Salina Airport Authority
3237 Arnold Avenue
Salina, KS 67401

Report 3 – Structural Condition Assessment

Hangars A8 and D5 thru D8

FEBRUARY 25, 2022

PREPARED FOR:
Paul Benavides
Zurich American Insurance Company
200 Hudson Street, Suite 502
Jersey City, NJ 07302
paul.benavides@zurichna.com

Claim: 5630075143

PREPARED BY:
The Vertex Companies, Inc.
3710 North Ridgewood Street
Suite B
Wichita, KS 67220
PHONE: 888.298.5162
Kansas COA No. E-2604

VERTEX Project: 76253

Christopher Leaton
Digitally signed by Christopher Leaton
Date: 2022.02.25 12:57:44 -06'00'

CHRISTOPHER WILLIAM LEATON
LICENSED
16039
2/25/2022
KANSAS
PROFESSIONAL ENGINEER

Christopher Leaton, PE
Sr. Forensic Engineer

Isaac Gaetz
Division Manager

TABLE OF CONTENTS

1.0 ASSIGNMENT 1

2.0 PROPERTY DESCRIPTION 1

3.0 EVENT SUMMARY 3

4.0 METEOROLOGICAL DATA 4

5.0 OBSERVATIONS 4

6.0 CONCLUSIONS 7

7.0 GENERAL REPAIR PROTOCOL 10

8.0 CLOSING 14

ATTACHMENTS

A. SITE LOCATION MAP AND AERIAL VIEW

B. METEOROLOGICAL DATA

C. AIRPORT BUILDING LAYOUT AND NUMBERS

D. SKETCHES BY VERTEX

E. PHOTOGRAPHIC DOCUMENTATION BY VERTEX

1.0 ASSIGNMENT

As requested by Zurich American Insurance Company ("Zurich"), The Vertex Companies, Inc. ("VERTEX") visited the property of the Salina Airport Authority ("Insured") to evaluate the cause and extent of structural damage reportedly caused by elevated winds to multiple buildings, structures, and roofs. Christopher Leaton, PE inspected Buildings Hangars A8 and D5 thru D8 on January 11, 2022. The inspection included the taking of photographs, measurements, and observations. Maynard Cunningham (Salina Airport Authority) and Asheiki Preston (Building Consultant with the RMC Group) were present during our investigation.

2.0 PROPERTY DESCRIPTION

The property was a regional airport that was at 3237 Arnold Avenue located in Salina, Saline County, Kansas. The Salina Regional Airport was operated by the Salina Airport Authority. The Salina Airport Authority managed a total of approximately (75) facilities that included buildings, multiple hangars of various sizes and configurations, and other structures which included a water storage tank and a water tower.

VERTEX inspected a total of sixteen buildings and hangars which were the subject of the investigation. Hangars A8 and D5 thru D8 were the subject of this report. Separate reports address the other structures of the investigation. For the purposes of this report, Hangars A8 and D5 thru D8 faced west (see **Attachment A,** Location Map and Aerial Views and **Attachment C**, Building Layout and Number).

Hangar A8 was one of thirty-five (35) nested T-shaped hangars. The overall length (north-south direction) of the hangars was approximately 1,085 feet. Hangar A8 was approximately 37 feet wide (east-west direction) by 54 feet long (north-south). The hangar had a prefabricated steel

frame in the east-west direction that was supported by a concrete foundation. The hangar floor was a concrete slab-on-grade. The hangar roof and walls were covered with metal panels. The west elevations had two side rolling doors (see **Attachment D,** for Layout and **Attachment E**, Photos 1 and 2).

Hangars D5 thru D8 were a bank of four (4) hangars that was approximately 40.8 feet wide (east-west) by 217 feet long (north-south direction). The interior length (north-south direction) of each hangar was approximately 53.8 feet. The "D" Hangars were steel-framed structures supported by concrete foundations.

The "D" Hangar walls were clad with metal panels on the east, north, and south walls. The metal panels were attached to steel angle girts that spanned between the exterior columns. The west sides had four side rolling doors for each hangar. The rolling doors were clad with metal panels that were attached to their steel angle frames.

The "D" Hangar roofs were gabled in the east-west direction. The roofs were covered with metal roof panels over steel angle purlins. The roof purlins were supported by steel trusses that spanned the north-south direction. The roof trusses were gabled with sloped top chords and with flat bottom chords. The hangar truss ends were supported by steel columns on the north and south walls. The roof trusses were approximately equally spaced in the east-west direction. The trusses were diagonally braced full height at the truss midspan. The column baseplates were anchored to and sat directly on the hangar concrete floor.

The east endwalls had a truss (End Truss 1) with three equal-spaced endwall columns below. The endwall columns were supported by the hangar floor and attached to the truss bottom chord. The west side of the hangar had two end trusses (End Truss 2 and End Truss 3) that supported the roof and the side rolling doors. End Truss 2 supported interior rolling doors, and End Truss 3 supported the end rolling doors. End Truss 1 was clad with the metal wall panels.

The trusses had knee-braces to the columns. The braced trusses and the east endwalls combined to provide the lateral force-resisting system in the north-south direction. The lateral force-resisting system in the east-west direction was provided by the diagonal rod cross-bracing between the two interior columns for each hangar north-south wall. The rod diameter was approximately 1/2-inch (see **Attachment D,** for Layout and **Attachment E**, Photos 3 thru 6).

3.0 EVENT SUMMARY

Maynard Cunningham reported that on or around December 15, 2021, elevated winds and windborne debris had affected the following hangars and their components.

- Hangar A8: The south side rolling door had missing metal panels, and its top track had been bent.
- Hangar D5: The rake trim for the west elevation had been bent.
- Hangar D6: The rake trim for the west elevation had been bent, and the roof deck and purlins for the west roof bay had been bent upward.
- Hangar D7: The rake trim and metal panels for the west elevation had been bent. The roof deck and purlins for the west roof bay had been bent upward. The side rolling hangar doors top tracks had been bent, and the side rolling hangar doors did not properly operate.
- Hangar D8: The rake trim and metal panels for the west elevation had been bent. The roof deck and purlins for the west roof bay had been bent upward. The bottom and top tracks for the side rolling hangar doors had been bent. The two south rolling hangar doors had fallen, and the two north rolling hangar doors did not properly operate.

4.0 METEOROLOGICAL DATA

VERTEX reviewed storm data as reported by the National Weather Service (NWS) for December 15, 2021. The NWS reported:

> *A low pressure system of historic strength led to a variety of high-end weather impacts from the central Plains to the Upper Midwest and Great Lakes December 15-16. An unprecedented December severe weather unfolded over portions of Minnesota and Wisconsin Wednesday evening, with the Storm Prediction Center issuing their farthest-north Moderate Risk for the month of December. A serial derecho moving at 60-80 mph tracked from Kansas to Wisconsin, resulting in over 560 reports of damaging wind and over 60 tornadoes. A total of 57 "significant severe" wind gusts (75+ mph) were reported, breaking the daily record of 53 set on August 10, 2020.*[1]

VERTEX also reviewed monthly climate data for the Salina Regional Airport, and the greatest reported wind was 89 mph from the west-southwest on December 15, 2021 (see **Attachment C**, Meteorological Data).

5.0 OBSERVATIONS

VERTEX inspected the exteriors and interiors of Hangars A8 and D6 thru D8. The exterior of Hangar D5 was inspected, and the interior of Hangar D5 was not inspected due to a lack of access. We observed the following conditions (see **Attachment A** for orientation, **Attachment D** for layout, and **Attachment E** for photographs):

[1] https://www.weather.gov/mpx/HistoricStormDecember2021

Hangar A8

The south rolling door required substantial force by hand to operate, and the bottom roller for the door did not appear to roll evenly. The south side rolling door was missing six metal wall panels, and each panel was approximately three feet wide. The south door frame was fabricated from cold-formed steel channel. The steel channel was approximately 16-gage and was approximately 6.75 inches wide by 3 inches deep. The door frame connections had several apparently replaced bolts that had a bright appearance. The door frame was missing screw fasteners where the metal panels had apparently been previously attached. The holes in the door frame for the missing fasteners were not visibly corroded, discolored, or stained (see Photo 7)

The top track was fabricated from cold-formed steel channel. The cold-framed channel was approximately 10 inches wide by 3 inches deep by 30 feet long. Two bolts that attached the track to the hangar steel frame were bright in appearance and had apparently been replaced. The outside flange of the top track was bent outwards. The right door bump stop was displaced inward, and the channel flange where it was attached was bent. The bent flange surfaces were not apparently corroded, discolored, or stained (see Photos 8 thru 10).

