Committee to provide recommendations to the Mayor and Council. The Pella Aviation Review Committee prepared and submitted a report to the City in 2006. The Pella Aviation Review Committee recommended the City of Pella to proceed with the development of an airport to replace the existing Pella Municipal Airport.

Snyder & Associates, Inc. was retained by the City to assist in preparing the required studies for a replacement airport.

The City of Pella requested assistance from the Federal Aviation Administration to fund, in part, the planning process. The scope of work provided for the ultimate preparation of four (4) stand-alone documents.

- Airport Feasibility Study
- Benefit-Cost Analysis
- Airport Master Plan/Airport Layout Plan
- Environmental Assessment

An Airport Improvement Program (AIP) Grant (3-19-0112-05-2007) was provided to the City of Pella. The City issued a Notice to Proceed (NTP) to Snyder & Associates, Inc. on June 19, 2007.

The City of Pella created a task force to assist in the preparation of the Feasibility Study. The Aviation Task Force consisted of nine (9) members representing the City of Pella, Marion County, airport users, and the public.

The primary assignment given to the Aviation Task Force was to consider alternative sites and recommend a preferred site for consideration by the Pella City Council. The Aviation Task Force met eight (8) times and participated in the development of criteria used to identify and rank the candidate sites. The meetings were open to the public and attended by City staff.

- October 13, 2006
- October 25, 2006
- November 17, 2006
- May 18, 2007
- September 24, 2007
- October 16, 2007
- December 10, 2007*
- January 4, 2008

A public information meeting was held on December 10, 2007. The meeting was attended by 139 persons.

The search area extended out 10 miles from the City of Pella and was confined, with the exception of the Red Rock Study Site, to Marion County.

Six (6) sites were submitted to FAA for airport study. The FAA issued an airport determination on August 31, 2007. (FAA Airport Case No. 2007-ACE-380 through 385 NRA).

The Aviation Task Force recommended Site C (near Otley) as the preferred site for the proposed Pella Replacement Airport. The Pella City Council considered the recommendations from the Aviation Task Force and passed a resolution on March 4, 2008 to continue further evaluation of the preferred site near Otley.

The FAA, in a letter dated September 10, 2009, directed the City of Pella to re-evaluate the existing Pella Municipal Airport site. The change in work scope by the FAA was based on the rationale that the Red Rock Study-2005 was developed around the concept of a regional airport that would combine aeronautical activity within two (2) or more existing airport service areas. The FAA concluded that prior studies did not fully evaluate alternatives that may be available at the existing Pella Municipal Airport if the intent was to develop a replacement airport just to serve Pella.

The City of Pella considered a range of alternatives within the Airport Feasibility Study. These included:

- No Build Alternative-Existing Site
- ARC B-II Build Alternative-Existing Site
- Limited ARC C-II Alternative-Existing Site
- Full ARC C-II Build Alternative-Replacement Sites
- Service from another public owned airport

The No-Build Alternative would not accommodate forecast aeronautical activity.

Due to site constraints, it was not reasonable to consider an ARC C-II Full Build Alternative that would support a precision instrument approach with minimums down to ½-mile visibility and a decision height of 200 feet. Furthermore, the existing Pella Municipal Airport site could not provide for the development of a crosswind runway to the desired length of 3,900 feet.

Two limited build alternatives were developed for the existing Pella Municipal Airport.

- Limited ARC B-II Build Alternative
- Limited ARC C-II Build Alternative

Expanding the existing Pella Municipal Airport with the limited ARC C-II Build Alternative was shown to be more expensive than constructing a new replacement airport at full C-II standards. The cost associated with the ARC C-II Limited Build was greater than the replacement ARC C-II Full Build.

Representatives from the City of Pella and staff from the FAA Central Region met on March 3, 2010 to discuss site constraints associated with the existing site and the limited build alternatives. The meeting also provided the opportunity to review the outcome from previous initiatives to include the replacement airport alternative. Following the March 3, 2010 meeting, the FAA authorized the City of Pella to continue with work on a Replacement Airport for the existing Pella Municipal Airport.

The FAA Central Region in their comments dated March 9, 2010 stated that all proceeds from the closure and disposal of the existing Pella Municipal Airport site must be allocated to development of landside needs at the Replacement Airport site.

Based on the desired level of service and probable cost to implement, the Full Build ARC C-II Alternative represented the most prudent choice

The FAA approved the Aviation Forecast and accepted the Airport Feasibility Study recommending replacement of the existing Pella Municipal Airport on May 7, 2010.

The City of Pella proceeded to develop an Airport Layout Plan (ALP) based on the Otley Alternative Site C-3 for the Replacement Airport.

The Airport Layout Plan was submitted to FAA for airspace analysis and review. A determination of "Conditional No Objection" was issued on May 4, 2011. Reference may be made to Airspace Case No. 2010-ACE-1392-NRA.

The FAA, in an email dated September 1, 2011, recommended the Airport Layout Plan for the Pella Replacement Airport be submitted for "Conditional Approval." The FAA gave "Conditional Approval" to the Pella Replacement Airport Layout Plan on December 16, 2011. The Environmental Assessment (EA) for the Pella Replacement Airport was not initiated and was de-scoped from the FAA grant.

2011 – 2012

The City of Pella and the City of Oskaloosa are members of a Central Iowa Coalition that was formed in 2010 to discuss transportation issues. While the primary focus was on the surface transportation network, the group also discussed the need to "replace" the existing Pella Municipal Airport.

The City of Pella and the City of Oskaloosa renewed their joint airport dialogue. Through a series of meetings in 2011, the City of Pella, the City of Oskaloosa and Mahaska County developed a 28E Agreement creating the South Central Regional Airport Agency (SCRAA). The FAA Office of Regional Council (via email dated February 24, 2012) determined that the South Central Regional Airport Agency had the legal authority to act as a "Sponsor" and enter into agreements with the FAA.

The 28E Agreement was filed with the Iowa Secretary of State on March 29, 2012.

The FAA approved entry of the proposed regional airport into the National Plan of Integrated Airport Systems (NPIAS) on September 20, 2012.

2013 – 2015

The FAA issued a planning grant (3-19-0136-001-2013) on August 28, 2013 for Site Selection and an Airport Master Plan to further study the Regional Airport Proposal.

Site Selection

The search area for the proposed replacement airport was established with the 28E Agreement entered into by the City of Oskaloosa, Mahaska County and the City of Pella.

Two (2) conditions were set forth within the 28E Agreement that were to be adhered to. The search area was defined as extending no more than four (4) miles from Iowa Highway 163. Furthermore, the candidate site identified for consideration could not be located more than ten (10) miles from either city. The search area is depicted in Figure E-1.

The 28E Agreement also established several facility development parameters. These were as follows:

- The site must be able to accommodate a primary runway having a potential ultimate length of 7,500 feet.
- The primary runway must be able to support a precision instrument approach with minimums as low as 200 feet and one half mile forward visibility.
- The site must be able to accommodate a crosswind runway having the potential ultimate length of 4,200 feet.

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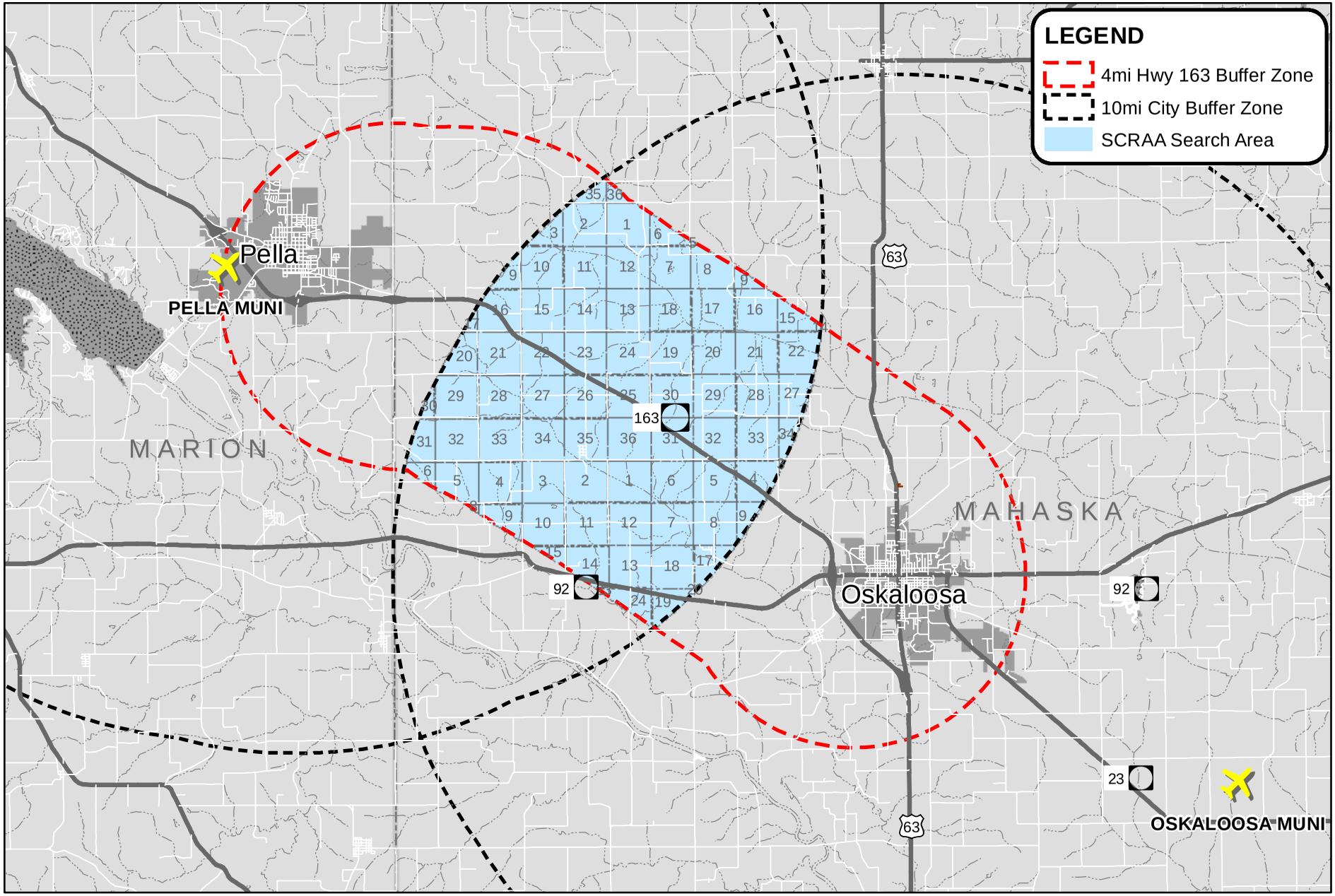

DGR ENGINEERING	SNYDER & ASSOCIATES Engineers and Planners	JS Consulting LLC	SOUTH CENTRAL REGIONAL AIRPORT MAHASKA COUNTY, IOWA	AIRPORT SEARCH AREA	FIGURE E-1

The search area, based entirely within Mahaska County extends over approximately 66 square miles. Nine (9) locations where a replacement airport could possibly be developed were identified. Within the nine (9) locations, eleven (11) concepts were developed based on the following facility parameters set forth in the 28E Agreement (refer to Figure E-2):

Primary Runway Facility:

- 100' (Width) x 7,500' (Ultimate Length)
  - Precision Instrument Approach (Primary End)
    - PA – CAT1 – (Visibility minimums as per FAA AC 150/5300-13A)
    - PIR < ¾ mile – (Far Part 77)
  - Approach Procedures with Vertical Guidance (Opposite End)
    - APV > ¾ mile – (Visibility minimums as per FAA AC 150/5300-13A)
    - D(NP) > ¾ mile (FAR Part 77)

Crosswind Runway Facility:

- 75' (Width) x 4,200' (Ultimate Length)
  - Non-Precision Instrument Approach (Primary End)
    - NPA – 1 mile – (Visibility minimums as per FAA AC 150/5300-13A)
    - C(NP) (FAR Part 77)
  - Non-Precision Instrument Approach (Opposite End)
    - NPA – 1 mile – (Visibility minimums as per FAA AC 150/5300-13A)

The footprint shows each runway as well as the Runway Protection Zone (RPZ) anticipated for each runway end. The size of the approach and the departure RPZ were obtained from the FAA AC 150/5300-13A – Airport Design. The footprint represents the area at minimum to be acquired in fee title or easement. Reference may be made to the report entitled *Technical Memorandum Airport Site Selection – South Central Regional Airport* (November 2013).

1.5 Candidate Airport Sites

Staff members from each member government (City of Oskaloosa, Mahaska County and City of Pella) met on October 11, 2012 to review and discuss each of the eleven (11) airport concepts. The intent of the initial screening was to determine if the candidate site satisfied the criteria set forth in the 28E Agreement.

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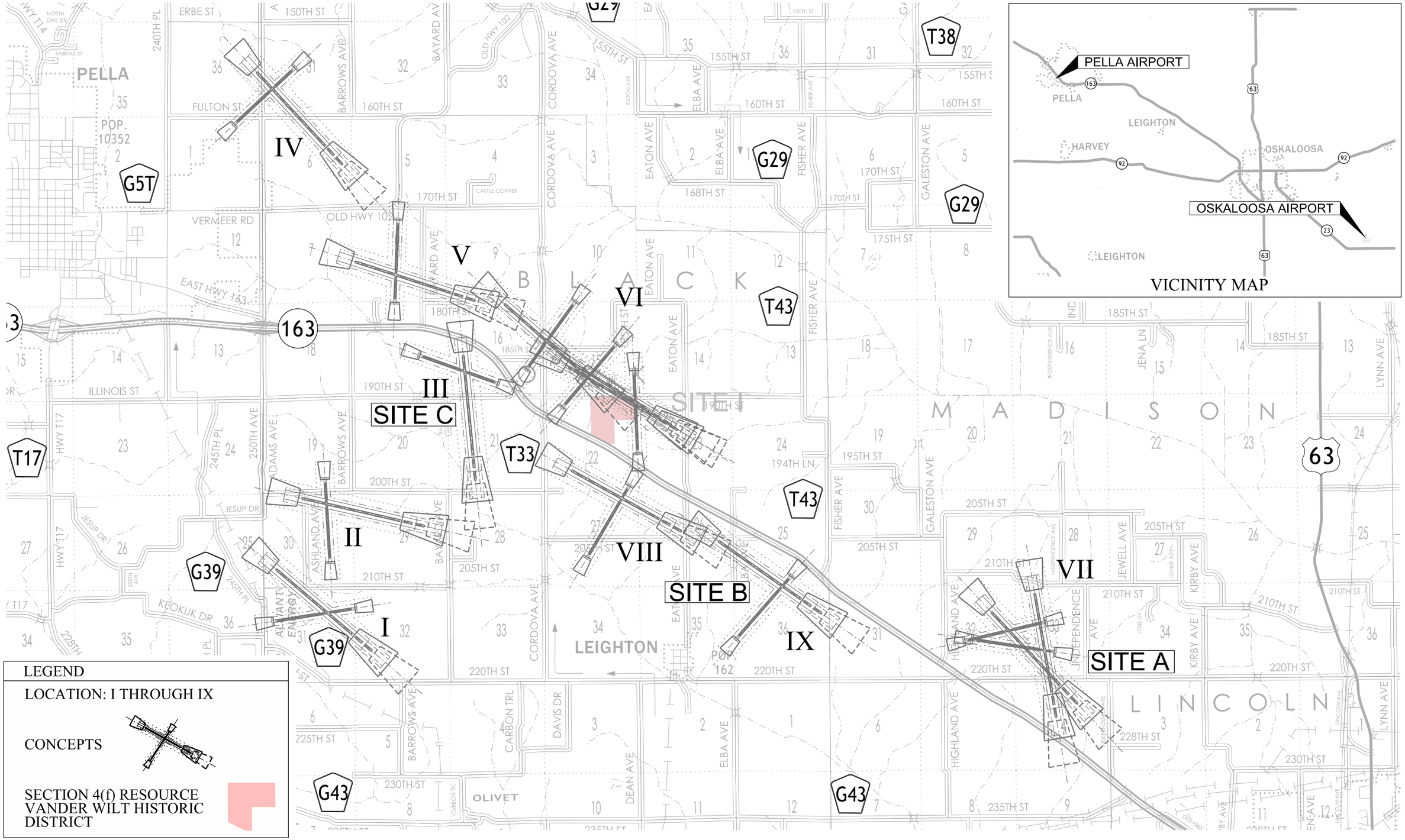

DGR ENGINEERING

SNYDER & ASSOCIATES
Engineers and Planners

JS Consulting LLC

SOUTH CENTRAL REGIONAL AIRPORT
MAHASKA COUNTY, IOWA

CANDIDATE AIRPORT SITES
MARION AND MAHASKA COUNTIES, IOWA

FIGURE
E-2

Plot Date: 10/14/2015
Scale: 1:5000
Model: Master Model
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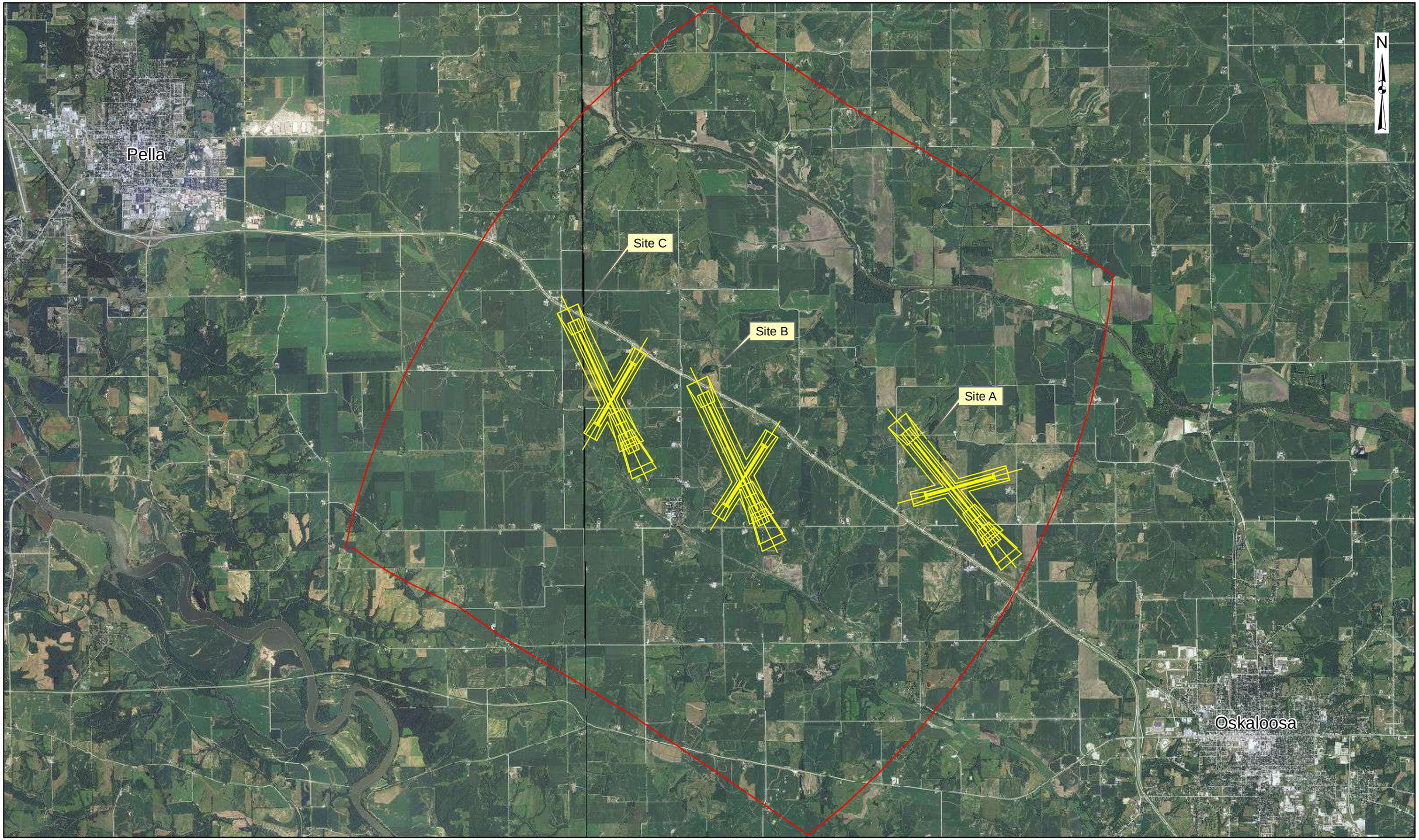

DGR ENGINEERING	SNYDER & ASSOCIATES Engineers and Planners	JS Consulting LLC	CANDIDATE AIRPORT SITES (SITE A,B, C)	SOUTH CENTRAL REGIONAL AIRPORT MAHASKA COUNTY, IOWA	FIGURE E-3

If all or a substantial part of the footprint was located outside the search area, the site was eliminated. In addition, any one of the candidate footprints that extended into a Section 4(F) resource (Vander Wilt Farmstead Historic District) was discarded.

Six (6) candidate sites (I, II, III, IV, V, and VI) did not meet the criteria set forth in the 28E Agreement. The three (3) candidate sites (VII, VIII, and IX) that met parameters set forth in the 28E Agreement and did not extend into any part of the Vander Wilt Farmstead Historic Site were retained for continued evaluation and refinement. The three (3) candidate sites were referenced going forward at Sites A, B, and C (see Figure E-3).

A preliminary airport concept plan for each of the three (3) sites was prepared. The sites were presented to the SCRAA Board on January 4, 2013. The SCRAA Board conducted a public information meeting on April 18, 2013. The purpose of the meeting was to provide an overview of the project and to obtain public input on the three (3) sites.

The three (3) sites were submitted to the FAA for airspace review. Based on the concept plans, the FAA concluded (May 8, 2013) that the proposed runway geometry would not adversely affect the sage and efficient use of navigable airspace.

As part of the secondary screening process, thirty-two (32) criteria were identified to assist in evaluating each of the three (3) site locations. The three (3) sites were scored with Site A ranking first, followed by Site B. Site C scored significantly lower due to potential impacts based on the secondary screening process. (Reference *Technical Memorandum Airport Site Selection* – Section 4 and 5).

The SCRAA Board at their May 23, 2013 meeting passed a resolution designating "Site A" as the preferred location for continued evaluation and retaining "Site B" as a secondary location. FAA accepted the *Technical Memorandum Airport Site Selection* Report on December 6, 2013 and authorized the SCRAA to proceed with the development of the Airport Layout Plan and Master Plan for Site A.

1.6 Preferred Site A Location

The proposed airport development located in Mahaska County, Iowa will extend over all or part of:

- Section 4 (Township 75 North, Range 16 West)
- Sections 29, 32, and 33 (Township 76 North, Range 16 West)

Figure E-4 shows the proposed site location. Regional ground access is provided by US Highway 63 and IA Highways 23, 92, and 163.

Figure E-4 also shows the location of the existing Pella Municipal Airport and the Oskaloosa Municipal Airport.

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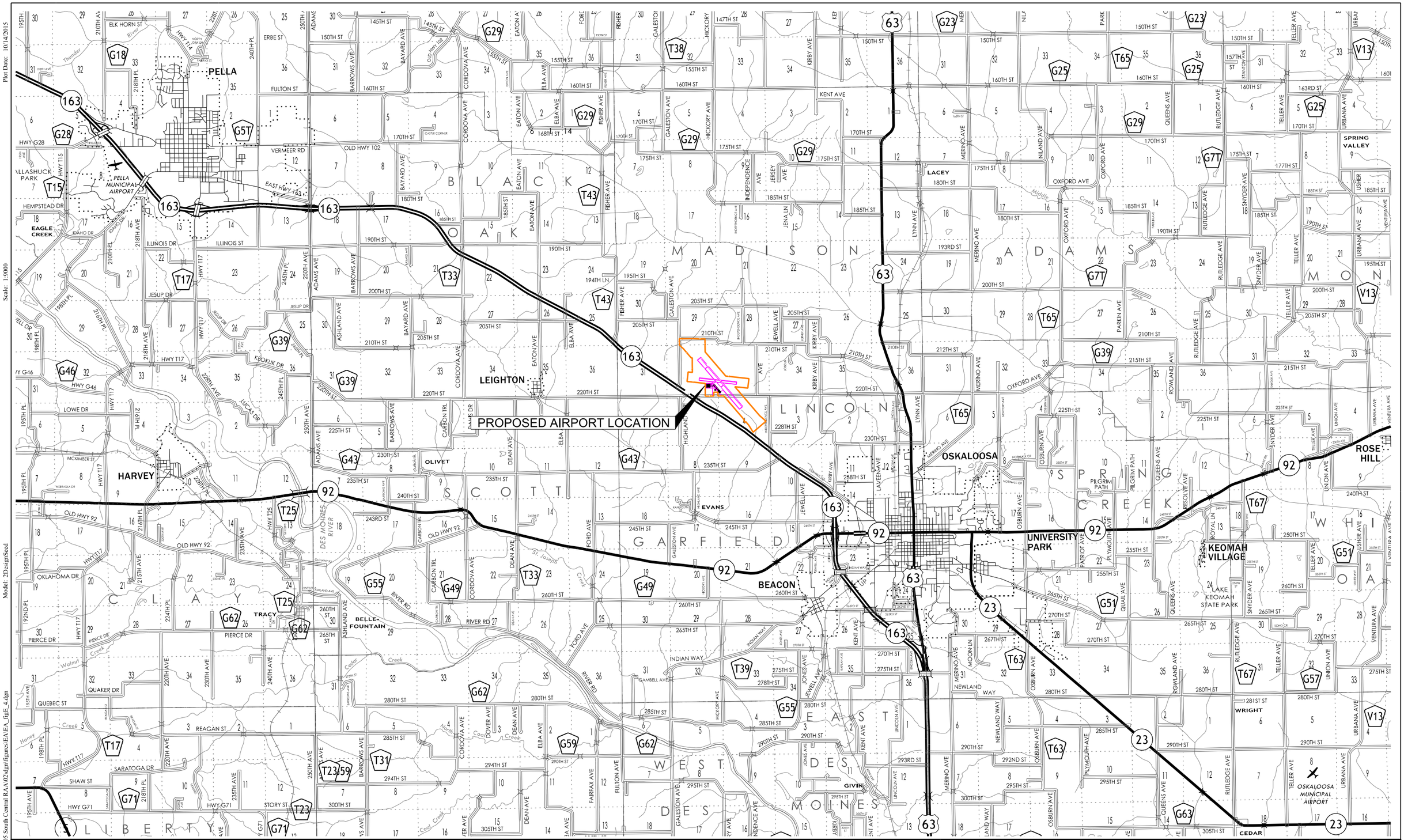

Plot Date: 10/14/2015

Scale: 1:9000

Model: 2DesignSeed

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DGR ENGINEERING

SNYDER & ASSOCIATES
Engineers and Planners

JS Consulting LLC

SOUTH CENTRAL REGIONAL AIRPORT
MAHASKA COUNTY, IOWA

VICINITY MAP - PREFERRED SITE A

FIGURE
E-4

Following selection of Site A as the preferred site, the Airport Layout Plan was prepared. The proposed actions as shown on the Airport Layout Plan were given "conditional" approval by the FAA on March 4, 2015. The ALP is included as a component of the Airport Master Plan. The Airport Master Plan was accepted by FAA in March of 2015.

The Airport Layout Plan is shown on Sheet 2.

The Airport Land Use Plan and crop restriction lines are shown on Sheet 12 of the Airport Layout Plan set.

Land proposed for acquisition is shown on the Airport Property Map - Exhibit A (sheet 13 of 13) and referenced herein as Figure E-6.

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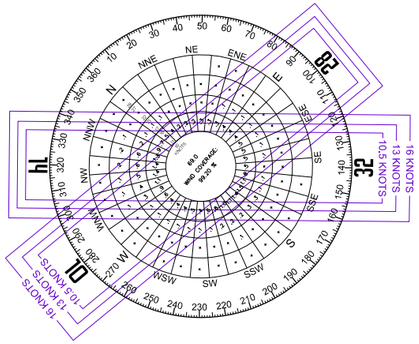
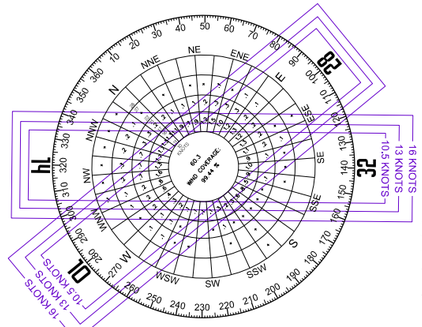




NOTES

- THERE ARE NO OBSTACLE FREE ZONE (OFZ) PENETRATIONS
- THERE ARE NO THRESHOLD SITING SURFACE OBJECT PENETRATIONS
- THERE ARE NO MODIFICATIONS TO DESIGN STANDARDS
- RUNWAY(S) MEET LINE OF SIGHT REQUIREMENTS

BUILDING IDENTIFICATION

I.D.	DESCRIPTION
1	HANGAR 51x334 (41'-6"x12'-0")
2	HANGAR 51x334 (41'-6"x12'-0")
3	HANGAR 51x334 (41'-6"x12'-0")
4	HANGAR 60x264 (47'-6"x14'-0")
5	TERMINAL BLDG (4800 sf)
6	MAINTENANCE HANGAR 140x100 (14,000sf)
7	BOX HANGAR 100x100
8	BOX HANGAR 100x100
9	BOX HANGAR 100x100
10	BOX HANGAR 100x100
11	BOX HANGAR 100x100
12	EQUIPMENT STORAGE 60x80
13	ELECTRICAL VAULT BLDG

LEGEND

DESCRIPTION	INITIAL	ULTIMATE
AIRPORT PROPERTY LINE		
AIRPORT EASEMENT LINE		
BUILDING RESTRICTION LINE	BRL	BRL
RUNWAY VISIBILITY ZONE / LINE OF SIGHT		
RUNWAY PROTECTION ZONE	RPZ	RPZ
RUNWAY SAFETY AREA AND OBJECT FREE AREA	ROFA	ROFA
EASEMENT		
BUILDING - STRUCTURES		
PRECISION APPROACH PATH INDICATOR (PAPI)		
RUNWAY END IDENTIFIER LIGHTS (REIL)		
THRESHOLD LIGHTS		
FENCE		
AIRCRAFT PARKING LOCATION		

WIND DATA

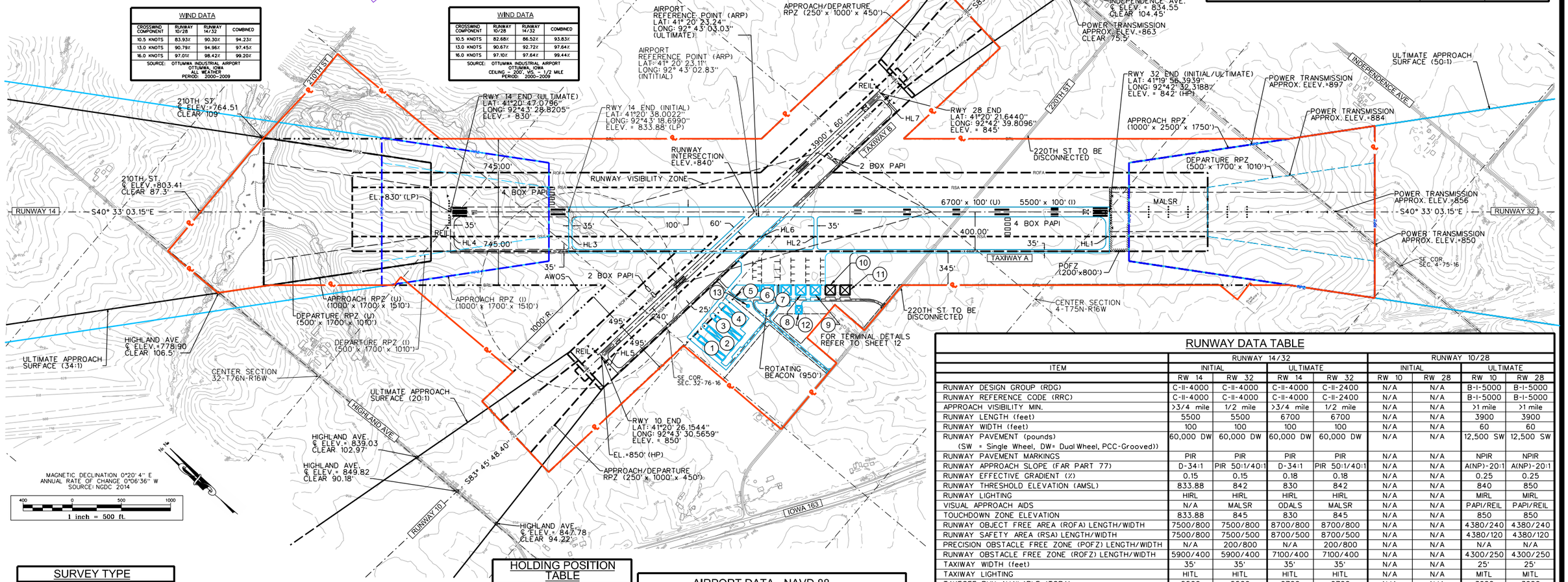
CROSSWIND COMPONENT	RUNWAY 10/28	RUNWAY 14/32	COMBINED
10.5 KNOTS	83.93%	90.30%	94.23%
13.0 KNOTS	90.79%	94.96%	97.45%
16.0 KNOTS	97.01%	98.42%	99.20%

SOURCE: OTTUMWA INDUSTRIAL AIRPORT
OTTUMWA, IOWA
ALL WEATHER
PERIOD: 2000-2009

WIND DATA

CROSSWIND COMPONENT	RUNWAY 10/28	RUNWAY 14/32	COMBINED
10.5 KNOTS	82.68%	86.52%	93.83%
13.0 KNOTS	90.67%	92.72%	97.64%
16.0 KNOTS	97.10%	97.64%	99.44%

SOURCE: OTTUMWA INDUSTRIAL AIRPORT
OTTUMWA, IOWA
CEILING: 200', VIS.: 1/2 MILE
PERIOD: 2000-2009



RUNWAY DATA TABLE

ITEM	RUNWAY 14/32 INITIAL RW 14	RUNWAY 14/32 INITIAL RW 32	RUNWAY 14/32 ULTIMATE RW 14	RUNWAY 14/32 ULTIMATE RW 32	RUNWAY 10/28 INITIAL RW 10	RUNWAY 10/28 INITIAL RW 28	RUNWAY 10/28 ULTIMATE RW 10	RUNWAY 10/28 ULTIMATE RW 28
RUNWAY DESIGN GROUP (RDG)	C-II-4000	C-II-4000	C-II-4000	C-II-2400	N/A	N/A	B-I-5000	B-I-5000
RUNWAY REFERENCE CODE (RRC)	C-II-4000	C-II-4000	C-II-4000	C-II-2400	N/A	N/A	B-I-5000	B-I-5000
APPROACH VISIBILITY MIN.	>3/4 mile	1/2 mile	>3/4 mile	1/2 mile	N/A	N/A	>1 mile	>1 mile
RUNWAY LENGTH (feet)	5500	5500	6700	6700	N/A	N/A	3900	3900
RUNWAY WIDTH (feet)	100	100	100	100	N/A	N/A	60	60
RUNWAY PAVEMENT (pounds) (SW = Single Wheel, DW= Dual Wheel, PCC-Grooved))	60,000 DW	60,000 DW	60,000 DW	60,000 DW	N/A	N/A	12,500 SW	12,500 SW
RUNWAY PAVEMENT MARKINGS	PIR	PIR	PIR	PIR	N/A	N/A	NPIR	NPIR
RUNWAY APPROACH SLOPE (FAR PART 77)	D-34:1	PIR 50:1/40:1	D-34:1	PIR 50:1/40:1	N/A	N/A	A(NP)-20:1	A(NP)-20:1
RUNWAY EFFECTIVE GRADIENT (%)	0.15	0.15	0.18	0.18	N/A	N/A	0.25	0.25
RUNWAY THRESHOLD ELEVATION (AMSL)	833.88	842	830	842	N/A	N/A	840	850
RUNWAY LIGHTING	HIRL	HIRL	HIRL	HIRL	N/A	N/A	MIRL	MIRL
VISUAL APPROACH AIDS	N/A	MALSR	ODALS	MALSR	N/A	N/A	PAPI/REIL	PAPI/REIL
TOUCHDOWN ZONE ELEVATION	833.88	845	830	845	N/A	N/A	850	850
RUNWAY OBJECT FREE AREA (ROFA) LENGTH/WIDTH	7500/800	7500/800	8700/800	8700/800	N/A	N/A	4380/240	4380/240
RUNWAY SAFETY AREA (RSA) LENGTH/WIDTH	7500/800	7500/500	8700/500	8700/500	N/A	N/A	4380/120	4380/120
PRECISION OBSTACLE FREE ZONE (POFZ) LENGTH/WIDTH	N/A	200/800	N/A	200/800	N/A	N/A	N/A	N/A
RUNWAY OBSTACLE FREE ZONE (ROFZ) LENGTH/WIDTH	5900/400	5900/400	7100/400	7100/400	N/A	N/A	4300/250	4300/250
TAXIWAY WIDTH (feet)	35'	35'	35'	35'	N/A	N/A	25'	25'
TAXIWAY LIGHTING	HITL	HITL	HITL	HITL	N/A	N/A	MITL	MITL
TAKEOFF RUN AVAILABLE (TORA)	5500	5500	6700	6700	N/A	N/A	3900	3900
TAKEOFF DISTANCE AVAILABLE (TODA)	5500	5500	6700	6700	N/A	N/A	3900	3900
ACCELERATE STOP DISTANCE AVAILABLE (ASDA)	5500	5500	6700	6700	N/A	N/A	3900	3900
LANDING DISTANCE AVAILABLE (LDA)	5500	5500	6700	6700	N/A	N/A	3900	3900
PAVEMENT MATERIAL	PCC	PCC	PCC	PCC	N/A	N/A	PCC	PCC

SURVEY TYPE

RW 14	VGS(PA & APV)-NVGS
RW 32	VGS
RW 10	NVGS
RW 28	NVGS

HOLDING POSITION TABLE

HOLDING POSITION	HOLD TYPE	DISTANCE
HL1	RUNWAY	250'
HL2	RUNWAY	250'
HL3	RUNWAY	250'
HL4	RUNWAY	250'
HL5	RUNWAY	250'
HL6	RUNWAY	125'
HL7	RUNWAY	125'

DISTANCE FROM THE HOLD LINE IS MEASURED PERPENDICULAR FROM RUNWAY CENTERLINE.

