APPENDIX G

Aircraft Noise Technical Report

RS&H

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1 Introduction

This technical report presents the aircraft noise analysis for the reconstruction, strengthening, and extension of Runway 13-31 at the Sioux Gateway Airport (SUX). The noise analysis was prepared to comply with the National Environmental Policy Act (NEPA) of 1969; Federal Aviation Administration (FAA) Order 1050.1F, *Environmental Impacts: Policies and Procedures*;[1] and FAA Order 5050.4B, *NEPA Implementing Instructions for Airport Actions*.[2] The following describes the aircraft noise models, regulatory background, noise model input data, and noise exposure results.

1.1 Aircraft Noise Models and Regulatory Guidelines

The noise analysis was developed using the two noise modeling software programs: the FAA's Aviation Environmental Design Tool (AEDT) Version 3f [3] and the US Department of Defense's NOISEMAP Version 7.370.[4] The AEDT was used to model the civilian aircraft operations and the NOISEMAP software was used to model the military aircraft operations. The noise models produce aircraft noise contours that delineate areas of equal day-night average sound levels (DNL). The DNL is a 24-hour time-weighted sound level that is expressed in A-weighted decibels. 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; increases with the duration of noise events; and accounts for an increased sensitivity to noise at night by increasing each event that occurs during nighttime hours (i.e., 10:00 p.m. to 6:59 a.m.) by 10 decibels (dB). Each noise model was run separately, and the outputs were combined using NMPlot Version 4.972 to produce the DNL contours in this report.

Guidelines regarding the compatibility of land uses within various DNL contour intervals are specified in Appendix A of 14 Code of Federal Regulations (CFR) Part 150.[5] As shown in **Table 1-1**, the FAA identifies, as a function of annual (365-day average) DNL values, land uses which are compatible and land uses which are not compatible in an airport environ. The FAA determined all the land uses listed in the table are compatible with aircraft noise exposure below the 65 DNL contour. When evaluating land use compatibility, attention is therefore focused on land uses within the 65 DNL contour or greater.

1 Federal Aviation Administration. 2015. Order 1050.1F, Environmental Impacts: Policies and Procedures. Retrieved June 2024 from https://www.faa.gov/documentlibrary/media/order/faa_order_1050_1f.pdf
2 Federal Aviation Administration. 2006. National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions. Retrieved June 2024 from https://www.faa.gov/documentLibrary/media/Order/5050.4B.pdf
3 Federal Aviation Administration. 2024. Aviation Environmental Design Tool (AEDT) Version 3f. Retrieved June 2024 from https://aedt.faa.gov/3f_information.aspx
4 Additional documentation is available at: https://www.denix.osd.mil/dodnoise/resources/
5 Title 14 Code of Federal Regulations Part 150 – Airport Noise Compatibility Planning. Retrieved June 2024 from https://www.ecfr.gov/current/title-14/chapter-I/subchapter-I/part-150

Table 1-1 FAA Land Use Compatibility Guidelines - 14 CFR Part 150

Category	Land Use	65 DNL	70 DNL	75 DNL	80 DNL	85 DNL	85 DNL
Residential	Residential, other than mobile homes and transient lodgings	Y	N(1)	N(1)	N	N	N
Residential	Mobile home parks	Y	N	N	N	N	N
Residential	Transient lodgings	Y	N(1)	N(1)	N(1)	N	N
Public Use	Schools	Y	N(1)	N(1)	N	N	N
Public Use	Hospitals and nursing homes	Y	25	30	N	N	N
Public Use	Churches, auditoriums, and concert halls	Y	25	30	N	N	N
Public Use	Governmental services	Y	Y	25	30	N	N
Public Use	Transportation	Y	Y	Y(2)	Y(3)	Y(4)	Y(4)
Public Use	Parking	Y	Y	Y(2)	Y(3)	Y(4)	N
Commercial Use	Offices, business and professional	Y	Y	25	30	N	N
Commercial Use	Wholesale and retail—building materials, hardware and farm equipment	Y	Y	Y(2)	Y(3)	Y(4)	N
Commercial Use	Retail trade—general	Y	Y	25	30	N	N
Commercial Use	Utilities	Y	Y	Y(2)	Y(3)	Y(4)	N
Commercial Use	Communication	Y	Y	25	30	N	N
Manufacturing and Production	Manufacturing, general	Y	Y	Y(2)	Y(3)	Y(4)	N
Manufacturing and Production	Photographic and optical	Y	Y	25	30	N	N
Manufacturing and Production	Agriculture (except livestock) and forestry	Y	Y(6)	Y(7)	Y(8)	Y(8)	Y(8)
Manufacturing and Production	Livestock farming and breeding	Y	Y(6)	Y(7)	N	N	N
Manufacturing and Production	Mining and fishing, resource production and extraction	Y	Y	Y	Y	Y	Y
Recreational	Outdoor sports arenas and spectator sports	Y	Y(5)	Y(5)	N	N	N
Recreational	Outdoor music shells, amphitheaters	Y	N	N	N	N	N
Recreational	Nature exhibits and zoos	Y	Y	N	N	N	N
Recreational	Amusements, parks, resorts and camps	Y	Y	Y	N	N	N
Recreational	Golf courses, riding stables and water recreation	Y	Y	25	30	N	N

Table Notes: SLUCM=Standard Land Use Coding Manual. Y (Yes) = Land Use and related structures compatible without restrictions. N (No) = Land Use and related structures are not compatible and should be prohibited. NLR = Noise Level Reduction (outdoor to indoor) to be achieved through incorporation of noise attenuation into the design and construction of the structure.
25, 30, or 35=Land use and related structures generally compatible; measures to achieve NLR of 25, 30, or 35 dB must be incorporated into design and construction of structure.
(1) Where the community determines that residential or school uses must be allowed, measures to achieve outdoor to indoor Noise Level Reduction (NLR) of at least 25 dB and 30 dB should be incorporated into building codes and be considered in individual approvals. Normal residential construction can be expected to provide a NLR of 20 dB, thus, the reduction requirements are often stated as 5, 10 or 15 dB over standard construction and normally assume mechanical

ventilation and closed windows year-round. However, the use of NLR criteria will not eliminate outdoor noise problems. (2) Measures to achieve NLR 25 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal noise level is low. (3) Measures to achieve NLR of 30 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal noise level is low. (4) Measures to achieve NLR 35 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal level is low. (5) Land use compatible provided special sound reinforcement systems are installed. (6) Residential buildings require an NLR of 25. (7) Residential buildings require an NLR of 30. (8) Residential buildings not permitted.
Source: 14 CFR Part 150

2 Existing Noise Exposure

In the development of DNL contours, the noise models use both default and airport-specific factors. The default factors include meteorological data, engine noise levels, thrust settings, aircraft arrival and departure flight profiles and aircraft speed. The airport-specific factors include the number of aircraft operations, the types of aircraft, runway use, the assignment of aircraft operations to flight tracks, and operational time (day/night). The following describes these airport-specific data for SUX.