Hangars D5 thru D8 - Exterior

The rake trim on the west sides of the roofs of the “D” Hangars were consistently bent upward between fasteners. The bent surfaces of the rake trim were not apparently corroded, discolored, or stained (see Photos 11 and 12).

The Hangar D7 side rolling doors operated. The bottom edges of the wall panels above the rolling doors were bent outward at several places (see Photo 13).

The two south side rolling doors were detached, and the north rolling doors did not operate. The interior north rolling door was out of the top track. The two detached south rolling doors had been apparently stacked and placed on the concrete slab at the interior southeast corner of

Hangar D8. The metal panels for the south rolling doors were torn and fractured at several places. The torn edges of the metal panels were jagged and bright in appearance. The rollers for the doors were bent and chipped, and the rollers were sharp and bright in appearance. The bottom track for the south rolling doors was bent outward. The bent metal panels attached to End Truss 3 were bent and protruded outward at three places. The bottoms of the metal wall panels were displaced outward. The metal panels at the bent locations were not discolored or stained (see Photos 14 thru 18).

Hangars D6 thru D8 - Interior

The roof deck and purlins were consistently bent upward for the west bays of Hangars D6 thru D8. The End Truss 2 bottom chord was bent for both Hangars D7 and D8. The End Truss 2 bottom chord for Hangar D7 was bent in two places. The End Truss 2 bottom chord of the Hangar D8 was bent in three places. The End Truss 3 bottom of chord for Hangar D8 was bent and displaced outward at two places. The bent locations of the bottom chords were not discolored or stained. A truss joint for End Truss 2 had failed. The End Truss 2 bottom chord at the failed joint was detached from the vertical chord member, and the adjacent truss diagonal was bowed inward. The end of the detached vertical chord member was jagged and bright in appearance (see Photos 19 thru 22).

The diagonal braces for North-South Walls 3 and 4 for Hangars D7 and D8 were bent. The diagonal braces were bent near the top connections at the columns. The diagonal braces were discolored and dulled in appearance where the bracing rods were bent. The columns for the North-Wall 3 braced-bay were displaced upward, and their column baseplates were bent. Both of the columns for the braced-bay had a missing anchor bolt and a partially withdrawn anchor bolt. The withdrawn anchor bolts were discolored and corroded by apparent surface rust. Debris and sediment were between the bottoms of the column baseplate and the concrete floor. The concrete below the east column for Hangar D7 was cracked. The concrete at the southwest

corner for Hangar D8 was also cracked. The concrete cracks were rounded and were filled with debris (see Photos 23 thru 30).

Hangars D6 thru D8 were checked for vertical plumb and were 0.6 of a degree or less from vertical plumb in each direction. The west column for the North-South Wall 3 braced-bay was 0.2 of a degree from vertical plumb in each direction. The Hangar D7 east wall was within 0.2 of a degree from vertical plumb in the east-west direction and was plumb in the north-south direction. The east column for North-South Wall 4 braced-bay was 0.3 of a degree from vertical in each direction. The west column for the North-South Wall 4 braced-bay was 0.5 and 0.3 of a degree from vertical plumb in the east-west and north-south directions, respectively. The Hangar D8 east wall was within 0.2 and 0.3 of a degree from vertical plumb in its respective east-west and north-south directions. The east column for the North-South Wall 5 braced-bay was 0.2 of a degree from vertical in each direction. The west column for the North-South Wall 5 braced-bay was 0.1 and 0.4 of a degree from vertical plumb in the east-west and north-south directions, respectively (see Photos 31 and 32).

6.0 CONCLUSIONS

Based on our investigation and within a reasonable degree of engineering certainty, it is the opinion of VERTEX that the T-shaped Hangar A8 and the “D” Hangars had been affected by elevated winds on or around December 15, 2021. The following components for each hangar had been affected by elevated winds:

- Hangar A8: The south side rolling door and its top tracks.
- Hangar D5: The rake trim for the west elevation had been bent.
- Hangar D6: The rake trim for the west elevation had been bent. The roof deck and purlins for the west roof bay had been bent upward.

- Hangar D7: The rake trim for the west elevation had been bent. The roof deck and purlins for the west roof bay had been bent upward. The bottom chord of the End Truss 2 had been bent. The side rolling hangar doors top tracks supported by End Truss 2 had been bent, and the supported side rolling hangar doors did not properly operate.
- Hangar D8: The rake trim and metal panels for the west elevation had been bent. The roof deck and purlins for the west roof bay had been bent upward. The bottom chords for both End Trusses 2 and 3 had been bent. The bottom chord for End Truss 2 had a failed truss joint. The bottom and top tracks attached to the end truss bottom chords for the side rolling hangar doors had been bent. The two south rolling hangar doors had fallen, and the north rolling hangar doors did not properly operate.

Review of meteorological data indicated that elevated winds from the west-southwest at approximately 89 mph had occurred at the property of the Salina Regional Airport on or around December 15, 2021. These elevated winds would have been capable of affecting the hangar lateral and vertical lateral force-resisting systems along with other building components. The elevated winds would also have been capable of generating windborne debris. Hangars A8 and D5 thru D8 had been affected by elevated winds on or around December 15, 2021. The west elevations of these hangars have been affected by the predominant winds from the west-southwest direction.

The elevated winds appeared to have generated wind forces on the south (right) side rolling door that bent its top track for Hangar A8 on or around December 15, 2021. Additionally, the wind forces appeared to have failed the fasteners for the metal panels and allowed the metal panels to become detached and these panels were missing. The top track was not discolored or corroded and was an indicator that the top track had been recently bent. The holes for the wall panels in the rolling door frame were bright in appearance and was also an indicator that the fasteners

had been withdrawn and failed recently. These indicators were consistent with building components that had experienced elevated winds in the weeks prior to the VERTEX inspection.

The "D" Hangars had also experienced sustained elevated winds that had affected building components on or around December 15, 2021. The exterior rake trim on the west roof bays of the "D" Hangars appeared to have been bent from wind uplift forces. The rake trim was bent upward between fasteners and was consistent with wind uplift. The rake trim was not discolored or stained where it was bent and was an indicator that the rake trim had been recently bent. The west bays of the roof deck and purlins for Hangars D6 thru D8 were bent upward and was consistent with a structure that had been subjected to wind uplift.

The west walls of Hangars D7 and D8 appeared to have experienced the greatest wind forces and exhibited the greatest deformation. The elevated winds appeared to have caused the "D" Hangar west rolling doors to move in and out from the sustained winds. The movement of the rolling doors appeared to have caused the top tracks to locally bend at their roller locations and subsequently bent the truss bottom chords for the west end trusses. The wind forces appeared to have been greatest at the south end of the Hangar D8 west side where the bending caused the end truss bottom chords to bend and failed a truss joint for End Truss 2. The bending and displacement of the bottom chords for the Hangar D8 west end joists appeared to have allowed the two south hangar doors to fall.

Moreover, the hangar braced-bays in the east-west direction did not appear to have been affected by the elevated winds on or around December 15, 2021. While the diagonal bracing was bent for the North-South Walls 4 and 5 braced-bays of Hangars D7 and D8, the appearance of the bent rods was consistent with corrosion and weathering that had occurred over an extended period. Similarly, the missing and partially withdrawn anchors bolts for the column bases for the North-South Wall 4 braced-bay of Hangar D7 had corrosion and weathering that had occurred over an extended period. Additionally, the concrete cracks for the west column for the North-

South Wall 4 braced-bay and the Hangar D8 southwest column were consistent with damage that had occurred years prior to the VERTEX inspection. The concrete crack edges were rounded and worn, and debris was observed within the cracks. These were indicators that the uplifted braced columns, buckled diagonal bracing, and the cracked concrete had occurred years prior to the elevated winds on or around December 15, 2021.