AIRPORT DATA - NAVD 88

ITEM	INITIAL	ULTIMATE
AIRPORT ELEVATION (MSL)	845	850
AIRPORT REFERENCE POINT (ARP)	41°20' 23.11"	41°20'23.24"
	92°43' 02.83"	92°43'03.03"
MEAN MAX. TEMPERATURE	85° F	85° F
AIRPORT NAVAIDS	GPS	GPS
ROTATING BEACON, AWOS	YES	YES
SEGMENTED CIRCLE	NO	NO
LIGHTED WIND INDICATOR(S)	YES	YES
AIRPORT REFERENCE CODE	C-II	C-II

RUNWAY END COORDINATES - NAD 83

	RUNWAY 14 INITIAL	RUNWAY 14 ULTIMATE	RUNWAY 32 INITIAL	RUNWAY 32 ULTIMATE	RUNWAY 10 INITIAL	RUNWAY 10 ULTIMATE	RUNWAY 28 EXISTING	RUNWAY 28 ULTIMATE
LATITUDE	41°20' 38.0022"	41°20' 47.0796"	N41° 19' 56.39"	N41° 19' 56.39"	N41° 20' 26.15"	N41° 20' 26.15"	N41° 20' 21.64"	N41° 20' 21.64"
LONGITUDE	92°43' 18.6990"	92°43' 28.8205"	W92° 42' 32.32"	W92° 42' 32.32"	W92° 43' 30.56"	W92° 43' 30.56"	W62° 42' 39.80"	W62° 42' 39.80"

AIRPORT SERVICE LEVEL

GENERAL AVIATION PROPOSED REPLACEMENT	(FAA ORDER 5090.32)
ENHANCED NEW AIRPORT	(IOWA DOT 2010 SASP)

SURVEY CONTROL

THE COORDINATE SYSTEM USED FOR THE GROUND CONTROL CHECKPOINTS AT THE SOUTH CENTRAL REGIONAL AIRPORT SITE WAS THE NORTH AMERICAN DATUM OF 1983/2011 (NAD83(2011), IOWA SOUTH ZONE 1402, (VERTICAL DATUM: NAVD 88- GEOID 12A), AS BROADCAST BY THE IOWA REAL TIME NETWORK.

AIRPORT LAYOUT PLAN APPROVAL

APPROVED BY:

DATE APPROVED:

REV	DATE	DESCRIPTION

DGR ENGINEERING

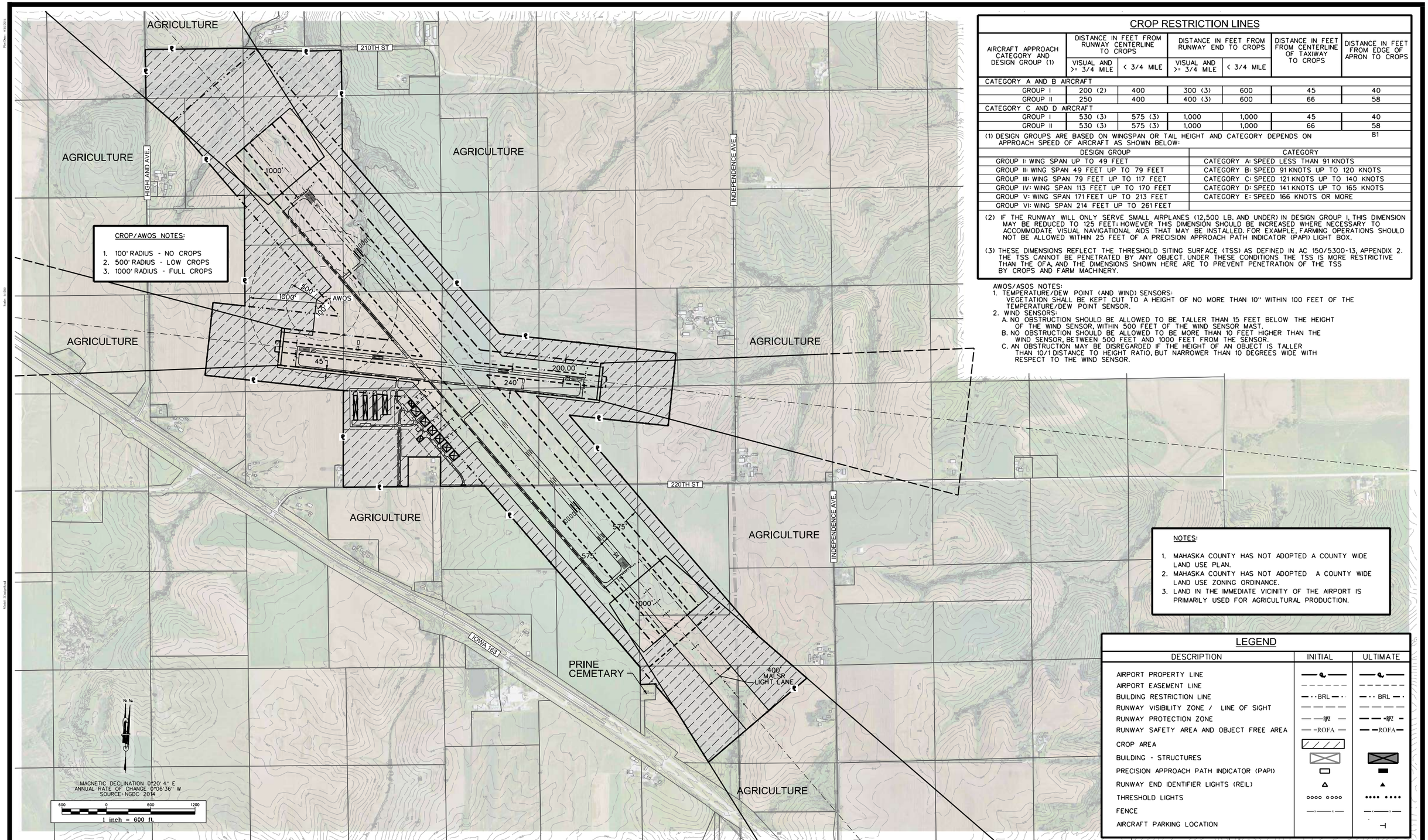
Project Manager: Jerry Searle
Designer: Jeremy Cswercko
Project Number: 720501
Phone: (515) 963-3488

SNYDER & ASSOCIATES
Engineers and Planners

SOUTH CENTRAL REGIONAL AIRPORT MAHASKA COUNTY, IOWA

AIRPORT LAYOUT PLAN

SHEET 2



CROP/AWOS NOTES:

1. 100' RADIUS - NO CROPS
2. 500' RADIUS - LOW CROPS
3. 1000' RADIUS - FULL CROPS

CROP RESTRICTION LINES

AIRCRAFT APPROACH CATEGORY AND DESIGN GROUP (1)	DISTANCE IN FEET FROM RUNWAY CENTERLINE TO CROPS		DISTANCE IN FEET FROM RUNWAY END TO CROPS		DISTANCE IN FEET FROM CENTERLINE OF TAXIWAY TO CROPS	DISTANCE IN FEET FROM EDGE OF APRON TO CROPS
	VISUAL AND >= 3/4 MILE	< 3/4 MILE	VISUAL AND >= 3/4 MILE	< 3/4 MILE		
CATEGORY A AND B AIRCRAFT						
GROUP I	200 (2)	400	300 (3)	600	45	40
GROUP II	250	400	400 (3)	600	66	58
CATEGORY C AND D AIRCRAFT						
GROUP I	530 (3)	575 (3)	1,000	1,000	45	40
GROUP II	530 (3)	575 (3)	1,000	1,000	66	58
						81

(1) DESIGN GROUPS ARE BASED ON WINGSPAN OR TAIL HEIGHT AND CATEGORY DEPENDS ON APPROACH SPEED OF AIRCRAFT AS SHOWN BELOW:

DESIGN GROUP	CATEGORY
GROUP I: WING SPAN UP TO 49 FEET	CATEGORY A: SPEED LESS THAN 91 KNOTS
GROUP II: WING SPAN 49 FEET UP TO 79 FEET	CATEGORY B: SPEED 91 KNOTS UP TO 120 KNOTS
GROUP III: WING SPAN 79 FEET UP TO 117 FEET	CATEGORY C: SPEED 121 KNOTS UP TO 140 KNOTS
GROUP IV: WING SPAN 113 FEET UP TO 170 FEET	CATEGORY D: SPEED 141 KNOTS UP TO 165 KNOTS
GROUP V: WING SPAN 171 FEET UP TO 213 FEET	CATEGORY E: SPEED 166 KNOTS OR MORE
GROUP VI: WING SPAN 214 FEET UP TO 261 FEET	

(2) IF THE RUNWAY WILL ONLY SERVE SMALL AIRPLANES (12,500 LB. AND UNDER) IN DESIGN GROUP I, THIS DIMENSION MAY BE REDUCED TO 125 FEET; HOWEVER THIS DIMENSION SHOULD BE INCREASED WHERE NECESSARY TO ACCOMMODATE VISUAL NAVIGATIONAL AIDS THAT MAY BE INSTALLED. FOR EXAMPLE, FARMING OPERATIONS SHOULD NOT BE ALLOWED WITHIN 25 FEET OF A PRECISION APPROACH PATH INDICATOR (PAPI) LIGHT BOX.

(3) THESE DIMENSIONS REFLECT THE THRESHOLD SITING SURFACE (TSS) AS DEFINED IN AC 150/5300-13, APPENDIX 2. THE TSS CANNOT BE PENETRATED BY ANY OBJECT. UNDER THESE CONDITIONS THE TSS IS MORE RESTRICTIVE THAN THE OFA, AND THE DIMENSIONS SHOWN HERE ARE TO PREVENT PENETRATION OF THE TSS BY CROPS AND FARM MACHINERY.

AWOS/ASOS NOTES:

1. TEMPERATURE/DEW POINT (AND WIND) SENSORS:
   VEGETATION SHALL BE KEPT CUT TO A HEIGHT OF NO MORE THAN 10" WITHIN 100 FEET OF THE TEMPERATURE/DEW POINT SENSOR.
2. WIND SENSORS:
   A. NO OBSTRUCTION SHOULD BE ALLOWED TO BE TALLER THAN 15 FEET BELOW THE HEIGHT OF THE WIND SENSOR, WITHIN 500 FEET OF THE WIND SENSOR MAST.
   B. NO OBSTRUCTION SHOULD BE ALLOWED TO BE MORE THAN 10 FEET HIGHER THAN THE WIND SENSOR, BETWEEN 500 FEET AND 1000 FEET FROM THE SENSOR.
   C. AN OBSTRUCTION MAY BE DISREGARDED IF THE HEIGHT OF AN OBJECT IS TALLER THAN 10/1 DISTANCE TO HEIGHT RATIO, BUT NARROWER THAN 10 DEGREES WIDE WITH RESPECT TO THE WIND SENSOR.

NOTES:

1. MAHASKA COUNTY HAS NOT ADOPTED A COUNTY WIDE LAND USE PLAN.
2. MAHASKA COUNTY HAS NOT ADOPTED A COUNTY WIDE LAND USE ZONING ORDINANCE.
3. LAND IN THE IMMEDIATE VICINITY OF THE AIRPORT IS PRIMARILY USED FOR AGRICULTURAL PRODUCTION.

LEGEND

DESCRIPTION	INITIAL	ULTIMATE
AIRPORT PROPERTY LINE		
AIRPORT EASEMENT LINE		
BUILDING RESTRICTION LINE	BRL	BRL
RUNWAY VISIBILITY ZONE / LINE OF SIGHT		
RUNWAY PROTECTION ZONE	RPZ	RPZ
RUNWAY SAFETY AREA AND OBJECT FREE AREA	ROFA	ROFA
CROP AREA		
BUILDING - STRUCTURES		
PRECISION APPROACH PATH INDICATOR (PAPI)		
RUNWAY END IDENTIFIER LIGHTS (REIL)		
THRESHOLD LIGHTS		
FENCE		
AIRCRAFT PARKING LOCATION		

AIRPORT LAYOUT PLAN APPROVAL

APPROVED BY:
DATE APPROVED:

REV	DATE	DESCRIPTION

DGR ENGINEERING

Project Manager: Jerry Searle
Designer: Jeremy Cswercko
Project Number: 720501
Phone: (515) 963-3488

SNYDER & ASSOCIATES
Engineers and Planners

SOUTH CENTRAL REGIONAL AIRPORT MAHASKA COUNTY, IOWA

LAND USE PLAN

SHEET
12

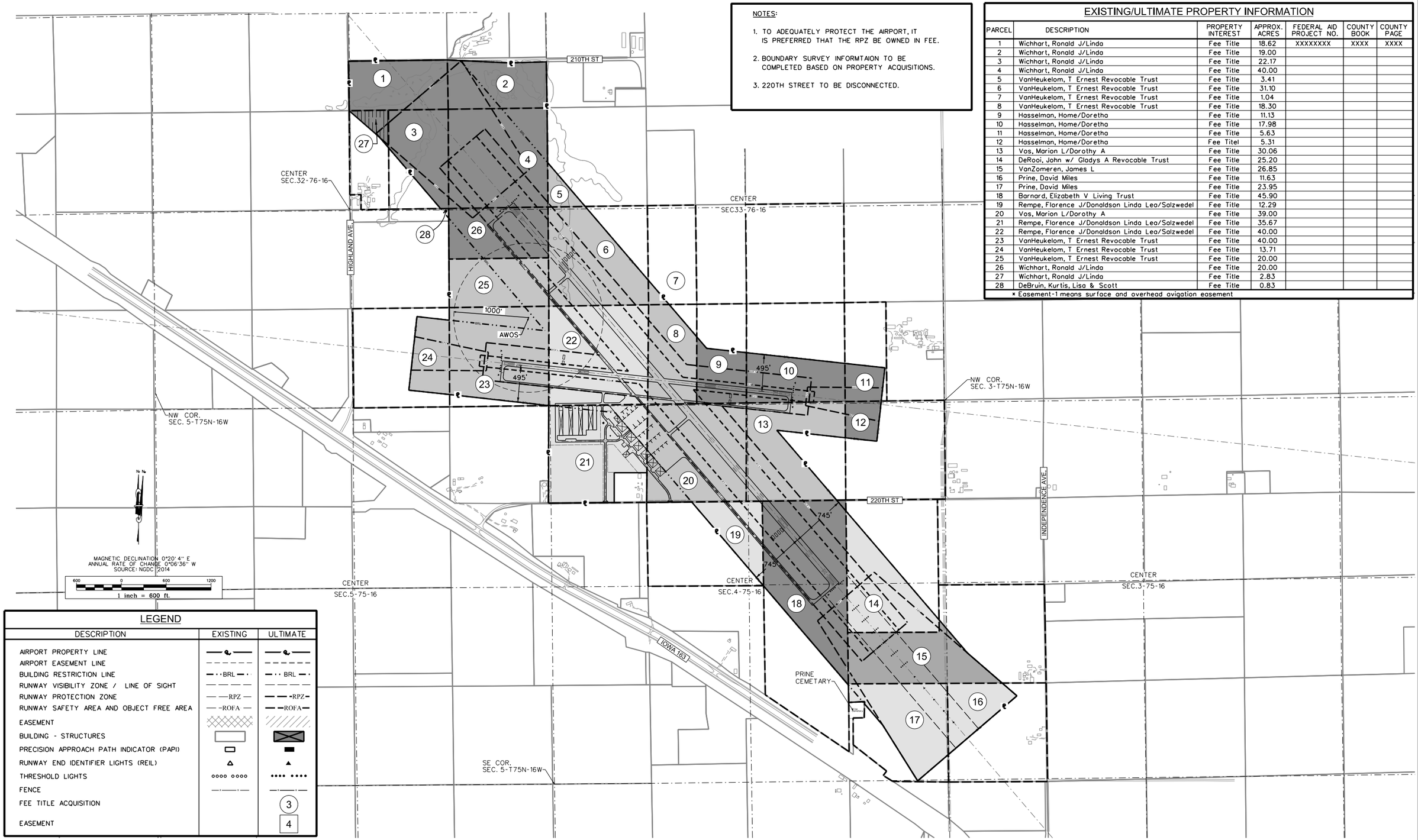
NOTES:

1. TO ADEQUATELY PROTECT THE AIRPORT, IT IS PREFERRED THAT THE RPZ BE OWNED IN FEE.
2. BOUNDARY SURVEY INFORMTAION TO BE COMPLETED BASED ON PROPERTY ACQUISITIONS.
3. 220TH STREET TO BE DISCONNECTED.

EXISTING/ULTIMATE PROPERTY INFORMATION

PARCEL	DESCRIPTION	PROPERTY INTEREST	APPROX. ACRES	FEDERAL AID PROJECT NO.	COUNTY BOOK	COUNTY PAGE
1	Wichhart, Ronald J/Linda	Fee Title	18.62	XXXXXXXX	XXXX	XXXX
2	Wichhart, Ronald J/Linda	Fee Title	19.00			
3	Wichhart, Ronald J/Linda	Fee Title	22.17			
4	Wichhart, Ronald J/Linda	Fee Title	40.00			
5	VanHeukelom, T Ernest Revocable Trust	Fee Title	3.41			
6	VanHeukelom, T Ernest Revocable Trust	Fee Title	31.10			
7	VanHeukelom, T Ernest Revocable Trust	Fee Title	1.04			
8	VanHeukelom, T Ernest Revocable Trust	Fee Title	18.30			
9	Hasselman, Home/Doretha	Fee Title	11.13			
10	Hasselman, Home/Doretha	Fee Title	17.98			
11	Hasselman, Home/Doretha	Fee Title	5.63			
12	Hasselman, Home/Doretha	Fee Titel	5.31			
13	Vos, Marion L/Dorothy A	Fee Title	30.06			
14	DeRooi, John w/ Gladys A Revocable Trust	Fee Title	25.20			
15	VanZomeren, James L	Fee Title	26.85			
16	Prine, David Miles	Fee Title	11.63			
17	Prine, David Miles	Fee Title	23.95			
18	Barnard, Elizabeth V Living Trust	Fee Title	45.90			
19	Rempe, Florence J/Donaldson Linda Lea/Salzwedel	Fee Title	12.29			
20	Vos, Marion L/Dorothy A	Fee Title	39.00			
21	Rempe, Florence J/Donaldson Linda Lea/Salzwedel	Fee Title	35.67			
22	Rempe, Florence J/Donaldson Linda Lea/Salzwedel	Fee Title	40.00			
23	VanHeukelom, T Ernest Revocable Trust	Fee Title	40.00			
24	VanHeukelom, T Ernest Revocable Trust	Fee Title	13.71			
25	VanHeukelom, T Ernest Revocable Trust	Fee Title	20.00			
26	Wichhart, Ronald J/Linda	Fee Title	20.00			
27	Wichhart, Ronald J/Linda	Fee Title	2.83			
28	DeBruin, Kurtis, Lisa & Scott	Fee Title	0.83			

× Easement-1 means surface and overhead avigation easement



LEGEND

DESCRIPTION	EXISTING	ULTIMATE
AIRPORT PROPERTY LINE		
AIRPORT EASEMENT LINE		
BUILDING RESTRICTION LINE	BRL	BRL
RUNWAY VISIBILITY ZONE / LINE OF SIGHT		
RUNWAY PROTECTION ZONE	RPZ	RPZ
RUNWAY SAFETY AREA AND OBJECT FREE AREA	ROFA	ROFA
EASEMENT		
BUILDING - STRUCTURES		
PRECISION APPROACH PATH INDICATOR (PAPI)		
RUNWAY END IDENTIFIER LIGHTS (REIL)		
THRESHOLD LIGHTS		
FENCE		
FEE TITLE ACQUISITION		3
EASEMENT		4

AIRPORT LAYOUT PLAN APPROVAL

APPROVED BY:

DATE APPROVED:

REV	DATE	DESCRIPTION

DGR ENGINEERING

Project Manager: Jerry Searle
Designer: Jeremy Cswercko
Project Number: 720501
Phone: (515) 963-3488

SNYDER & ASSOCIATES
Engineers and Planners

SOUTH CENTRAL REGIONAL AIRPORT MAHASKA COUNTY, IOWA

PROPERTY MAP EXHIBIT A

SHEET 13

Airport Role

The proposed South Central Regional Airport was entered into the National Plan of Integrated Airport Systems (NPIAS) on September 20, 2012. The FAA, in concert with State aviation agencies and local planning organizations, identifies public use airports that are important to the system for inclusion in the NPIAS.

The NPIAS defines the functional role of an airport as one (1) of four (4) basic airport service levels which describe the type of service that the airport currently provides and is anticipated to provide over the next five (5) years. The four (4) airport roles are:

- Commercial Service (Primary)
- Commercial Service (Non-Primary)
- Reliever
- General Aviation

The existing Pella Municipal Airport and the Oskaloosa Municipal Airport are classified as general aviation airports.

In May 2012, the FAA issued a report entitled: *General Aviation Airports: A National Asset*. Of the 3,330 airports in the NPIAS, 2,952 were defined as general aviation airports. The FAA *Modernization and Reform Act of 2012*, defines a general aviation airport as a public airport that is located in a state and that as determined by the Secretary of Transportation does not have scheduled service or has scheduled service with less than 2,500 passengers boarding each year. The 2,952 general aviation airports were grouped into four (4) categories.

Group	Description
National	Serves national – global markets (Very high levels of activity with many jets and multi-engine propeller aircraft – Averaging about 200 total based aircraft, including 30 jets)
Regional	Serves regional – national markets (High levels of activity with some jets and multi-engine propeller aircraft – Averaging about 90 total based aircraft, including 3 jets)
Local	Serves local – regional markets (Moderate levels of activity with some multi-engine propeller aircraft – Averaging about 33 based propeller-driven aircraft and no jets)
Basic	Serving critical aeronautical functions within local and regional markets (Moderate – low levels of activity – Averaging about 10 propeller-driven aircraft and no jets)

The FAA submits the NPIAS to the United States Congress bi-annually. Airports included in the NPIAS were assigned to one (1) of the four (4) categories starting with the 2013-2017 NPIAS report to Congress.

The Pella Municipal Airport was classified as a "Regional" airport. The Oskaloosa Municipal Airport, Ottumwa Regional Airport, Knoxville Municipal Airport and Washington Municipal Airport were placed in the "Local" Category.

Table E-1
Area NPIAS Airports

Identifier	Airport	NPIAS Category
GGI	Grinnell Regional Airport	Basic
OOA	Oskaloosa Municipal Airport	Local
OTM	Ottumwa Regional Airport	Local
PEA	Pella Municipal Airport	Regional
OXV	Knoxville Municipal Airport	Local
AWG	Washington Municipal Airport	Local

Source: FAA *General Aviation Airports: A National Asset*, May 2012
FAA Asset 2 – *In-Depth Review of the 497 Unclassified Airports*, March 2014

It is reasonable to conclude that the FAA will place the proposed South Central Regional Airport in the "Regional" Category given that the Pella Municipal Airport is currently classified as a "Regional" airport.

The *2010 Iowa Aviation Systems Plan* recommended (see below) that consideration be given to the development of an "Enhanced Service Airport" to replace the existing airports owned and operated by the City of Pella and the City of Oskaloosa.

> *"The Pella Municipal Airport has limited capabilities to support the operations of larger business jet aircraft. Feasibility studies, geographic constraints impacting future development opportunities and the proximity of the Oskaloosa airport justify a regional approach towards creation of a new Enhanced Service Airport with increased levels of facilities and services to serve the region. It is recommended the cities of Pella and Oskaloosa increase cooperation to develop a new regional airport to replace existing airports serving these communities. A mutually agreed upon location, in proximity of both Pella and Oskaloosa, will be essential to the successful development of a new airport."*

An "Enhanced Service Airport" is defined within the 2010 Iowa Aviation System Plan as follows:

> *"These airports have runways 5,000 feet or greater in length with facilities and services that accommodate a full range of general aviation activity including most business jets. These airports serve business aviation and are regional transportation and economic centers."*

APPENDIX F

Sponsor Land Use Compatibility Letter

SCRAA
SOUTH CENTRAL REGIONAL AIRPORT AGENCY

December 21, 2015

Federal Aviation Administration
Airports Division, Central Region
901 Locust Street
Kansas City, MO 64106

Re: Proposed South Central Regional Airport

To Whom It May Concern:

The South Central Regional Airport Agency ("SCRAA") makes the following statement of compatible land use assurances as required by US Code, Title 49, 47107(a)(10), formerly Section 511(2)(5) of the Airport and Airway Improvement Act of 1982.

This letter shall provide the appropriate assurance that SCRAA will take all reasonable action within its authority to encourage the Mahaska County (Iowa) Board of Supervisors and the City Council of the City of Oskaloosa, Iowa to limit land use to the area adjacent to the proposed airport to those consistent with airport activity. The assurance includes the consideration of existing (agricultural) and future land uses.

We will continue to work with Mahaska County and Oskaloosa to ensure land uses remain compatible.

Sincerely,

James M. Hansen
Chair, South Central Regional Airport Agency Board

825 Broadway Street, Pella IA 50219
Phone: 641.628.4173 • Fax: 641.628.3120
www.scraaiowa.com

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APPENDIX G

220th Street Disconnect

2nd US 63 Northwest Bypass of Oskaloosa

Phone: (641) 672-2897 *Fax: (641) 672-1385*

Mahaska County Highway Department

2074 Old Hwy. 163
Oskaloosa, Iowa 52577

July 01, 2013

Mr. Jim Hansen, Chairperson
South Central Regional Airport Agency
825 Broadway
Pella, IA 50219

RE: SITE A – MAHASKA COUNTY
220th STREET

Dear Mr. Hansen:

The South Central Regional Airport Board has selected Site A as the preferred airport site. The airport concept plan shows the primary runway extending through the 220th Street right-of-way. In order to construct the primary runway, 220th Street will have to be disconnected.

Upon completion of the required environmental documentation and a favorable environmental determination from the Federal Aviation Administration, Mahaska County will disconnect 220th Street to accommodate development of the proposed airport.

The action to disconnect will be undertaken if the potential impact to the county road network is addressed within the environmental assessment and acceptable mitigation actions are identified.

Sincerely,

Mahaska County

Jerome T. Nusbaum, PE
County Engineer

cc: Mahaska County Board of Supervisors
Jerald Searle, Snyder & Associates
Michael Shrock, City of Oskaloosa
Mike Nardini, City of Pella

Gmail by Google

Jerald Searle <jeraldsearle@gmail.com>

Clearance Information - NW Oskaloosa Bypass and Airport

Zeimen, Danny [DOT] <Danny.Zeimen@dot.iowa.gov> Wed, Jul 15, 2015 at 1:27 PM
To: "jeraldsearle@gmail.com" <jeraldsearle@gmail.com>

Jerald,

This email is to follow up the conversation regarding the NW Oskaloosa Bypass and Airport clearance on June 16th, 2015 in Ames, Iowa. I have attached a display of what we anticipate to be a worst case scenario for the height of any obstructions. We figured the 50:1 clearance rate we discussed from the end of the runway to the bridge, which was roughly 6,000 feet. See below for a summary of estimated values.

End of Runway Elev.: 842 feet

Distance from end of runway to bridge: 6,000 feet

Highest elevation of obstruction: 895 feet

Clearance area rate: 50:1

With the above assumptions we need to be below 962 feet at the bridge and we are below that threshold. Please let me know if the Airport has any concerns with what is being considered. Thanks.

DANNY ZEIMEN
TRANSPORTATION ENGINEER SPECIALIST
OFFICE OF LOCATION AND ENVIRONMENT
iowadot.gov Iowa Department of Transportation
Office: 515-239-1381 @iowadot
Fax: 515-239-1726

2 attachments

image001.png
20K

PUBLIC MEETING – U.S. 63 NORTHWEST BYPASS OF OSKALOOSA

DECEMBER 16, 2014 5-7P.M.

OSKALOOSA HIGH SCHOOL COMMONS, 1816 N. THIRD STREET

OSKALOOSA, IOWA

To view additional information concerning this project please access the following website:

http://www.iowadot.gov/pim

Welcome to the Iowa Department of Transportation's Public Information Meeting for the proposed U.S. 63 northwest bypass of Oskaloosa. The purpose of this meeting is to discuss the refined alternatives for the bypass as well as the project study area. The study area is located northwest of Oskaloosa and extends from approximately Iowa 163 to existing U.S. 63. We would like to hear your thoughts and ideas as well as answer your questions regarding the project.

PROJECT HISTORY

A Public Information Meeting was held August 15, 2013, to gather input for a location study and for the environmental document for the proposed improvement. A second Public Information Meeting was held April 16, 2014, to present the conceptual alternatives and the project study area.

PRESENT FACILITY

U.S. 63 is the primary north-south travel route through Oskaloosa and varies between two, three and four travel lanes wide. The 2010 traffic volumes on existing U.S. 63 through Oskaloosa ranged from 4,500 to 7,700 vehicles per day (vpd) with 6 to 10% trucks. On existing U.S. 63 north of Oskaloosa, the volumes ranged from 2,800 to 4,500 vpd with 10 to 17% trucks. By 2040, the traffic volumes on these same segments are projected to increase to between 4,500 to 9,000 vpd with 8 to 13% trucks and 3,900 to 6,700 vpd with 12 to 20% trucks, respectively. The 2040 projections assume that the roadway characteristics remain the same as exists today.

