COUNTY OF GRANT

ADDENDUM NO. 1

RFP No: 23-07
RFP Title: AIRPORT ENGINEERING

Below are the draft Airport Layout Plan and Airport Action Plan.

-End of Addendum-

Notice: All other items of the RFP Packet remain the same. Acknowledgement of this addendum on Appendix B of the solicitation documents is required.

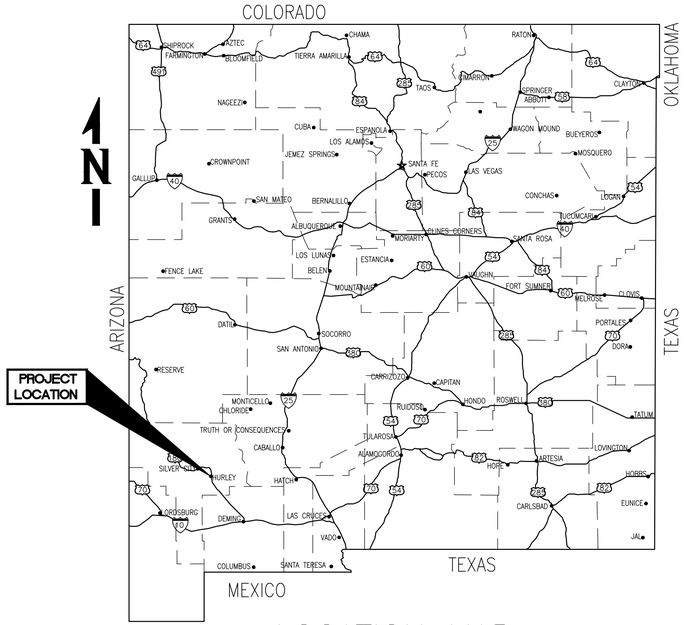
By: /s/ Veronica Rodriguez,
Chief Procurement Officer

Date: 04/06/2023

XREF INDEX:

SILVER CITY, NEW MEXICO
GRANT COUNTY AIRPORT LAYOUT PLAN
ACTION PLAN

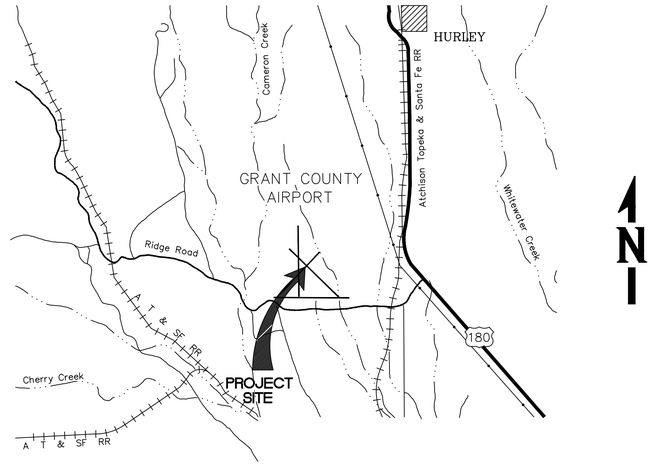
NMAD GRANT NO: SVC-21-01
FEBRUARY 2023



LOCATION MAP

NOT TO SCALE

SHEET LIST TABLE	
SHEET NUMBER	SHEET TITILE
1	TITLE SHEET
2	TECHNICAL DATA SHEET 1
3	TECHNICAL DATA SHEET 2
4	AIRPORT LAYOUT PLAN (ALP)
5	AIRSPACE PLAN (PART 77)
6	RUNWAY 8 INNER APPROACH SURFACE/ RUNWAY 26 DEPARTURE SURFACE
7	RUNWAY 26 INNER APPROACH SURFACE/ RUNWAY 8 DEPARTURE SURFACE
8	RUNWAY 17 INNER APPROACH SURFACE/ RUNWAY 35 DEPARTURE SURFACE
9	RUNWAY 35 INNER APPROACH SURFACE / RUNWAY 17 DEPARTURE SURFACE
10	TERMINAL AREA PLAN
11	AIRPORT PROPERTY MAP



VICINITY MAP

NOT TO SCALE

Modification to Standards table			
Approval Date	**ASN**	**Standard to be Modified**	**Description**
12/20/2016	2015-ASW-6870-NRA	FAA AC 150/5340-18F, Standards For Airport Sign Systems, paragraph 15 Sign Operations	Allowed Style 4 non-illuminated holding position signs on Runway 3-21, 12-30, and 17-35 intersection with Runway 8-26

STUDIED UNDER ASN _____, APPROVED _____
PREPARED BY: BOHANNAN HUSTON, INC.
DATE: _____

SUBMITTED BY: SILVER CITY, NEW MEXICO

APPROVAL

_____

DATE: _____

THIS AIRPORT LAYOUT PLAN (ALP) DRAWING SET WAS PREPARED IN ACCORDANCE WITH FAA ADVISORY CIRCULAR 150/5070-6, AIRPORT MASTER PLANS, AND IDENTIFIES THE CURRENT CONDITIONS AND FUTURE NEEDS OF THE GRANT COUNTY AIRPORT AS IDENTIFIED DURING THE DEVELOPMENT OF THE ALP SET WHICH WAS FINALIZED IN FEBRUARY 2012.

Bohannan Huston
www.bhinc.com 800.877.5332

SHEET INFO	
DESIGNED	EP
DRAWN	JJB
CHECKED	WR
APPROVED	MDH
LAST EDIT	2/14/2023
PLOT DATE	9/13/2022
SUBMITTAL	

REVISIONS			
NO.	BY	DATE	REMARKS

COVER SHEET

SILVER CITY, NEW MEXICO
GRANT COUNTY AIRPORT (SVC)

PROJECT NUMBER	DRAWING FILE NAME	SCALE
20210346	1. SVC-ALP-2022-JJB	N/A

SHEET NUMBER 1

[DATE: 2/14/2023 4:12 PM] [AUTHOR: jbennett] [PLOTTER: AutoCAD PDF (General Documentation).pc3] [STYLE: Monochrome.ctb]
[PATH: N:\Trans\Aviation\ALP\Grant County – Silver City – SVC\2021 BHI ALP\1. SVC-ALP-2022-JJB.dwg] [LAYOUT: COVER SHEET (1)]

		RUNWAY 8-26		NEW RUNWAY 17-35			RUNWAY 17-35 EXISTING		RUNWAY 12-30		RUNWAY 3-21	
RUNWAY DATA TABLE AC 150/5300-13B		EXISTING	ULTIMATE	EXISTING	INITIAL	ULTIMATE	EXISTING	ULTIMATE	EXISTING	ULTIMATE	EXISTING	ULTIMATE
		B-II-4000	SAME	--	C-II-5000	C-III-5000	B-I-SMALL-VIS	TO BE CLOSED	B-I-VIS	TO BE CLOSED	B-I-VIS	TO BE CLOSED
RUNWAY DATA TABLE												
RUNWAY IDENTIFICATION		RUNWAY 8-26		NEW RUNWAY 17-35			RUNWAY 17-35 EXISTING		RUNWAY 12-30		RUNWAY 3-21	
		EXISTING	ULTIMATE	EXISTING	INITIAL	ULTIMATE	EXISTING	ULTIMATE	EXISTING	ULTIMATE	EXISTING	ULTIMATE
RUNWAY DESIGN CODE (RDC)		B-II-4000	SAME	--	C-II-5000	C-III-5000	B-I-SMALL-VIS	TO BE CLOSED	B-I-VIS	TO BE CLOSED	B-I-VIS	TO BE CLOSED
APPROACH REFERENCE CODE		B/II/4000	SAME	--	D/IV/4000 D/V/4000	SAME	N/A		N/A		N/A	
DEPARTURE REFERENCE CODE		B/II	SAME	--	D/IV D/V	SAME	N/A		N/A		N/A	
PAVEMENT STRENGTH AND MATERIAL TYPE		75 SW/100 DW - ASPHALT	SAME	--	75 SW/100 DW - ASPHALT	SAME	DIRT		DIRT		DIRT	
STRENGTH BY WHEEL LOADING												
STRENGTH BY PCN		38 F/C/X/T	SAME	--	TBD	SAME	N/A		N/A		N/A	
SURFACE TREATMENT		GROOVED	SAME	--	GROOVED	SAME	N/A		N/A		N/A	
EFFECTIVE RUNWAY GRADIENT (%)		0.13%	SAME	--	1.22%	SAME	1.60%		1.04%		0.54%	
MAXIMUM GRADE WITHIN RUNWAY LENGTH		1.50%	SAME	--	1.22%	SAME	1.60%		1.04%		0.54%	
LINE OF SIGHT CRITERIA MET		YES	YES	--	YES	SAME	N/A		N/A		N/A	
CROSSWIND COMPONENT		13 KNOTS	SAME	--	16 KNOTS	SAME	10.5 KNOTS		10.5 KNOTS		10.5 KNOTS	
PERCENT (%) WIND COVERAGE (EACH RUNWAY)												
10.5 INOTS - A-I AND B-I, A-I SMALL, B-I-SMALL		92.47		--	84.15		--	--	--	--	--	--
13 KNOTS - A-II AND B-II		96.65		--	90.05		--	--	--	--	--	--
16 KNOTS - A-III, B-III, C-I THROUGH D-III, D-I THROUGH D-III		99.25		--	95.49		--	--	--	--	--	--
20 KNOTS - A-IV AND B-IV, C-IV THROUGH C-VI, D-IV THROUGH D-VI, E-I THROUGH E-VI		99.75		--	98.9		--	--	--	--	--	--
CURRENT COMBINED WIND COVERAGE		13 KNOTS - 96.65%		--			--	--	--	--	--	--
ULTIMATE COMBINED WIND COVERAGE		--		--	16 KNOTS - 99.92%		--	--	--	--	--	--
SOURCE OF WIND DATA, AGE OF WIND DATA		GRANT COUNTY AIRPORT STATION (AWOS) 2011-2020. TOTAL OBSERVATIONS 246,326		--			--	--	--	--	--	--
RUNWAY DESIGN												
RUNWAY LENGTH		6803	SAME	--	6850	9200	5473		4675		4537	
RUNWAY WIDTH		100	SAME	--	100	100	75		75		80	
RUNWAY SURFACE		GROOVED	SAME	--	GROOVED	GROOVED	DIRT		N/A		N/A	
SHOULDER WIDTH		20	SAME	--	20	20	N/A		DIRT		DIRT	
PAVED SHOULDERS		NOT REQUIRED	SAME	--	NOT REQUIRED	NOT REQUIRED	NOT REQUIRED		N/A		N/A	
SHOULDER SURFACE		STABILIZED	SAME	--	STABILIZED	STABILIZED	DIRT		DIRT		DIRT	
BLAST PAD WIDTH		120	SAME	--	120	SAME	N/A		DIRT		DIRT	
BLAST PAD LENGTH		150	SAME	--	150	SAME	N/A		N/A		N/A	
BLAST PAD SURFACE		STABILIZED	ASPHALT	--	ASPHALT		N/A		N/A		N/A	
VISIBILITY MINIMUMS		R8 (1 MILE)/ RUNWAY 26 (3/4 MILE)	SAME	--	R17 (1-MILE) / R35 (1-MILE)	R17 (1-MILE) / R35 (1-MILE)	N/A		N/A		N/A	
INSTRUMENT APPROACH PROCEDURES		R8: RNAV GPS/ R26: RNAV GPS, LOC	SAME	--	TBD	TBD	N/A		N/A		N/A	
TYPE OF AERONAUTICAL SURVEY REQUIRED, TABLE K-1.		VGS	SAME	--	VGS	VGS	N/A		N/A		N/A	
RUNWAY MARKING TYPE		NPI/NPI	SAME	--	NPI/NPI	NPI/NPI	N/A		N/A		N/A	
VISUAL AND INSTRUMENT NAVAIDS		R8 PAPI / R26 PAPI R8 REIL/ R26 MALS	SAME	--	R17 PAPI / R35 PAPI	R17 PAPI / R35 PAPI	NONE		NONE		NONE	
RUNWAY LIGHTING TYPE		MIRL	SAME	--	MIRL	MIRL	NONE		NONE		NONE	
RUNWAY END COORDINATES												
N LATITUDE		32° 37' 56.73" / 32° 37' 56.48"	SAME	--	32° 39' 41.62" / 32° 39' 17.85"	32° 39' 41.62" / 32° 38' 10.57"	32° 38' 52.27" / 32° 37' 58.14"		32° 38' 31.00" / 32° 37' 58.32"		32° 37' 58.57" / 32° 38' 30.16"	
W LONGITUDE		108° 9' 54.95" / 108° 8' 35.43"	SAME	--	108° 9' 46.15" / 108° 9' 46.27"	108° 9' 46.15" / 108° 9' 46.73"	108° 9' 30.62" / 108° 9' 31.07"		108° 9' 38.44" / 108° 8' 59.76"		108° 9' 48.299" / 108° 9' 10.61"	
RUNWAY THRESHOLD ELEVATION (0.1 FOOT)		R8 5386.2 / R26 5376.5	SAME	--	R17 5452 / R35 5403	R17 5515 / R35 5403	R17 5445.6 / R35 5385.8		R12 5424.8 / R30 5374.8		R3 5382.8/R21 5410.8	
DISPLACED THRESHOLD END COORDINATES												
N LATITUDE		NONE	NONE	--	NONE	NONE	32° 38' 51.196" / NONE"		NONE		NONE	
W LONGITUDE		NONE	NONE	--	NONE	NONE	108° 9' 30.39" / NONE		NONE		NONE	
DISPLACED THRESHOLD ELEVATION (0.1 FOOT)		NONE	NONE	--	NONE		R17 5445.6 / NONE		NONE		NONE	
TOUCHDOWN ZONE ELEVATION		5383/5377	SAME	--	5452/5440	5515/5440	N/A		N/A		N/A	
RUNWAY HIGH POINT		5383	SAME	--	5452	5515	5445.6		5428.8		5382.8	
RUNWAY PROTECTION												
RUNWAY SAFETY AREA (RSA)												
RSA LENGTH BEYOND DEPARTURE END		300	SAME	--	1000	1000	240		300		300	
RSA LENGTH PRIOR TO THRESHOLD		300	SAME	--	600	600	240		300		300	
RSA OVERALL LENGTH		7403	SAME	--	8850	11200						
RSA WIDTH		150	SAME	--	500	500	120		150		150	
RUNWAY OBJECT FREE AREA (ROFA)												
ROFA LENGTH BEYOND DEPARTURE END		300	SAME	--	1000	1000	240		240		240	
ROFA LENGTH PRIOR TO THRESHOLD		300	SAME	--	600	600	240		240		240	
ROFA OVERALL LENGTH		7403	SAME	--	8850	11200						
ROFA WIDTH		500	SAME	--	800	800	250		250		250	
RUNWAY OBSTACLE FREE ZONE (ROFZ)												
OFZ LENGTH		7203	SAME	--	7250	9600	5873		5075		4937	
OFZ WIDTH		400	SAME	--	400	400	250		250		250	
INNER-APPROACH OFZ		N/A	SAME	--	N/A	N/A	N/A		N/A		N/A	
INNER-TRANSITIONAL OFZ		N/A	SAME	--	N/A	N/A	N/A		N/A		N/A	

NOTE 1: THE INITIAL PHASE OF NEW RUNWAY 17-35 IS 6,850 LONG BY 100 FEET WIDE, WHICH ALLOWS THE RUNWAY TO SERVE AS A BACK-UP WHEN RUNWAY 8-26 IS CLOSED FOR IMPROVEMENTS. THE 100-FOOT WIDTH MEETS THE STANDARD FOR C-II AND C-III (LESS THAN 150K LBS), WHICH WILL ACCOMMODATE SPECIAL USE NEEDS OF THE USFS, BUT WITH WEIGHT RESTRICTIONS FOR THE INITIAL LENGTH. THE ULTIMATE 9200-FOOT LENGTH WILL ACCOMMODATE THE C-III AIRCRAFT OFTEN USED BY THE USFS FOR AERIAL FIRE FIGHTING IN THE REGION, BUT AT OPTIMUM FUEL AND FIRE RETARDANT LOADS

PRELIM

REVISIONS

NO.	BY	DATE	REMARKS

SHEET INFO	
DESIGNED	AP
DRAWN	AP
CHECKED	WR
APPROVED	MDH
LAST EDIT	2/14/2023
PLOT DATE	8/15/2022
SUBMITTAL	

AIRPORT LAYOUT PLAN
TECHNICAL DATA SHEET 1
GRANT COUNTY MUNICIPAL AIRPORT (SVC)
SILVER CITY, NEW MEXICO

SCALE N/A

PROJECT NUMBER XXXX

DRAWING FILE NAME 1. SVC-ALP-2022-JJB

SHEET NUMBER 2 of 11

[DATE: 2/14/2023 8:58 AM] [AUTHOR: jbennett] [PLOTTER: AutoCAD PDF (General Documentation).pc3] [STYLE: Monochrome.ctb]
[PATH: N:\Trans\Aviation\ALP\Grant County – Silver City – SVC\2021 BHI ALP\1. SVC-ALP-2022-JJB.dwg] [LAYOUT: RWY DATA TABLE (2)]

INNER- APPROACH OFZ													
LENGTH		R28: 1600	SAME	--	--	--	--	--	--	--	--	--	--
WIDTH		400	SAME	--	--	--	--	--	--	--	--	--	--
PRECISION OBSTACLE FREE ZONE (POFZ)													
PRECISION OBSTACLE FREE ZONE (POFZ) LENGTH		NONE	NONE	--	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
PRECISION OBSTACLE FREE ZONE (POFZ) WIDTH		NONE	NONE	--	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
APPROACH RUNWAY PROTECTION ZONE (RPZ)													
APPROACH RPZ LENGTH		1700	SAME	--	1700	1700	1000	--	1000	--	1000	--	
APPROACH RPZ INNER WIDTH		1000	SAME	--	1000	1000	250	--	250	--	250	--	
APPROACH RPZ OUTER WIDTH		1510	SAME	--	1510	1510	450	--	450	--	450	--	
APPROACH RPZ ACRES		48.98	SAME	--	48.98	48.98	8.035	--	8.035	--	8.035	--	
DEPARTURE RUNWAY PROTECTION ZONE (RPZ)													
DEPARTURE RPZ LENGTH		1000	SAME	--	1700	1700	1000	--	1000	--	1000	--	
DEPARTURE RPZ INNER WIDTH		500	SAME	--	500	500	250	--	250	--	250	--	
DEPARTURE RPZ OUTER WIDTH		700	SAME	--	1010	1010	450	--	450	--	450	--	
DEPARTURE RPZ ACRES		13.77	SAME	--	29.47	29.47	8.035	--	8.035	--	8.035	--	
APPROACH SURFACE													
APPROACH SURFACE (PARAGRAPH 3.6.1)		NON-PRECISION AND IFR CIRCLING APPROACH - SURFACE 4 ≥3/4 MILE APPROACH END OF RUNWAYS THAT SUPPORTS IFR CIRCLING PROCEDURES AND PROCEDURES ONLY PROVIDING LATERAL GUIDANCE (VOR, NDB, LNAV, LP, AND LOC). ≥ ¾ STATUTE MILE	NON-PRECISION AND IFR CIRCLING APPROACH - SURFACE 4 ≥3/4 MILE APPROACH END OF RUNWAYS THAT SUPPORTS IFR CIRCLING PROCEDURES AND PROCEDURES ONLY PROVIDING LATERAL GUIDANCE (VOR, NDB, LNAV, LP, AND LOC). ≥ ¾ STATUTE MILE	--	NON-PRECISION AND IFR CIRCLING APPROACH - SURFACE 4 ≥3/4 MILE APPROACH END OF RUNWAYS THAT SUPPORTS IFR CIRCLING PROCEDURES AND PROCEDURES ONLY PROVIDING LATERAL GUIDANCE (VOR, NDB, LNAV, LP, AND LOC). ≥ ¾ STATUTE MILE	NON-PRECISION AND IFR CIRCLING APPROACH - SURFACE 4 ≥3/4 MILE APPROACH END OF RUNWAYS THAT SUPPORTS IFR CIRCLING PROCEDURES AND PROCEDURES ONLY PROVIDING LATERAL GUIDANCE (VOR, NDB, LNAV, LP, AND LOC). ≥ ¾ STATUTE MILE	VISUAL APPROACH - SURFACE 2 APPROACH END OF RUNWAYS SERVING SMALL AIRPLANES WITH APPROACH SPEEDS OF 50 KNOTS OR MORE.	--	VISUAL APPROACH - SURFACE 2 APPROACH END OF RUNWAYS SERVING SMALL AIRPLANES WITH APPROACH SPEEDS OF 50 KNOTS OR MORE.	--	VISUAL APPROACH - SURFACE 2 APPROACH END OF RUNWAYS SERVING SMALL AIRPLANES WITH APPROACH SPEEDS OF 50 KNOTS OR MORE.	
SURFACE NUMBER →		SURFACE 4 ≥3/4 MILE	SURFACE 4 ≥3/4 MILE	--	SURFACE 4 ≥3/4 MILE	SURFACE 4 ≥3/4 MILE	SURFACE 2	--	SURFACE 2	--	SURFACE 2		
TABLE NUMBER		TABLE 3-3	TABLE 3-3	--	TABLE 3-3	TABLE 3-3	TABLE 3-2	--	TABLE 3-2	--	TABLE 3-2		
		APPROACH END OF RUNWAYS THAT SUPPORTS IFR CIRCLING PROCEDURES AND PROCEDURES ONLY PROVIDING LATERAL GUIDANCE (VOR, NDB, LNAV, LP, TACAN, VORTAC, ASR, AND LOC).	APPROACH END OF RUNWAYS THAT SUPPORTS IFR CIRCLING PROCEDURES AND PROCEDURES ONLY PROVIDING LATERAL GUIDANCE (VOR, NDB, LNAV, LP, TACAN, VORTAC, ASR, AND LOC).	--	APPROACH END OF RUNWAYS THAT SUPPORTS IFR CIRCLING PROCEDURES AND PROCEDURES ONLY PROVIDING LATERAL GUIDANCE (VOR, NDB, LNAV, LP, TACAN, VORTAC, ASR, AND LOC).	APPROACH END OF RUNWAYS THAT SUPPORTS IFR CIRCLING PROCEDURES AND PROCEDURES ONLY PROVIDING LATERAL GUIDANCE (VOR, NDB, LNAV, LP, TACAN, VORTAC, ASR, AND LOC).	APPROACH END OF RUNWAYS SERVING SMALL AIRPLANES WITH APPROACH SPEEDS OF 50 KNOTS OR MORE.	--	APPROACH END OF RUNWAYS SERVING SMALL AIRPLANES WITH APPROACH SPEEDS OF 50 KNOTS OR MORE.	--	APPROACH END OF RUNWAYS SERVING SMALL AIRPLANES WITH APPROACH SPEEDS OF 50 KNOTS OR MORE.	
VISIBILITY MINIMUMS		≥ ¾ STATUTE MILE	≥ ¾ STATUTE MILE	--	≥ ¾ STATUTE MILE	≥ ¾ STATUTE MILE	VISUAL	--	VISUAL	--	VISUAL		
DISTANCE FROM THRESHOLD		A - 200	A - 200	--	A - 200	A - 200	0	--	0	--	0		
INNER WIDTH		B - 400	B - 400	--	B - 400	B - 400	A - 250	--	A - 250	--	A - 250		
OUTER WIDTH		C - 3,400	C - 3,400	--	C - 3,400	C - 3,400	B - 700	--	B - 700	--	B - 700		
INITIAL LENGTH		NA	NA	--	NA	NA	C - 2250	--	C - 2250	--	C - 2250		
EXTENDED LENGTH		D - 10,000	D - 10,000	--	D - 10,000	D - 10,000	D - 2,750	--	D - 2,750	--	D - 2,750		
SLOPE		20:1	20:1	--	20:1	20:1	20:1	--	20:1	--	20:1		
RUNWAY DEPARTURE SURFACE													
RUNWAY DEPARTURE SURFACE PRESENT		YES	YES	--	YES	YES	NO	--	NO	--	NO	--	
INSTRUMENT DEPARTURE SURFACE, TABLE 3-5		RUNWAYS PROVIDING INSTRUMENT DEPARTURE OPERATIONS	RUNWAYS PROVIDING INSTRUMENT DEPARTURE OPERATIONS	--	RUNWAYS PROVIDING INSTRUMENT DEPARTURE OPERATIONS	RUNWAYS PROVIDING INSTRUMENT DEPARTURE OPERATIONS		--		--			--
DEPARTURE SURFACE		SURFACE 7 - 75	SURFACE 7 - 75	--	SURFACE 7 - 75	SURFACE 7 - 75		--		--			--
A - RUNWAY WIDTH		75	75	--	75	75		--		--			--
B - WIDTH OF WINGS		463	463	--	463	463		--		--			--
C - OUTER WIDTH INCLUDING WINGS		7,512	7,512	--	7,512	7,512		--		--			--
D - LENGTH		12,152	12,152	--	12,152	12,152		--		--			--
E - LENGTH TO WHERE WINGS FLATTEN		6,152	6,152	--	6,152	6,152		--		--			--
SECTION 2 ANGLE Θ		18	18.00	--	18.00	18.00		--		--			--
SECTION 2 TRANSVERSE SLOPE M		3.08:1	3.08:1	--	3.08:1	3.08:1		--		--			--
RUNWAY SEPARATION													
RUNWAY CENTERLINE TO:													
PARALLEL RUNWAY CENTERLINE		N/A	SAME	--	N/A	N/A	N/A	--	N/A	--	N/A	--	
HOLDING POSITION		200	SAME	--	250	250	125	--	125	--	125	--	
NOTE:													
PARALLEL TAXIWAY/TAXILANE CENTERLINE		240	SAME	--	300	400	N/A	--	N/A	--	N/A	--	
NOTE:													
DISTANCE RW CENTERLINE TO CLEAR TAIL HEIGHT		200	SAME	--	200	200	N/A	--	N/A	--	N/A	--	
AIRCRAFT PARKING AREA		250	SAME	--	400	500	N/A	--	N/A	--	N/A	--	
BUILDING RESTRICTION LINE (35' HEIGHT) FROM RUNWAY CENTERLINE		495	SAME	--	495	495							
HELICOPTER TOUCHDOWN PAD (AC 150/5390-2C)													
SMALL HELICOPTER 7,000 LBS OR LESS		500	SAME	--	500	500	N/A	--	N/A	--	N/A	--	
MEDIUM HELICOPTER 7,001 TO 12,500 LBS		500	SAME	--	500	500	N/A	--	N/A	--	N/A	--	
LARGE HELICOPTER OVER 12,500 LBS		700	SAME	--	700	700	N/A	--	N/A	--	N/A	--	
DECLARED DISTANCETABLE													
TAKE-OFF RUN AVAILABLE (TORA)		6802/6802	SAME	--	9200/9200	9200/9200	5473/5473	N/A	4675/4675	N/A	4537/4537	N/A	
TAKE-OFF DISTANCE AVAILABLE (TODA)		6802/6802	SAME	--	9200/9200	9200/9200	5473/5473	N/A	4675/4675	N/A	4537/4537	N/A	
ACCELERATE STOP DISTANCE AVAILABLE (ASDA)		6802/6802	SAME	--	9200/9200	9200/9200	5473/5473	N/A	4675/4675	N/A	4537/4537	N/A	
LANDING DISTANCE AVAILABLE (LDA)		6802/6802	SAME	--	9200/9200	9200/9200	5364/5473	N/A	4675/4675	N/A	4537/4537	N/A	
14 FAR PART 77													
APPROACH CATEGORY		B/C	SAME	--	B/C	SAME	A	--	A	--	A	--	
APPROACH TYPE		RUNWAY LARGER THAN UTILITY - NON-PRECISION INSTRUMENT APPROACHES (>3/4 MILE VISIBILITY)	SAME	--	RUNWAY LARGER THAN UTILITY - NON-PRECISION INSTRUMENT APPROACHES (>3/4 MILE VISIBILITY)	SAME	UTILITY - VISUAL	--	UTILITY - VISUAL	--	UTILITY - VISUAL	--	
PRIMARY SURFACE WIDTH		500	SAME	--	500	SAME	250	--	250	--	250	--	
PRIMARY SURFACE LENGTH		7203	SAME	--	7203	SAME	5473	--	4675	--	0	--	
APPROACH SURFACE WIDTH AT END		3500	SAME	--	3500	SAME	1250	--	1250	--	1250	--	
APPROACH SURFACE LENGTH		10000	SAME	--	10000	SAME	5000	--	5000	--	5000	--	
APPROACH SURFACE SLOPE		34:1	SAME	--	34:1	SAME	20:1	--	20:1	--	20:1	--	
HORIZONTAL SURFACE RADIUS		10000	SAME	--	10000	SAME	5000	--	5000	--	5000	--	
HORIZONTAL SURFACE ELEVATION		5533	SAME	--	5533	SAME	5553	--	5553	--	5553	--	

NOTE 1: THE INITIAL PHASE OF NEW RUNWAY 17-35 IS 6,850 LONG BY 100 FEET WIDE, WHICH ALLOWS THE RUNWAY TO SERVE AS A BACK-UP WHEN RUNWAY 8-26 IS CLOSED FOR IMPROVEMENTS. THE 100-FOOT WIDTH MEETS THE STANDARD FOR C-II AND C-III (LESS THAN 150K LBS), WHICH WILL ACCOMMODATE SPECIAL USE NEEDS OF THE USFS, BUT WITH WEIGHT RESTRICTIONS FOR THE INITIAL LENGTH. THE ULTIMATE 9200-FOOT LENGTH WILL ACCOMMODATE THE C-III AIRCRAFT OFTEN USED BY THE USFS FOR AERIAL FIRE FIGHTING IN THE REGION, BUT AT OPTIMUM FUEL AND FIRE RETARDANT LOADS

PRELIM

REVISIONS

NO.	BY	DATE	REMARKS

SHEET INFO	
DESIGNED	AP
DRAWN	AP
CHECKED	WR
APPROVED	MDH
LAST EDIT	2/14/2023
PLOT DATE	8/15/2022
SUBMITTAL	

AIRPORT LAYOUT PLAN
TECHNICAL DATA SHEET 2
GRANT COUNTY MUNICIPAL AIRPORT (SVC)
SILVER CITY, NEW MEXICO

SCALE N/A

PROJECT NUMBER XXXX

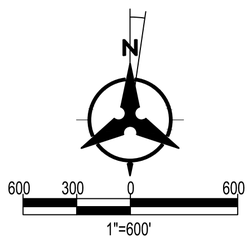
DRAWING FILE NAME 1. SVC-ALP-2022-JJB

SHEET NUMBER 3 of 11

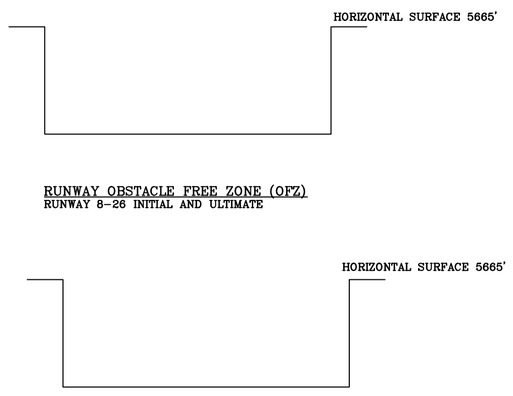
[DATE: 2/14/2023 8:58 AM] [AUTHOR: jbennett] [PLOTTER: AutoCAD PDF (General Documentation).pc3] [STYLE: Monochrome.ctb]
[PATH: N:\Trans\Aviation\ALP\Grant County – Silver City – SVC\2021 BHI ALP\1. SVC-ALP-2022-JJB.dwg] [LAYOUT: RWY DATA TABLE (3)]

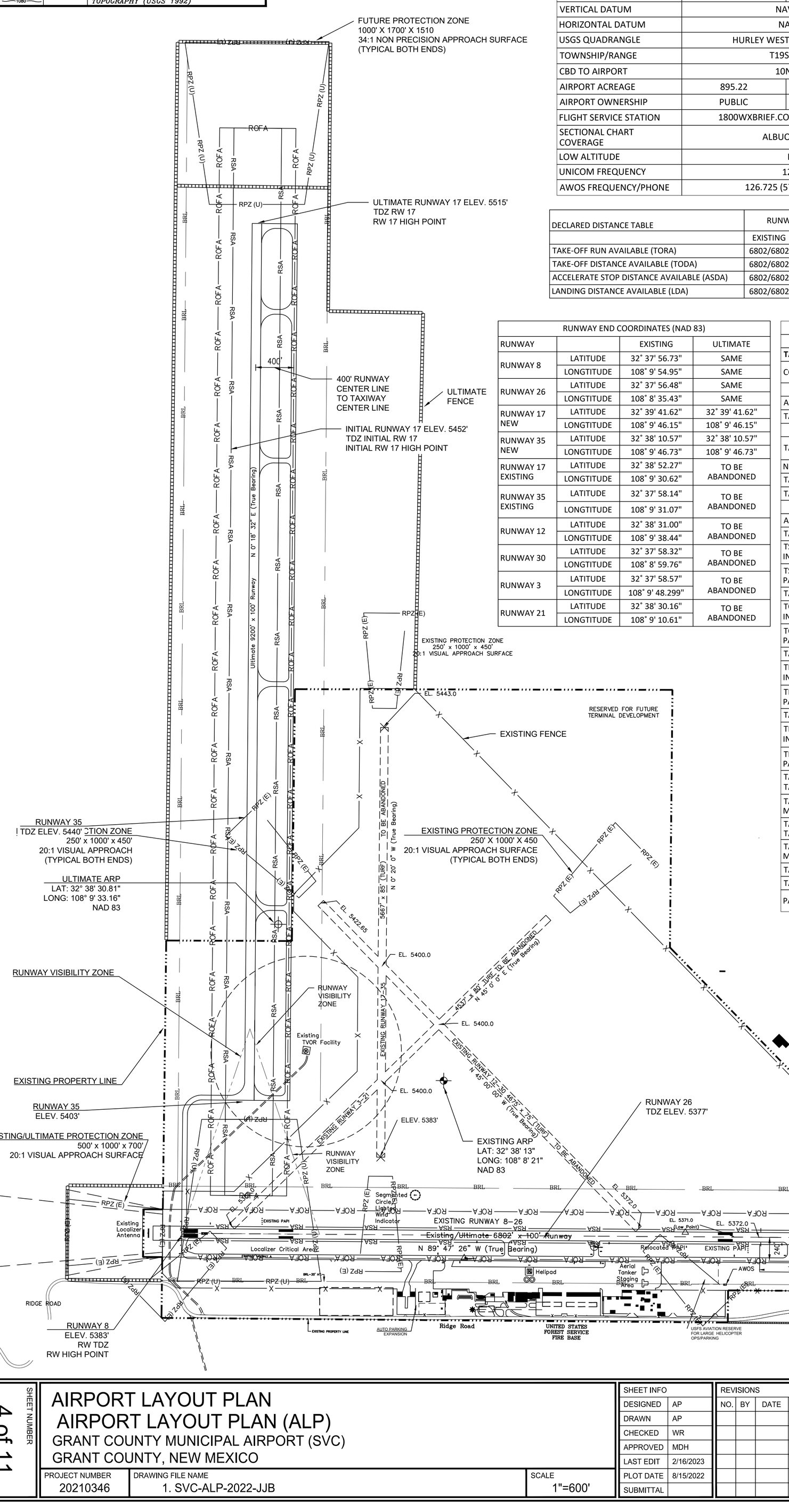
[DATE: 2/16/2023 9:00 AM] [AUTHOR: jbennett] [PLOTTER: AutoCAD PDF (General Documentation).pc3] [STYLE: Monochrome.ctb]
[PATH: N:\Trans\Aviation\ALP\Grant County – Silver City – SVC\2021 BHI ALP\1. SVC–ALP–2022–JJB.dwg] [LAYOUT: ALP (4)]

DECLINATION
8° 25' E ± 0° 21'
CHANGING BY 0° 6' W PER YEAR
SEPTEMBER 2022

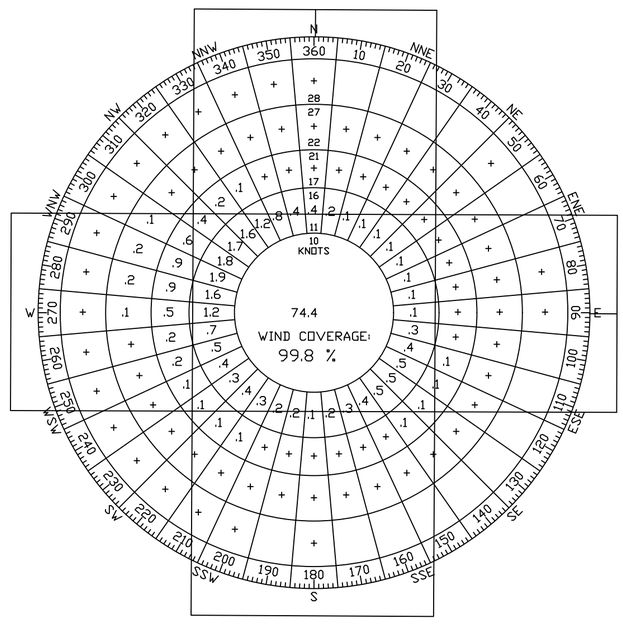


LEGEND		
EXISTING	ULTIMATE	DESCRIPTION
		AIRFIELD PAVEMENT
		AIRPORT PROPERTY LINE
		AIRPORT REFERENCE POINT (ARP)
		AIRPORT ROTATING BEACON
		AVIGATION EASEMENT (if applicable)
		BUILDING ABANDONMENT
		BUILDING CONSTRUCTION
	BRL	BUILDING RESTRICTION LINE (BRL)
		DRAINAGE
		FACILITY CONSTRUCTION
		FENCING
		RUNWAY END IDENTIFICATION LIGHTS (REIL)
PAPI–4		NAVIGATIONAL AID INSTALLATION
		WIND INDICATOR (Lighted)
		RUNWAY THRESHOLD LIGHTS
34|35 / 3|2		SECTION CORNER
		SEGMENTED CIRCLE/WIND INDICATOR
1080		TOPOGRAPHY (USGS 1992)





AIRPORT DATA		
GRANT COUNTY MUNICIPAL AIRPORT (SVC)		
CITY: SILVER CITY		
COUNTY: GRANT COUNTY, NEW MEXICO		
	EXISTING	**ULTIMATE**
AIRPORT REFERENCE CODE (ARC)	B-II	C-III
AREA MAXIMUM TEMPERATURE	90.30°F	
AIRPORT ELEVATION (TO NEAREST 0.1 FOOT AMSL)	5383	5515
AIRPORT NAVIGATIONAL AIDS INCLUDING OWNERSHIP	LOCALIZER RUNWAY 26 - FAA VOR/DME - FAA MALS RUNWAY 26 - FAA	LOCALIZER RUNWAY 26 - FAA MALS RUNWAY 26 - FAA
AIRPORT REFERENCE POINT		
N LATITUDE	32° 38' 13" N	32° 38' 30.81" N
W LONGITUDE	108° 8' 21" W	108° 9' 33.16" W
MISCELLANEOUS FACILITIES		
DESIGN/CRITICAL AIRCRAFT (EXISTING & FUTURE)	KING AIR C-90	BAE-146
FORCAST YEAR	2022	2026
AIRPORT MAGNETIC VARIATION	8° 35' E	
DATE	9/1/2022	
SOURCE	NOAA	
NPIAS SERVICE LEVEL	COMMERCIAL SERVICE	SAME
STATE EQUIVALENT SERVICE ROLE	LIMITED COMMERCIAL SERVICE	SAME
VERTICAL DATUM	NAVD 88	
HORIZONTAL DATUM	NAD 83	
USGS QUADRANGLE	HURLEY WEST / WHITEWATER	
TOWNSHIP/RANGE	T19S, R13W	
CBD TO AIRPORT	10NM SE	
AIRPORT ACREAGE	895.22	1,358.41
AIRPORT OWNERSHIP	PUBLIC	SAME
FLIGHT SERVICE STATION	1800WXBRIEF.COM / ALBUQUERQUE	
SECTIONAL CHART COVERAGE	ALBUQUERQUE	
LOW ALTITUDE	L-5	
UNICOM FREQUENCY	122.8	
AWOS FREQUENCY/PHONE	126.725 (575-388-5947)	



	10.5 KNOTS	13 KNOTS	16 KNOTS
	(A-I, B-I)	(A-II, B-II)	(A-III, B-III, C-I THRU D-III)
RUNWAY 8-26	92.47%	96.65%	99.25%
RUNWAY 17-35	84.15%	90.05%	95.49%
COMBINED	98.11%	99.53%	99.92%

SOURCE: NOAA'S INTEGRATED SURFACE DATABASE VIA FAA AURPORT DATA AND INFORMATION PORTAL.
WIND DATA JANUARY 1,2011 THROUGH DECEMBER 31,2020. WIND AND RUNWAY BEARINGS IN TRUE NORTH.