7.0 GENERAL REPAIR PROTOCOL

The City of Salina, Kansas had adopted the International Building Code (IBC), 2012 edition with local amendments at the time of this report. Per the 2012 IBC, structures which have sustained less than "Substantial Structural Damage" would be permitted to be restored to their pre-damaged state without further required code upgrades. The IBC defines "Substantial Structural Damage" as follows:

A condition where one or both of the following apply:

1. *In any story, the vertical elements of the lateral force-resisting system have suffered damage such that the lateral load-carrying capacity of the structure in any horizontal direction has been reduced by more than 33 percent from its pre-damage condition.*
2. *The capacity of any vertical gravity load-carrying component or any group of such components that supports more than 30 percent of the total area of the structure's floor(s) and roof(s) has been reduced more than 20 percent from its pre-damage condition and the remaining capacity of such affected elements, with respect to all dead and live loads, is less than 75 percent of that required by this code for new building of similar structure, purpose, and location.*

With respect to Condition 1 above, the structure's primary vertical elements for the lateral force-resisting system included the knee-braced trusses in the north-south direction. The capacity for

the two west end trusses (End Trusses 2 and 3) for Hangars D7 and D8 was structurally decreased. Since the roof would have been considered a flexible diaphragm (horizontal beam), the two knee-braced trusses would have acted together to provide lateral support based on their tributary width. This tributary width was one-half of the west bay which was approximately 6.8 feet. The affected percentage of the lateral force-resisting system in the north-south direction was approximately 17 percent. The braced-bays provided 100 percent of the lateral force-resisting system for the "D" Hangars in the east-west direction. Although the diagonal braces were bent for the braced-bays for the North-South Walls 4 and 5 of Hangars D7 and D8, the braces did not appear to have been substantially reduced in their load-carrying capacity by more than 33 percent. However, the baseplates for the columns of the North-South Wall 4 braced-bay were bent and had missing or partially withdrawn anchor bolts. The baseplates and anchors would be considered part of the vertical elements for the lateral force-resisting system since these components resist uplift transferred to them by the diagonal braces. The lateral force-resisting system for the North-South Wall 4 would have been reduced by approximately 100 percent in the east-west direction. Consequently, the lateral force-resisting system in the east-west direction for Hangars D7 and D8 had been reduced overall by approximately 50 percent, and Condition 1 would have been met.

With respect to item 2 above, roof diaphragms and load path components are not characterized as "vertical" elements and components. While the roof purlins for the west bays of Hangars D6, D7, and D8 had been lifted due to wind, these components would not contribute to the 30 percent area requirement for Condition 2. However, the end trusses for Hangars D7 and D8 had been structurally reduced. The end trusses supported the half of the west roof bay (approximately 6.8 feet) which was approximately 17 percent of the roof area for either Hangar D7 or D8. Therefore, less than 30 percent of the structure's vertical gravity load-carrying capacity had been apparently reduced, and Condition 2 had not been met for Hangars D7 and D8.

Since Condition 1 had been met for Hangars D7 and D8, these two hangars would be categorized to have sustained "Substantial Structural Damage." Consequently, the previously noted gravity and lateral load-carrying components and existing, undamaged components of these systems for Hangars D7 and D8 are required to be evaluated and repaired/upgraded to comply with the structural requirements of Chapter 16 of the IBC 2012. Additional review of the Seismic Design Category for these hangars would be required to determine if the hangar components would have to be designed and detailed for the seismic provisions of the building code. Moreover, Hangars A8 and Hangars D5 and D6 do not meet the conditions for "Substantial Structural Damage" and should not be required to comply with the structural provisions of the 2012 IBC.

Irrespective of insurance coverage, VERTEX offers the following general conceptual repair recommendations to address observed conditions. All work should be performed in accordance with the building codes as adopted by the governing jurisdiction. Since Hangars D7 and D8 were determined to have "Substantial Structural Damage", these two "D" Hangars must be evaluated by a qualified, registered design professional in the state of Kansas to establish if additional building component upgrades would be required to comply with the structural provisions of the 2012 IBC.

Hangar A8

- Remove and replace the south rolling door that was approximately 20.5 feet wide by 12.5 feet high.
- Remove and replace approximately 30 feet of the top track channel C10x3x1/8.

Hangar D5

- Remove and replace the (2) rake trims on the west side of the roof which were each approximately 27.5 feet long.

Hangar D6

- Remove and replace the (2) rake trims on the west side of the roof which each approximately 27.5 feet long.
- Remove and replace (16) roof purlins of the west roof bay which were each approximately L3.5x3.5x1/8 by 13.5 feet long.
- Remove and replace approximately 745 square feet of corrugated metal roof deck.

Hangars D7 and D8

- Remove and replace the (2) rake trims on the west side of the roof which were each approximately 27.5 feet long.
- Remove and replace (16) roof purlins of the west roof bay which were each approximately L3.5x3.5x1/8 by 13.5 feet long.
- Remove and replace approximately 745 square feet of corrugated metal roof deck.
- Remove and replace End Trusses 2 and 3. Replace each truss with an equal truss or open web steel bar joist approximately 5 feet deep by 54 feet long.
- Remove and replace the diagonal bridging at (3) places for the west roof bay. The diagonal bridging angles were approximately L2.5x2.5x1/8 by 14.5 feet long.
- Remove and replace the horizontal bridging at (3) places for the west roof bay. The horizontal bridging angles were approximately L3x3x1/8 by 13.5 feet long.
- Remove and replace approximately 135 square feet of corrugated metal wall panels.
- Remove and replace approximately 54 feet of the top track channel C10x3x1/8 which were each approximately 27 feet long.
- Remove and replace (2) side rolling doors approximately 13.5 feet wide by 16 feet high.
- Remove and replace (2) side rolling doors approximately 8 feet wide by 16 feet high.
- Remove and replace approximately 54 feet of bottom track channel C10x3x1/8 which were each approximately 27 feet long.
- Remove and replace the (2) diagonal braces in the center bay of the south wall. The diagonal braces were approximately 1/2-inch diameter by 21 feet long.

- Remove and replace the baseplates including the anchors for the two columns for North-South Walls 4 and 5.
- Repair the concrete crack at the east braced column for North-South Wall 4.
- Repair the concrete crack at the Hangar D8 southwest corner.

8.0 CLOSING

A visual inspection of the property was performed and reviewed as part of our investigation. Unless noted in this report, no destructive testing was performed. A complete analysis of the existing framing members or the connections for structural design capacity versus existing codes was not conducted. All repairs and construction should conform to the currently applicable Building Code. The repairs, including any temporary shoring that may be needed, should be specified, designed, and installed by properly licensed professionals familiar with that type of construction.

This report was prepared for the exclusive use of Zurich and is not intended for any other purpose. VERTEX has not reviewed the applicable insurance policy, if any, for the purpose of forming an opinion as to coverage and is not offering a coverage opinion. Our report was based on observed site conditions and the information available at the time of our inspection. We reserve the right to amend this report and our conclusions if new information becomes available and revisions are necessary and warranted. Not all photographs taken by VERTEX during the site inspection were included with this report. Additional photographs in our records are available upon request.

If you have questions or comments, please contact Christopher Leaton or Isaac Gaetz at (888) 298-5162. We appreciate this opportunity to assist Zurich and the policy holder.

ATTACHMENT A:

SITE LOCATION MAP

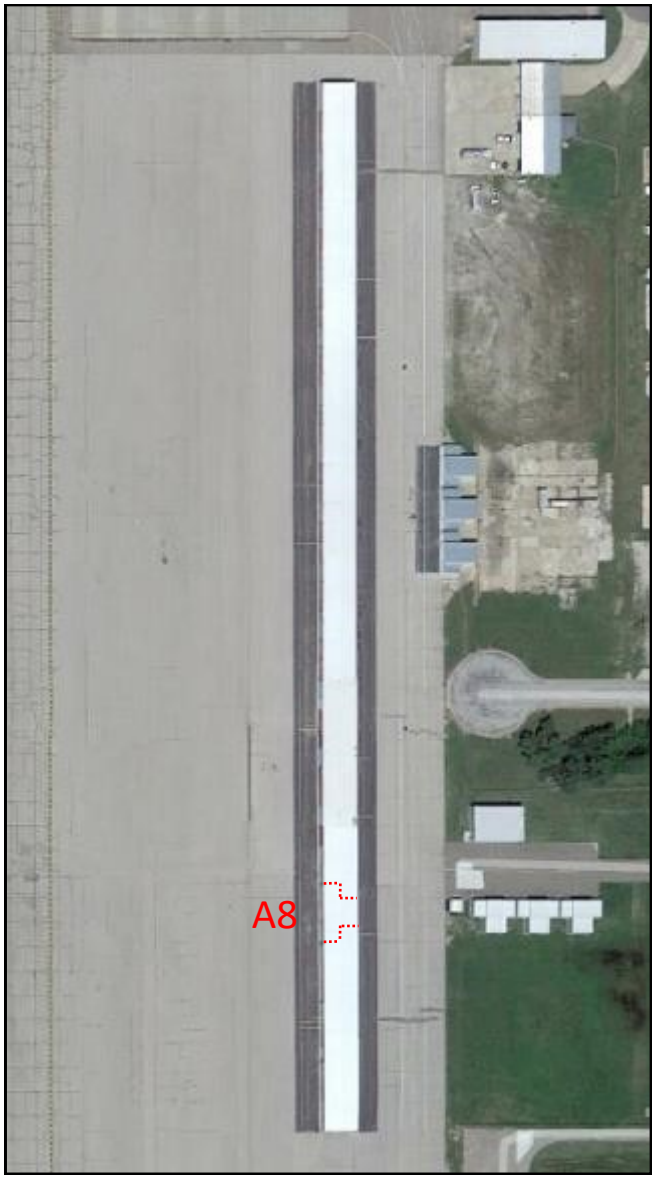
ATTACHMENT A:

AERIAL VIEW

Airport Aerial View

ATTACHMENT A:

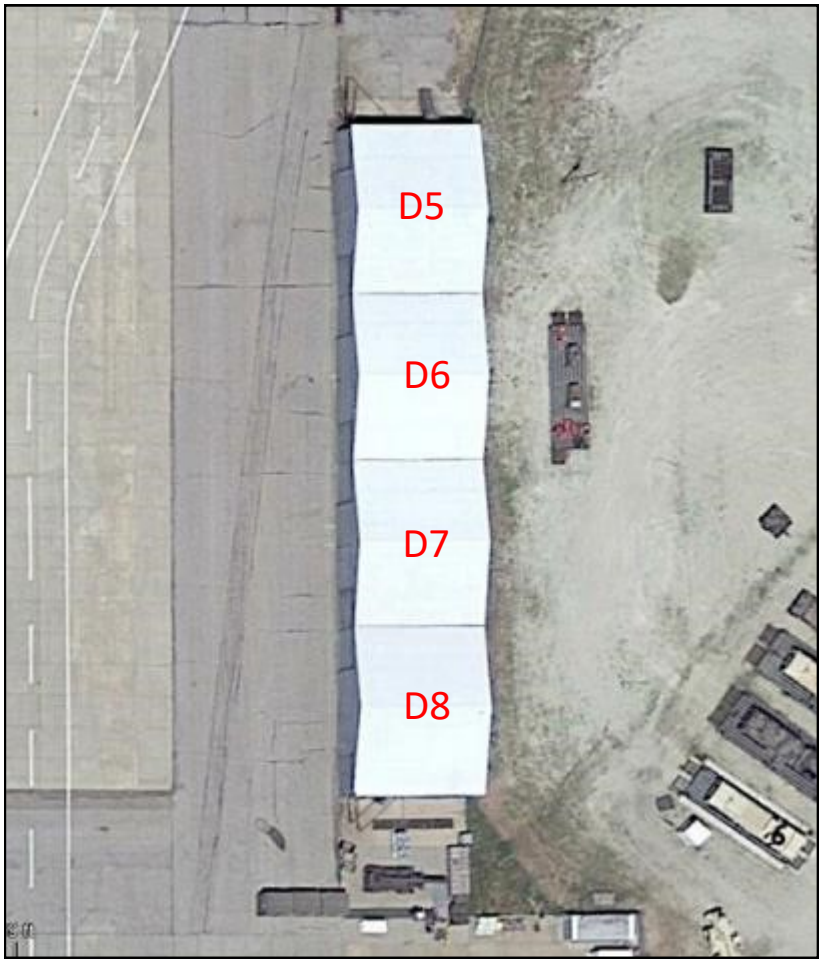
AERIAL VIEW



“A” Hangar Aerial View

ATTACHMENT A:

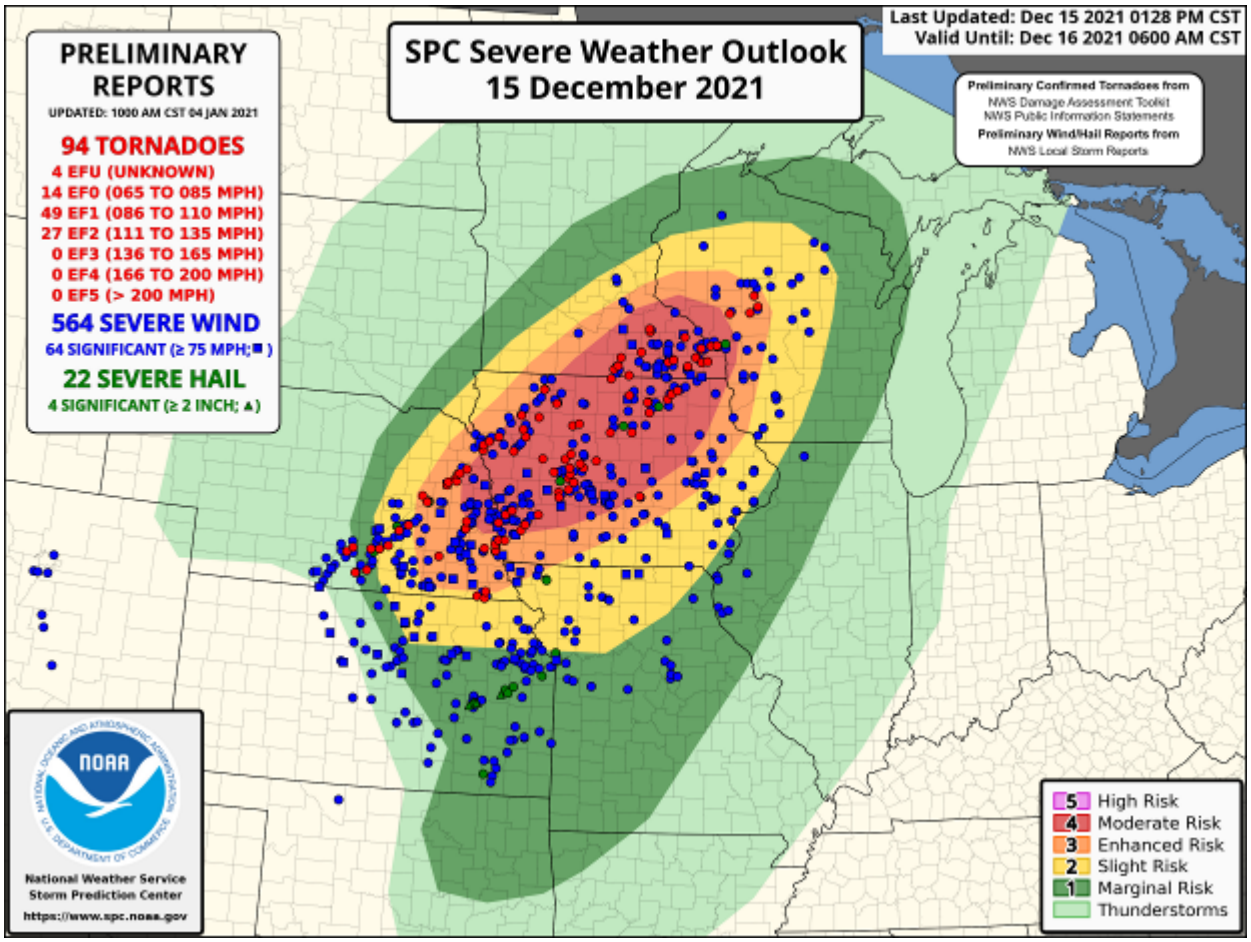
AERIAL VIEW



“D” Hangar Aerial View

ATTACHMENT B:

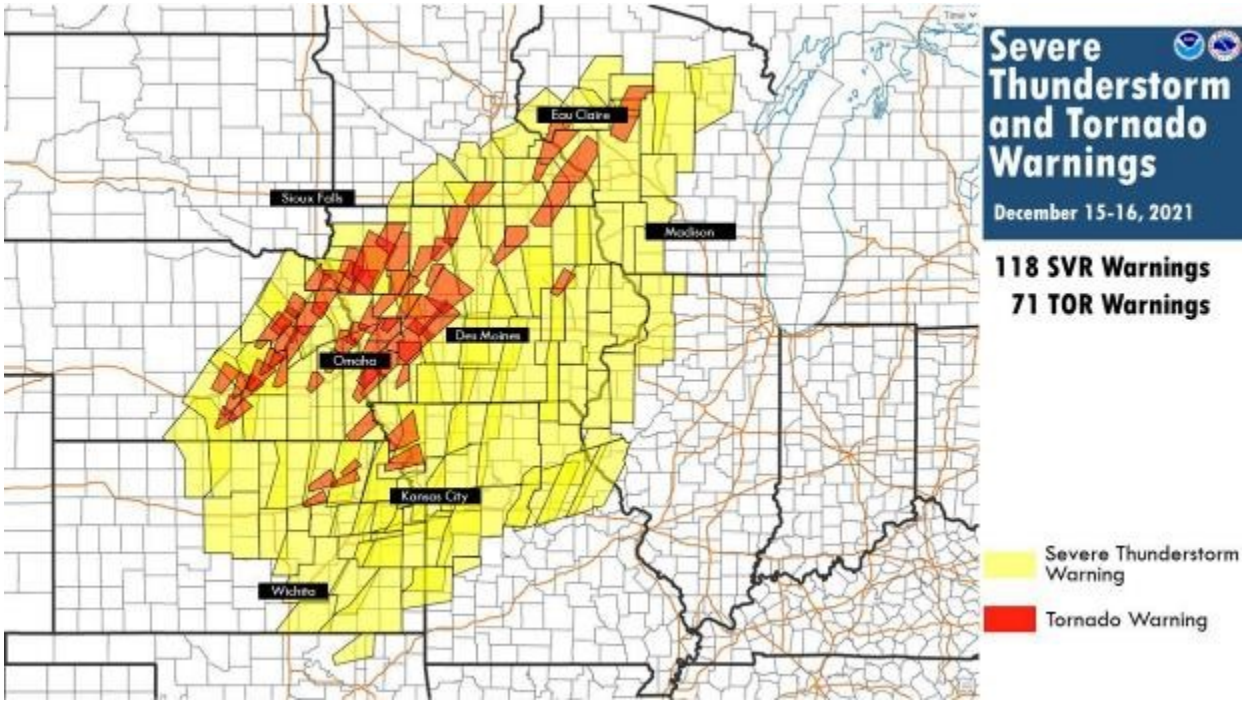
METEOROLOGICAL DATA



Reference: https://www.weather.gov/mpx/HistoricStormDecember2021

ATTACHMENT B:

METEOROLOGICAL DATA



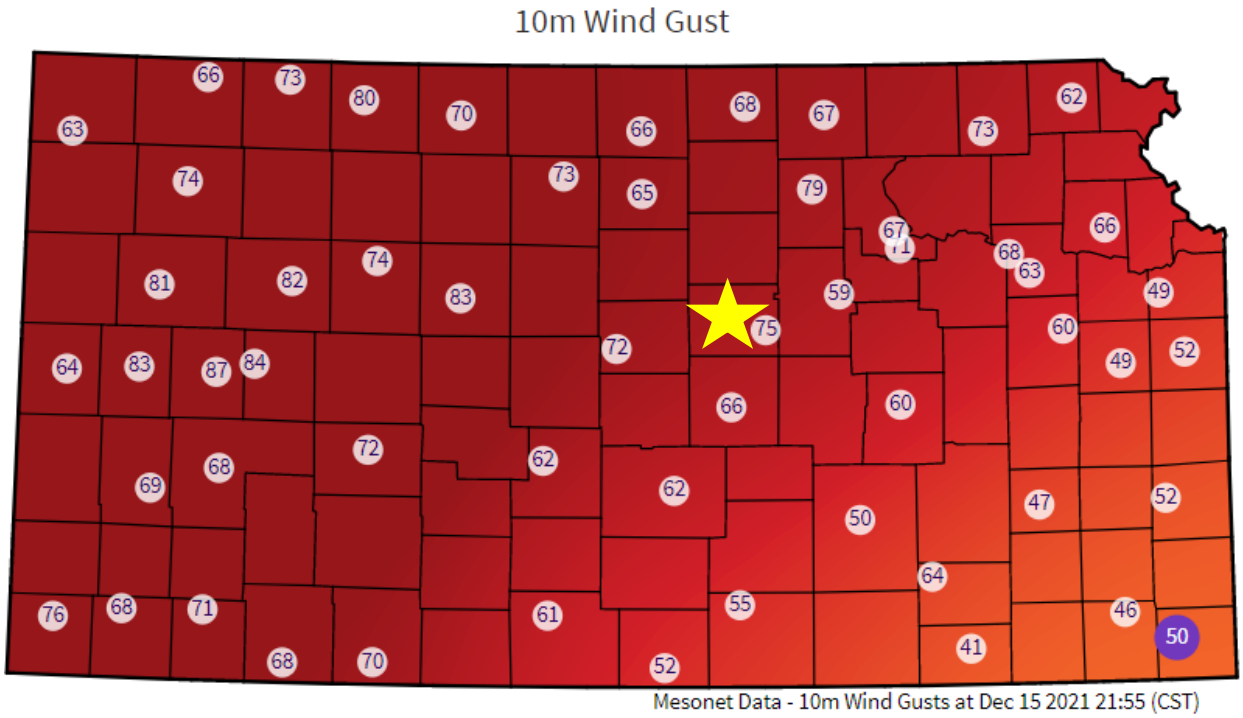
Reference: https://www.weather.gov/mpx/HistoricStormDecember2021

ATTACHMENT B:

METEOROLOGICAL DATA

24HR Peak Winds (mph)

Russell Municipal Airport	100	3.2 E New Cambria (UPR)	95	Salina Regional Airport	89
K-61 @ K-153 Interchange McPherson	85	Hutchinson Municipal Airport	84	5.7 NW Smolan (UPR)	78
2.4 W Bunker Hill	75	Wichita	71	1.9 NE Durham	70
Wichita Eisenhower Airport	69	1.8 N Marion	68	Allen Co. Airpt. Iola	68
2.8 W Langdon (UPR)	66	Newton City County Airpt	66	El Dorado Memorial Airpt	66
Colonel James Jabara Airport	66	6.4 E Kanopolis (UPR)	64	Mcconnell AFB	63
Great Bend Municipal Airpt	63	I-35 bridge over Whitewater River	63	Augusta	63
Lyons-Rice County Municipal Airp	62	Lyons Rice Co. Municipal Airpt	62	Rose Hill	62
0.8 W Canton (UPR)	61	Chanute Martin Johnson Airpt	61	I-135 @ 17th St.	61
US-54 - Eureka	60	Lloyd Stearman Field Airport	60	Tallgrass Prairie	58
Strother Field Airport	58	Beech Factory Airport	58	Kingman	58
Haysville	57	Coffeyville Municipal Airpt	56	0.7 SW Whitewater	55



Reference: https://www.weather.gov/ict/event_2021Dec15thWindFireSVR

ATTACHMENT B:

METEOROLOGICAL DATA

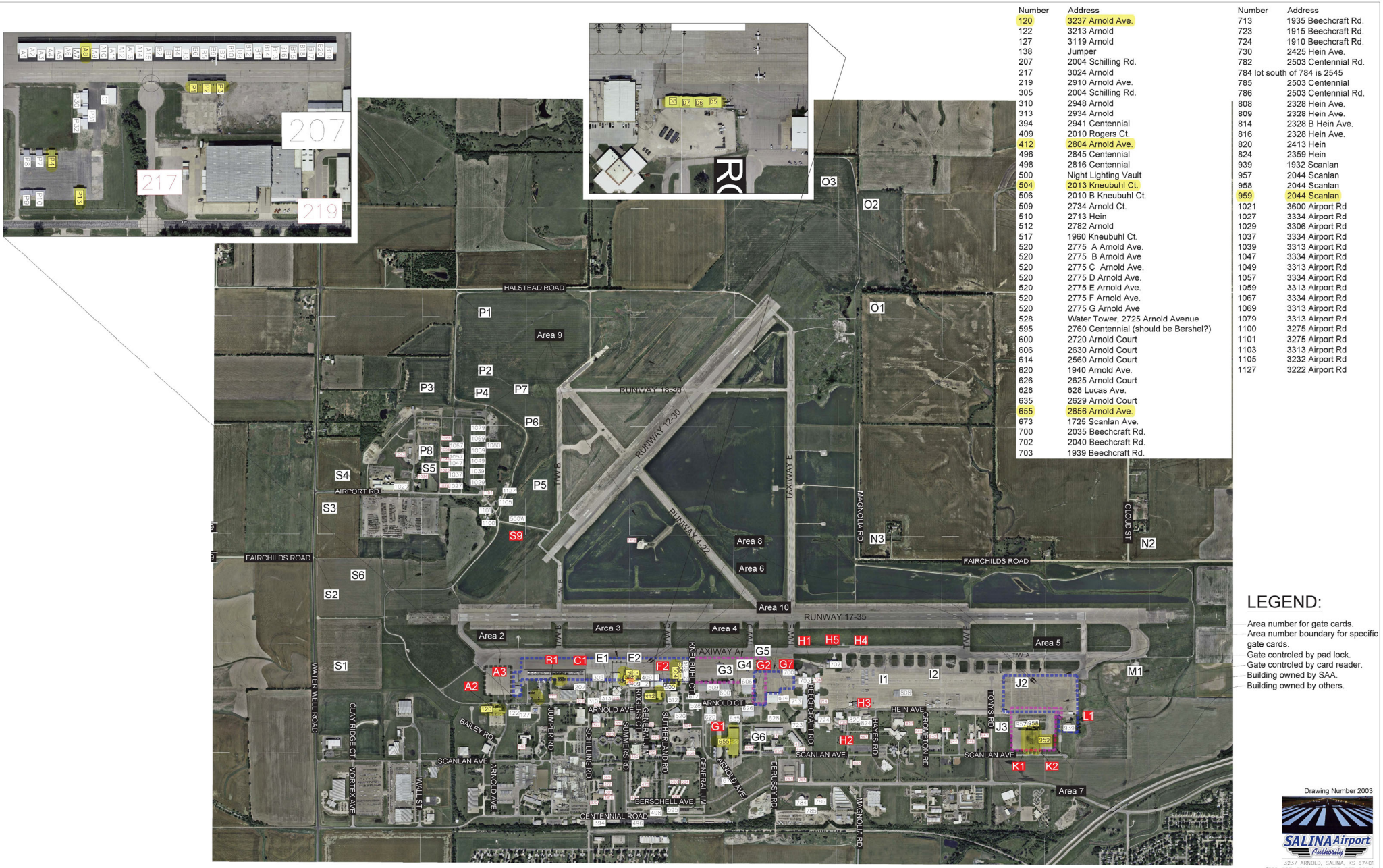
000
CXUS53 KICT 082307
CF6SLN
PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6)