Between 2003 and 2012, there were 459 crashes on the segment of U.S. 63 within the Oskaloosa city limits which is approximately twice the statewide average for similar roadways. During the same period, there were 50 crashes on the rural two lane segment north of the Oskaloosa city limits which was below the statewide average.

PROJECT DESCRIPTION

Three conceptual alternatives were presented at the Public Meeting on April 16. Alternative 3 has been eliminated and two new alternatives are being studied in addition to Revised Alternatives 1 and 2. All four of the current alternatives include an interchange on Iowa 163 at either Mahaska County Road G-43 (235th Street) or Jewell Avenue.

The interchange at 235th Street is similar to what was shown at the April 16 meeting. From the intersection at Iowa 163 and 235th Street the proposed alignment would continue northeast to cross the east-west leg of Kirby Avenue just north of 230th Street.

A second interchange alternative has been added at Jewell Avenue based on input from previous public meetings. The alignment from the proposed interchange would proceed northeastward to also cross the east-west leg of Kirby Avenue just north of 230th Street.

- Revised Alternative 1 would begin at the 235th Street interchange while Alternative 4 would begin at the Jewell Avenue interchange. After crossing Kirby Avenue the alignments would join together and proceed northeast crossing 220th and 210th streets before connecting with U.S. 63 south of the Oskaloosa water treatment plant and the South Skunk River. The location of the interchange is the only difference between these two alternatives.

- Revised Alternative 2 would begin at the 235th Street interchange while Alternative 5 would begin at the Jewell Avenue interchange. After crossing Kirby Avenue the alignments would join together and proceed north to follow existing property boundaries approximately one-half mile east of Kirby Avenue. The alignment would continue to just north of 210th Street where it would then curve to the northeast crossing the South Skunk River west of the existing U.S. 63 river crossing. The alignment would continue northeast to connect with existing U.S. 63 near the intersection of 200th Street. The location of the interchange is the only difference between these two alternatives.

PROJECT SCHEDULE

This project is not currently included in the 2015-2019 Transportation Improvement Program, and therefore, no construction schedule has been established. The study is anticipated to be completed in Fall 2016 after which time the project can be considered for future funding. Funding would also be contingent upon the transfer of the existing U.S. 63 to local jurisdiction. Once funding is committed, the Iowa DOT can develop design plans so the project can then be constructed.

ENVIRONMENTAL CONSIDERATIONS

As part of the project development process, various field studies will be conducted within the U.S. 63 project study area. These field studies typically include archeological sites, historic buildings, wetlands, threatened or endangered plants and animals, hazardous waste sites, and land surveys. The Iowa DOT may request landowner permission in order for our staff or consultants to gather field information regarding property within the study area.

The Iowa DOT is requesting your comments about possible impacts this project may have on known historic properties. The term historic property includes a prehistoric or historic site, building, structure, object, or district that is listed or eligible for listing on the National Register of Historic Places. This request is based on the federal regulations known as Section 106 of the National Historic Preservation Act.

This project will continue to be monitored by the Iowa DOT and FHWA throughout all development stages and construction to ensure that all possible environmental effects are identified.

RIGHT OF WAY

As part of the proposed improvements, right-of-way may be required. The Iowa DOT's policy provides for appraisal of property and/or property rights needed for each project. These appraisals use professional techniques and methods to determine "just compensation" in accordance with Federal and State constitutions, laws and regulations. The appraisals are prepared to assure fair treatment for both the property owner and the public.

After the appraisals are completed, each owner is contacted by a right of way agent for the purpose of explaining the plans and appraisals and for contracting the required right of way. In instances where an agreement cannot be reached through negotiations, the property may be acquired by the laws of eminent domain.

CONTACT US

If you have any comments or concerns regarding the project presented today, please contact:

Jason Huddle, District 5 Planner
Iowa Department of Transportation
307 W. Briggs
Fairfield, IA 52556
Phone: 641-472-4171or 800-766-4368
E-mail: jason.huddle@dot.iowa.gov

PUBLIC PARTICIPATION

Please share your ideas with us today, submit them using the attached comment form (self-addressed and pre-paid for your convenience), email your comments to the District Planner above or through the following website http://www.iowadot.gov/pim. All comments and information provided will be given consideration as the project development process continues. Other opportunities for input, throughout the process, will be provided through additional future public meetings.

Thank you for your participation in this meeting.

Federal and state laws prohibit employment and/or public accommodation discrimination on the basis of age, color, creed, disability, gender identity, national origin, pregnancy, race, religion, sex, sexual orientation or veteran's status. If you believe you have been discriminated against, please contact the Iowa Civil Rights Commission at 800-457-4416 or Iowa Department of Transportation's affirmative action officer. If you need accommodations because of a disability to access the Iowa Department of Transportation's services, contact the agency's affirmative action officer at 800-262-0003.

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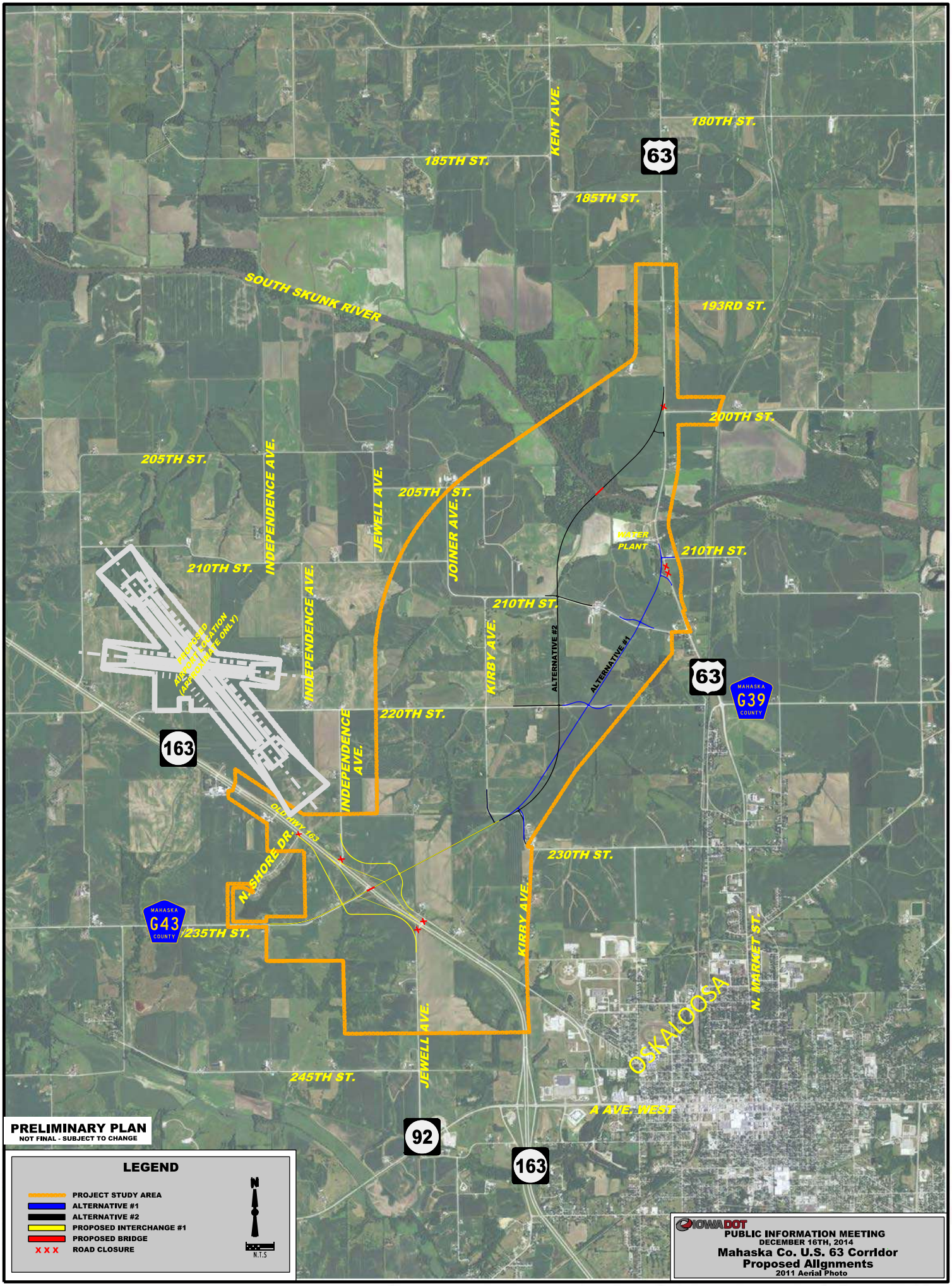
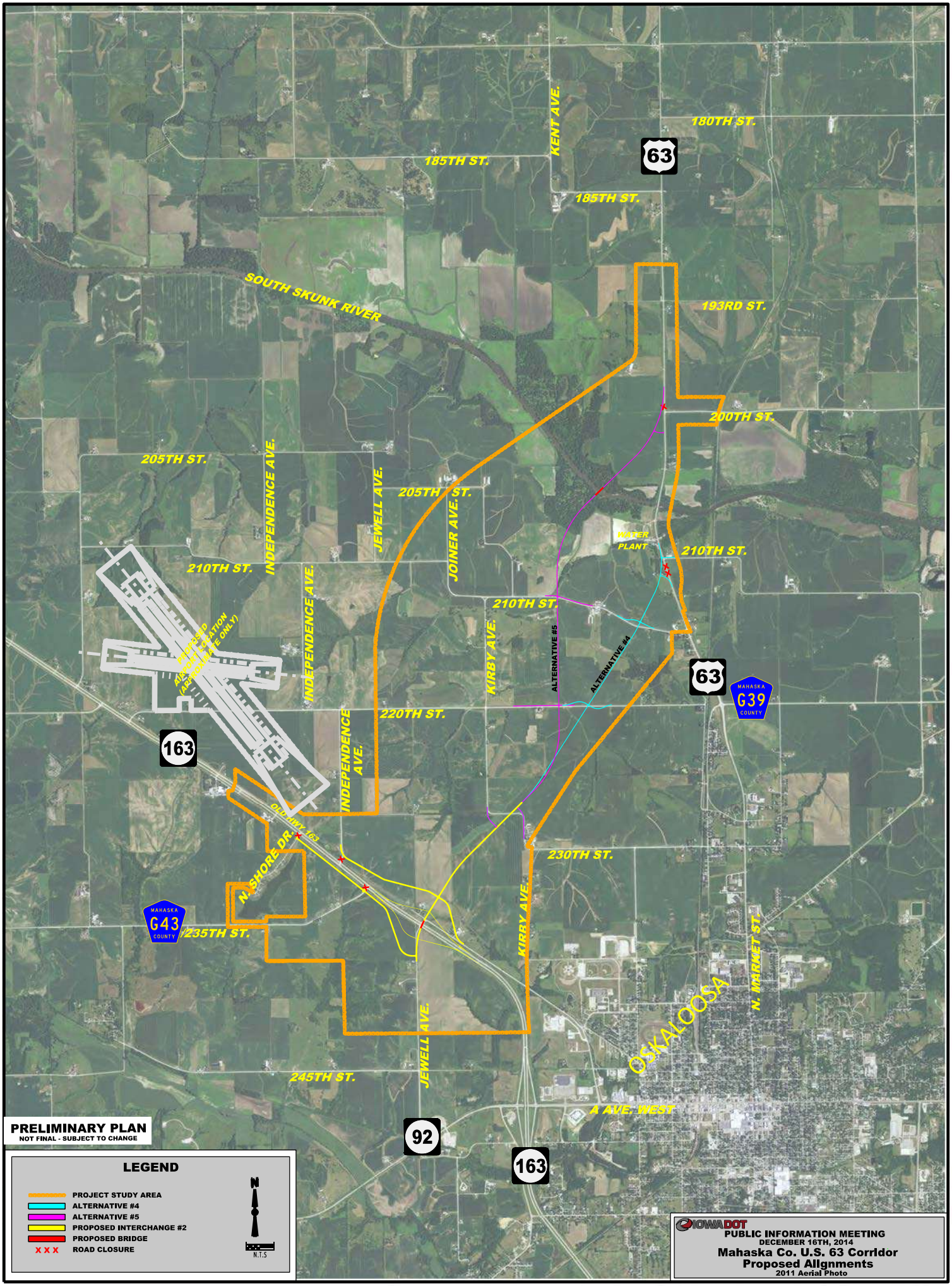

180TH ST.
185TH ST.
185TH ST.
KENT AVE.
63
SOUTH SKUNK RIVER
193RD ST.
200TH ST.
205TH ST.
INDEPENDENCE AVE.
JEWELL AVE.
205TH ST.
JOINER AVE.
WATER PLANT
210TH ST.
210TH ST.
INDEPENDENCE AVE.
210TH ST.
KIRBY AVE.
ALTERNATIVE #2
ALTERNATIVE #1
PROPOSED RUNWAY LOCATION (ALTERNATE ONLY)
63
MAHASKA G39 COUNTY
220TH ST.
163
INDEPENDENCE AVE.
OLD HWY 163
N. SHORE DR.
230TH ST.
MAHASKA G43 COUNTY
235TH ST.
KIRBY AVE.
N. MARKET ST.
OSKALOOSA
JEWELL AVE.
245TH ST.
A AVE. WEST
92
163
PRELIMINARY PLAN
NOT FINAL - SUBJECT TO CHANGE
LEGEND
PROJECT STUDY AREA
ALTERNATIVE #1
ALTERNATIVE #2
PROPOSED INTERCHANGE #1
PROPOSED BRIDGE
X X X ROAD CLOSURE
N
N.T.S
IOWA DOT
PUBLIC INFORMATION MEETING
DECEMBER 16TH, 2014
Mahaska Co. U.S. 63 Corridor
Proposed Alignments
2011 Aerial Photo


180TH ST.
185TH ST.
185TH ST.
KENT AVE.
63
SOUTH SKUNK RIVER
193RD ST.
200TH ST.
205TH ST.
205TH ST.
INDEPENDENCE AVE.
JEWELL AVE.
JOINER AVE.
WATER PLANT
210TH ST.
210TH ST.
210TH ST.
INDEPENDENCE AVE.
KIRBY AVE.
ALTERNATIVE #5
ALTERNATIVE #4
63
MAHASKA G39 COUNTY
PROPOSED RUNWAY LOCATION (ALTERNATE ONLY)
220TH ST.
163
INDEPENDENCE AVE.
OLD HWY 163
N. SHORE DR.
230TH ST.
MAHASKA G43 COUNTY
235TH ST.
KIRBY AVE.
N. MARKET ST.
OSKALOOSA
JEWELL AVE.
245TH ST.
A AVE. WEST
92
163
PRELIMINARY PLAN
NOT FINAL - SUBJECT TO CHANGE
LEGEND
PROJECT STUDY AREA
ALTERNATIVE #4
ALTERNATIVE #5
PROPOSED INTERCHANGE #2
PROPOSED BRIDGE
X X X ROAD CLOSURE
N
N.T.S
IOWA DOT
PUBLIC INFORMATION MEETING
DECEMBER 16TH, 2014
Mahaska Co. U.S. 63 Corridor
Proposed Alignments
2011 Aerial Photo

IOWA DOT

SMARTER | SIMPLER | CUSTOMER DRIVEN

www.iowadot.gov

HIGHWAY DIVISION, OFFICE OF LOCATION AND ENVIRONMENT, 515-239-1225

Citizen Comments

You may also leave comments at http://www.iowadot.gov/pim.

MAHASKA COUNTY
NHSX-63-3(93)--3H-62

I (do ☐ do not ☐) desire a response.

Please return comments by December 29, 2014.

The information which you give may be printed and/or distributed. You are not required to provide any information, unless you request a response to your comments.

PLEASE PRINT

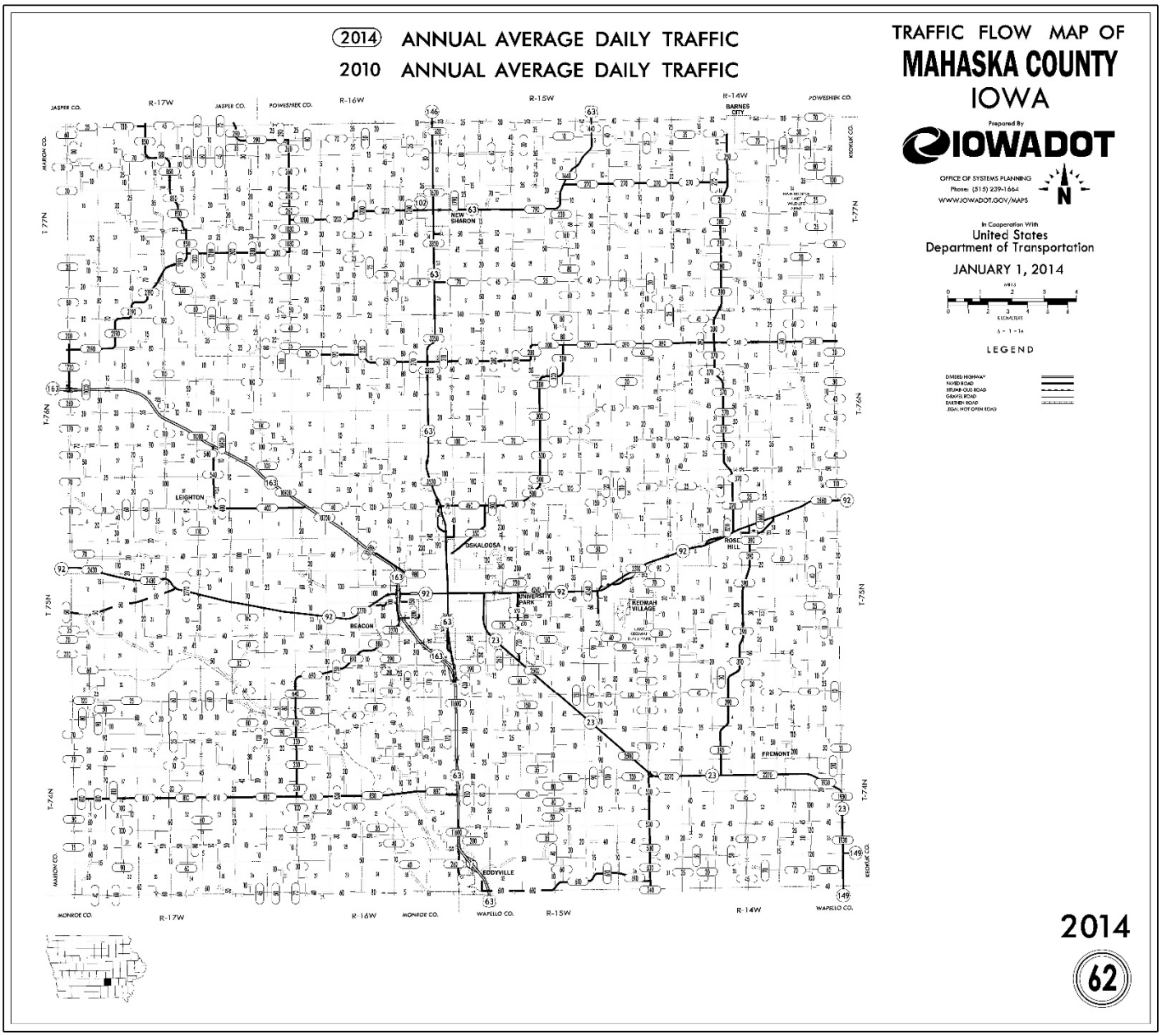
Name: _____

Address: _____

_____

Phone: _____

E-mail: _____



2014 AADT

140 AADT 220th - IA 163/Independence Ave.

10,900 AADT IA 163 - Independence Ave./Eaton Ave.

County: Mahaska

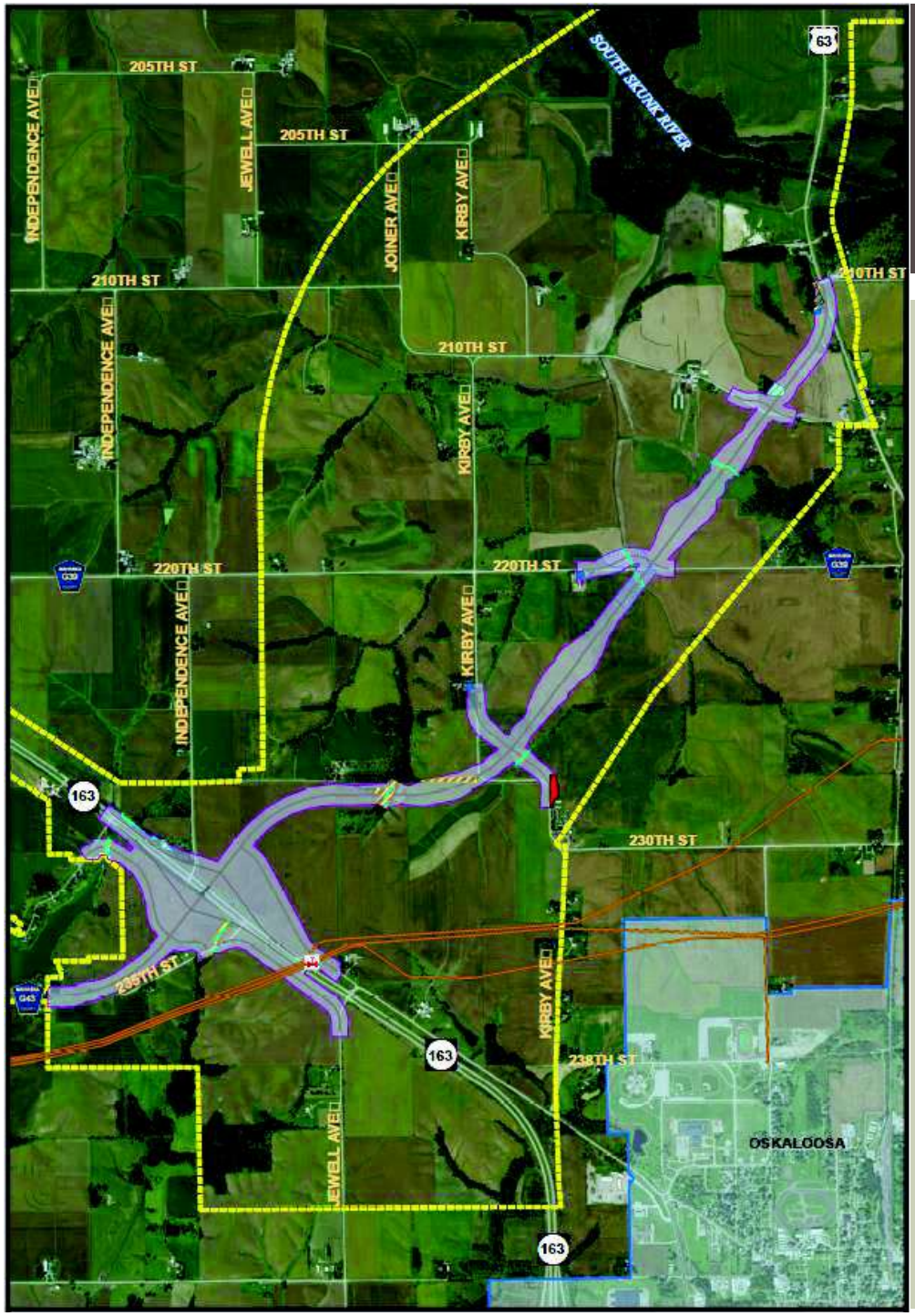
PIN: 13-62-063-020

Project Number: NHSX-063-3(93)--3H-62

Location: Northwest Oskaloosa Bypass

NEPA / SECTION 404
CONCURRENCE POINT 3 MEETING

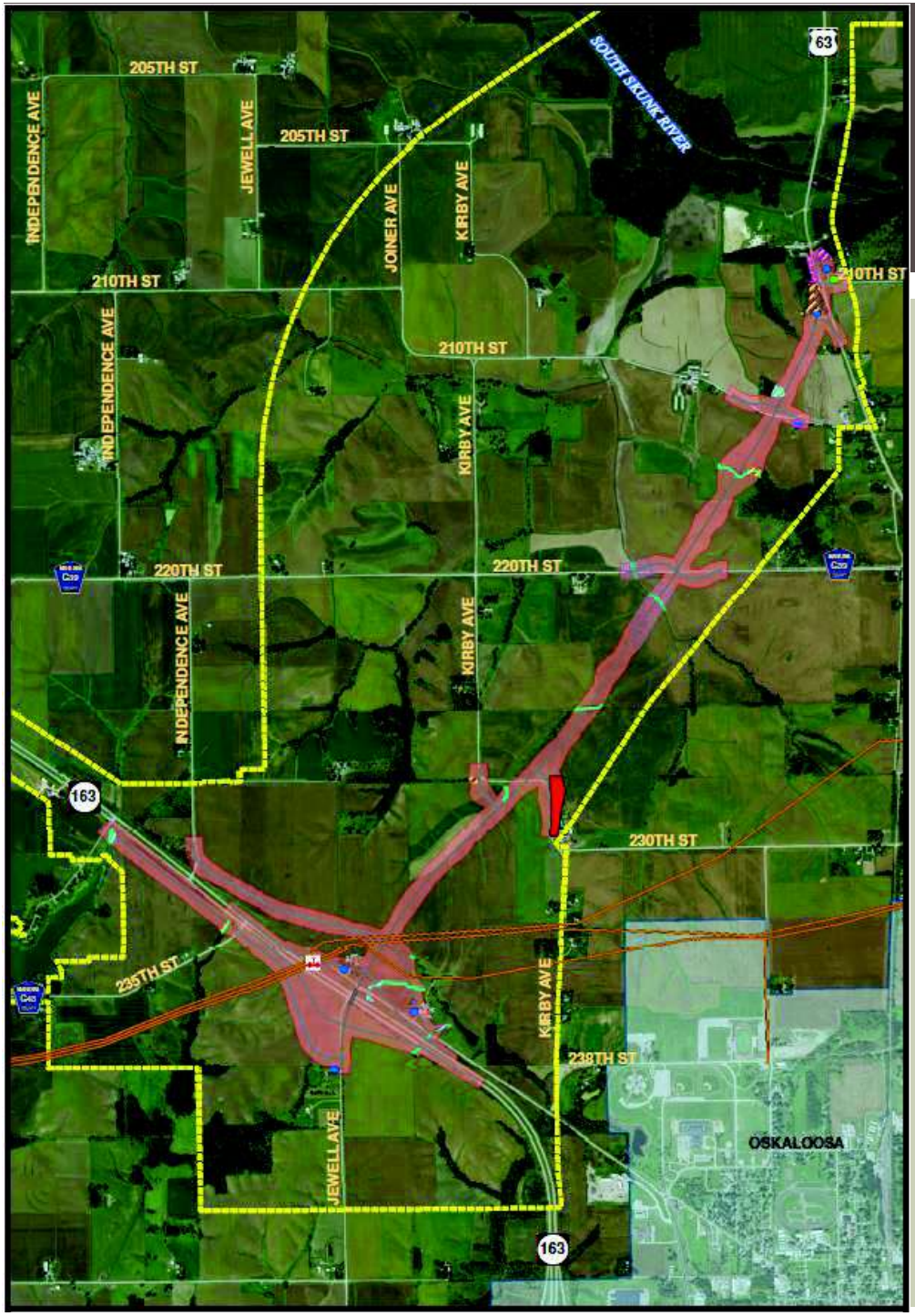
February 16, 2016
10:00 AM



ALTERNATIVE 1A

- Alternative 1A begins with a new interchange at Iowa 163 and ties into 235th Street and extends northeasterly. It then turns easterly for approximately ½ mile and then curves northeasterly and crosses Kirby Avenue, 220th Street, and 210th Street before reconnecting with US 63 south of the Oskaloosa water treatment plant and the South Skunk River.

Floodplains	Potential IB Habitat	Project Study Area
Regulated Materials	Pipeline	City of Oskaloosa
Waters of the U.S.	Water Treatment Plant	Homes
Wetlands	Proposed Alignment	Valve_Field
Woodlands	Impact Area	



ALTERNATIVE 4

Alternative 4 begins with a connection to Jewell Avenue and a new interchange at IA 163 and extends northeasterly.

It crosses Kirby Avenue, 220th Street, and 210th Street before reconnecting with US 63 south of the Oskaloosa water treatment plant and the South Skunk River.

- Cultural Resources
- Floodplains
- Potential IB Habitat
- Water Treatment Plant
- Woodlands
- Waters of the U.S.
- Wetlands
- Regulated Materials
- Pipeline
- Businesses
- Homes
- Proposed Alignment
- Impact Area
- Project Study Area
- City of Oskaloosa
- Valve_Field

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APPENDIX H

Cultural Resources Report

APPENDIX H - HISTORIC, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

Report, Summary, and Recommendations

Phase I Cultural Resource Investigation for the Proposed South Central Regional Airport

Principal Investigator: Jonathan Sellars, Consulting Archaeological Services, January 2016

Phase IA Archaeological Assessment of the Pella and Oskaloosa Municipal Airport Properties, Mahaska and Marion Counties, Iowa

Principal Investigator: Toby Morrow, Wapsi Valley Archaeology, April 2016

Reconnaissance Level Architectural History Survey for Three Airport Locations, Intensive Level Survey, and Evaluation of the Prine Cemetery, Mahaska and Marion Counties, Iowa

Principal Investigator: Colleen Small-Vollman, Wapsi Valley Archaeology, April 2016

Viewshed Impact Study of 1795 220th Street and Prine Cemetery, Mahaska County, Iowa

Principal Investigator: Colleen Small-Vollman, Wapsi Valley Archaeology, June 2016

PHASE I CULTURAL RESOURCE INVESTIGATIONS FOR THE PROPOSED SOUTH CENTRAL AIRPORT PROJECT, MAHASKA COUNTY, IOWA.

Report CAS-1067

By
Jonathan R. Sellars,
Principal Investigator
and
Leslie A. Ambrosino,
Project Archaeologist

Report of Investigations Conducted For
DGR, Inc.
Ankeny, Iowa

Consulting Archaeological Services
West Des Moines, Iowa

2016

Information contained in this report relating to the nature and location of archaeological sites is considered private and confidential and not for public disclosure in accordance with Section 304 of the National Historic Preservation Act (54 U.S.C. § 307103); 36 CFR Part 800.6 (a)(5) of the Advisory Council on Historic Preservation's rules implementing Sections 106 and 110 of the Act; Section 9(a) of the Archaeological Resource Protection Act (54 U.S.C. § 100707) and, Chapter 22.7, subsection 20 of the Iowa Code.

Database Doc Number: _____

NATIONAL ARCHAEOLOGICAL DATABASE – REPORTS: DATA ENTRY FORM

1. R and C #:
2. Authors: Sellars, Jonathan R., and Leslie A. Ambrosino

Year of Publication: 2016

3. Title: Phase I Cultural Resource Investigations for the Proposed South Central Airport Project, Mahaska County, Iowa.

4. Report
   - Title:
   - Volume #:
   - Report #: CAS-1067 NTIS:
   - Publisher: Consulting Archaeological Services
   - Place: West Des Moines, IA 50266

5. Unpublished
   - Sent From:
   - Sent To:
   - Contract #:

6. Federal Agency: FAA/STA

7. State: IA
   - County: Mahaska
   - Town:

8. Work Type: 31

9. Keyword:

0 - Types of Resources / Features		1 - Generic terms / Research Questions	
2 - Taxonomic Names		3 - Artifact Types / Material Classes	
4 - Geographic Names / Locations		5 - Time Periods	
6 - Project names / Study Unit		7 - Other Key Words	
Southern Iowa Drift Plain	[4]	Historic/Euro-American	[5]
Skunk River Basin	[4]	Prehistoric/Native	[ ]
319.0 acres surveyed	[7]	American	[5]
Lanceolate projectile	[ ]	Prine Cemetery	[7]
point	[3]		[ ]
Lithic Scatter	[0]		[ ]
	[ ]		[ ]

10. UTM Zone:

15	Easting:	Northing:	
15	Easting:	Northing:	
15	Easting:	Northing:	
15	Easting:	Northing:	

11.
- Township: T75N T76N
- Range: R16W R16W

Other Publication Types:

12. Monograph:

Name:

Place:

13. Chapter: **In:** **First:** **Last:**

14. Journal: **Volume:** **Issue:** **First:** **Last:**

15. Dissertation:

Degree: **Ph.D.** **LL.D.** **M.A.** **M.S.** **B.A.** **B.S.** **Institute:**

16. Paper: **Meeting:**

Place: **Date:**

17. Other:

Reference Line:

18. Site #:

13MK341
13MK609
13MK610
13MK611

19. Quad Map: **Name** Oskaloosa, IA **Date:** 1968

Abstract

This report presents the findings of a Phase I cultural resource investigation undertaken by personnel from Consulting Archaeological Services (CAS) in Mahaska County, Iowa. The cultural resource investigation was undertaken for the proposed South Central Regional Airport (SCRAA). The CAS investigations were undertaken for DGR Engineering of Ankeny, Iowa.

Development plans call for the proposed airport project to encompass 581.46 acres (2.35 square kilometers). However, project planners were unable to secure landowner permission to inspect all of the proposed development lands. As such, the CAS intensive (Phase I level) field investigations focused upon a combined area of 319.0 acres (1.29 square kilometers), for which land access was granted by private landowners.

The inspected project area was composed primarily of upland landforms that were in use for row crop production. There were no perennial drainages within the project area. Archaeological investigations included an archival records search, landowner and informant interviews, a pedestrian inspection of the project area, and the implementation of systematic shovel testing and hand probe testing.