2.1 Meteorological Data

The models account for the influences of meteorological conditions on aircraft performance and atmospheric sound absorption. Meteorological conditions affect the transmission of aircraft sound through the air. Humidity and temperature materially affect the transmission of air-to-ground sound through absorption associated with the instability and viscosity of the air. The models use temperature and relative humidity to calculate atmospheric absorption coefficients, which in turn are used to adjust aircraft performance and sound propagation. For consistency, the same weather data used in the AEDT model was used in the NOISEMAP model. The 10-year (2012-2021) average meteorological conditions included in the AEDT for SUX are:

- Temperature: 49.0° Fahrenheit
- Relative humidity: 70.3%

2.2 2023 Aircraft Operations and Fleet

Table 2-1 provides the 2023 modeled aircraft operations[6] by category. The annual operations modeled for 2023 totaled 26,973, which is an average of 74 operations per day.

Table 2-1 2023 Annual Aircraft Operations

Air Carrier	Air Taxi	General Aviation	Military	Total
1,643	2,372	19,168	3,790	26,973

Source: SUX 2023 Airport Operational Statistics, January1-December 31, 2023

For the purposes of preparing DNL contours, operational data were segregated by aircraft type. The FAA's Traffic Flow Management System Count (TFMSC) data was used to develop the civilian aircraft fleet mix. The TFMSC data for SUX was reviewed and each aircraft type was assigned the corresponding AEDT aircraft type. The military fleet mix was developed with input from the Iowa Air National Guard (IAANG). **Table 2-2** provides the 2023 modeled aircraft operations and fleet.

[6] An operation is defined as one arrival or one departure.

Table 2-2 2023 Aircraft Operations and Fleet

Category	Representative Aircraft Type (s)	AEDT ID	AEDT Aircraft	2023 Operations
Air Carrier	Boeing 737-800	203	737800	28
	Airbus A320	1016	A320-232	18
	Boeing 757-200	390	757RR	4
	Boeing 767-200	531	767CF6	4
	Airbus A319	949	A319-131	4
	Canadair Regional Jet CRJ-200/700	1244	CRJ9-ER	1,585
	Embraer ERJ 135/145	2574	EMB145	4
GA Jet	Cessna 750 Citation X, Falcon 2000	1307	CNA750	755
	Cessna 525 Citation Jet CJ1/CJ3/CJ4	6066	CNA525C	552
	Citation II/Bravo, Phenom 300	1292	CNA55B	315
	Cessna 560 Citation XLS	6065	CNA560XL	212
	Cessna Sovereign/Latitude	3047	CNA680	170
	Bombardier Challenger 300/350/600	1238	CL600	166
	Cessna Citation V/Ultra/Encore	1298	CNA560U	138
	Learjet 35/40/45/60/75, Hawker 800	2017	LEAR35	92
	Dassault Falcon 50/900	1320	FAL900EX	70
	Cessna 650 Citation III	1234	CIT3	58
	Cessna 560	3045	CNA560E	44
	Bombardier Global 7000 / Global Express	4197	BD-700-1A10	41
	Gulfstream G280	4198	CL601	28
	Gulfstream G300/G400, Falcon 7X	5273	GIV	22
	Cessna Citation Mustang, Phenom 100	6104	CNA510	21
	Eclipse 500	3159	ECLIPSE500	21
	Gulfstream G150	1974	IA1125	10
	Gulfstream GV	5356	GV	6
	Bombardier Global 5000	2573	BD-700-1A11	2
GA	Beech Super King Air 200/300	1454	DHC6	526
	Pilatus PC12, Cessna 208, Socata TBM7	2106	CNA208	436
	Cessna 425/441, Socata TBM-850	3158	CNA441	94
	Embraer Brasilia EMB 120	1708	EMB120	6
	Saab SF 340	42	SF340	6
	Saab 2000	1446	HS748A	2
GA Piston	Cessna 172 / 177	6264	CNA172	10,271
	Beechcraft Bonanza, Mooney M-20	6284	GASEPV	2,345
	Cirrus SR20/22	6281	COMSEP	2,189
	Baron 58, Cessna 310/340, Aztec	1192	BEC58P	1,172
	Piper PA-28 Cherokee, Cessna 150/152	6300	GASEPF	689
	Cessna 182 / 185	1262	CNA182	655
	Piper PA-30/44	6287	PA30	402
Helicopter	Bell 429	20	B429	20
Military	KC-135 Stratotanker	4220	KC-135	3,699
	F-16	3213	F16PW0	68
	C-130 Hercules	3170	C130E	23
	Total			26,973

Source: FAA TFMSC, 2023; IANG, 2023; RS&H, Inc., 2024.

2.3 Time of Day

Aircraft operations are assigned as occurring during daytime (7:00 a.m. to 9:59 p.m.) or nighttime (10:00 p.m. to 6:59 a.m.). The DNL calculation includes an additional weight of 10 dB for those aircraft events occurring at night. Radar flight track data was obtained from FAA's Office of Performance Analysis National Offload Program (NOP) Repository. The data included the aircraft type, flight track and the time which the aircraft operation occurred. **Table 2-3** provides the modeled time-of-day percentages by aircraft category for arrivals and departure.

Table 2-3 2023 Percent Time of Day by Category

Aircraft Category	Departures Day	Departures Night	Arrivals Day	Arrivals Night
Air Carrier	94%	6%	99%	1%
Regional Jet	94%	6%	99%	1%
GA Jet	94%	6%	99%	1%
GA Turboprop	87%	13%	98%	2%
GA Piston	99%	1%	99%	1%
GA Helicopter	98%	2%	98%	2%
Military	85%	15%	98%	2%

Source: FAA NOP Data 2023; RS&H, Inc., 2024.

2.4 Runway Use

Runway use refers to the frequency with which aircraft utilize each runway end for departures and arrivals. The more often a runway is used, the more noise is generated in areas located off each end of that runway. Wind direction and speed primarily dictate the runway directional use (or flow) of airports. **Table 2-4** provides the modeled runway use by aircraft category.