STATION: SALINA KS
MONTH: DECEMBER
YEAR: 2021
LATITUDE: 38 47 N
LONGITUDE: 97 39 W

TEMPERATURE IN F:							:PCPN:		SNOW:	WIND			:SUNSHINE:		SKY		:PK WND	
1	2	3	4	5	6A	6B	7	8	9	10	11	12	13	14	15	16	17	18
									12Z	AVG	MX	2MIN						
DY	MAX	MIN	AVG	DEP	HDD	CDD	WTR	SNW	DPTH	SPD	SPD	DIR	MIN	PSBL	S-S	WX	SPD	DR
1	69	29	49	12	16	0	0.00	M	M	6.1	16	230	M	M	0		21	220
2	72	37	55	18	10	0	0.00	M	M	4.2	12	240	M	M	0		16	250
3	65	34	50	14	15	0	T	M	M	9.8	22	20	M	M	0		30	30
4	53	29	41	5	24	0	0.00	M	M	8.0	15	150	M	M	2		19	150
5	63	38	51	15	14	0	0.00	M	M	14.8	37	350	M	M	1	1	46	350
6	38	24	31	-4	34	0	0.00	M	M	12.0	35	340	M	M	0		44	340
7	47	25	36	1	29	0	0.00	M	M	10.7	21	200	M	M	1		29	190
8	59	20	40	6	25	0	0.00	M	M	10.6	20	170	M	M	0		29	170
9	65	34	50	16	15	0	0.00	M	M	9.0	23	300	M	M	0		31	310
10	70	32	51	17	14	0	0.00	M	M	16.8	32	320	M	M	2		45	340
11	49	22	36	2	29	0	0.00	M	M	11.1	31	330	M	M	1		42	310
12	56	30	43	10	22	0	0.00	M	M	12.8	25	190	M	M	0		32	190
13	60	25	43	10	22	0	0.00	M	M	5.8	16	160	M	M	0	8	21	160
14	64	38	51	18	14	0	0.00	M	M	12.5	23	190	M	M	0		36	170
15	76	13	45	12	20	0	0.00	M	M	25.1	61	260	M	M	4	1378	88	250
16	48	27	38	6	27	0	0.00	M	M	5.0	8	100	M	M	0		8	100
17	50	19	35	3	30	0	0.00	M	M	6.5	12	350	M	M	0		12	350
18	30	10	20	-12	45	0	0.00	M	M	9.9	16	340	M	M	2		29	310
19	43	12	28	-4	37	0	0.00	M	M	15.0	23	190	M	M	0		32	170
20	46	19	33	1	32	0	0.00	M	M	9.0	18	360	M	M	0		23	360
21	52	13	33	1	32	0	0.00	M	M	4.2	14	320	M	M	0	8	20	70
22	61	17	39	8	26	0	0.00	M	M	9.7	22	210	M	M	0		29	210
23	61	30	46	15	19	0	0.00	M	M	8.1	20	200	M	M	0	12	26	200
24	70	36	53	22	12	0	0.00	M	M	9.9	23	190	M	M	0	1	29	190
25	54	28	41	10	24	0	0.00	M	M	4.7	14	310	M	M	0		16	310
26	64	29	47	16	18	0	0.00	M	M	12.1	28	280	M	M	1		39	270
27	59	30	45	14	20	0	0.00	M	M	8.6	30	310	M	M	0		38	290
28	52	21	37	6	28	0	0.00	M	M	14.9	26	310	M	M	1		32	310
29	30	18	24	-7	41	0	T	M	M	7.5	15	10	M	M	7		21	20
30	50	18	34	3	31	0	0.00	M	M	6.5	15	180	M	M	3		21	160
31	49	21	35	5	30	0	0.00	M	M	13.4	24	350	M	M	3		30	360
SM	1725	778		755		0	0.08	M		314.3			M		28			
AV	55.6	25.1								10.1	FASTST		M	M	1		MAX(MPH)	
									MISC ---->		61	260					88	250

https://forecast.weather.gov/product.php?site=ICT&issuedby=SLN&product=CF6&format=CI&version=2&glossary=0

Airport Building Layout & Number



Number	Address
120	3237 Arnold Ave.
122	3213 Arnold
127	3119 Arnold
138	Jumper
207	2004 Schilling Rd.
217	3024 Arnold
219	2910 Arnold Ave.
305	2004 Schilling Rd.
310	2948 Arnold
313	2934 Arnold
394	2941 Centennial
409	2010 Rogers Ct.
412	2804 Arnold Ave.
496	2845 Centennial
498	2816 Centennial
500	Night Lighting Vault
504	2013 Kneubuhl Ct.
506	2010 B Kneubuhl Ct.
509	2734 Arnold Ct.
510	2713 Hein
512	2782 Arnold
517	1960 Kneubuhl Ct.
520	2775 A Arnold Ave.
520	2775 B Arnold Ave
520	2775 C Arnold Ave.
520	2775 D Arnold Ave.
520	2775 E Arnold Ave.
520	2775 F Arnold Ave.
520	2775 G Arnold Ave
528	Water Tower, 2725 Arnold Avenue
595	2760 Centennial (should be Bershel?)
600	2720 Arnold Court
606	2630 Arnold Court
614	2560 Arnold Court
620	1940 Arnold Ave.
626	2625 Arnold Court
628	628 Lucas Ave.
635	2629 Arnold Court
655	2656 Arnold Ave.
673	1725 Scanlan Ave.
700	2035 Beechcraft Rd.
702	2040 Beechcraft Rd.
703	1939 Beechcraft Rd.

Number	Address
713	1935 Beechcraft Rd.
723	1915 Beechcraft Rd.
724	1910 Beechcraft Rd.
730	2425 Hein Ave.
782	2503 Centennial Rd.
784 lot south of 784 is 2545	
785	2503 Centennial
786	2503 Centennial Rd.
808	2328 Hein Ave.
809	2328 Hein Ave.
814	2328 B Hein Ave.
816	2328 Hein Ave.
820	2413 Hein
824	2359 Hein
939	1932 Scanlan
957	2044 Scanlan
958	2044 Scanlan
959	2044 Scanlan
1021	3600 Airport Rd
1027	3334 Airport Rd
1029	3306 Airport Rd
1037	3334 Airport Rd
1039	3313 Airport Rd
1047	3334 Airport Rd
1049	3313 Airport Rd
1057	3334 Airport Rd
1059	3313 Airport Rd
1067	3334 Airport Rd
1069	3313 Airport Rd
1079	3313 Airport Rd
1100	3275 Airport Rd
1101	3275 Airport Rd
1103	3313 Airport Rd
1105	3232 Airport Rd
1127	3222 Airport Rd

LEGEND:

- Area number for gate cards.
- Area number boundary for specific gate cards.
- Gate controled by pad lock.
- Gate controled by card reader.
- Building owned by SAA.
- Building owned by others.