DECLARED DISTANCE TABLE	RUNWAY 8-26		RUNWAY 17-35			RUNWAY 17-35		RUNWAY 12-30		RUNWAY 3-21	
	EXISTING	ULTIMATE	EXISTING	INTERIM	ULTIMATE	EXISTING	ULTIMATE	EXISTING	ULTIMATE	EXISTING	ULTIMATE
TAKE-OFF RUN AVAILABLE (TORA)	6802/6802	SAME	--	9200/9200	9200/9200	5473/5473	N/A	4675/4675	N/A	4537/4537	N/A
TAKE-OFF DISTANCE AVAILABLE (TODA)	6802/6802	SAME	--	9200/9200	9200/9200	5473/5473	N/A	4675/4675	N/A	4537/4537	N/A
ACCELERATE STOP DISTANCE AVAILABLE (ASDA)	6802/6802	SAME	--	9200/9200	9200/9200	5473/5473	N/A	4675/4675	N/A	4537/4537	N/A
LANDING DISTANCE AVAILABLE (LDA)	6802/6802	SAME	--	9200/9200	9200/9200	5364/5473	N/A	4675/4675	N/A	4537/4537	N/A

RUNWAY END COORDINATES (NAD 83)			
RUNWAY		EXISTING	ULTIMATE
RUNWAY 8	LATITUDE	32° 37' 56.73"	SAME
	LONGTITUDE	108° 9' 54.95"	SAME
RUNWAY 26	LATITUDE	32° 37' 56.48"	SAME
	LONGTITUDE	108° 8' 35.43"	SAME
RUNWAY 17 NEW	LATITUDE	32° 39' 41.62"	32° 39' 41.62"
	LONGTITUDE	108° 9' 46.15"	108° 9' 46.15"
RUNWAY 35 NEW	LATITUDE	32° 38' 10.57"	32° 38' 10.57"
	LONGTITUDE	108° 9' 46.73"	108° 9' 46.73"
RUNWAY 17 EXISTING	LATITUDE	32° 38' 52.27"	TO BE ABANDONED
	LONGTITUDE	108° 9' 30.62"	
RUNWAY 35 EXISTING	LATITUDE	32° 37' 58.14"	TO BE ABANDONED
	LONGTITUDE	108° 9' 31.07"	
RUNWAY 12	LATITUDE	32° 38' 31.00"	TO BE ABANDONED
	LONGTITUDE	108° 9' 38.44"	
RUNWAY 30	LATITUDE	32° 37' 58.32"	TO BE ABANDONED
	LONGTITUDE	108° 8' 59.76"	
RUNWAY 3	LATITUDE	32° 37' 58.57"	TO BE ABANDONED
	LONGTITUDE	108° 9' 48.299"	
RUNWAY 21	LATITUDE	32° 38' 30.16"	TO BE ABANDONED
	LONGTITUDE	108° 9' 10.61"	

TAXIWAY DATA TABLE						
TAXIWAY(S)	**A**	**A1, A3, A5**	**A2, A4**	**NEW FOR RW 17-35**		**TAXILANES**
CONSTRUCTED TO:	TDG-2 2012	TDG-2 2012	NO TDG STANDARD	--	--	NO TDG STANDARD
AIRPLANE DESIGN GROUP (ADG)	II	II		II	III	II
TAXIWAY DESIGN GROUP (TDG) 2022	TDG-2A	TDG-2A		TDG-2A	TDG-2A	TDG-2A
TAXIWAY DESIGN GROUP (TDG)	TDG-2A	TDG-2A (2022)		TDG-2A	TDG-2A	TDG-2A
NOMINAL TAXIWAY WIDTH	50	35	35	35	35	35
TAXIWAY EDGE SAFETY MARGIN (TESM)	7.5	7.5		7.5	7.5	7.5
TAXIWAY SHOULDER WIDTH	15	15		15	15	15
AIRPLANE DESIGN GROUP	II	II		II	III	II
TAXIWAY SAFETY AREA (TSA)	79	79		79	118	--
TSA AT INSIDE OF CURVE AND INTERSECTION (FROM PAVEMENT EDGE)	22	22		22	41.5	--
TSA OUTSIDE OF CURVE FROM PAVEMENT EDGE	22	22		22	41.5	--
TAXIWAY OBJECT FREE AREA (TOFA)	124	124		124	171	--
TOFA AT INSIDE OF CURVE AND INTERSECTION (FROM PAVEMENT EDGE)	44.5	44.5		44.5	68	--
TOFA OUTSIDE OF CURVE FROM PAVEMENT EDGE	44.5	44.5		44.5	68	--
TAXILANE SAFETY AREA (TLSA)	--	--		--	--	79
TLSA AT INSIDE OF CURVE AND INTERSECTION (FROM PAVEMENT EDGE)	--	--		--	--	22
TLSA OUTSIDE OF CURVE FROM PAVEMENT EDGE	--	--		--	--	22
TAXILANE OBJECT FREE AREA (TLOFA)	--	--		--	--	110
TLOFA AT INSIDE OF CURVE AND INTERSECTION (FROM PAVEMENT EDGE)	--	--		--	--	37.5
TLOFA OUTSIDE OF CURVE FROM PAVEMENT EDGE	--	--		--	--	37.5
TAXIWAY CENTERLINE TO PARALLEL TAXIWAY/TAXILANE CENTERLINE	102	102		102	144	--
TAXIWAY CENTERLINE TO FIXED OR MOVEABLE OBJECT	62	62		62	85.5	--
TAXILANE CENTERLINE TO PARALLEL TAXILANE CENTERLINE	--	--		--	--	94
TAXILANE CENTERLINE TO FIXED OR MOVEABLE OBJECT	--	--		--	--	55
TAXIWAY WINGTIP CLEARANCE	22.5	22.5		22.5	26.5	--
TAXILANE WINGTIP CLEARANCE	--	--		--	--	16
PAVED OR UNPAVED SHOULDERS	STABILIZED SHOULDER	STABILIZED SHOULDER		STABILIZED SHOULDER	STABILIZED SHOULDER	STABILIZED SHOULDER

SHEET NUMBER 4 of 11

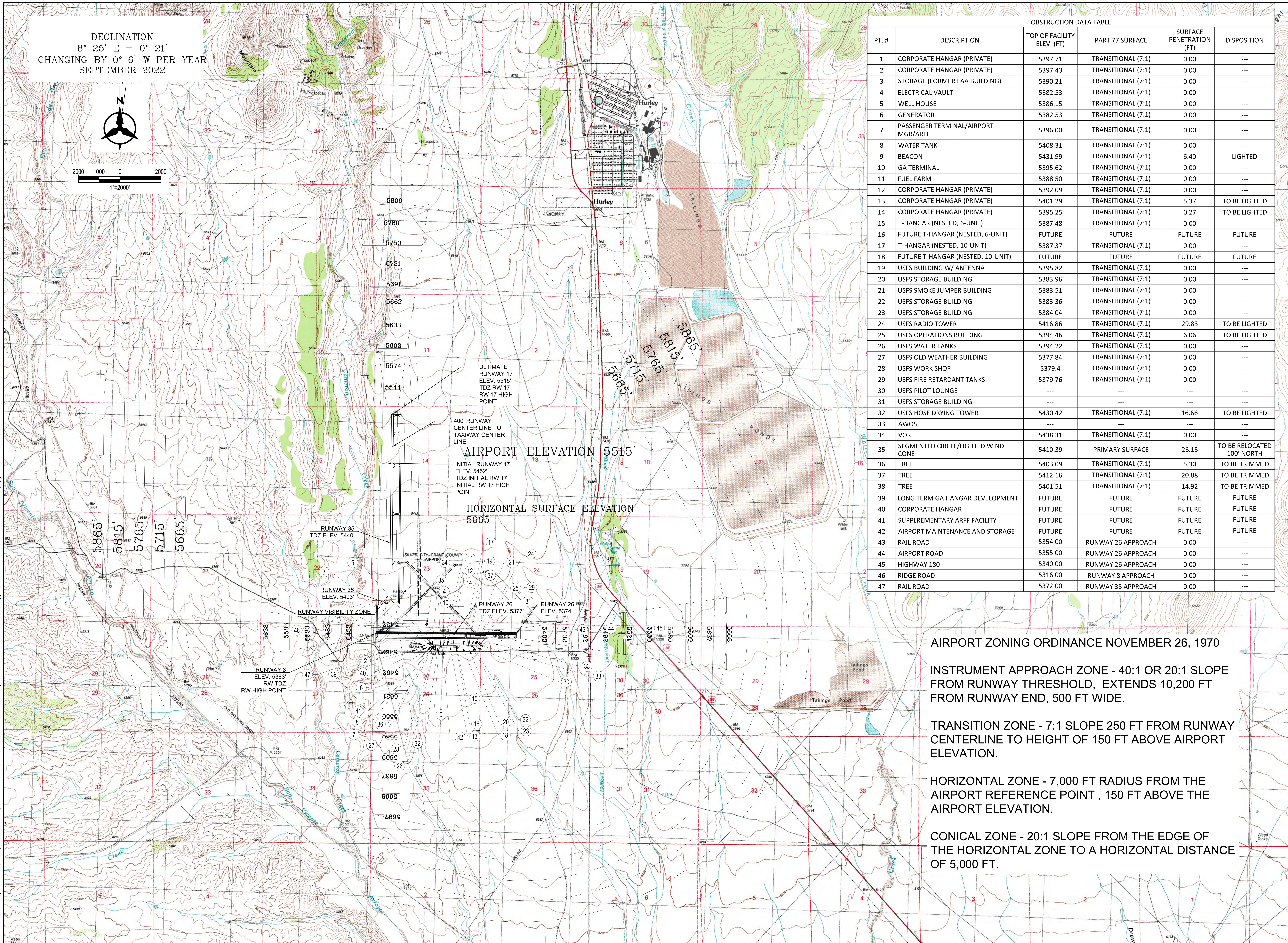
AIRPORT LAYOUT PLAN
AIRPORT LAYOUT PLAN (ALP)
GRANT COUNTY MUNICIPAL AIRPORT (SVC)
GRANT COUNTY, NEW MEXICO

PROJECT NUMBER	DRAWING FILE NAME	SCALE
20210346	1. SVC-ALP-2022-JJB	1"=600'

SHEET INFO	
DESIGNED	AP
DRAWN	AP
CHECKED	WR
APPROVED	MDH
LAST EDIT	2/16/2023
PLOT DATE	8/15/2022
SUBMITTAL	

REVISIONS			
NO.	BY	DATE	REMARKS

PRELIM



PT. #	DESCRIPTION	TOP OF FACILITY ELEV. (FT)	PART 77 SURFACE	SURFACE PENETRATION (FT)	DISPOSITION
1	CORPORATE HANGAR (PRIVATE)	5397.71	TRANSITIONAL (7:1)	0.00	---
2	CORPORATE HANGAR (PRIVATE)	5397.43	TRANSITIONAL (7:1)	0.00	---
3	STORAGE (FORMER FAA BUILDING)	5390.21	TRANSITIONAL (7:1)	0.00	---
4	ELECTRICAL VAULT	5382.53	TRANSITIONAL (7:1)	0.00	---
5	WELL HOUSE	5386.15	TRANSITIONAL (7:1)	0.00	---
6	GENERATOR	5382.53	TRANSITIONAL (7:1)	0.00	---
7	PASSENGER TERMINAL/AIRPORT MGR/ARFF	5396.00	TRANSITIONAL (7:1)	0.00	---
8	WATER TANK	5408.31	TRANSITIONAL (7:1)	0.00	---
9	BEACON	5431.99	TRANSITIONAL (7:1)	6.40	LIGHTED
10	GA TERMINAL	5395.62	TRANSITIONAL (7:1)	0.00	---
11	FUEL FARM	5388.50	TRANSITIONAL (7:1)	0.00	---
12	CORPORATE HANGAR (PRIVATE)	5392.09	TRANSITIONAL (7:1)	0.00	---
13	CORPORATE HANGAR (PRIVATE)	5401.29	TRANSITIONAL (7:1)	5.37	TO BE LIGHTED
14	CORPORATE HANGAR (PRIVATE)	5395.25	TRANSITIONAL (7:1)	0.27	TO BE LIGHTED
15	T-HANGAR (NESTED, 6-UNIT)	5387.48	TRANSITIONAL (7:1)	0.00	---
16	FUTURE T-HANGAR (NESTED, 6-UNIT)	FUTURE	FUTURE	FUTURE	FUTURE
17	T-HANGAR (NESTED, 10-UNIT)	5387.37	TRANSITIONAL (7:1)	0.00	---
18	FUTURE T-HANGAR (NESTED, 10-UNIT)	FUTURE	FUTURE	FUTURE	FUTURE
19	USFS BUILDING W/ ANTENNA	5395.82	TRANSITIONAL (7:1)	0.00	---
20	USFS STORAGE BUILDING	5383.96	TRANSITIONAL (7:1)	0.00	---
21	USFS SMOKE JUMPER BUILDING	5383.51	TRANSITIONAL (7:1)	0.00	---
22	USFS STORAGE BUILDING	5383.36	TRANSITIONAL (7:1)	0.00	---
23	USFS STORAGE BUILDING	5384.04	TRANSITIONAL (7:1)	0.00	---
24	USFS RADIO TOWER	5416.86	TRANSITIONAL (7:1)	29.83	TO BE LIGHTED
25	USFS OPERATIONS BUILDING	5394.46	TRANSITIONAL (7:1)	6.06	TO BE LIGHTED
26	USFS WATER TANKS	5394.22	TRANSITIONAL (7:1)	0.00	---
27	USFS OLD WEATHER BUILDING	5377.84	TRANSITIONAL (7:1)	0.00	---
28	USFS WORK SHOP	5379.4	TRANSITIONAL (7:1)	0.00	---
29	USFS FIRE RETARDANT TANKS	5379.76	TRANSITIONAL (7:1)	0.00	---
30	USFS PILOT LOUNGE	---	---	---	---
31	USFS STORAGE BUILDING	---	---	---	---
32	USFS HOSE DRYING TOWER	5430.42	TRANSITIONAL (7:1)	16.66	TO BE LIGHTED
33	AWOS	---	---	---	---
34	VOR	5438.31	TRANSITIONAL (7:1)	0.00	---
35	SEGMENTED CIRCLE/LIGHTED WIND CONE	5410.39	PRIMARY SURFACE	26.15	TO BE RELOCATED 100' NORTH
36	TREE	5403.09	TRANSITIONAL (7:1)	5.30	TO BE TRIMMED
37	TREE	5412.16	TRANSITIONAL (7:1)	20.88	TO BE TRIMMED
38	TREE	5401.51	TRANSITIONAL (7:1)	14.92	TO BE TRIMMED
39	LONG TERM GA HANGAR DEVELOPMENT	FUTURE	FUTURE	FUTURE	FUTURE
40	CORPORATE HANGAR	FUTURE	FUTURE	FUTURE	FUTURE
41	SUPPLREMENTARY ARFF FACILITY	FUTURE	FUTURE	FUTURE	FUTURE
42	AIRPORT MAINTENANCE AND STORAGE	FUTURE	FUTURE	FUTURE	FUTURE
43	RAIL ROAD	5354.00	RUNWAY 26 APPROACH	0.00	---
44	AIRPORT ROAD	5355.00	RUNWAY 26 APPROACH	0.00	---
45	HIGHWAY 180	5340.00	RUNWAY 26 APPROACH	0.00	---
46	RIDGE ROAD	5316.00	RUNWAY 8 APPROACH	0.00	---
47	RAIL ROAD	5372.00	RUNWAY 35 APPROACH	0.00	---

OBSTRUCTION DATA TABLE

AIRPORT ZONING ORDINANCE NOVEMBER 26, 1970

INSTRUMENT APPROACH ZONE - 40:1 OR 20:1 SLOPE FROM RUNWAY THRESHOLD, EXTENDS 10,200 FT FROM RUNWAY END, 500 FT WIDE.

TRANSITION ZONE - 7:1 SLOPE 250 FT FROM RUNWAY CENTERLINE TO HEIGHT OF 150 FT ABOVE AIRPORT ELEVATION.

HORIZONTAL ZONE - 7,000 FT RADIUS FROM THE AIRPORT REFERENCE POINT , 150 FT ABOVE THE AIRPORT ELEVATION.

CONICAL ZONE - 20:1 SLOPE FROM THE EDGE OF THE HORIZONTAL ZONE TO A HORIZONTAL DISTANCE OF 5,000 FT.

[DATE: 2/16/2023 4:11 PM] [AUTHOR: jbennett] [PLOTTER: AutoCAD PDF (General Documentation).pc3] [STYLE: Monochrome.ctb]
[PATH: N:\TransAviation\ALP\Grant County - Silver City - SVC\2021 BHI ALP\1. SVC-ALP-2022-JJB.dwg] [LAYOUT: AIRSPACE PART 77 (5)]

PRELIM

REVISIONS				
NO.	BY	DATE	REMARKS	

SHEET INFO	
DESIGNED	EP
DRAWN	JJB
CHECKED	WR
APPROVED	MDH
LAST EDIT	2/16/2023
PLOT DATE	8/15/2022
SUBMITTAL	

SCALE 1"=2000'

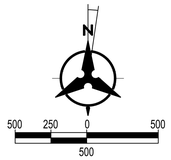
AIRPORT LAYOUT PLAN
AIRSPACE PLAN
GRANT COUNTY MUNICIPAL AIRPORT (SVC)
SILVER CITY, NEW MEXICO

PROJECT NUMBER 20210346
DRAWING FILE NAME 1. SVC-ALP-2022-JJB

SHEET NUMBER

XREF INDEX:

DECLINATION
8° 25' E ± 0° 21'
CHANGING BY 0° 6' W PER YEAR
SEPTEMBER 2022



LEGEND

ILS LOCALIZER SITING AND CRITICAL AREA A

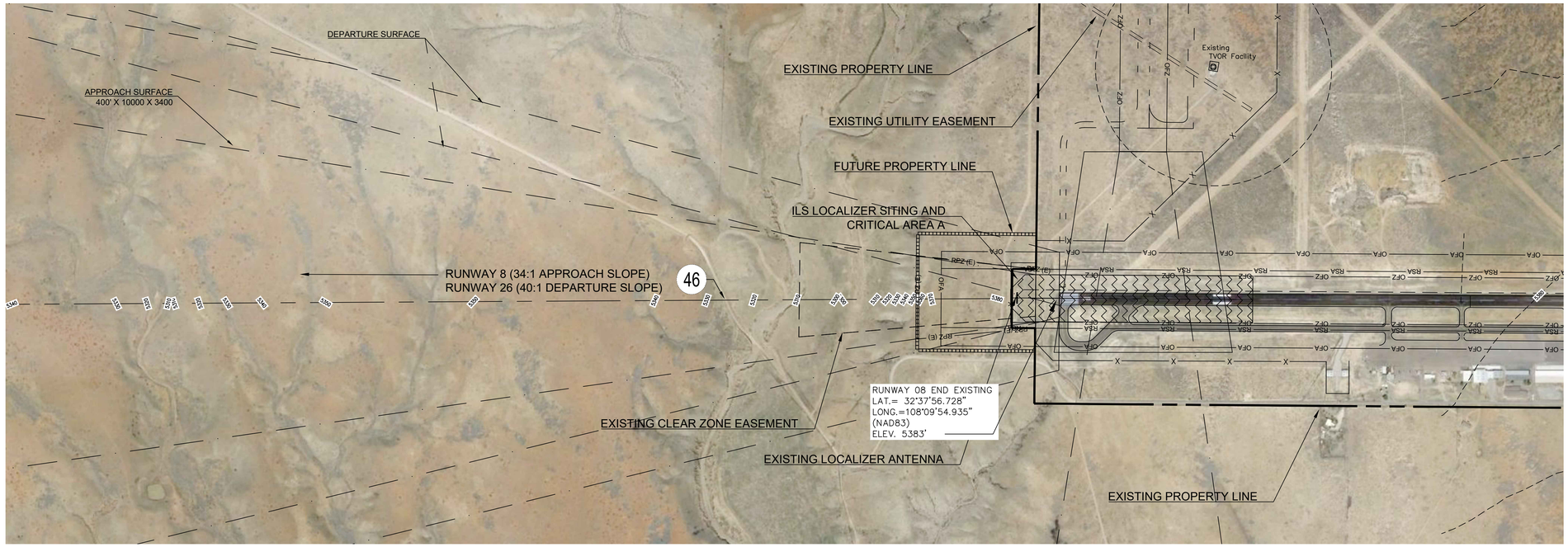
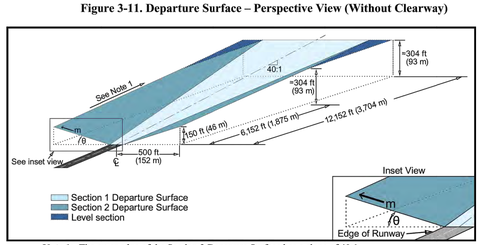


Figure 3-11. Departure Surface – Perspective View (Without Clearway)



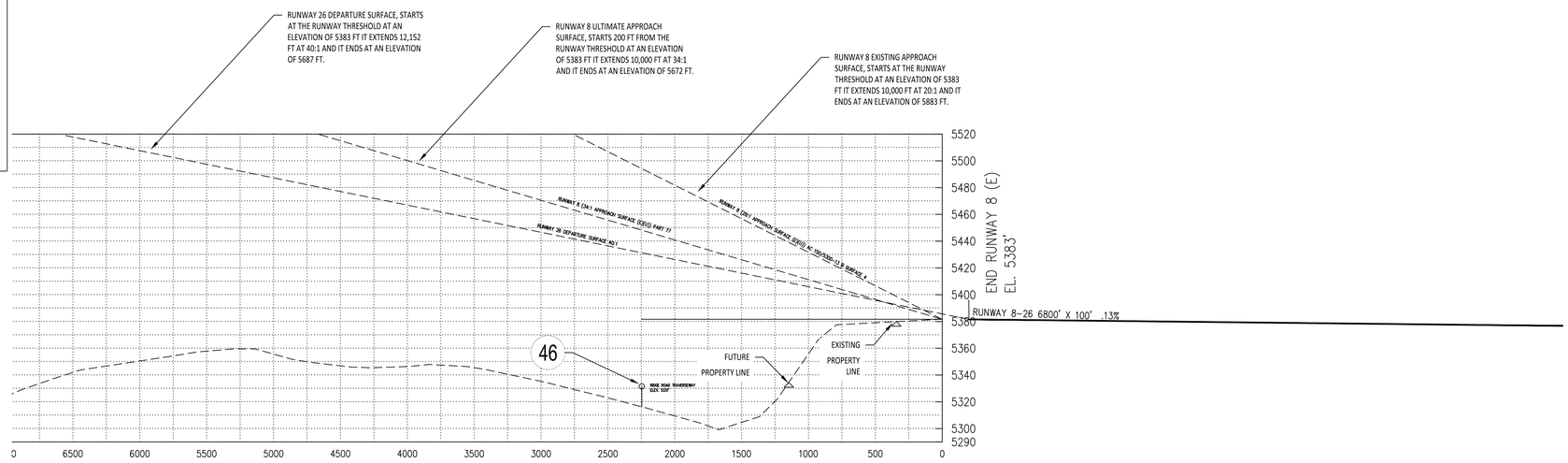
Note 1: The outer edge of the Section 2 Departure Surface has a slope of 40:1.
Note 2: The 304-foot (93 m) value represents the height above the DER.
Note 3: Refer to paragraph 3.6.2.1 for additional information.

DEPARTURE SURFACE TYPICAL FOR RUNWAY 8,26,17,35 DEPARTURES

RW 8 PROFILE
HORIZONTAL SCALE: 1" = 500'
VERTICAL SCALE: 1" = 50'
VERTICAL EXAGGERATION: 10

RUNWAY 8 APPROACH OBSTRUCTION DATA TABLE					
PT. #	DESCRIPTION	GROUND ELEV. (FT)	PART 77 SURFACE	SURFACE ELEV. (FT)	SURFACE PENETRATION (FT)
46	RIDGE ROAD	5316	RUNWAY 8 APPROACH	5331	0

PLAN VIEW - RUNWAY 8 INNER APPROACH SURFACE / RUNWAY 26 DEPARTURE SURFACE



PROFILE VIEW - RUNWAY 8 INNER APPROACH / RUNWAY 26 DEPARTURE SURFACE

REVISIONS

NO.	BY	DATE	REMARKS

SHEET INFO	
DESIGNED	EP
DRAWN	JJB
CHECKED	WR
APPROVED	MDH
LAST EDIT	9/13/2022
PLOT DATE	9/13/2022
SUBMITTAL	

GRANT COUNTY AIRPORT
SILVER CITY NEW MEXICO
RUNWAY 8 INNER APPROACH SURFACE / RUNWAY 26 DEPARTURE SURFACE

SCALE 1" = 500'

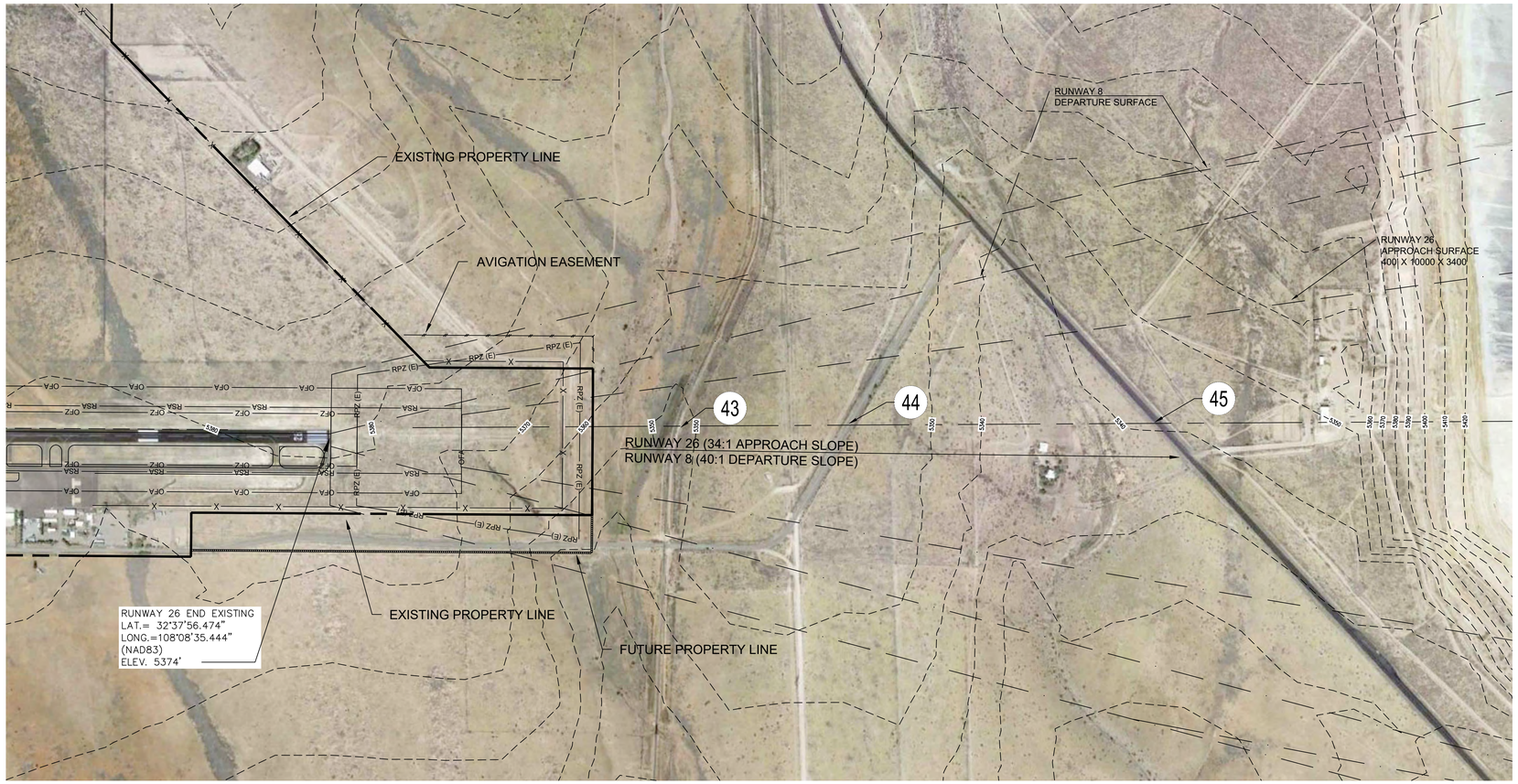
PROJECT NUMBER 20210346

DRAWING FILE NAME 3. RUNWAY 8-26 INNER AND APPROACH DEPARTURE SURFACE

SHEET NUMBER
6 of 11

[DATE: 2/17/2023 11:32 AM] [AUTHOR: jbennett] [PLOTTER: AutoCAD PDF (General Documentation).pc3] [STYLE: Monochrome.ctb]
[PATH: N:\Trans\Aviation\ALP\Grant County – Silver City – SVC\2021 BHI ALP\3. RUNWAY 8–26 INNER AND APPROACH DEPARTURE SURFACE.dwg] [LAYOUT: 6 RUNWAY 8 INNER APPROACH SURFACE]

XREF INDEX:



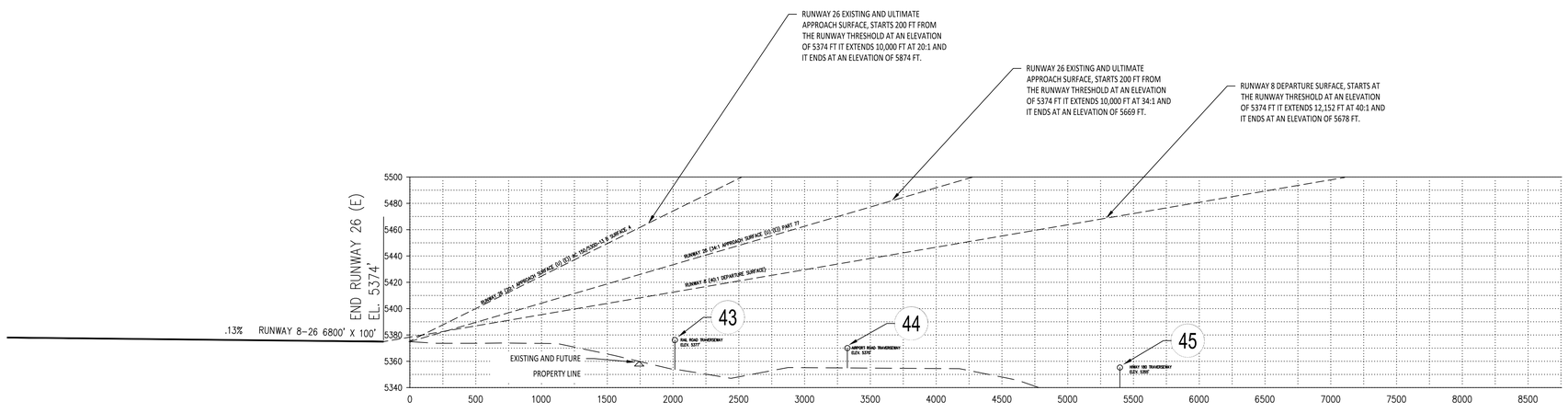
PLAN VIEW - RUNWAY 26 INNER APPROACH / RUNWAY 8 DEPARTURE

DECLINATION
8° 25' E ± 0° 21'
CHANGING BY 0° 6' W PER YEAR
SEPTEMBER 2022

N

500 250 0 500
500

RUNWAY 26 APPROACH OBSTRUCTION DATA TABLE					
PT. #	DESCRIPTION	GROUND ELEV. (FT)	PART 77 SURFACE	SURFACE ELEV. (FT)	SURFACE PENETRATION (FT)
43	RAIL ROAD	5354	RUNWAY 26 APPROACH	5377	0
44	AIRPORT ROAD	5355	RUNWAY 26 APPROACH	5370	0
45	HIGHWAY 180	5340	RUNWAY 26 APPROACH	5355	0



PROFILE VIEW - RUNWAY 26 INNER APPROACH / RUNWAY 8 DEPARTURE SURFACE

RW 26 PROFILE
HORIZONTAL SCALE: 1" = 500'
VERTICAL SCALE: 1" = 50'
VERTICAL EXAGGERATION: 10

REVISIONS

NO.	BY	DATE	REMARKS

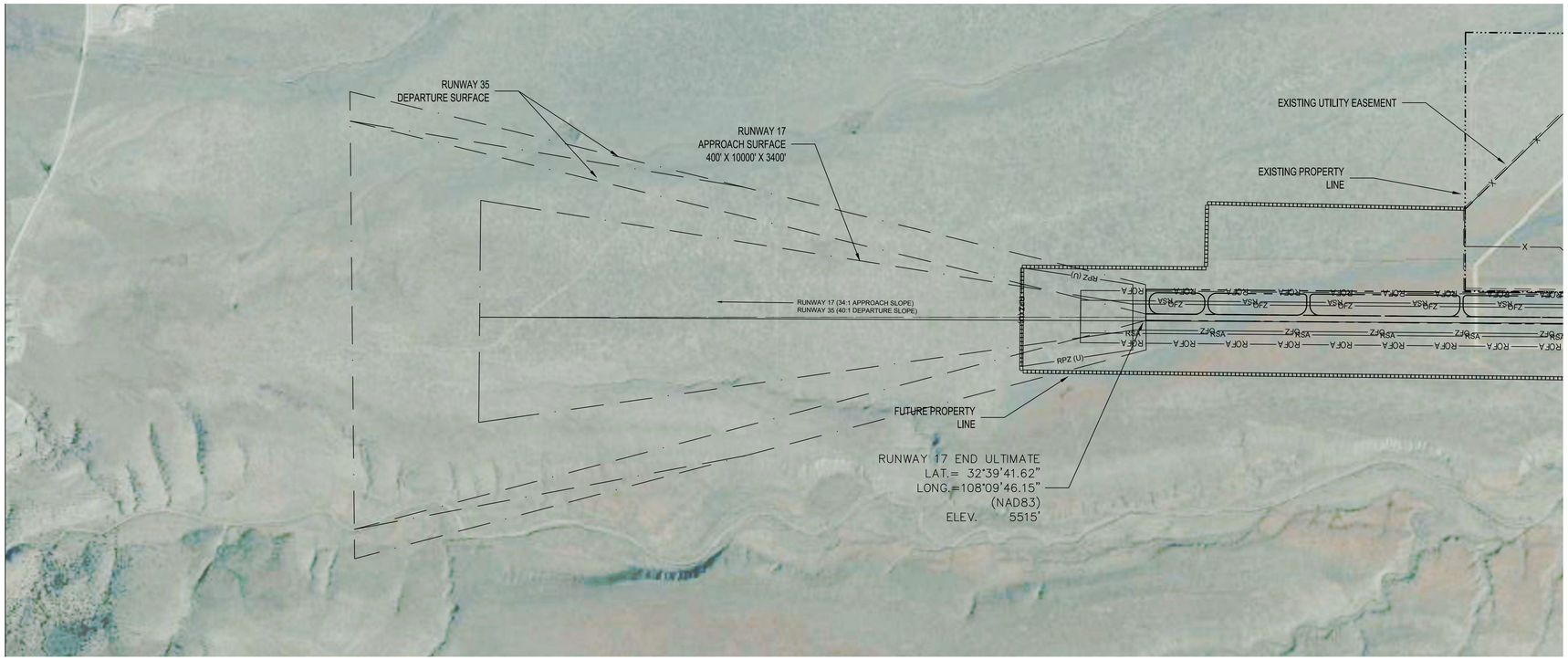
SHEET INFO	
DESIGNED	EP
DRAWN	JJB
CHECKED	WR
APPROVED	MDH
LAST EDIT	2/17/2023
PLOT DATE	2/17/2023
SUBMITTAL	

GRANT COUNTY AIRPORT
SILVER CITY NEW MEXICO
RUNWAY 26 INNER APPROACH SURFACE / RUNWAY 8 DEPARTURE

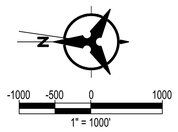
PROJECT NUMBER 20210346
DRAWING FILE NAME 3. RUNWAY 8-26 INNER AND APPROACH DEPARTURE SURFACE
SCALE 1" = 500'

SHEET NUMBER
7 of 11

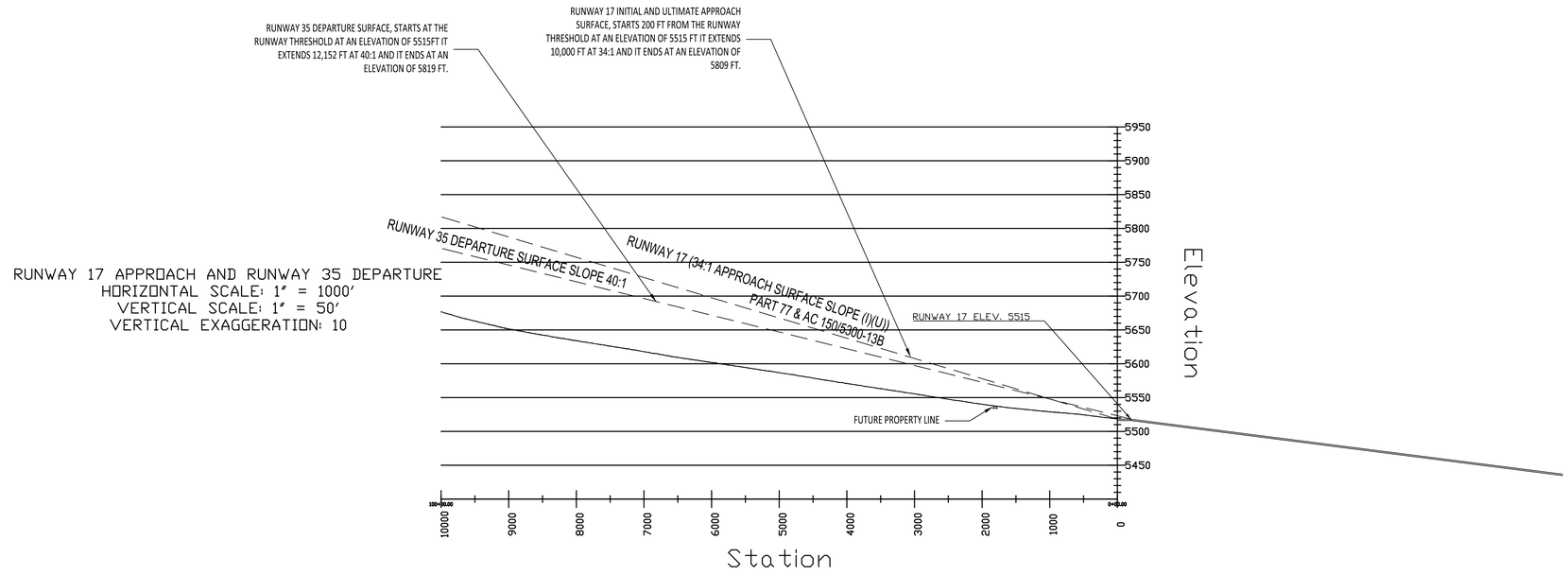
[DATE: 2/17/2023 11:32 AM] [AUTHOR: jbennett] [PLOTTER: AutoCAD PDF (General Documentation).pc3] [STYLE: Monochrome.ctb]
[PATH: N:\Trans\Aviation\ALP\Grant County – Silver City – SVC\2021 BHI ALP\3. RUNWAY 8-26 INNER AND APPROACH DEPARTURE SURFACE.dwg] [LAYOUT: 7 RUNWAY 26 INNER APPROACH SURFACE]



DECLINATION
8° 25' E ± 0° 21'
CHANGING BY 0° 6' W PER YEAR
SEPTEMBER 2022



RUNWAY 17 APPROACH AND RUNWAY 35 DEPARTURE
HORIZONTAL SCALE: 1" = 1000'
VERTICAL SCALE: 1" = 50'
VERTICAL EXAGGERATION: 10



RUNWAY 17 INNER APPROACH SURFACE / RUNWAY 35 DEPARTURE SURFACE

PRELIM

REVISIONS			
NO.	BY	DATE	REMARKS

SHEET INFO	
DESIGNED	AP
DRAWN	AP
CHECKED	WR
APPROVED	MDH
LAST EDIT	2/17/2023
PLOT DATE	8/15/2022
SUBMITTAL	

AIRPORT LAYOUT PLAN

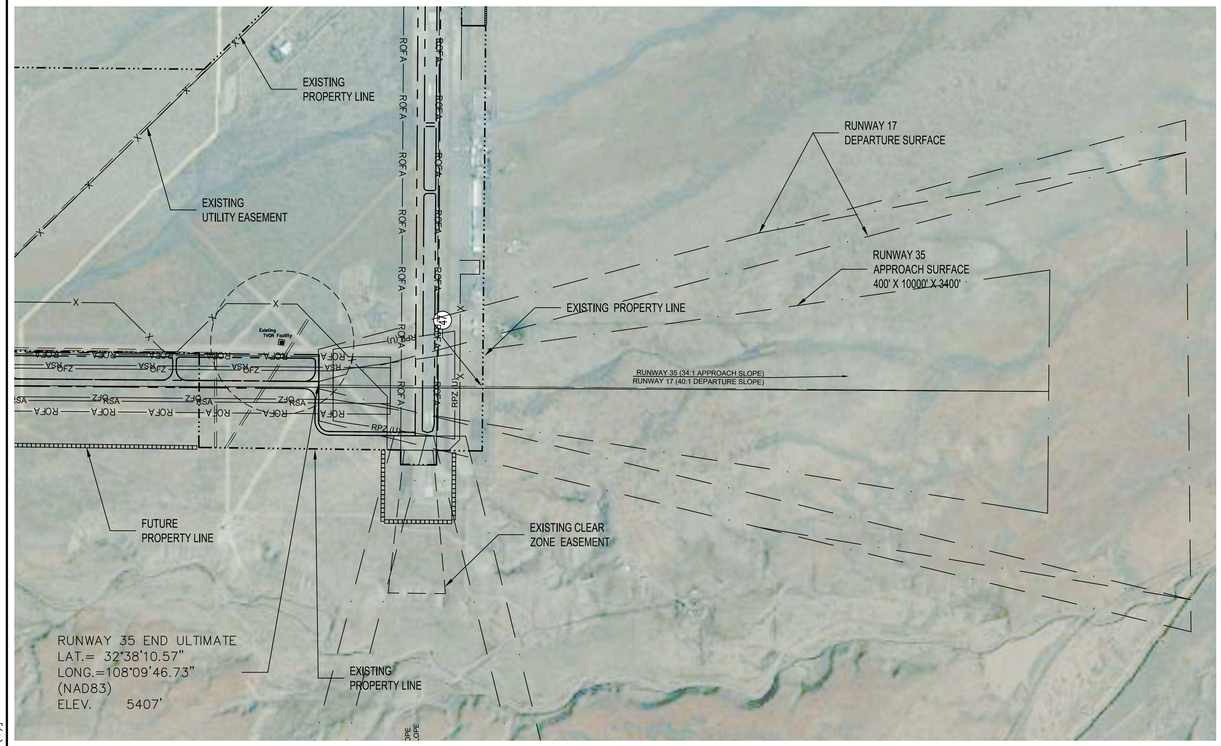
RUNWAY 35 INNER APPROACH SURFACE / RUNWAY 17 DEPARTURE SURFACE
GRANT COUNTY MUNICIPAL AIRPORT
SILVER CITY, NEW MEXICO

SCALE 1"=1000'

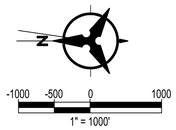
PROJECT NUMBER 20210346

DRAWING FILE NAME GRANT_COUNTY_SVC_SURFACE2

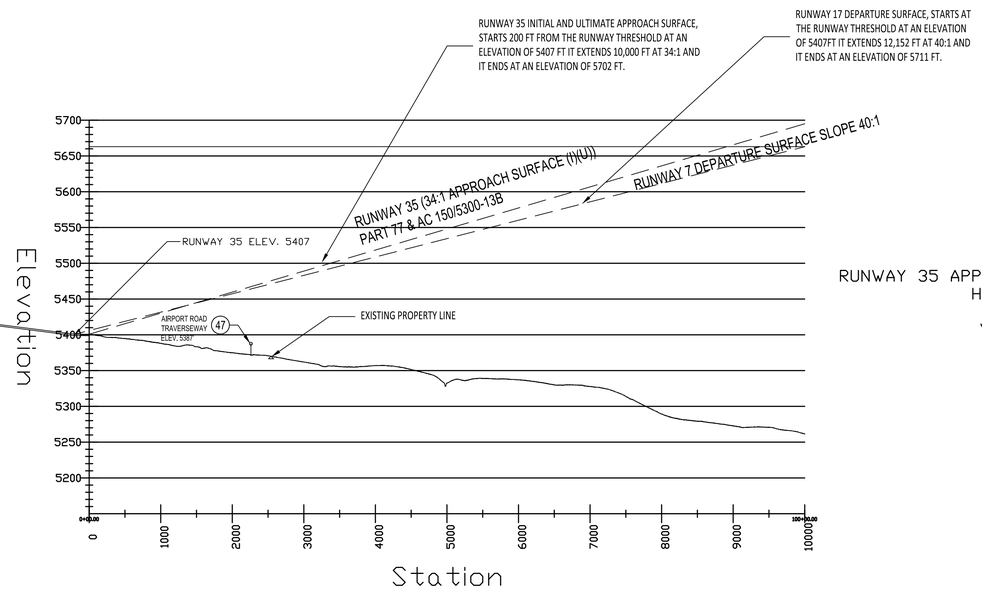
SHEET NUMBER
8 of 11



DECLINATION
8° 25' E ± 0° 21'
CHANGING BY 0° 6' W PER YEAR
SEPTEMBER 2022



RUNWAY 35 APPROACH OBSTRUCTION DATA TABLE					
PT. #	DESCRIPTION	GROUND ELEV. (FT)	PART 77 SURFACE	SURFACE ELEV. (FT)	SURFACE PENETRATION (FT)
47	AIRPORT ROAD	5372	RUNWAY 35 APPROACH	5387	0



RUNWAY 35 APPROACH AND RUNWAY 7 DEPARTURE SURFACE
HORIZONTAL SCALE: 1" = 1000'
VERTICAL SCALE: 1" = 50'
VERTICAL EXAGGERATION: 10