Table 2-4 Modeled Runway Use

Operation	Category	Runway 18	Runway 36	Runway 13	Runway 31	Total
Arrival	Air Carrier	-	-	52%	48%	100%
	Regional Jet	5%	5%	52%	38%	100%
	GA Jet	40%	15%	17%	28%	100%
	GA Turboprop	44%	15%	16%	25%	100%
	GA Piston	34%	19%	26%	21%	100%
	Military	-	-	50%	50%	100%
Departure	Air Carrier	-	-	52%	48%	100%
	Regional Jet	5%	5%	52%	38%	100%
	GA Jet	40%	15%	17%	28%	100%
	GA Turboprop	44%	15%	16%	25%	100%
	GA Piston	34%	19%	26%	21%	100%
	Military	-	-	50%	50%	100%

Source: FAA NOP, 2023; RS&H, Inc., 2024.

2.5 Modeled Aircraft Flight Tracks

Flight tracks refer to the route an aircraft follows when arriving to or departing from a runway. The location of flight tracks is an important factor in determining the geographic distribution of noise contours on the ground. The AEDT uses airport-specific ground tracks and vertical flight profiles to compute three-dimensional flight paths for each modeled aircraft operation. The "default" AEDT vertical profiles, which consist of altitude, speed, and thrust settings, are compiled from data provided by aircraft manufacturers. The AEDT modeled flight tracks were developed using the FAA's NOP data. The AEDT modeled flight tracks, overlaid on a sample of the NOP radar tracks, for north flow and south flow are depicted on **Figure 2-1** and **Figure 2-2** respectively. Local touch-and-go operations[7] were modeled following a left-traffic pattern from all four runway ends. The military operations on Runway 13-31 were modeled in NOISEMAP straight-in/straight-out in the immediate vicinity of the runway ends. **Table 2-5** shows the modeled flight track use percentages.

Table 2-5 Modeled Flight Track Use by Aircraft Category and Track ID

Category	Track Direction and Operation Type								
Runway 31	North Flow Departures	**31DS**	**31D1**	**31D2**	**31D3**	**31D4**	**31D5**	**31D6**	**Sum**
Jet	North Flow Departures	5%	30%	15%	10%	10%	20%	10%	100%
Turboprop	North Flow Departures	10%	30%	10%	5%	30%	15%	-	100%
Piston	North Flow Departures	30%	30%	5%	5%	15%	10%	5%	100%
Military	North Flow Departures	100%	-	-	-	-	-	-	-
Runway 36	North Flow Departures	**36DS**	**36D1**	**36D2**	**36D3**	**36D4**			
Jet	North Flow Departures	20%	20%	15%	25%	20%			100%
Turboprop	North Flow Departures	30%	20%	10%	25%	15%			100%
Piston	North Flow Departures	30%	15%	15%	25%	15%			100%
Military	North Flow Departures	-	-	-	-				-
Runway 31	North Flow Arrivals	**31AS**	**31A1**	**31A2**	**31A3**	**31A4**			
Jet	North Flow Arrivals	60%	10%	20%	5%	5%			100%
Turboprop	North Flow Arrivals	50%	15%	25%	5%	5%			100%
Piston	North Flow Arrivals	45%	15%	10%	15%	15%			100%
Military	North Flow Arrivals	100%	-	-	-	-			100%
Runway 36	North Flow Arrivals	**36AS**	**36A1**	**36A2**					
Jet	North Flow Arrivals	50%	30%	20%					100%
Turboprop	North Flow Arrivals	70%	25%	5%					100%
Piston	North Flow Arrivals	40%	35%	25%					100%
Military	North Flow Arrivals	-	-	-					-
Runway 13	South Flow Departures	**13DS**	**13D1**	**13D2**	**13D3**	**13D4**	**13D5**		**Sum**
Jet	South Flow Departures	10%	25%	25%	10%	20%	10%		100%
Turboprop	South Flow Departures	10%	15%	25%	10%	30%	10%		100%
Piston	South Flow Departures	10%	25%	20%	15%	15%	15%		100%
Military	South Flow Departures	100%	-	-	-	-	-		100%
Runway 18	South Flow Departures	**18DS**	**18D1**	**18D2**	**18D3**	**18D4**	**18D5**		
Jet	South Flow Departures	20%	10%	10%	25%	20%	15%		100%
Turboprop	South Flow Departures	15%	10%	10%	10%	40%	15%		100%
Piston	South Flow Departures	5%	15%	10%	5%	50%	15%		100%

[7] A touch-and-go operation occurs when an aircraft departs an airport, lands on a runway, and departs again without stopping.

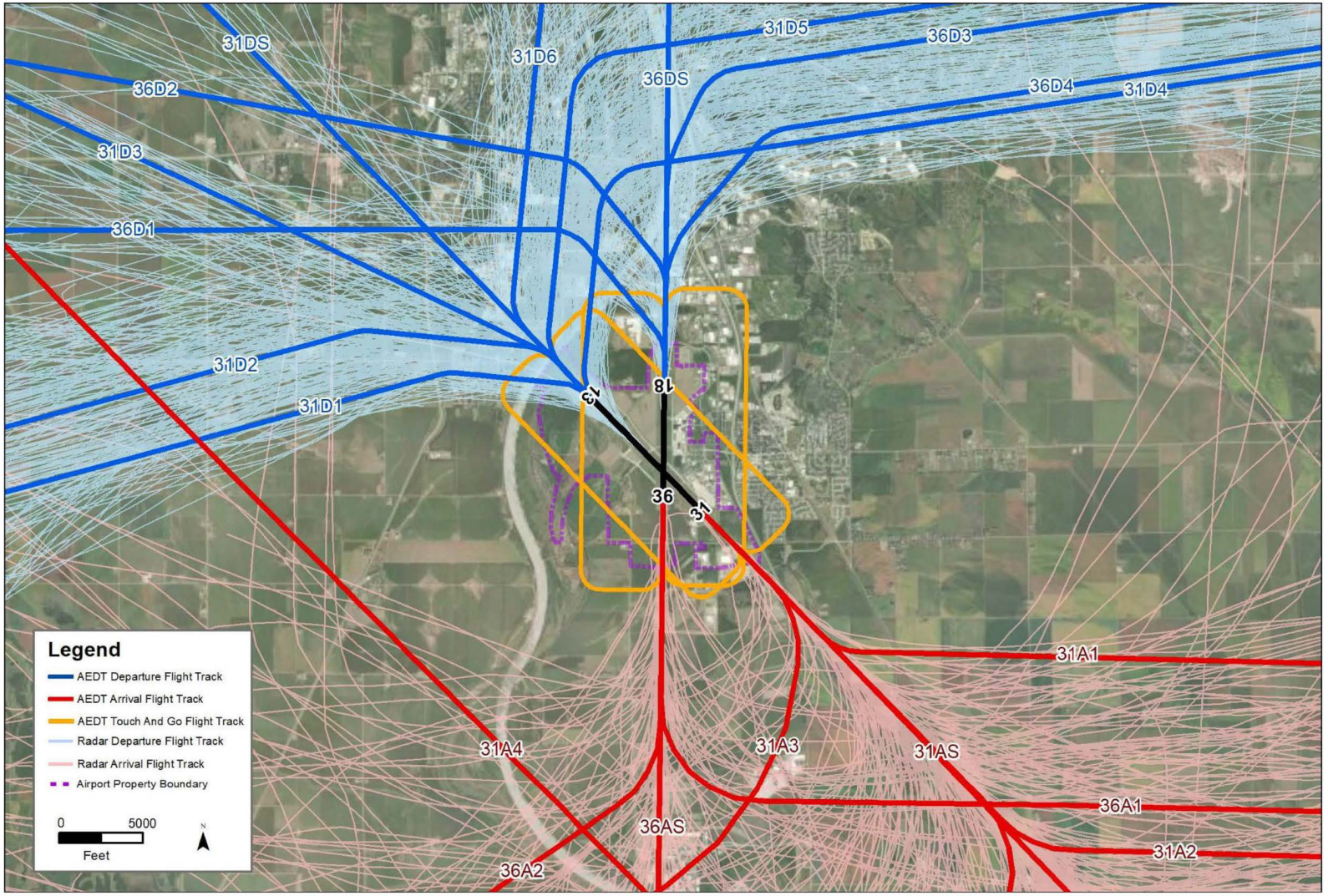
Category	Track Direction and Operation Type								
Military	South Flow Departures	-							-
Runway 13	South Flow Arrivals	**13AS**	**13A1**	**13A2**	**13A3**	**13A4**	**13A5**	**13A6**	
Jet	South Flow Arrivals	35%	10%	10%	15%	5%	10%	15%	100%
Turboprop	South Flow Arrivals	40%	20%	10%	10%	10%	5%	5%	100%
Piston	South Flow Arrivals	25%	50%	5%	5%	10%	5%	-	100%
Military	South Flow Arrivals	100%	-	-	-	-	-	-	100%
Runway 18	South Flow Arrivals	**18AS**	**18A1**	**18A2**					
Jet	South Flow Arrivals	30%	15%	55%					100%
Turboprop	South Flow Arrivals	35%	15%	50%					100%
Piston	South Flow Arrivals	35%	5%	60%					100%
Military	South Flow Arrivals	-	-	-					-