Drawing Number 2003

SALINA Airport Authority

3237 ARNOLD, SALINA, KS 67401
(785-827-3914 FAX:785-827-2221)

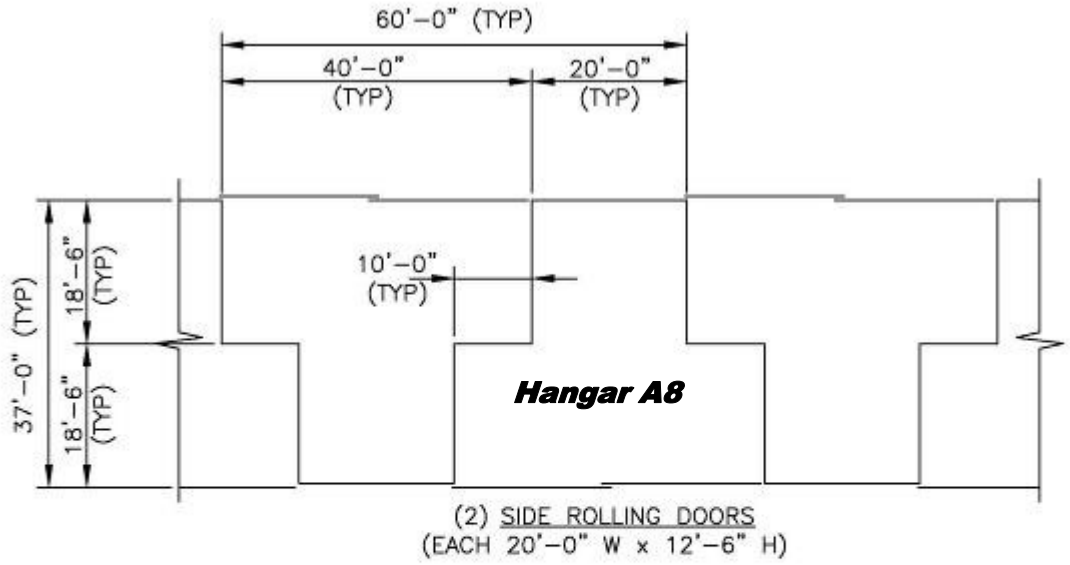
NONE : REVISIONS
KRB : DESIGNED BY
KRB : DRAWN BY
1" = 1200', 16" X 24" Sheet : SCALE
10/31/20, 09-47 : DATE

0 1200

SALINA AIRPORT AUTHORITY STAFF PLANS
Buildings Owned By SAA And Gate Numbers

SHEET 3

F:\Public\Facility_Master\ACAD\StaffPlans\2003BuildingsOwnedBySAA.dwg



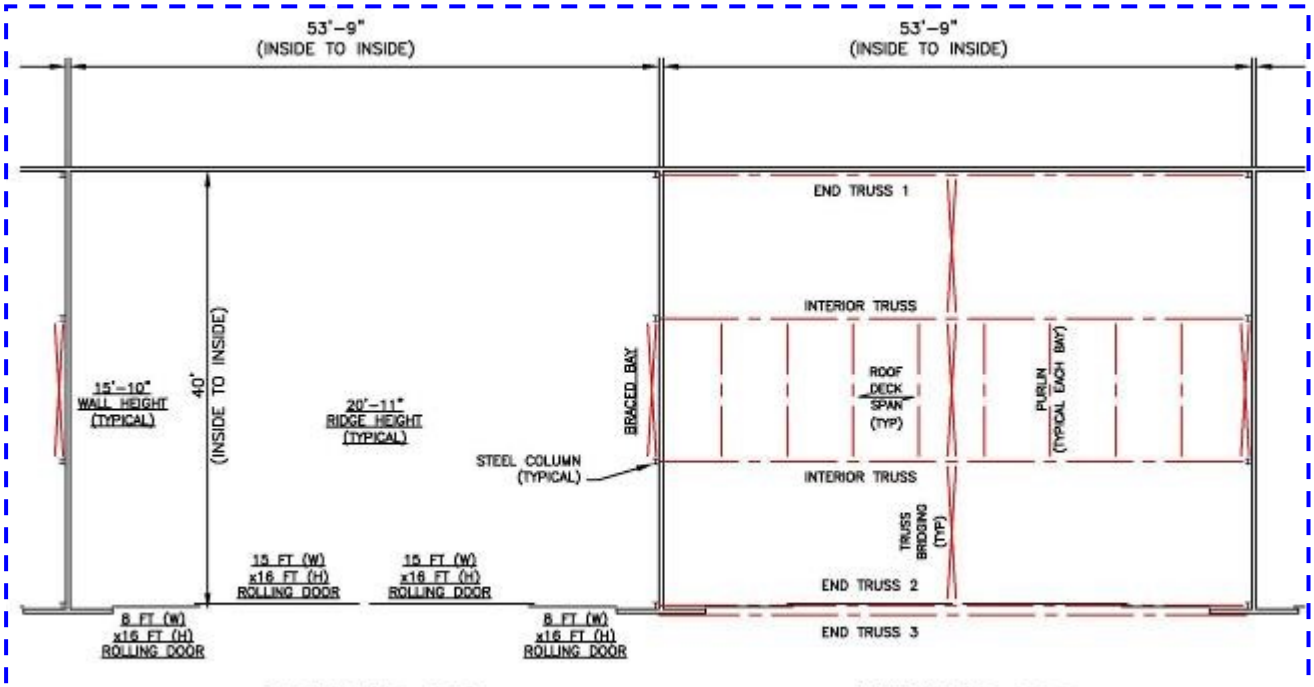
NOTES:

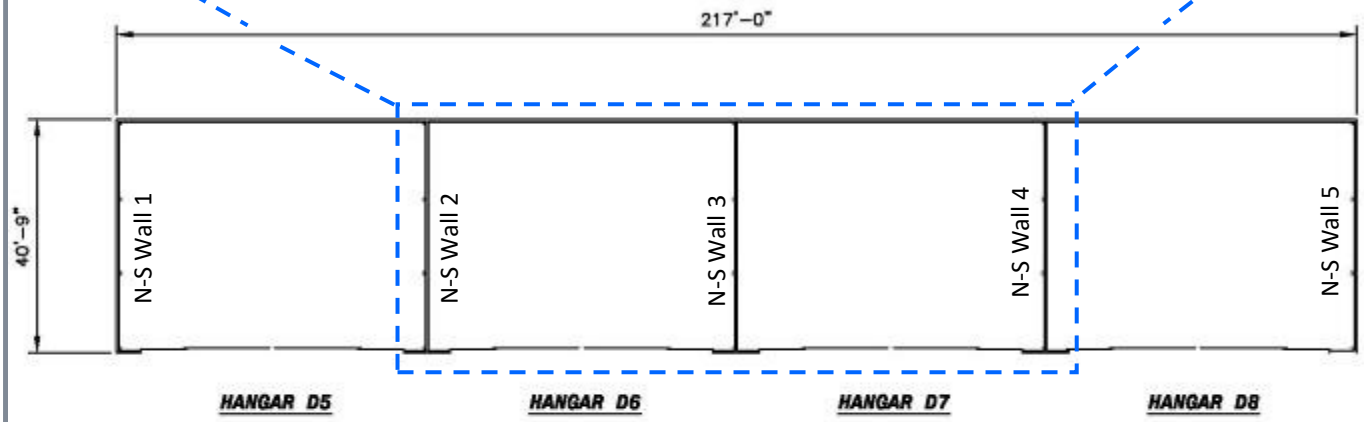
1. DIMENSIONS SHOWN ARE APPROXIMATE.
2. ITEMS NOTED TYPICAL OF EACH HANGAR.

HANGAR A8
(NESTED T-SHAPE HANGAR)

ATTACHMENT D:

SKETCHES BY VERTEX





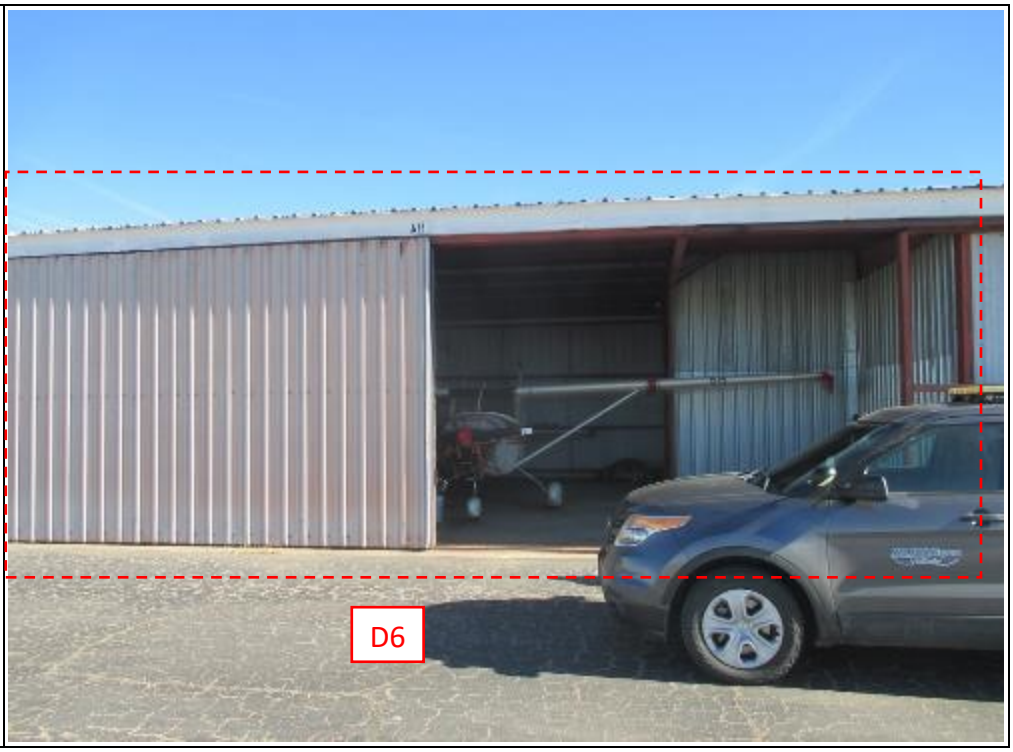
HANGAR LAYOUT

Not to Scale

Note: All dimensions and details shown are typical for each hangar.