The Phase I survey resulted in the identification of four archaeological sites. Three of these sites; prehistoric site 13MK341 and historic sites 13MK610 and 13MK611, were located within the proposed airport construction project area. The remaining site, the Prine Cemetery (13MK609), is an historic (Euro-American) period pioneer cemetery. The Prine Cemetery is located out of, but in close proximity to, the proposed airport construction project area. For reasons that include limited additional archaeological research potential, limited artifact assemblages, and prior site disturbances, sites 13MK341, 13MK610, and 13MK611 do not appear to meet minimum requirements for nomination to the National Register of Historic Places. Further archaeological investigations at these sites do not appear to be warranted. Site 13MK609 (the Prine Cemetery) is located outside of, but in close proximity to, the project area. Detailed recommendations for avoidance and preservation of this cemetery are presented in the report.

With the exception of the four archaeological sites discussed herein, no additional archaeological sites were identified by the Phase I cultural resource survey.

Reconnaissance Level Architectural History Survey for Three Airport Locations and Intensive Level Survey and Evaluation of the Prine Cemetery, Mahaska and Marion Counties, Iowa

Colleen Small-Vollman

Wapsi Valley Archaeology Report No. 907

Wapsi Valley Archeology, Inc.
P.O. Box 244
Anamosa, Iowa 52205
(319) 462-4760

April 2016

Abstract

This report presents the results of a reconnaissance level architectural history survey for the proposed South Regional Airport Project. Wapsi Valley Archaeology, Inc. completed this survey for Snyder & Associates, Inc.

Three areas were examined for this study, including the existing Pella Municipal Airport in Marion County, the existing Oskaloosa Municipal Airport in Mahaska County, and the proposed location for a new regional airport east of Pella and northwest of Oskaloosa in Mahaska County. The purpose of the current investigation was to perform a reconnaissance level historic architectural survey to identify historic properties that may be eligible for listing on the National Register of Historic Places within the subject area. In addition, this investigation also involved an intensive level survey and evaluation of the Prine Cemetery, which is situated in the vicinity of the proposed South Central Regional Airport.

The investigation found that construction at the Pella Municipal Airport began in 1968. The buildings at this facility are all less than 50 years old and are not of exceptional importance. None of the buildings are individually eligible, and the airport as a whole is not eligible for listing on the National Register of Historic Places.

The study also found that the Oskaloosa Municipal Airport and the property located at 1795 220th Street within the proposed South Central Regional Airport boundaries may be eligible for listing on the National Register of Historic Places. The Oskaloosa Municipal Airport runways are associated with the 1942 United States Air Naval Training Base located in Ottumwa, Iowa, and may retain sufficient integrity to meet criteria for listing on the National Register under Criterion A. The property at 1795 220th Street may retain sufficient integrity to meet criteria for listing on the National Register under Criterion C. In addition, an earth cellar associated with this residential property is a distinctive feature that may be significant individually.

In addition, the results of the intensive level survey determined that the Prine Family Cemetery is National Register eligible because it retains a high level of integrity and is a good example of a cemetery that is associated with the early settlement of Mahaska County.

Wapsi Valley Archaeology, Inc. has determined that the Oskaloosa Municipal Airport and the residence and earth cellar located at 1795 220th Street may be eligible for the National Register and recommends that Phase I intensive level historic architectural evaluation and documentation be completed to further evaluate these properties and make a formal determination of National Register eligibility. This reconnaissance level survey report presents a professional opinion of properties that appear to be significant; however, eligibility of properties identified for listing on the National Register of Historic Places should be confirmed through additional research, documentation, and formal evaluation at an intensive level of investigation.

Finally, avoidance is recommended for the Prine Cemetery. If avoidance is not possible, then mitigation of adverse effects is recommended for this historic property.

Conclusions

This report has presented the results of reconnaissance level architectural surveys of the Pella and Oskaloosa Municipal Airports and properties within the boundary of the proposed South Central Regional Airport.

The Pella Municipal Airport was constructed in 1968. The buildings at this facility are all less than 50 years old and are not of exceptional importance. None of the buildings are individually eligible, and the airport as a whole is not eligible for listing on the National Register of Historic Places.

This study found that the Oskaloosa Municipal Airport and the property located at 1795 220th Street, Oskaloosa, and may retain sufficient integrity to meet criteria for listing on the National Register under Criterion A. The airport runways are associated with the 1942 United States Air Naval Training Base located in Ottumwa, Iowa. The property at 1795 220th Street may retain sufficient integrity to meet criteria for listing on the National Register under Criterion C. In addition, an associated earth cellar is a distinctive feature that may be significant individually.

In addition, the results of the intensive level survey determined that the Prine Family Cemetery is National Register eligible because it appears to retain a high level of integrity and is good example of a cemetery associated with the early settlement of Mahaska County.

Recommendations

This reconnaissance level survey was undertaken by Wapsi Valley Archaeology, Inc. and has determined that the Oskaloosa Municipal Airport and the residence and earth cellar located at 1795 220th Street may be eligible for the National Register of Historic Places. We recommend that Phase I intensive level historic architectural evaluation and documentation be completed to further evaluate these properties and make a formal determination of National Register eligibility. This reconnaissance level survey report presents a professional opinion of properties that appear to be significant; however, eligibility of properties identified for listing on the National Register of Historic Places should be confirmed through additional research, documentation, and formal evaluation at an intensive level of investigation.

Finally, avoidance is recommended for the Prine Cemetery. If avoidance is not possible, then mitigation of adverse effects is recommended for this historic property.

A Phase IA Archaeological Assessment of the Pella and Oskaloosa Municipal Airport Properties, Mahaska and Marion Counties, Iowa

Toby A, Morrow

Wapsi Valley Archaeology Report No. 909

Wapsi Valley Archaeology, Inc.
P.O. Box 244
Anamosa, Iowa 52205
(319) 462-4760

April 2016

Abstract

This report presents the results of Phase IA archaeological assessment of two properties: the Pella Municipal Airport and the Oskaloosa Municipal Airport. Wapsi Valley Archaeology, Inc. conducted this study for Snyder & Associates, Inc. in April 2016 to determine whether or not a Phase I intensive archaeological field study was called for and, if so, where this work would be most effectively directed. The Pella Municipal Airport project area is in the SW 1/4 of Section 4, the SE 1/4 of Section 5 and the NW 1/4 and the NW 1/4 of the SW 1/4 of Section 9, T76N, R18W, Lake Prairie Township, Marion County, and it encompasses a total of 84 acres (34.0 hectares). The Oskaloosa Municipal Airport is in the E 1/2 and the E 1/2 of the W 1/2 of Section 8, and in the W 1/2 of the W 1/2 of Section 9, T74N, R14W, Cedar Township, Mahaska County, and it encompasses some 620 acres (250.9 hectares), of which approximately 528 acres (213.7 hectares) are leased out as farmland.

Background research indicated that no archaeological sites have been recorded within or near either of the two airports. Evaluation of soils data along with the LANDMASS and Burial Mound models indicated that while the two areas have relatively little potential for containing prehistoric cultural resources, there are some small, limited areas that have a greater chance of containing such sites.

Examination of historic plat maps indicates that a residence was located on the Pella Airport property as early as 1875 and that there were three different rural farmsteads on the Oskaloosa Airport property during the early twentieth century. Furthermore, from 1942 to 1947 the Oskaloosa Airport was a Naval Outlying Landing Field associated with the major Naval air training base at Ottumwa. The Pella Airport is much more recent, having been initially constructed from 1967 to 1968.

A brief field visit included photographing the project areas, spot-checking selected areas within them and taking Oakfield soil probe tests. Limited probing at the Pella Airport property demonstrated that while much of the area is previously disturbed, soil profiles are intact in some places. Spot-checking at the Oskaloosa Airport property demonstrated that historic artifact scatters are present at the locations of the farmsteads illustrated on the 1905 plat map and visible on the late 1930s aerial photograph.

Phase I intensive archaeological surveys of selected portions of both the Pella and Oskaloosa airport properties are recommended. At Pella, the southeastern-

most 200 meters (656 feet) of the property parcel should be surveyed for prehistoric archaeological sites, and the vicinity of the house illustrated on the 1875 plat map should be subjected to subsurface testing. At Oskaloosa, the southwestern corner of the property should be examined to search for prehistoric archaeological sites, the vicinities of the three farmsteads illustrated on the 1905 plat map and visible on the late 1930s aerial photograph should be surveyed, and the potential for any material traces of the World War II use of the field should be investigated. Beyond these selected locations, no additional archaeological work is recommended.

Conclusions

This report has presented the results of Phase IA archaeological assessment of two properties: the Pella Municipal Airport and the Oskaloosa Municipal Airport. This study was completed to determine whether or not a Phase I intensive archaeological field study was called for and, if so, where this work would be most effectively directed.

Background research indicated that no archaeological sites have been recorded within or near either of the two airports. Evaluation of soils data along with the LANDMASS and Burial Mound models indicated that while the two areas have relatively little potential for containing prehistoric cultural resources, there are some small, limited areas that have a greater chance of containing such sites.

Examination of historic plat maps indicates that a residence was located on the Pella Airport property as early as 1875 and that there were three different rural farmsteads on the Oskaloosa Airport property during the early twentieth century. Furthermore, the Oskaloosa Airport was from 1942 to 1947 a Naval Outlying Landing Field associated with the major Naval air training base at Ottumwa. The Pella Airport is much more recent, having been initially constructed from 1967 to 1968.

Recommendations

Phase I intensive archaeological surveys of selected portions of both the Pella and Oskaloosa airport properties are recommended. At Pella, the southeastern-most 200 meters (656 feet) of the property parcel should be surveyed for prehistoric archaeological sites, and the vicinity of the structure illustrated on the 1875 plat map should be subjected to subsurface testing. At Oskaloosa, the southwestern corner of the property should be examined to search for prehistoric archaeological sites, the vicinities of the three farmsteads illustrated on the 1905 plat map and visible on the late 1930s aerial photograph should be surveyed, and the potential for any material traces of the World War II use of the field should be investigated. Beyond these selected locations, no additional archaeological work is recommended.

It should be noted that all Phase I archaeological surveys involve sampling within a project area. According to the "Protection of Historic Properties" portion of the National Historic Preservation Act [36CFR Part 800.13(b)], if any prehistoric or historic artifacts or features are unexpectedly uncovered during the course of the proposed construction activities, the responsible agency must be contacted without delay. In addition, if any human remains are encountered, it is required by Iowa law [Code of Iowa, Chapters 263B and 716.5; IAC 685, Ch. 11.1] that all work in the area of the remains be temporarily stopped, security provided for the remains, local law enforcement officials notified to help protect the remains, and the Bioarchaeology Program Director, located in the Office of the State Archaeologist, contacted immediately at (319) 384-0740. Archaeologists with Wapsi Valley Archaeology at (319) 462-4760 and the State Historical Society of Iowa at (515) 281-4358 or 8744 can also be called upon to provide advice if unexpected cultural resources are encountered.

Information contained in this report relating to the nature and location of archaeological sites is considered private and confidential and not for public disclosure in accordance with Section 304 of the National Historic Preservation Act (54 U.S.C. § 307103); 36 CFR Part 800.6 (a)(5) of the Advisory Council on Historic Preservation's rules implementing Sections 106 and 110 of the Act; Section 9(a) of the Archaeological Resource Protection Act (54 U.S.C. § 100707) and, Chapter 22.7, subsection 20 of the Iowa Code.

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Viewshed Impact Study of 1795 220th Street and the Prine Cemetery, Mahaska County, Iowa

Colleen Small-Vollman and Michael Giller

Wapsi Valley Archaeology Report No. 928

Wapsi Valley Archaeology, Inc.
126 East Main Street
Anamosa, Iowa 52205
(319) 462-4760

June 2016

Abstract

This report is an addendum to Wapsi Valley Archaeology Report number 907 (R&C No. 150362076). The Federal Aviation Administration and the South Central Regional Airport Agency (SCRAA) requested further study of the visual effects that the proposed South Central Regional Airport undertaking may have on historic properties within the defined project area. Wapsi Valley Archaeology, Inc. completed this survey for Snyder & Associates, Inc. in June 2016.

For this investigation, a viewshed impact study was completed to assess the visual impact the proposed airport building complex including runways, buildings no more than 35 feet tall, and an estimated-50-foot tower will have on the property located at 1795 220th Street and the Prine Cemetery located in Oskaloosa, Mahaska County. In addition, the Prine Cemetery was mapped and photographed.

A viewshed impact study was completed for the property located at 1795 220th Street. This property could not be fully evaluated because access to the resource was denied by the property owner; however, for the purpose of this study, the property may be treated as though it is eligible for the National Register of Historic Places. The viewshed impact study for the property located at 1795 220th Street concluded that the house and associated earth cellar are within the viewshed of the proposed South Central Regional Airport boundaries and would be adversely affected should the property be determined eligible for listing on the National Register of Historic Places.

The results of the viewshed impact study found that the Prine Cemetery will not be adversely visually impacted by the proposed airport building complex including runways, buildings no more than 35 feet tall, and a tower estimated to be 50 feet tall, based on current design plans. It is recommended that the existing screen of trees at the northern and eastern edges of the cemetery be maintained over time.

Wapsi Valley Archaeology, Inc. has determined that the proposed undertaking will have no adverse visual impact to the Prine Cemetery but will have an adverse visual impact on the residence and earth cellar located at 1795 220th Street if that property is determined eligible for the National Register. If the property located at 1795 220th Street, Oskaloosa is determined eligible in the future, it is recommended that a Multiple Property Documentation Form be completed on earth contact cellars in Iowa to mitigate the adverse effects of the undertaking on this property.

Recommendations

This viewshed impact study was undertaken by Wapsi Valley Archaeology, Inc. and has determined that the residence and earth cellar located at 1795 220th Street will be adversely impacted by the proposed airport undertaking. We recommend the following measures to mitigate the adverse effects of the undertaking should the property be found to be eligible for the National Register of Historic Places, or should the involved parties decide to treat the property as such.

Wapsi Valley Archaeology suggests that a National Register Multiple Property Documentation Form be prepared for earth contact cellars in Iowa. The document will define and describe the historic context, describe the associated property type (earth contact cellars in Iowa), and establish the significance and integrity of these resources.

Although the proposed undertaking will not visually impact the Prine Cemetery, it is suggested that the existing trees remain in place and be maintained in order to provide privacy and a screen from possible intrusions created by the proposed undertaking.

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APPENDIX I

Endangered and Threatened Species Report

Memorandum

To: South Central Regional Airport Agency **Date:** 5-15-2015

From: Snyder & Associates, Inc.

CC:

RE: T&E Species Review

The U.S. Fish and Wildlife service requires that a Threatened and Endangered Species Review (T&E Review) be conducted before the construction of projects that could have an impact on threatened and endangered species. As specified in Section 7 of the Endangered Species Act, as amended, each federal agency is required to ensure that "any action authorized , funded, or carried out by such agency…is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined by the Secretary, after consultation as appropriate with the affected states, to be critical, unless such agency has been granted an exemption for such action by the Committee." Further, Section 7a(3) requires that "each federal agency shall confer with the Secretary on any agency action which is likely to jeopardize the continued existence of any species proposed to be listed under Section 4 or results in the destruction or adverse modification of critical habitat proposed to be designated for such species."

The proposed airport property is located in Sections 29, 32, and 33 of Township 76 North, Range 16 West, and Section 4 of Township 75 North, Range 16 West in Mahaska County, Iowa. The project area currently consists primarily of row-crop agricultural land and two woodland areas.

Federally threatened and endangered species are listed and described in **Table 1**. The U.S. Fish and Wildlife Service supplied the public a list of federally threatened and endangered species for each county in Iowa via their Section 7 Consultation web site:
http://www.fws.gov/midwest/endangered/lists/iowa_cty.html

Table 1 - Federal list of Threatened and Endangered Mammal, Animal, and Plant Species in Mahaska County, IA

Common Name	Scientific Name	Classification	Preferred Habitat
Indiana bat	Myotis sodalist	Endangered	Large trees, loose bark, near water
Northern long-eared bat	Myotis septentrionalis	Threatened	Loose bark trees, barns/sheds
Prairie bush clover	Lespedeza leptostachya	Threatened	Dry to mesic prairies, gravelly soils
Western prairie fringed orchid	Platanthera praeclara	Threatened	Mesic to wet unplowed tall grass prairies
Bald Eagle*	Haliaeetus leucocephalus	Special Concern	Near water, nest in large trees

* On June 28, 2007, the bald eagle was removed from the Federal List of Endangered and Threatened Species, but is still listed as a Species of Special Concern in the State of Iowa and protected by the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act.

The State of Iowa threatened and endangered species are listed and described in **Table 2**. The Iowa Department of Natural Resources provides a list of state threatened and endangered species on their Natural Areas Inventory website:
https://programs.iowadnr.gov/naturalareasinventory/pages/Query.aspx

Table 2 - State list of Threatened and Endangered Mammal, Animal, and Plant Species in Mahaska County, IA

Common Name	Scientific Name	Classification	Preferred Habitat
Bald Eagle	Haliaeetus leucocephalus	Special Concern	Near water, nest in large trees
Barn Owl	Tyto alba	Endangered	Grassland, nest is large trees, abandoned buildings
Henslow's Sparrow	Ammodramus henslowii	Threatened	Tall, dense grass, >100 acres
Regal Fritillary	Speyeria idalia	Special Concern	Tall grass and mixed grass prairies
Indiana bat	Myotis sodalis	Endangered	Large trees, loose bark, near water
Southern Bog Lemming	Synaptomys cooperi	Threatened	Tall grass prairie
Creeping Bush-clover	Lespedeza repens	Special Concern	Anthropogenic, forests, rocky slopes
Curved-pod Corydalis	Corydalis curvisiliqua ssp grandibracteata	Endangered	Sandy soil, open ground, prairies, hillsides, disturbed areas
Downy Woodmint	Blephilia ciliata	Threatened	Mesic to dry black soil prairies
Earleaf Foxglove	Tomanthera auriculata	Special Concern	Mesic to wet-mesic tall grass prairie
Frost Grape	Vitis vulpina	Special Concern	Woods, flood plains, and ravines
Hill's Thistle	Cirsium hillii	Special Concern	Open, dry, sandy, fire-prone areas
Larkspur	Delphinium carolinianum	Special Concern	Dry open woods, sandy hills
Paw Paw	Asimina triloba	Special Concern	Rivers and woodlots
Rough Bedstraw	Galium asprellum	Special Concern	Moist soil in meadows, thickets
Rough Buttonweed	Diodia teres	Special Concern	Disturbed areas, upland prairies
Roundstem Foxglove	Agalinis gattingeri	Threatened	Dry open woodlands, prairies
Spring Avens	Geum vernum	Special Concern	Rich deciduous woodlands, shaded
Winged Monkey Flower	Mimulus alatus	Threatened	Openings in forests, swamps, ditches
Glomerate Sedge	Carex aggregate	Special Concern	Moist, open ground

Meadow Bluegrass	Poa wolfii	Special Concern	Moist woodlands, steep slopes
Oval Ladies'-tresses	Spiranthes ovalis	Threatened	Moist to mesic woodlands
Pale Green Orchid	Platanthera flava	Endangered	Moist prairies, riverbanks, ditches
Slender Ladies'-tresses	Spiranthes lacera	Threatened	Meadows, fields, prairies, open woods
Soft Rush	Juncus effusus	Special Concern	Wet woodlands, marshes, ditches
Virginia Spiderwort	Tradescantia virginiana	Special Concern	Woodlands, hillsides, stream banks
Crowfoot Clubmoss	Lycopodium digitatum	Special Concern	Disturbed areas, coniferous forests
Northern Adder's-tongue	Ophioglossum pusillum	Special Concern	Anthropogenic, marshes, meadows
Smooth Green Snake	Liochlorophis vernalis	Special Concern	Moist native prairies/prairie marshes

Suitable habitat for the Indiana bat and northern long-eared bat may be present within the woodland areas of the proposed airport property. Snyder & Associates, Inc. recommends a bat habitat assessment be performed within all woodland areas of the proposed airport property.

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INDIANA BAT AND NORTHERN LONG-EARED BAT HABITAT ASSESSMENT

PROPOSED SOUTH CENTRAL AIRPORT
IOWA HIGHWAY 163
MAHASKA COUNTY, IOWA

PERFORMED FOR:

SOUTH CENTRAL REGIONAL AIRPORT AGENCY
213 SOUTH 1ST STREET
OSKALOOSA, IOWA 52577

JUNE 19, 2015

PREPARED BY:

SNYDER & ASSOCIATES, INC.
ENGINEERS AND PLANNERS

2727 SW Snyder Blvd.
Ankeny, Iowa 50023
515-964-2020

SNYDER & ASSOCIATES
Engineers and Planners

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1.1 Site Description 1
1.2 Indiana Bat Preferred Habitat 1
1.3 Northern Long-Eared Bat Preferred Habitat 2

2.0 Methods 3

3.0 Results 3

4.0 Conclusions and Recommendations 4

5.0 References 4

Appendices

Exhibits ..... Appendix A

Vicinity Map ..... Exhibit 1

U.S. Geological Survey (USGS) Topographic Map ..... Exhibit 2

Potential Bat Habitat Tree Locations ..... Exhibit 3

Photographic Documentation ..... Appendix B

LIST OF ACRONYMS

CFR	Code of Federal Regulations
dbh	diameter at breast height
IDNR	Iowa Department of Natural Resources
USFWS	U.S. Fish and Wildlife Service

1.0 Introduction

Snyder & Associates, Inc. assessed the project areas of the proposed airport project in Mahaska County, Iowa for the presence of Indiana bat and Northern long-eared bat habitat. Pedestrian surveys of the project area were conducted on May 6 and May 18, 2015 in accordance with the proposal and general conditions. The scope of this investigation was to indicate the presence/absence of potential bat habitat within the project areas that may be affected by construction activities.

Mahaska County, Iowa is listed as a county containing suitable summer habitat for the Indiana bat (*Myotis sodalis*) and Northern long-eared bat (*Myotis septentrionalis*). Indiana bat and Northern long-eared bat habitat surveys were conducted to determine the potential occurrence for Indiana bat habitat, including mature trees or snag trees.

1.1 Site Description

The proposed airport project boundary is shown on the Vicinity Map (Exhibit 1) and U.S. Geological Survey (USGS) Topographic Map (Exhibit 2) enclosed in Appendix A. The proposed airport property boundary is an irregular shaped area located east of Highland Avenue, south of 210th Street, west of Independence Avenue, and north of Highway 163. Drainageways, agricultural fields, a pond, utility lines, trees, a portion of 220th Street, and residential areas are located within the airport property boundary. The project area consists of roughly 580 acres, and is located in the following sections in Mahaska County, Iowa:

- Section 29, Township 76 North, Range 16 West
- Section 32, Township 76 North, Range 16 West
- Section 33, Township 76 North, Range 16 West and
- Section 4, Township 75, Range 16 West

1.2 Indiana Bat Preferred Habitat

The Indiana bat (*Myotis sodalis*) is a federally-listed endangered species under 50 Code of Federal Regulations (CFR) Part 17 and state-listed endangered species under the Code of Iowa, Chapter 481B. Female Indiana bats have their young beneath the loose or peeling bark of trees. Most nursery colonies have been found beneath the bark on the trunk or large branches of standing dead trees. Dead trees that retain sheets or plates of bark such as several of the oak species (*Quercus spp.*) along with cottonwood (*Populus deltoides*) are potential roost trees. Live trees with the same characteristics, such as shagbark (*Carya ovata*) and shellbark (*Carya lacinosa*) hickory are also used for roosting (Reference A). Generally, nursery colonies are located near streams and rivers in upland forests because high populations of insects serve as a primary food source in these locations. Based on studies conducted in Illinois, essential summer habitat was considered to be the following:

- 30 percent or greater deciduous forest cover within a 6/10 mile radius
- Permanent water within a 6/10 mile radius
- Suitable roost trees within a 3/10 mile radius

Areas with as little as five (5) percent deciduous forest cover provided suitable habitat as long as water and roost trees were within the listed distances. In Iowa, Indiana bat occurrences have been recorded in areas of 15 percent or greater forest cover and near permanent water. As with other states, roost tree species have been identified as shagbark (*Carya ovata*) and shellbark (*Carya*

lacinosa), bitternut hickory, American elm (*Ulmus americana*), slippery elm (*Ulmus rubra*), eastern cottonwood (*Populus deltoids*), silver maple (*Acer saccharinum*), white oak (*Quercus alba*), red oak (*Quercus falcata*), post oak (*Quercus stellata*), and shingle oak (*Quercus imbricaria*) with slabs or plates of loose bark. Suitable summer habitat requirements in Iowa have been considered as having the following within a ½ mile radius of a location of:

- Forest cover of 15 percent or greater
- Permanent water
- One or more of the listed tree species having 9 inches dbh or greater
- The potential roost trees ranked as moderate or high for peeling or loose bark

Indiana bats have been found in both urban and rural areas but generally exclude city park areas with manicured and mowed grasses. In Iowa, the counties that are affected by the Indiana bat's summer range include: Adair, Appanoose, Boone, Cedar, Clarke, Dallas, Davis, Decatur, Des Moines, Guthrie, Henry, Iowa, Jasper, Jefferson, Johnson, Keokuk, Lee, Louisa, Lucas, Madison, Mahaska, Marion, Marshall, Monroe, Muscatine, Polk, Poweshiek, Ringgold, Scott, Story, Tama, Taylor, Union, Van Buren, Wapello, Warren, Washington, and Wayne (Reference C).

The U.S. Fish and Wildlife Service (USFWS) released the 2014 Range-Wide Indiana Bat Summer Survey Guidelines in January 2014 (Reference B). The objectives, according to the guidelines, are to:

- Standardize range-wide survey procedures
- Maximize the potential for detection/capture of Indiana bats at a minimum acceptable level of effort
- Make accurate presence/absence determinations
- Aid in conservation efforts for the species by identifying areas where the species is present

The USFWS 2014 guidelines state that suitable summer habitat for Indiana bats consists of a wide variety of forested/wooded habitats where they roost, forage, and travel and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees and/or snags greater than five (5) inches dbh that have exfoliating bark, cracks, crevices, and/or hollows), as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet of other forested/wooded habitat.

1.3 Northern Long-Eared Bat Preferred Habitat

The Northern long-eared bat (*Myotis septentrionalis*) is a federally-listed threatened species as of May 2015. Female northern long-eared bats have their young beneath the loose or peeling bark of trees. Northern long-eared bats require forest for roosting, raising young, foraging, and commenting between roosting and foraging habitat (Reference D). Northern long-eared bats may roost individually or in colonies in cavities, under bark, in crevices, crevices of both live trees and snags, and manmade structures to a lesser extent (Reference D). These bats are not

dependent on certain tree species but rather choose roost trees that have suitable cavities and bark. Bats emerge at dusk to forage in upland and lowland woodlots and tree-lined corridors, feeding on insects. In Iowa, all counties are affected by the Northern long-eared bat's summer range (Reference E).

According to the USFWS, suitable roost trees have the following:

- Trees can be alive, dead, dying, or snagged
- Trees with 3 inches or greater dbh
- Exfoliating bark, crevices, cavity, or cracks

Isolated trees are considered suitable roost trees if they exhibit the previously listed characteristics and are less than 1,000 feet from the nearest roost tree within a woodlot or wooded fencerow. Spring/fall swarming habitat is most typically found within five (5) miles of a hibernaculum and includes forested patches, fencerows, riparian, forests, and other wooded corridors.

2.0 Methods

The proposed airport project area was assessed for potential Indiana bat and Northern long-eared bat habitat on May 6 and May 18, 2015. Only those portions for which private landowner permission could be obtained were assessed during the pedestrian survey. The project area was assessed following the Iowa Department of Natural Resources (IDNR) Survey Methods for Indiana Bat Summer Habitat (Reference A), USFWS Range-Wide Indiana Bat Summer Survey Guidelines (Reference B), and the USFWS Northern Long-Eared bat guidance (Reference D).

Visual observations were performed by walking the project area in order to identify live and dead trees/snags greater than three (3) inches dbh having exfoliating bark, crack, crevices, and/or hollows according to the USFWS 2014 Guidelines. Photographs were taken of these areas and are included in Appendix B of this report.

Points were marked using a global positioning system (GPS) unit. Each location was then assigned a numerical indicator where the number represented a location for potential Indiana or Northern long-eared bat habitat trees. These locations included either individual trees or group of trees clustered together.

3.0 Results

A large portion of the project area is agricultural land with some forested areas and streams. Throughout the accessible project area, 89 potential roost tree locations (Exhibits 3-1 through 3-3 enclosed in Appendix A) met the habitat requirements listed in the IDNR and USFWS guidance. These potential roost trees included either an individual tree or group of trees clustered together and are enclosed in Appendix B, Photographic Documentation. The photographs provide a description and location of each site meeting the habitat requirements.

4.0 Conclusions and Recommendations

Potential Indiana bat and Northern long-eared bat habitat locations were assessed within the project area on May 6 and May 18, 2015.

A few private landowners did not grant permission to access their property within the proposed airport property. Within the accessible project areas, 89 potential roost tree locations were identified and categorized as dead/dying, living, or snag trees:

- The following are dead/dying trees that have peeling bark as identified in the USFWS guidelines:
  2, 15, 17, 18, 19, 21, 23, 25, 28, 29, 32, 37, 40, 41, 44, 49, 54, 55, 68, 69, 71, 73, 75, 78, 80, 85, 86, 87
- The following are live trees with exfoliating bark, cracks, or crevices:
  1, 3, 4, 6, 11, 16, 33, 34, 35, 61, 70, 79, 89
- The following are snag trees with downed limbs and/or trunks that have peeling bark:
  5, 7, 8, 9, 10, 12, 13, 14, 20, 22, 24, 26, 27, 30, 31, 36, 38, 39, 42, 43, 45, 46, 47, 48, 50, 51, 52, 53, 56, 57, 58, 59, 60, 62, 63, 64, 65, 66, 67, 72, 74, 76, 77, 81, 82, 83, 84, 88

Based on the results of the Indiana bat and Northern long-eared bat habitat survey, the proposed actions **may affect, but not likely adversely affect** the Indiana bat and Northern long-eared bat. The recommendation is that removal of any potential roost trees identified during the habitat study or during project construction should be conducted from October 1 to March 31.