Source: FAA NOP, 2023; RS&H, Inc., 2024.

2.6 2023 DNL Contours

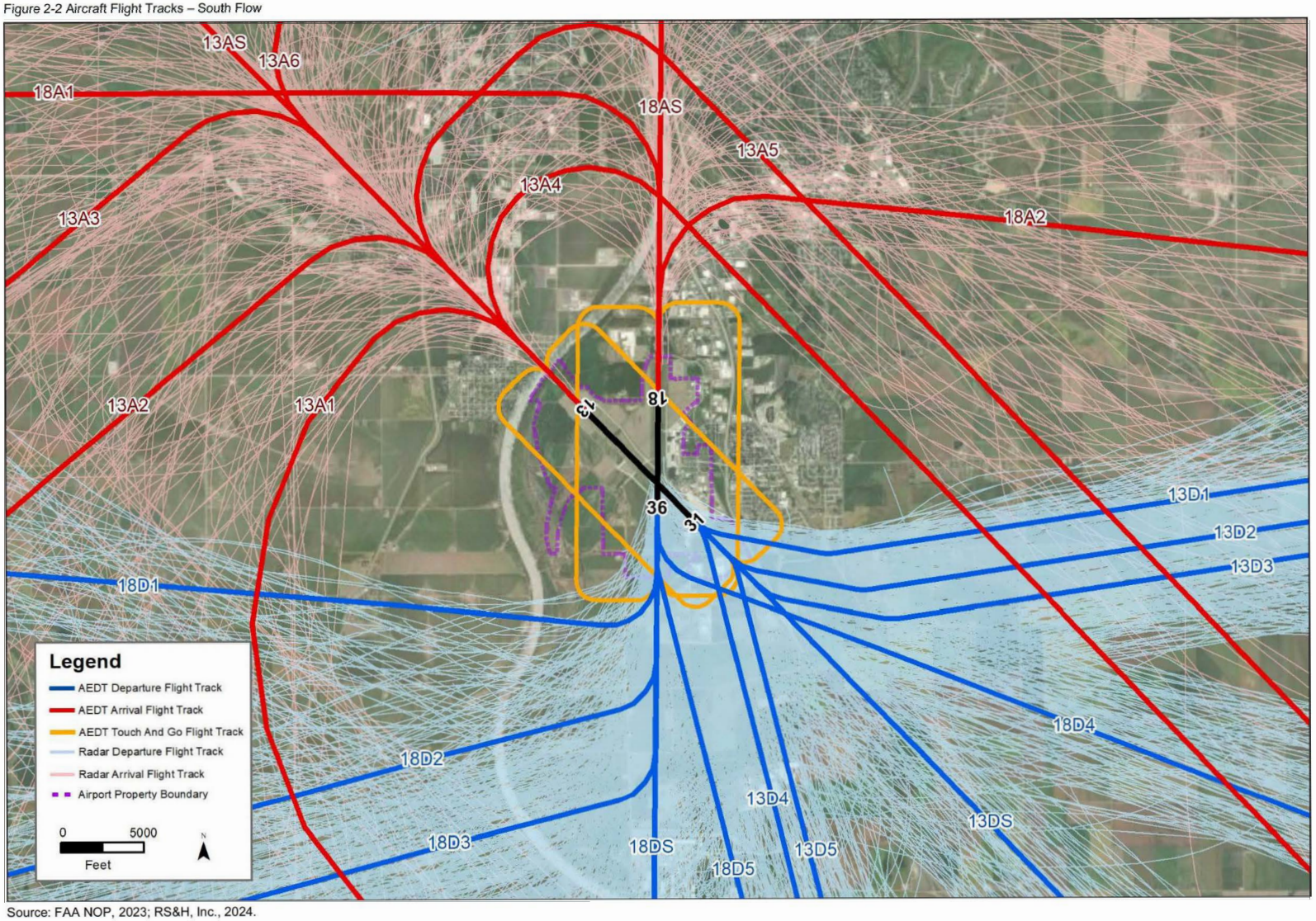
Figure 2-3 presents the 2023 65, 70, and 75 DNL contours. The total area within the 65 and greater DNL contours is approximately 237 acres and remains within the airport property boundary. Per FAA guidelines, there are no incompatible land uses or noise sensitive areas within the 2023 65 and greater DNL contours.