RUNWAY 35 INNER APPROACH SURFACE / RUNWAY 17 DEPARTURE SURFACE

PRELIM

REVISIONS

NO.	BY	DATE	REMARKS

SHEET INFO	
DESIGNED	AP
DRAWN	AP
CHECKED	WR
APPROVED	MDH
LAST EDIT	2/17/2023
PLOT DATE	8/15/2022
SUBMITTAL	

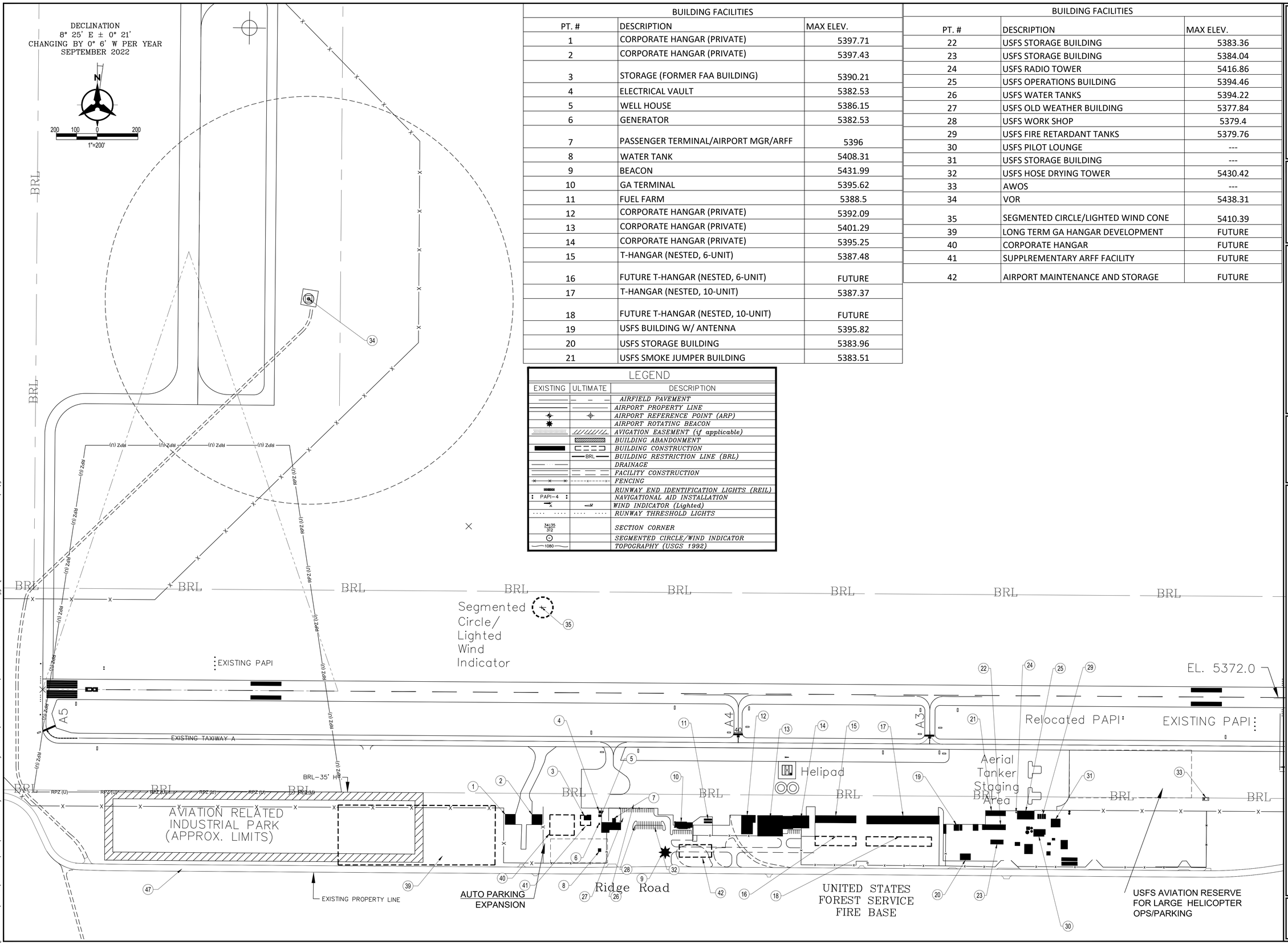
AIRPORT LAYOUT PLAN

RUNWAY 35 INNER APPROACH SURFACE / RUNWAY 17 DEPARTURE SURFACE
GRANT COUNTY MUNICIPAL AIRPORT
SILVER CITY, NEW MEXICO

PROJECT NUMBER 20210346
DRAWING FILE NAME GRANT_COUNTY_SVC_SURFACE2
SCALE 1"=1000'

SHEET NUMBER
9 of 11

DECLINATION
8° 25' E ± 0° 21'
CHANGING BY 0° 6' W PER YEAR
SEPTEMBER 2022



BUILDING FACILITIES		
PT. #	DESCRIPTION	MAX ELEV.
1	CORPORATE HANGAR (PRIVATE)	5397.71
2	CORPORATE HANGAR (PRIVATE)	5397.43
3	STORAGE (FORMER FAA BUILDING)	5390.21
4	ELECTRICAL VAULT	5382.53
5	WELL HOUSE	5386.15
6	GENERATOR	5382.53
7	PASSENGER TERMINAL/AIRPORT MGR/ARFF	5396
8	WATER TANK	5408.31
9	BEACON	5431.99
10	GA TERMINAL	5395.62
11	FUEL FARM	5388.5
12	CORPORATE HANGAR (PRIVATE)	5392.09
13	CORPORATE HANGAR (PRIVATE)	5401.29
14	CORPORATE HANGAR (PRIVATE)	5395.25
15	T-HANGAR (NESTED, 6-UNIT)	5387.48
16	FUTURE T-HANGAR (NESTED, 6-UNIT)	FUTURE
17	T-HANGAR (NESTED, 10-UNIT)	5387.37
18	FUTURE T-HANGAR (NESTED, 10-UNIT)	FUTURE
19	USFS BUILDING W/ ANTENNA	5395.82
20	USFS STORAGE BUILDING	5383.96
21	USFS SMOKE JUMPER BUILDING	5383.51

BUILDING FACILITIES		
PT. #	DESCRIPTION	MAX ELEV.
22	USFS STORAGE BUILDING	5383.36
23	USFS STORAGE BUILDING	5384.04
24	USFS RADIO TOWER	5416.86
25	USFS OPERATIONS BUILDING	5394.46
26	USFS WATER TANKS	5394.22
27	USFS OLD WEATHER BUILDING	5377.84
28	USFS WORK SHOP	5379.4
29	USFS FIRE RETARDANT TANKS	5379.76
30	USFS PILOT LOUNGE	---
31	USFS STORAGE BUILDING	---
32	USFS HOSE DRYING TOWER	5430.42
33	AWOS	---
34	VOR	5438.31
35	SEGMENTED CIRCLE/LIGHTED WIND CONE	5410.39
39	LONG TERM GA HANGAR DEVELOPMENT	FUTURE
40	CORPORATE HANGAR	FUTURE
41	SUPPLREMENTARY ARFF FACILITY	FUTURE
42	AIRPORT MAINTENANCE AND STORAGE	FUTURE

LEGEND

EXISTING	ULTIMATE	DESCRIPTION
		AIRFIELD PAVEMENT
		AIRPORT PROPERTY LINE
		AIRPORT REFERENCE POINT (ARP)
		AIRPORT ROTATING BEACON
		AVIGATION EASEMENT (if applicable)
		BUILDING ABANDONMENT
		BUILDING CONSTRUCTION
	BRL	BUILDING RESTRICTION LINE (BRL)
		DRAINAGE
		FACILITY CONSTRUCTION
		FENCING
		RUNWAY END IDENTIFICATION LIGHTS (REIL)
PAPI-4		NAVIGATIONAL AID INSTALLATION
		WIND INDICATOR (Lighted)
		RUNWAY THRESHOLD LIGHTS
34|35 / 31|2		SECTION CORNER
		SEGMENTED CIRCLE/WIND INDICATOR
1080		TOPOGRAPHY (USGS 1992)

PRELIM

REVISIONS

NO.	BY	DATE	REMARKS

SHEET INFO	
DESIGNED	AP
DRAWN	AP
CHECKED	WR
APPROVED	MDH
LAST EDIT	2/14/2023
PLOT DATE	8/15/2022
SUBMITTAL	

AIRPORT LAYOUT PLAN
TERMINAL AREA PLAN
GRANT COUNTY MUNICIPAL AIRPORT (SVC)
SILVER CITY, NEW MEXICO

SCALE 1"=200'

PROJECT NUMBER 20210346

DRAWING FILE NAME 1. SVC-ALP-2022-JUB

SHEET NUMBER
10 of 11

DECLINATION
8° 25' E ± 0° 21'
CHANGING BY 0° 6' W PER YEAR
SEPTEMBER 2022

700 350 0 700
1"=700'

ON AIRPORT LAND USE
- AERONAUTICAL USE/FUTURE BUSINESS PARK.

OFF AIRPORT LAND USE
- NORTH, EAST, AND WEST - GRAZING
- SOUTH - LOW DENSITY RESIDENTIAL AND GRAZING.

PROPERTY LEGEND

EXISTING TRACT

EXISTING UTILITY EASEMENT

EXISTING AVIGATION EASEMENT

FUTURE PROPERTY ACQUISITION

FUTURE AVIGATION EASEMENT

PROPERTY TABLE

PARCEL	ACQUISITION DATE	GRANTOR	TYPE OF INTEREST	ACREAGE	TYPE OF CONVEYANCE INSTRUMENT	LIVER/BOOK AND PAGE OF RECORDING	FAA GRANT NUMBER	PFC PROJECT	SURPLUS PROPERTY ACT TRANSFER	TYPE OF EASEMENT	DATE AND TYPE OF RELEASE	DATE OF PROPERTY DISPOSAL	PUBLIC LAND REFERENCES	KNOWN ENCUMBRANCES	PURPOSE OF ACQUISITION
A - 1	4/30/1952	TOWN OF SILVER CITY, NM	FEE SIMPLE OWNERSHIP	341.70	WARRANTY DEED	DB 117, PG 596	UNKNOWN	N/A	NO						
A - 2	12/30/1952	TOWN OF SILVER CITY, NM	FEE SIMPLE OWNERSHIP	40.10	WARRANTY DEED	DB 119, PG 302	UNKNOWN	N/A	NO					UTILITY EASEMENT	
A - 3	8/13/1963	KENNECOTT COPPER CORPORATION	FEE SIMPLE OWNERSHIP	80.40	QUITCLAIM	DB 142, PG 412	UNKNOWN	N/A	NO						
A - 4	UNKNOWN	UNKNOWN	FEE SIMPLE OWNERSHIP	430.72	UNKNOWN	UNKNOWN	UNKNOWN	N/A	NO					UTILITY EASEMENT	
B - 1	9/23/1970	MARVIN C AND ETHEL GLENN	FEE SIMPLE OWNERSHIP	2.30	WARRANTY DEED	DB172, PG 679	UNKNOWN	N/A	NO						
C - 1	6/25/1965	MAY BETH GRAHAM AND BARBARA TURNER	EXISTING EASEMENT	25.25	LEASE - EXPIRES 6/24/2025	DB XXX, PG 133/PG 197	UNKNOWN	N/A	NO	CLREAR ZONE					
D - 1	FUTURE		TO BE ACQUIRED	20.43				N/A							LAND TO BE ACQUIRED FOR SAFETY AREA
E - 1	FUTURE		AVIGATION EASEMENT TO BE ACQUIRED	5.27				N/A		AVIGATION					LAND TO BE ACQUIRED FOR AVIGATION EASEMENT
F - 1	FUTURE		TO BE ACQUIRED	23.58				N/A							LAND TO BE ACQUIRED FOR AIRSIDE AND LANDSIDE DEVELOPMENT
F - 2	FUTURE		TO BE ACQUIRED	364.35				N/A							LAND TO BE ACQUIRED FOR RUNWAY 17-35 CONSTRUCTION
F - 3	FUTURE		TO BE ACQUIRED	54.83				N/A							LAND TO BE ACQUIRED FOR RUNWAY 17-35 CONSTRUCTION

RUNWAY 8-26
- RSA = 150' WIDE
- ROFA = 500' WIDE

PROPOSED RUNWAY 17-25
- RSA = 500' WIDE
- ROFA = 800' WIDE

EXISTING UTILITY EASEMENT

#2 WARRANTY DEED
12/30/1952 DB 119 PG 302
40.1 AC

UNKNOWN ACQUISITION
W ½ OF W ½ OF SW ¼ OF SEC 23,
T 19S, R 13W
40.118 AC

#5 - WARRANTY DEED
09/23/1970 DB 172 PG 679
2.296 AC

16.05 AC ESMT SHOWN ON PREVIOUS PROPERTY MAP AS ACQUIRED IN 1965

#4 - CLEAR ZONE EASEMENT
06/25/1965 DB xxx PG 133
27.55 AC

EXISTING RPZ

#1
WARRANTY DEED
04/30/1952
DB 117 PG 595
341.7 AC

UNKNOWN ACQUISITION
E ½ OF SEC 23, T 19S, R 13W
PORTION OF SW ¼ OF SEC 24, T 19S, R 13W
390.600 AC

#3 - QUITCLAIM
08/13/1963
DB 142 PG 412
80.4 AC

FUTURE AVIGATION EASEMENT

FUTURE PROPERTY ACQUISITION

EXISTING UTILITY EASEMENT

EXISTING PROPERTY LINE

FUTURE ACQUISITION

LT RANCH, LLC

BARBARA ANN TURNER LIVING TRUST AND GRAHAM LIVING TRUST

CHINO MINES COMPANY

STATE OF NEW MEXICO

BLM

GRANT COUNTY AIRPORT

Ridge Road

UNITED STATES FOREST SERVICE FIRE BASE

Helipad

Aerial Tanker Staging Area

Atchison, Topeka & Santa Fe Railway

EXHIBIT "A" AIRPORT PROPERTY INVENTORY MAP

PRELIM

REVISIONS

NO.	BY	DATE	REMARKS

SHEET INFO	
DESIGNED	AP
DRAWN	AP
CHECKED	WR
APPROVED	MDH
LAST EDIT	2/16/2023
PLOT DATE	8/15/2022
SUBMITTAL	

AIRPORT LAYOUT PLAN
PROPERTY MAP
GRANT COUNTY MUNICIPAL AIRPORT
SILVER CITY, NEW MEXICO

SCALE 1"=700'

PROJECT NUMBER 20210346

DRAWING FILE NAME 1. SVC-ALP-2022-JJB

SHEET NUMBER
11 of 11

[DATE: 2/16/2023 2:36 PM] [AUTHOR: jbennett] [PLOTTER: AutoCAD PDF (General Documentation).pc3] [STYLE: Monochrome.ctb]
[PATH: N:\TransAviation\ALP\Grant County - Silver City - SVC\2021 BHI ALP\1. SVC-ALP-2022-JJB.dwg] [LAYOUT: PROPERTY MAP (11)]

AIRPORT ACTION PLAN (FINAL DRAFT) for Grant County Airport 2022

Grant County AIRPORT

Bohannan Huston

In association with
WMRenier Consulting, LLC

Final Draft

Grant County Airport Action Plan

July 2022

Prepared for: **Grant County, New Mexico**

Prepared by:

Bohannan Huston

in association with

WMRenier Consulting, LLC

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Chapter 2 - Forecasts

Chapter 3 - Requirements

Chapter 4 - Alternatives

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INTRODUCTION

This Airport Action Plan Study was conducted for Grant County Airport (Airport) to address its changing aviation demand and facility needs. Grant County considers the Airport to be a major asset and economic engine for the community and the region, so addressing its development needs is of great importance.

In late 2020, Grant County kicked off an airport planning study[1] to address the Airport's needs in the coming years. In cooperation with the New Mexico Department of Transportation (NMDOT) Aviation Division and the Federal Aviation Administration (FAA), this study serves as a guide to making near- to long-term airport improvements that accommodate aviation demand, comply with safety and design standards, and serve the state and national air transportation systems. All proposed improvements are depicted on an Airport Layout Plan (ALP), as required, to be eligible for FAA funding.

Grant County Airport (Google Earth)

This study, which is primarily funded (90%) by NMDOT Aviation Division, is scheduled for County review and approval in Summer 2022. Once approved by the County, this Airport Action Plan will supersede the findings and recommendations of the 2015 study (published in draft); the study prior to that was completed in 1993. This study uses information from the 2015 study, other relevant documents and drawings, a site visit, team research, airport manager knowledge, and input from stakeholders.

Study objectives include:

- use best available information and data;
- document existing conditions;
- prepare aviation demand forecasts and obtain FAA review and approval;
- determine facility needs for airport users;
- identify applicable FAA design standards and ensure proposed development is in compliance with such standards;

[1] This study was conducted amidst the COVID-19 pandemic, which impacted activity for the interim. However, Grant County Airport activity has remained strong and shown steady recovery where reductions occurred.

- evaluate various development concepts and select the most suitable development plan to serve airport, community, and air transportation system needs;
- graphically depict the development on the Airport Layout Plan (ALP) for FAA approval;
- prepare an implementation plan for future airport improvements; and
- conduct a public involvement program to generate community interest, communicate study findings and solicit comments.

AIRPORT ACTION PLAN ELEMENTS AND PROCESS

The Grant County Airport Action Plan Study follows guidance outlined in FAA Advisory Circular 150/5070-6B, *Airport Master Plans*. This Airport Action Plan is an abbreviated Airport Master Plan and will ultimately require review and approval by the Grant County Commission. It is important to note that the planning study does not guarantee funding or implementation of all projects since changing aviation demand, funding limitations or other factors may affect future implementation. Further, environmental study of certain development projects may be necessary with its findings potentially impacting implementation.

The Grant County Airport Action Plan is comprised of five report chapters including:

1. Inventory
2. Forecasts
3. Requirements
4. Alternatives
5. Implementation

The planning process follows a sequence of steps since much of the information and findings in one task support subsequent tasks.

For this study, each chapter was prepared and published in draft as a standalone document for review and comment. Revisions, as appropriate, were incorporated and published in a comprehensive revised draft report for final review and comment, with subsequent review and approval/adoption by the Grant County Commission.

The primary goal of this study is to publish an Airport Action Plan that recommends safe, functional, FAA-compliant, environmentally mindful, and financially feasible development.

Further, the final plan should align with the County's mission statement for the Grant County Airport as follows:

> *To provide a modern, safe, all-weather airport, enabling the community to take advantage of aviation services such as airline travel, emergency travel or services, easy access into and out of Grant County, as well as many other services, which enhance the quality of life in Grant County.*

AIRPORT ISSUES

During study design and kickoff, a number of issues to be addressed were outlined. These issues included input from Grant County, airport users, and other stakeholders.

- **Ground Transportation**. One of the most significant issues for airport users—pilots and passengers—is that the Airport does not have rental cars available[2]. A rental car counter and provider in the commercial terminal is critical as many arriving visitors find themselves stranded 20 miles outside of Silver City. While a shuttle service from the Airport to Silver City and to the rental car agency was previously available (up until the pandemic), several users commented that the service was too costly. At one time, Enterprise Rental Car picked up rental customers at the Airport, but that was also discontinued. The County has two courtesy cars at the Airport, which are often used by transient pilots. However, the vehicles are older, require more upkeep and are not always in service.
- **Aircraft storage**. The Airport has insufficient hangar space to meet the needs of local aircraft owners and transient operators (visitors). The County has 11 aircraft owners on the waiting list for T-hangars. Transient storage is also a major issue, particularly during fire season when bad weather, including hail, can damage aircraft parked outside. In the past, the U.S. Forest Service have flown their firefighting aircraft from the Grant County Airport to Deming or another area airport to avoid a storm with the potential to damage aircraft. The airport manager gets many inquiries for parking under cover from transient operators and recognizes the inadequate facilities to be a deterrent to visitors including business aviation activity.
- **Airport Equipment Storage**. The Airport requires additional storage for equipment that sits outside. While the Aircraft Rescue and Firefighting (ARFF) station attached to the commercial terminal has two bays for the fire truck and a sweeper truck, there is insufficient storage for other equipment. A John Deer tractor with a mower deck must sit outside due to the lack of covered storage. Any future airport equipment may also require indoor or covered storage for protection from the elements.
- **General Aviation Terminal**. The general aviation terminal, which is separate from the Commercial Service terminal, is outdated and requires improvements to extend its useful life and adequately serve local and transient pilots and their passengers. Airport maintenance personnel also have office space in this building. Such improvements should be incorporated into the study's update to the capital improvement plan (CIP).

[2] In February 2022, Silver Rentals began offering rental car service on a pre-arranged basis. They do not have a counter at SVC, but they do have cars parked there. Enterprise closed their rental car service in June 2020, but they were located in Silver City and did not offer pick-up/drop-off service at SVC.

- **Security**. As part of future development, the Action Plan needs to assess the need for security enhancements such as lighting, cameras, fencing and access-controlled gates.
- **Utility infrastructure**. With aviation activity growth and future development, utility extensions and improvements will be needed. Power and water to ground lease lots promotes future hangar development. Water for the airport is from an on-site well. Since there is a public terminal, the water system is considered a public system. However, there is no water treatment system, so the water is considered non-potable. Drinking and cooking water have to be provided by commercial sources.
- **Airspace**. Holloman Air Force Base has been considering new Military Operations Areas (MOAs) to train fighter pilots, which could impact general aviation and commercial service traffic in the area. The County has responded to the Draft Environmental Impact Statement (EIS) prepared for the proposed airspace changes. While this airspace issue is not directly addressed by the Action Plan, the proposed airspace changes and associated implications will be documented in the study for the ongoing effort to protect Grant County's aviation activity. *(Note: The Final EIS was recently released, and the Air Force has selected an option that will not directly impact Grant County Airport.)*
- **Environmental concerns**. Flooding and drainage issues should be addressed as part of the proposed airport improvements. Further, the Action Plan should call attention to recent concerns with and reports on aqueous film-forming foam (AFFF) used for fire suppression. While this study will not include any detailed environmental reviews, an environmental inventory on existing conditions will provide information to support future environmental study efforts.
- **Protection of Airport Environs**. Land use controls to protect the Airport from long-term incompatible development such as noise-sensitive community facilities and residential development should be addressed. Additionally, height restrictions should be included to protect area airspace for airport operations. In 1970, a zoning ordinance was passed in an effort to protect the airport environs, but this issue should be revisited to ensure appropriate protections are in place for the existing and future airfield operations.
- **Aviation Activity**. The Grant County Airport is seeing a new mix of aviation demand, which requires an update to aviation demand forecasts and a subsequent review of facility and service needs to accommodate that demand.
- **U.S. Forest Service (USFS).** The USFS has been a tenant since 1958 and the community supports their continued presence. With USFS moving to larger tankers, a runway capable of supporting the new fleet is necessary. The existing paved runway is inadequate, and site topographic constraints will not permit a runway extension. The USFS would like to remain at the Grant County Airport since it provides an ideal geographic location during fire season. While Alamogordo-White Sands Regional Airport (ALM) is not far by air, the USFS cannot go through White Sands and other

military airspace; using permitted corridors requires time making the use of Grant County Airport critical for access to the region they cover.

- **Paved Crosswind Runway**. In addition to the USFS needs for a longer runway, which requires a different alignment to physically fit within the terrain constraints, many smaller aircraft are in need of a paved crosswind runway when strong crosswinds do not permit a safe landing on the primary paved runway (Runway 8-26).
- **Helicopters**. During fire season, there is a large mix of fixed wing aircraft and helicopters. Helicopters operating close to the fixed wing aircraft, particularly smaller ones, create a safety hazard with rotor wash. Further, this often kicks up foreign object debris (FOD), which is also a safety hazard for aircraft. Future development plans should consider the separation of fixed wing and rotorcraft activities.
- **Aircraft Rescue and Firefighting (ARFF)**. As a Part 139-certificated facility, the Airport has a fire truck and associated materials to meet their minimum requirements for Index A, but additional (larger) equipment should be considered to prolong their firefighting capabilities since additional support is located 20 minutes away.
- **Auto Parking**. To better serve the commercial service passengers and other airport users, auto parking improvements are needed to include markings, additional lighting and regular maintenance.
- **Design aircraft**. The design aircraft, also referred to as the critical aircraft, should be reexamined to ensure that FAA design standards applicable to the Airport's future development are confirmed. Changes in aviation demand and the anticipated use of larger aircraft for USFS firefighting operations are driving this necessary evaluation.
- **Community outreach**. This should be an ongoing issue for the Action Plan to enhance public knowledge of the Grant County Airport and to ensure the community has adequate opportunity to follow and comment on the planning study's progress and findings. Also notable is that the pandemic, which started in early 2020, had a significant and generally negative impact on airport operations across the nation. In contrast, some airports like Grant County Airport experienced an increase in much of its activity. While this is not a specific airport planning issue, it represents an anomaly present during the study which should be acknowledged and discussed.

User/Pilot Survey

In early January 2021, an online survey questionnaire was posted to collect input from Grant County Airport users, namely pilots. The survey asked respondents to identify the location where they base their aircraft, aircraft make/model, their estimated annual Grant County Airport landings broken out by personal, business and training flights, and to provide input regarding airport improvement needs.

Grant County promoted the survey via email to airport tenants, through a link on the Airport's webpage, in a project newsletter published for the community, and through a postcard mailing to select aircraft

registrants based at other airports in the area. Postcards were also mailed to a few area airports and fixed base operators (FBOs). To encourage more input, paper copies of the survey were left at the General Aviation Terminal building. A total of 16 survey responses were collected – 15 online responses and one paper survey response.

The survey was closed in February 2021, so survey responses could be compiled and reviewed. The following highlights the findings of the user survey.

- 15 respondents identified their home base for aircraft:
    - 7 at Grant County (SVC) in Hurley/Silver City, NM
    - 3 at Whiskey Creek (94E) in Silver City, NM
    - 1 at Deming Municipal (DMN) in Deming, NM
    - 1 at Grand Prairie Municipal (GPM) in Grand Prairie, TX
    - 2 at Casas Adobes (NM69) in Mimbres, NM
    - 1 at Private Airstrip
- 13 respondents identified that they conduct operations at SVC with a combined estimate of 5,026 total annual operations (2,513 landings and 2,513 takeoffs). The estimated breakdown of these operations include:
    - 52% for business
    - 28% for personal/recreational purposes
    - 20% for flight training
- 9 respondents commented that airport improvements were needed for the following:
    - Commercial Terminal – 2 respondents
    - GA Terminal – 6 respondents (need for Wi-fi also pointed out)
    - Runway improvements – 7 respondents, additional comments included:
        - Glide slope
        - Paved crosswind runway (specifically noted by 4 respondents)
        - North-south runway was planned in 1977
    - Hangars – 5 respondents, additional comments included:
        - Hangar damage has not been remedied
        - If on waiting list for more than one year, need to build more individual hangars
    - Security – no respondents recommended security improvements
    - Additional comments from respondents regarding improvement needs:
        - Ground transportation, rental cars
        - 100LL fuel truck
        - It's not the facility but the distance from town (Silver City, 20 miles)

Aviation activity data collected from the pilots as part of the survey will be incorporated into the Forecasts Chapter while input regarding airport improvement needs will be addressed in the Requirements Chapter.

Passenger Survey

A second survey was distributed in January 2021 to collect input specifically from airport passengers at SVC. Grant County collected 47 responses from January 22nd through the 29th. The following highlights the results of the survey:

- 39 respondents have been a passenger on a commercial air service flight at SVC.
    - Before the pandemic, SVC commercial air service passenger respondents took a combined total of 150 flights annually (on average)
    - During the pandemic, SVC commercial air service passenger respondents took an estimated total of 40 flights (through January 2021)
    - Of the 8 respondents who have not been a commercial air service passenger yet, all indicated that they are planning to take a flight in the future

- 6 respondents commented on airport signage including:
    - Signage within the airport for blind & low vision people is a must
    - Newcomers would probably appreciate better signage
    - Sign on Highway 180 could be a little better. It sneaks up on you when it's dark outside
    - Need better signage on Highway 180
    - Minimal signage
    - Not clear which terminal to use
- 29 respondents indicated that they have parked overnight at SVC with a general range of 1 to 12 nights with one respondent noting a parking stay of 90 nights
    - 4 respondents commented on SVC auto parking
        - Accessible parking—the kind with an accessible path of travel from vehicle to the terminal.
        - It's ok. Plenty of room. I am not sure I would feel comfortable leaving my car there overnight unless there's good security.
        - Good
        - Having the car parked overnight is not safe at the Grant County Airport
    - 8 respondents indicated that lighting in the parking lot is inadequate
        - Comments about the lighting included:
            - Could be improved for safety and security
            - Maybe reflective directional lighting so you can find your way out after dark.
            - Lighting could be expanded out a little further from the terminal building. I recommend that it meet the 'night skies' criteria though. Perhaps it could be motion triggered too so that it is not always on.
            - A bit more would be good
            - Unsecured
- 21 respondents identified improvement needs for the commercial service terminal:

  - Rental car counter - 21 respondents
  - Seating / Circulation Capacity – 3 respondents
  - Specific passenger comments provided about any improvement needs included:
    - Hoping for way finding for the vision impaired
    - Comfort/lighting
    - Transportation to and from the airport. If there isn't a rental car counter then perhaps, a shuttle
    - Paving runway closer to terminal. Long walk to plane.
    - An esthetically warmer environment such as warmly colored walls, some reading materials, a bathroom that was a bit smaller but warmer
    - Coffee/snack bar and internet access, also newspapers available or ability to purchase them.
    - Access road to the airport is in need of repair/widening (Note: Improvements completed in late fall 2020)
    - Given the absence of a local taxi service, a small on-site rental car capability is really desirable.
    - Secure parking
- Several respondents provided additional comments about facilities and services at SVC:
  - Better security for retrieved baggage; add terminal interior photos to website
  - Marks / signage to show where & how to park
  - Very convenient for travel to ABQ and PHX; wish it also went to ELP
  - Car rental option or Corre Caminos drop off
  - Everything was great
  - It's important to keep open and regularly maintain this airport. Air travel to ABQ and PHX for work is very helpful.
  - More flights!
  - We appreciate the cleanliness of restrooms
  - How is ventilation?
  - Nice work.
  - A vending machine would be useful with snacks since there are delays at times. Also, good open access Wi-Fi is critical.
  - Improve parking area with security such as fencing and lighting
  - Not at this time
  - Facilities at KSVC historically have always been wanting - i.e., airport never seems to be a priority for Grant County officials and administrators
  - It is terrific that you can catch a plane at Grant Co. Airport and connect with a major airport.
- 16 respondents were aware that the County has a website for SVC while 31 were unaware of the website. Specific suggestions for the website include:

- Airport website contains exactly ZERO information for passengers with disabilities.
- Advance schedule, or at least, WHEN the next scheduling period will be posted.
- A bit more detail on available transportation from airport with acknowledgement that if you don't call ahead, you have a long walk.
- Start with a map! Both of where the airport is as well as inside the airport (where everything is).
- Much better since Rebekah Wenger became the manager!
- More restroom stalls

- 21 respondents indicated that they interacted with a Grant County Airport employee, and all provided positive comments about the customer service

Like the user/pilot survey results, input from the passenger survey will be incorporated into the Forecasts Chapter and Requirements Chapter, as appropriate.

PUBLIC INVOLVEMENT PROGRAM

A public involvement program is a fundamental part of a successful planning study. A community's participation in planning ensures that all relevant issues are identified and addressed for future airport development. The following recaps the public involvement components of the Grant County Airport Action Plan:

1. **Planning Advisory Committee**. The County established a Planning Advisory Committee (PAC) at study kickoff to bring a cross-section of the airport and community together with diverse perspectives and backgrounds for the planning study. The study includes four PAC work sessions to discuss issues, review and discuss findings, and submit recommendations to the County. The County-selected PAC membership is comprised of:
   - Grant County Airport Manager & SVC Project Contact – Rebekah Wenger
   - Gila National Forest Aerial Fire Base – Brian Pearson
   - Commercial Air Service – Donny Sandusky
   - Grant County Planning & Community Development - Michael "Mischa" Larisch/ Priscilla Shoup
   - Grant County General Services – Randy Villa
   - Town of Silver City – James Marshall
   - Chamber of Commerce (Silver City) - Steven Chavira
   - SW New Mexico Council of Governments - Priscilla Lucero & Cerisse Grijalva

In addition to the above local PAC members, there are two agencies that are an inherent part of the planning process and the PAC. For the Grant County Airport Action Plan Study, these include the NMDOT Aviation Division represented by Marilu Melendez and Dan Moran, and the Federal Aviation Administration (FAA) represented by Jean Gamarra, Noemi Cuevas and Andy Velayos.

2. **Public Information Workshops**. Public information workshops are held to inform the community of the planning process, review progress and findings, and to solicit input. They are advertised on the County's airport webpage and in an area newspaper. Copies of the presentations and any other relevant materials are made available to the public. Two public information workshops were held—one at study kickoff and one during the evaluation of airport development alternatives.
3. **Project Newsletters**. Three project newsletters were scheduled for publication during the study to keep the community updated. The first newsletter was published at study kickoff to provide an overview of the planning process. A second newsletter addressed the airport development alternatives being evaluated for proposed near- to long-term improvements. At the conclusion of the study, the third and final newsletter was published.
4. **User Survey Questionnaires**. As presented above, two survey questionnaires were published and advertised to solicit input from pilots and passengers. Responses were compiled with feedback incorporated into the Forecasts and Requirements Chapters. The surveys provided the community with an opportunity to answer questions for the study and provide specific feedback on airport issues and needs.
5. **Grant County Airport Webpage**. Grant County's website provides a link to the Airport 's webpage at www.grantcountynm.gov/departments/airport/, which posts updates regarding the airport planning study.
6. **Study Materials for Review**. Throughout the Airport Action Plan Study, the County made available to the PAC and the public copies of any draft report materials for review and comment. These materials included the *Introduction*, the five report chapters comprised of *Inventory, Forecasts, Requirements, Alternatives* and *Implementation*, and any supporting materials in appendices.

CHAPTER 1 - INVENTORY

The Inventory Chapter documents the existing conditions of the Grant County Airport (Airport), which is essential in determining future facility needs later in the study. Pertinent information is collected and presented on facilities such runways, navigation aids (NAVAIDS) taxiways, apron, terminals, hangars, other structures, and roadways, to name a few. Further, airspace, land use, and environmental factors are addressed.

Information resources for this early phase of the study include the previous 2015 airport planning study (final draft report 2016), a December 2020 site visit, aerial and facility photos, the Town of Silver City and Grant County records and input, interviews and user surveys, and information from other stakeholders.

LOCATION AND REGIONAL SETTING

The Grant County Airport (Airport) is located in southwestern New Mexico, approximately 20 miles from the Town of Silver City, which is also the Grant County seat and largest community in the county with a population around 9,400—one-third of the County's estimated population of 27,300. Other area communities include the City of Bayard, Village of Santa Clara, and the Town of Hurly, which is the closest to the Airport at just 6½ miles north. The closest large metropolitan cities with major air carrier service include El Paso (TX) 137 miles to the southeast, and Tucson (AZ) 205 miles to the west.

New Mexico counties adjacent to Grant County include: Catron County (north), Sierra County (east), Luna County (southeast), and Hidalgo County (south). To the west is Greenlee County in Arizona.

Grant County Airport is comprised of 740 acres and sits at an elevation of 5,445.6 feet mean sea level (MSL) at the following coordinates:

- Latitude: 32° 38' 11.5690" North
- Longitude: 108° 09' 22.9870" West

As of March 2021, the magnetic declination is 8° 34' East with an annual change of 0° 6' West.

The area has a semi-arid climate with four moderate seasons that bring temperatures ranging as low as 27° F to as high 92° F with a mean maximum temperature of 90.3° F for the hottest month (June). Annual rainfall is just over 13 inches with July being the wettest month and April the driest. Snowfall averages 10.5 inches—typically spanning late October through March.

In addition to the Airport, Grant County is home to the Gila National Forest headquarters, the Gila Regional Medical Center, and Western New Mexico University (WNMU) with more than 3,500 students enrolled from 18 countries. Mining, ranching and tourism are key industries in the area. Popular tourist activities include fishing, hunting, hiking, horseback riding, bicycling, camping, tourism associated with a vibrant art scene and attending local community events. Some visitors arrive via commercial air or private aircraft.

AIRPORT HISTORY

Grant County and the Town of Silver City jointly constructed the Airport, which opened in 1951. Originally referred to as the Silver City-Grant County Airport, the Town of Silver City sold their interest to the County in 1952. Airport development has been ongoing for decades, but details are limited to Federal Aviation Administration (FAA) and New Mexico Department of Transportation (NMDOT) Aviation Division[1] grant records which date back to 2000 (see appendices).

Improvements have included airside, landside and support facilities such runways, taxiways, apron lighting, signage, pavement markings, navigational aids, utility systems, fencing, and the purchase of emergency and maintenance equipment.

The last planning study conducted for the Grant County Airport (FAA-identifer code of SVC) was in 2015 concluding with a final draft report published in April 2016. The plan was never officially adopted, but an Airport Layout Plan (ALP) depicting future development addressed in the former study was submitted to the FAA and subsequently reviewed and approved in 2020. This planning study updates that ALP with development plans that address the more recent and relevant needs of the Airport.

AIRPORT MANAGEMENT

Grant County owns and operates SVC. The Airport functions as a separate department with a full-time airport manager overseeing the day-to-day operations with three additional employees providing operations and maintenance support. The airport manager reports to the County General Services Director and County Manager. Any additional support comes from the County on an as-needed basis. There is no active airport advisory committee, so recommendations regarding the Airport to the Board of County Commissioners come directly from the County Manager, General Services Director and Airport Manager. However, the Grant County Pilots Association does contact the Airport Manager directly with any suggestions or concerns.

The Airport operates as an enterprise fund within the County's financial system to account for the operating revenues and expenses. According to the records provided for 2013 through 2020, expenses substantially exceeded revenues in early years, but that gap has gradually diminished over the years with SVC showing a positive cash flow most recently. Fuel sales are the greatest revenue source for SVC

[1] NMDOT Aviation Division is also referred to as New Mexico Aviation Division or NMAD

representing an average of 85% of revenues from 2013 through 2020. Annual fluctuations in fuel sales are typically associated with Fire Base activity and commercial service fueling. For the same timeframe, hangar rents and ground leases comprised an average of approximately 8% of all revenues. Chapter 5, Implementation, provides additional detail on airport revenues and expenses for SVC.

The five elected members of the Board of Grant County Commissioners are ultimately responsible for the airport planning, development and budgetary decisions. At the conclusion of the study, the Airport Action Plan is reviewed and adopted by the Board.

The following describes the role of the airport owner/sponsoras outlined in the New Mexico Airports Best Practices Guide 2010 jointly published by the FAA and NMDOT Aviation Division:

> *The Sponsor is the owner of the airport and the recipient of FAA and NMAD[2] grants for airport improvements. The responsibility of the Sponsor is to effectively manage the day-to-day operations, foster and promote the development of their Airport. To accomplish this, the Sponsor must take the lead role and work cooperatively with all parties to successfully manage operations, capital development, operating funds, safety, security, and all other aspects of the Airport. It is vital to continuously maintain open communication and accountability as the Sponsor evaluates the needs of the Airport in the present and in the future. The Sponsor is ultimately held accountable for the Airport, its environment, and to meet the needs of its customer base while complying with all federal, state, and local rules and regulations. The Sponsor is responsible for ensuring the conditions contained in their FAA and NMAD grants are met. The Sponsor may perform any function of the Consultant in this document provided they have the qualified staff.*

The Implementation Chapter further discusses airport financials as well as capital funding sources.

ECONOMIC BENEFIT

The latest New Mexico Airport System Plan Update (NMASPU), published in 2017, states the following with respect to the economic impact of the 55 public use airports in the statewide system.

The New Mexico Airport System encompasses a multi-faceted gateway that welcomes commerce and visitors and provides access for outward travel across the state and to national and intercontinental destinations. The airports of New Mexico create significant benefits that extend beyond the aviation community to impact economic growth and development as well as the quality of life of residents.

Recognizing the challenge in measuring all the qualitative benefits of airports, an economic impact study seeks to quantify the economic impacts of airports and aviation through specific activity indicators. **Table 1.1** highlights the Grant County Airport economic impact findings derived from the state's 2017 study. Economic impact studies often reveal that the economic benefits of an airport far exceed the dollars spent

[2] New Mexico Aviation Division

on operating, maintaining and upgrading the facilities to serve its community users as well as the national air transportation system.

Table 1.1 - Grant County Airport Economic Impact

Economic Activity Indicator	Estimate
Direct Employment	19
Secondary Employment	7
Total Employment	26
Direct Payroll	$1,136,000
Indirect Payroll	$222,000
Total Payroll	$1,358,000
On-Airport Direct Output	$3,125,000
On-Airport Secondary Output	$878,000
Total On- and Off-Airport Output	$4,003,000
Commercial Service Visitor Output (Direct $130K, Secondary $43K)	$173,000
General Aviation Visitor Output (Direct $156K, Secondary $41K)	$197,000
Total Visitor Output	$370,000
Source: NMASPU 2017 (based on 2014 economic data)	

The study also tallied the total economic impact for all public use airports in the New Mexico Airport System highlighting the following:

- Jobs: 4,981 in private aviation-related or construction firms and government units
- Payroll: $301.9 million on-airport workers
- Direct output: $903.1 million by on-airport tenants, public agencies, and capital improvement project spending
- Commercial service visitors: 1.3 million
- Commercial service visitor direct employment: 6,843 for NM hospitality industry, including lodging, food services, retail, ground transport, and recreation
- Commercial service visitor employment payroll: $167.3 million
- Direct commercial service visitor spending: $602.9 million
- General aviation visitors: 268,820
- General aviation visitor direct employment: 769 jobs

- General aviation visitor direct employment payroll: $20.2 million
- Direct general aviation visitor spending: $60.7 million

EXISTING AIRPORT ROLE AND AIRPORT REFERENCE CODE

Grant County Airport's location in a rural community environment and its distance from other full-service general aviation airports and major air carrier airports reinforces the need for its service to the community and air transportation system. The Airport is an essential facility for passengers needing connection with major carriers or those destined for Albuquerque or Phoenix where the current commercial service airline flies regularly. Further, it serves other aviation activity such as business and recreational flights, air cargo, flight training, military and the critical seasonal aerial firefighting launched from the Fire Base at the Airport. The Airport's specific role, tied to the users it serves, is derived from the *New Mexico Airport System Plan (NMASP)* and FAA's *National Plan of Integrated Airport Systems*.