5.0 References

A. IDNR, 2007. Guidelines for Protection of Indiana Bat Summer Habitat, June 2007.

B. USFWS, 2014. Range-Wide Indiana Bat Summer Survey Guidelines, available online at: http://www.fws.gov/midwest/endangered/mammals/inba/surveys/pdf/2014IBatSummerSurveyGuidelines13Jan2014.pdf

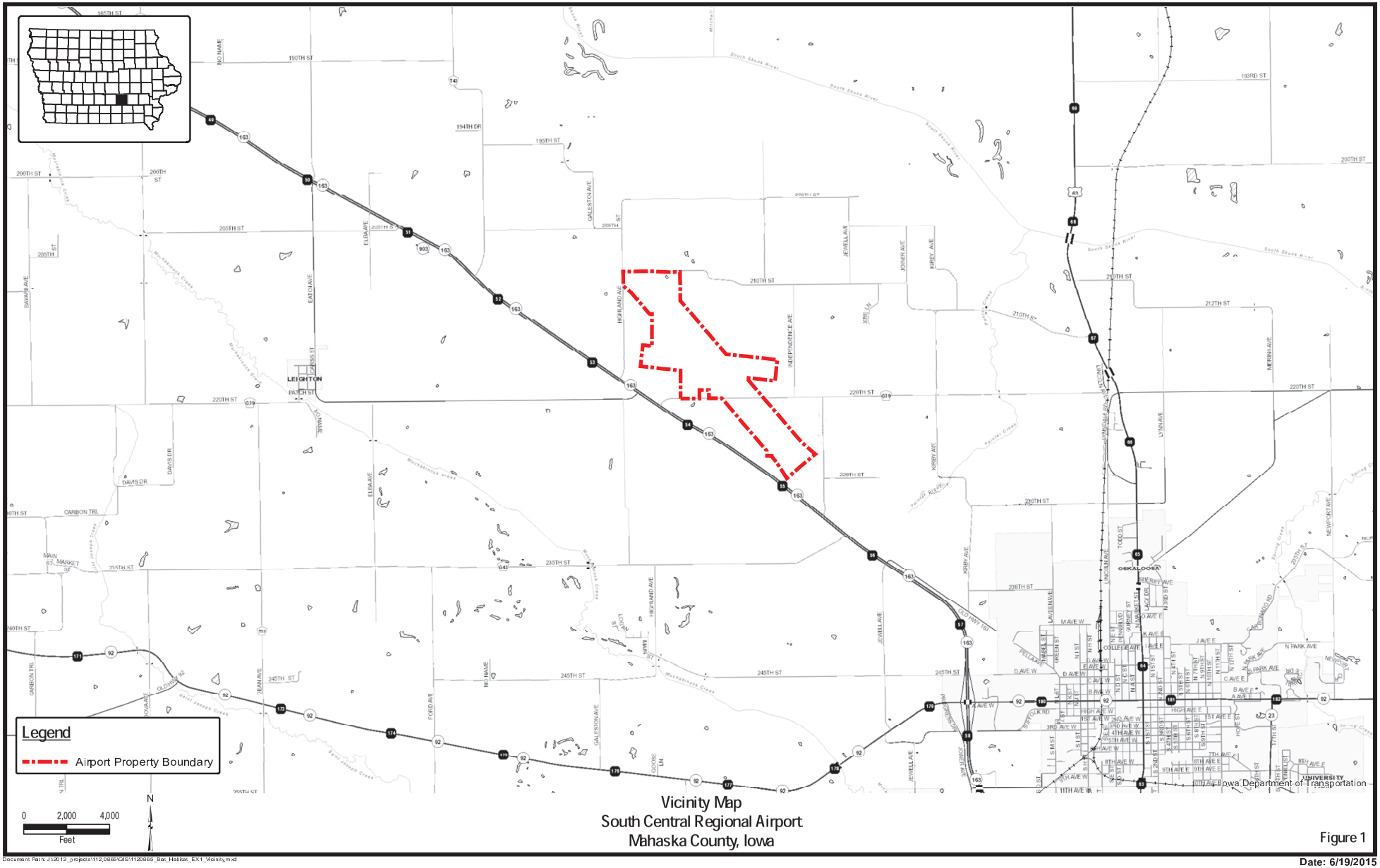
C. USFWS, 2014. Indiana Bat Counties in Iowa, available online at: http://www.fws.gov/midwest/Endangered/lists/pdf/IowaIBatRangeMap.pdf

D. USFWS, 2015. Northern Long-Eared Bat 50 CFR Part 17: Endangered and Threatened Wildlife and Plants; Threatened Species Status for the Northern Long-Eared Bat with 4(d) Rule, available online at: http://www.fws.gov/midwest/endangered/mammals/nleb/pdf/FRnlebFinalListing02April2015.pdf

E. USFWS, 2015. Northern Long-Eared Bat Interim 4(d) Rule Map, available online at: http://www.fws.gov/midwest/endangered/mammals/nleb/pdf/WNSBufferZone.pdf

Appendix A
Exhibits

Source: IA DOT



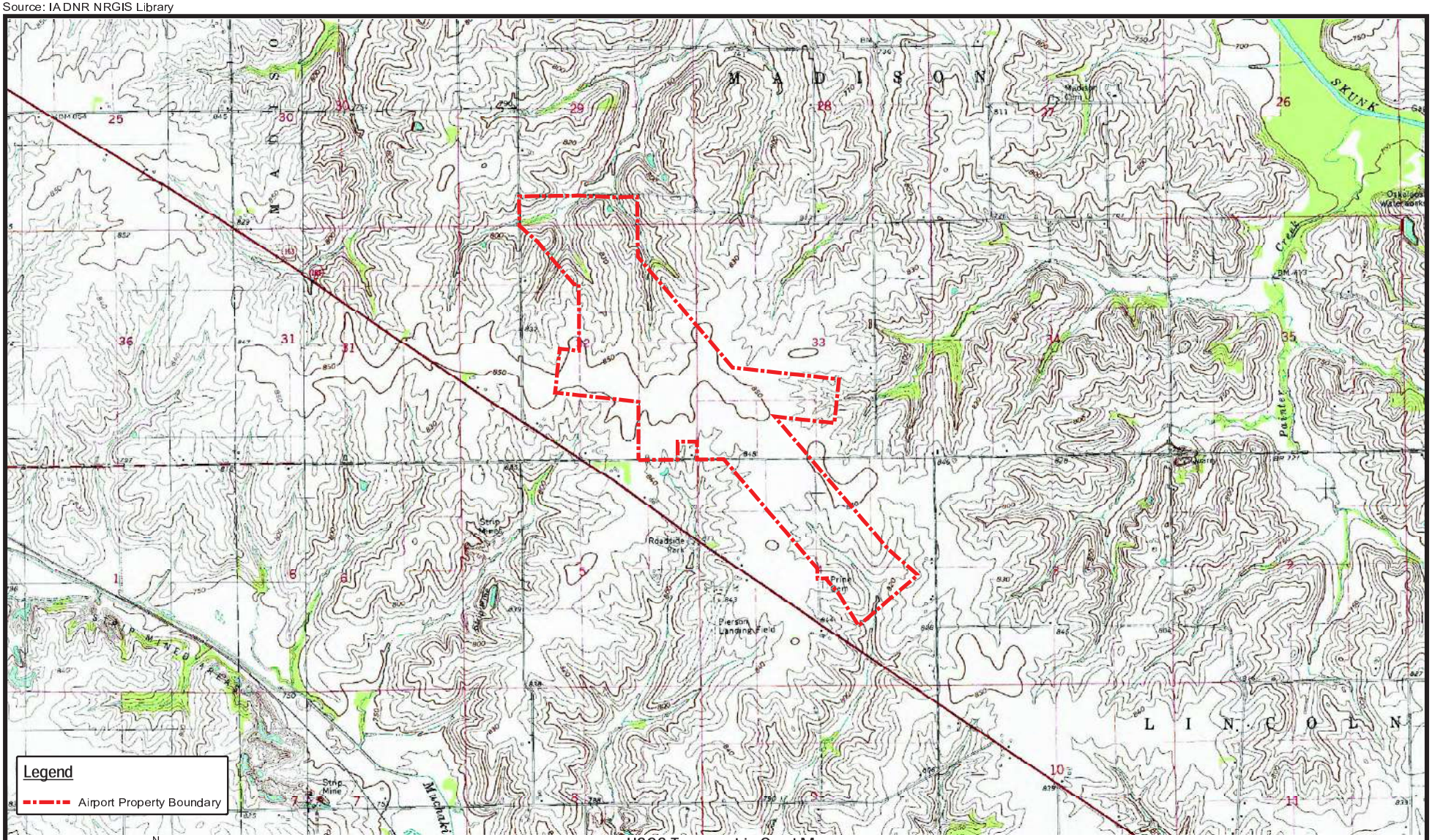
Vicinity Map
South Central Regional Airport
Mahaska County, Iowa

Figure 1

Document Path: J:\2012_projects\112,0865\GIS\1120865_Bat_Habitat_EX1_Vicinity.mxd

Date: 6/19/2015

Source: IA DNR NRGIS Library



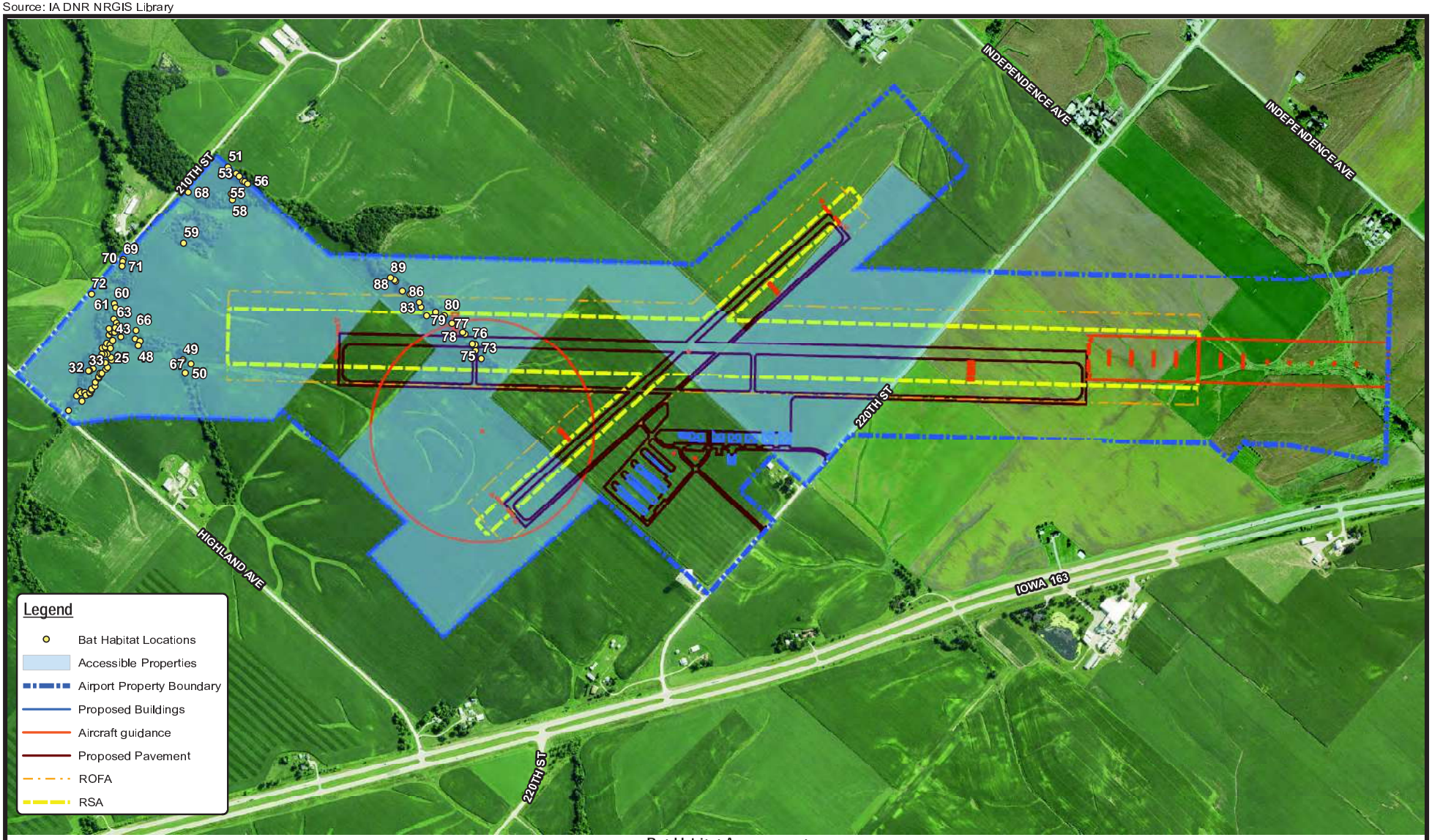
USGS Topographic Quad Map
South Central Regional Airport
Mahaska County, Iowa

Figure 2

Document Path: J:\2012_projects\112,0865\GIS\1120865_Bat_Habitat_Ex2-topo.mxd

Date: 6/19/2015

Source: IA DNR NRGIS Library



0 400 800
Feet

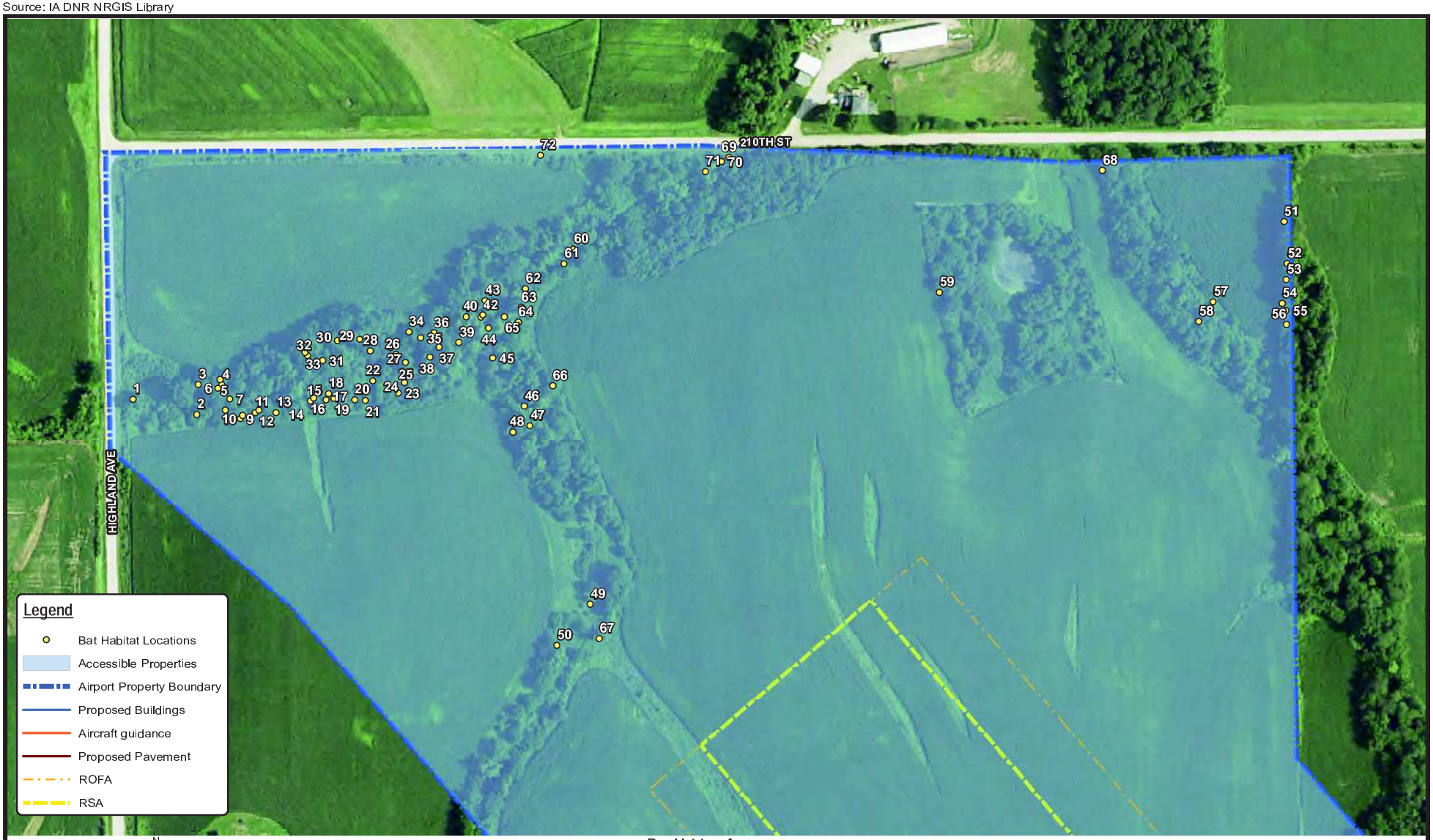
Bat Habitat Assessment
South Central Regional Airport
Mahaska County, Iowa

Figure 3-1

Document Path: J:\2012_projects\112_0865\GIS\1120865_EX3_Bat Habitat Assessment.mxd

Date: 6/19/2015

Source: IA DNR NRGIS Library



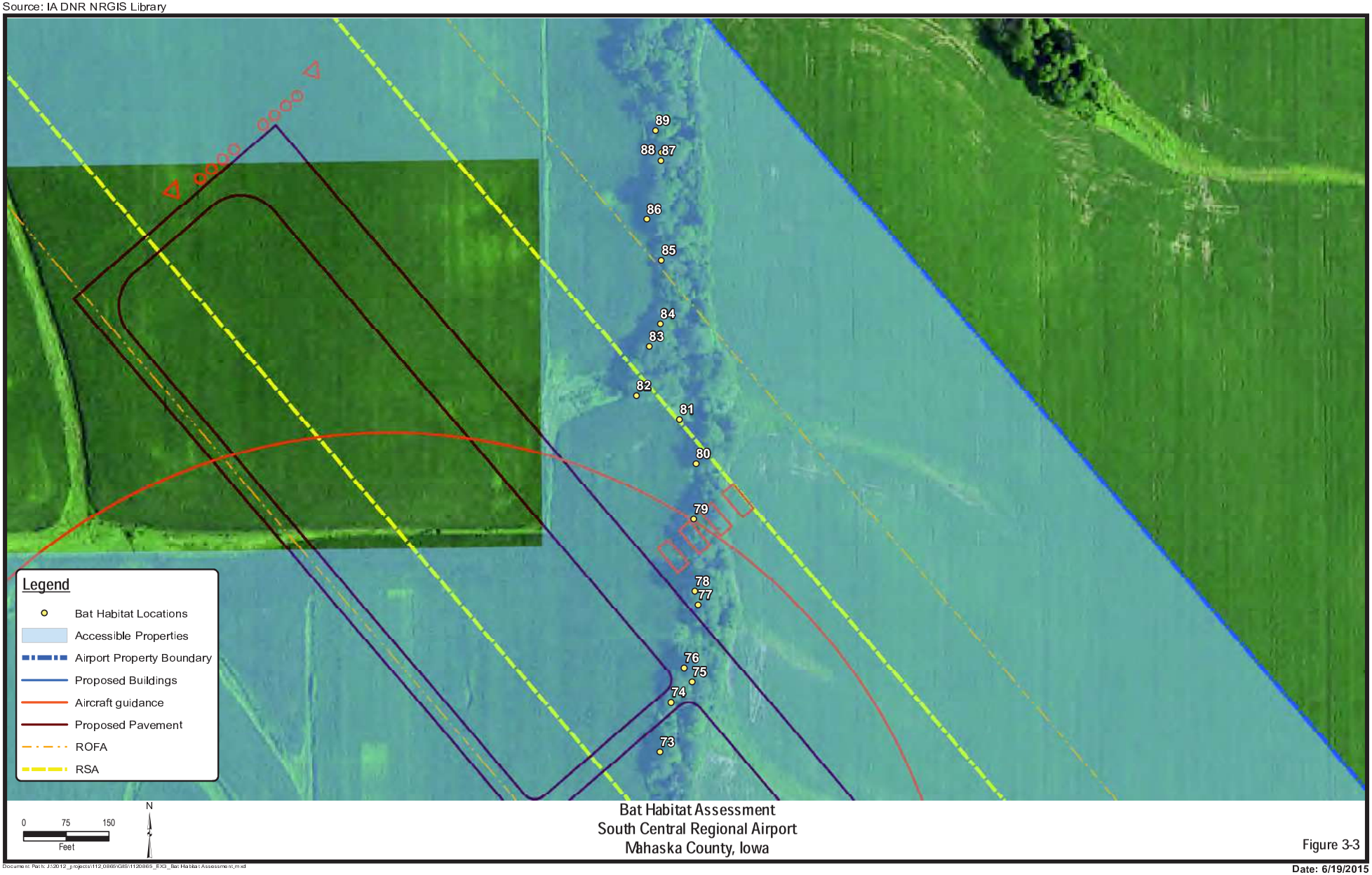
Bat Habitat Assessment
South Central Regional Airport
Mahaska County, Iowa

Figure 3-2

Document Path: J:\2012_projects\112_0865\GIS\1120865_EX3_Bat Habitat Assessment.mxd

Date: 6/19/2015

Source: IA DNR NRGIS Library



Bat Habitat Assessment
South Central Regional Airport
Mahaska County, Iowa

Figure 3-3

Document Path: J:\2012_projects\112_0865\GIS\1120865_EX3_Bat Habitat Assessment.mxd

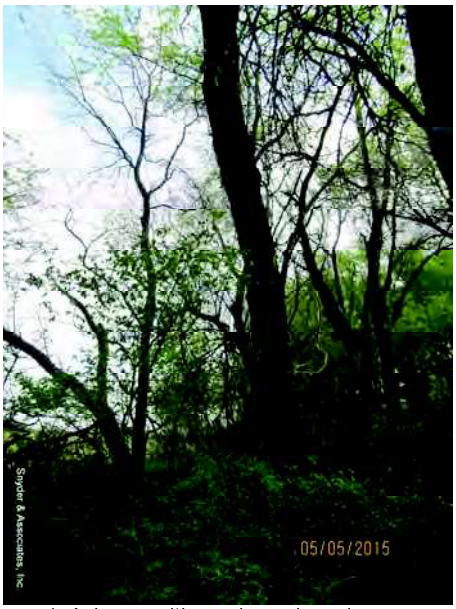
Date: 6/19/2015

Appendix B
Photographic Documentation

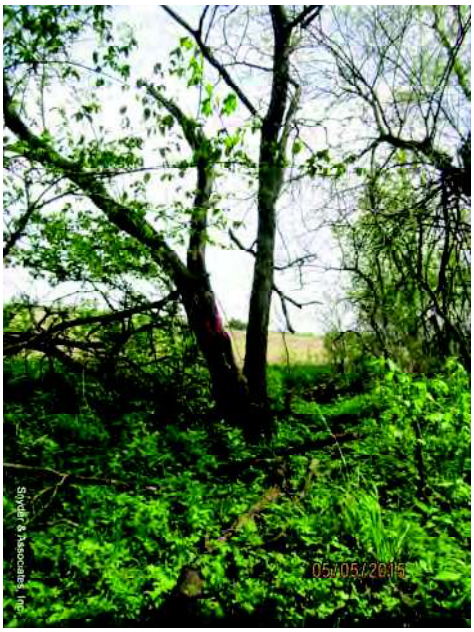
1. Cottonwood with cracks and crevices at approximately 25 dbh (41.350232°,-92.732325°).

2. Dead tree with peeling bark, cracks, and crevices (41.350134°,-92.731803°)

3. Honey Locust with cracks and crevices at approximately 25 dbh (41.350320°,-92.731788°)

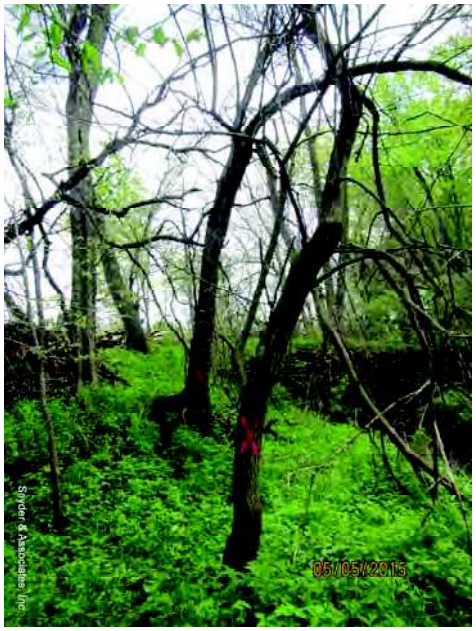


4. Ash tree with cracks and crevices at approximately 12 dbh (41.350316°,-92.731597°)



5. Dying tree with peeling bark, cracks, and crevices (41.350349°,-92.731611°)

6. Ash tree with cracks and crevices at approximately 14 dbh (41.350295°,-92.731629°)



7. Cluster of dead trees with cracks and crevices (41.350227°,-92.731533°)

8. Cluster of dead trees with peeling bark, cracks, and crevices (41.350160°,-92.731571°)

9. Cluster of dead trees with peeling bark, cracks, and crevices (41.350106°,-92.731450°)

10. Cluster of dead trees with peeling bark, cracks, and crevices (41.350127°,-92.731430°)

11. Cluster of living trees with peeling bark, cracks, and crevices (41.350142°,-92.731328°)

12. Cluster of dead trees with peeling bark, cracks, and crevices (41.350158°,-92.731296°)

13. Cluster of dead trees with peeling bark, cracks, and crevices (41.350141°,-92.731157°)

14. Cluster of dead trees with peeling bark, cracks, and crevices (41.350197°,-92.731055°)

15. Dead tree with peeling bark, cracks and crevices (41.350210°,-92.730875°)

16. Cluster of living trees with peeling bark, cracks, and crevices (41.350231°,-92.730847°)

17. Cluster of dead trees with peeling bark, cracks, and crevices (41.350217°,-92.730746°)

18. Cluster of dead trees with peeling bark, cracks, and crevices (41.350256°,-92.730727°)

19. Cluster of dying trees with peeling bark, cracks, and crevices (41.350225°,-92.730682°)

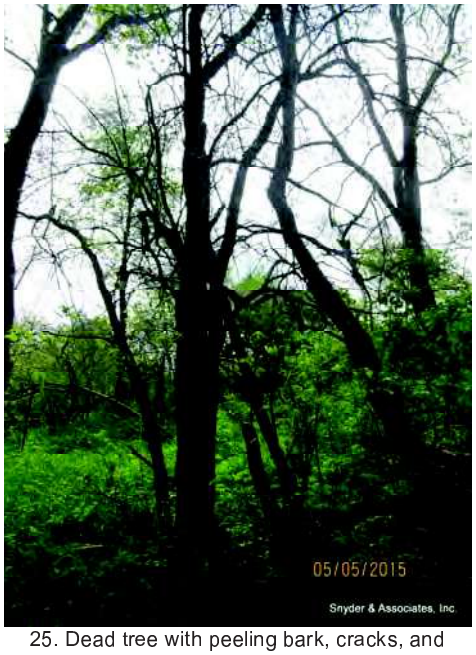
20. Cluster of dead trees with cracks and crevices (41.350215°,-92.730514°)

21. Dying tree with cracks and crevices (41.350211°,-92.730427°)

22. Dead tree with cracks and crevices (41.350332°,-92.730364°)

23. Dying tree with peeling bark and crevices (41.350255°,-92.730157°)

24. Dead tree with peeling bark, cracks, and crevices (41.350318°,-92.730107°)



25. Dead tree with peeling bark, cracks, and crevices (41.350443°,-92.730095°)

26. Dead tee with peeling bark and crevices (41.350493°,-92.730174°)

27. Dying tree with peeling bark and crevices (41.350537°,-92.730219°)

28. Dead tree with peeling bark, cracks, and crevices (41.350517°,-92.730384°)

29. Dead tree with peeling bark, cracks, and crevices (41.350589°,-92.730467°)

30. Dead tree with peeling bark, cracks, and crevices (41.350583°,-92.730650°)

33. Cluster of living trees with peeling bark, cracks, and crevices (41.350510°,-92.730915°)

32. Dying tree with peeling bark and crevices (41.350490°,-92.730895°)

31. Cluster of dying trees with peeling bark, cracks, and crevices (41.350460°,-92.730773°)

34. Ash tree with peeling bark and crevices at approximately 12dbh (41.350632°,-92.730067°)

35. Cluster of living trees with peeling bark, cracks, and crevices (41.350594°,-92.729971°)

36. Cluster of dying trees with peeling bark, cracks, and crevices (41.350624°,-92.729861°)

37. Dying tree with peeling bark and crevices at approximately 10 dbh (41.350537°,-92.729821°)

38. Cluster of dying trees with peeling bark, cracks, and crevices (41.350475°,-92.729895°)

39. Cluster of dead and dying trees with peeling bark and crevices (41.350564°,-92.729659°)

40. Dying tree with peeling bark and crevices (41.350722°,-92.729596°)

41. Dead tree with peeling bark, cracks, and crevices (41.350719°,-92.729475°)

42. Cluster of dead trees with peeling bark, cracks, and crevices (41.350731°,-92.729460°)

43. Dead tree with peeling bark, cracks, and crevices (41.350820°,-92.729442°)

44. Cluster of dead trees with peeling bark, cracks, and crevices (41.350651°,-92.729415°)

45. Dead tree with peeling bark, cracks, and crevices (41.350466°,-92.729383°)

46. Cluster of dead trees with peeling bark, cracks, and crevices (41.350168°,-92.729131°)

47. Cluster of dead trees with peeling bark, cracks, and crevices (41.350047°,-92.729085°)

48. Cluster of dead trees with peeling bark and crevices (41.350009°,-92.729225°)

49. Dying tree with peeling bark and crevices (41.348945°,-92.728604°)

50. Cluster of dead and dying trees with peeling bark, cracks, and crevices (41.348693°,-92.728879°)

51. Dead tree with peeling bark, cracks, and crevices (41.351263°,-92.722912°)

52. Dying tree with peeling bark, cracks, and crevices (41.351004°,-92.722890°)

53. Cluster of dead trees with peeling bark and crevices (41.350906°,-92.722898°)

54. Dead tree with peeling bark, cracks, and crevices (41.350760°,-92.722934°)

55. Dying tree with peeling bark and crevices (41.350716°,-92.722902°)

56. Cluster of dead trees with peeling bark, cracks, and crevices (41.350630°,-92.722899°)

57. Cluster of dead trees with peeling bark, cracks, and crevices (41.350772°,-92.723498°)

58. Cluster of dead trees with peeling bark, cracks, and crevices (41.350652°,-92.723615°)

59. Dead tree with peeling bark, cracks, and crevices (41.350846°,-92.725732°)

60. Cluster of dead trees with peeling bark, cracks, and crevices (41.351131°,-92.728717°)

61. Cottonwood with peeling bark, cracks, and crevices at approximately 12dbh (41.351042°,-92.728793°)

62. Dead tree with peeling bark, cracks, and crevices (41.350890°,-92.729111°)

63. Dead tree with peeling bark, cracks, and crevices (41.350777°,-92.729145°)

64. Dead tree with peeling bark, cracks, and crevices (41.350686°,-92.729173°)

65. Cluster of dead trees with peeling bark, cracks, and crevices (41.350720°,-92.729285°)

66. Cluster of dead trees with peeling bark, cracks, and crevices (41.350292°,-92.728896°)

67. Cluster of dead trees with peeling bark, cracks, and crevices (41.348734°,-92.728534°)

68. Dying tree with peeling bark, cracks, and crevices (41.351588°,-92.724392°)

69. Cluster of dead trees with peeling bark, cracks, and crevices (41.351688°,-92.727441°)

70. Cottonwood tree with peeling bark, cracks, and crevices at approximately 12 dbh (41.351662°,-92.727502°)

71. Dying tree with peeling bark and crevices (41.351602°,-92.727631°)

72. Cluster of dead trees with peeling bark, cracks, and crevices (41.351711°,-92.728978°)

73. Cluster of dead trees with peeling bark, cracks, and crevices (41.343461°,-92.722115°)

74. Dead tree with peeling bark, cracks, and crevices (41.343700°,-92.722041°)

75. Cluster of dying trees with peeling bark, cracks, and crevices (41.343798°,-92.721905°)

76. Dying tree with peeling bark, cracks, and crevices (41.343865°,-92.721955°)

77. Dead tree with peeling bark, cracks, and crevices (41.344168°,-92.721863°)

78. Dying tree with peeling bark, cracks, and crevices (41.344235°,-92.721882°)

79. Cluster of living trees with peeling bark, cracks, and crevices (41.344582°,-92.721886°)

80. Dying tree with peeling bark, cracks, and crevices (41.344849°,-92.721867°)

81. Cluster of dead and dying trees with peeling bark, cracks, and crevices (41.345062°,-92.721970°)

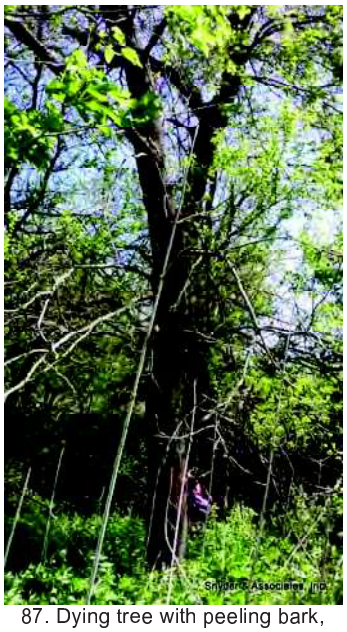
82. Dead tree with peeling bark, cracks, and crevices (41.345178°,-92.722244°)

83. Cluster of dead and dying trees with peeling bark, cracks, and crevices (41.345415°,-92.722159°)

84. Dead tree with peeling bark, cracks, and crevices (41.345523°,-92.722087°)

85. Dying tree with peeling bark, cracks, and crevices (41.345829°,-92.722078°)

86. Cluster of dead and dying trees with peeling bark, cracks, and crevices (41.346029°,-92.722169°)



87. Dying tree with peeling bark, cracks, and crevices (41.346310°,-92.722073°)

88. Cluster of dead and dying trees with peeling bark, cracks, and crevices (41.346349°,-92.722072°)

89. Cluster of living trees with peeling bark, cracks, and crevices (41.346456°,-92.722107°)

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APPENDIX J

Wetland and Stream Delineation Report

ENGINEERS & PLANNERS
SNYDER & ASSOCIATES, INC.
IOWA | MISSOURI | NEBRASKA | SOUTH DAKOTA | WISCONSIN

April 20, 2016

Joey Shoemaker
USACE Rock Island District
1500 Rock Island Drive
Rock Island, IL 61201

RE: PROPOSED SOUTH CENTRAL AIRPORT WETLAND DELINEATION ADDENDUM

Mr. Shoemaker,

On October 26, 2016 I received an email from you requesting additional data at the proposed airport with an attached PDF that referenced areas needing additional information. All of the areas identified, with the exception of the inaccessible property due to landowner constraints, were reviewed.

Forested wetlands were not identified within the proposed airport property boundary. However, Intermittent Stream B, as identified in the wetland delineation report dated July 1, 2015, was confirmed to have a defined bed and bank. A portion of the stream (approximately 600 linear feet) is located within the runway object free area (ROFA) and could be impacted by the proposed project. This would require 404 permitting, 401 water quality certification, and mitigation. The FAA is aware of these requirements.

I added photographs and descriptions to the map you sent in October 2015 and took additional data points within the proposed airport property boundary.

Sincerely,

SNYDER & ASSOCIATES, INC.

Nichoel Church
Environmental Scientist

Enclosures:
Airport PDF (originally from USACE but updated with comments and photos)
Wetland Delineation Addendum Maps
Data Forms

2727 SW Snyder Boulevard | P.O. Box 1159 | Ankeny, IA 50023-0974
p: 515.964.2020 | f: 515.964.7938 | www.snyder-associates.com

WETLAND DELINEATION & STREAM ASSESSMENT

PROPOSED SOUTH CENTRAL AIRPORT
MAHASKA COUNTY, IOWA

PERFORMED FOR
SOUTH CENTRAL REGIONAL AIRPORT AGENCY
213 SOUTH 1ST STREET
OSKALOOSA, IOWA 52577

JUNE 19, 2015

PREPARED BY:

SNYDER & ASSOCIATES, INC.
ENGINEERS AND PLANNERS

2727 SW Snyder Boulevard
Ankeny, IA 50023
515-964-2020

SNYDER & ASSOCIATES
Engineers and Planners

Prepared for:

South Central Regional Airport Agency
213 South 1st Street
Oskaloosa, Iowa 52577

Wetland Delineation Report

Proposed Sourth Central Airport
Mahaska County, Iowa

Snyder & Associates, Inc. Project # 112.0865

Prepared by:

6/19/2015

Nichoel Church
Environmental Scientist

Date

Reviewed by:

6/19/2015

Jeff Walters
Senior Environmental Scientist

Date

Snyder & Associates, Inc.
2727 SW Snyder Boulevard
Ankeny, Iowa 50023
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f| 515.964.7938

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1. Introduction

Snyder & Associates, Inc. delineated the proposed South Central Airport project located in Mahaska County, Iowa for the presence of streams and wetlands on May 5th and 18th, 2015 in accordance with the proposal and general conditions. The proposed airport property boundary is an irregular shaped area located east of Highland Avenue, South of 210th Street, west of Independence Avenue, and north of Highway 163 (Figure 1). Drainageways, agricultural fields, a pond, utility lines, trees, a portion of 220th Street, and a couple residential areas are located within the airport property boundary. Roads, residential dwellings, trees, and a water tower adjoin the boundary. The proposed airport property boundary is situated in the following sections of Mahaska County, Iowa:

- Section 29, Township 76 North, Range 16 West,
- Section 32, Township 76 North, Range 16 West,
- Section 33, Township 76 North, Range 16 West, and
- Section 4, Township 75, Range 16 West.