Figure 2-1 Aircraft Flight Tracks – North Flow



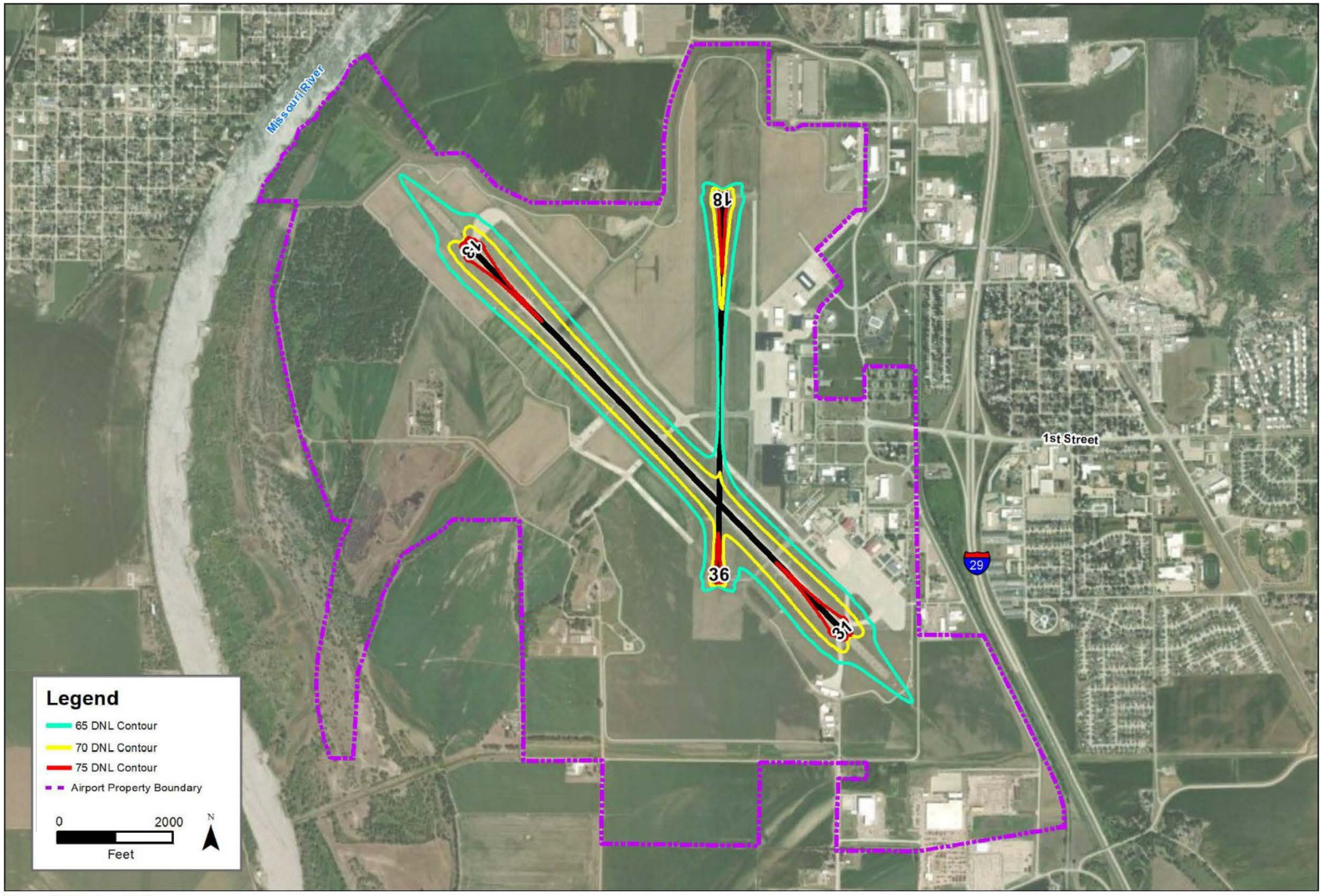
Source: FAA NOP, 2023; RS&H, Inc., 2024.

Figure 2-2 Aircraft Flight Tracks – South Flow



Source: FAA NOP, 2023; RS&H, Inc., 2024.

Figure 2-3 2023 DNL Contours



Source: RS&H, Inc., 2024.

3 Future Noise Exposure

This section describes the methodology, significance thresholds pertaining to noise and compatible land uses, and the potential effects that the Proposed Action would have on aircraft noise exposure compared to the No Action Alternative for 2030 and 2035.

3.1 Methodology and Significance Threshold

Per FAA Order 1050.1F, "a significant noise impact would occur if the action would increase noise by DNL 1.5 dB or more for a noise sensitive area that is [already] exposed to noise at or above the DNL 65 dB noise exposure level, or that will be exposed at or above the DNL 65 dB level due to a DNL 1.5 dB or greater increase, when compared to the no action alternative for the same timeframe." Noise sensitive areas include residential neighborhoods; educational, health, and religious facilities; and cultural and historic sites.

The methodology for assessing noise exposure included preparing DNL contours for the No Action and Proposed Action for the years 2030 and 2035. The contours were developed to assess if a significant noise impact would occur.

3.2 Future No Action Alternative Aircraft Operations

The 2030 and 2035 No Action Alternatives aircraft operations were obtained from the SUX Aviation Activity Forecast, July 2024. The 2030 and 2035 No Action Alternatives aircraft fleet mixes were determined by multiplying the percentages by aircraft type that occurred in 2023 by the operations forecast to occur in 2030 and 2035. The runway use, flight tracks, flight track use, and time of day modeled for the 2030 and 2035 No Action Alternatives are the same as those modeled for the 2023 DNL contours. **Table 3-1** shows the 2030 and 2035 modeled aircraft operations and fleet.

Table 3-1 2030 and 2035 Aircraft Operations and Fleet

Category	Representative Aircraft Type (s)	AEDT ID	AEDT Aircraft	2030 Operations	2035 Operations
Air Carrier	Boeing 737-800	203	737800	28	28
	Airbus A320	1016	A320-232	18	18
	Boeing 757-200	390	757RR	4	4
	Boeing 767-200	531	767CF6	4	4
	Airbus A319	949	A319-131	4	4
	Embraer ERJ 175-LR	3072	EMB175	1,561	1,658
	Embraer ERJ 135/145	2574	EMB145	5	5
GA Jet	Cessna 750 Citation X, Falcon 2000	1307	CNA750	901	925
	Cessna 525 Citation Jet CJ1/CJ3/CJ4	6066	CNA525C	659	677
	Citation II/Bravo, Phenom 300	1292	CNA55B	376	387
	Cessna 560 Citation XLS	6065	CNA560XL	253	260
	Cessna Sovereign/Latitude	3047	CNA680	203	208
	Bombardier Challenger 300/350/600	1238	CL600	198	203
	Cessna Citation V/Ultra/Encore	1298	CNA560U	165	169