ATTACHMENT E:

PHOTOGRAPHIC DOCUMENTATION

Photograph: 1 **Description:** Hangar A8: View of the front (west) elevation. Note the ed dashed line indicates the extent of the hangar.	
Photograph: 2 **Description:** Hangar A8: Interior view looking south of the side walls and roof structure.	

ATTACHMENT E:

PHOTOGRAPHIC DOCUMENTATION

Photograph: 3 **Description:** Hangars D5 thru D8: View from the south-west.	

Photograph: 4 **Description:** Hangar D6: View of the front (west) elevation. Hangars D5, D7, and D8 were similar.	

ATTACHMENT E:

PHOTOGRAPHIC DOCUMENTATION

Photograph: 5 **Description:** Hangar D6: Interior view of the east end wall and roof structure. Hangars D5, D7, and D8 were similar.	

Photograph: 6 **Description:** Hangar D6: Interior view of a sidewall. Hangars D5, D7, and D8 were similar.	

ATTACHMENT E:

PHOTOGRAPHIC DOCUMENTATION

Photograph: 7 **Description:** Hangar A8: View of the missing metal panels on the right side rolling door. The holes in the door frame for the missing panels were not discolored or stained.	

Photograph: 8 **Description:** Hangar A8: View of the top track for the right side rolling door. The top track and rolling door bump stop (red arrow) were bent (green arrow).	

ATTACHMENT E:

PHOTOGRAPHIC DOCUMENTATION

Photograph: 9 **Description:** Hangar A8: View of a bend in the top track.	
Photograph: 10 **Description:** Hangar A8: View of a top track bent flange at an apparent butmp stop (red arrow).	

ATTACHMENT E:

PHOTOGRAPHIC DOCUMENTATION

Photograph: 11 **Description:** Hangar D5: View of the west elevation. The rake trim was bent at two places. Note the bent rake trim for Hangar D6 to the south.	
Photograph: 12 **Description:** Hangar D6: Closeup of the rake trim on the west elevation.	

ATTACHMENT E:

PHOTOGRAPHIC DOCUMENTATION

Photograph: 13

Description:

Hangar D7: View of the bent rake trim on the west elevation (red arrows).

The bottom edges of the metal wall panels were bent at several places (green arrows).

Photograph: 14

Description:

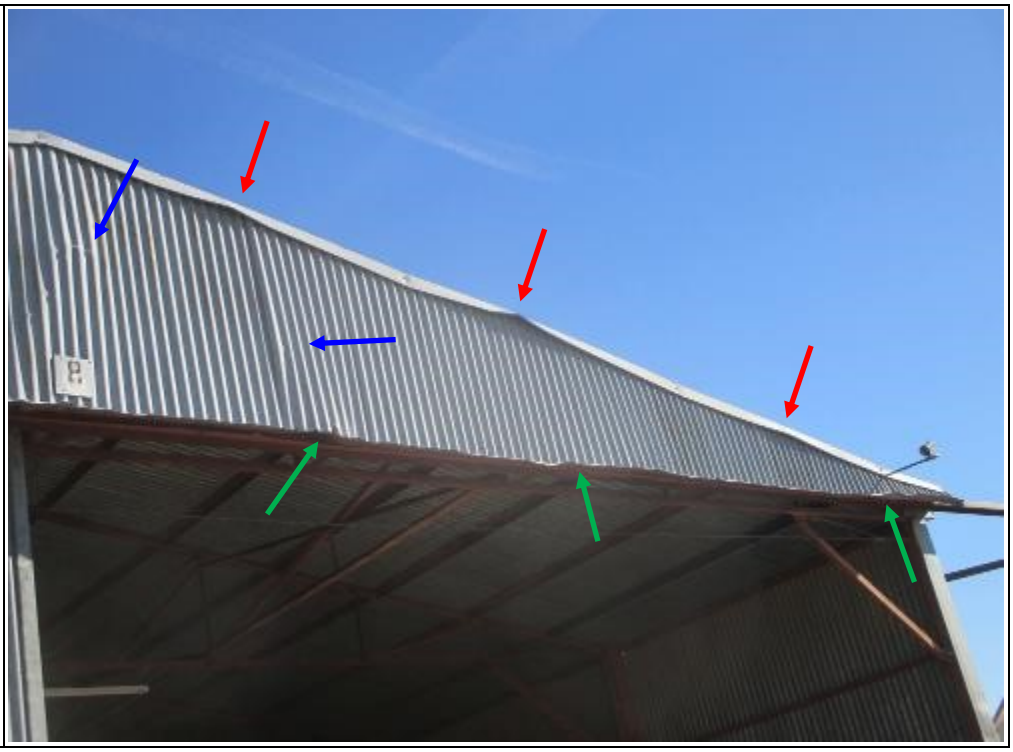
Hangar D8: View of the west elevation.

The rake trim was bent at (3) places along the roof slope approximately equally spaced between fasteners (red arrows).

The wall panels above the rolling door protruded outward at (3) places (red ovals).

ATTACHMENT E:

PHOTOGRAPHIC DOCUMENTATION

Photograph: 15 **Description:** Hangar D8: Closeup of the bent rake trim (red arrows) and the outward protrusions (blue arrows) of the metal panels. The bottoms of the metal panels were bent and displaced outward (green arrows).	

Photograph: 16 **Description:** Hangar D8: View of the bottom of the metal panels on the west wall. The metal panels were bent in several places (red arrows). The top of the side rolling door was out of the top track (green arrow).	

ATTACHMENT E:

PHOTOGRAPHIC DOCUMENTATION

Photograph: 17 **Description:** Hangar D8: View of the two south rolling doors on the hangar floor.	
Photograph: 18 **Description:** Hangar D8: View of the bottom track for the east sliding doors. The bottom track was bent in two places (red arrows).	

ATTACHMENT E:

PHOTOGRAPHIC DOCUMENTATION

Photograph: 19 **Description:** Hangar D6: View of the north side of the west bay. The roof deck and purlins were bent upward (red arrows). Hangars D7 and D8 were similar.	

Photograph: 20 **Description:** Hangar D7: View of the south side of the west bay. The bottom chord of End Truss 2 was bent in two places (red arrows).	

ATTACHMENT E:

PHOTOGRAPHIC DOCUMENTATION

Photograph: 21 **Description:** Hangar D8: View of the bottom of End Truss 1. The bottom of chord of the truss was bent in two places (red arrows) and displaced outward. The bottom chord was detached from the vertical chord member (blue arrow), and a truss diagonal was bowed (green arrow).	

Photograph: 22 **Description:** Hangar D8: The bottom chord of End Truss 2 was bent (red arrow). The side rolling door was out of the top track (green arrow).	

ATTACHMENT E:

PHOTOGRAPHIC DOCUMENTATION

Photograph: 23 **Description:** Hangar D7: View of the steel framing and braced frame on the south wall. The diagonal bracing was bent in two places (red arrows).	

Photograph: 24 **Description:** Hangar D7: Closeup of one of the bent diagonal braces on the south wall.	

ATTACHMENT E:

PHOTOGRAPHIC DOCUMENTATION

Photograph: 25 **Description:** Hangar D7: View of the baseplate for the east interior column on the south wall.	
Photograph: 26 **Description:** Hangar D7: View of the baseplate for the west interior column on the south wall.	

Photograph: 27 **Description:** Hangar D8: View of a diagonal brace on the south wall of the hangar. The diagonal brace was bent in two places (red arrows).	

Photograph: 28 **Description:** Hangar D8: View of the baseplate for the west interior column on the south wall.	

ATTACHMENT E:

PHOTOGRAPHIC DOCUMENTATION

Photograph: 29 **Description:** Hangar D8: Additional view of the baseplate for the west interior column on the south wall.	
Photograph: 30 **Description:** Hangar D8: View of a crack in the southwest corner concrete slab.	

Photograph: 31 **Description:** Hangar D7: View of a plumb reading taken on a steel column on the south wall.	

Photograph: 32 **Description:** Hangar D8: View of a plumb reading taken on the west interior of the south wall.