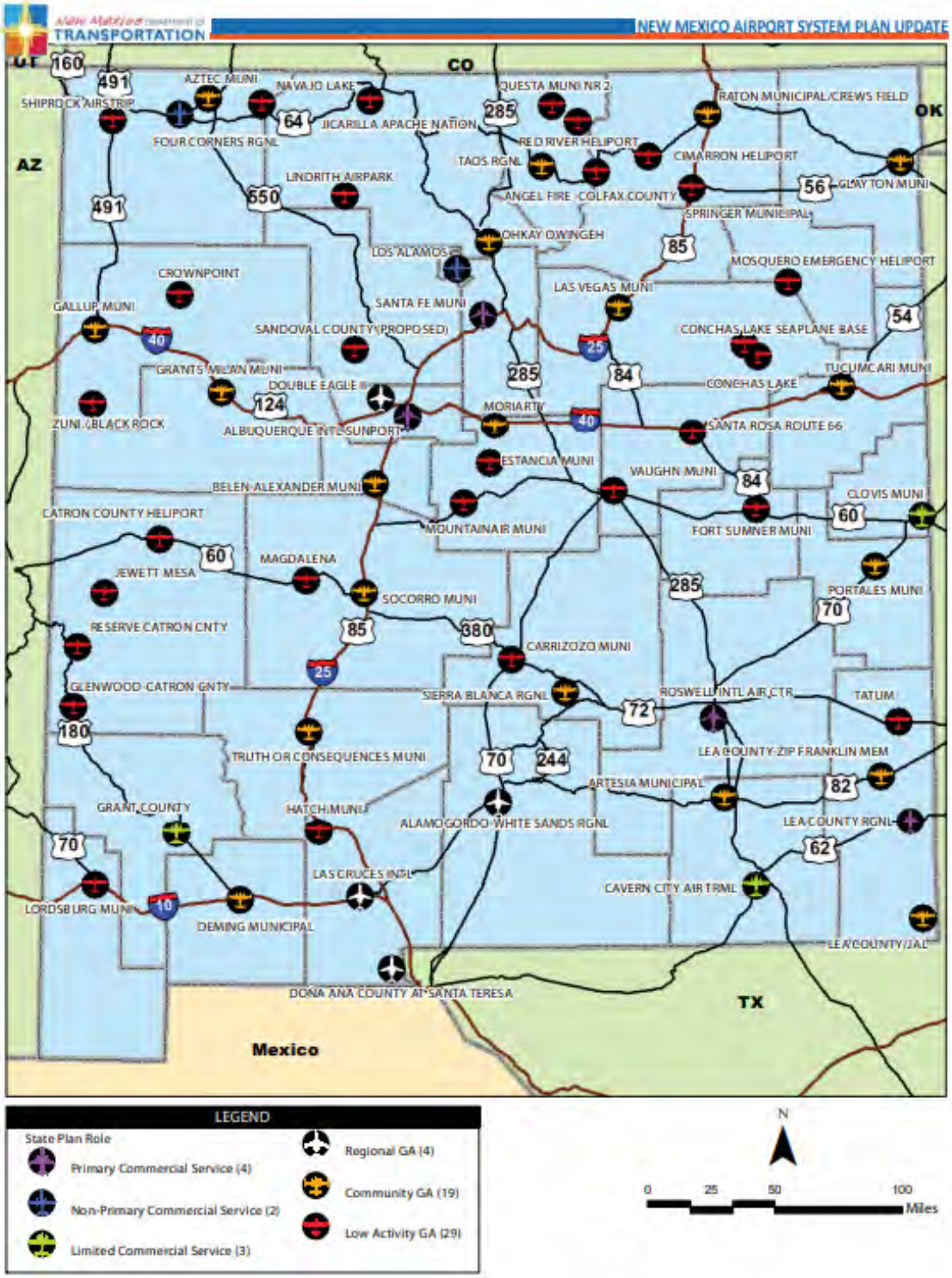
NMASP

The latest NMASP (2017) identifies the role of each airport within the statewide system. Grant County Airport is identified as "Limited Commercial Service"—one of three in the state. This role includes airports that have scheduled commercial service but enplane less than 2,500 annual enplanements.[3] At the time that enplanement data was collected for the study, available Grant County Airport data showed less than 2,500 enplanements, which was 2014. The Airport exceeded that figure in 2015. The Airport's role will likely be upgraded in future NMASP updates to the "Non-primary Commercial Service Airport" role. This role is defined as airports that have scheduled passenger service with 2,500 to 10,000 enplanements per year. The NMASP derived this role from one of the classifications used by the FAA. **Exhibit 1A** is a map from the NMASP depicting the 55 existing public use airports by role around the state.

All public use airports in New Mexico are included in the state system, but not all of those airports meet the criteria to be included in the NPIAS. Consequently, there are more New Mexico airports in the state system than there are New Mexico airports in the NPIAS.

[3] An airport's commercial air service passenger boardings are referred to as enplanements

Exhibit 1A. New Mexico Airport System Plan – Airports by Role



Source: NMASPU 2017

NPIAS

The latest NPIAS, published September 30, 2020, includes 3,304 existing public use facilities plus six proposed airports. Grant County Airport is one of those 3,304 facilities. **Table 1.2** summarizes the breakdown of all airports in the U.S. with the NPIAS facilities listed in the last column. NPIAS airports represent an estimated 17% of all aviation facilities nationwide. The FAA maintains and updates the NPIAS regularly to identify eligible airport development projects, their costs and each airport's FAA-identified role in the national air transportation system.

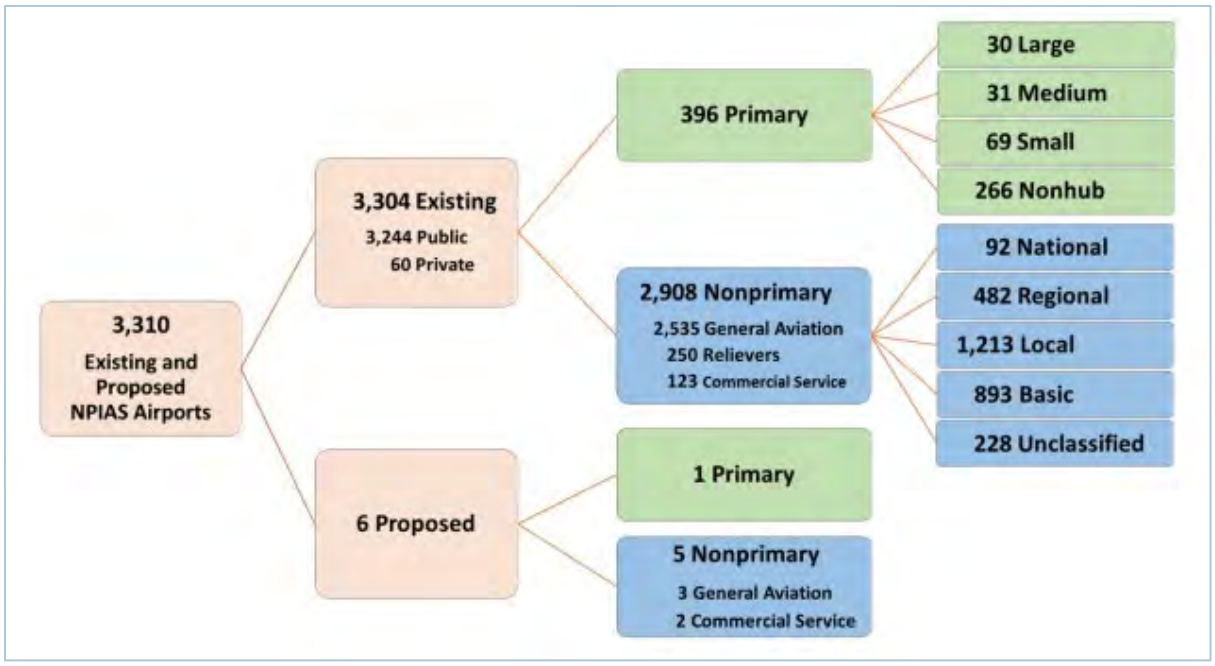
Table 1.2 - Breakdown of All U.S. Airports – Private and Public (Non-NPIAS & NPIAS)

Type of Facility	Total U.S. Facilities	Private-Use Facilities	Public-Use Facilities	Existing NPIAS Facilities
Airport	13,065	8,263	4,802	3,258
Heliport	5,901	5,842	59	9
Seaplane Base	510	300	210	37
Ultralight	112	109	3	
Gliderport	35	30	5	
Balloonport	13	12	1	
Total	**19,636**	**14,556**	**5,080**	**3,304**

Source: NPIAS 2021-2025, published September 30, 2020

The NPIAS divides airports into two major categories: primary and nonprimary, which are further broken into subcategories. Primary airports are commercial service airports with 10,000 or more annual enplanements. Nonprimary includes other airports, which predominantly serve general aviation aircraft but also include nonprimary commercial service airports like Grant County that have less than 10,000 enplanements. The nonprimary category is further divided into five subcategories, one of which is "regional," the category inclusive of Grant County Airport. The NPIAS states that regional airports serve relatively large populations, support regional economies with interstate and some long-distance flying, have high levels of activity and include some jet and multi-engine turboprop traffic, and some provide limited commercial service. There are 482 nonprimary regional airports in the NPIAS, of which 45 are providing limited air carrier service like Grant County. **Exhibit 1B** illustrates the major NPIAS role categories and subcategories.

Exhibit 1B. NPIAS Airports by Category and Role



Source: NPIAS 2021-2025, published 30 Sep 2020

Airport Reference Code

An Airport Reference Code (ARC) is an important designation and corresponds with the FAA design criteria applicable for airport development. The ARC is introduced early in the study since it is a common thread in much of the planning discussion throughout the study. The ARC represents the operational and physical characteristics of the aircraft or family or aircraft operating or anticipated to operate at an airport. The two components of the ARC include the aircraft approach category and the airplane design group (**Table 1.3**). The approach category is based on the approach speed of the aircraft, which is 1.3 times the aircraft stall speed; there are five categories of approach speeds defined as A through E. The design group, which is categorized by Roman Numerals I through VI, is based on the aircraft wingspan.

Table 1.3 - Airport Reference Code Components

Aircraft Approach Category	Approach Speed (knots)	Airplane Design Group	Wingspan (feet)
A	< 91	I	< 49
B	91 to 120	II	49 to 78
C	121 to 140	III	79 to 117
D	141 to 165	IV	118 to 170
E	> 166	V	171 to 213
		VI	214 to 262
Note: Airplane Design Group may also be determined by tail height, if more demanding than wingspan.			

Grant County Airport is currently designated a B-II ARC, so Runway 8-26 is designed to meet FAA's design standards for B-II, at a minimum. A King Air, such as that flown by the Airport's commercial service airline (Advanced Air) is an example of a B-II aircraft. The planning study reviews and projects aviation demand in determining the appropriate ARC for future development purposes. The ARC is discussed throughout subsequent planning elements and chapters.

AIRSIDE FACILITIES

Airside facilities generally include the aircraft movement areas such as runways, taxiways and airfield equipment. **Exhibit 1C** illustrates the existing facilities at SVC including airside, landside and support facilities.

Runway and Taxiway System

The airfield is comprised of one paved runway, which is the primary runway serving approximately 99 percent of operations, plus three unpaved crosswind runways. Smaller aircraft may elect to use one of the unpaved runways during strong crosswinds on the primary runway, or for training purposes.

Table 1.4 - Grant County Airport Runways

Runway	Surface	Dimensions
8-26 (primary)	Asphalt	6,803 x 100 feet
17-35 (crosswind)	Dirt	5,473 x 75 feet (Runway 17 displaced threshold 109 feet)
12-30 (crosswind)	Dirt	4,675 x 75 feet
3-21 (crosswind)	Dirt	4,537 x 80 feet

Runways are numbered by their magnetic heading to the nearest 10 degrees. For example, designating a runway as Runway 8 means that the aircraft's magnetic heading is approximately 80 degrees.

Ideally, runways are constructed to align with the prevailing winds, which is determined through wind data analyses. Wind data analyses are also used to assess whether a crosswind (secondary) runway is needed—when there is inadequate wind coverage on the primary runway. The FAA considers 95% or greater as adequate wind coverage, so less than 95% suggests a crosswind runway is justified.

The 2015 Airport Layout Plan (ALP), approved by the FAA in 2020, includes a wind data analysis for Runway 8-26.

Table 1.5 compares the results noted on the ALP and a more recent analysis (as described in the last row of the table). A comprehensive wind analysis and wind rose is depicted on the updated ALP with additional

discussion provided in the Requirements Chapter. The wind data is collected from an on-site automated weather observing system (AWOS). The FAA recommends a minimum of 10 years of wind data for analysis, so the former analysis noted below (middle column) was considered inadequate.

Table 1.5 - Grant County Airport All-Weather Wind Data Analysis for Runway 8-26

Wind Speed	Former Analysis	New Analysis
10.5 knots	86.80%	92.40%
13 knots	94.13%	96.61%
16 knots	95.77%	99.25%
20 knots	98.14%	99.84%
Data	10,580 observations from 1951 to 1954	246,326 observations from 2011 to 2020

Source: FAA-approved ALP (former analysis) and Grant County Airport AWOS station (new analysis)

The taxiway system at the Airport includes a full-length parallel to Runway 8-26 identified as Taxiway A and its five connectors,[4] designated as A1 through A5. Taxiway A is 50 feet wide, and connectors range from 35 to 50 feet wide. A recent 2021 project included the reconstruction of taxiways as well as the removal and replacement of four connector taxiways to eliminate the direct access between the apron and runway for safety reasons. There are no taxiways on the north side of Runway 8-26. Aircraft taxi on Runway 8-26 to access the three unpaved crosswind runways.

Pavement Strength and Condition

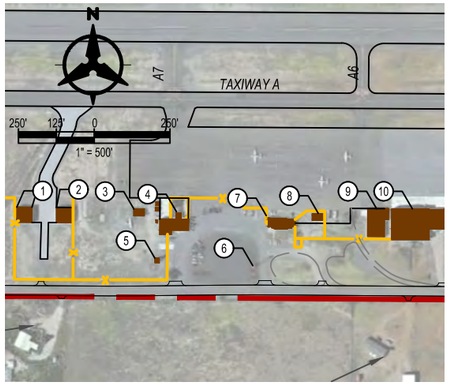
According to FAA records, the pavement strength for Runway 8-26 is 75,000 pounds single wheel loading and 100,000 pounds dual wheel loading, and it is likely that taxiway pavement strength was designed to match the runway. Current pavement strength for various segments of the apron is uncertain, but the apron reconstruction project in the terminal area is designed for 50,000 pounds. Some of the apron is being reconstructed and a portion is being rehabilitated.

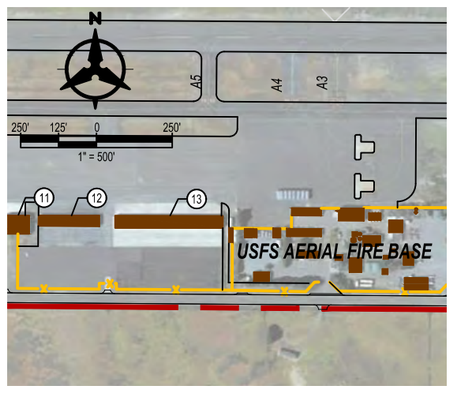
The existing USFS apron area is expected to be of greater pavement strength since there are larger, heavier aircraft parking there. The concrete pads at the easternmost end of the USFS apron likely have the greatest pavement strength.

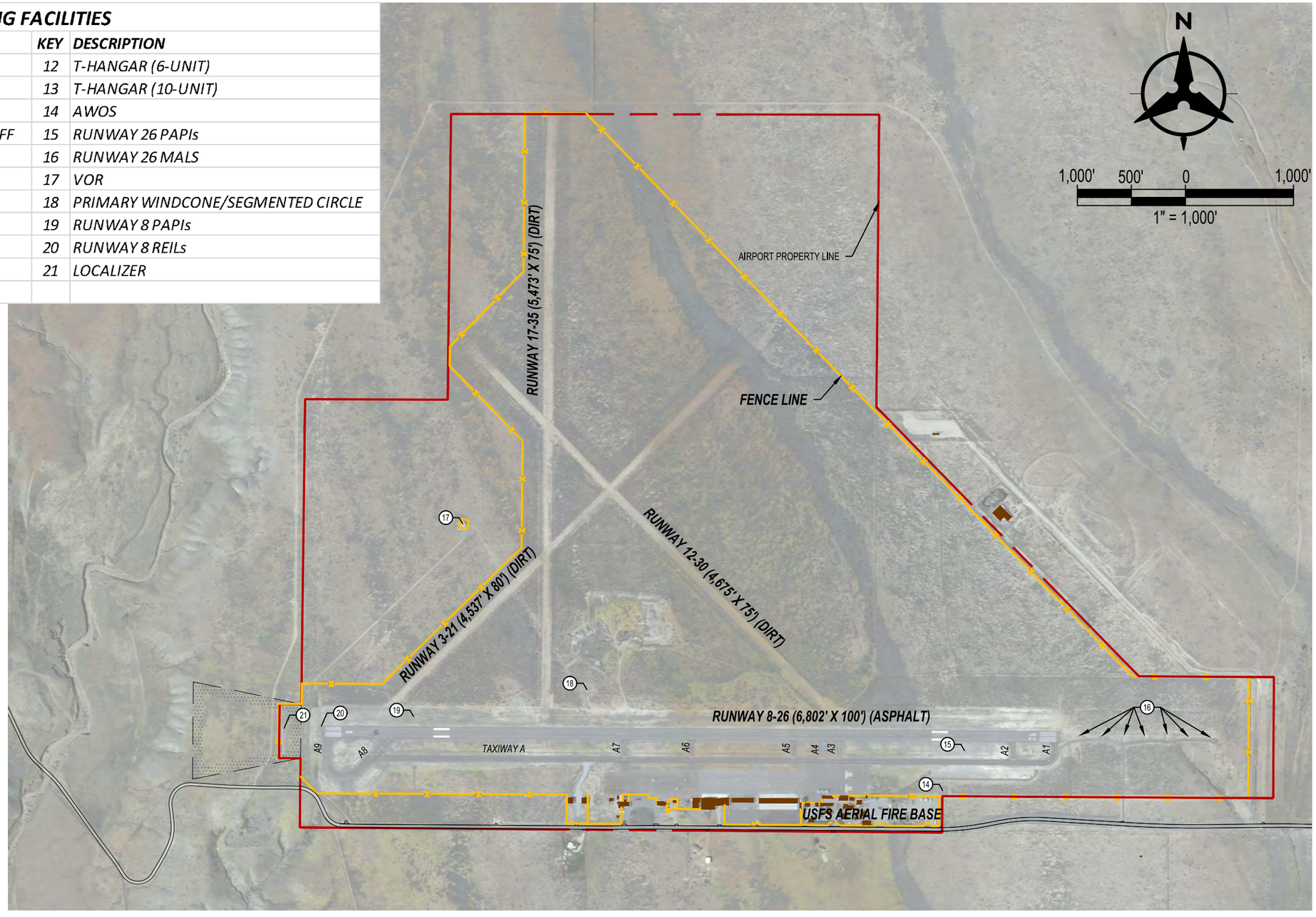
The condition of airfield pavements is derived from the NMDOT Aviation Division, Statewide Pavement Management System. In April 2013, more than 1.82 million square feet of pavement at Grant County Airport was inspected with a pavement condition index (PCI) assigned to each of the 14 pavement sections

[4] Taxiway system modifications were completed during this planning study, which reduced the nine taxiway connectors (formerly A1 to A9) down to five connectors (renumbered and identified as A1 to A5).

EXISTING FACILITIES			
KEY	**DESCRIPTION**	**KEY**	**DESCRIPTION**
1	CONVENTIONAL HANGAR (PRIVATE)	12	T-HANGAR (6-UNIT)
2	CONVENTIONAL HANGAR (PRIVATE)	13	T-HANGAR (10-UNIT)
3	STORAGE BUILDING	14	AWOS
4	PASSENGER TERMINAL/AIRPORT MGR/ARFF	15	RUNWAY 26 PAPIs
5	WATER STORAGE TANK	16	RUNWAY 26 MALS
6	BEACON	17	VOR
7	GENERAL AVIATION TERMINAL	18	PRIMARY WINDCONE/SEGMENTED CIRCLE
8	FUEL FARM	19	RUNWAY 8 PAPIs
9	CONVENTIONAL HANGAR (PRIVATE)	20	RUNWAY 8 REILs
10	CONVENTIONAL HANGAR (PRIVATE)	21	LOCALIZER
11	CONVENTIONAL HANGAR (PRIVATE)		







GRANT COUNTY AIRPORT

AIRPORT ACTION PLAN

Bohannan Huston
www.bhinc.com 800.877.5332

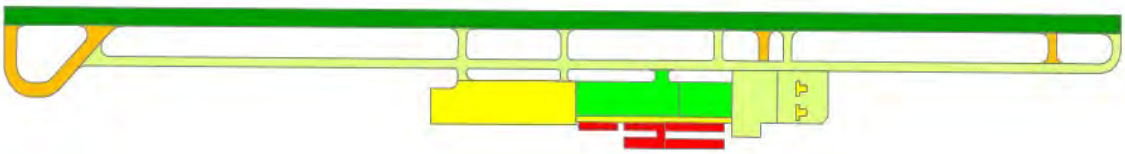
Existing Conditions Map

EXHIBIT 1C

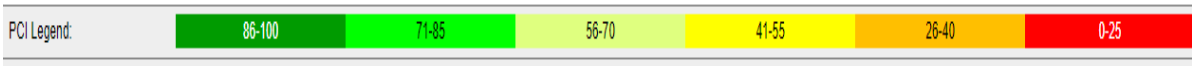
identified. The PCI ranges from 0 (failed pavement) to 100 (excellent condition). To identify the PCI for a pavement section, the pavement inspectors look for signs of deterioration on the pavement surface and define any defects by type, severity level and amount of pavement stress. **Exhibit 1D** illustrates the color-coded PCI Map[5] derived from the 2016 inspection results and compares it to the projected pavement condition for 2021. Preventive maintenance is adequate for pavements with a PCI of 71 to 100 while slipping below 70 moves toward a major rehabilitation project. A PCI of 40 and below requires reconstruction.

Exhibit 1D. Pavement Condition – Actual 2016 and Estimated 2021

Actual 2016 Pavement Condition (Inspection)



Estimated 2021 Pavement Condition



Source: NMDOT Aviation Division, Statewide Pavement Management System

[5] Pavement maps published before the SVC pavement project, which modified the taxiway system.

Navaids

Airport navigational aids, referred to as navaids, include various visual and instrument approach aids. The Airport's visual aids consist of a rotating beacon, primary lighted wind cone and segmented circle, two supplemental wind cones, and a Precision Approach Slope Indicator (PAPI) system on Runways 8 and 26.

The rotating beacon, located in the southeast area of the auto parking lot near the GA terminal, was replaced in 2016 and is in good operating condition. The beacon assists pilots with identifying the Airport after dusk. The segmented circle and lighted wind cone are opposite the commercial terminal building on the north side of Runway 8-26 approximately 400 feet north of centerline. Supplemental wind cones are located near the Runways 8 and 26 ends and are on the north side of the runway. The four-box PAPI systems, installed in 2008, are visual guidance systems that assist pilots with maintaining a 3-degree glide slope on approach for landing. The Airport is also equipped with FAA-owned instrument approach aids—a VORTAC and Runway 26 localizer—which support published instrument approaches. Instrument approach procedures can be used when the visibility and cloud ceiling are below minimums for Visual Flight Rules (VFR) conditions. The Silver City VORTAC is in the northwest area of the Airport approximately 800 feet west of the intersection of Runways 17-35 and 3-21 and is used in support of the VOR-A approach to the Airport. The localizer is located to support the Runway 26 instrument approach. The localizer antenna array and equipment shelter are located approximately 340 feet west of the Runway 8 threshold. Further, there are RNAV GPS approaches published for the Airport—one to Runway 8 and one to Runway 26.

All navaid facilities at Grant County Airport are in good operating condition.

Marking, Signage and Lighting

The runway and taxiway systems have all necessary markings. Runway 8-26 is marked for nonprecision operations with threshold markings, runway designators, centerline and aiming point markings; markings were last repainted in 2016 as part of a runway rehabilitation project. Taxiway and apron markings were repainted as part of the recent pavement reconstruction project including taxiway centerline, hold lines, enhanced taxiway centerline markings, surface-painted holding position signs, and tiedown positions on the apron. Airfield signage, installed in 2006, complies with FAA signage standards but the recent airfield project included the removal and installation of some new airfield signage associated with the taxiway system changes.

Runway 8-26 is equipped with a pilot-activated medium intensity runway lighting (MIRL) system, installed in 2006, which is in good operating condition. The electrical vault for the airfield lighting system is located west of the commercial terminal. A Runway End Identifier Light (REIL) system is on Runway 8 to provide

rapid and positive identification of the end of the runway. A Medium Intensity Approach Lighting System (MALS) is on the Runway 26 approach. The REIL and MALS are both FAA-owned and maintained.

Parallel Taxiway A and connectors have retroreflective edge markers.

AWOS

In 2016, Grant County installed a new Automated Weather Observing System (AWOS) III/PT at the Airport, which reports wind speed, wind gust, wind direction, variable wind direction, temperature, dew point, altimeter setting, density altitude, visibility, variable visibility, precipitation, cloud height and sky condition. The data is typically updated on an hourly basis or when weather conditions change significantly. The AWOS is located at the east end of the USFS campus approximately 500 feet from runway centerline. Based on airport user survey responses, the AWOS has been reliable.

LANDSIDE AND SUPPORT FACILITIES

Terminal area, hangars, roadways, auto parking, aircraft fuel facilities are examples of the facilities presented here—facilities generally outside of the aircraft movement areas. See Exhibit 1C, previously shown, for these facility locations.

Commercial Terminal Building

The commercial terminal building is located at the west end of the apron. The building, which was recently remodeled, is estimated to have 3,800 square feet with a passenger lobby and processing area, airline ticket counter with backroom storage, restrooms, the airport administrative office and attached aircraft rescue and firefighting (ARFF) facilities with two bays.

General Aviation Terminal Building

Located east of the commercial terminal and auto parking lot is the general aviation terminal building, which recently received a few upgrades including installation of new windows, new stucco and new paint. This facility primarily serves transient pilots offering a pilot lounge, kitchen, restrooms, flight planning area, and a snooze room. Maintenance personnel also have office space and small equipment stored in a garage attached to this building.

USFS Aerial Fire Base

Located at the east end of the apron is the USFS Gila National Forest Aerial Firebase and Fire Cache. USFS buildings are fenced to secure facilities from other airport activity and visitors. The USFS has been a tenant since 1958 launching aerial firefighting operations during the fire season, generally March to October, with a diverse fleet of fixed wing aircraft and helicopters. As of 2020, aerial assets have included Single Engine Air Tankers (SEAT), spotter aircraft, Skycranes, MD-87s, C-130s, BAe-146s, and other large aircraft.

Apron

The Airport's apron is one contiguous area of approximately 60,000 square yards for parking, staging equipment and taxilanes/circulation. A compass rose for pilot use is also painted on the apron.

Commercial service use is at the west end adjacent to the commercial terminal building. The USFS apron is adjacent to their Fire Base facilities at the far east end of the building area. General aviation aircraft primarily use the apron in between the commercial service terminal apron and USFS apron area. Apron space is frequently inadequate during the USFS aerial firefighting activity. Consequently, aircraft have used Taxiway A for overflow parking under the busiest conditions.

Google Earth

An apron rehabilitation project was recently completed. The commercial service and general aviation aircraft aprons were rehabilitated under FY 2020 Airport Improvement Program (AIP) grants. The majority of the apron was rehabilitated by a milling and inlay of the asphalt surface. A portion included a full-depth reconstruction as the existing pavement did not provide the necessary thickness for a 50,000-pound aircraft wheel loading. A 60-foot by 60-foot area in front of the self-serve fuel area was reconstructed with a concrete surface to provide fuel spill protection.

Hangars

Corporate/conventional box hangars and T-hangars provide aircraft storage at the Grant County Airport. All hangar spaces are occupied with a waiting list of 11 small single-engine aircraft owners wanting a hangar at the Airport. A grant has been issued by the NMDOT Aviation Division to design a new T-hangar behind the existing six-unit T-hangar, which will help support the aircraft storage needs of the smaller aircraft.

Transient aircraft often need storage during their stay, too, but there is no additional space for these visitors. The airport manager routinely receives a request for storage from the transient operators.

The County has both hangar tenant leases for its County-owned hangars as well as ground leases for private hangar development. Airport tenants must comply with Grant County Airport's rules and regulations or risk agreement termination. Further, aeronautical businesses interested in operating at Grant County Airport must receive county approval and comply with the Airport's minimum standards, dated 1998.

Airport Equipment and Storage

The Airport's primary maintenance equipment consists of a sweeper truck and tractor with a mower deck. The sweeper truck is stored in one of the two bays in the ARFF station but the tractor sits outside. The Airport is without any other storage for equipment.

Roads and Auto Parking

The community's main access to the Grant County Airport is via Highway 180 to Airport Road. The drive from Highway 180 to the airport terminal area parking lot is just under two miles. Airport Road, which was recently improved, is in excellent condition. Airport Road becomes Ridge Road at the west boundary of the Airport. Airport Road is asphalt paved and Ridge Road is a gravel road.

The public auto parking area sits between and just south of the commercial and general aviation terminal buildings. Recent improvements to the parking lot consisted of recycled pavement millings surfacing. However, parking spaces are not marked and the surfacing is showing some deterioration.

As permitted by lease agreements, tenants may park in their hangars while their aircraft is in use or on the pavement adjacent to their hangars if the hangar is occupied.

Ground Transportation

When in service, Grant County has two courtesy cars parked at the Airport for visitors. The courtesy cars are often used by transient pilots. No other ground transportation such as rental cars[6], bus or shuttle service is available to or from the Airport, so arriving commercial air passengers may be unexpectedly stranded at the Airport with no transportation to Silver City (20 miles) or other nearby communities. Enterprise Rental Car, previously located in Silver City, closed their office down in June 2020.

Fuel Facilities

The Airport's fuel farm contains one 12,000-gallon tank of 100LL and one 12,000-gallon tank of Jet A located east of the general aviation terminal building. There are also two Jet A fuel trucks and a 24/7 self-serve 100LL fueling system. Another 12,000-gallon Jet A storage tank is to be added this year. The fuel storage facility is environmentally non-compliant since it does not have secondary containment for fuel transfer. However, a project to address the secondary containment requirement is already planned.

Fencing and Security

Animal control fencing, installed in 2010, surrounds the airfield. Other fencing includes chain link between the two terminals and wrought iron fencing on the airside of the commercial terminal building.

As shown earlier on Exhibit 1C, the fencing follows the property line around the Runway 8 and 26 ends but turns in and away from the property line to follow closely the airfield configuration of the three unpaved runways. Much of the fence runs along the perimeter while other sections are located well inside the property line.

To evaluate area wildlife and its potential impact on the safety of airport operations, the Grant County Airport conducted a Wildlife Hazard Assessment in 2010. Subsequently, Grant County prepared a Wildlife Hazard Management Plan (WHMP) for the Airport that outlines specific actions to help mitigate wildlife strike risks. The latest Grant County Airport WHMP Update was approved by the FAA in June 2019.

According to airport management, the Airport has had problems with vandalism and theft. Local law enforcement conducts routine patrols of the Airport on a random basis since the airport is not attended around the clock. Fencing and signage has not fully deterred trespassers or vandals. However, video surveillance was added as part of the terminal renovation project and records the parking area and the commercial service apron.

[6] In February 2022, Silver Rentals began offering rental car service on a pre-arranged basis. They do not have a counter at SVC, but they do have cars parked there.

Vehicle access to the airside facilities is controlled with locked manual and motor-operated gates. Pedestrian access is not fully controlled. Two manual vehicle gates are used for access to the localizer and MALS. Three motor-operated gates with keypad entry are used for access to the commercial service terminal area, GA terminal area, and T-hangars. There is also one manual wing gate at the USFS facilities off Airport Road.

Utilities

Power

Electricity for the airport is provided through the Public Service Company of New Mexico (PNM) and is adequate for the current airport electrical loads. PNM also provides power for the FAA facilities. An emergency power stand by 40Kw generator was installed in 2018 to support the commercial terminal, ARFF facility and airfield lighting system.

Water

The water for the commercial service terminal, GA Terminal, and select hangars is from an on-site well. The well water has been tested and meets drinking water standards according to airport management. A 200-gallon elevated storage tank on the airport provides for distribution, storage, and water pressure. There are no fire hydrants on the airport and the water available for ARFF purposes is inadequate. Additional water for firefighting or other needs[7] has to be obtained from the Town of Hurley. The USFS has their own well.

Septic

The Airport has onsite septic systems. Each terminal building has its own septic tank system and the large corporate hangars are also served by a separate system.

Wifi

Wifi service is provided by WNM Communications, which extended their fiber optics network to Grant County Airport in 2017/2018.

Drainage

Airport drainage is generally adequate for low frequency storms. Generally, the drainage is north to south with flows from north of the runway being directed to the east or west. There was some flooding occurring at the west end of the airport between Taxiway A and the runway, but this has been corrected during the taxiway realignment project in 2021. Drainage flows between Runway 8-26 and Taxiway A are generally west to east with two drainage culverts that run north to south under Taxiway A near Taxiways A2 and A5. These culverts outfall to drainage swales which run to Airport Road. Normally, airfield drainage is adequate and functional with the above noted exception.

[7] During apron construction, additional water was needed. The contractor arranged to fill water trucks in Hurley to minimize apron crossing and the potiential for debris on the airfield.

Drainage south of Taxiway A and the apron is generally north to south. There is a slot drain in front of the T-Hangars and a new slot drain was installed as part of the 2021 construction on the south side of the apron in front of the commercial service terminal/ARFF building. Flooding of the commercial terminal/ARFF building was frequent as the building is lower than the apron and the apron drainage sheet flows to the building. Slot drains were installed as part of the terminal renovation project to intercept these flows but were inadequate. The additional slot drains installed as part of the 2021 apron reconstruction project will be tested during actual rainfall events.

The other area with flooding during rain events is the fuel storage area. This area's elevation is below the adjacent apron area. The fuel storage secondary containment project will partially address this flooding. Additionally, a valley gutter will be constructed on the apron in the vicinity of the fueling area to intercept and direct to the east of the fuel area light drainage flows.

AIRSPACE

The safety of aviation activity relies on the protection of airspace and the proper operation and communication within that airspace. There are six classes of airspace in the U.S. defined to support the proper management of air traffic **(Exhibit 1E)**. These classes are divided into the categories of controlled and uncontrolled airspace:

- Controlled Airspace includes Class A, Class B, Class C, Class D, and Class E. While operating in controlled airspace, the pilot is subject to certain operating rules, as well as pilot qualifications and aircraft equipment requirements.
- Uncontrolled Airspace includes Class G airspace. FAA Air Traffic Control (ATC) does not exercise control of air traffic in Class G airspace.

The U.S. also has areas designated as Special Use Airspace (SUA), which includes Alert Areas, Warning Areas, Restricted Airspace, Prohibited Airspace, Military Operation Areas (MOA), Controlled Firing Areas (CFA), and National Security Areas (NSA). Each segment of SUA is contained within at least one of the airspace classifications shown in Exhibit 1E; SUA is not its own class of airspace.

Exhibit 1E. Airspace Classifications

Source: New Mexico Airport System Plan (NMDOT Aviation Division)

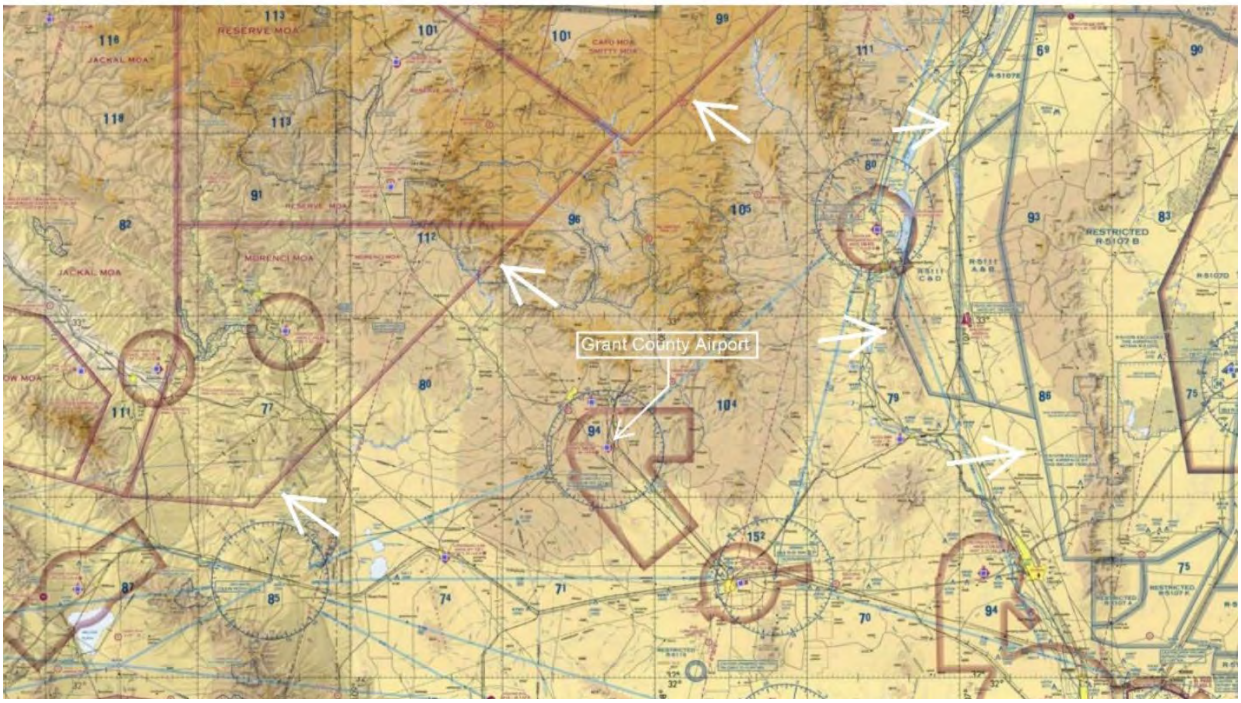
Local Airspace

Grant County Airport is a non-towered airport situated in Class G airspace, so communication is not required prior to entry. However, pilots use the Common Traffic Advisory Frequency (CTAF) to give position reports and acknowledge other aircraft in the vicinity. The CTAF is 122.8 MHz.

The Airport's traffic pattern for all four runways is a standard left-turning (counterclockwise) pattern. The standard traffic pattern altitude is 1,000 feet above ground level (AGL), but large and turbine aircraft enter the pattern at 1,500 feet AGL. The size of the traffic pattern varies depending on the aircraft's performance characteristics.

There are several restricted airspace and military operations areas around the Grant County Airport, as illustrated in **Exhibit 1F**. In the exhibit, the arrows to the west call attention to the MOAs while the arrows to the east point out the restricted airspace.

Exhibit 1F. Grant County Airport and Surrounding MOAs and Restricted Airspace



Source: FAA

Also notable is that Holloman AFB had an Environmental Impact Statement (EIS) under review prior to the beginning of this airport planning study. The proposal under review presented various alternatives that greatly expands their MOA airspace with several negatively impacting Grant County Airport operations. The Grant County Airport Manager submitted comments on behalf of the Airport. In early 2021, an alternative for the MOA was selected in early 2021, which does not impact Grant County Airport.

Part 77 Imaginary Surfaces

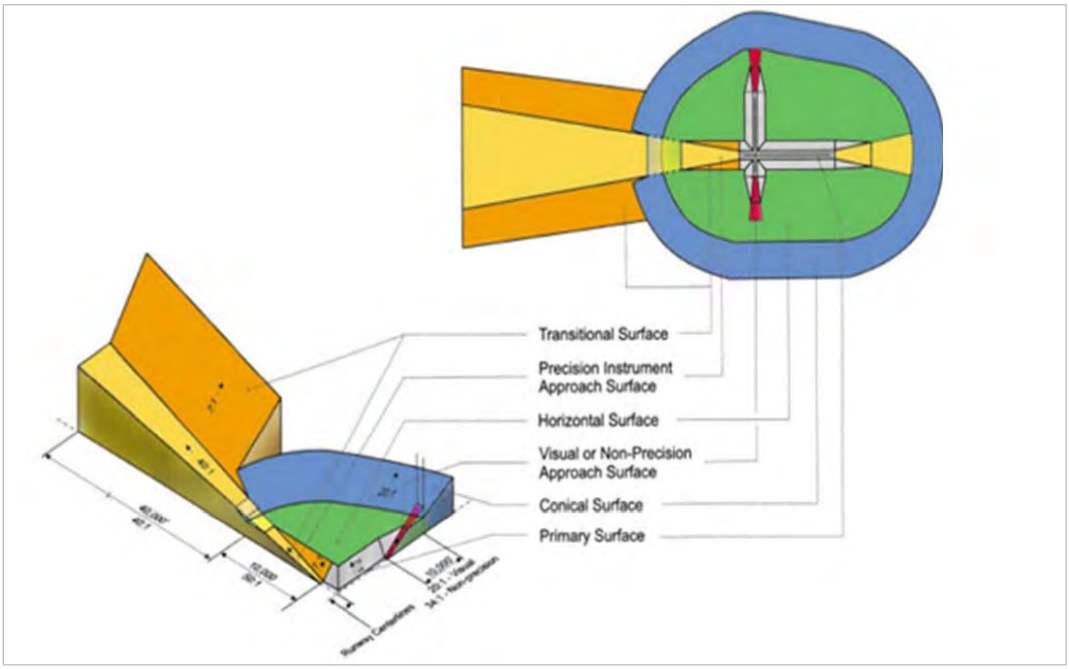
An early introduction to airspace surfaces and obstructions is appropriate to lay the foundation for airport development alternatives evaluation and airport layout plan drawings presented later in the Action Plan. Guidance in 14 Code of Federal Regulations (CFR) Part 77, *Safe, Efficient Use, and Preservation of the Navigable Airspace* (Part 77) establishes standards for determining which structures pose potential

obstructions to air navigation. This is accomplished through defining specific airspace areas around an airport that should not contain any protruding objects. These airspace areas are referred to as "Imaginary Surfaces." Obstructions to these imaginary surfaces might include towers, buildings, trees, or terrain.

The imaginary surfaces outlined in Part 77, and illustrated in **Exhibit 1G**, include the following:

- Primary Surface
- Approach Surface
- Transitional Surface
- Horizontal Surface
- Conical Surface

Exhibit 1G. Part 77 Imaginary Surfaces



Source: FAA (ODOT/FAA Workshop Presentation)

Part 77 surface definitions are as follows:

Primary Surface: The primary surface is longitudinally centered on a runway. When the runway has a hard surface, the primary surface extends 200 feet beyond each end of the runway. The width of a primary surface ranges from 250 feet to 1,000 feet, depending on the existing or planned approach and runway type (e.g., visual, non-precision, or precision).

Approach Surface: Longitudinally centered on the extended runway centerline, the approach surface extends outward and upward from the end of the primary surface. An approach surface is applied to each end of each runway based on the type of approach. The approach slope of a runway is 20:1, 34:1, or 50:1, depending on the sophistication of the approach. FAA approach surfaces are 20:1 for visual approaches, 34:1 for non-precision approaches, and 50:1[8] for precision approaches.

Transitional Surface: Transitional surfaces extend outward and upward at right angles to the runway centerline, with the runway centerline extended at a slope of seven feet horizontally for each foot vertically (7:1) from the sides of the primary and approach surfaces. The transitional surfaces extend to where they intercept the horizontal surface at a height of 150 feet above the runway elevation. Transitional surfaces for those portions of the precision approach surface, which project through and beyond the limits of the conical surface, extend 5,000 feet horizontally from the edge of the approach surface and at right angles to the runway centerline.

Horizontal Surface: The horizontal surface is a horizontal plane located 150 feet above the established airport elevation, covering an area from the transitional surface to the conical surface. The perimeter is constructed by swinging arcs from the center of each end of the primary surface and connecting the adjacent arcs by lines tangent to those areas. For all approaches to runways supporting large aircraft, the radius of each arc used to construct the horizontal surface is 10,000 feet.

Conical Surface: The conical surface extends upward and outward from the periphery of the horizontal surface at a slope of one foot for every 20 feet (20:1) for a horizontal distance of 4,000 feet.

The Action Plan examines how Part 77 surfaces specifically apply for Grant County Airport in addressing future airfield development and the preparation of airspace drawings for the Action Plan. Protection of these surfaces is critical to the safety of flight operations, so area obstructions are important considerations in the planning study.