Category	Representative Aircraft Type (s)	AEDT ID	AEDT Aircraft	2030 Operations	2035 Operations
	Learjet 35/40/45/60/75, Hawker 800	2017	LEAR35	110	113
	Dassault Falcon 50/900	1320	FAL900EX	84	86
	Cessna 650 Citation III	1234	CIT3	69	71
	Cessna 560	3045	CNA560E	53	54
	Bombardier Global 7000 / Global Express	4197	BD-700-1A10	49	50
	Gulfstream G280	4198	CL601	33	34
	Gulfstream G300/G400, Falcon 7X	5273	GIV	26	27
	Cessna Citation Mustang, Phenom 100	6104	CNA510	25	26
	Eclipse 500	3159	ECLIPSE500	25	26
	Gulfstream G150	1974	IA1125	12	12
	Gulfstream GV	5356	GV	7	7
	Bombardier Global 5000	2573	BD-700-1A11	2	2
GA Turboprop	Beech Super King Air 200/300	1454	DHC6	628	644
	Pilatus PC12, Cessna 208, Socata TBM7	2106	CNA208	519	532
	Cessna 425/441, Socata TBM-850	3158	CNA441	112	115
	Embraer Brasilia EMB 120	1708	EMB120	7	7
	Saab SF 340	42	SF340	7	7
	Saab 2000	1446	HS748A	2	2
GA Piston	Cessna 172 / 177	6264	CNA172	12,794	13,086
	Beechcraft Bonanza, Mooney M-20	6284	GASEPV	2,798	2,870
	Cirrus SR20/22	6281	COMSEP	2,612	2,679
	Baron 58, Cessna 310/340, Aztec	1192	BEC58P	1,398	1,435
	Piper PA-28 Cherokee, Cessna 150/152	6300	GASEPF	822	843
	Cessna 182 / 185	1262	CNA182	782	802
	Piper PA-30/44	6287	PA30	480	492
Helicopter	Bell 429	20	B429	24	24
Military	KC-135 Stratotanker	4220	KC-135	3,709	3,709
	F-16	3213	F16PW0	68	68
	C-130 Hercules	3170	C130E	23	23
	Total			31,659	32,396

Source: RS&H, Inc., 2024.

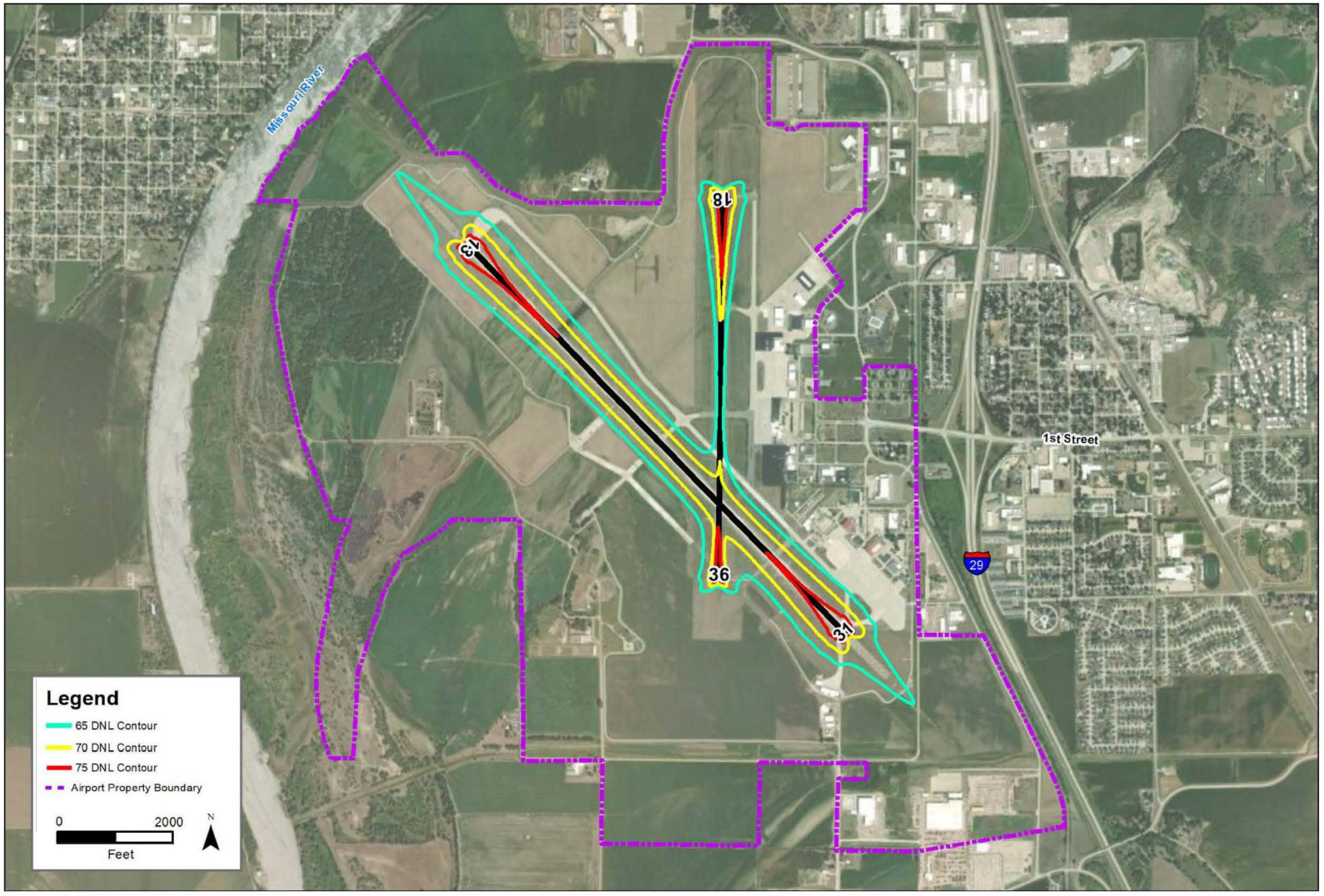
3.3 2030 No Action Alternative DNL Contours

Figure 3-1 presents the 2030 No Action Alternative 65, 70, and 75 DNL contours. The total area within the 65 and greater DNL contours is approximately 253 acres and remains within the airport property boundary. Per FAA guidelines, there are no incompatible land uses or noise sensitive areas within the 2030 No Action Alternative 65 and greater DNL contours.