The scope of this investigation was to indicate the presence/absence of wetlands, identify wetlands that could be impacted by the project, and delineate the upper boundaries of potential jurisdictional wetlands within the project area. In addition to wetlands, waters of the U.S., which include lakes, ponds, rivers, and streams, would be included in the delineation. This report is used by the U.S. Army Corps of Engineers (USACE) and the Iowa Department of Natural Resources (IDNR). The USACE has discretion to use this report for the purposes of making jurisdictional determinations and enforcing Section 404 of the Clean Water Act. The IDNR uses the report for the purpose of enforcing Section 401 of the Clean Water Act.

The information and recommendations presented in this report are professional opinions based on visual observation, review of available data pertaining to the subject property, and interpretation of available public records. The opinions and recommendations presented herein apply to the subject property conditions at the time of Snyder & Associates, Inc investigation.

2. Methodology

Initial research identified potential wetlands within the wetland delineation boundary. This boundary only included the landowners who provided permission to access their property. A U.S. Geological Survey (USGS) topographic map was used to identify streams, forests, and topography that may indicate the presence of wetlands (Figure 2). National Wetland Inventory (NWI) maps, originally prepared by the U.S. Fish and Wildlife Services (USFWS), were obtained from the Department of the Interior (Figure 3). A soils map provided by the U.S. Department of Agriculture (USDA) was used to identify the approximate location of hydric soils (Figure 4).

On site, potential wetlands were examined for wetland indicators using the Routine On-Site Determination Method as defined in the *1987 Corps of Engineers Wetlands Delineation Manual* and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0) (2010 Midwest Supplement).* Wetlands are defined by the U.S. Army Corps of Engineers (USACE) and the EPA as:

"Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation

typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.[1]"

Generally an area must have all three indicators including hydrophytic vegetation, hydrology, and hydric soils to support the vegetation and hydric soils to be classified as a wetland. If one or more of these indicators are not present, the area is typically not considered a wetland.

Sample points were taken to confirm the presence or absence of wetland characteristics (Figure 5 enclosed in Appendix A). Photographs visually record the wetland location and habitat at the time of the wetland delineation. Data forms (enclosed in Appendix B) document characteristics at each sample point.

Only areas where landowners provided permission and access to their property were delineated within the airport property boundary. For those properties where access was not granted, a review of satellite imagery and looking at the project area from nearby roadways helped identify potential wetland areas by examining visible vegetation.

3. Site Review

The USGS topographic map is enclosed in Appendix A as Figure 2. A road, intermittent streams, and trees are located within the proposed airport property boundary. Roads, residential dwellings, trees, and a water cemetery adjoin the property boundary.

National Wetlands Inventory maps identify areas that may contain potential wetlands. It should be noted that the wetlands identified on the map may not have been field checked by the USFWS. The NWI Map should not be used as the sole basis for wetland determinations, but as guidance to determine where wetlands may exist within the study corridor. The NWI Map[2] (Figure 3) identified the following potential wetland within the project area:

- **PUBGh:** A Palustrine wetland with an unconsolidated bottom that is intermittently exposed and is diked/impounded..

The USDA Soil Conservation Map[3] was obtained from the USDA website and is included in Figure 4. The soil descriptions identified on each of the project areas are identified in Table 1.

[1] Environmental Laboratory. 1987 Corps of Engineers Wetlands Delineation Manual. Vicksburg, MS: U.S. Army Corps of Engineers, 1987.
[2] http://www.fws.gov/wetlands/Data/Mapper.html
[3] http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx

Table 1. Soil Map Units and Descriptions

Soil Map Unit	Description	Hydric
11B	Colo-Ely silty clay loams, 2-5% slopes	Yes
24D2	Shelby loam, 9-14% slopes, moderately eroded	No
65E2	Lindley loam, 14-18% slopes, moderately eroded	No
65F2	Lindley loam, 18-25% slopes, moderately eroded	No
69C	Clearfield silty clay loam, 5-9% slopes	Yes
76C2	Ladoga silt loam, 5-9% slopes, eroded	No
76D2	Ladoga silt loam, 9-14% slopes, eroded	No
80C2	Clinton silt loam, 5-9% slopes, eroded	No
122	Sperry silt loam, 0-2% slopes	Yes
179D2	Gara loam, 9-14% slopes, moderately eroded	No
179E2	Gara loam, 14-18% slopes, moderately eroded	No
222C	Clarinda silty clay loam, 5-9% slopes	Yes
222C2	Clarinda silty clay loam, 5-9% slopes, moderately eroded	Yes
222D2	Clarinda silty clay loam, 9-14% slopes, moderately eroded	Yes
279	Taintor silty clay loam, 0-2% slopes	Yes
280	Mahaska silty clay loam, 0-2% slopes	Yes
280B	Mahaska silty clay loam, 2-5% slopes	Yes
281B	Otley silty clay loam, 2-5% slopes	No
281C2	Otley silty clay loam, 5-9% slopes, eroded	Yes
281D2	Otley silty clay loam, 9-14% slopes, eroded	Yes
570B	Nira silty clay loam, 2-5% slopes	No
570C	Nira silty clay loam, 5-9% slopes	Yes
570C2	Nira silty clay loam, 5-9% slopes, moderately eroded	Yes
792D2	Armstrong loam, 9-14% slopes, moderately eroded	No
1313E	Munterville silt loam, 14-18% slopes	No
1313F	Munterville silt loam, 18-25% slopes	No

11B soil map unit is comprised of 60 percent Colo, frequently flooded, and similar soils, 30 percent Ely and similar soils, and 10 percent minor components including Olmitz and Judson. Colo, frequently flooded, is formed from drainageways and the parent material is silty alluvium.

24D2 soil map unit is comprised of 90 percent Shelby, moderately eroded, and similar soils, and 10 percent minor components including Adair, moderately eroded, and Lamoni, moderately eroded. Shelby, moderately eroded, is formed from hillslopes and the parent material is subglacial till.

65E2 soil map unit is comprised of 90 percent Lindley, moderately eroded, and similar soils, and 10 percent minor components including Munterville, moderately eroded, and Keswick, moderately eroded. Lindley, moderately eroded, is formed from hillslopes and the parent material is subglacial till.

65F2 soil map unit is comprised of 90 percent Lindley, moderately eroded, and similar soils, and 10 percent minor components including Munterville, moderately eroded, and Keswick, moderately eroded. Lindley, moderately eroded, is formed from hillslopes and the parent material is subglacial till.

69C soil map unit is comprised of 90 percent Clearfield and similar soils, and 10 percent minor components including Clarinda and Nira. Clearfield is formed from hillslopes and the parent material is loess and underlying gray paleosol.

76C2 soil map unit is comprised of 85 percent Ladoga, eroded, and similar soils, and 15 percent minor components including Ladoga, severely eroded, Hedrick, eroded, and Rinda, eroded. Ladoga, eroded, is formed from interfluves and the parent material is loess.

76D2 soil map unit is comprised of 90 percent Ladoga, eroded, and similar soils, and 10 percent minor components including Gara, eroded and Armstrong, eroded. Ladoga, eroded, is formed from hillslopes and the parent material is loess.

80C2 soil map unit is comprised of 90 percent Clinton, eroded, and similar soils, and 10 percent minor components including Ashgrove, eroded, and Clinton, severely eroded. Clinton, eroded, is formed from interfluves and the parent material is loess.

122 soil map unit is comprised of 100 percent sperry and similar soils. Sperry is formed from depressions and the parent material is loess.

179D2 soil map unit is comprised of 85 percent Gara, moderately eroded, and similar soils, and 15 percent minor components including Shelby, moderately eroded, Armstrong, moderately eroded, and Munterville, moderately eroded. Gara, moderately eroded, is formed from hillslopes and the parent material is subglacial till.

179E2 soil map unit is comprised of 90 percent Gara, moderately eroded, and similar soils, and 10 percent minor components including Armstrong, moderately eroded, and Caleb, moderately eroded. Gara, moderately eroded is formed from hillslopes and the parent material is subglacial till.

222C soil map unit is comprised of 100 percent Clarinda and similar soils. It is formed from hillslopes and the parent material is gray paleosol and underlying subglacial till.

222C2 soil map unit is comprised of 100 percent Clarinda, moderately eroded, and similar soils. Clarinda, moderately eroded, is formed from hillslopes. The parent material is gray paleosol and underlying subglacial till.

222D2 soil map unit is comprised of 100 percent Clarinda, moderately eroded, and similar soils. Clarinda is formed from hillslopes. The parent material is gray paleosol and underlying subglacial till.

279 soil map unit is comprised of 90 percent Taintor and similar soils, and 10 percent minor components including Mahaska and Sperry. Taintor is formed form interfluves and the parent material is loess.

280 soil map unit is comprised of 95 percent Mahaska and similar soils, and 5 percent minor components including Taintor. Mahaska is formed from interfluves and the parent material is loess.

280B soil map unit is comprised of 90 percent Mahaska and similar soils, and 10 percent minor components including Taintor and Otley. Mahaska is formed from interfluves and the parent material is loess.

281B soil map unit is comprised of 95 percent Otley and similar soils, and 5 percent minor components including Mahaska. Otley is formed from interfluves and the parent material is loess.

281C2 soil map unit is comprised of 90 percent Otley, eroded, and similar soils, and 10 percent minor components including Clearfield, eroded, and Otley, severely eroded. Otley, eroded is formed from hillslopes and the parent material is loess.

281D2 soil map unit is comprised of 85 percent Otley, moderately eroded, and similar soils, and 15 percent minor components including Otley, severely eroded, Adair, moderately eroded, and Shelby, moderately eroded. Otley, moderately eroded, is formed from hillslopes and the parent material is loess.

570B soil map unit is comprised of 90 percent Nira and similar soils and 10 percent minor components including Otley and Mahaska. Nira is formed from hillslopes and the parent material is loess.

570C soil map unit is comprised of 85 percent Nira and similar soils, and 15 percent minor components including Otley, Ladoga, and Clearfield. Nira is formed from hillslopes and the parent material is loess.

570C2 soil map unit is comprised of 85 percent Nira, moderately eroded, and similar soils, and 15 percent minor components including Otley, moderately eroded, Ladoga, moderately eroded, Clearfield, moderately eroded, and Clarinda, moderately eroded. Nira, moderately eroded, is formed from hillslopes and the parent material is loess.

792D2 soil map unit is comprised of 85 percent Gara, moderately eroded, and similar soils, and 15 percent minor components including Shelby, moderately eroded, Armstrong, moderately eroded, and Munterville, moderately eroded. Gara, moderately eroded, is formed from hillslopes and the parent material is subglacial till.

1313E soil map unit is comprised of 95 percent Munterville and similar soils, and 5 percent minor components including Boone. Munterville is formed from hillslopes. The parent material is silty material and loess over residuum weathered from shale.

1313F soil map unit is comprised of 95 percent Munterville and similar soils and 5 percent minor components including Boone. Munterville is formed from hillslopes. The parent material is silty material and loess over residuum weathered from shale.

The 100 year floodplain map is enclosed in Appendix A as Figure 6. Development within the floodplain is discouraged without purchase of flood insurance, a program administered by the Federal Emergency Management Administration (FEMA's) National Flood Insurance Program. Executive Order 11988, Floodplain Management, dated May 24, 1977, implemented by US DOT Order 5650.2, dated April 23, 1979, requires Federal agencies to avoid disrupting floodplain areas whenever there is a practicable alternative, and to minimize any environmental harm that might be caused by the proposed action.

4. Environmental Setting

Weather during the wetland delineation on May 5, 2015 was scattered clouds at approximately 75º F with winds blowing from the south at about 8 mph[4].

Weather during the wetland delineation on May 18, 2015 was sunny at approximately 60º F with winds blowing from the northwest at about 20 mph[5].

According to the National Climatic Data Center,[6] data for Oskaloosa, IA included the mean precipitation in April at 3.59 inches, and May at 4.80 inches. Current climate data was obtained from the Natural Resources Conservation Service (NRCS) Field Office Technical Guide website[7] for Oskaloosa. Precipitation for May 1-31, 2015 was 4.52 inches.

[4] http://www.wunderground.com/history/
[5] http://www.wunderground.com/history/
[6] http://cdo.ncdc.noaa.gov/cgi-bin/climatenormals/climatenormals.pl?directive=prod_select2&prodtype=CLIM20&subrnum=
[7] http://efotg.sc.egov.usda.gov/efotg_locator.aspx

OSKALOOSA (136327)
Observed Daily Data
Month: May 2015

Day	Max Temp	Min Temp	Avg Temp	GDD B50	GDD B40	Total Prcpn	New Snow	Snow Depth
1	70	37	53.5	4	14	0.00	0.0	0
2	70	37	53.5	4	14	0.00	0.0	0
3	M	M	M	M	M	M	M	M
4	81	58	69.5	20	30	0.00	0.0	0
5	77	59	68.0	18	28	0.48	0.0	0
6	80	60	70.0	20	30	0.07	0.0	0
7	80	63	71.5	22	32	0.00	0.0	0
8	81	61	71.0	21	31	0.00	0.0	0
9	69	51	60.0	10	20	0.00	0.0	0
10	73	52	62.5	13	23	0.03	0.0	0
11	73	49	61.0	11	21	0.51	0.0	0
12	M	43	M	M	M	0.00	0.0	0
13	66	43	54.5	5	15	0.00	0.0	0
14	74	46	60.0	10	20	0.11	0.0	0
15	62	53	57.5	8	18	0.43	0.0	0
16	76	60	68.0	18	28	0.10	0.0	0
17	81	61	71.0	21	31	0.21	0.0	0
18	77	51	64.0	14	24	0.00	0.0	0
19	57	38	47.5	0	8	0.00	0.0	0
20	60	38	49.0	0	9	0.11	0.0	0
21	50	38	44.0	0	4	0.14	0.0	0
22	74	40	57.0	7	17	0.00	0.0	0
23	76	40	58.0	8	18	0.00	0.0	0
24	76	55	65.5	16	26	0.60	0.0	0
25	72	59	65.5	16	26	0.16	0.0	0
26	79	60	69.5	20	30	0.55	0.0	0
27	73	57	65.0	15	25	0.40	0.0	0
28	81	58	69.5	20	30	0.00	0.0	0
29	81	58	69.5	20	30	0.28	0.0	0
30	78	58	68.0	18	28	0.34	0.0	0
31	M	M	M	M	M	M	M	M
Smry	**73.1**	**51.1**	**62.3**	**359**	**630**	**4.52**	**0.0**	**0.0**

Product generated by ACIS - NOAA Regional Climate Centers.

5. Field Observations

Field investigations were performed on May 5 and 18, 2015 by Snyder & Associates, Inc. to identify all waters of the U.S. and wetlands within the project boundary and within areas where landowners granted access. An emergent wetland, a pond, and streams were identified within the project boundary (Figures 5 and 7). The data forms are enclosed in Appendix B.

Data point 1 was taken within an upland area. The upland is dominated by red mulberry (*Morus rubra*), and stinging nettle (*Urtica dioica*).

Data point 2 was taken within a forested upland. The upland is dominated by eastern cottonwood (*Populus deltoides*), hackberry (*Celtis occidentalis*), annual ragweed (*Ambrosia artemisiifolia*), and poison ivy (*Toxicodendron radicans*).

Data point 3 was taken within an upland area. The upland is dominated by eastern red cedar (*Juniperus virginiana*), eastern cottonwood (*Populus deltoides*), smooth brome (*Bromus inermis*), and Timothy grass (*Phleum pratense*).

Data point 4 was taken within an emergent wetland consisting of 0.05 acres. The pond is approximately 0.20 acres. Wetland vegetation observed included reed canarygrass (*Phalaris arundinacea*) and stinging nettle (*Urtica dioica*). An upland point was taken adjacent to wetland area and called data point 5. The vegetation at data point 5 included smooth brome (*Bromus inermis*) and Canada wildrye (*Elymus canadensis*).

North view of the wetland associated with data point 4.

Data point 6 was taken within an upland area. The upland is dominated by black locust (*Robinia pseudoacacia*), smooth brome (*Bromus inermis*), annual ragweed (*Ambrosia artemisiifolia*), and poison ivy (*Toxicodendron radicans*).

Snyder & Associates, Inc. did not have permission to be on the property at the south end of the proposed airport. This property contains a potential wetland and drainageway. The potential wetland area is noted in Figure 5 and consists of approximately 3.11 acres.

North view of the potential wetland at the south end of the proposed airport property boundary.

Northeast view of Stream A.

East view of Stream B.

Northwest view of Stream C.

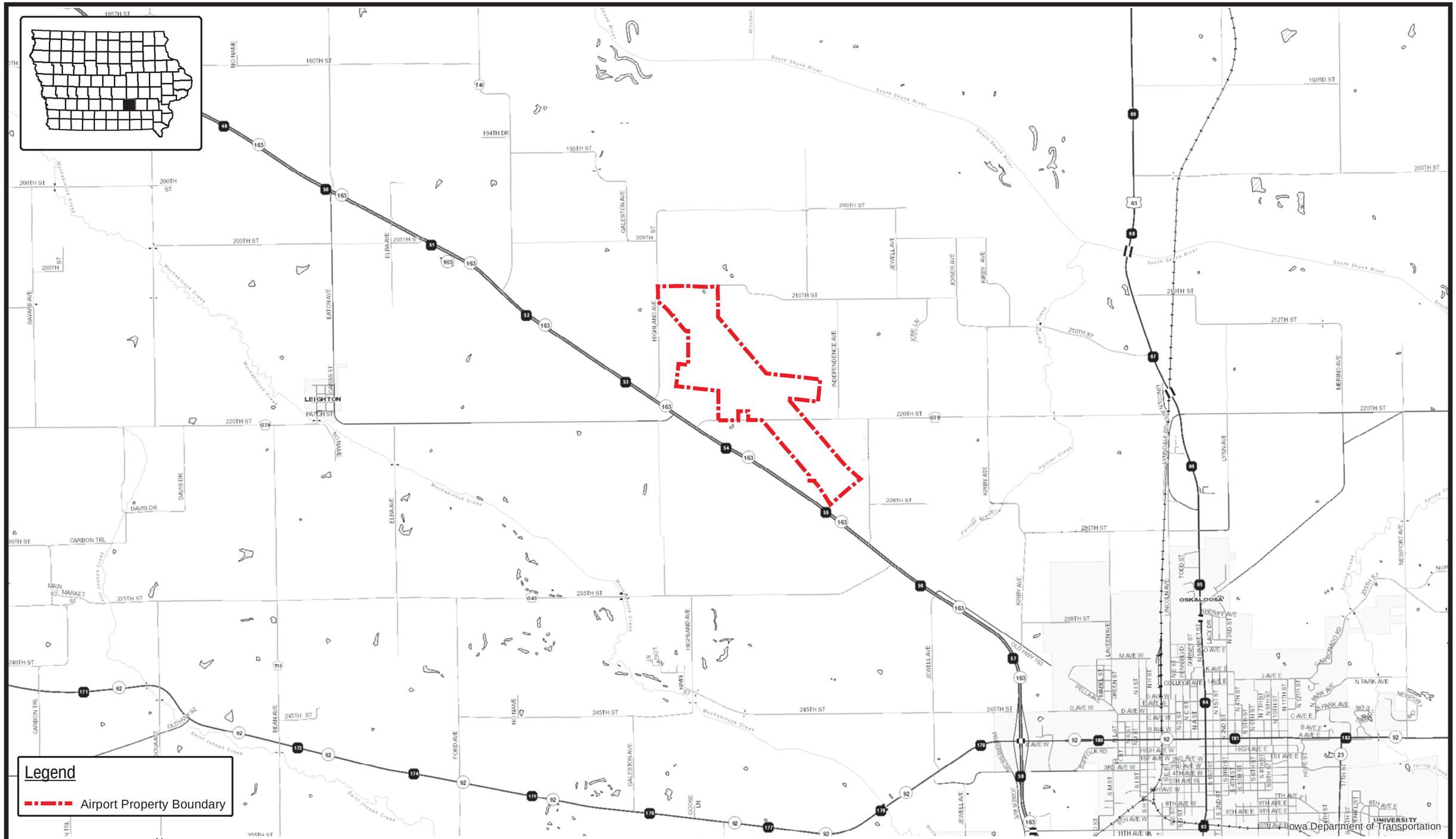
6. Summary

Snyder & Associates, Inc. has performed a Wetland Delineation in conformance with the *1987* Corps of Engineers Wetlands Delineation Manual and the Midwest Regional Supplement of the proposed airport project in Mahaska County, Iowa. Based on the findings of the wetland delineation, An emergent wetland, a potential wetland, a pond, and three streams were identified within the proposed airport property boundary (Figure 5) by Snyder & Associates, Inc. It is in the opinion of Snyder & Associates, Inc. that the pond and emergent wetland are non-jurisdictional and the three streams and potential wetland are jurisdictional.

Discharges of dredged or fill material, excavation, and mechanized land clearing in the waters of the U.S. will require authorization from the U.S. Army Corps of Engineers. Final determination of the limit of waters of the U.S., including wetlands, for permitting purposes rests with the Corps of Engineers. For final authorization for activities in U.S. waters, the Corps of Engineers must approve this determination.

APPENDIX A
FIGURES

Source: IA DOT



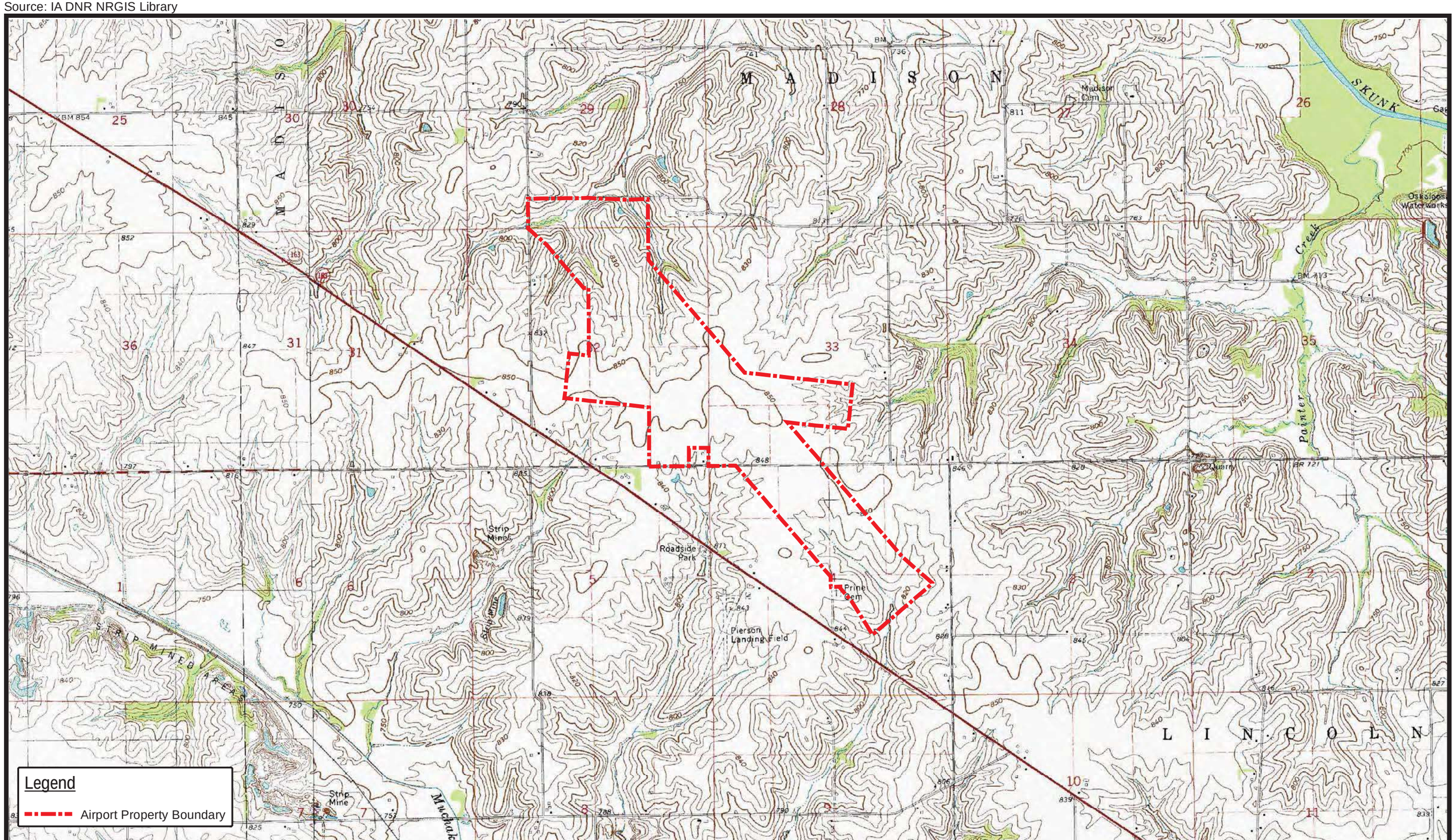
Vicinity Map
South Central Regional Airport
Mahaska County, Iowa

Figure 1

Document Path: J:\2012_projects\112.0865\GIS\1120865_WD_EX1_Vicinity.mxd

Date: 4/30/2015

Source: IA DNR NRGIS Library



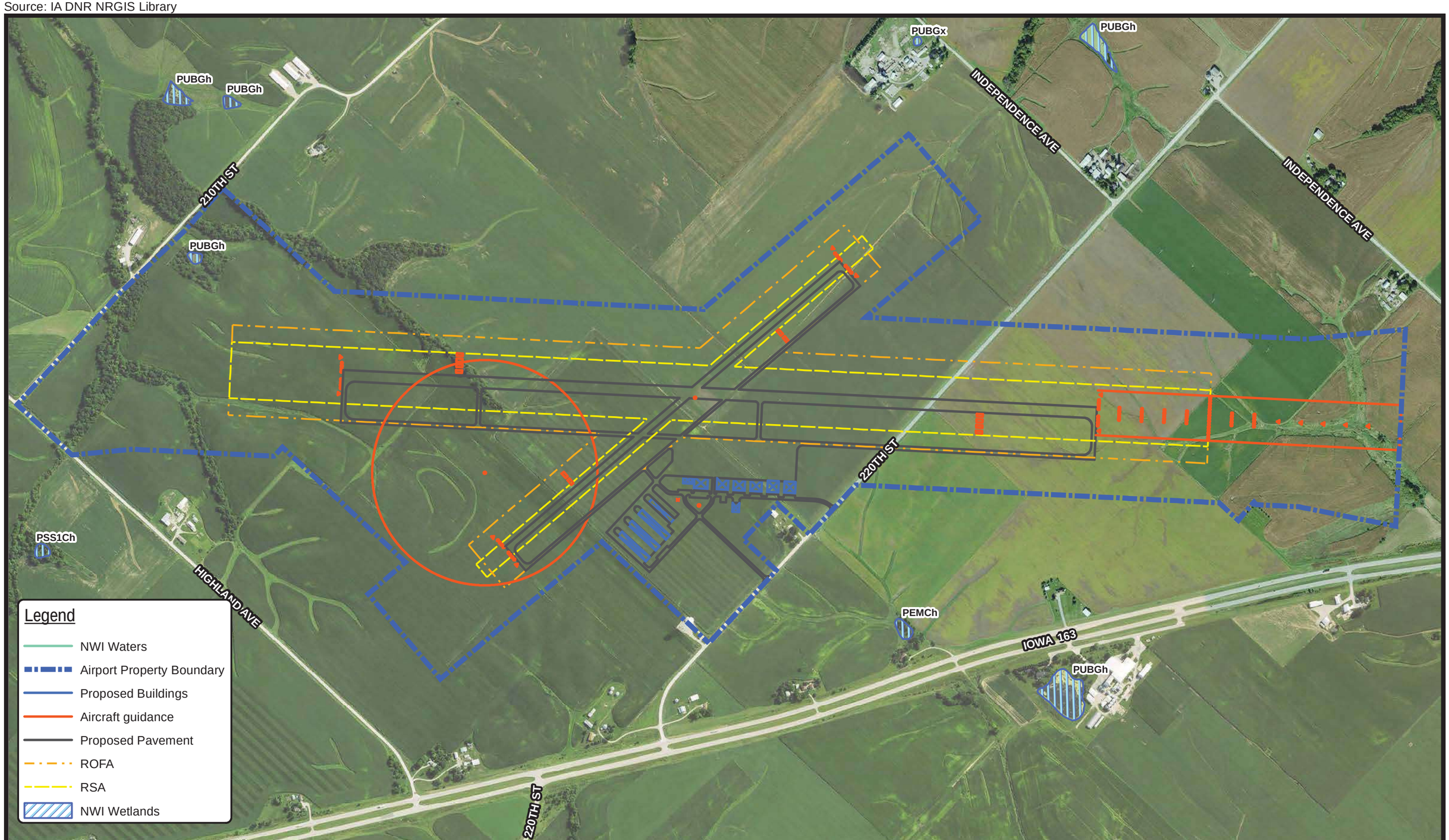
USGS Topographic Quad Map
South Central Regional Airport
Mahaska County, Iowa

Figure 2

Document Path: J:\2012_projects\112.0865\GIS\1120865_WD_EX2_Topo.mxd

Date: 4/30/2015

Source: IA DNR NRGIS Library



National Wetlands Inventory
South Central Regional Airport
Mahaska County, Iowa

Figure 3

Document Path: J:\2012_projects\112.0865\GIS\1120865_WD_EX3_NWI.mxd

Date: 6/19/2015

Source: IA DNR NRGIS Library

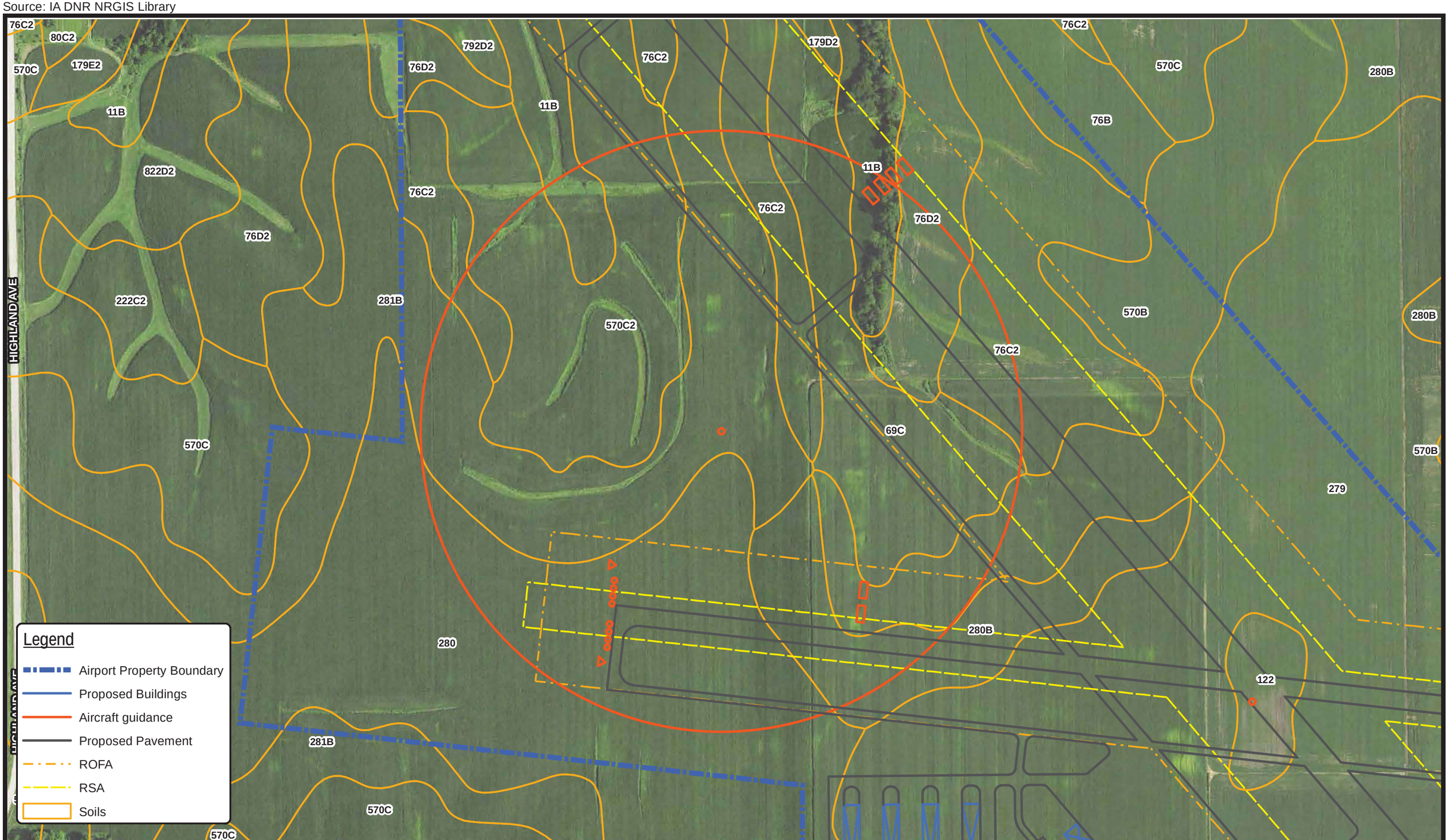
Soils Map
South Central Regional Airport
Mahaska County, Iowa