Fortunately, no major obstructions have been identified off the Runway 8-26 ends, but FAA records show one obstruction in the approach to Runway 26 and six obstructions near the crosswind runway ends. The Runway 26 obstruction is a tower crane used for mining operations, which sits an estimated 274 feet above runway elevation on runway centerline approximately 1.7 miles from the Airport. The obstructions

[8] Precision instrument approach slope is 50:1 for inner 10,000 feet and 40:1 for an additional 40,000 feet.

near the unpaved crosswind runways range from four to 35 feet above runway elevation. A summary follows in **Table 1.6**:

Table 1.6 - Obstructions

Runway	Obstruction Description	Distance from Runway	Offset from Centerline	Height above runway
3	Pole	800 ft	250 ft right	35 ft
21	Fence	0 ft	on centerline	4 ft
12	Fence	100 ft	on centerline	5 ft
30	Tower	800 ft	100 ft right	30 ft
17	Fence	0 ft	on centerline	6 ft
35	Powerline	1,000 ft	on centerline	35 ft
26	Tower Crane (mining ops)	8,800 ft	on centerline	274 ft (Elev. 5621 ft)

Source: FAA Airport Master Record (Form 5010)

LAND USE AND ZONING

The Grant County Airport is 20 miles from Silver City and 6½ miles from Hurley, so community growth within the airport environs has not been a significant issue. However, there are four residential properties in the airport vicinity.

To protect the Airport environs from future development that is incompatible with airport operations, airport sponsors typically adopt a type of airport influence area, also referred to as an airport overlay zone, based on the FAA-defined airspace surfaces that surround their airport. Recommendations for protection of the airport environs have been presented in past NMASP studies and often align with airspace surface boundaries and the traffic patterns. Airspace dimensions appropriate for Grant County Airport are presented in the ALP set.

Since the Grant County Comprehensive Plan 2017, states that there is no zoning, a designated area to protect the airport environs from incompatible land use development will serve the needs of the Airport in the long term. Unlike residential development and other noise-sensitive land uses, commercial and industrial development is often appropriate near an airport environment. The *Economic Development Master Plan for Grant County 2012* discussed the potential for industrial park development near the Grant County Airport, but plans remain preliminary.

ENVIRONMENTAL INVENTORY

As part of the planning study, a basic review of existing environmental conditions is completed for the Airport. Environmental categories addressed are generally derived from *FAA Order 1050.1F, Environmental Impacts: Policies and Procedures.* This review of known environmental conditions is not intended to follow the NEPA process. However, the information serves as the first step in considering potential environmental concerns when creating a future development program. Categories excluded from this environmental inventory are not applicable or not relevant at this point in the planning process.

This section reviews existing documentation available. No environmental studies have been recently produced for any project area in the Grant County Airport vicinity. Consequently, this section draws from online information and the previous planning study's section on environmental inventory.

Air Quality

The U.S. Environmental Protection Agency (EPA) sets air quality standards six different pollutants considered harmful to public health: carbon monoxide (CO), lead (Pb), nitrogen oxides (NO_x), ozone (O_3), particulate matter (PM), and sulfur oxides (SO_x).

The EPA designates areas within each state as being in attainment, nonattainment, maintenance, or unclassifiable for each of the six criteria pollutants. Grant County (within Quality Control Region 012) had been designated as nonattainment for sulfur dioxide (SO_2) since 1978, until an analysis was completed to redesignate attainment/maintenance status. The analysis was requested by the EPA since Grant County had not exceeded the air quality standards for SO_2 for decades "…due to permanent and enforceable reductions in SO_2 emissions." According to the New Mexico Environment Department, the maintenance area is located at the Phelps Dodge Chino Copper Smelter in Grant County and defined as a 3.5-mile radius region around the smelter as well as high elevation areas within an eight-mile radius.

Grant County is presently in attainment status for all other criteria pollutants.

Biological Resources

The U.S. Fish and Wildlife Service online database provides a list of endangered and threatened species by county. A biological resources survey is not conducted as part of the planning study. **Table 1.7** lists 18 species and their status in Grant County to include two candidate species, eight threatened species, seven endangered species, and one species under review.

While the species listed are known to occur in the county, further study is needed to assess the potential occurrence within the immediate airport environs.

Table 1.7 - Federal List of Endangered and Threatened Species in Grant County

Group	Species - Common Name	Scientific Name	Status
Mammals	Gray wolf	Canis lupus	Candidate
Mammals	Mexican long-nosed bat	Leptonycteris nivalis	Endangered
Mammals	Mexican wolf	Canis lupus baileyi	Endangered
Birds	Mexican spotted owl	Strix occidentalis lucida	Threatened
Birds	Yellow-billed Cuckoo	Coccyzus americanus	Threatened
Birds	Southwestern willow flycatcher	Empidonax traillii extimus	Endangered
Reptiles	Northern Mexican gartersnake	Thamnophis eques megalops	Threatened
Reptiles	Narrow-headed gartersnake	Thamnophis rufipunctatus	Threatened
Amphibians	Chiricahua leopard frog	Rana chiricahuensis	Threatened
Fishes	Gila topminnow (incl. Yaqui)	Poeciliopsis occidentalis	Endangered
Fishes	Gila trout	Oncorhynchus gilae	Threatened
Fishes	Beautiful shiner	Cyprinella formosa	Threatened
Fishes	Loach minnow	Tiaroga cobitis	Endangered
Fishes	Gila chub	Gila intermedia	Endangered
Fishes	Spikedace	Meda fulgida	Endangered
Fishes	Chihuahua chub	Gila nigrescens	Threatened
Insects	monarch butterfly	Danaus plexippus	Candidate
Insects	Gila mayfly	Lachlania dencyanna	Under Review

Source: U.S. Fish & Wildlife Service, Environmental Conservation Online System (ECOS) -- Listed Species believed to or known to occur for Grant County, New Mexico

Department of Transportation, Section 4(f)

There are no properties protected under Section 4(f) at or in the vicinity of the Airport. This includes publicly owned parks, recreation areas, and wildlife or waterfowl refuges of national, state or local significance or land from a historic site of national, state or local significance.

Farmlands

Farmlands are defined as those agricultural areas considered important and protected by Federal, state, and local regulations. Certain soils are considered high-value, or prime, farmland depending on drainage, mineral and other characteristics. While there are no lands within the Airport area identified as agricultural lands, there are soils identified as prime farmland if irrigated as shown in **Table 1.8** and **Exhibit 1H**.

Table 1.8 - NRCS Farmland Designation for Grant County Airport

Map Symbol	Map Unit Name	Farmland Classification
17	Guy very cobbly loam, 15 to 35 percent slopes	Not prime farmland
25	Lonti gravelly loam, 15 to 35 percent slopes	Not prime farmland
26	Lonti gravelly clay loam, 0 to 8 percent slopes	Not prime farmland
32	Manzano loam, 0 to 1 percent slopes	Prime farmland if irrigated
33	Manzano loam, 1 to 3 percent slopes	Prime farmland if irrigated
41	Orthents, 25 to 60 percent slopes	Not prime farmland
43	Paymaster-Ellicott complex, 0 to 1 percent slopes	Farmland of statewide importance
44	Paymaster-Ellicott complex, 1 to 3 percent slopes	Not prime farmland
47	Plack gravelly loam, 0 to 8 percent slopes	Not prime farmland
55	Ruidoso clay loam, 3 to 5 percent slopes	Prime farmland if irrigated
58	Sanloren-Majada variant complex, 1 to 15 percent slopes	Not prime farmland

Exhibit 1H. Soils Map

Source: NRCS

Hazardous Materials, Solid Waste, and Pollution Prevention

When evaluating hazardous waste impacts, there should be a review of existing contaminated sites at or in the vicinity of the airport. According to available online EPA records, there are no National Priority List (NPL) sites or cleanup sites in the airport vicinity.

Hazardous materials and waste at the Grant County Airport are most often associated with materials such as aircraft and ground equipment fuel, agricultural application chemicals, and firefighting materials. Other hazardous waste locations in the airport area may include older buildings and/or hangars that may have used hazardous building materials.

In January 2019, the FAA released a Part 139 CertAlert (No. 19-01) regarding Aqueous Film Forming Foam (AFFF) systems on their Aircraft Rescue and Firefighting vehicles due to the growing concern over the use and discharge of a specific AFFF in use at airports. The discharge of AFFF is a common practice when firefighters are testing equipment including the fire suppression operating systems to ensure all will function properly in an emergency. The concern is that a chemical compound in a commonly used AFFF has been found to potentially contaminate drinking water. This concern resulted in a mandate within the FAA Reauthorization Act of 2018 (enacted October 5, 2018), directing the FAA to stop requiring the use of fluorinated foam no later than three years from the date of enactment (October 4, 2021). The FAA indicated that research is ongoing into higher performing fluorine-free firefighting foams as an alternative to AFFF use, but provided alternatives for immediate use that satisfy the Part 139 testing requirement while minimizing the environmental impact.

The Airport's fuel farm is out of compliance with New Mexico environmental regulations since it does not have a secondary containment system for fuel transfer, but a project is under way to bring the fuel farm into compliance.

Grant County contracts for waste-handling services for the Airport. The landfill used is located approximately seven miles northwest of the Airport and a transfer station is an estimated five miles north of the Airport. Limited recycling services are also available.

Historical, Architectural, Archaeological, and Cultural Resources

According to the New Mexico State Historic Preservation Office (SHPO) online records, there are 72 sites listed for Grant County, but none are located at or adjacent to the Airport. In the final draft report (2016) produced for the previous planning study, it was noted that the County and other stakeholders suggested that some limited environmental analyses had been conducted at and around the Grant County Airport as part of a fencing project several years prior. It was stated that the preliminary review mentioned possible cultural resources to the west of the Airport. However, the County was unable to locate any documentation on this potential issue. Since the airport opened in 1951, the site was disturbed during the initial construction of facilities as well as subsequent construction of additional facilities over the years. During excavation for this development, it is believed that no artifacts were found. However, any future

development should include the appropriate environmental analyses to include a cultural resources survey.

Natural Resources and Energy Supply

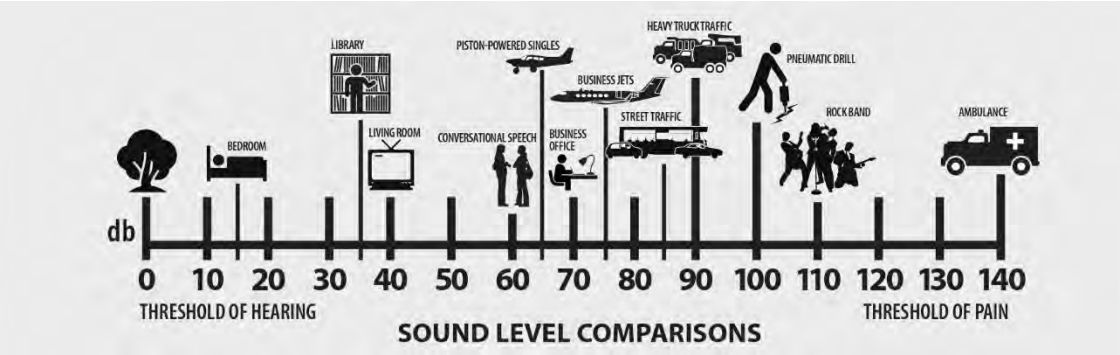
There are no current issues with natural resources and energy supply needs at the Airport. Any airport improvements and anticipated growth in aviation activity are not expected to substantially change energy or natural resource needs. However, all future development and activity should integrate the principles of sustainability such as renewable energy when feasible.

Noise and Compatible Land Use

Noise can impact a community's quality of life so promoting compatible land use around an airport is essential to minimize noise impacts. Noise caused by aircraft operations is typically the primary airport-related environmental issue for the public. Even moderate noise exposure can raise concerns, particularly in more quiet rural areas that don't have the ambient noise that cities do. Consequently, compatible land use development in the airport environs is important to minimize noise impacts.

Grant County Airport has an opportunity, not afforded to many airports nationwide, to protect its airport environs from noise-sensitive development well before future aviation activity and associated noise significantly increases. Residential, educational, health and religious uses are all considered noise sensitive uses. Parks, recreation areas, wild areas, wildlife refuges, and cultural and historic areas are also noise sensitive. With some residential development already in the airport vicinity, actions should be taken to protect the airport environs from any significant noise-sensitive development. **In Exhibit 1I**, sound levels for a variety of noise sources at varying decibel (dB) levels, from 0 to 140, is compared.

Exhibit 1I. Sound Level Comparisons



Source: AOPA's Guide to Airport Noise and Compatible Land Use

Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks

This category is to assure the fair treatment and meaningful public involvement of all people regardless of race, color, national origin, or income so no group of people should experience a larger share of the negative impacts from any policy decision-making. In addition, Federal agencies are directed to examine any actions that specifically affect children, namely their health and safety. It is important to treat the impacts to children separately since children may be more susceptible to environmental hazards and experience higher levels of adverse effects compared to adults with the same exposure.

Presently, there is minimal residential development in the vicinity of the Airport and all schools and community facilities far removed from the Airport, so any proposed development is not anticipated to disproportionately impact any particular group or children.

Visual Effects

Grant County Airport's airfield lighting systems, which are necessary for safe and efficient operations, include HIRL and a MIRL systems, runway approach lighting, a REIL systems, PAPI systems, and a rotating beacon. Other airport area lighting includes aircraft ramp areas and auto parking areas for security. Airport lighting may disturb sensitive land uses such as residential areas. However, the Airport is remotely located from community development so light emissions are not presently an issue.

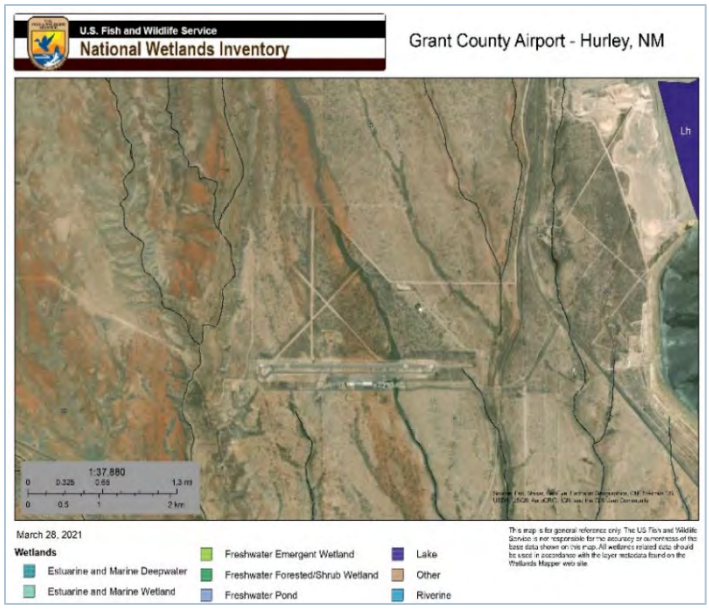


Exhibit IJ. Grant County Airport Wetlands Map

Water Resources

Wetlands

There are no wetlands on or in the immediate vicinity of the Airport. A national wetland inventory map derived from the USFWS depicts wetlands in the region (**Exhibit 1J**). Wetlands are defined as "those areas that are inundated by surface or groundwater with a frequency sufficient to support and under normal circumstances does or would support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction." Federal agencies are required to avoid, minimize, and/or mitigate the destruction, loss, or degradation of wetlands.

Floodplains

According to the Federal Emergency Management Agency (FEMA) maps, there are no special flood hazard areas on the Airport. Floodplains are the lowlands and relatively flat areas adjoining inland and coastal waters including flood prone areas of offshore islands, at a minimum, that are prone to the 100-year flood.

Exhibit 1K. FEMA Flood Map for Grant County Airport
Source: FEMA Flood Map Center (https://msc.fema.gov/)

Water Quality

Construction of additional airport pavements—increasing the impervious surfaces—is the primary water quality concern for airports as additional stormwater runoff is generated. This increases the potential impacts associated with fuel or other chemical spills. While the fuel farm is currently without secondary containment for a spill, a project is already planned to address this issue. To comply with Federal and State water quality regulations, appropriate permits will be needed as part of future airport development projects. Issuance of permits prior to construction will help identify issues associated with water quality and potential impacts.

Wild and Scenic Rivers

Rivers in New Mexico designated as wild and scenic are outside Grant County so there are no wild and scenic rivers in the vicinity of the Airport. While news reports have indicated that Grant County has considered a request for protecting portions of the Gila and San Francisco Rivers under the Federal Wild and Scenic Rivers Act, these rivers are not located in proximity to the Airport.

CHAPTER 2 - FORECASTS

INTRODUCTION

Aviation demand forecasts drive the need for and timing of airport improvements, which become the basis for the airport's capital improvement plan. For Grant County Airport (SVC or Airport), forecasts are prepared for the 10-year planning period in two phases: short-term (2025) and intermediate-term (2030). However, occasional reference is made throughout the study to "long-term" aviation demand and facility needs which is beyond the planning period.

Aviation activity in 2019/2020 represents the baseline for the forecasts considering data availability and the temporary impacts of the pandemic that started in early 2020. The best available aviation activity data is used to estimate the existing activity. Airport activity data addressed for SVC includes:

- **Enplanements** - The number of commercial air service passengers boarding aircraft at SVC.
- **Air Cargo** - The estimated tonnage of freight loaded at SVC.
- **Based Aircraft** - The number and types of aircraft (fleet mix). An aircraft is "based" at an airport if it spends the majority of its time at that airport.
- **Airport Operations** - categorized by annual, local, itinerant, and type (air taxi, general aviation, and military). "Local" includes those operations that remain in the airport vicinity and typically comprise training, including touch-and-go activity. "Itinerant" includes activity that departs for or arrives from another location. Air taxi operations include commercial air service passenger activity on aircraft with 60 seats or less (referred to as commuter or regional aircraft in the past) as well as other "for hire" operations like cargo or on-demand air taxi.
- **Critical aircraft (design aircraft) and Airport Reference Code (ARC)**

Forecasts are typically prepared as a set of unconstrained projections that assume an airport sponsor has the ability and intention to improve facilities to accommodate demand in the future.

With any typical forecasting effort, projected growth often follows a simple straight line while actual activity, despite its overall growth in time, may routinely fluctuate. The cyclical nature of the economy as well as sudden and unforeseen events make predicting activity with any certainty a difficult challenge. However, examining key aviation industry trends and socioeconomic characteristics offers the most promising assessment of near- to intermediate-term potential growth.

The forecasts in this chapter follow Federal Aviation Administration (FAA) guidance. The FAA is responsible for reviewing and approving the forecasts, so the figures may be used to update the FAA Terminal Area Forecasts (TAF). The TAF supports the FAA's planning, budgeting, and staffing requirements, and it serves as a guide for planning airport improvements.

Grant County Airport is part of the air transportation system, so starting the forecasting process with a review of national, state and local aviation trends that influence aviation demand at SVC is appropriate.

NATIONAL AVIATION TRENDS

National aviation trends offer insight into potential local level changes in aviation activity and the extent of those changes. The FAA is the primary source of information about aviation trends in its annual Aerospace Forecast and the Terminal Area Forecast (TAF). Other aviation industry sources, such as the General Aviation Aircraft Manufacturers Association (GAMA) also provide trend information. As an airport serving both commercial air service and general aviation, trends for both at the national level are examined.

Commercial Air Passenger Service

Since airline deregulation more than four decades ago, which opened up all domestic routes to free market competition, airlines had the option of ending service to any community. This often meant the smaller communities, potentially less profitable, would be the first to go. As a result, Congress established the Essential Air Service (EAS) program, which offers a subsidy to maintain air service. While the program's future has been debated, it remains in place for now. There are three airports in New Mexico being served through the EAS program at this time—Grant County, Clovis and Carlsbad. Advanced Air was awarded the EAS contract at SVC two years ago (January 2019), replacing Boutique Air which formerly had the EAS contract. In early 2021, Advanced Air's contract was renewed for another two years.

Although EAS is a unique program that provides passenger air service to a community that would otherwise go without it, national trends in commercial passenger activity remain an influencing factor on all air travel. FAA projects commercial passenger activity in FAA Aerospace Forecasts, 2020-2040, covering both major U.S. carriers as well as the regional/commuter carriers with the latter most relevant to SVC. Total commercial air passenger demand is projected to grow at 2.0% annually over the next 20 years.

The FAA points out that regional carriers have been facing challenges as they compete for even fewer contracts with the remaining dominant carriers. Pilot shortages coupled with costly labor increases to fill those positions have expanded those challenges. For those regional carriers operating the 50-seat regional jets, upfront capital is required to upgrade to the more fuel-efficient 70 seat jets. Despite FAA's narrative regarding the constraints on the regional market, FAA projections for growth in passenger traffic remain at 2.0% annually over the next two decades for regional carriers. The difference is that the total regional carrier aircraft fleet is projected to decrease as demand for larger aircraft with greater seating capacity replace smaller aircraft with less seats. Aircraft with nine seats or less are projected to decrease by 5.7% annually over the next decade following an historical decline of 1.8% annually since 2010. Aircraft with a seating capacity of 10 to 19 have been decreasing at 2.7% annually since 2010, and the FAA projects a more rapid decline of 11.4% annually in the future. In contrast, aircraft with more than 40 seats are forecast to grow at 0.9% annually through 2040 following a decade of 0.3% annual growth.

Air Cargo

The Grant County Airport has supported air cargo activity over the years, so national air cargo trends are briefly reviewed. The FAA Aerospace Forecast addresses air cargo trends and projects that air cargo revenue ton miles will grow 2.0% annually over the next 10 years and 1.9% the following decade, which aligns with GDP growth projections. Also notable is the historical data from USDOT Bureau of Transportation Statistics, which shows an increase of 7.3% in airline air cargo from 2019 to 2020 (**Table 2.1**).

Table 2.1 Systemwide Percent Change in US Airlines Cargo by Weight (Cargo-Freight-Mail)

	2016-2017	2017-2018	2018-2019	2019-2020
January	6.5	10.6	4.9	-1.4
February	6.2	9.3	-0.4	-0.4
March	8.0	5.7	-0.3	-1.4
April	2.5	5.7	4.5	-1.3
May	11.0	9.0	3.1	1.2
June	6.9	5.6	-1.2	9.5
July	7.2	6.6	3.6	12.8
August	10.4	4.8	0.2	5.7
September	4.7	4.9	-4.5	18.6
October	11.1	5.7	-1.2	13.0
November	10.8	-0.7	-2.2	13.0
December	**5.5**	**0.2**	**0.7**	**16.9**
Annual	**7.6**	**5.4**	**0.5**	**7.3**

Source: Bureau of Transportation Statistics, T-100 Market
* December 2020 data is preliminary

General Aviation (GA)

General aviation (GA) trends are often discussed in terms of aircraft fleet mix and deliveries, hours flown, and business use. GA activity refers to all activity other than scheduled commercial airline and military activity, so a broad range of aircraft are utilized for GA ranging from small single-engine piston to large

business jets and rotorcraft. For this reason, the FAA captures and documents historical activity by aircraft type to assess trends and prepare activity projections.

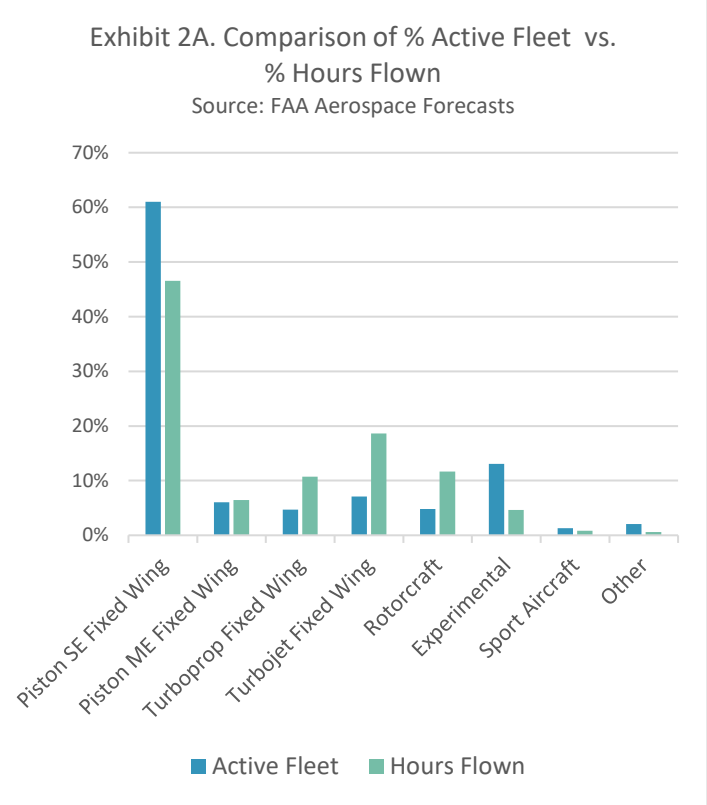
According to the FAA Aerospace Forecasts, the GA active aircraft fleet includes 212,335 aircraft while GA hours flown is nearly 25.9 million (**Table 2.2**). Also notable is that an estimated two-thirds of the total GA hours flown are for business purposes. As shown, higher performance aircraft have a higher utilization rate than piston airplanes. In fact, turbojet fixed wing aircraft fly more often than any other aircraft in the GA fleet at an estimated 320 hours annually per aircraft. Rotorcraft are ranked second for utilization at an average of 297 hours annually.

Table 2.2 - Nationwide GA and Air Taxi Active Fleet and Hours Flown

Aircraft Type	Active Aircraft	% Fleet	Hours Flown (000)	% Hours Flown	Hours per Aircraft
Piston SE Fixed Wing	129,535	72.98%	12,030	49.51%	92.9
Piston ME Fixed Wing	12,800	7.21%	1,670	6.87%	130.4
Turboprop Fixed Wing	9,965	5.61%	2,774	11.42%	278.4
Turbojet Fixed Wing	15,035	8.47%	4,810	19.79%	319.9
Rotorcraft	10,165	5.73%	3,015	12.41%	296.6
Subtotal	**177,500**	**100.00%**	**24,299**	**100.00%**	**136.9**
Experimental	27,725	79.59%	1,195	76.10%	43.1
Sport Aircraft	2,700	7.75%	209	12.01%	77.5
Other	4,410	12.66%	150	11.89%	33.9
Subtotal	**34,835**	**100.00%**	**1,554**	**100.00%**	**44.6**
TOTAL	**212,335**		**25,853**		**119.5**

Source: FAA Aerospace Forecasts 2020-2040 (table data represents existing for 2018).
SE=Single Engine ME = Multi Engine
Note: The total active aircraft fleet number in this table is similar to the previous year but total hours flown has increased by 1.7%.

Exhibit 2A provides a visual illustration of the differences between the various aircraft types. Each aircraft's representative portion (percentage) of the total active fleet is compared side-by-side with its representative portion of hours. Clearly, the piston single-engine fixed wing category represents the large majority of the active fleet, whereas hours flown is disproportionately low. Turboprop, turbojet and rotorcraft reveal the opposite with their higher share of hours flown compared to percentage share of fleet. Multi-engine aircraft have a comparable share of both fleet and hours flown.



Overall, piston engine aircraft have been declining in recent years. The aviation industry is forecasting a continued decline in the piston fleet as older aircraft are retired. Other aircraft such as jets and sport aircraft have shown strong growth in recent history and the FAA projects that growth will continue. Business aviation growth has boosted the increase in jet aircraft, which the FAA forecasts to increase 2.2% annually. **Exhibit 2B** presents the projected growth rates for each aircraft type in the GA fleet; projected hours flown for each is depicted in **Exhibit 2C**. As shown, FAA projects growth for all excluding the piston fleet. In total, GA hours flown is projected to increase at 0.7% annually. However, the total number of active GA aircraft is expected to remain stable as the growth in six of the GA aircraft types is offset by the decline in the piston fleet.

Exhibit 2B. Annual Growth Rates for GA Active Aircraft 2020-2040

Source: FAA Aerospace Forecasts

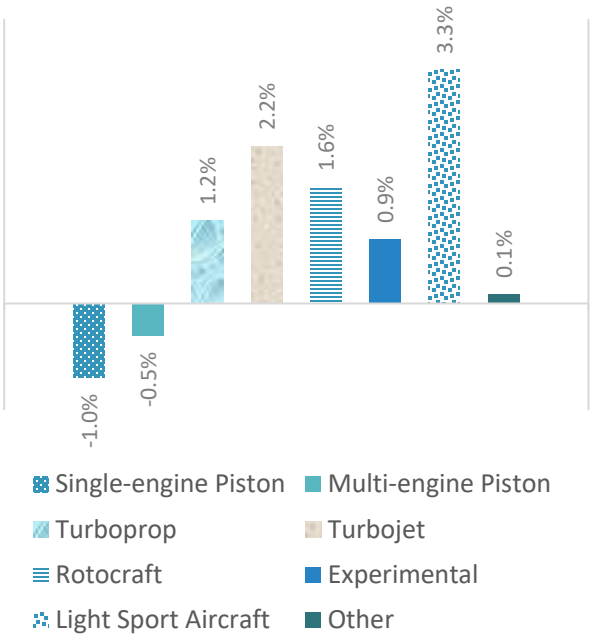
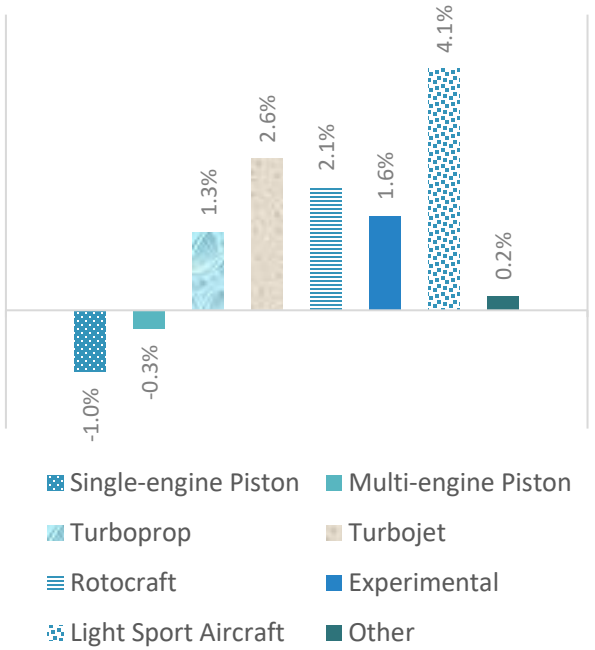


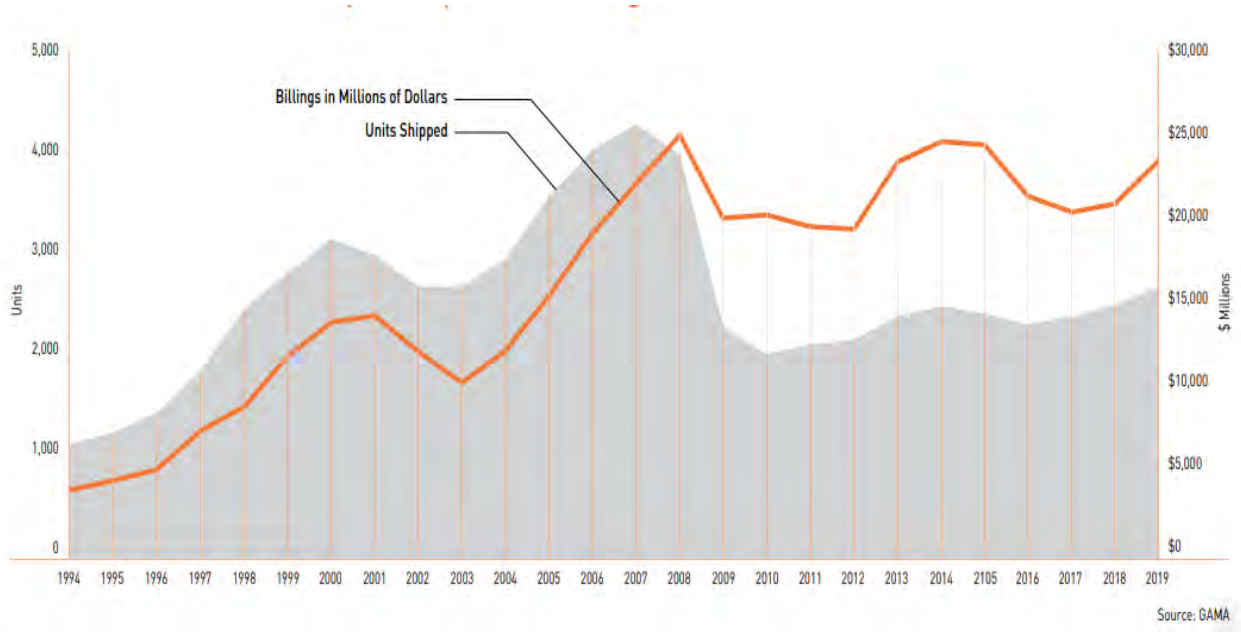
Exhibit 2C. Annual Growth Rates For GA Hours Flown 2020-2040

Source: FAA Aerospace Forecasts



The General Aviation Manufacturers Association (GAMA) is an important resource for trends in aircraft shipments and billings by type. Each year, the FAA refers to the GAMA data in preparation of the FAA Aerospace Forecasts. **Exhibit 2D** charts the history of aircraft shipments and billings since 1994. The billings activity line began tracking higher than the aircraft shipments as costly higher-performance aircraft orders outpaced others.

Exhibit 2D. General Aviation Airplane Shipments and Billings Worldwide (1994–2019)



The most recent data from GAMA was reported in a February 2021 news release that covered 2020 year-end data. The much-awaited information on 2020 was compared to 2019 to assess the pandemic impact. According to GAMA, aircraft deliveries on 2020 totaled $22.8 billion, down from the $27.3 billion in 2019, and all GA aircraft types saw a decline in shipments. Despite the news, industry leaders are predicting a robust recovery in aircraft demand.

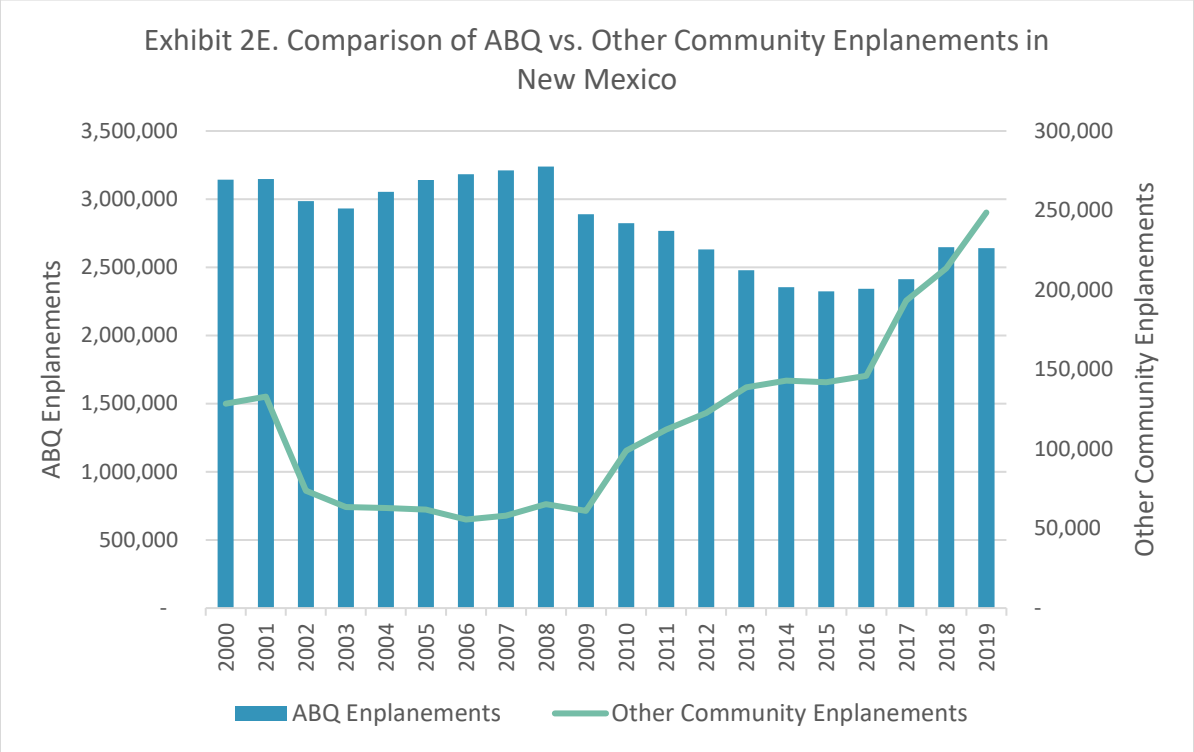
Honeywell also anticipates that the COVID-19 pandemic impacts will be short-lived, and that business jet deliveries and expenditures will recover to 2019 numbers by late 2021. Honeywell noted that their survey of business jet operators reveals that 80% have purchase plans not affected by the pandemic. In Honeywell's Global Business Aviation Outlook, published annually for the last 29 years, business jet deliveries are expected to reach 7,300 between 2021 and 2030, worth $235 billion. Business aviation has been considered a GA segment with great growth potential, and its growth often signals a healthy GA industry.

STATE AVIATION TRENDS

State aviation trends are generally pulled from the New Mexico Airport System Plan Update (NMASPU) 2017[1] along with the latest available FAA data on each state. The FAA maintains historical enplanement activity for New Mexico airports from Albuquerque International (ABQ) to small community air service airports. In 2019, New Mexico enplanements totaled 2.89 million comprised of 91.4% at ABQ and 8.6% at

[1] The NMASPU is published by the New Mexico Department of Transportation (NMDOT) Aviation Division and typically updated every six to eight years, with earlier versions dated 2009 and 2003.

other airports statewide. **Exhibit 2E** illustrates the fluctuations in activity at ABQ in comparison to the rest of the state enplanements combined. As shown, the chart illustrates growth in recent years, particularly for other air service around the state.



The NMASPU 2017 also covers GA activity including statewide based aircraft and operations, which is also reviewed and projected in this study for SVC. According to the 2017 Plan, based aircraft in New Mexico are projected to grow 1.1% annually over the next 20 years. Trailing behind is the projected 0.69% annual growth in GA operations for New Mexico.

Other highlights from the NMASPU 2017 include:

- Aircraft fleet mix in New Mexico has been shifting. From 2000 to 2013, the state saw the following proportionate changes by aircraft type:
  - Single-engine pistons went from 65.1% of aircraft registrations down to 61.4%
  - Multi-engine piston aircraft represented 8.6% of the fleet declining to 6.3%
  - Turboprop aircraft increased their share from 2.6% to 3.3%
  - Jet aircraft increased from 2.4% to 3.4%
  - Helicopters increased from 1.4% to 3.8%.
- In 2013, New Mexico based aircraft were estimated at 1,625, down significantly from the 2,137 reported in 2007 by the previous NMASPU. Statewide GA operations were also estimated. Derived from towered airports with more reliable counts as well as non-towered airports with

rough estimates, total GA operations were estimated at nearly 546,500 for New Mexico, down from 773,650 statewide in the 2007 estimate—evidence of the recession's impact on GA and its slow recovery at the time.

LOCAL AVIATION TRENDS

To assess local aviation trends, a variety of data is examined including enplanements, air cargo landed weight, based aircraft inventory, estimated operation counts, and fuel sales. Historical activity and forecasts published by the FAA and NMDOT Aviation Division are an important element in this process. Feedback from stakeholder interviews and a survey questionnaire early in the planning study also helped characterize SVC operations.

SVC Enplanements

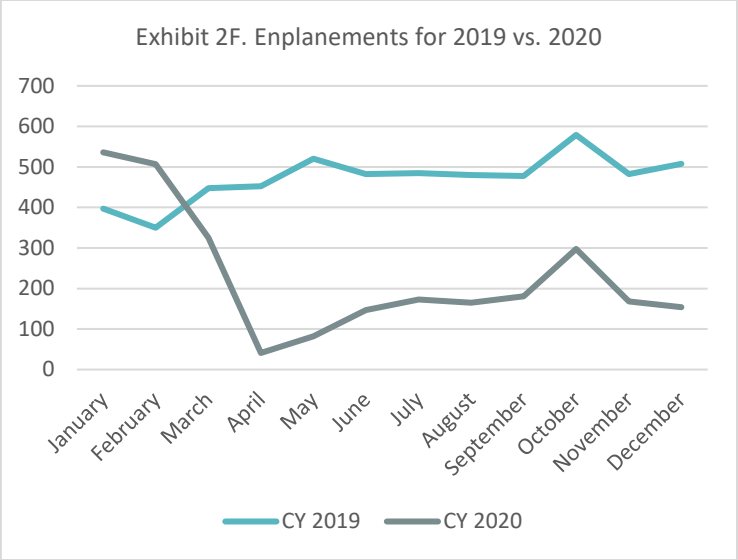
The number of enplanements at SVC has seen substantial fluctuations over the last two decades. According to FAA historical data, enplanements dropped to their lowest level in 2013, and reached their highest level in 2019 just before the pandemic (**Table 2.3**). In fact, enplanements exceeded 5,000 for the first time in 2016, growing to nearly 6,000 in 2019. The Airport's airline (Advanced Air) operates a fleet of King Airs with a nine-passenger capacity on 24 outbound flights weekly. This translates to a total seating capacity of up to 216 weekly, or 11,232 annually. Considering there were 5,968 enplanements in 2019, the air service flew at approximately 53% capacity for the year.

Table 2.3 – Historical Enplanements at SVC

Year	Enplanements	% Change	Year	Enplanements	% Change
2000	3,147		**2010**	1,600	-19.2%
2001	2,572	-18.3%	**2011**	1,570	-1.9%
2002	1,931	-24.9%	**2012**	1,468	-6.5%
2003	1,715	-11.2%	**2013**	1,401	-4.6%
2004	1,813	5.7%	**2014**	1,455	3.9%
2005	2,090	15.3%	**2015**	3,063	110.5%
2006	2,315	10.8%	**2016**	5,147	68.0%
2007	2,097	-9.4%	**2017**	5,630	9.4%
2008	2,709	29.2%	**2018**	5,855	4.0%
2009	1,981	-26.9%	**2019**	5,968	1.9%

Source: FAA Terminal Area Forecast (TAF). Note: The FAA updates TAF figures annually. For planning studies, the most recent TAF data available is used at the time the forecasting element is initiated.

To assess the overall impact of SVC air travel during the pandemic, a chart is presented to compare passenger traffic month-for-month between 2019 and 2020 (**Exhibit 2F**), which clearly illustrates the substantial drop in passenger in early 2020. With the aviation industry's optimistic outlook on recovery, the steep decline in 2020 could potentially turn around in the near-term[2]. Further, stakeholder interviews and passenger survey responses provided positive feedback regarding the SVC air service.



SVC Air Cargo

Historical data available for SVC air cargo activity from online FAA and USDOT records is limited to 2018 and 2019 figures. In 2019, air cargo is reported as 2,467,500 pounds (1,234 tons) landed weight, up 3.75% over the 2,378,350 pounds (1,189 tons) in 2018. This local air cargo growth exceeds the 0.5% growth seen systemwide in U.S. airlines cargo for the same timeframe (2018-2019) but is below the nationwide 5.4% growth seen the year prior (presented earlier in Table 2.1).

The FAA Airport Master Record (Form 5010) and the FAA Terminal Area Forecast (TAF) do not break out air cargo operations or air cargo tonnage as a separate activity indicator. However, this study briefly examines the activity since considerable air cargo activity may increase apron/ramp needs discussed in the next chapter.

Air cargo operations were not historically tracked or recorded by SVC until recently. However, freight operations in a Piper Navajo were identified in Instrument Flight Rules (IFR) records for SVC from 2015 to 2018 (**Table 2.4**).

Little activity (Jan/Feb timeframe) was identified as "freight" in the 2019 IFR records, but it is possible that the majority of air cargo operations in the IFR records were unidentified or called out as GA. Fortunately, airport management maintained records of air cargo operations for 2019, which totaled 550.

[2] To assess the gradual recovery of passenger enplanements at SVC, data available for January through July 2021 was compared to the same period in 2019 (pre-pandemic) and 2020 (pandemic). For January through July 2021, enplanements reached 2,473, which is 37% above CY 2020 (pandemic) figures for the same period, but 21% below CY 2019 (pre-pandemic) for the same period. Enplanements for the entire CY 2021 were just 13% below 2019.