3.4 2035 No Action Alternative DNL Contours

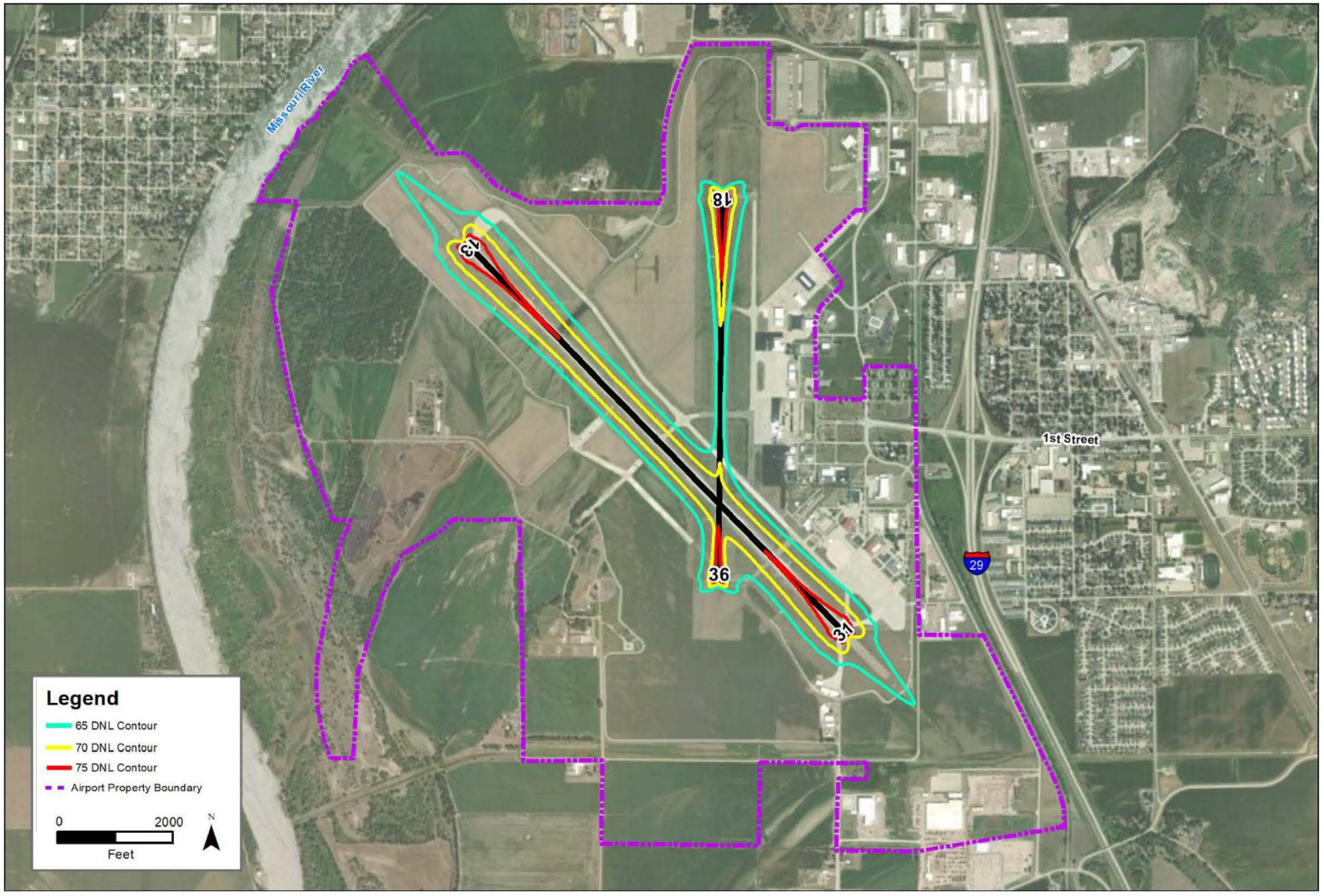
Figure 3-2 presents the 2035 No Action Alternative 65, 70, and 75 DNL contours. The total area within the 65 and greater DNL contours is approximately 255 acres and remains within the airport property boundary. Per FAA guidelines, there are no incompatible land uses or noise sensitive areas within the 2035 No Action Alternative 65 and greater DNL contours.

Figure 3-1 2030 No Action Alternative DNL Contours



Source: RS&H, Inc.

Figure 3-2 2035 No Action Alternative DNL Contours



Source: RS&H, Inc.

3.5 Proposed Action

The methodology for assessing noise impacts included comparing DNL contours for the No Action Alternative and Proposed Action for the years 2030 and 2035. The Proposed Action would reconstruct, strengthen, and extend Runway 13-31 to a total length of 11,002 feet and will include 1,000-foot displaced arrival thresholds at both the 13 and 31 runway ends

The Proposed Action would not change the aircraft operations or fleet mix forecast to occur in 2030 and 2035. The runway use, flight tracks locations and flight track use percentages, and time of day modeled for the Proposed Action were the same as the No Action Alternative.