Figure 4-1

Document Path: J:\2012_projects\112.0865\GIS\1120865_WD_EX4_Soils.mxd

Date: 4/30/2015

Source: IA DNR NRGIS Library



0 150 300
Feet

N

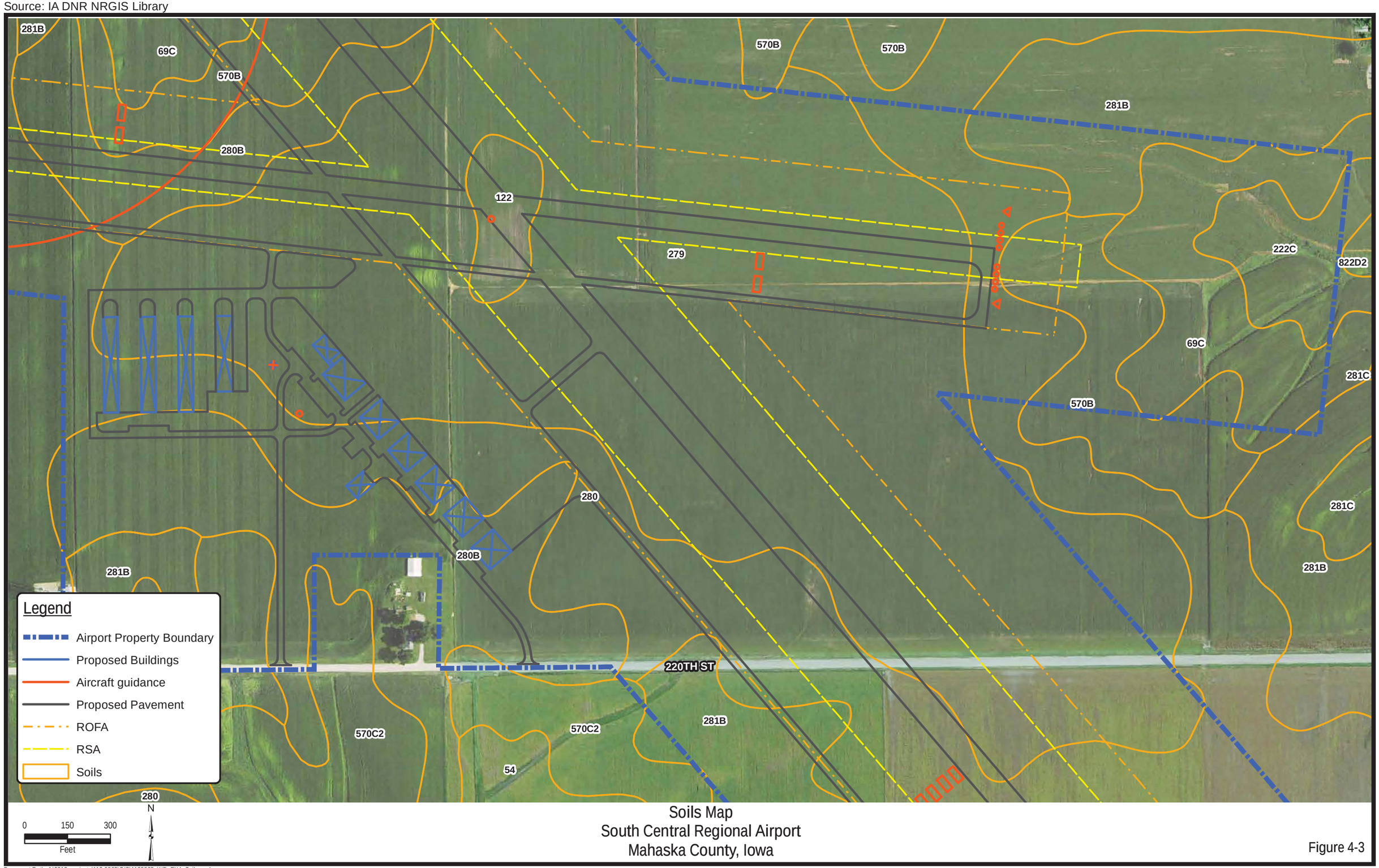
Soils Map
South Central Regional Airport
Mahaska County, Iowa

Figure 4-2

Document Path: J:\2012_projects\112.0865\GIS\1120865_WD_EX4_Soils.mxd

Date: 4/30/2015

Source: IA DNR NRGIS Library



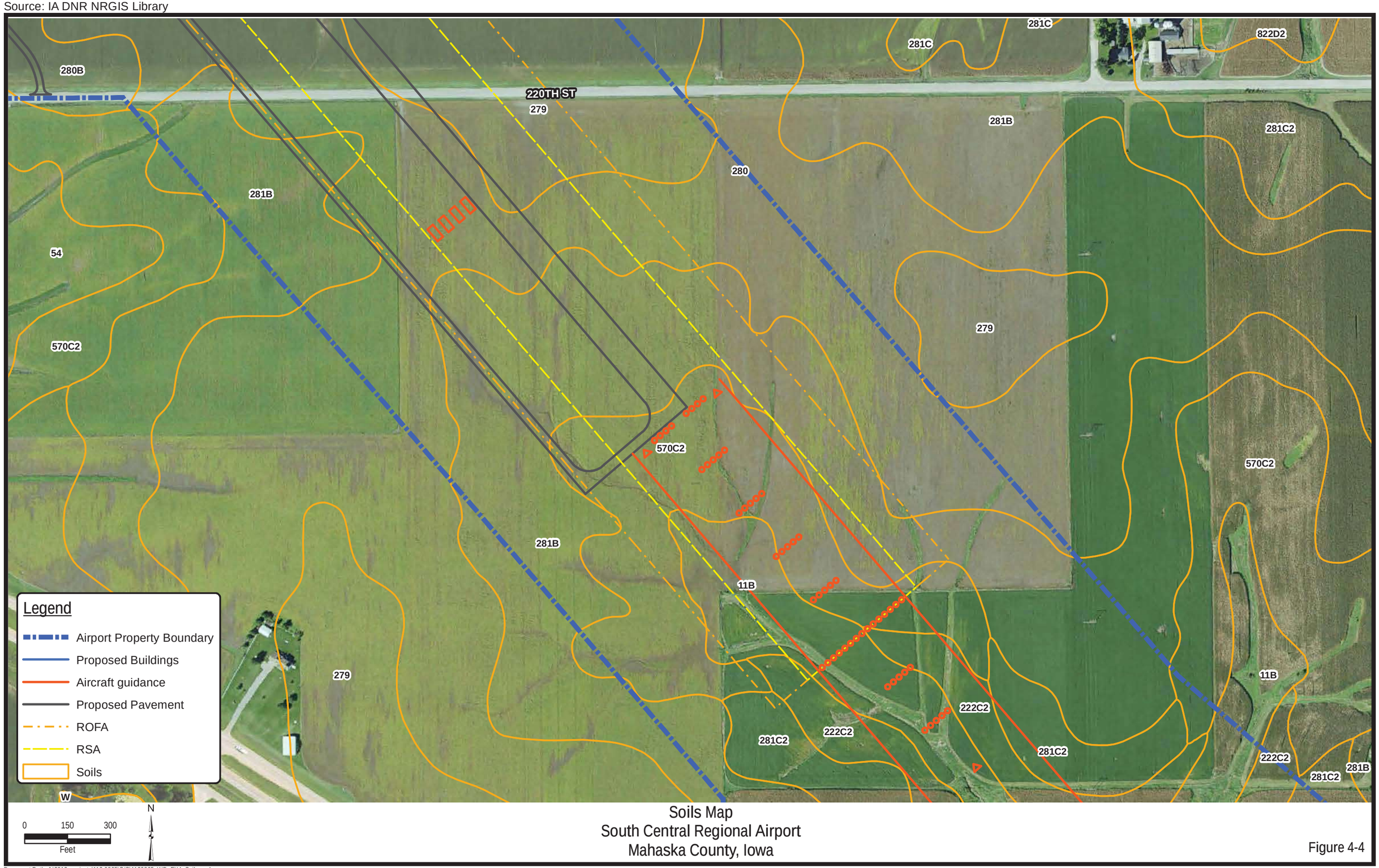
Soils Map
South Central Regional Airport
Mahaska County, Iowa

Figure 4-3

Document Path: J:\2012_projects\112.0865\GIS\1120865_WD_EX4_Soils.mxd

Date: 4/30/2015

Source: IA DNR NRGIS Library



Soils Map
South Central Regional Airport
Mahaska County, Iowa

Figure 4-4

Document Path: J:\2012_projects\112.0865\GIS\1120865_WD_EX4_Soils.mxd

Date: 4/30/2015

Source: IA DNR NRGIS Library

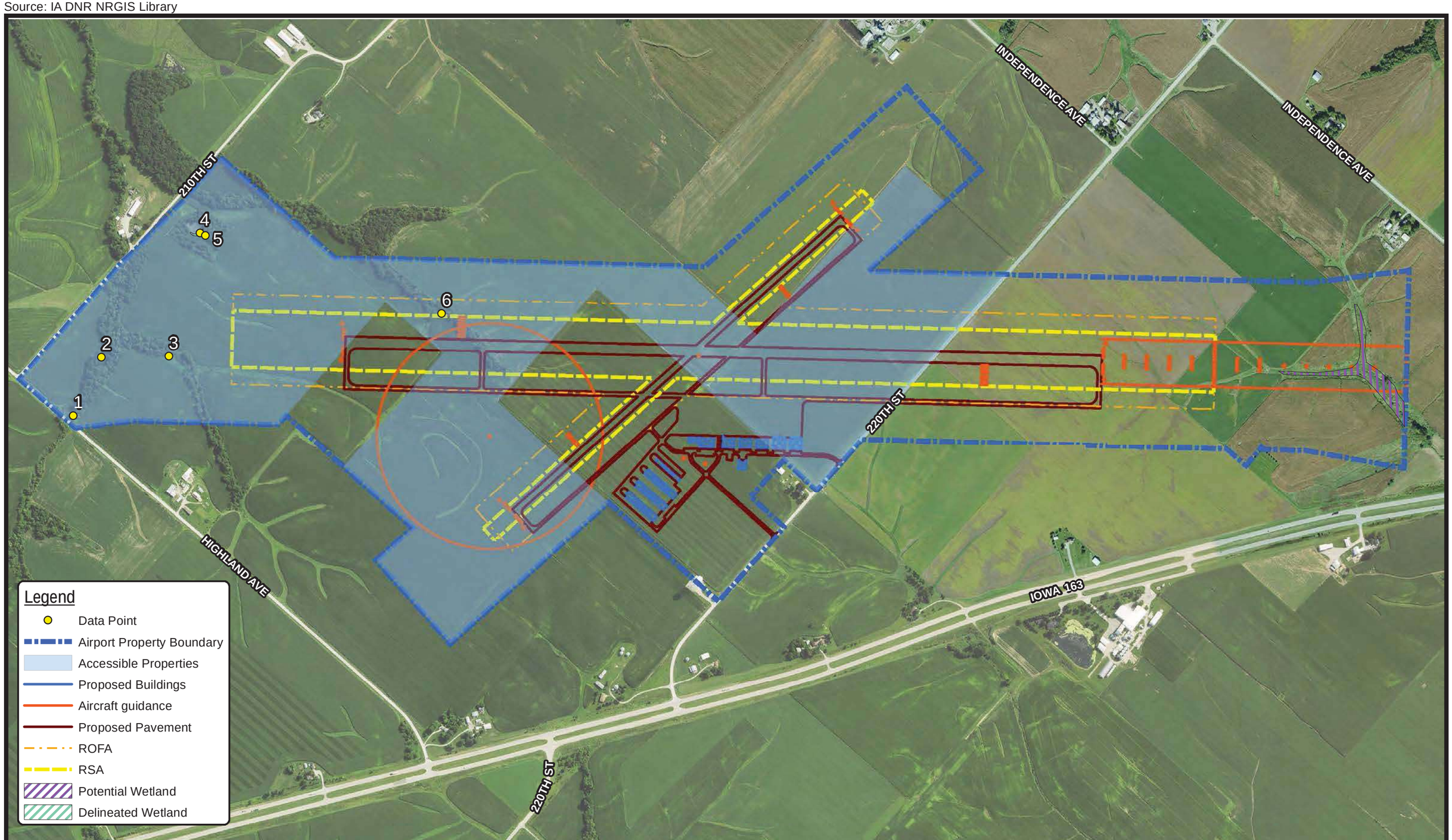
Soils Map
South Central Regional Airport
Mahaska County, Iowa

Figure 4-5

Document Path: J:\2012_projects\112.0865\GIS\1120865_WD_EX4_Soils.mxd

Date: 4/30/2015

Source: IA DNR NRGIS Library



0 400 800
Feet

Wetland Delineation
South Central Regional Airport
Mahaska County, Iowa

Figure 5-1

Document Path: J:\2012_projects\112.0865\GIS\1120865_WD_EX5_Wetland Delineation.mxd

Date: 6/19/2015

Source: IA DNR NRGIS Library

Wetland Delineation
South Central Regional Airport
Mahaska County, Iowa

Figure 5-2

Document Path: J:\2012_projects\112.0865\GIS\1120865_WD_EX5_Wetland Delineation.mxd

Date: 6/19/2015

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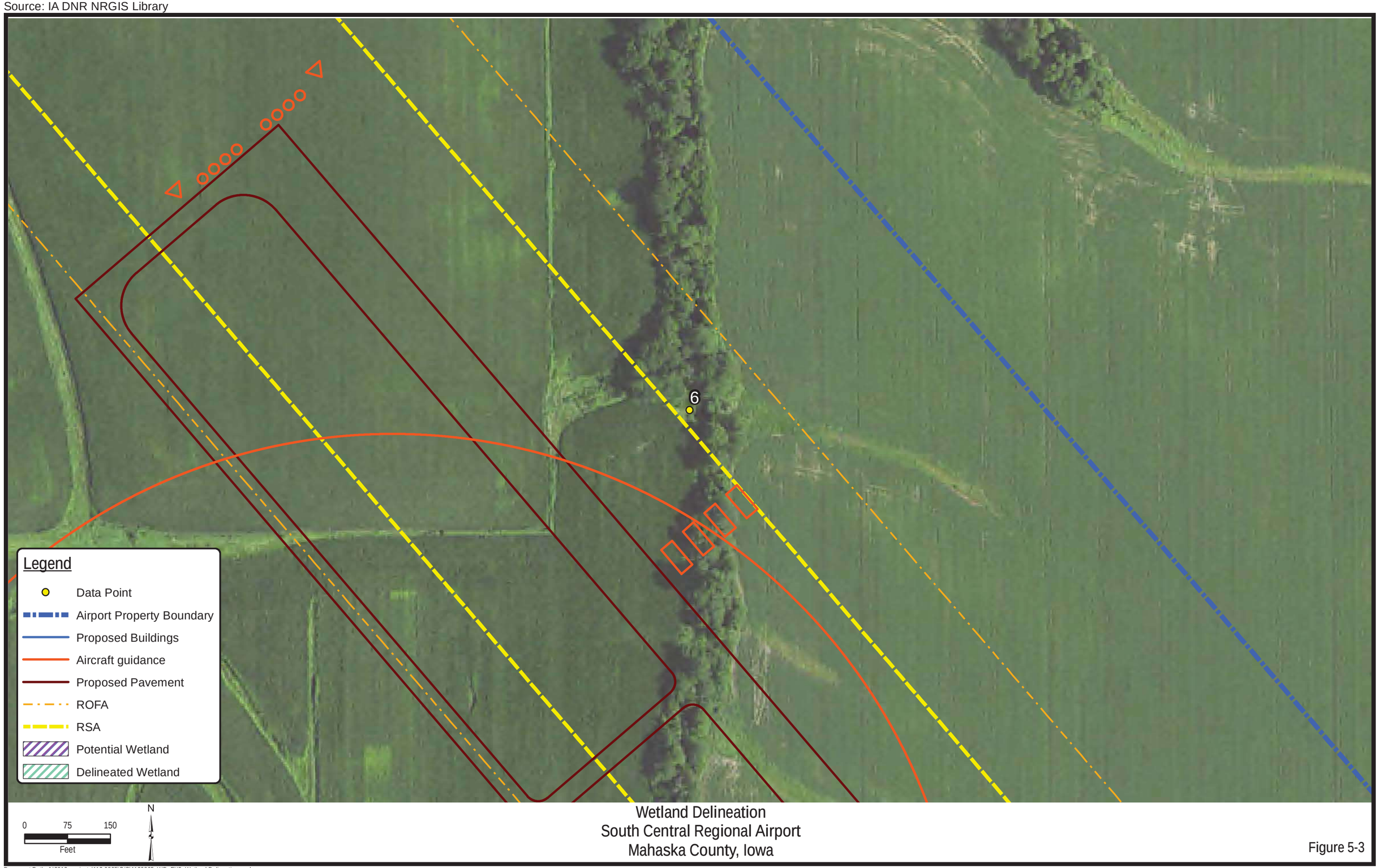


Wetland Delineation
South Central Regional Airport
Mahaska County, Iowa

Figure 5-3

Document Path: J:\2012_projects\112.0865\GIS\1120865_WD_EX5_Wetland Delineation.mxd

Date: 6/19/2015

Source: IA DNR NRGIS Library

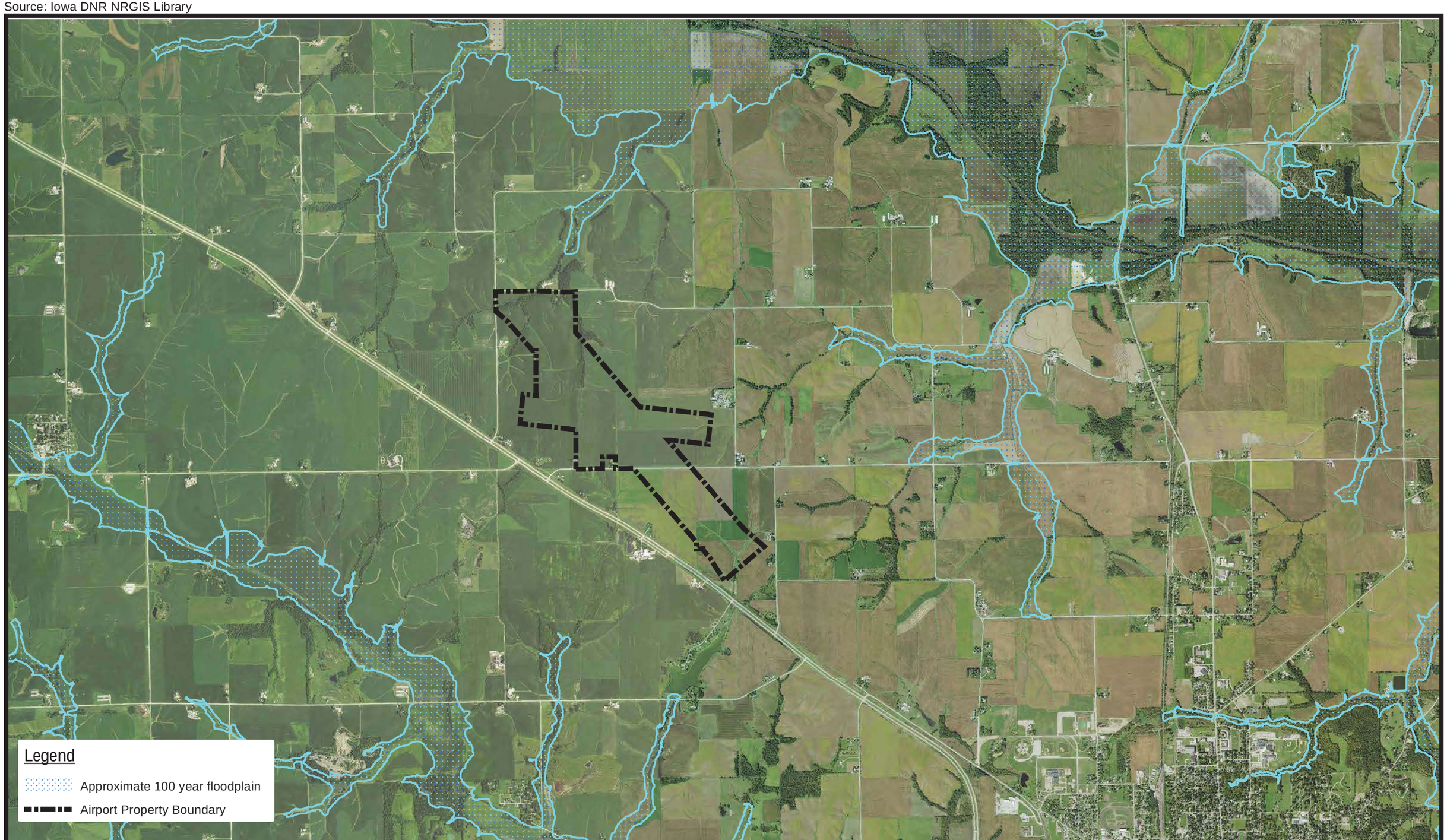
Wetland Delineation
South Central Regional Airport
Mahaska County, Iowa

Figure 5-4

Document Path: J:\2012_projects\112.0865\GIS\1120865_WD_EX5_Wetland Delineation.mxd

Date: 6/19/2015

Source: Iowa DNR NRGIS Library



0 1,500 3,000
Feet

N

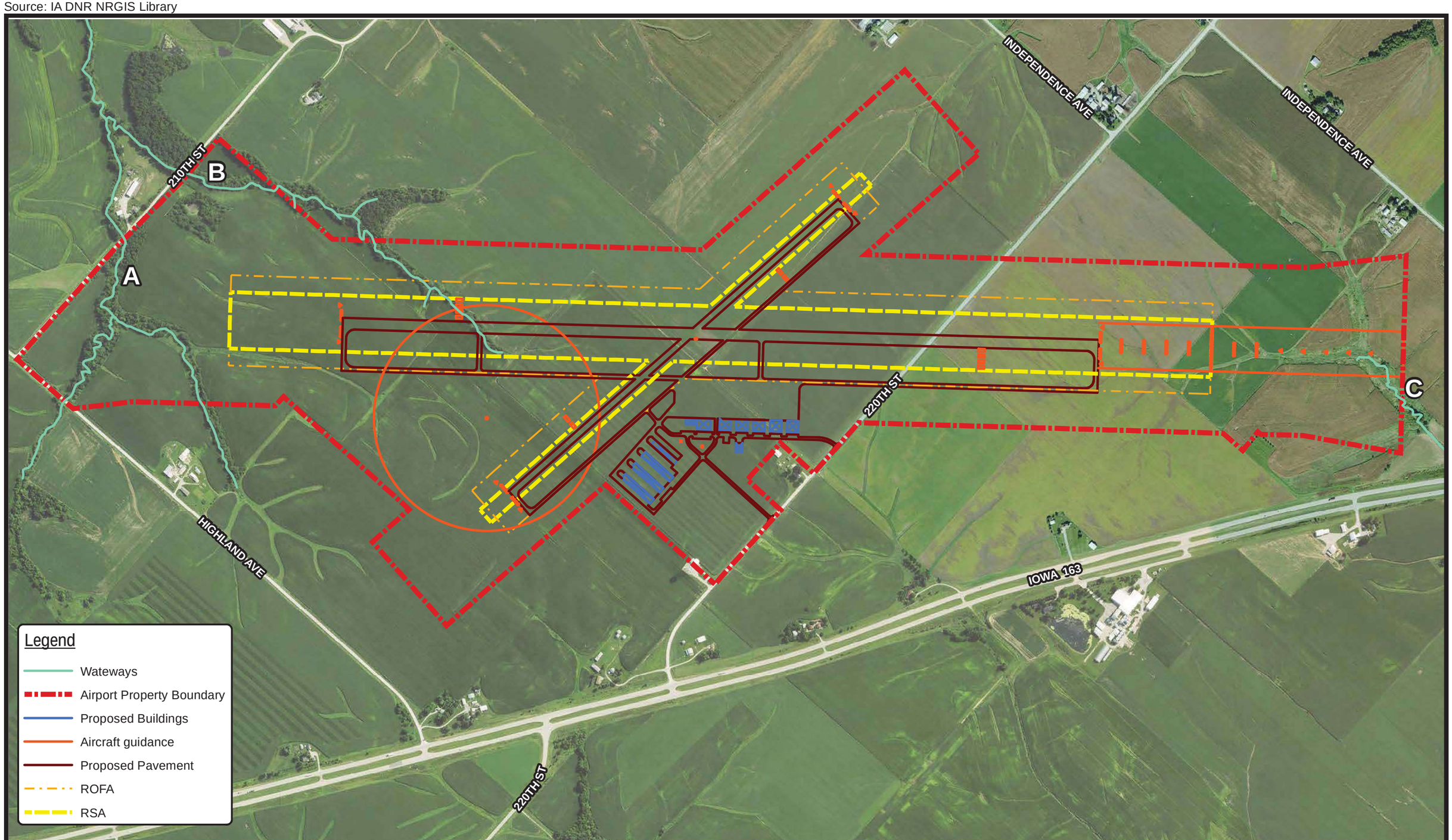
Floodplain
South Central Regional Airport
Mahaska County, Iowa

Figure 6

Document Path: \\SAAFS01.snyder-associates.com\userdata\2012_projects\112.0865\GIS\1120865_WD_EX6_Floodplain.mxd

Date: 6/15/2015

Source: IA DNR NRGIS Library



Stream Assesment
South Central Regional Airport
Mahaska County, Iowa

Figure 7

Document Path: J:\2012_projects\112.0865\GIS\1120865_WD_EX7_StreamAssesment.mxd

Date: 6/19/2015

APPENDIX B
DATA FORMS

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Proposed Airport | City/County: Mahaska County | Sampling Date: 5/5/2015

Applicant/Owner: South Central Regional Airport Agency | State: Iowa | Sampling Point: 1

Investigator(s): Nichoel Church | Section, Township, Range: SW 1/4 Sec 29, Twp 76N, R 16W

Landform (hillslope, terrace, etc.): Drainageway | Local relief (concave, convex, none): Concave

Slope (%): 2-5 | Lat: 41.350184 | Long: -92.732273 | Datum: Lat/Long

Soil Map Unit Name: 11B: Colo-Ely silty clay loams | NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation ____, soil ____, or hydrology ____ significantly disturbed?

Are vegetation ____, soil ____, or hydrology ____ naturally problematic?

Are "normal circumstances" present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	N		
Hydric soil present?	N	**Is the sampled area within a wetland?**	No
Indicators of wetland hydrology present?	N	If yes, optional wetland site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species	Indicator Staus
1 *Populus deltoides*	1	Y	FAC
2			
3			
4			
5			
	1	= Total Cover	

Sapling/Shrub stratum (Plot size: 10)			
1 *Morus rubra*	10	Y	FACU
2 *Salix nigra*	1	N	OBL
3			
4			
5			
	11	= Total Cover	

Herb stratum (Plot size: 5)			
1 *Urtica dioica*	30	Y	FACW
2			
3			
4			
5			
6			
7			
8			
9			
10			
	30	= Total Cover	

Woody vine stratum (Plot size: 15)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 66.67% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	1	x 1 =	1
FACW species	30	x 2 =	60
FAC species	1	x 3 =	3
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column totals	42 (A)		104 (B)

Prevalence Index = B/A = 2.48

Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- ___ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ___ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present? N

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type*	Redox Features Loc**	Texture	Remarks
0-18	10YR 3/2	100					Silty clay loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L)**
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
Type: _____
Depth (inches): _____

Hydric soil present? N

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes	___	No	X	Depth (inches):	___
Water table present?	Yes	___	No	X	Depth (inches):	___
Saturation present? (includes capillary fringe)	Yes	___	No	X	Depth (inches):	___

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Proposed Airport | City/County: Mahaska County | Sampling Date: 5/5/2015

Applicant/Owner: South Central Regional Airport Agency | State: Iowa | Sampling Point: 2

Investigator(s): Nichoel Church | Section, Township, Range: SW 1/4 Sec 29, Twp 76N, R 16W

Landform (hillslope, terrace, etc.): Drainageway | Local relief (concave, convex, none): Concave

Slope (%): 2-5 | Lat: 41.350611 | Long: -92.730261 | Datum: Lat/Long

Soil Map Unit Name: 11B: Colo-Ely silty clay loams | NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation ____, soil ____, or hydrology ____ significantly disturbed?

Are vegetation ____, soil ____, or hydrology ____ naturally problematic?

Are "normal circumstances" present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	N	**Is the sampled area within a wetland?**	No
Hydric soil present?	N	If yes, optional wetland site ID:	
Indicators of wetland hydrology present?	N		

Remarks: (Explain alternative procedures here or in a separate report.)

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species	Indicator Staus
1 *Populus deltoides*	2	Y	FAC
2 *Celtis occidentalis*	2	Y	FAC
3			
4			
5			
	4	= Total Cover	

Sapling/Shrub stratum (Plot size: 10)			
1			
2			
3			
4			
5			
	0	= Total Cover	

Herb stratum (Plot size: 5)			
1 *Ambrosia artemisiifolia*	30	Y	FACU
2 *Toxicodendron radicans*	15	Y	FAC
3			
4			
5			
6			
7			
8			
9			
10			
	45	= Total Cover	

Woody vine stratum (Plot size: 15)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across all Strata: 4 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 75.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	19	x 3 =	57	
FACU species	30	x 4 =	120	
UPL species	0	x 5 =	0	
Column totals	49	(A)	177	(B)

Prevalence Index = B/A = 3.61

Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- ___ Prevalence index is ≤3.0*
- ___ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ___ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present? N

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type*	Redox Features Loc**	Texture	Remarks
0-20	10YR 3/2	100					Silty clay loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L)**
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? N

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes	___	No	X	Depth (inches):	___
Water table present?	Yes	___	No	X	Depth (inches):	___
Saturation present? (includes capillary fringe)	Yes	___	No	X	Depth (inches):	___

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Proposed Airport | City/County: Mahaska County | Sampling Date: 5/5/2015

Applicant/Owner: South Central Regional Airport Agency | State: Iowa | Sampling Point: 3

Investigator(s): Nichoel Church | Section, Township, Range: SW 1/4 Sec 29, Twp 76N, R 16W

Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): Concave

Slope (%): 2-5 | Lat: 41.349401 | Long: -92.728799 | Datum: Lat/Long

Soil Map Unit Name: 11B: Colo-Ely silty clay loams | NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation ____, soil ____, or hydrology ____ significantly disturbed?

Are vegetation ____, soil ____, or hydrology ____ naturally problematic?

Are "normal circumstances" present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	N	**Is the sampled area within a wetland?**	No
Hydric soil present?	N	If yes, optional wetland site ID:	
Indicators of wetland hydrology present?	N		

Remarks: (Explain alternative procedures here or in a separate report.)

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species	Indicator Staus
1 *Juniperus virginiana*	2	Y	FACU
2 *Populus deltoides*	1	Y	FAC
3			
4			
5			
	3	= Total Cover	

Sapling/Shrub stratum (Plot size: 10)			
1			
2			
3			
4			
5			
	0	= Total Cover	

Herb stratum (Plot size: 5)			
1 *Bromus inermis*	50	Y	FACU
2 *Phleum pratense*	20	Y	FACU
3			
4			
5			
6			
7			
8			
9			
10			
	70	= Total Cover	

Woody vine stratum (Plot size: 15)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across all Strata: 4 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 25.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	1	x 3 =	3	
FACU species	72	x 4 =	288	
UPL species	0	x 5 =	0	
Column totals	73	(A)	291	(B)

Prevalence Index = B/A = 3.99

Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- ___ Dominance test is >50%
- ___ Prevalence index is ≤3.0*
- ___ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ___ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present? N

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type*	Redox Features Loc**	Texture	Remarks
0-10	10YR 3/2	100					Silty clay loam	
10-20	10YR 3/3	100					Silty clay loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L)**
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? N

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes	___	No	X	Depth (inches):	___
Water table present?	Yes	___	No	X	Depth (inches):	___
Saturation present? (includes capillary fringe)	Yes	___	No	X	Depth (inches):	___

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Proposed Airport | City/County: Mahaska County | Sampling Date: 5/5/2015

Applicant/Owner: South Central Regional Airport Agency | State: Iowa | Sampling Point: 4

Investigator(s): Nichoel Church | Section, Township, Range: SE 1/4 Sec 29, Twp 76N, R 16W

Landform (hillslope, terrace, etc.): Pond | Local relief (concave, convex, none): Concave

Slope (%): 18-25 | Lat: 41.350821 | Long: -92.725154 | Datum: Lat/Long

Soil Map Unit Name: 1313F: Munterville silt loam | NWI Classification: PUBGh

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation ____, soil ____, or hydrology ____ significantly disturbed?

Are vegetation ____, soil ____, or hydrology ____ naturally problematic?

Are "normal circumstances" present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	Y	**Is the sampled area within a wetland?**	Yes
Hydric soil present?	Y	If yes, optional wetland site ID:	
Indicators of wetland hydrology present?	Y		

Remarks: (Explain alternative procedures here or in a separate report.)