Table 2.4 – Estimated Air Cargo Operations

Year	Estimated Total Freight Ops (per IFR records)	Average ops/month
2015	510	42.5
2016	504	42
2017	338	28
2018	412	24
Note: Online IFR data does not identify regular freight activity in 2019 and 2020, but SVC is now tracking air cargo operations and shows 550 operations for 2019. In 2019, air cargo activity was conducted by Ameriflight through March, then South Aero from April forward.		

SVC Based Aircraft

Historical based aircraft for SVC can be found in the FAA Terminal Area Forecast (TAF) publication (**Table 2.5**). While the historical figures for many airports are questionable due to past reporting practices, their accuracy is expected to improve over time as the FAA and airport sponsors implement strategies to report more reliable figures. In the meantime, the FAA TAF is the best available source of historical data. An aircraft is "based" at an airport if it spends the majority of its time there.

For existing based aircraft, more reliable data is available from airport management and the FAA's National Based Aircraft Inventory Program (NBAIP), which is an online database. When an airport manager enters an aircraft tail number at their airport into the database, the database validates the aircraft (and counts it as based) or flags it as a duplicate tail number entered for another airport. Aircraft are sometimes stored at two different locations – one on a seasonal basis. Aircraft in the NBAIP are cross-referenced with the FAA Registry to ensure each is active (not de-registered) and to identify its place of registration (city, state). Airport managers can keep their based aircraft list current through the database.

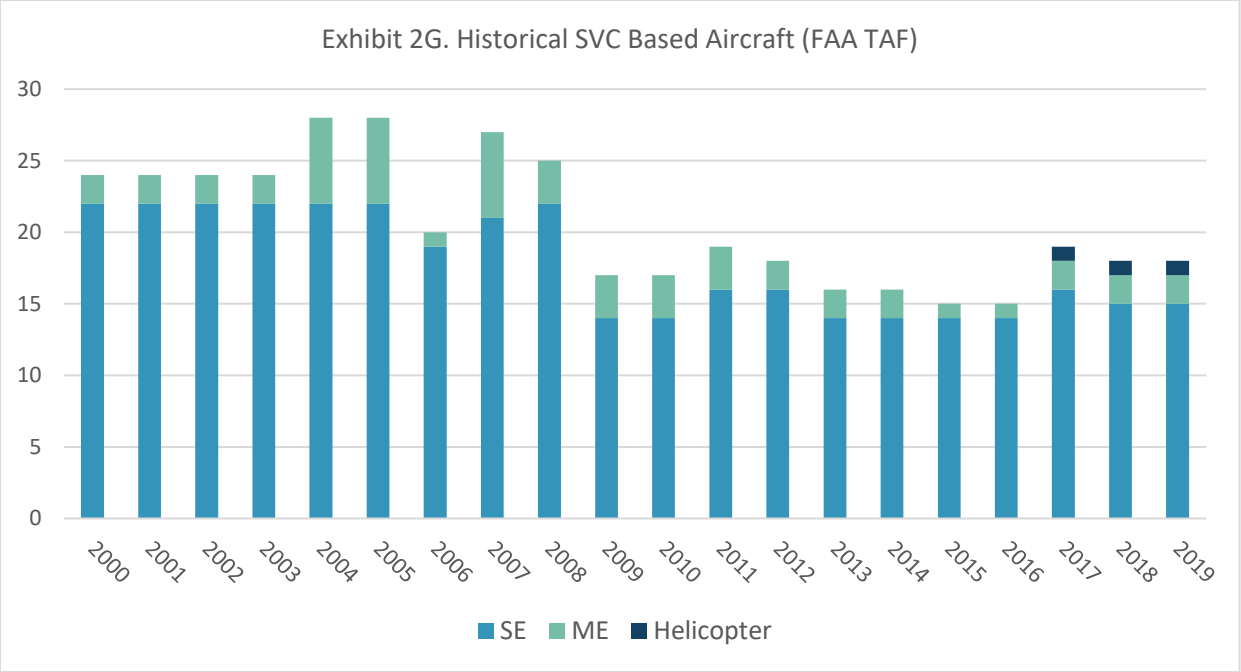
As of 2020, the NBAIP confirmed that SVC is home to 22 single-engine and four multi-engine aircraft for a total of 26 based aircraft. Therefore, the study uses 26 as the baseline count.

Table 2.5 – FAA's Historical Based Aircraft Records for SVC

Year	SE	ME	Jet	Helicopter	Other	Total
2000	22	2	0	0	0	24
2001	22	2	0	0	0	24
2002	22	2	0	0	0	24
2003	22	2	0	0	0	24
2004	22	6	0	0	0	28
2005	22	6	0	0	0	28
2006	19	1	0	0	0	20
2007	21	6	0	0	0	27
2008	22	3	0	0	0	25
2009	14	3	0	0	0	17
2010	14	3	0	0	0	17
2011	16	3	0	0	0	19
2012	16	2	0	0	0	18
2013	14	2	0	0	0	16
2014	14	2	0	0	0	16
2015	14	1	0	0	0	15
2016	14	1	0	0	0	15
2017	16	2	0	1	0	19
2018	15	2	0	1	0	18
2019	15	2	0	1	0	18

Source: FAA Terminal Area Forecast (TAF). Note: FAA's historical based aircraft figures are questionable and recent numbers are well below the actual count of 26 validated in FAA's National Based Aircraft Inventory Program.

Exhibit 2G charts the FAA TAF historical based aircraft counts for SVC from 2000 through 2019. The predominant SVC based aircraft has always been single-engine aircraft ranging from 14 to 22 total according to the TAF, while multi-engine aircraft have remained at six or less.



It is important to note that only single-engine, multi-engine, jet, and helicopters are the FAA-required aircraft types for data entry in the NBAIP, and the only ones that are officially moved to the FAA Airport Master Record (Form 5010-1) upon validation. Consequently, the "Other" aircraft type category, which includes ultralights, is not officially validated (or counted) when entered into the NBAIP database. These "Other" aircraft typically do not have an N-number (tail number) for aircraft registration.

SVC Operations

Airport operations are divided into the FAA-designated categories for reporting purposes and the required FAA review and approval process. These include:

- Air Carrier
- Air Taxi
- GA Local
- GA Itinerant
- Military

Like other airports without a control tower, SVC must estimate operations. While commercial air passenger service is easily identified in IFR records for SVC, GA operations as well as some military activity is not identified if, for example, the aircraft was flying VFR or the IFR flight plan was cancelled before arrival.

In **Table 2.6**, a summary of SVC's historical operations reported in the FAA TAF are presented. Like the historical based aircraft data, the SVC operations from the FAA TAF are also questionable. Further, airport

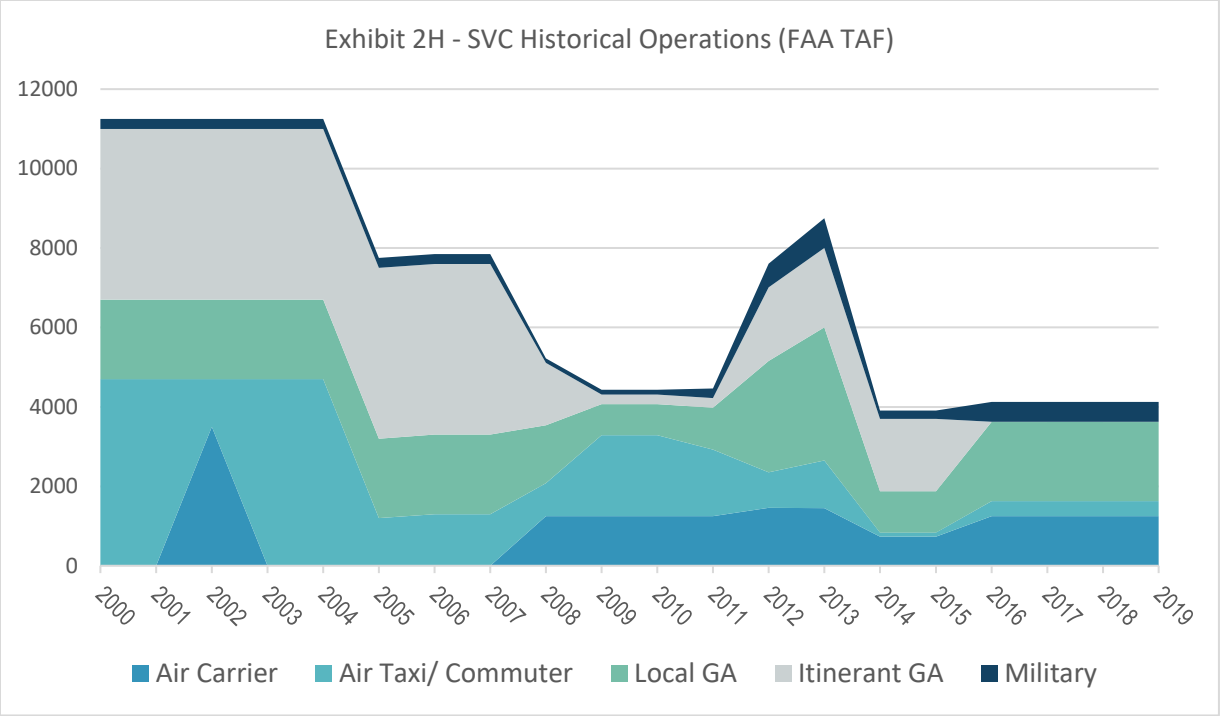
management recently updated the FAA Airport Master Record (Form 5010) operations for SVC, which estimates total annual operations at over 11,000.

Table 2.6 – Historical Operations for Grant County Airport

Year	Air Carrier	Air Taxi/ Commuter	Local GA	Itinerant GA	Military	Total Operations
2000	0	4,700	2,000	4,300	250	11,250
2001	0	4,700	2,000	4,300	250	11,250
2002	3,500	1,200	2,000	4,300	250	11,250
2003	0	4,700	2,000	4,300	250	11,250
2004	0	4,700	2,000	4,300	250	11,250
2005	0	1,200	2,000	4,300	250	7,750
2006	0	1,300	2,000	4,300	250	7,850
2007	0	1,300	2,000	4,300	250	7,850
2008	1,248	828	1,460	1,568	120	5,224
2009	1,248	2,040	780	240	120	4,428
2010	1,248	2,040	780	240	120	4,428
2011	1,248	1,680	1,055	240	240	4,463
2012	1,456	900	2,800	1,850	600	7,606
2013	1450	1,200	3,350	2,000	750	8,750
2014	730	104	1,040	1,824	208	3,906
2015	730	104	1,040	1,824	208	3,906
2016	1,250	375	2,000	0	500	4,125
2017	1,250	375	2,000	0	500	4,125
2018	1,250	375	2,000	0	500	4,125
2019	1,250	375	2,000	0	500	4,125

Source: FAA Terminal Area Forecast (TAF). Note: FAA's historical operations figures are questionable.

Exhibit 2H presents an illustration of the historical operations reported in the FAA TAF for Grant County Airport. Activity is presented for the last two decades, but the TAF includes data prior to 2000. The rationale behind the FAA TAF's itinerant GA operations for SVC going to zero for 2016 to 2019 is uncertain, but it is believed to be an error.



Fuel Records

Historical monthly fuel sales data collected for Jet A and 100LL spans 2018 to 2020. This data is often helpful in identifying patterns of activity including peak month operations. The data indicates that the May/June timeframe is the busiest for SVC, which is expectedly during fire season and early summer travel. Further, a review of total annual fuel deliveries (Jet A and 100LL) reveals growth in recent years.[3]

IFR Operations

To better understand baseline operations, fleet mix and the general character of past SVC activity, 10 years of FAA Traffic Flow Management System Counts (TFMSC) data for SVC were examined. The TFMSC data includes IFR operations with a range of turbine, piston and jet aircraft identified for SVC. Turbine aircraft comprised 80 to 90 percent of the IFR activity in the last few years. Various models of the Cessna Citation comprised the largest portion of the IFR jet traffic. In 2019, IFR operations were nearly 3,150. This translates to an estimated 28% of the total annual activity at SVC, meaning 72% of operations are under visual flight rules (VFR). Also notable is that more than 90% of the IFR operations recorded for SVC were reported as business aviation.

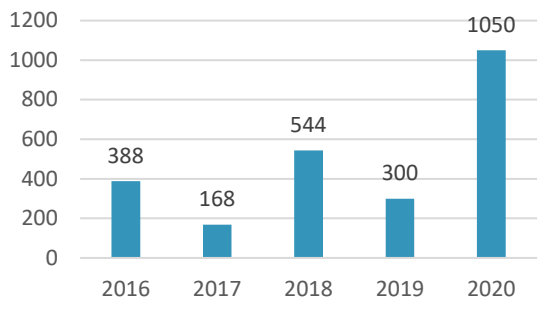
[3] In 2020, 100LL fuel sales dropped (during the pandemic) while Jet A increased, largely attributed to a busy 2020 fire season for the USFS.

User Input

A survey questionnaire distributed early in the study invited airport users, namely pilots, to share information about their aviation activity at SVC. A total of 15 operators reported a combined estimate of approximately 5,000 operations annually comprised of business, recreational and flight training activity. Business and recreational operations are itinerant activity while training is identified as local operations (touch-and-go activity).

In addition to pilot input from the survey, telephone interviews were conducted with other stakeholders to gain more insight on airport activity. The Airport's largest tenant, the USFS Gila National Forecast Aerial Fire Base, provided recent historical operations conducted during fire season **(Exhibit 2I)**. Activity ranged from a low of 168 operations in 2017 to a high of 1,050 operations in 2020, for an average of 490 since 2015. The USFS uses a diverse helicopter and fixed wing aircraft fleet including Single Engine Air Tankers (SEATs), spotter aircraft, Skycranes, MD-87s, BAe 146s, and other heavy aircraft.

Exhibit 2I. Historical USFS Operations



SOCIOECONOMIC TRENDS

Socioeconomic characteristics are examined as part of the forecasting process since they often influence aviation demand. Growth in key economic indicators can positively impact demand just as declines can have a negative impact. **Table 2.7** presents historical Grant County data and forecasts for the same. While the first three indicators are specifically considered for the planning study forecast models, the latter three still offer insight into the county's economic condition.

According to Woods and Poole Economics' forecast, Grant County population is projected to decline slightly in the coming years following two decades of declining population. In contrast, employment has grown in the last decade and modest growth is projected for the near- to long-term. Personal income per capita has more aggressively increased than employment over the last two decades with an average annual growth of 1.8% in the last five years. The same growth is anticipated through 2025, then slowing slightly to 1.7% through 2030. These growth trends are considered for the forecast models to project future aviation activity for SVC.

Table 2.7 - Historical and Forecast Socioeconomic Factors for Grant County

Year	Total Population	Total Employment	Per Capita Income*	Economics Wealth Index (U.S. = 100)	GRP* (millions)	Retail Sales Per Household*
2000	30,882	14,625	25,998	69.42	790.397	23,794
2005	29,281	13,815	28,002	70.3	860.34	24,505
2010	29,381	12,728	31,742	75.58	910.037	21,693
2015	28,361	13,306	36,118	75.38	1,131.342	22,110
2020	27,184	13,503	39,420	75.07	1,136.402	22,758
2025	26,785	13,605	43,078	75.14	1,188.269	23,855
2030	26,391	13,695	46,894	75.29	1,235.471	25,126
*2040***	*25,620*	*13,804*	*55,046*	*75.56*	*1,332.175*	*28,262*
Historical Average Annual Growth						
2000-2005	-1.1%	-1.1%	1.5%	0.3%	1.7%	0.6%
2005-2010	0.1%	-1.6%	2.5%	1.5%	1.1%	-2.4%
2010-2015	-0.7%	0.9%	2.6%	-0.1%	4.4%	0.4%
2015-2020	-0.8%	0.3%	1.8%	-0.1%	0.1%	0.6%
Projected Average Annual Growth						
2020-2025	-0.3%	0.2%	1.8%	0.0%	0.9%	0.9%
2025-2030	-0.3%	0.1%	1.7%	0.0%	0.8%	1.0%
*2030-2040***	*-0.3%*	*0.1%*	*1.6%*	*0.0%*	*0.8%*	*1.2%*

*2012 Dollars. **Beyond Planning period but provided for long-term reference. GRP = Gross Regional Product.
Source: Woods & Poole Economics, Inc.

ACTION PLAN FORECASTS

Considering the national, state, and local aviation trends and projections presented earlier as well as the socioeconomic growth trends for Grant County, this section projects commercial air service passenger enplanements, air cargo, based aircraft and operations. The forecast models applied to each activity segment offer various growth possibilities from which a preferred forecast is selected.

Passenger Forecast

Four forecast models (**Table 2.8**) are applied to project future enplanements for SVC.

- FAA Terminal Area Forecast (TAF) for Grant County Airport (SVC), which projects 0.06% average annual growth
- FAA Terminal Area Forecast (TAF) for the state of New Mexico commuter enplanements, which projects 1.43% average annual growth

- Per Capita Income Growth Trend for Grant County according to Woods and Poole Economics, Inc., which projects an average annual growth of 1.75%
- Employment Growth Trend for Grant County according to Woods and Poole Economics, Inc., which projects an average annual growth of 0.2%
- US Growth Trend for Regional Carriers, which projects 2.0% annually

The preferred forecast for Grant County is 0.06%, which aligns with the more conservative FAA TAF projections published for SVC. A conservative forecast is more likely to receive FAA approval—an inherent task of this planning study. Further, there are no significant passenger facility needs impacted based on projected passenger enplanements aligning with the FAA TAF or one of the more aggressive growth rates noted above.

Nevertheless, a contingency forecast is separately identified for SVC enplanements that represents a higher average annual growth rate of 1.43%. This more aggressive growth rate acknowledges the ongoing efforts of Advanced Air and Grant County to promote the air service, which has proved highly successful during the brief history that Advanced Air has served SVC. Further, there is available seat capacity on the flight schedule. The projected growth increases the average passenger enplanements from 4.8 per flight to 5.5. per flight over 10 years. A more conservative growth rate is anticipated beyond the 10-year planning period. While passenger traffic dropped by approximately 50% due to the pandemic, recovery in the near-term is anticipated as air travel demand is expected to return to pre-pandemic levels. The community uses the commercial air service for both business and leisure travel. During planning study outreach and interviews, stakeholders pointed out examples of SVC air travelers including Freeport-McMoRan and Western New Mexico University (WNMU). Freeport-McMoRan company staff travel between Silver City and Phoenix since the company's headquarters are in Scottsdale, AZ. In fact, Advanced Air coordinated with Freeport-McMoRan on the SVC-PHX schedule. WNMU staff take commercial flights out of SVC to save travel time and they have also flown in possible candidates for employment.

Table 2.8 - Enplanement Forecasts for SVC

Year	FAA TAF for SVC	FAA TAF for NM Commuter	Per Capita Income Growth Trend	Employment Growth Trend	US Growth for Regional Carriers
Baseline	**5,968**	*5,968*	5,968	5,968	5,968
2025	**5,986**	*6,407*	6,509	6,028	6589
2030	**6,004**	*6,879*	7,099	6,088	7275
Average Annual Growth					
2021-2030	**0.06%**	*1.43%*	1.75%	0.2%	2.0%
Note: Baseline is taken from 2019 enplanements since SVC saw a decrease in passenger traffic by 50% during the pandemic. SVC activity is expected to return to baseline levels in the near-term.					

Air Cargo Forecast

The following table (**Table 2.9**) presents two forecasts for air cargo landed weight at SVC. As stated earlier, past historical air cargo weight and operations data for SVC back before 2015 is limited, but more recent historical data is available. Forecast models applied for air cargo include the Gross Regional Product (GRP) growth trend for Grant County and the U.S. growth trend for nationwide air cargo. The preferred forecast is the GRP model at 0.85%.

Table 2.9 - Air Cargo Projections for SVC

Year	Gross Regional Product (GRP)	FAA Aerospace Forecast
Baseline	**1,234 tons**	1,234 tons
2025	**1,287 tons**	1,362 tons
2030	**1,343 tons**	1,504 tons
Average Annual Growth		
2021-2030	**0.85%**	2.00%

Note: Baseline is taken from 2019 landed weight.

Based Aircraft Forecast

Six forecast models (**Exhibit 2J**) are applied to project future based aircraft for SVC.

- US growth trend for the active GA fleet and the FAA Terminal Area Forecast (TAF) for Grant County Airport (SVC) both of which project flat growth
- FAA Terminal Area Forecast (TAF) for the state of New Mexico based aircraft which projects 0.81% average annual growth
- New Mexico Airport System Plan (NMASP) based aircraft for the state projects 1.1% annual growth
- The previous Airport Action Plan projects based aircraft growth at 0.5% annually
- Per Capita Income Growth Trend for Grant County according to Woods and Poole Economics, Inc., which projects an average annual growth of 1.75%
- Population Growth Trend for Grant County according to Woods and Poole Economics, Inc., which projects an average annual growth of -0.3%

Table 2.10 summarizes the forecast model results. The preferred forecast for Grant County is 0.81% for the next 10 years, which is the FAA TAF projection for New Mexico based aircraft statewide. Considering recent SVC growth and the hangar waiting list, this forecast adds one aircraft every five years over the 10-year planning period.

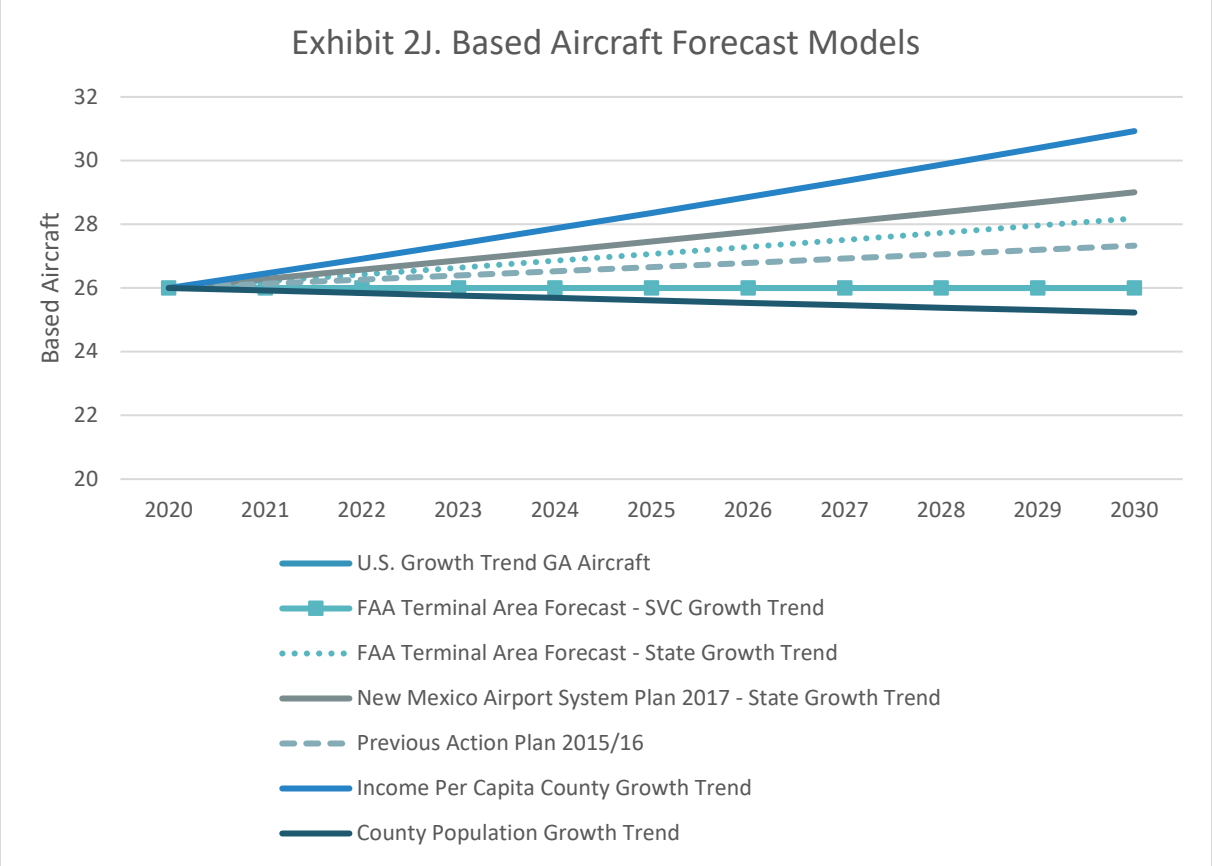


Table 2.10 - Based Aircraft Forecast Models for SVC

Year	US Growth GA Aircraft & FAA TAF SVC	FAA TAF – State Growth	NM Airport System Plan State Growth	Previous Action Plan 2015/16	Per Capita Income Growth - County	Population Growth - County
Baseline	26	**26**	26	26	26	26
2025	26	**27**	28	27	28	26
2030	26	**28**	29	27	31	25
Average Annual Growth						
2021-2030	0.0%	**0.81%**	1.1%	0.5%	1.75%	-0.3%

Table 2.11 presents the based aircraft fleet mix for the near- and intermediate-term. Considering the gradual shift in GA fleet mix nationwide with piston aircraft declining and other aircraft types increasing, the two additional based aircraft projected for SVC over the planning period are anticipated to be additional turboprop aircraft. Of the 22 single-engine aircraft at SVC today, one is a turboprop. Two of the four existing multi-engine aircraft are also turboprops.

Table 2.11 - Based Aircraft Fleet Mix Forecast

Based Aircraft	Baseline	2025	2030
Single Engine Piston	21	21	21
Multi Engine Piston	2	2	2
Turboprop*	3	4	5
Jet	0	0	0
Helicopter	0	0	0
Other	0	0	0
TOTAL	26	27	28
*Existing includes 1 SE turboprop and 2 ME turboprops			

Operations Forecast

Air Taxi Operations Forecast

Air taxi/commuter operations are projected using five forecast models (**Table 2.12**) for SVC.

- The FAA Terminal Area Forecast (TAF) for Grant County Airport (SVC) projects flat growth
- FAA Terminal Area Forecast (TAF) for the state of New Mexico's air taxi operations projects 0.04% average annual growth
- US commercial air service growth projects 2.0% annual growth
- US growth trend in GA flight hours flown projects 0.7% annually
- Per Capita Income Growth Trend for Grant County according to Woods and Poole Economics, Inc., which projects an average annual growth of 1.75%

Table 2.12 - Air Taxi/Commuter Operations Forecast Models for SVC

Year	FAA TAF SVC	FAA TAF – Air Taxi State Growth	US Growth Commercial Air Service	US Growth GA Hours Flown	Per Capita Income Growth - County
Baseline	3,048	3,048	3,048	**3,048**	3,048
2025	3,048	3,054	3,365	**3,156**	3,324
2030	3,048	3,060	3,715	**3,268**	3,625
Average Annual Growth					
2021-2030	0.0%	0.04%	2.0%	**0.7%**	1.75%
Note: Baseline activity was established using Advanced Air operations and air cargo operations. Baseline air taxi operations (3,048) used here are based on actual records and, therefore, supersede FAA TAF estimates.					

The preferred forecast for air taxi operations is 0.7% for SVC which anticipates an increase of 220 annual operations by 2030, or an average of 18 additional air taxi operations monthly.

GA Operations Forecast

Five forecast models (**Table 2.13**) are applied to project future GA operations for SVC.

- US growth trend for GA hours flown which projects 0.7%
- FAA Terminal Area Forecast (TAF) for the state of New Mexico GA operations projects 0.44% average annual growth
- New Mexico Airport System Plan (NMASP) GA operations statewide projects growth 0.69% annually
- FAA Terminal Area Forecast (TAF) for Grant County (SVC) GA operations projects flat growth
- Per Capita Income Growth Trend for Grant County according to Woods and Poole Economics, Inc., which projects an average annual growth of 1.75%

Table 2.13 – GA Operations Forecast Models for SVC

Year	US Growth Hours Flown	FAA TAF – State Growth	NM Airport System Plan State Growth	FAA TAF SVC Growth	Per Capita Income Growth – County
Baseline	**7,630**	7,630	7,630	7,630	7,630
2025	**7,901**	7,800	7,897	7,630	8,135
2030	**8,181**	7,972	8,173	7,630	8,673
Average Annual Growth					
2021-2030	**0.7%**	0.44%	0.69%	0.0%	1.75%
Note: Baseline GA operations (7,630) were established using pilot survey input, interviews, airport management input, fuel sales, IFR records, and USFS fire season activity records for SVC.					

The preferred forecast for GA operations is 0.7% for SVC which anticipates an increase of an estimated 550 annual operations by 2030, or an average of 46 additional GA operations monthly. The local and itinerant split is projected to remain at 40% and 60%, respectively. Therefore, by 2030, GA local operations are projected to be 3,272 annually with itinerant operations at 4,907.

Military Operations Forecast

Military operations at SVC are estimated at 500 annually according to the FAA TAF. The FAA typically projects no growth in military operations in any FAA-published forecasts as activity is difficult to predict. Therefore, SVC military activity is projected to remain at 500 operations per year through the planning period.

Forecast Summary

The following table presents a summary of the SVC Action Plan forecasts (**Table 2.14**). The variances between the master plan forecasts and FAA TAF projections are also specified. As shown, the difference between FAA and Action Plan enplanement forecasts is below 10% through the planning period. However,

based aircraft shows a larger discrepancy attributed to the outdated TAF figure of 18 existing based aircraft when SVC has since reported and verified 26 aircraft. Likewise, the existing annual operations reported in the FAA TAF vary substantially from the base year operations established in the Action Plan through an in-depth analysis[4]. Consequently, an additional row of data was added to the table sections on Based Aircraft and Operations to call out the percentage difference between the FAA TAF growth projected and the Action Plan growth projected using the same baseline figures. Such a comparison reduces the variance between the forecasts to less than 10% in both activity segments.

The FAA completes their forecast review and approval process using this chapter and the summary in Table 2.14. **In an email dated May 19, 2022, the FAA concurred with the Grant County Airport forecasts presented.**

[4] Baseline (base year) activity for SVC was established through pilot surveys, interviews, airport management input, fuel sales, USFS records, IFR records, enplanement records, and air cargo records.

Table 2.14 - Grant County Airport Action Plan Forecasts thru 2030 for FAA TAF Comparison

Description	Base Year	Near-term 2025	Intermediate Term 2030
Enplanements			
Passenger Enplanement Forecast (0.06% AAG)	5,968	5,986	6,004
FAA TAF Enplanements (2018, 2025, 2030)	*5,855*	*5,515*	*5,625*
% difference between forecast and TAF	*1.9%*	*8.2%*	*6.5%*
Based Aircraft*			
Single Engine	22	23	23
Multi Engine	4	4	5
Jet	0	0	0
Helicopter	0	0	0
Other	0	0	0
Total Based Aircraft Forecast (0.81 % AAG)	26	27	28
FAA TAF Based Aircraft Forecast	*18*	*18*	*18*
% difference between forecast and TAF "aircraft"	*44%*	*50%*	*56%*
% difference between forecast and TAF "growth" using actual "26" based aircraft for FAA base year	*0%*	*4%*	*8%*
Operations			
Air Carrier[5]	0	0	0
Air Taxi[6] (0.7% AAG)	3,048	3,156	3,268
GA Local (0.7% AAG) estimated at 40% total GA	3,052	3,160	3,272
GA Itinerant (0.7% AAG) estimated at 60% total GA	4,578	4,741	4,909
Military Itinerant (0% AAG)	500	500	500
Total Aircraft Operations Forecast (0.67% AAG)	11,178	11,557	11,949
*Current TAF Aircraft Operations***	*4,125*	*4,125*	*4,125*
% difference between forecast and TAF "operations"	*171.0%*	*180.2%*	*189.7%*
% difference between forecast and TAF "growth" using "11,178" operations for FAA base year	*0%*	*3%*	*7%*

*Existing based aircraft at SVC includes three turboprops (1 SE, 2 ME). Growth in based aircraft is projected to include an increase in turboprops. Piston aircraft are not projected to increase. AAG=average annual growth.
** TAF operations are substantially below actual SVC activity based on in-depth analysis during the study.

[5] Air carrier operations are by aircraft with more than 60 seats
[6] Air taxi operations are by aircraft with 60 seats or less

Operations Fleet Mix Forecast

Operations at SVC are comprised of a broad range of aircraft that fall into the single-engine piston (SEP), multi-engine piston (MEP), turboprop, jet, and helicopter categories. The existing operations fleet mix is estimated using the best available data from SVC, user surveys, interviews, IFR operations data, and any other relevant data sources. The forecasts (**Table 2.15**) reflect changing proportions of operations by aircraft type that are generally consistent with FAA's national projections with consideration for local influencing factors and trends. Nationally, piston aircraft operations are projected to decline while other aircraft activity is projected to grow.

Table 2.15 - Operations Fleet Mix Forecast for SVC

Aircraft	Baseline	2025	2030
Single-engine piston	6,554	6,589	6,608
	58.63%	57.01%	55.30%
Multi-engine piston	848	809	729
	7.59%	7.00%	6.10%
Turboprop	3,280	3,571	3,895
	29.34%	30.90%	32.60%
Jet	146	194	263
	1.31%	1.68%	2.20%
Helicopter	350	394	454
	3.13%	3.41%	3.80%
Total Operations	11,178	11,557	11,949

IFR Activity Forecast

In 2019, IFR activity exceeded 3,000 operations at SVC, representing an estimated 27% of total annual operations. In the last decade, IFR operations have fluctuated with a low of 1,379 operations and a high of 3,500. Despite the fluctuations and a decline in the last couple of years, overall growth since 2010 has averaged 3.0% annually. As higher performance aircraft activity grows and older, less sophisticated GA aircraft activity slows and declines, IFR activity as a percentage of total annual operations is expected to gradually increase. For SVC, IFR is projected to represent 28% of total annual operations by 2025 and 29% by 2030.

Peaking Characteristics

Examining peak aircraft operations helps determine if facility capacity is adequate to accommodate current as well as projected demand during the planning period.

To start, the peak month for SVC is identified, which is the month that comprises the greatest percentage of total annual operations. According to fuel sales, the May/June timeframe has typically been the busiest for operations. Peak month demand is estimated at 14 percent of annual operations and is comprised of USFS aerial firefighting activity, increased summer GA recreational travel, flight training, business aviation activity, and routine airline and air cargo operations. From the peak month operations, "design day" is calculated by dividing the peak month operations by the number of days in the peak month. Finally, the busiest hour is calculated, which is referred to as the "design hour." For SVC, the design hour is estimated at 15% of the design day. **Table 2.16** summarizes the peak activity calculations which will be used in determining facility needs in the next chapter. A total of eight operations are estimated for the design hour (busiest hour) through the planning period.

Table 2.16 – Peak Demand for SVC

	Baseline	2025	2030
Annual Operations	11,178	11,557	11,949
Peak Month	1,565	1,618	1,673
Busy Day	51	53	55
Design Hour	8	8	8

Design Aircraft and Airport Reference Code (ARC)

As required by the FAA, airport development is based on the design aircraft, also referred to as the critical aircraft. The design aircraft is the most demanding aircraft that uses the airport on a substantial basis, which the FAA defines as 500 or more annual itinerant operations. The design aircraft's approach speed and wingspan determine its Airport Reference Code (ARC), as discussed in the previous chapter. The King Air is the most demanding aircraft that operates at SVC on a substantial basis relative to FAA's definition. The King Air falls within approach category B (approach speed up to 120 knots) and design group II (wingspan up to 78 feet). Therefore, Grant County Airport is coded as a B-II airport. While there are occasional operations by approach category C aircraft as well as design groups III and IV, projected growth for these aircraft types remains well below the FAA's 500 annual itinerant operations threshold. This means, theoretically, that SVC will remain a B-II airport for the 10-year planning period. However, ongoing communication is necessary between the USFS, Grant County and the FAA to address the critical aerial firefighting operations launched from SVC. A diverse fleet of aircraft are used for firefighting, but SVC's current runway length often limits USFS's ability to employ specific aircraft and/or maximize their load for the most efficient and effective aerial firefighting. USFS firefighting operations, conducted by the Gila Aerial Fire Base at SVC, vary significantly depending on wildfires. The last five years of activity has

ranged from 168 operations in 2017 to 1,050 operations last year (2020), as presented earlier in the chapter. This activity is seasonal and fulfills a special need in the region. SVC's location is ideal for the USFS, which has been a tenant there since the 1950s. According to the USFS, launching aircraft from another airport to reach their area of response is complicated by the presence of military operations areas (MOAs) and restricted airspace. This issue will be further addressed as the study progresses and with respect to FAA Advisory Circular 150/5325-4B, *Runway Length Requirements for Airport Design,* which includes the following statement.

> *Under unusual circumstances, adjustments may be made to the 500 total annual itinerant operations threshold after considering the circumstances of a particular airport. Two examples are airports with demonstrated seasonal traffic variations, or airports situated in isolated or remote areas that have special needs.*

The next chapter will address the facility needs of B-II aircraft as well as the needs of aerial firefighting aircraft such as the BAe 146 (C-III) and the C-130 (C-IV).

CHAPTER 3 - REQUIREMENTS

INTRODUCTION

In the Requirements Chapter, Grant County Airport (Airport or SVC) improvement needs are identified. These needs are drawn from activity levels presented in the forecasts[1], airport user and stakeholder input early in the study, pavement and similar maintenance requirements, and the latest FAA design standards which must be followed for compliance to remain eligible for Federal funding. Further, recommendations from the NMDOT Aviation Division applicable to SVC's current role are addressed.

EMERGING TRENDS IN AIRPORT GROWTH AND DEVELOPMENT

To start, emerging trends in airport growth and development are briefly reviewed. Some of these trends are already tied into airport development, while others are on the horizon and without specific guidance for early airport planning and development purposes. Some of these trends may influence the County's decision-making in the development alternatives element of the study and in the preparation of the Airport Capital Improvement Plan (ACIP). Consequently, they are introduced in this chapter.

- **Sustainability**. Today, sustainability is a much more common term used in the planning and development of airports. In fact, the FAA has specifically funded sustainability plans for certain airports. Over time, sustainability is becoming become less of a special element in planning and more an inherent part of it. The FAA has purposely created broad categories of sustainability in order to allow for innovation and creativity in airport sustainability plans. The FAA generally groups sustainable actions for airports into the following categories: 1) reduce environmental impacts; 2) help maintain high levels of economic growth; and 3) help achieve "social progress" by integration with the local community and improving community relations. Airports can create plans that address opportunities that are unique for each individual airport. In the future development of SVC, opportunities to reduce environmental impacts can be explored. Examples of reducing environmental impacts include pilot-controlled lighting[2] for the airfield, installing occupancy sensors to turn off lighting when rooms are unoccupied, reducing energy consumption by using LED lighting, installing solar panels on buildings, and designing buildings for optimum natural ventilation.

- **Jet affordability**. More businesses are looking into corporate jet travel. The Very Light Jet (VLJ) market, for example, is making it more affordable for businesses to purchase a jet, which is shifting the aircraft fleet mix at many airports. According to industry news articles, the weight and costs of VLJs are kept lower by using lightweight composite materials, cutting edge digital avionics, and smaller, yet more efficient, jet engines. Despite the dampened enthusiasm about VLJs a decade ago resulting from some cancelled or failed design and manufacturing efforts, there are

[1] FAA review and approval of the revised forecasts in Chapter Two is under way.
[2] Runway 8-26 has pilot-controlled lighting

still light jets in the industry being successfully used by businesses across the nation. What this means to airports like SVC is that businesses have greater access to small communities that are distant from major air carrier airports. Further, the VLJs require less runway length than larger jets and their use of a smaller community airport may be more efficient than contending with security and congestion at a large air carrier airport.

- **Unmanned Aerial Systems**. Unmanned aerial systems (UAS) have gained more attention and use for recreation, commercial and government purposes. Components of UAS typically include a drone, remote controller, camera, GPS, flight software and any other technology needed to conduct operations. Examples of UAS use include support in firefighting and search and rescue operations, monitoring and assessing critical infrastructure, providing disaster relief by transporting emergency medical supplies to remote locations, aiding efforts to secure our borders, land surveying, inspecting airport facilities (e.g., runway and perimeter fencing condition), and wildlife monitoring. As UAS activity increases, facility and support service needs of UAS activity in a region may influence airport and area airspace considerations.

- **Urban Air Mobility**. The FAA states that "Urban Air Mobility (UAM) envisions a safe and efficient aviation transportation system that will use highly automated aircraft that will operate and transport passengers or cargo at lower altitudes within urban and suburban areas. UAM will be composed of an ecosystem that considers the evolution and safety of the aircraft, the framework for operation, access to airspace, infrastructure development, and community engagement." Advanced Air Mobility (AAM) is another term used in discussing new transportation systems as it builds upon the UAM concept and is more inclusive of uses not specific to operations in urban environments such as cargo delivery, public services and commercial inter-city/longer range transportation. It is anticipated that the facility needs at airports for AAM activity will be accommodated initially by existing helicopter facilities such as helipads. FAA plans to publish guidance on vertiports in the future as the AAM concept progresses. The National Aeronautics and Space Administration (NASA) has been conducting a national campaign for AAM stating that the goal is to promote public confidence and accelerate the realization of emerging aviation markets for passenger and cargo transportation in urban, suburban, rural, and regional environments. NASA sees AAM as transformative and innovative for aviation.

- **Remote air traffic control towers**. Remote/virtual towers are staffed with controllers monitoring high-definition cameras at an airport. The controllers may be located in the vicinity of the airport or miles away. The cameras are customizable providing a view of 180, 270 or 360 degrees depending on the need. Remote towers can operate at a substantially lower cost than the traditional control towers making them more affordable for airports that currently have no tower but may need a control tower full-time, part-time, seasonally or temporarily for special purposes or events. Considering the industry buzz about Uber-style air taxis on the horizon, an increase in air traffic as a result may further support the need for virtual towers. At this time, SVC does not routinely serve air traffic numbers anywhere close to justifying the need for a tower. However,

the simplified and more cost-effective access to a remote tower for any airport in the near or distant future, particularly if it is a temporary need, is noteworthy. The USFS Fire Base activity and the runway/taxiway operational restrictions during the fire season may justify a special purpose virtual tower.

- **NextGen**. The Next Generation Air Transportation System (NextGen) has been an ongoing FAA initiative since 2007. The FAA states that NextGen is the modernization of America's air transportation system to make flying even safer, more efficient, and more predictable. The FAA plans to continue implementing cutting-edge technologies, procedures, and policies that benefit the air transportation system by emphasizing safety, increasing efficiency, improving environmental performance, and enhancing the passenger experience.

STEPS IN FACILITY REQUIREMENTS

To recap, the Airport Action Plan Study kicked off with the identification of airport issues followed by the inventory of existing SVC facilities and the forecast of SVC aviation demand for the 10-year planning period. In this chapter, specific facility requirements are identified. The aviation demand forecasts guide the need for and timing of improvements such as runway/taxiway system development and additional hangar development, for example. Development in accordance with FAA design standards assures compliance and enhanced safety for all aircraft operations. Airport user feedback collected through survey questionnaires and interviews also guides various SVC improvements so pilots and passengers using SVC are better accommodated. This aligns with the County's vision to serve the community.

This chapter is a fundamental prerequisite to the development alternatives in the next chapter since future development concepts can only be prepared and evaluated once all necessary improvements are clearly outlined.

DESIGN AIRCRAFT

As described in the Forecasts Chapter, the design aircraft for SVC that meets the minimum 500 annual itinerant operations threshold is the King Air, which has an Airport Reference Code (ARC) of B-II. The predominant user of the King Air at SVC is Advanced Air—the commercial passenger air service provider. A variety of other aircraft that fall into the B-II range are also served including some jet traffic; various models of the Cessna Citation (jet) occasionally operate at SVC throughout the year. Consequently, the FAA design standards applicable to SVC are for the B-II family of aircraft. For the USFS, however, there are larger aircraft in the C-III family that conduct crucial aerial firefighting for the Gila Aerial Fire Base during fire season.