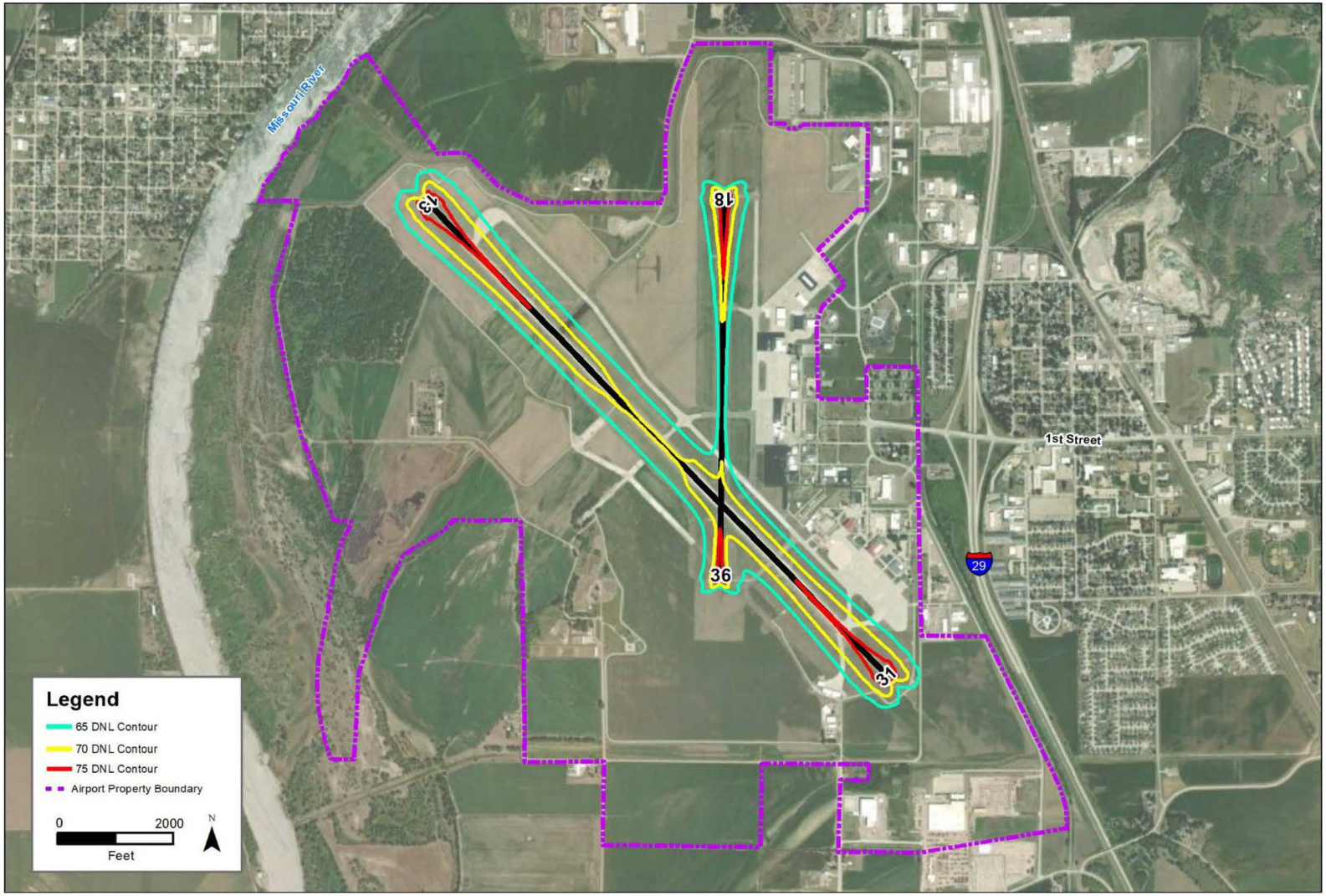
3.6 2030 Proposed Action DNL Contours

Figure 3-3 presents the 2030 Proposed Action 65, 70, and 75 DNL contours. The total area within the 65 and greater DNL contours is approximately 265 acres and remains within the airport property boundary. There are no noise sensitive areas within the 2030 Proposed Action 65 and greater DNL contours. Therefore, no noise sensitive areas would receive an increase of 1.5 DNL and no significant noise impacts would occur because of the Proposed Action.

3.7 2035 Proposed Action DNL Contours

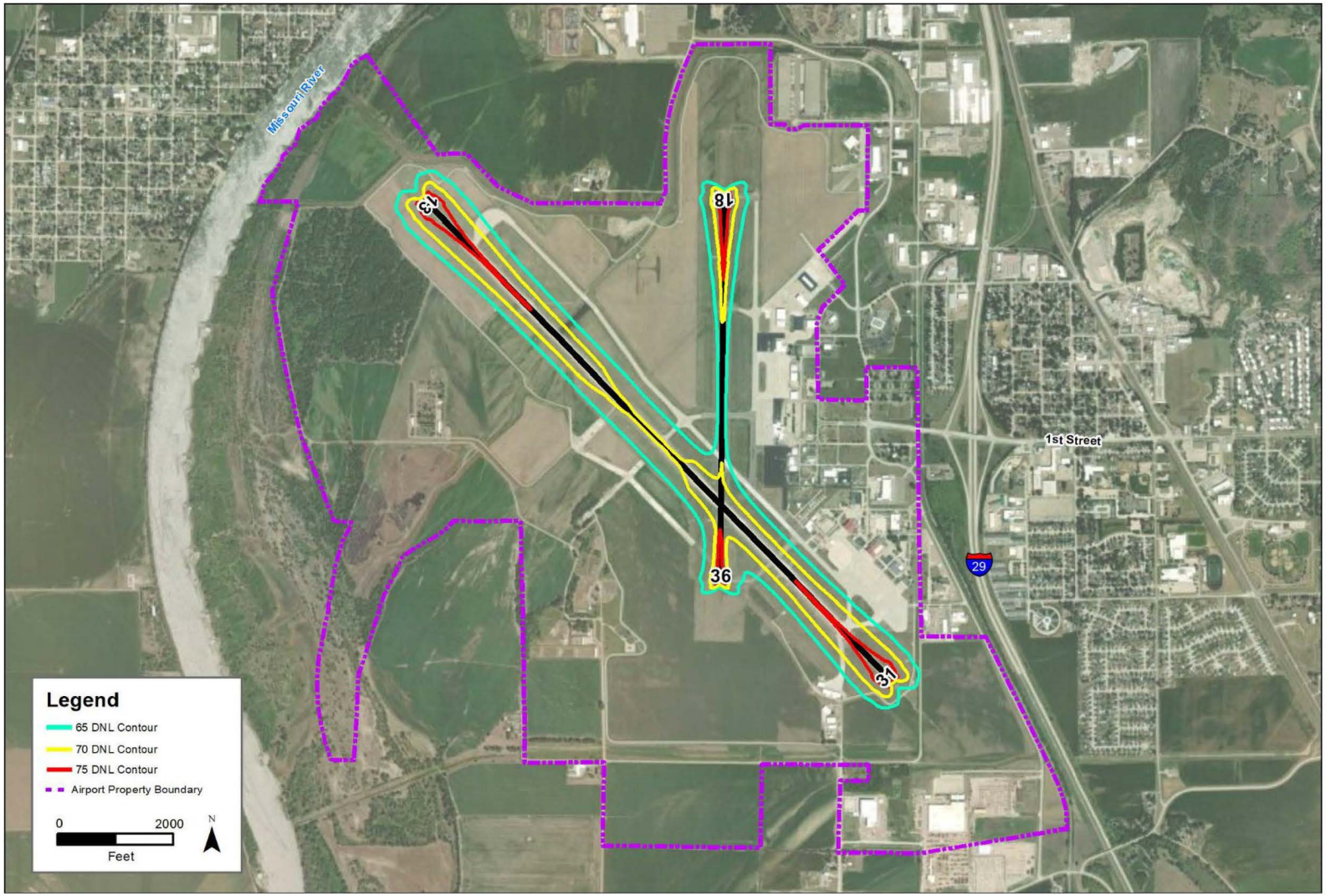
Figure 3-4 presents the 2035 Proposed Action 65, 70, and 75 DNL contours. The total area within the 65 and greater DNL contours is approximately 267 acres and remains within the airport property boundary. There are no noise sensitive areas within the 2035 Proposed Action 65 and greater DNL contours. Therefore, no noise sensitive areas would receive an increase of 1.5 DNL and no significant noise impacts would occur because of the Proposed Action.

Figure 3-3 2030 Proposed Action DNL Contours



Source: RS&H, Inc., 2024.

Figure 3-4 2035 Proposed Action DNL Contours



Source: RS&H, Inc., 2024.