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species	Indicator Staus
1 *Juniperus virginiana*	2	Y	FACU
2 *Populus deltoides*	2	Y	FAC
3			
4			
5			
	4	= Total Cover	

Sapling/Shrub stratum (Plot size: 10)			
1			
2			
3			
4			
5			
	0	= Total Cover	

Herb stratum (Plot size: 5)			
1 *Phalaris arundinacea*	50	Y	FACW
2 *Urtica dioica*	20	Y	FACW
3			
4			
5			
6			
7			
8			
9			
10			
	70	= Total Cover	

Woody vine stratum (Plot size: 15)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across all Strata: 4 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 75.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	70	x 2 =	140
FAC species	2	x 3 =	6
FACU species	2	x 4 =	8
UPL species	0	x 5 =	0
Column totals	74 (A)		154 (B)

Prevalence Index = B/A = 2.08

Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- ___ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ___ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type*	Redox Features Loc**	Texture	Remarks
0-4	10YR 2/2	90	7.5 YR 4/6	10	C	PL/M	Loam	
4-18	10YR 4/2	80	7.5 YR 4/6	20	C	PL/M	Loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L)**
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
Type: _____
Depth (inches): _____

Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes	___	No	X	Depth (inches):	___
Water table present?	Yes	___	No	X	Depth (inches):	___
Saturation present? (includes capillary fringe)	Yes	X	No	___	Depth (inches):	0-18

Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Proposed Airport | City/County: Mahaska County | Sampling Date: 5/5/2015

Applicant/Owner: South Central Regional Airport Agency | State: Iowa | Sampling Point: 5

Investigator(s): Nichoel Church | Section, Township, Range: SE 1/4 Sec 29, Twp 76N, R 16W

Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): Concave

Slope (%): 14-18 | Lat: 41.350684 | Long: -92.725100 | Datum: Lat/Long

Soil Map Unit Name: 1313E: Munterville silt loam | NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation ____, soil ____, or hydrology ____ significantly disturbed?

Are vegetation ____, soil ____, or hydrology ____ naturally problematic?

Are "normal circumstances" present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	N	**Is the sampled area within a wetland?**	No
Hydric soil present?	N	If yes, optional wetland site ID:	
Indicators of wetland hydrology present?	N		

Remarks: (Explain alternative procedures here or in a separate report.)

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species	Indicator Staus
1 *Juniperus virginiana*	2	Y	FACU
2 *Populus deltoides*	1	Y	FAC
3			
4			
5			
	3	= Total Cover	

Sapling/Shrub stratum (Plot size: 10)			
1			
2			
3			
4			
5			
	0	= Total Cover	

Herb stratum (Plot size: 5)			
1 *Bromus inermis*	50	Y	FACU
2 *Elymus canadensis*	50	Y	FACU
3 *Taraxacum officinale*	10	N	FACU
4			
5			
6			
7			
8			
9			
10			
	110	= Total Cover	

Woody vine stratum (Plot size: 15)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across all Strata: 4 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 25.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	1	x 3 =	3
FACU species	112	x 4 =	448
UPL species	0	x 5 =	0
Column totals	113 (A)		451 (B)

Prevalence Index = B/A = 3.99

Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- ___ Dominance test is >50%
- ___ Prevalence index is ≤3.0*
- ___ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ___ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present? N

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type*	Redox Features Loc**	Texture	Remarks
0-18	10YR 3/2	100					Silty clay loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L)**
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? N

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes	___	No	X	Depth (inches):	___
Water table present?	Yes	___	No	X	Depth (inches):	___
Saturation present? (includes capillary fringe)	Yes	___	No	X	Depth (inches):	___

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Proposed Airport | City/County: Mahaska County | Sampling Date: 5/5/2015

Applicant/Owner: South Central Regional Airport Agency | State: Iowa | Sampling Point: 6

Investigator(s): Nichoel Church | Section, Township, Range: SW 1/4 Sec 29, Twp 76N, R 16W

Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): Concave

Slope (%): 2-5 | Lat: 41.345120 | Long: -92.721936 | Datum: Lat/Long

Soil Map Unit Name: 11B: Colo-Ely silty clay loams | NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation ____, soil ____, or hydrology ____ significantly disturbed?

Are vegetation ____, soil ____, or hydrology ____ naturally problematic?

Are "normal circumstances" present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	N		
Hydric soil present?	N	**Is the sampled area within a wetland?**	No
Indicators of wetland hydrology present?	N	If yes, optional wetland site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species	Indicator Staus
1 *Robinia pseudoacacia*	10	Y	FACU
2 *Populus deltoides*	2	Y	FAC
3			
4			
5			
	12	= Total Cover	

Sapling/Shrub stratum (Plot size: 10)			
1			
2			
3			
4			
5			
	0	= Total Cover	

Herb stratum (Plot size: 5)			
1 *Bromus inermis*	50	Y	FACU
2 *Ambrosia artemisiifolia*	20	Y	FACU
3 *Toxicodendron radicans*	20	Y	FAC
4			
5			
6			
7			
8			
9			
10			
	90	= Total Cover	

Woody vine stratum (Plot size: 15)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 5 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 40.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	22	x 3 =	66	
FACU species	80	x 4 =	320	
UPL species	0	x 5 =	0	
Column totals	102	(A)	386	(B)

Prevalence Index = B/A = 3.78

Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- ___ Dominance test is >50%
- ___ Prevalence index is ≤3.0*
- ___ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ___ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present? N

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: 6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type*	Redox Features Loc**	Texture	Remarks
0-18	10YR 3/2	100					Silty clay loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L)**
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
Type: _____
Depth (inches): _____

Hydric soil present? N

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes	___	No	X	Depth (inches):	___
Water table present?	Yes	___	No	X	Depth (inches):	___
Saturation present? (includes capillary fringe)	Yes	___	No	X	Depth (inches):	___

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

APPENDIX K

Noise Analysis

KB Environmental Sciences

MEMORANDUM

Date: February 25, 2016

To: Mike Fisher, Impact7G, Inc.

From: Clint Morrow, KB Environmental Sciences, Inc.

Subject: Airport Noise Analysis for Environmental Assessment South Central Regional Airport Association

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1. Introduction

The purpose of the memorandum is to document the airport noise analysis conducted by KB Environmental Sciences, Inc. in support of the Environmental Assessment (EA) for the South Central Regional Airport Association. The EA addresses the new general aviation airport proposed near the City of Oskaloosa and the City of Pella in Mahaska County, Iowa.

2. Methodology

Aircraft noise contour analysis was performed using the Federal Aviation Administration (FAA) Aviation Environmental Design Tool (AEDT) version 2b Service Pack 2. The AEDT was developed by the FAA using methods and calculations from the SAE International Aerospace Information Report (AIR) 1845, *Procedure for the Calculation of Airplane Noise in the Vicinity of Airports*. The noise analysis was conducted in accordance with FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures.*

The AEDT produces aircraft noise contours that delineate areas of equal day-night average sound level (DNL). The AEDT works by defining a network of grid points at ground level around an airport. It then selects the shortest distance from each grid point to each flight track and computes the noise exposure generated by each aircraft operation, along each flight track. Corrections are applied for atmospheric acoustical attenuation, acoustical shielding of the aircraft engines by the aircraft itself, and aircraft speed variations. The noise exposure levels for each aircraft are then summed at each grid location. The cumulative noise exposure levels at all grid points are then used to develop noise exposure contours for selected values (e.g. DNL 65, 70 and 75 dB). Using the results of the grid point analysis, noise contours of equal noise exposure can then be plotted.

The DNL is a 24-hour time-weighted sound level that is expressed in A-weighted decibels and is abbreviated as dB(A) or dB. The FAA, and other federal agencies, use DNL as the primary measure of noise impact because: it correlates well with the results of attitudinal surveys regarding noise; it increases with the duration of noise events; and, it accounts for an increased sensitivity to noise at night by increasing each noise event that occurs during nighttime hours (i.e., 10 pm to 7 am) by 10 dB.

Sound Exposure Level (SEL) is an additional metric which can be used to depict noise levels due to aircraft operations. SEL, expressed in dB, is a "time integrated" measure of the sound energy of a noise source at a reference duration of one second. The SEL value represents the level of constant sound that, in one second, would generate the same acoustic energy as the actual time-varying noise event. Therefore, SEL accounts for both the maximum sound level and the duration of the event.

3. Noise Exposure – Initial Development Scenario

The initial development scenario includes one runway, 14/32, at a length of 6,700 feet. Airport and aircraft operational data were collected as necessary to populate the AEDT model, including: aircraft fleet mix; number of day and night operations; flight tracks; runway utilization; track utilization; runway locations/dimensions; proposed airport layout plan; and annual average weather.

The forecast of aircraft operations was used to develop the aircraft fleet mix (see **Table 1**). KBE assigned each aircraft to the appropriate AEDT aircraft type. The Annual Average Day (AAD) of operations was computed; then, these operations were assigned to the appropriate runways and flight tracks. The AEDT default flight tracks (i.e., straight-in/straight-out) and default flight profiles were used. Two percent of all operations were modeled as nighttime operations (10 pm to 7 am).

Table 1. Initial Development Airport Operations (Forecast Number of Annual Arrivals/Departures)

Runway	A-I	B-I	B-II	C-I	C-II
	Cessna 172	Cessna 421C	Beechjet 400	TBM 850	Gulf G200
	Piper PA-32	Beech 55 Baron	Cessna 550 Citation II		Learjet 45XR
14	2250/2250	570/570	82/82	210/210	58/58
32	2876/2876	656/656	94/94	241/241	67/67
10	0/0	0/0	0/0	0/0	0/0
28	0/0	0/0	0/0	0/0	0/0

Source: Impact7G

DNL contours were developed at 65, 70, and 75 dB using AEDT. SEL and DNL were computed at several "Points of Interest" (POI) defined by Impact7G. Of note, the SEL represents the total SEL for all aircraft noise events modeled (i.e., not an individual event). The DNL contours are shown in **Figure 1** and the DNL and SEL at POI are shown in **Table 2.** As shown, <u>there are no noise-sensitive land uses or POI within the limits of the DNL 65 dB noise contour.</u> The area within the DNL 65 dB and higher contours was 53 acres.

Table 2. Initial Development Noise Exposure at Points of Interest

Point of Interest	DNL (dB)	SEL (dB)
1	48	97
2	39	88
3	39	88
4	47	97
5	40	89
6	45	95
7	49	98
X5	46	96

Source: AEDT version 2b SP2

4. Noise Exposure – Ultimate Development Scenario

Noise contours were also developed for the future ultimate development scenario, which includes a second crosswind runway, 10/28, at a length of 3,900 feet, which is intended for use by propeller engine aircraft. Compared to the initial development scenario, the total number of operations was greater and the runway utilization was changed to include the second runway. The percentage of night operations, flight tracks, profiles and weather were the same as the initial development scenario.

The forecast of aircraft operations was used to develop the aircraft fleet mix (see **Table 3**). The AAD operations was computed; then, these operations were assigned to the appropriate runways and flight tracks.

Table 3. Ultimate Development Airport Operations (Forecast Number of Annual Arrivals/Departures)

Runway	A-I	B-I	B-II	C-I	C-II
	Cessna 172	Cessna 421C	Beechjet 400	TBM 850	Gulf G200
	Piper PA-32	Beech 55 Baron	Cessna 550 Citation II		Learjet 45XR
14	2734/2734	963/963	221/221	434/434	100/100
32	3146/3146	837/837	192/192	377/377	87/87
10	448/448	137/137	0/0	0/0	0/0
28	672/672	206/206	0/0	0/0	0/0

Source: Impact7G

DNL contours were developed at 65, 70, and 75 dB using AEDT. The DNL contours are shown in **Figure 2** and the DNL and SEL at POI are shown in **Table 4.** As shown, there are no noise-sensitive land uses or POI within the limits of the DNL 65 dB noise contour. The area within the DNL 65 dB and higher contours was 86 acres.

Table 4. Ultimate Development Noise Exposure at Points of Interest

Point of Interest	DNL (dB)	SEL (dB)
1	50	99
2	44	92
3	44	93
4	49	98
5	45	93
6	48	97
7	51	99
X5	48	97

Source: AEDT version 2b SP2

5. Conclusion

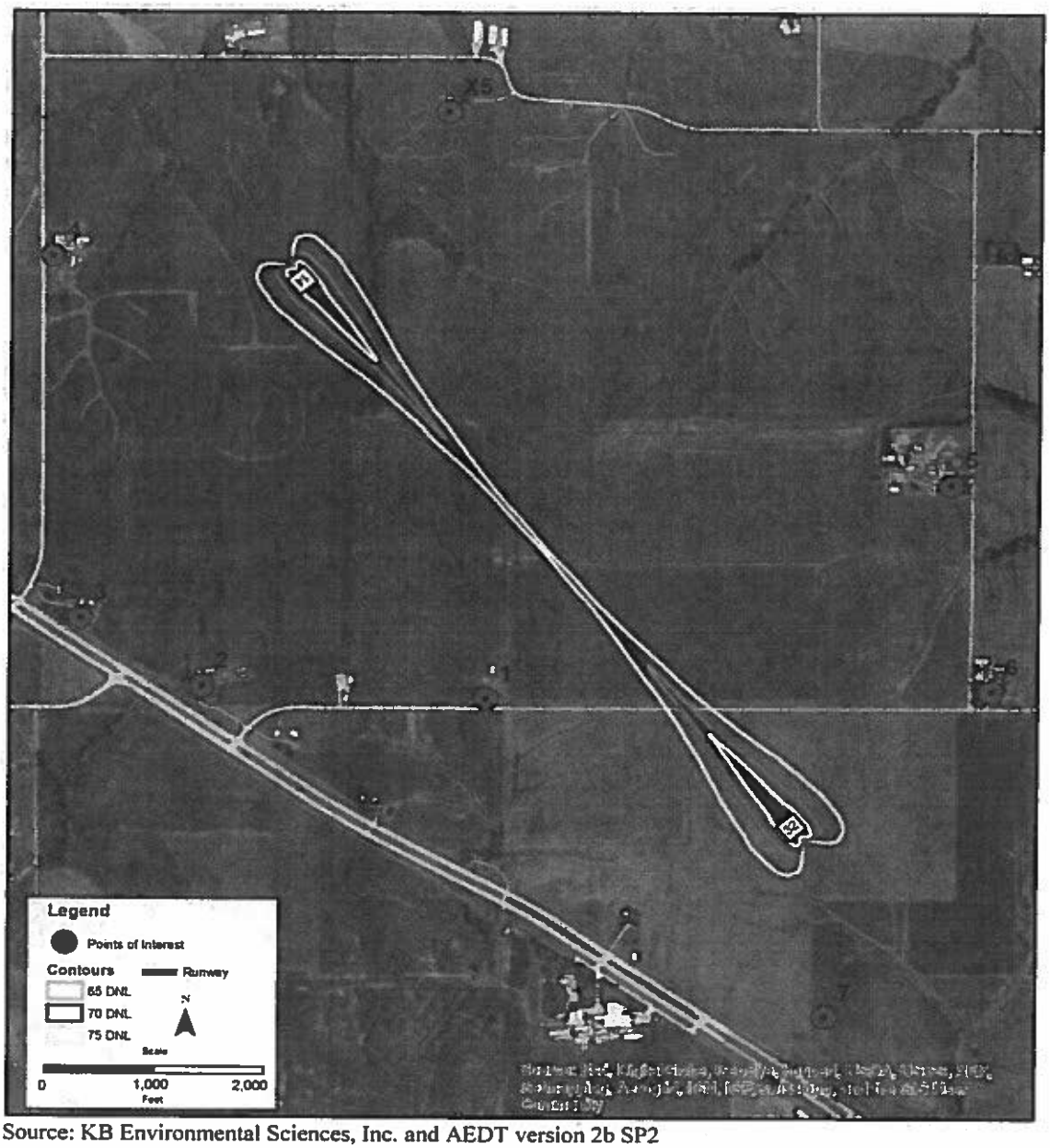
Based upon the noise impact criteria stated in FAA Order 1050.1F, this project would not result in significant noise impacts. As stated in the Order, a significant noise impact consists of:

> … increases of DNL 1.5 dB or more over noise sensitive areas that are exposed to noise at or above the DNL 65 dB noise exposure level, or that would be exposed at or above the DNL 65 dB level due to a 1.5 dB or greater increase, when compared to the no action alternative for the same timeframe.[1]

No such increases in noise would occur with the initial or ultimate development scenarios, because there are no noise-sensitive land uses within the limits of the DNL 65 dB noise contours for either scenario.

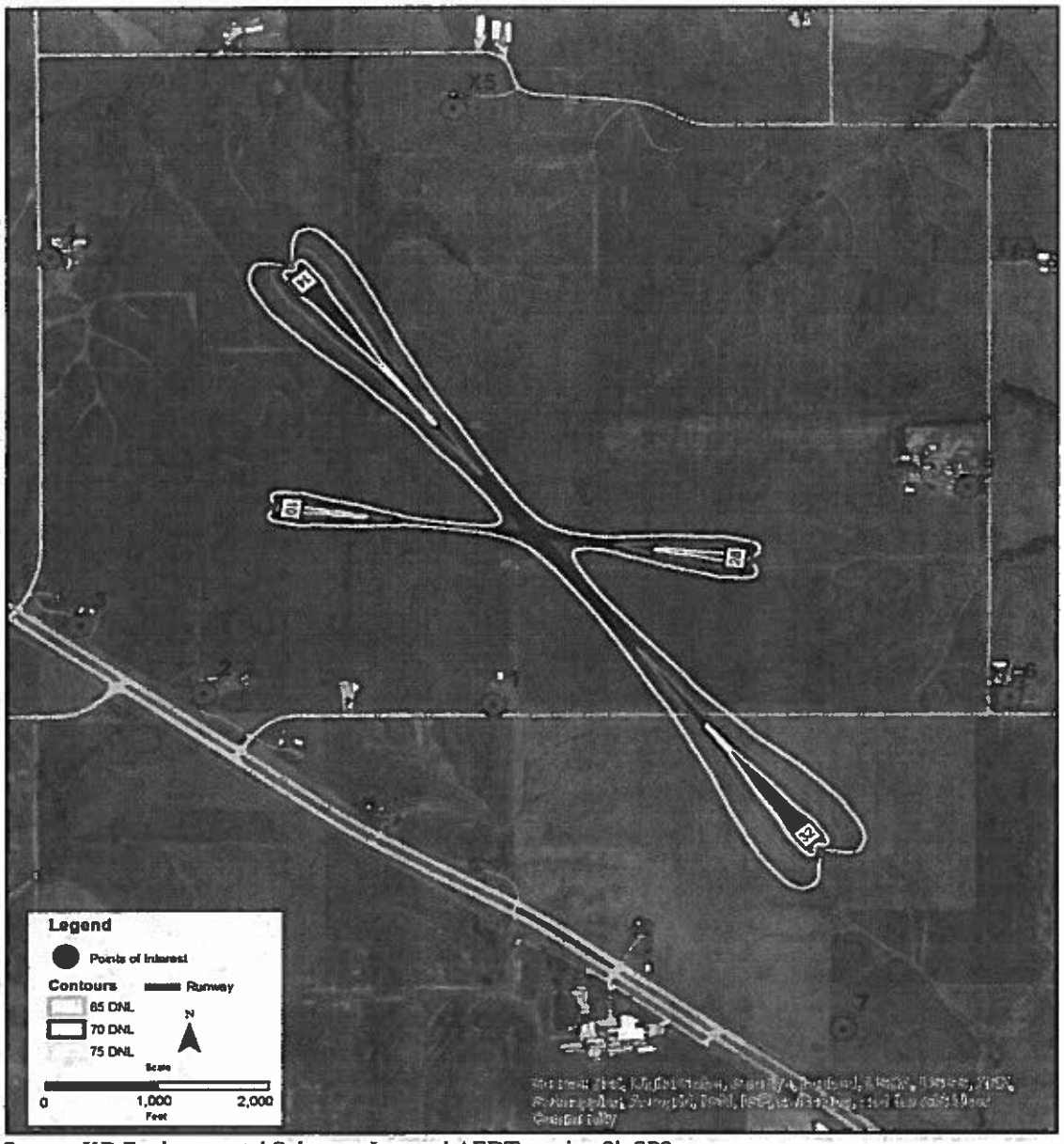
[1] Federal Aviation Administration Order 1050.1F, Appendix B, Section B-1.4. July 2015.

Figure 1. Initial Development Noise Contour Map



Source: KB Environmental Sciences, Inc. and AEDT version 2b SP2

Figure 2. Ultimate Development Noise Contour Map



Source: KB Environmental Sciences, Inc. and AEDT version 2b SP2

APPENDIX L

Public Involvement / Notice of Public Hearing

South Central Regional Airport Agency

Site Selection – ALP/Master Plan – EA

5/9/2013	Action Plan revised as per FAA Comment
5/23/2013	SCRAA Board Meeting: selects Site A and an alternative site for continued evaluation
8/27/2013	SCRAA Board Meeting
11/21/2013	SCRAA Board Meeting
12/6/2013	FAA Site Selection Approval- Site A for continued evaluation
12/6/2013	FAA issues Notice to Proceed with ALP/Master Plan
2/25/2014	SCRAA Board Meeting: Site A- Alternatives 1 and 2; Develop ALP based on Alternative 2; SCRAA board meeting
4/22/2014	FAA/SCRAA meeting- Alternative 2 presentation
5/30/2014	FAA approves aviation forecasts and critical design aircraft
6/30/2014	SCRAA Board Meeting: board approves submittal of preliminary ALP to FAA
7/3/2014	Preliminary ALP submitted to FAA
7/8/2014	SCRAA/Iowa DOT meeting to discuss proposed Site A layout & US Highway 63 bypass
7/29/2014	Received FAA comments on preliminary ALP
8/4/2014	Critical Aircraft Users meeting (25% of 100% documentation)
8/28/2014	Telephone conference call with FAA regarding Learjet 45 XR model and G-200; FAA request Aviation Forecast be revised. RW 14/32 length changed from 7,000' to 6,700'
9/3/2014	Revised Forecast and Critical Design Aircraft submitted to FAA
9/10/2014	Revised preliminary ALP submitted to FAA, received FAA comments on preliminary ALP, FAA submits preliminary ALP for Airspace Review
10/2/2014	SCRAA Board Meeting: Present preliminary Capital Cost Option
10/16/2014	SCRAA staff meeting: Review financial plan
10/23/2014	FAA/SCRAA staff conference call regarding Federal Release Requirements
10/26/2014	FAA approved revised Aviation Forecasts and Critical Design Aircraft

11/14/2014	FAA/SCRAA staff meeting- Review proposed development schedule, financial plan, release from federal obligation, FAA Order 519.6B Requirements
12/8/2014	Received Airspace Determination 2014-ACE-3492-NRA-ALP
12/9/2014	SCRAA Board Meeting: board approves submittal of final ALP to FAA
2/19/2015	FAA requests submittal of signed ALP and Master Plan Report for approval
2/24/2015	SCRAA Board Meeting: review financial plan
3/4/2015	FAA gives conditional approval to ALP and accepts Airport Master Plan
3/4/2015	FAA authorizes SCRAA to proceed with Environmental Assessment
3/12/2015	FAA- Concurrence Early Coordination
3/18/2015	Distribute Early Coordination Packet (37 Federal, State, and Local Agency contacts)
3/26/2015	Land owner contacts – Initiate field surveys
4/15/2015	PMT/FAA meeting: Review Project Progress
5/11/2015	FAA Tribal Coordination
5/28/2015	FAA- Concurrence- Reasonable Alternatives Analysis (Include Existing Pella Municipal Airport)
6/23/2015	SCRAA Board Meeting
7/24/2015	Preliminary Draft EA to FAA and SCRAA Board
8/24/2015	FAA EA review comments (Revise EA as per FAA Order 1050.1F : 7-16-2015)
9/29/2015	SCRAA Board Meeting
11/18/2015	FAA comments: Section 5 Environmental Consequences and Mitigation. Include EXISITING Pella and Oskaloosa Airport into Environmental Consequences Analysis.
12/21/2015	SCRAA Board Meeting
1/20/2016	Distribute Preliminary Draft EA to Federal & State Resource Agencies
1/27/2016	FAA/SHPO Coordination
3/19/2016	SHPO request to FAA for additional information
3/25/2016	Initiate Historic Architectural Survey: APE and Existing Airports – NRHP Eligibility: Prine Cemetery
3/29/2016	SCRAA Board Meeting

4/8/2016	Report 907: Architectural History Survey – Proposed Site (APE); Oskaloosa Municipal Airport, Pella Municipal Airport – Intensive Level Survey & Evaluation – Prine Cemetery
4/8/2016	Report 909- Phase 1A Archaeological Assessment of Pella and Oskaloosa Municipal Airport Properties
4/25/2016	FAA/SHPO Coordination, FAA Request for SHPO Comment
6/1/2016	SHPO Response/ Request to FAA for Additional Information; FAA/SHPO meeting
6/28/2016	SCRAA Board Meeting
6/29/2016	Report 928 Viewshed Impact Study of 1795 220th Street and Prine Cemetery
6/30/2016	SHPO/FAA Coordination, FAA Rquest for SHPO Comment
7/21/2016	FAA Comments – Draft EA
8/11/2016	SHPO Comments to FAA Requesting Additional Documentation. • US Naval Facility • Contextual Doc. RE: Earth/Root Cellar
8/29/2016	Wapsi Valley Archaeological Request SHPO clarity Request for Additional Information RE: Earth/Root Cellar
9/07/2016	FAA Authorizes JS + designee to communicate with SHPO
9/13/2016	Draft PA from FAA

Note: All SCRAA Board Meeting Agenda provided an opportunity for public comments.

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SCRAA
SOUTH CENTRAL REGIONAL AIRPORT AGENCY

Documents

2

- 28E Agreement
- Meeting Agendas and Minutes
- Useful Documents

Meeting Agendas and Minutes [PDF]

Agendas are available prior to meetings. Minutes are available following approval.

Meeting Date	Agenda	Minutes
June 28, 2016	Agenda	Minutes*
March 29, 2016	Agenda	Minutes
December 21, 2015	Agenda	Minutes
September 29, 2015	Agenda	Minutes
June 23, 2015	Agenda + Meeting Packet	Minutes
February 24, 2015	Agenda + Meeting Packet	Minutes
December 9, 2014	Agenda	Minutes
October 2, 2014	Agenda	Minutes
June 30, 2014	Agenda	Minutes
February 25, 2014	Agenda + Meeting Packet	Minutes
November 21, 2013	Agenda + Meeting Packet	Minutes
August 27, 2013	Agenda + Meeting Packet	Minutes
May 23, 2013	Agenda + Meeting Packet	Minutes
March 26, 2013	Agenda + Meeting Packet	Minutes
January 4, 2013	Agenda + Meeting Packet	Minutes
October 11, 2012	Agenda + Meeting Packet	Minutes
August 14, 2012	Agenda	Minutes
June 7, 2012	Agenda	Minutes

* Subject to review and approval of the Board at the next meeting

Useful Documents [PDF]

- Action Plan
- Airport Master Plan - SCRAA
- Land Acquisition for Public Airports
- Letter from Pella Mayor James Mueller (appeared in May 2013 Pella Chamber Newsletter)
- Letter of Support from Pella Area Development Corporation
- Regional Airport Information Presentation
- Regional Commuter Concentration
- Request for Release from Federal Obligations (very large 110MB file)
- SCRAA Financial Audit for the period ended June 30, 2013
- SCRAA Financial Audit for the period ended June 30, 2014
- SCRAA Financial Audit for the period ended June 30, 2015

- Site A Presentation (August 27, 2013)
- Statement of Property Owner Rights
- Statement of Qualifications **(submitted by Snyder & Associates)**

***Note**: Adobe Reader may be required to view PDF files.*

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SCRAA

SOUTH CENTRAL REGIONAL AIRPORT AGENCY

Frequently Asked Questions

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Who?

1. Who are the board members of the SCRAA?

David Barnes, Pella
Pam Blomgren, Oskaloosa
Jim Hansen (Chair), Oskaloosa
Donna Smith, Pella
Steve Van Wheelden, Pella
Joe Warrick, Mahaska County

Staff members include Mike Nardini, Pella City Administrator and Mike Schrock, Oskaloosa City Manager.

2. Who appointed the SCRAA members?

In May and June 2012, the Pella City Council, Oskaloosa City Council, and Mahaska County Board of Supervisors appointed members. The SCRAA board meetings began in June 2012.

3. Who can I contact with questions or for more information?

The SCRAA Chairman is Jim Hansen (641.673.0411). Questions can also be directed the City Administrator of Pella Mike Nardini (641.628.4173), the City Manager of Oskaloosa Mike Schrock (641.673.9431) or any agency member. This SCRAA website will be regularly updated. Use our contact form to ask questions and be automatically contacted with upcoming meeting notices.

4. Who did the SCRAA board hire as a consultant on the regional airport?

Engineering firm interviews took place in Pella in August 2012 and a resolution approving a contract with Snyder & Associates took place in October 2012 at the SCRAA meeting held in Oskaloosa.

5. Who is responsible for the development of the Regional Airport?

In July 2010, Oskaloosa and Pella began to work jointly on regional transportation projects which included discussion about a regional airport to meet regional needs. Public council meetings and public county supervisor meetings where a regional airport was discussed. In March 2012, Oskaloosa, Pella, and Mahaska County all unanimously approved a 28E Agreement forming a public agency, the South Central Regional Airport Agency (SCRAA) which is responsible for ushering the evaluation, construction, and operations of a regional airport on behalf of the City of Oskaloosa, City of Pella, and Mahaska County.

6. Who is paying for the FAA planning studies required for the project?

90% of these costs will be paid by the FAA, the other 10% will be split between the cities of Oskaloosa and Pella.

7. Who is paying for this new airport?

It is expected that up to 90% of the eligible airside costs will be paid by the FAA. Landside costs (known as "vertical" costs, i.e.,

the terminal, roads, parking, hangars, etc.) will be paid through a combination of public and private investment. City investment in this project is expected to come from the sale of the current airports.

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What?

1. What is eminent domain and will it be used?

Eminent Domain is a method by which local government may force the sale of private land for public use. It will only be used as a last resort on this project. We anticipate reaching voluntary agreements with the impacted landowners. For further information, please see *Land Acquisition for Public Airports* [PDF].

2. What are my rights as a property owner?

See the *Statement of Property Owner Rights* [PDF].

What will regional airport construction costs be?

Phase I (Primary runway of 5,500 feet with future expansion capability of 7,000 feet, land acquisition, the terminal building, t-hangers equivalent to existing sites, FBO facilities, etc.) is estimated to cost between $24-$30 million.

4. What process was and is used for public notification?

Public notice of our meetings is governed by Iowa law. In addition, the Board has used local media, websites and social media to notify the public of meetings.

5. What is a 28E agreement?

In 2012, the parties worked cooperatively with the Federal Aviation Administration to draft a 28E agreement, a document that legally solidifies the parties' intent to move forward with the evaluation and construction of a regional airport facility. The 28E agreement outlines each party's rights and responsibilities for the joint acquisition, construction, equipping, use, expansion, and operation of an airport facility. The 28E agreement also established the SCRAA which is a separate legal entity that is directed by its Board of Directors. "28E" is a reference to the Iowa Code Chapter that governs these agreements.

6. What are the different timelines involved (studies, land acquisition, construction)?

See the *Action Plan* [PDF].

7. What is the difference between a Category B and Category C airport?

The difference involves the approach speed, wingspan, size and speed of the aircraft that are allowed to land at the facility.

8. What criteria will be used to determine which potential site is selected?

The Board will use over 35 criteria to select the primary and secondary sites.

9. What happens to the existing airports?

The FAA will require the closure of the Pella and Oskaloosa airports. The land will be sold and the proceeds will go to the project.

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When?

1. When did Pella, Oskaloosa, and Mahaska County begin discussions about working together?

2010

2. When was a cost analysis done?

This project has been categorized as a "safety & standards project" by the FAA. As such, it is given priority for development. A cost benefit analysis is not required by the FAA for such projects.

3. When was the 28E agreement signed?

All parties signed the 28E agreement [PDF] in March 2012, and the signed agreement was filed with Secretary of State Matt Schultz on March 29, 2012.

4. When will construction begin?

See the *Action Plan* [PDF].

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Where?

1. Where will the airport be built?

A primary and secondary site will be determined by June, 2013. Once various studies are completed, the final site will be determined and land acquired. We currently anticipate construction to begin in 2019.

2. Where can I find current information?

Information is posted on this website, http://www.scraaiowa.com. Also, follow our Facebook page for updates.

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Why?

1. Why can't Pella expand its airport?

Due to significant site constraints abutting and adjacent to the Pella Municipal Airport, previous analyses have concluded it is not economically feasible to upgrade this airport to a Category C level.

2. Why can't Oskaloosa expand its airport?

Currently, the Oskaloosa airport does not produce enough itinerant operations to justify expansion. In addition, expansion of the Oskaloosa airport would not effectively meet the needs of the Pella users.

3. Why can't Oskaloosa just keep their airport and Pella keep their airport and let businesses use Ottumwa or Newton airports if their planes are too big?

Although the Pella airport is currently designed to Category B standards, the FAA provides Category C approaches for use by Category C aircraft to land there. The Category C approaches are not guaranteed and the FAA could revoke them at any time. Therefore, Pella, Mahaska County, and Oskaloosa, with the support of the FAA, are proposing a new airport which meets Category C design standards. It is also important to note that Oskaloosa, Mahaska County, and Pella believe a new regional airport will help promote economic development for the entire region. These public entities recognize the importance of supporting local business that use these facilities and providing an airport that will meet both current and future needs.

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How?

1. How many sites were initially considered for placement of the Regional Airport?

Nine sites were identified by Snyder and Associates as potential Regional Airport sites. The site study was conducted between October 2012 and May 2013. Thirty-two different criteria (airspace restrictions, property impacts, century farms, road disconnects, relocations, runway expansion, access to Highway 163, etc.) were used to rate the different sites, and three were approved by SCRAA board to submit to the FAA for preliminary approval.

2. How do I find out more information?

Continue to monitor this website, http://www.scraaiowa.com. Also, follow our Facebook page for updates.

3. How do you publicize meeting dates and times?

Meeting times and places will continue to be posted as required by law, but will also be made available via the news and social media, including the SCRAA Facebook page.

4. How much do SCRAA members get paid?

Nothing. This is a volunteer board.

5. How will my land be valued if I happen to own land in the selected airport site?

Refer to the *Land Acquisition for Public Airports* [PDF] flyer.

6. How much will my taxes go up when the regional airport is built?

Although we can't be certain, we do not expect county taxes to go up at all. Per the terms of the 28E Agreement, Mahaska County is not financially liable in any way for this airport.

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APPENDIX M

Public Comment

APPENDIX N

Responses to Public Comment