To address the USFS needs, design standards and associated facility needs are addressed for ARC C-III aircraft in addition to B-II. The USFS operations may vary depending on the number and size of wildfires in the region and while their C-III activity may be above or below the 500 annual operations threshold year-to-year, the FAA has considered special circumstances in identifying the ARC for an airport with less

than 500 operations. For this reason, this study recommends that C-III facilities, such as a runway with adequate length, be provided to support the USFS. In FAA AC 150/5325-4B, *Runway Length Requirements for Airport Design*, the FAA states "Under unusual circumstances, adjustments may be made to the 500 total annual itinerant operations threshold after considering the circumstances of a particular airport. Two examples are airports with demonstrated seasonal traffic variations, or airports situated in isolated or remote areas that have special needs."

NEW MEXICO AIRPORT SYSTEM PLAN RECOMMENDATIONS FOR SVC

The latest New Mexico Airport System Plan Update (NMASPU), published in 2017, provides recommendations for all public use airports across the state with respect to their role in the airport system. SVC's role was identified as "Limited Commercial Service" since its enplanements were below 2,500 at the time data collection was completed for the system planning study. However, SVC was well above 2,500 enplanements, as addressed in the Forecasts Chapter, when this action planning study was initiated. Airports with enplanements between 2,500 and 10,000 are identified as Non-Primary Commercial Service in the NMASPU. Therefore, this study presents the associated recommendations for that role (**Table 3.1**). As shown, the system plan recommends C-II or greater for the ARC.

Table 3.1 - New Mexico Airport System Plan Recommendations

Airport Criteria	Minimum Objectives for Non-Primary Commercial Service	Existing Grant County Airport (SVC)
Airport Reference Code (ARC)	C-III or Greater	B-II
Runway Length	75% of large aircraft at 90% useful load (8,700 feet for SVC)	6,803 feet (1,898 short of minimum)
Runway Width	150 feet[1]	100 feet (50' narrower than recommended)
Runway Strength	SWG of 60,000 lbs.	> SWG 60,000
Taxiway	Full Parallel	Full parallel
Instrument Approach	Precision or Near-precision (LPV)	Near-precision (LPV)
Visual Aids	Rotating beacon, lighted wind indicator with segmented circle, runway end identifier lights, visual glide slope indicator	Rotating beacon, lighted wind indicator with segmented circle, Runways 8 and 26 visual glide slope indicators (PAPI), Runway 26 end identifier lights, Runway 26 approach lighting system (MALS)
Lighting	MIRL	MIRL
Weather Reporting	Automated Weather Reporting (AWOS or ASOS)	AWOS III
Wind Coverage	Primary and Crosswind Runway have 95% wind coverage	Primary runway less than 95% wind coverage, crosswind runways are unpaved (dirt)
Services	Phones, restrooms, Full-service FBO, 24/7 AvGas (100LL) and Jet A; rental cars available, full-service maintenance, public transportation available	Phone; restrooms; FBO (County); Jet A and 24/7 Self-serve AvGas (100LL); limited maintenance; courtesy cars (no rental cars, no public transportation available)
Facilities	Terminal w/ public restrooms, conference room, pilot lounge. Hangar storage for 75% of based aircraft and 25% of transient. Auto parking	Terminal, public restrooms, pilot lounge, limited based aircraft hangar storage, aircraft apron parking. Auto parking
Safety and Security	Emergency Response Plan Perimeter fencing	Emergency Response Plan Perimeter fencing, controlled access gates

[1]Runway width of 100 feet is permitted for C-III under 150,000 pounds. Otherwise, 150-foot width is required.
Acronyms: ASOS (Automated Surface Observing System), AWOS (Automated Weather Observation System), FBO (Fixed Base Operator), LL (Low Lead), MIRL (Medium Intensity Runway Lights), SWG (Single Wheel Gear), Localizer performance with vertical guidance (LPV), PAPI (Precision Approach Path Indicators)
Source: NMASPU 2017 and Grant County Airport conditions

AIRSIDE REQUIREMENTS

Runway Orientation

Ideally, runways should be constructed to align with the prevailing winds to minimize crosswind conditions for pilots. Often, the primary runway at an airport does not provide the optimum wind coverage, which may be attributed to physical constraints in airfield planning and construction. Consequently, secondary (crosswind) runways offer a pilot additional options during crosswind conditions. In fact, the FAA states that single-runway airfields should provide 95% or greater wind coverage. If coverage is less than 95% on its single runway, the addition of a crosswind runway should be considered. SVC does have three crosswind runways, but all are unpaved and considered marginally acceptable for many aircraft operators and not acceptable for Part 139 and air service operations. Consequently, a paved crosswind for SVC is recommended. For future development purposes, the County could consider closing two of the unpaved crosswinds after a paved crosswind is opened.

To provide an overview of the wind coverage in 10-degree alignments, the most recent 10 full years (2011-2020) of wind data for SVC was analyzed. Wind data is reported according to true bearing. For SVC, the true bearing of Runway 8-26 is 89.7°, which can be rounded to 90°. As shown in **Table 3.2**, a runway with a true bearing alignment of approximately 90°, like Runway 8-26, offers 92.47% wind coverage at 10.5 knots. Since this is less than the FAA-recommended 95% coverage, a crosswind runway is recommended and justifiable for funding to serve A-I and B-I aircraft, which are more sensitive to crosswinds at 10.5 knots. Fortunately, Runway 8-26 does provide more than 95% crosswind coverage at 13 knots, which is of concern for A-II and B-II aircraft. Also important is the fact that wind analyses for two or more runways combined at SVC does provide more than 95% wind coverage. This means that, for example, an airfield configuration that included Runway 8-26 and one of the crosswinds such as Runway 12-30 does increase the crosswind coverage to a combined figure that is greater than 95%, as recommended. However, there are exceptions at SVC. For example, the combined wind coverage of Runway 8-26 and Runway 3-21 at 10.5 knots is 94.68%, just under the 95% target. In contrast, when Runway 8-26 is combined with other various alignments at SVC, several exceed 98%, as shown here:

- Combined with existing Runway 12-30 (98.15%)
- Combined with existing Runway 17-35 (98.11%)
- Combined with existing Runway 3-21 (94.68%)
- Combined with possible future alignment Runway 13-31 (98.32%)
- Combined with possible future alignment Runway 14-32 (98.54%)

Table 3.2 - New SVC Wind Analyses for Various Runway Alignments

True Bearing	10.5 knots (A-I, B-I)	13 knots (A-II, B-II)	16 knots (A-III, B-III, C-I thru D-III)	20 knots (A-IV, B-IV, C-IV thru C-VI, D-IV thru D-VI, E-I thru E-VI)
10°	82.59%	89.00%	95.06%	98.40%
20°	81.56%	88.24%	94.95%	98.37%
30°	81.06%	87.96%	95.18%	98.55%
40°	**81.42%**	**88.34%**	**95.76%**	**98.87%**
50°	82.60%	89.49%	96.64%	99.24%
60°	84.60%	91.30%	97.65%	99.55%
70°	87.26%	93.38%	98.50%	99.75%
80°	90.60%	95.27%	90.04%	99.83%
90°	**92.47%**	**96.65%**	**99.25%**	**99.84%**
100°	94.21%	97.38%	99.27%	99.81%
110°	95.10%	97.62%	99.21%	99.78%
120°	95.11%	97.47%	99.08%	99.74%
130°	**94.15%**	**96.93%**	**98.86%**	**99.68%**
140°	92.42%	95.89%	98.47%	99.60%
150°	90.28%	94.45%	97.82%	99.44%
160°	88.07%	92.86%	97.00%	99.19%
170°	85.99%	91.36%	96.16%	98.90%
180°	**84.15%**	**90.05%**	**95.49%**	**98.61%**

Note: Runway 8-26 true bearing is 89.7°, so percent coverage is closest to the 90° row of data above. Using the precise 89.7° true bearing for the wind analysis produces 92.4%, 96.61%, 99.25%, and 99.84% for 10.5, 13, 16, and 20 knots, respectively—nearly identical to the 90° results above. Rows above in bold text represent the true bearing and wind coverage for the runways at SVC.
Source: Grant County Airport Station (AWOS) 2011-2020. Total observations 246,326

Of the existing three crosswind runway alignments, Runway 12-30 offers the best wind coverage for the small general aviation aircraft during periods of high crosswinds according to the data. However, dirt runways present problems such as debris, greater rainfall impacts, and challenges to consistently maintain the runway in good condition. Also, low wing aircraft prefer to avoid the SVC unpaved runways—a comment expressed during the study's user survey and interviews. The lack of lighting further limits its use. It is recommended that a paved crosswind runway be made available to small GA aircraft, as requested by a number of SVC user survey respondents and supported by the wind analyses. This may be accomplished by paving an existing crosswind to dimensions that will serve the small A/B-I aircraft most affected by crosswinds. If a new north-south or northwest-southeast runway were constructed to serve the large USFS tankers, that could also serve the crosswind runway needs for SVC. These issues are further addressed in this chapter and the next.

It's also important to note that an alternative landing strip is needed when Runway 8-26 is closed for pavement rehabilitation or maintenance projects, due to an aircraft accident or due to other adverse pavement conditions. The parallel taxiway and a paved crosswind are options for SVC, but this is not an

option for some of the larger, faster aircraft. Use of the parallel taxiway as a temporary runway may not be allowed for the commercial service or other operations.

Runway Dimensions

Each runway is assigned a Runway Design Code (RDC), which has similar components to the ARC but also includes a visibility component. The design standards to which the runway is built are based on the RDC. To begin, runway width requirements are identified. The following summarizes the RDCs, the minimum runway width for each runway per FAA design standards and the existing width for each (**Table 3.3**).

Table 3.3 Runway Width Requirements at SVC

Runway	RDC	Min. Width Requirement	Existing Width
8-26	B-II-4000[1]	75 feet	100 feet paved
3-21	B-I-VIS[2]	60 feet	80 feet unpaved
12-30	B-I-VIS[2]	60 feet	75 feet unpaved
17-35	B-I-VIS[2]	60 feet	75 feet unpaved
Future USFS Rwy	C-III- 5000[3]	100 feet[4]	---

[1]4000 means an approach with less than one mile, but not less than ¾ mile visibility mins.
[2]VIS means a visual approach only
[3]5000 means an approach with not less than one mile visibility mins
[4]Runway width of 100 feet is permitted for C-III under 150,000 pounds. Otherwise, 150-foot width is required.

As shown, each runway exceeds its minimum runway width requirement. While Runway 8-26 has been designated a B-II runway, it continues to serve larger aircraft during fire season. Consequently, a separate row is identified in the table for a possible wider runway to support USFS aerial firefighting aircraft needs.

Next, runway length requirements are identified. Runway 8-26 has an existing length of 6,803 feet that adequately serves the King Air, which is the B-II design/critical aircraft and flown by Advanced Airlines. Business aviation jet traffic has also been accommodated at SVC with its current length. However, actual runway length requirements for SVC include the following lengths for small (12,500 lbs. or less) and large (60,000 lbs. or less):

- 100% of small aircraft fleet require 6,850 feet
- 75% of large aircraft (60,000 pounds or less) at 60% useful load require 6,980 feet
- 75% of large aircraft (60,000 pounds or less) at 90% useful load require 8,700 feet

Runway length for large aircraft greater than 60,000 pounds, such as the BAe-146, used by the USFS is addressed separately. The current runway length does not permit many of the larger aircraft, specifically C-III aircraft, operated by the USFS during fire season to operate with optimum fire retardant and/or fuel loads. With the airport's high altitude, hot summer days and limited takeoff length, the C-III aircraft activity is load-restricted according to the USFS because of density altitude limitations. Specifically, the BAe-146[3] has been unable to operate at full capacity due to the inadequate runway length. The BAe-146

[3] The USFS stated that the RJ-85, which is similar to the BAe-146, is also used at SVC and has similar load constraints.

is an important aircraft in the fleet during fire season since it provides a faster response and turn-around time than other large aerial tankers in the fleet. According to the Fire Base Operations Chief, they were able to operate other aircraft in their fleet with adequate fire retardant during their recent (June 2021) aerial missions; these included the MD-87 and Boeing 737. The C-130 is also used on occasion by the USFS, which indicated the C-130 was also operated this season without issue on Runway 8-26. The C-130 is a C-IV aircraft because of its wider wingspan.

The USFS and Neptune Aviation were contacted for specifics regarding runway length needs based on SVC conditions.[4] Neptune Aviation, a contracted provider of the BAe 146 tankers to the USFS, indicated in a July 2021 email that 9,200 feet of runway is needed at SVC for optimum fuel and fire-retardant loads.

During an interview with the USFS early in the study, they explained that the use of an alternative airport with a longer runway, such as Alamogordo (ALM)[5], is not a suitable solution based on the airport location, additional travel distance, and airspace issues. Military operations areas (MOAs) and restricted airspace in the Alamogordo region could encumber timely aerial missions. White Sands Missile Range with its ground to unlimited altitude restricted airspace runs north south between Alamogordo and Silver City. Consequently, a longer runway at SVC should be considered to meet the needs of the USFS aircraft.

Airfield Capacity

At busy airports, an analysis of airfield capacity and delay is important to ensure airfield improvements are proposed if operations are expected to reach 60% of capacity. For SVC's low level of activity, existing and projected operations will remain well below 60%, so capacity improvements are not required during the 10-year planning period.

Taxiway System

An airport's taxiway system is important to the safe and efficient ground movement of aircraft. At SVC, the existing taxiway system is comprised of a full-length parallel taxiway (Taxiway A), connector taxiways between Taxiway A and Runway 8-26, and additional taxiways/taxilanes to aircraft parking and hangars. Heightened awareness by pilots and drivers in the airfield environment is critical to assure safety of operations. Modifications to a taxiway system can foster more awareness. At SVC, such modifications were completed during this study to include the removal and realignment of connectors so direct "straight line" access from the apron to the runway would be eliminated. Now, aircraft taxiing from the apron are required to make a 90-degree turn before entering the active runway environment, which heightens awareness of their location. Further, connector taxiways to the runway were reduced from nine to five connectors, renamed Taxiways A1 through A5, between the runway and parallel taxiway. The connector taxiways or portions of these taxiways eliminated included three that had a "direct connect" alignment and one (Taxiway A8) that was at an acute angle. A fifth connector between the apron and Taxiway A was

[4] SVC conditions refer to airport elevation and mean maximum temperature of the hottest month.
[5] ALM extended their runway to 9,200 feet in 2016; ALM is at a lower elevation but has a higher mean maximum temperature than SVC.

also removed. Taxiway A was realigned on the west end to eliminate an old "Teacup" configuration resulting in a true full length parallel taxiway.

Proper separation between the runway centerline and parallel taxiway is important for adequate wingtip clearance. Taxiway A centerline is 240 feet from Runway 8-26 centerline, which complies with the B-II requirements for runway to taxiway centerline separation during the planning period. However, the larger and faster aircraft using Runway 8-26 during fire season dictates that aircraft remain clear of Taxiway A during taking off or landing to ensure a safe wingtip clearance is maintained. Without an air traffic control tower, this requires operational restrictions and continuing communication among operators. If Runway 8-26 is officially upgraded to C-II or C-III in the future, the runway to taxiway centerline separation requirement is increased; C-II requires 300 feet while C-III requires 400 feet.

Taxiway width at SVC is dictated by the Taxiway Design Group (TDG), which is a classification of airplanes based on outer-to-outer Main Gear Width (MGW) and Cockpit to Main Gear distance (CMG). Taxiway A is 50 feet wide while the TDG 2 standard is 35 feet. The 50-foot width accommodates the predominant aircraft operating at SVC, which is up to TDG 4; however, the taxiway turns at the runway ends (Taxiways A1 and A5) were constructed to the 2012 TDG 2 standards. Examples of key aircraft at SVC using Taxiway A and their associated TDG includes:

- King Air 350 (design aircraft) - TDG 2
- BAe 146 (USFS ops) - TDG 2[6]
- MD-87 (USFS ops) - TDG 4

All proposed development should include coincident taxiway system improvements. For hangar areas serving smaller aircraft, a width of 25 to 35 feet may be adequate while some of the USFS aircraft fleet require 50-foot-wide taxiways. The taxiway project constructed in 2021 has taken this into consideration with the connector taxiways at the runway ends (Taxiway A1 and A5) constructed to TDG 2 standards. The remaining taxiways were not reconstructed in 2021 and remain at widths ranging from 35 feet to 50 feet.

Helicopter Facilities

In the Forecasts Chapter, helicopter operations were estimated at 350 annually and projected to increase to over 450 within 10 years; this translates to an average of 38 operations monthly by 2030. While these are not high figures, the proximity of helicopters to fixed wing aircraft, particularly during fire season has been an issue for SVC. Rotor wash is especially a concern for the smaller fixed wing aircraft operating there. The helicopters often kick up debris as well. Currently, helicopters are using the existing apron for parking or, during fire season, other space available such as the taxiway. Input from the USFS for the study included a request that a separate parking and staging area for the Type 1 (large) helicopters such as the

[6] BAe-146 is within an estimated one inch of being TDG 3.

Chinooks be considered in future development. The Chinooks also come with their own support trailers, fuel trucks, and other equipment and supplies.[7]

Navigational Aids

Navigational aids enhance the safety of approaching aircraft operations by guiding pilots to the airfield environment or to a specific runway. The Inventory Chapter reviewed the various navigational aids provided at SVC, which are all in good operating condition. These navigational aids include: a rotating beacon, precision approach path indicator (PAPI) system on Runways 8 and 26, VORTAC, localizer lighted wind indicator with segmented circle and supplemental wind indicators. Further, RNAV[8] GPS approaches are published by the FAA for Runway 8 and Runway 26. Runway 26 includes a near-precision approach referred to as a LPV approach, which means localizer performance with vertical guidance approach. An LPV approach may have precision similar to the localizer and glideslope of an instrument landing system (ILS) approach. The lowest visibility minimums[9] for an instrument approach to SVC is on Runway 26. The FAA-published LPV approach has ¾-mile visibility minimums. Visibility minimums less than one mile require 14 CFR Part 77 protected airspace surface around the runway that is 1,000 feet wide—important in identifying where buildings and parked aircraft are permitted.[10]

More and more airports are publishing GPS approaches as GPS navigation systems are more reliable than the familiar old VORs or Non-Directional Beacons (NDBs). With GPS navigation, a ground station is not required to function, and GPS is accessible all over the world. While VORs may serve as a backup system, if needed, the FAA has been gradually retiring VORs in the U.S. This process is a part of FAA's NextGen (Next Generation) strategy—modernization of the national airspace system. Despite the planned retirement of 34% of VORs by 2030, the FAA has stated that pilots will still be able to navigate along VOR airways, particularly in mountainous terrain, as a VOR Minimal Operation Network (MON) will be maintained. FAA's current list of VORs to be decommissioned by 2030 excludes SVC.[11]

During the 10-year planning period, current navigational aids will meet the needs of SVC users. The airport user survey respondents did not identify the need for any new navigational aids nor any issues with the

[7] Before this report was finalized, airport management indicated that the 2022 fire season was extraordinarily busy and all of the contract helicopters at SVC brought fuel trucks, supply trailers and support vehicles.
[8] RNAV (area navigation)
[9] Flight visibility minimums are published for an instrument approach and refer to the minimum conditions required before performing a legal approach. These weather minimums are based on a number of factors such as the runway, approach type, navigational aids, and airspace obstructions.
[10] For ¾ mile visibility minimums, the 14 CFR Part 77 primary surface that surrounds the runway is 1,000 feet wide with the 7:1 sloping transitional surface beginning at the edge of the primary surface. The 7:1 is used for determining the building restriction line. Buildings (and trees) are within the existing 7:1 surface at SVC. A structure height survey was completed at SVC to obtain accurate building heights for the Airport Layout Plan's airspace drawings.
[11] According to the airport manager, the FAA previously submitted a letter to SVC requesting comments regarding possible retirement of the VORTAC; the airport manager submitted comments in opposition.

existing available. Consequently, no new navaids are proposed for Runway 8-26, but a future paved crosswind should be equipped to adequately serve its users. Existing navigational aids such as the 2008 PAPI system may require updating/replacement within the near-term as airfield lighting systems have a 15-year design operational lifespan.

Airfield Lighting, Marking and Signage

The medium intensity runway lighting (MIRL) system on Runway 8-26 is in good operating condition. However, the system is 15 years old, installed in 2006, so an update to replace with LED lights should be planned in the near-term (by 2025). The retroreflective edge markers on the parallel taxiway and connectors are currently meeting the needs of SVC users. However, a medium intensity taxiway lighting system (MITL) within the 10-year planning period is recommended for SVC.

SVC currently complies with FAA-required airfield markings. Repainting of markings is expected to remain a part of future pavement maintenance projects, as needed. Runway 8-26 non-precision markings were last painted in 2016. The recent (2021) taxiway and apron pavement reconstruction project included newly painted taxiway and apron markings. Taxiway markings included taxiway centerline, holding position markings, enhanced taxiway centerline markings, and surface painted holding position signs. Apron markings included a centerline marking on the commercial service apron and aircraft tiedown "T"s.

With the taxiway modifications as part of the same reconstruction project, some of the airfield signage was replaced, as required. The signage reflects the new taxiway designations. All signage complies with FAA standards.

The electrical vault for the airfield lighting system will adequately serve the needs of SVC through the 10-year planning period. Installation of LED lights, mentioned earlier, will reduce the electrical loads and may result in replacement constant current regulators of a smaller size.

Other lighting at SVC is FAA-owned and maintained and in good operating condition. This includes the Runway End Identifier Lights (REIL) system on Runway 8 and the Medium Intensity Approach Lighting System (MALS) on the Runway 26 approach.

Weather Reporting

The existing Automated Weather Observation Station (AWOS), installed in 2016, is adequately serving the weather reporting needs of SVC. Airport users have not reported any problems with the AWOS. No additional weather reporting equipment is required during the planning period.

Airfield Design Standards

Derived from FAA Advisory Circular 150/5300-13A, Airport Design, there are several key standards discussed here. **Table 3.4** provides an overview of specific design standards that apply to the existing airfield as well as future development. Some of these terms were previously introduced while new terms are described in this section.

Table 3.4 Airport Design Standards Considered for SVC Improvements

Parameters		Design Standards (in feet)				
Runway Design Code (RDC)	Approach Visibility Minimum	Runway Width	Runway to Parallel Taxiway Separation	Runway Safety Area	Object Free Area	Approach Runway Protection Zone
Standards for Unpaved Crosswind Runways (3-21, 12-30, 17-35) serving Small GA Aircraft Fleet[12]						
B-I-VIS	Visual or 1 mile	60	150	120 wide 240 beyond runway ends	250 wide 240 beyond runway ends	1,000 x 250 x 450
Standards for Existing Runway 8-26 to Serve Large GA Aircraft Fleet						
B-II-4000	¾ mile	75	240	150 wide 300 beyond runway ends	500 wide 300 beyond runway ends	1,000 x 500 x 700
Standards for Possible Future paved C-II Runway to Serve Expanded Aircraft Fleet Mix (incl. Corporate Jets)						
C-II-4000 (C-II-5000)	¾ mile (1 mile)	100 (same)	300 (same)	500 wide 1,000 beyond departure end[1] (same)	800 wide 1,000 beyond departure end[1] (same)	1,700 x 1000 x 1,510 (1,700 x 500 x 1,010)
Standards for Possible Future paved C-III Runway to Serve USFS Aircraft Fleet (under 150,000 lbs.)						
C-III-4000 (C-III-5000) <150,000 pounds[2]	¾ mile (1 mile)	100[2] (same)	400 (same)	500 wide 1,000 beyond departure end[1]	800 wide 1,000 beyond departure end[1]	1,700 x 1,000 x 1,510 (1,700 x 500 x 1,010)
Standards for Possible Future paved Runway for C-IV Air Cargo Aircraft and C-III (over 150,000 lbs.)						
C-III >150,000 pounds[2]	¾ mile (1 mile)	150[2]	400	500 wide 1,000 beyond runway ends[3]	800 wide 1,000 beyond runway ends	2,500 x 1,000 x 1,750

[1]Minimum of 600 feet required prior to threshold on approach for RSA and ROFA
[2]Runway width of 100 feet is permitted for C-III under 150,000 pounds. Otherwise, 150-foot width is required.

Runway Safety Area

The Runway Safety Area (RSA) is for the protection of aircraft that undershoot, overshoot or deviate from the runway. For SVC, the existing RSA on Runway 8-26 is based on B-II design standards which require a graded area that fully surrounds the runway at 150 feet in width (75 feet either side of the runway centerline) and 300 feet beyond each runway end. The RSA must be free of all objects with the exception

[12] The dirt runways do not have any lighting or retroreflective reflectors limiting their use to daylight, VFR operations.

of those fixed by function (i.e., runway lights, signs) and should be capable of supporting airport equipment. For the unpaved crosswind runways, B-I standards apply with an RSA that is 120 feet wide and extends 240 feet beyond each runway end. For a possible future C-III runway, the RSA is more expansive—500 feet wide and 1,000 feet beyond each runway end.

Runway Object Free Area

Like the RSA, the Runway Object Free Area (ROFA) also surrounds the runway; the ROFA must remain clear of objects at runway elevation but there is no graded requirement. For SVC, the ROFA extends the same distance beyond the runway ends as its corresponding RSA. However, the ROFA is wider. The ROFA width is 250 feet (125 feet either side of centerline) for B-I, 500 feet for B-II, and 800 feet for C-III.

Runway Protection Zone

The Runway Protection Zone (RPZ) is a trapezoidal shape of protected space that typically begins 200 feet from the runway with dimensions dictated by the aircraft type served and visibility minimums. The RPZ is for the protection of people and property off the ground and has significant land use restrictions. The various RPZ sizes/dimensions shown in Table 3.4 are specifically for Approach RPZs. Departure RPZs are also applicable but are generally the same size or smaller than the approach RPZ for a runway. The Approach RPZ location is based on the runway landing threshold. The Departure RPZ is based on the departure end of the runway—the published end of the runway. For runways with Declared Distances, the Approach and Departure RPZs may not be collocated. Because runways are two-way, the Approach RPZ for Runway 8 is in the same general location as the Departure RPZ for Runway 26.

Runway Obstacle Free Zone

The runway obstacle free zone (ROFZ) is a volume of airspace that surrounds the runway and extends 200 feet beyond the runway end, but its width is dependent on the aircraft served. For SVC, it is 400 feet wide on Runway 8-26 to serve large aircraft (12,500 pounds or greater), so the same ROFZ would be applied to a possible new runway to serve the USFS. However, runways serving small aircraft only would require a 250-foot wide ROFZ.

An inner-approach OFZ is required for runways with an approach lighting system, which SVC has on Runway 26. The inner-approach OFZ begins 200 feet from the Runway 26 threshold and extends 200 feet beyond the last light unit, approximately 1,400 feet long. Its width is the same as the ROFZ (400 feet) and it rises at a 50:1 slope from its beginning, starting at the runway end elevation.

An inner-transitional OFZ is in place when there is a lower than ¾ mile approach visibility minimums There is no inner-transitional OFZ required at SVC.

Runway Visibility Zone

At airports with intersecting runways but without a control tower, a Runway Visibility Zone should be defined and protected to ensure is pilots operating aircraft on the airfield are visible to each other. The ALP depicts the RVZ. For development alternatives with varying airfield configurations, the RVZ should be depicted to clearly identify where objects and any development are prohibited. Identifying the RVZ ensures that buildings, parked aircraft, and changing grade do not obstruct a pilot's view of another aircraft operating on a different runway.

Building Restriction Line

The Building Restriction Line (BRL) is another important consideration to protect aircraft movement areas. A BRL is established to ensure landside facilities such as hangars and terminal buildings are set back enough from the airfield environment to protect aircraft operations. Airspace protection around a runway drives the BRL. The RVZ may also be a factor in the BRL to ensure a clear line of sight for pilots is maintained.

Navaid Critical Areas

Instrument navaids require proper clearance from other objects to function properly without interference. For SVC, the localizer has a critical area that requires protection, which is a 250-foot radius around the Localizer antenna and a 400-foot-wide rectangle extending 2,000 feet down the runway toward the approach end from the localizer antenna. The localizer critical area should be considered in development alternatives and depicted on the Airport Layout Plan.

Pavements

Runway 8-26

According to FAA records, the pavement strength for Runway 8-26 is 75,000 pounds single wheel loading and 100,000 pounds dual wheel loading. The BAe-146 aircraft MTOW is up to 99,500 pounds, C-130 up to 155,000 pounds, MD-87 up to 150,000 pounds. Runway 8-26 had a two-inch mill and inlay constructed in 2016. This pavement is adequate for the current and projected aircraft mix. There was no surface treatment for increasing the runway skid resistance, and consequently, the runway has been closed when a layer of frost is on the surface. A skid resistant surface treatment should be performed as a high priority project. The FAA cancelled the prior skid resistance surfacing of a P-402 Porous Friction Course pavement treatment approximately five years ago, so that is no longer an option.

A pavement preservation project for Runway 8-26 to include seal coat, crack filling, and markings should be programmed in the five-year planning period. A pavement mill and inlay should be programmed in the 10-year planning period.

Taxiway A

The reconstructed areas of Taxiway A were constructed to 90,000-pound dual wheel pavement strength. The non-reconstructed taxiways pavement thickness ranges from 3 to 9½ inches. This pavement is adequate for the current and projected aircraft mix. By 2025, a pavement preservation project should be programmed to include seal coat, crack filling, and markings. A pavement mill and inlay of the areas that were not reconstructed should be programmed within the 10-year planning period, and crack sealing of the existing connector taxiways should be programmed as a high priority.

Connector Taxiways A2, A3, and A4 (formerly A2, A5, and A6) have not been brought up to the 2012 Taxiway Design Group standards. A project to reconstruct these three connector taxiways to the 2012 standards should be accomplished in the near-term (by 2025).

Possible C-III Crosswind Runway and Taxiway System

A proposed C-III runway should be constructed to over 100,000-pound pavement standards. The fleet mix at the time of planning for this project will dictate the pavement section. This over 100,000-pound pavement section will require stabilized base and subbase layers using FAA design methods.

Taxiways to the crosswind runway should be constructed to the same standards and Taxiway A to the existing aprons should be reconstructed to the new pavement strength.

Aprons

The apron area at SVC, excluding the USFS apron, has had a minimum of 4-inch pavement mill and inlay constructed in 2011, 2013, and 2021. These pavements should be programmed for pavement preservation—seal coat, crack filling, and markings—as soon as practical as significant block cracking is developing. Future pavement preservation projects should continue every five years. A pavement mill and inlay should be programmed by 2030.

LANDSIDE REQUIREMENTS

Commercial Terminal Building

Remodeled in 2020, the commercial terminal building adequately serves the existing and projected passenger traffic at SVC as a one-gate, one-airline terminal with a maximum of nine passengers on each flight. As discussed in the Forecasts Chapter, Advanced Air currently operates 24 outbound flights weekly[13] from SVC including 17 to ABQ and seven to Phoenix. Two of the seven Phoenix flights go onto Hawthorne, California. Based on Advanced Air's flight schedule, only one of their King Airs is on the ground at SVC at a time. The King Air has a nine-passenger capacity and carries an average of 4.8 passengers based on the airline's 2019 (pre-COVID) enplanement figures. For planning purposes, the contingency forecast (higher growth) for enplanements presented in the previous chapter is applied to assess the greater extent of possible terminal needs, if any. The higher growth scenario projects an increase to 5.4 passengers per flight within the 10-year planning period. However, terminal area requirements are based on the design hour enplanements, which is calculated using the estimated peak month and busy day enplanements plus remaining deplanements and visitors considering flight schedule and typical SVC conditions. **Table 3.5** summarizes this calculation.

[13] There are three outbound flights on five days of the week (Sun, Tue, Wed, Fri, Sat) , four on one day (Thu) and five on another day (Mon). Note: This info updated July 2021. Grant County Airport is part of the Essential Air Service (EAS) program so the airline is subsidized as part of an EAS agreement. The current EAS agreement will expire in January 2023.

Table 3.5 - Terminal Area Requirements

	Base Year	Near-term 2025	Intermediate term 2030
Annual: Enplanements	5,968	6,407	6,879
Peak Month Enplanements (10%)	597	641	688
Busy Day	20	21	23
Design Hour Passengers[1]	9	9	10
Terminal Area Required[2]	1,080	1,080	1,200

[1] Design Hour Enplanements estimated at 1/3 of Busy Day plus 30% for deplanements and visitors in building.
[2] Estimated 120 square feet per passenger
Note: Enplanements are derived from Chapter 2, Forecasts, contingency forecast (higher growth). COVID impacts are not incorporated; activity is expected to ultimately return to previous demand and growth patterns. Base year enplanements are 2019 (pre-COVID).

The existing commercial passenger service lobby/waiting area including seating and circulation comprises approximately 1,300 square feet, which is adequate for the 1,200 square feet identified in Table 3.5. Further, the 1,300 square feet is separate from the ticket counter space, backroom area used by airline and airport staff storage (equipment, baggage, etc.), restrooms, and office space.

From the airport user survey responses collected early in the study, numerous passengers provided specific comments about terminal building area needs. Comments were also provided by some telephone interview participants. Comments regarding terminal needs included:

- Rental car availability/counter
- Wayfinding for blind and visually impaired passengers
- Noticeable signage for new visitors to clearly direct them to the commercial terminal and to avoid confusion with the GA terminal

Separate from the terminal building input, airport users also recommended better signage on Highway 180 – approaching the airport vicinity in addition to the turn-off to Airport Road.

Since SVC is a low activity commercial service airport and generally one aircraft is at the terminal apron at a time, passengers walk from the terminal to the parked aircraft. A walking path from the terminal to the parked aircraft is defined by pedestrian markings on the pavement that extend an estimated 50 feet. With the recent apron project, a new path was painted.

Rental cars on-site at SVC is a critical issue as identified repeatedly in the user survey responses and by PAC members. The lack of rental cars may continue to have a negative impact on commercial service traffic into SVC. There is no shuttle, no active rental car agency[14] in town, and no consistent ride share.

[14] According to local reports, Enterprise Rental Car in Silver City has closed its only location in the community. Presently, there are no other rental car agencies in the area. This information was provided in July 2021.

The County's courtesy cars are only for transient pilots. During fire season, these cars may be in higher demand. Further, the USFS has stated that a lack of rental cars is an issue for their crew as well.

ARFF

Connected to the commercial terminal building is the Aircraft Rescue and Firefighting (ARFF) station that contains two bays for vehicles. An ARFF vehicle is in one bay and airport maintenance equipment (sweeper) is in the other. SVC is a Part 139[15] Class III, ARFF Index A facility. Class III airports serve only scheduled operations of small air carrier aircraft. ARFF Index A requires at least one vehicle with specific chemical requirements. While the ARFF equipment and capabilities meet the minimum FAA requirements, expanding their capabilities would enhance safety considering the time and distance that mutual aid is from SVC in an emergency.

A larger Class IV/Index B ARFF vehicle has been recommended by the FAA's Safety and Standards Certification Inspector to provide additional capability until mutual aid arrives. However, the typical Class IV/Index B equipment does not fit through the existing ARFF station door. Moving the airport maintenance equipment out of the second bay of the ARFF station would open it up for additional firefighting equipment support. However, the second bay has less length than the first bay.

Airport Administration

The airport manager's office is also within the commercial terminal and ARFF building. Located on the south side of the two-bay ARFF station. No additional office space needs for County staff at SVC have been identified by airport management. Airport maintenance and operations have offices in the General Aviation Terminal Building separate from the commercial service terminal and ARFF facility.

General Aviation Terminal Building

The general aviation (GA) terminal building is in need of an interior update or full renovation depending on funding availability. Further, the building does not meet ADA standards[16]. The building was partially improved with new paint, stucco and windows recently. No expansion of the building space is required to serve its aviation visitors and maintenance staff office needs during the planning period based on current and projected activity levels at SVC. However, it's important that Grant County maintain a GA terminal to provide pilot amenities, maintenance staff office space and small equipment storage to continue serving SVC users through the planning period. The NMASPU 2017 recommends that a pilot lounge and conference room be provided. A local flight instructor has been permitted to use one of the rooms in the

[15] 14 CFR Part 139 requires FAA to issue airport operating certificates to airports that provide commercial passenger service.

[16] ADA (Americans with Disabilities Act) requires facilities and services be readily accessible to and usable by individuals with disabilities, including individuals using wheelchairs.

GA terminal as a classroom since flight training generates fuel sales. Seven SVC users have identified the need to further improve the GA terminal.

During telephone interviews for the study, comments were received about the need to improve aesthetics at SVC to include updating old facilities that visitors may see and to make materials available regarding recreation tourism activities such as hiking and hunting. Also, better phone reception and reliable Wi-Fi has been an issue for pilots in the GA terminal. The USFS does not typically use the GA terminal since they have their own facilities, but they have used it on occasion when they are especially busy.

USFS Facilities

The USFS Gila National Forest Aerial Firebase and Fire Cache is located at the east end of the SVC building area with buildings contained within their fenced 7.8-acre area, which they lease from SVC. All facilities within their fence line are maintained by the USFS. The apron in front of the USFS is also leased and often quickly consumed by firefighting aircraft along with staged equipment and materials during fire season. USFS aircraft parking overflows to the adjacent GA apron and onto the taxiway, when necessary. This issue is more pronounced when large helicopters such as the Chinooks are operating at SVC. The helicopters kick up debris, their rotor wash is problematic for fixed wing aircraft, and they have a sizable parking and support footprint. As noted earlier, the USFS has identified the need for additional apron for the helicopters, namely the large Type 1 helicopters like the Chinook. In addition, a 9,200-foot runway is required for their BAe-146 aircraft operations.

Apron Area

The aircraft apron has an estimated 70,000 square yards that primarily serves commercial air service activity, general aviation users and the USFS operators. The commercial air service apron located in front of the commercial terminal building accommodates the airline's activity—King Air parking, air service passengers walking to and from the aircraft, support personnel, fuel truck, and other support vehicles and equipment. Based on the projected enplanement activity, which includes increased load factors associated with the existing number of flights at SVC, the commercial apron is adequate for the 10-year planning period. If additional apron area is required near the commercial terminal, there is ample space east of the commercial terminal apron where the GA apron is located.

A large portion of the aircraft apron is for GA traffic—transient and based aircraft, as needed. The air cargo courier also uses the apron approximately once daily and parks on the GA apron. Based on itinerant GA activity levels, it is estimated that peak hour GA aircraft parking needs for transient operators typically includes up to two spaces, which will remain unchanged for the planning period. Aircraft occasionally spending the day or overnight at SVC may increase that total parking need to three spaces, on average. Special events will attract greater numbers of transient aircraft, but those increased parking demands are expected to be once or twice a year. The excess GA apron capacity is most useful during fire season for the USFS.

The USFS apron is at the east end in front of their Fire Base facilities and includes two concrete pads for heavy aircraft and fire-retardant loading, and additional apron for a limited number of other aircraft

depending on size. A range of aircraft types and sizes arrive to fight wildfires each year including single-engine air tankers (SEATs), large tankers and helicopters. According to the USFS Aviation Officer at SVC, their primary need is separate parking for their large Type 1 helicopters such as the Chinook, which have been in the way of taxiing fixed wing aircraft on the apron. When a large number of fire suppression aircraft are at SVC in support of the Fire Base, overflow parking consumes the apron as well as segments of the taxiway.

The development alternatives consider separate helicopter parking and other apron parking options.

Hangars

Hangar demand at SVC includes both based aircraft owners and transient activity. With a waiting list for hangars, inadequate facilities to accommodate transient aircraft and projected growth in activity at SVC that includes two additional based aircraft; hangar requirements are a short-term requirement. In fact, the County has a project under way to construct a new six-unit bank of T-hangars; project design is underway in 2022, with construction anticipated in 2023. The new T-hangars will primarily support based aircraft (tenants) at SVC, but corporate hangars are needed for the larger transient aircraft. The County is funding the T-hangar development with a NMDOT Aviation grant. Regarding the near-term need for a corporate hangar to accommodate transient aircraft, the County has the option of constructing it or establishing a ground lease with a private developer to do the same. Regardless, the alternatives should identify options for both T-hangar and corporate hangar development areas. A corporate hangar is needed in the near-term to address the immediate need for transient aircraft storage.

Airport Equipment Storage

Airport maintenance equipment is currently stored outside or in the second bay of the ARFF station. Repair parts are stored in the old Flight Service Station (FSS) building and a storage space adjacent to one of the T-Hangars. It is recommended that a facility be constructed and dedicated to airport equipment and repair parts storage within the planning period. A new consolidated facility that provides storage for all equipment would be ideal. Its location could be convenient but removed from prime land that could better serve other SVC needs. Demolition of the old FSS building/storage facility should be considered to free up space for other landside development needs.

Auto Access, Parking and Signage

Airport access is via Airport Road from US 180. Airport Road was recently improved in a $2 million project. With low vehicle activity, Airport Road can adequately accommodate SVC traffic through the planning period. Airport Road turns into Ridge Road on the west end of the Airport. The County is planning phased improvements to Ridge Road from the Airport to the west side of Silver City, creating paved access to the west side of SVC in addition to the existing east access. This secondary access on the west side may be required to access any possible long-term future development on the north side of SVC where it is currently undeveloped.

Comprised of more than 2,800 square yards, the public auto parking area is more than sufficient for SVC through the planning period. While the parking area is unmarked, the space could potentially accommodate 60 vehicles. To serve commercial air service activity needs of passenger traffic (short-term and long-term parking), employees and demand for rental cars, a total of 30 parking spaces are currently required. By 2030, this increases to a total of 34 spaces. To accommodate SVC courtesy vehicles and limited GA tenant and visitor parking, parking demand increases by an additional six to eight spaces. Consequently, capacity remains for overflow parking during fire season or a special event at SVC. There are also two accessible parking spaces located and appropriately marked in front of the commercial service terminal building.

The public auto parking area is composed of a deteriorated asphalt perimeter drive and an asphalt millings surface center area. A pavement project is needed to improve the parking area surface, provide proper markings and to enhance the overall aesthetics of this public area.

Security cameras cover the parking area, but additional lighting would improve safety. Further, some passenger survey respondents commented that additional lighting is needed for enhanced security and to clearly see between the parking lot and terminal building. Better signage directing visitors to the commercial passenger terminal building from the parking area was also recommended.

Fuel Facilities

Fuel facilities, located east of the GA terminal include:

- one 12,000-gallon tank of 100LL
- one 12,000-gallon tank of Jet A
- two Jet A fuel trucks
- one self-serve credit card 100LL system for 24/7 access

Based on aviation activity levels and frequency of fuel deliveries, SVC has ample fuel on hand for routine demand. However, the high level of Jet A fuel sales during fire season supports the need for another Jet A storage tank. This will reduce the frequency of fuel deliveries required during peak firefighting operations. According to the airport manager, there were days when two full loads of jet fuel had to be delivered to keep up with demand, which was in addition to having three[17] jet delivery trucks on site that provided an additional 12,200 gallons of capacity. The County is planning the construction of a second 12,000-gallon Jet A tank; the design is complete with funding anticipated in the near-term. There is a designed and funded project to construct secondary containment for the existing tanks and the fuel truck loading/off-loading area. This project is being funded by a NMDOT Aviation Division grant and County funds.[18]

[17] Airport management reported that during the extraordinarily busy fire season in 2022, a fourth fuel truck (5,000-gallon capacity) had to be brought in to help serve fueling needs.
[18] Following the NMAD grant commitment, Grant County received $2 million in American Rescue Plan Act (ARPA) funding for this development.

One airport user survey commented on the need for a 100LL fuel truck since access to 100LL is limited to the self-serve system.

FBO Services

A Fixed Base Operator is a commercial business permitted by the airport owner to operate on the airport and provide aeronautical support services. These services may include aircraft rental, flight instruction, air taxi service, aircraft maintenance, fuel services and other support services. There is no commercial FBO at SVC. Grant County provides fueling services at SVC, which generates revenue to help support the airport's operational and maintenance needs. Flight training is offered by a local certified flight instructor. Air taxi service, aircraft rental and aircraft maintenance are unavailable at SVC, but these services are available at other airports in the region.

Airport Security

The airport perimeter is protected by animal control fencing while the terminal area includes chain link and wrought iron fencing. Vehicle access to the airport operations area is restricted by gates that require an airport code. According to airport management and user input, fencing and controlled access vehicle gates are meeting the needs of SVC. However, pedestrian access should be limited to prevent the general public from walking out onto aircraft movement areas. Additional signage warning pedestrians of unauthorized access is recommended. Security cameras, such as motion-activated cameras, help deter vandalism and theft and provide enhanced security for airport visitors, buildings, equipment and aircraft. Such cameras are recommended for airport parking areas, terminal building areas and aircraft apron. During the SVC commercial terminal project, cameras were installed but their coverage is limited to the commercial terminal area and vehicle parking area. Security cameras are also needed at the GA Terminal that will cover the GA aircraft apron and fuel farm.

The fencing and security currently meet requirements for the TSA-unscreened commercial service at the airport.

Additional lighting for the auto parking area and path to the terminal buildings was also requested by some of the passengers during the user survey.

Deicing

The average low temperature in the Silver City area is reportedly 27° Fahrenheit in January with an average high of 55°. The average low of other winter months lingers just below or above freezing temperatures. Snow and freezing rain during winter creates the potential need for deicing at SVC. However, the commercial air passenger service provider, Advanced Air, stores their aircraft in a hangar overnight. For use on an as-needed basis, the airline has a deicing stand, spray equipment, and deicing fluid stored in a 55-gallon drum. According to airport management, the only deicing that has been done in the last several years is leading edge defrosting. No additional deicing facilities are necessary.

Wash Rack

An aircraft wash rack is used to remove corrosion-causing contaminants. Not all airports have a wash rack available to aircraft due to cost, placement, and/or environmental requirements. SVC does not currently have a wash rack and no specific requests for a wash rack were received from the airport user survey respondents. However, if future development of a wash rack is considered, recommended features include a location convenient for GA aircraft and a catch basin and proper diversion into a storm water treatment system.

Utility Infrastructure

Utilities at the airport include electricity, emergency generator, water well and storage tank, telephone, internet, propane, airfield electric, and wastewater.

Electricity

The existing electrical distribution system is owned by PNM[19] and is adequate for the facilities. As development occurs at the airport and along Airport Road, improvements to the electrical distribution system may be required. No improvements are identified in this plan.

Emergency Generator

A 40-kW diesel powered stand-by emergency generator was installed in 2019. The generator provides stand-by power for the airfield electrical vault and the ARFF facility. The AWOS should have a stand-by generator installed to ensure continued weather reporting when power is out. Summertime thunderstorms frequently disrupt commercial power to the airport, including the AWOS.

Water

Water for the airport is a major issue and is currently inadequate. There is a low volume producing well on the airport that provides the water for the airport. A 200-gallon elevated storage tank on the airport provides for distribution, storage, and water pressure. Water storage and volume are not available in sufficient quantities for structural firefighting or for ARFF purposes. Water for firefighting has to be supplemented from the nearby town of Hurley, which is at least a 10-minute response time. There are no fire hydrants on the airport.

According to airport management, the water from the well serving the airport has been tested and meets drinking water standards. The water system provides water for the commercial services terminal building, the GA terminal building and the hangars belonging to Sherman and Ormand (west end) and Nichols (center of the apron area). Airport management also noted that there is a 10,000-gallon water storage tank located southwest of the ARFF bay, which is used to refill the ARFF truck.

A more reliable source of water and additional storage for firefighting purposes is needed at the airport. A well and storage tank were constructed along the north boundary of the airport to provide water to the

[19] PNM is in the process of being acquired by Avangrid, a Connecticut-based company.

Town of Hurley. An element of this development was to run a water line to the airport; however, this well was not producing water flow as expected and the water line to support the airport was not constructed because of inadequate capacity.

Water for construction has to be trucked to the airport from the Town of Hurley, seven miles away.

Identified early in the study as an airport issue of concern is the use of Aqueous Film Forming Foam (AFFF). Certain types of AFFF contain a chemical compound that has been found to potentially contaminate drinking water. AFFF is discharged during aircraft fire fighting operations and during testing of the ARFF equipment. FAA has not, as of the writing of this report, approved an AFFF product that does not contain fluorinated foam.

There is a well located to the west of the ARFF building that provides potable water for the airport. New Mexico's Wellhead Protection Act requires/recommends a minimum 200-foot radius clear area around possible points of contamination for new wells. With the new development south of airport road, wells may be located off airport downstream of the airport drainage discharge.

The discharge of AFFF during an aircraft fire is at the fire location and is not controlled by the airport. The discharge of AFFF during training or testing of the ARFF equipment can be controlled by the airport. Previously, some testing of the ARFF equipment was done during the FAA's Part 139 certification inspection. According to airport management, discharge of AFFF during inspection has been discontinued, but they are required to send samples for quality testing every six months.

For those operations that are controlled by the airport or FAA, the discharge of AFFF should be as far away from the wellhead as possible. Recommended is an area north of Runway 8-26 to allow time for the AFFF to dissipate before entering the drainage system and downstream wells.

For actual firefighting operations, the area should have spill containment materials used to contain the AFFF and the area cleaned as soon as possible to limit the possibility of the AFFF product from entering the drainage or the wellhead area. FAA AC 150/5200-1 "First Responders Responsibility for Protecting Evidence at the Scene of an Aircraft Accident/Incident" states that wreckage be protected during rescue operations. Therefore, the containment/cleanup should not occur until the accident/incident scene is controlled, and the location of the spill containment materials should not impact the investigation into the aircraft accident/incident.

Telephone

There is telephone cabling to the airport, which is adequate for the 10-year planning period.

Internet

WNM provides a fiber connection for SVC internet access. Internet speed is slow, and bandwidth is limited. As previously mentioned, reliable Wi-Fi access and speed has been an issue for airport users, so improvements are recommended.

Propane

Individual buildings have propane tanks. These are adequate for the planning period.

Airfield electric

The airfield electric vault was constructed in 2006 when the runway lights and signing were replaced. Vault improvements included new controls, Constant Current Regulator replacement, pilot control lighting replacement and a new structure to enclose the vault equipment. The VASI system was also replaced with PAPIs as part of the project as were the primary and supplemental wind cones.

There is an emergency generator for the airfield electric vault and commercial service terminal power. The vault is adequate for the planning period. A separate vault for a future crosswind runway should be constructed to reduce the length of the electrical home run circuit, depending on the location of the crosswind runway.

The FAA-owned VOR, Runway 26 REILs, Runway 8 Localizer and MALS have individual power sources coming off the aerial lines paralleling Airport Road and appear to be individually metered. They are not part of the county-owned infrastructure.

Wastewater

There are individual septic systems that serve the commercial service terminal, GA terminal, and Nichols, Sherman and Ormand hangars. These are adequate for the planning period. The septic tank for the commercial service terminal/ARFF facility was replaced in 2015. This tank is located in the commercial service terminal parking area and is cordoned off using portable highway wall barriers. The status of the other septic systems and drain fields is unknown. The GA terminal septic was serviced in 2020 and was found to be adequate.

Drainage

Drainage is generally north to south. The drainage from north of the airport crosses the runway 8-26 alignment in three locations: west of the Runway 8 threshold, under the runway approximately 1,000 feet west of the Runway 26 threshold and about the center of the runway.

There are stormwater drop inlets in the area between the runway and taxiway. The eastern GA apron has a slot drain to capture flows before they get to the T-Hangars. A slot drain was constructed in 2021 in front of the commercial services terminal to intercept small flows before they get to the terminal.

The majority of drainage is contained in drainage swales, with major swales west of the Runway 8 threshold, then south of the eastern end of Runway 8-26/Taxiway A, and between the USFS complex and the T-Hangars.

These features require occasional maintenance to remove debris and to clean the culvers and drop inlets.

Drainage in the fuel farm area is being corrected as a part of the fuel farm secondary containment project. Currently, stormwater flows from apron and ponds near the fuel tanks and facilities.

The crosswind runway design will have to examine the area drainage as the new runway alignment will interrupt the current, natural flows. Drainage features to maintain the existing flow rates going off-airport will be required to meet drainage regulations.

Drainage improvements should be integrated into future pavement projects.

AIRPORT ENVIRONS

Protection of the airport environs is important to ensure the safe arrival and departure of aircraft at SVC. To best protect an airport, the sponsor should assure that all development surrounding the airport is compatible with airport operations. In fact, compatible land use is one of the many grant assurances that an airport sponsor agrees to uphold when accepting a federal grant for airport improvements. The following is an excerpt from the grant assurances regarding the sponsor's commitment to compatible land use.

> *It will take appropriate action, to the extent reasonable, including the adoption of zoning laws, to restrict the use of land adjacent to or in the immediate vicinity of the airport to activities and purposes compatible with normal airport operations, including landing and takeoff of aircraft.*

During the preparation of this chapter, the FAA published a new draft advisory circular (AC) identified as FAA AC 150/5190-4B, *Airport Land Use Compatibility Planning*, which generally explains that the purpose of the guidance is to address the "…effects of incompatible land use on the safety and utility of airport operations, and identify compatible land use development tools, resources and techniques to protect surrounding communities from adverse effects associated with airport operations." Once the FAA finalizes the AC, it will cancel the FAA's Memorandum, dated September 27, 2012, subject *Interim Guidance on Land Uses Within a Runway Protection Zone*.

The FAA characterizes major incompatible land uses as those that conflict with or are impacted by operations at local public use airports such as residential development, tall structures, light, glare, electronic/radio, smoke, land uses that attract birds or other wildlife, and land uses with concentrations of people or property within runway protection zones. To the east and southeast are tailing ponds from the mining operations in Grant County. Airspace analysis of the ultimate elevation of these ponds and the cranes used in the pond operations have resulted in the raising of the approach minimums for Runway 26. These ponds may limit the approach minimums for a possible future crosswind runway as well.

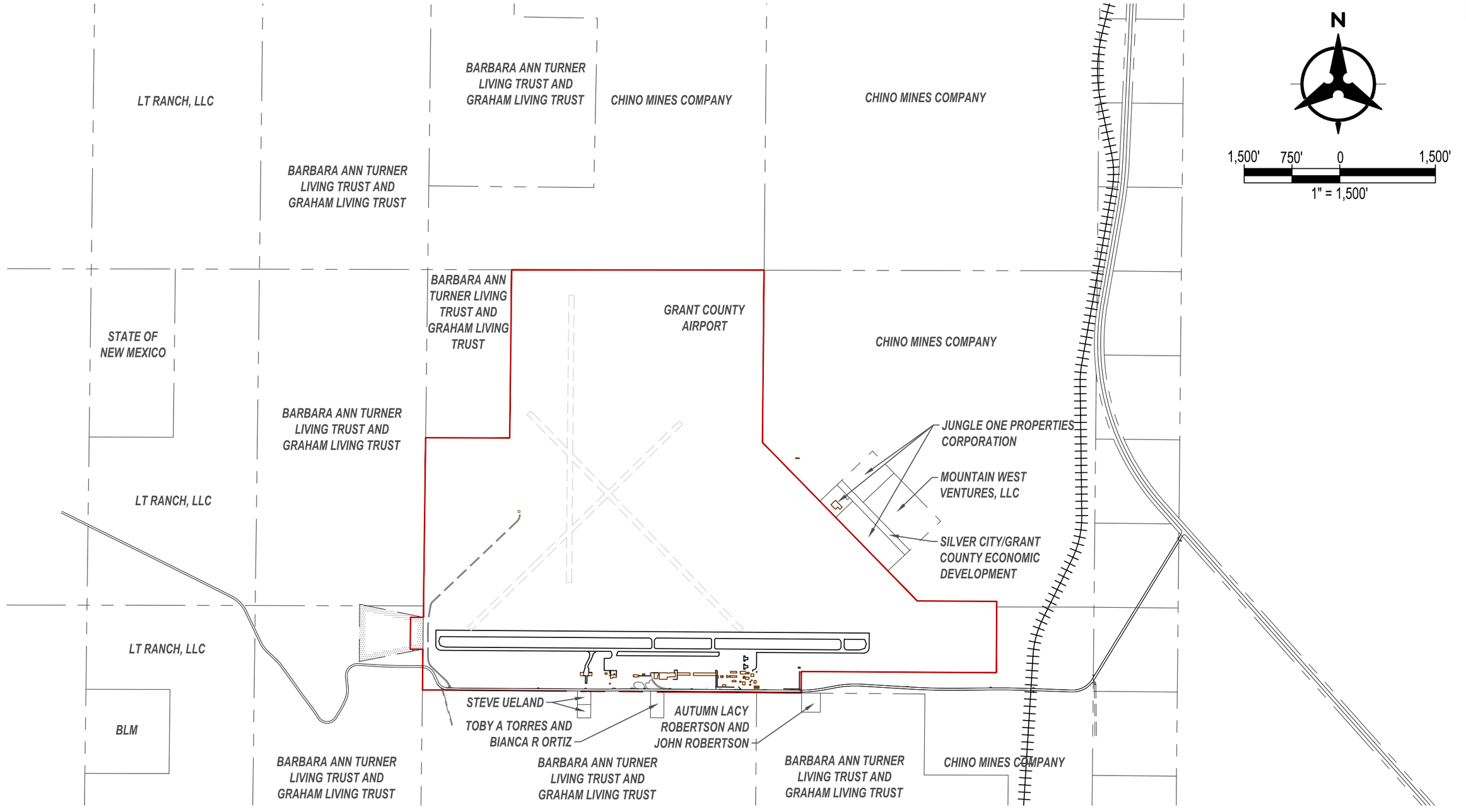
It is recommended that Grant County implement land use controls for the long-term protection and viability of SVC. This can begin with the adoption of an airport influence area (AIA) as recommended by the NMASPU 2017 study, which provided an example to airports statewide.[20] The AIA is based on Part 77 airspace surfaces for the ultimate development of an airport.

[20] See appendices for NMASPU's recommended (example) airport land use compatibility diagram for SVC based on its current airfield configuration.

According to Draft FAA AC 150/5190-4B, an airport influence area (AIA) should be large enough to protect an airport and persons on the ground around it. The FAA recommends that it also contain federal and state airport design criteria, safety areas, noise areas, and overflight areas with land use controls unique to the local community. Zoning within the AIA that only allows compatible industrial or commercial uses near airports can be an effective tool in preventing some kinds of incompatible development. However, any type of noise-sensitive use such as schools or facilities causing hazards to air navigation such as smoke or glare should not be allowed. Further, some portions of the AIA should be more restrictive than others such as the runway approaches. If residential development is allowed in the vicinity of an airport, fair disclosure requirements should be incorporated into subdivision regulations to help ensure that prospective buyers are made aware of the AIA over their property and that they may be exposed to aircraft noise before they close on the purchase. Currently, there is limited residential development to the east and south of the airport boundary. **Exhibit 3A** identifies current land ownership adjacent to SVC.

Since the airport is not within City Limits, the airport and its surrounding areas are subject to Grant County zoning and planning requirements. The County's 2017 Comprehensive Plan addresses the airport providing information from a 2016 report. Grant County should continue to include the findings of its airport planning studies in subsequent updates to the County Comprehensive Plan updates.

While land use surrounding SVC is generally compatible with airport operations today, this is the opportune time for Grant County to be proactive in protecting the airport environs for the long term. The FAA defines compatible land uses as those that can coexist with a nearby airport without constraining the safe and efficient operation of the airport or exposing people living or working nearby to unacceptable levels of noise or hazards.



GRANT COUNTY AIRPORT

AIRPORT ACTION PLAN

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EXHIBIT 3A

CHAPTER 4 - ALTERNATIVES

INTRODUCTION

In the previous chapter, a number of improvement needs were identified for the Grant County Airport (SVC). This chapter translates those needs into various physical layouts for review and comparative evaluation. **Table 4.1** presents a recap of the needs outlined in the previous chapter within 18 airport facility components.

Inherent in this process is the community's option to take no action in further developing the airport to accommodate demand. This "no action" option is comparatively evaluated with the development alternatives to assess the advantages and disadvantages. Further, the community has the option of limiting the extent of development, which may reduce the airport's ability to fully accommodate aviation demand. This may be relative to runway dimensions and strength serving larger and/or faster aircraft, or the number of additional hangars to serve based and transient aircraft. Demand that is constrained at SVC will be diverted to another area airport or simply go unserved.

Table 4.1 Summary of Requirements

Component	Description of Requirements
Primary Runway	• Existing 6,802 feet (on Runway 8-26) is adequate for 100% small aircraft fleet and for B-II design aircraft (King Air). • For 75% of the large aircraft fleet less than 60,000 lbs. o At 60% useful load, 6,980 feet of runway is needed o At 90% useful load, 8,700 feet of runway is needed • For USFS BAe 146 aircraft with optimum fire retardant and fuel load, 9,200 feet is needed
Crosswind Runway	• A-I/B-I crosswind justified at minimum 4,840 feet since Runway 8-26 has less than 95% coverage. • To serve as alternate runway when Runway 8-26 is closed for maintenance or repair, a longer runway is required up to 9,200 feet to serve USFS.
Non-standard airfield conditions	• Buildings in 7:1 off 1,000-foot primary surface based on LPV approach with ¾ mins. • Existing runway-to-taxiway centerline separation of 240 feet is inadequate for regular C-III activity on Runway 8-26 during fire season, so taxiway use is restricted during C-III ops
Pavements	• Runway 8-26 pavement strength is adequate • Standard recurring pavement maintenance projects and pavement re-markings required
Visual Aids	• Replace, update PAPI system (installed 2008)
Lighting	• Replace, update MIRL (installed 2006) with LED and install MITL on parallel taxiway
Helicopter Operations Area	• Enhance safety by separating helicopters from fixed wing • Consider apron area dedicated to large Type 1 helicopters (Chinook) and their staging equipment
GA Terminal	• Renovation
Hangars	• Construct additional T-hangars for based aircraft (two in planning period)-design of one bank of T-hangars with six units is under way • Construct corporate hangar to accommodate transient aircraft • Address needed maintenance on existing hangars

Component	Description of Requirements
Airport Maintenance Equipment Storage	• Construct airport maintenance building dedicated to equipment and parts storage
Ground Transportation	• Make rental cars available and establish public transportation to/from SVC
ARFF	• Additional truck (larger Class 4/Index B) recommended by the FAA's Safety and Standards Certification Inspector to provide additional capability until mutual aid arrives • Modify ARFF building (additional bay) or construct additional facility to accommodate larger truck
Fuel Farm	• Additional Jet A tank and secondary containment at fuel farm for environmental compliance
Auto Parking	• Improve pavement, add markings, increase lighting
Signage	• Add wayfinding for blind and visually impaired passengers • Enhance signage for new visitors to clearly direct them to the commercial terminal • Improve signage approaching airport vicinity and at turn-off
Security	• Increase lighting, specifically around GA terminal, fuel farm and vehicle parking area
Utility Infrastructure, Drainage and Other	• Improve utility infrastructure and drainage to support existing needs and future development • Waterline to the airport
Aesthetics	• Improve SVC aesthetics to attract more activity and enhance gateway image

IDENTIFICATION PROCESS

The identification of development alternatives follows a number of steps to ensure factors that may impact development potential are considered and that any development ideas (concepts) are examined for significant flaws. Once development concepts are screened and deemed acceptable, they are refined and presented in graphics and detailed descriptions for stakeholder review. Further, there are development needs that are fixed by function, so placement of the facility improvement is limited to one location. These improvements are identified as common features and are inherently included in any future development.

PLANNING CONSIDERATIONS

Prior to identifying alternatives for SVC, there are various features and factors within the airport environs that should be considered as they may represent development opportunities or challenges. Consequently, these are referred to as planning considerations and include.

- Existing airport property boundary
- Adjacent property owners
- Cultural resources to the west of airfield (specific locations are unidentified and confidential)
- Underdeveloped property along fence line between the two terminals where cars currently park
- Underdeveloped property west of existing building area at Runway 8 end (significant grade change, drainage issues), includes old FSS building used for airport storage

- Undeveloped property east of existing USFS at Runway 26 end (significant grade change)
- Other area terrain
- Well, storage tank
- Railroad
- Aboveground power lines around airport
- East side residence
- RC Aero Modelers operating adjacent to SVC and near residence on east side
- Existing east side road to residence
- Existing Airport Road
- Existing utility infrastructure
- Drainage swale along western boundary of USFS lot
- Drainage along west side of west hangars
- Drainage southeast of Taxiway A5
- Existing primary surface 1,000 feet wide on Runway 8-26 for existing LPV approach to R26 (primary surface is a component in determining the building restriction line)

Exhibit 4A depicts these planning considerations on an aerial photo for reference.

As illustrated, undeveloped property on- and off-airport as well as underutilized property present ideal opportunities for airside and landside facility development and protection of the airport environs. Since the County invested in costly improvements to Airport Road, they have stated that no airport development will be considered that requires the relocation of Airport Road. Access to existing utility infrastructure in the vicinity of future improvements is ideal to keep costs low, but long-term development may dictate more significant improvements and the extension of utilities to better serve airport users and growth. These planning considerations represent factors addressed in the proposed development alternatives presented in this chapter.

PRELIMINARY AIRFIELD DEVELOPMENT CONCEPTS

Runways represent the highest priority development at an airport. For this reason, it's important to first identify the possible runway configurations before considering landside development. Property that remains outside of the future airfield development "footprint" is available for the landside facilities such as hangars, roadways and auto parking. The development footprint primarily includes runways and the surrounding protected surfaces defined by the FAA.

For Grant County Airport, the "preliminary airfield" concepts—referred to as PA1 through PA6—are created in a brainstorming session about the runway needs outlined in the previous chapter, which include:

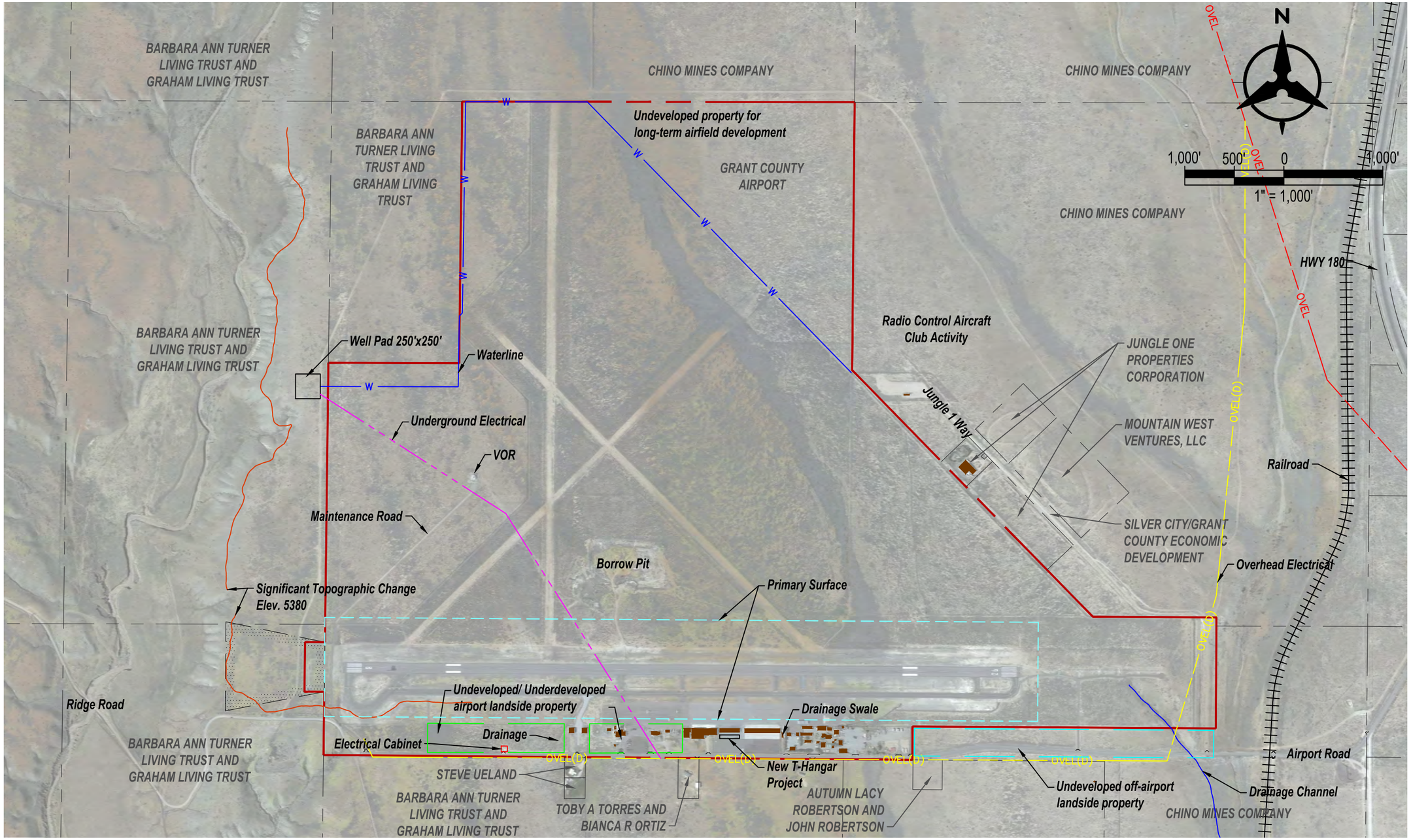
- **Crosswind runway** of 4,840 feet in length to serve the smaller A-I and B-I aircraft that are most vulnerable to crosswind conditions
- **C-III runway** with length that better serves the USFS needs, ideally 9,200 feet for the BAe-146 aircraft

Crosswind Runway Options for Small A-I/B-I Aircraft

Options for a crosswind runway include paving one of the existing dirt runways or constructing a new crosswind runway to the east of the dirt runways. Based on wind data analyses, Runway 3-21 alignment (existing dirt runway) was eliminated from consideration since it provides the least amount of wind coverage of the three dirt runways. Runway 12-30 and Runway 17-35 have better wind coverage, and when either is combined with Runway 8-26, the airfield configuration exceeds the 95% FAA-recommended wind coverage. Consequently, paving Runway 12-30 or Runway 17-35 would be a suitable option to serve the smaller A-I/B-I aircraft needs during crosswinds. The third option to address the crosswind need is to construct a new runway, specifically a northwest-southeast alignment such as a Runway 14-32 to provide acceptable wind coverage within the site limitation. These concepts are similar to those addressed in the previous planning study since wind data analyses and results are similar in both studies. While the main objective of the crosswind runway is to provide adequate wind coverage for the small A-I/B-I aircraft, the crosswind will be able to serve as a secondary runway when Runway 8-26 is closed for pavement maintenance and improvements. For SVC, the crosswind runway is required to be a minimum of 60 feet to serve up to B-I traffic, but the preliminary airfield concepts propose a 75-foot width to serve B-II traffic when Runway 8-26 is closed. The three crosswind concepts each have an estimated cost of approximately $3 million for pavement only. This cost estimate excludes additional facilities such as lighting, taxiway system, and visual aids.

The three preliminary airfield concepts (PA1, PA2 and PA3) are reviewed here:

- **PA1** – Pave Crosswind Runway 12-30 to 4,840 feet
- **PA2** – Pave Crosswind Runway 17-35 to 4,840 feet
- **PA3** – Construct New Crosswind Runway 14-32 to 4,840 feet



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Planning Considerations

EXHIBIT 4A

PA1 – Crosswind Runway 12-30

In **PA1**, Runway 12-30 is designated as the future paved crosswind. While the existing length of this unpaved runway is presently 4,675 feet, this concept proposes to slide the runway northwest to clear the southeast runway protection zone (RPZ) of Airport Road and landside facilities in compliance with FAA standards. This results in a loss of 800 feet of runway at the southeast end and the addition of 965 feet at the northwest end to reach the required length of 4,840 feet. As illustrated here, a portion of the northwest end (Runway 12) and the RPZ fall outside of the existing airport property line, so land acquisition is required. It's important to note that Runway 12-30 has the best individual wind coverage (94.15% at 10.5 knots) of the three crosswind runway alignment concepts.

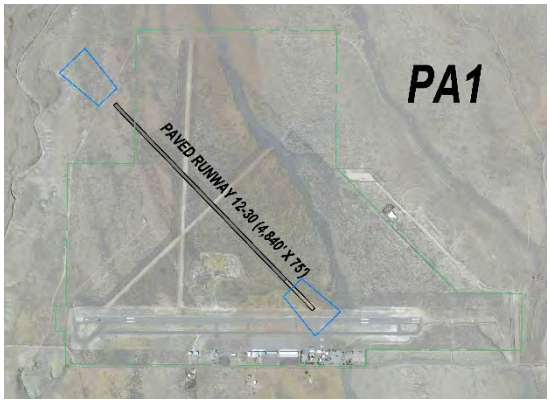

Exhibit 4B. Concept PA1

PA2 – Crosswind Runway 17-35

In **PA2**, Runway 17-35 is designated as the future paved crosswind as shown here. The location of the Runway 35 RPZ must remain clear of Airport Road and the corporate hangars to the south. Facility development is not permitted within the RPZ and is restricted in the approach path depending on placement. This means that unpaved Runway 17-35, which has an existing length of 5,473 feet, will need to slide to the north to properly clear its approach and RPZ at the south end. With the minimum runway length requirement of 4,480 feet, this concept reduces the existing length by 633 feet. Also, Runway 17 (north end) has a displaced threshold of 109 feet. This concept proposes to mitigate the displacement by relocating the fence and ensuring proper runway object free area (ROFA) and runway safety area (RSA) surfaces are provided. The RPZ at the north end is beyond the existing airport boundary so land acquisition (or a combination of fee simple acquisition and avigation easement) for the RPZ is necessary to properly protect the area. Wind coverage on the Runway 17-35 alignment is the least favorable (84.15% at 10.5 knots) of the three crosswind concepts, but still offers more than 95% coverage when combined with Runway 8-26.

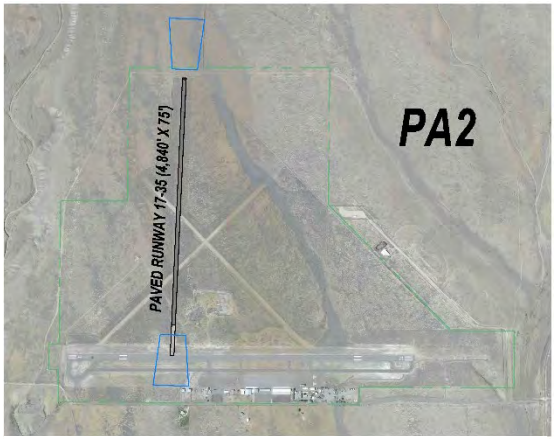

Exhibit 4C. Concept PA2

PA3 – Crosswind Runway 14-32

In **PA3**, a new Runway 14-32 is designated as the future 4,840-foot crosswind runway. This concept assumes the existing unpaved crosswinds would be closed, which would open up land for long-term development in the northwest segment of airport property. The placement of Runway 14-32 ensures the RPZ remains clear of Airport Road, as required. However, its placement impacts land use to the east and just outside of the airport property boundary. Long-term acquisition of the property would be recommended due to the proximity of the runway to the residential development and the radio control club activity.

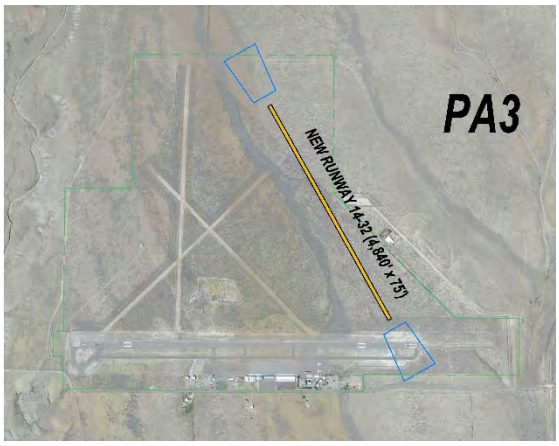

Exhibit 4D. Concept PA3

While this concept assumes Runway 14-32 will be constructed to 4,480 feet in length, this crosswind has the potential for ultimate lengthening (similar to PA6 addressed later), if needed. In PA3, there are small segments of the north and south RPZs that are outside the existing airport property boundary and require acquisition (avigation easement at a minimum). Wind coverage on the Runway 14-32 alignment ranks second in terms of wind coverage (90.28% at 10.5 knots) among the three crosswind concepts; 95% wind coverage is still provided on the airfield when combined with Runway 8-26.

Runway Options for C-III Aircraft

A C-III runway requires longer length, wider pavement, and greater (expanded) FAA-required design standards to protect the runway environment (e.g., RSA, ROFA, ROFZ, RPZ, taxiway separation). Physical site constraints at Grant County Airport limit the C-III options, which are conducted by the USFS. As addressed in the previous chapter, the USFS has identified the need for a runway of 9,200 feet to provide the optimum fire retardant and fuel loads during fire season operations for their BAe 146 aircraft. Consequently, this section addresses the limited options at SVC to provide additional runway length and comply with C-III design standards. Four preliminary airfield concepts for a possible C-III runway are presented to include the following:

- **PA4** - Extension of Runway 8-26 on both ends
- **PA5** - Relocation/shift of Runway 8-26 to the north (with a longer length) to increase separation from the parallel taxiway and building area
- **PA6** - Construction of a new northwest-southeast Runway 14-32
- **PA7** - Construction of a new north-south Runway 17-35

PA4 - Extension of Existing Runway 8-26

The PA4 concept looks first at existing Runway 8-26 and the potential for extending each runway end to maximize the length available in lieu of constructing a new runway. One of the initial conflicts identified in this concept is the runway's proximity to the buildings, which is already an issue with the current instrument approach visibility minimums. If the visibility minimums are raised, this would partially mitigate the issues with this concept. However, the runway-to-taxiway separation does not meet the 400-foot requirement for C-III operations, so an approved modification of standards would be needed if the nonstandard condition remained. This is primarily of concern during fire season so aircraft must remain clear of the taxiway when C-III aircraft are approaching or departing Runway 8-26. An extension of Runway 8 could provide an estimated 434 additional feet of pavement, but would require relocation of the localizer, relocation of Ridge Road, and RSA requirements that would dictate the need for a displaced threshold. The displaced threshold offers additional pavement for takeoff, but not for landing. The FAA is not in favor of funding additional pavement that requires a displaced threshold as a result of a runway extension. Consequently, FAA funding would likely be unavailable for the extension. Further, there are known culturally significant resources in the area which could potentially prohibit any ground disturbance to the west such as the runway extension project. Specific locations to the west of Runway 8 that may be off limits are not identified because they are confidential. However, the construction impacts in that area could be a significant environmental impact, which could halt the project.

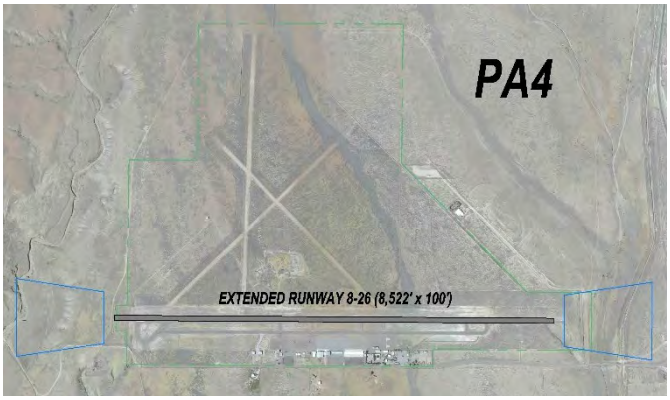

Exhibit 4E. Concept PA4

An extension of Runway 26 could provide an estimated 1,285 additional feet of pavement to the east but would require relocation of the approach lighting system and a relocation of the road (Jungle One Rd) that serves the residence/homestead east of the airport property boundary. Relocating the road would consequently require an additional railroad crossing north of the existing crossing for Airport Road. FAA requirements for the RSA, ROFA and RPZ would also dictate a displaced threshold considering where the RPZ, for example, lies to the east. The displaced threshold would provide additional pavement for takeoff on Runway 26, but not for landing on Runway 26. As previously stated, the FAA is not in favor of funding a runway extension that subsequently requires a displaced threshold to meet design standards. Further, a portion of the RPZ would remain over the railroad (short line) but would be off of the public road. Also important is the current instrument approach to Runway 26 which has ¾ mile visibility minimums. that may be impacted by the extension so the FAA would need to reevaluate the approach. Further, the current visibility minimums dictate a 1,000-foot primary surface that pushes the BRL onto the existing buildings.

Raising the visibility minimums could address the BRL conflict but would not address many of the other issues. This concept is eliminated from further consideration due to the numerous issues outlined above, which are considered fatal flaws.

PA5 – Relocation North and Extension of Runway 8-26

In concept **PA5**, Runway 8-26 is relocated to the north by 400 feet, but at a length of 8,700 feet to provide additional length for USFS operations. While this is 500 feet less than the USFS need for 9,200 feet, it significantly increases the length available today, which is 6,800 feet. Another key part of this concept is the conversion of the existing runway to a taxiway after the new relocated runway is constructed. With a 400-foot separation from the new relocated runway, this complies with the minimum C-III runway-to-taxiway separation. This addresses the existing issues and constraints on the airfield when C-III aircraft operations are conducted on Runway 8-26. As previously noted, all aircraft must remain clear of the parallel taxiway when C-III aircraft are using the runway, which happens during fire season. The 400-foot runway-to-taxiway separation requirement for C-III activity ensures that proper wingtip clearance is maintained. This concept also eliminates the existing airspace penetrations by various airport buildings since they are too close to the runway environment for its instrument approach capability, specifically the visibility minimums. Raising the visibility minimums for the instrument approach would also be an option to mitigate the airspace and building conflicts.

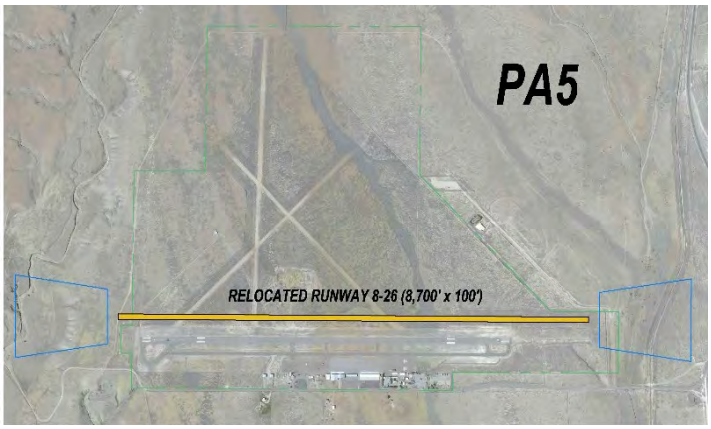

Exhibit 4F. Concept PA5

The challenge with this concept is that there are similar site constraints to those noted above in PA4. While the PA5 concept of moving Runway 8-26 to the north resolves some issues and improves others, some issues remain. Fortunately, Airport Road and the railroad turn to the east and away from the airport at the north location of a new relocated Runway 8-26. Despite their shift away from the runway end, they remain a challenge in complying with FAA design standards when trying to maximize runway length to the east with required protected surfaces. Further, the presence of cultural resources to the west remains a concern for any lengthening of Runway 8. A further reduction in length would diminish the benefits of a new runway for the USFS operations. Therefore, this concept is eliminated from further consideration. The known constraints as well as the potential challenges with this concept make this concept less desirable as it does not assure the necessary runway length.

PA6 – New Runway 14-32

In concept **PA6**, a new northwest-southeast runway alignment, Runway 14-32, is constructed to 9,200 feet to meet the USFS runway length needs. The new C-III runway would require significant land acquisition to the north to accommodate the runway development (including taxiway system) and the FAA-required protected surfaces such as the ROFA, RSA and RPZ. Land use to the east would be impacted so the ultimate acquisition of property to the east would be required. Substantial earthwork is necessary for the terrain and elevation changes within the new runway footprint. For this reason, the PA6 concept is estimated to cost roughly $35 million.

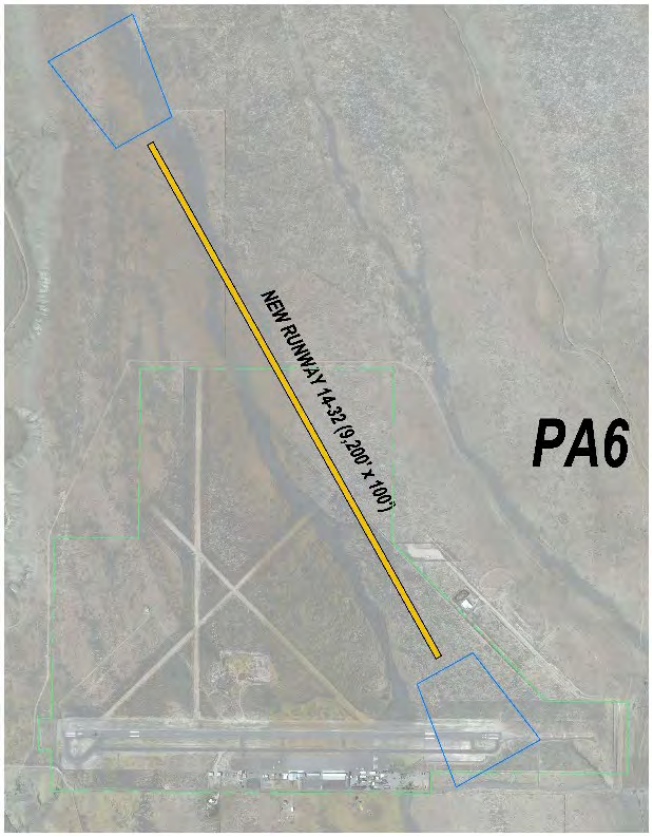

Exhibit 4G. Concept PA6

Ideally, the new runway would be closer to existing Runway 8-26 for efficiency but clearing the RPZ of Airport Road dictates that the new runway be slid to the north. Also noteworthy is the wind coverage on Runway 14-32. As presented in the *Requirements Chapter*, wind coverage is 90.28% at 10.5 knots, 94.45% at 13 knots, and 95.49% at 16 knots. Smaller B-I aircraft are sensitive to crosswinds as low as 10.5 knots while larger C-III aircraft are sensitive to 16 knots.

PA7 – New Runway 17-35

In concept **PA7**, a new north-south Runway 17-35 alignment is proposed at a length of 9,200 feet to meet the USFS runway requirement, similar to the PA6 concept. Its placement is farther west than the existing unpaved crosswind Runway 17-35 due to the substantial drainage channel that runs north-south. Significant land acquisition to the north is necessary to support runway development as well as FAA-required protected surfaces (e.g., ROFA, RSA and RPZ) and an ultimate taxiway system. This proposed runway also impacts the FAA-owned VOR which is located west of the intersection of unpaved crosswind runways. However, the VOR could be decommissioned in the future by the time the proposed runway is constructed to C-III standards. The placement of the runway depicted on the aerial photo is the most suitable location to minimize costs. Like concept PA6, this alternative is roughly estimated at $35 million. Another factor to consider in this concept is the wind coverage. Individual wind coverage on Runway 17-35 is 84.15 % at 10.5 knots, less than the Runway 14-32 coverage of 90.28%. At 13 knots, Runway 17-35 provides 90.05% coverage and at 16 knots, the coverage increases to 95.49%.

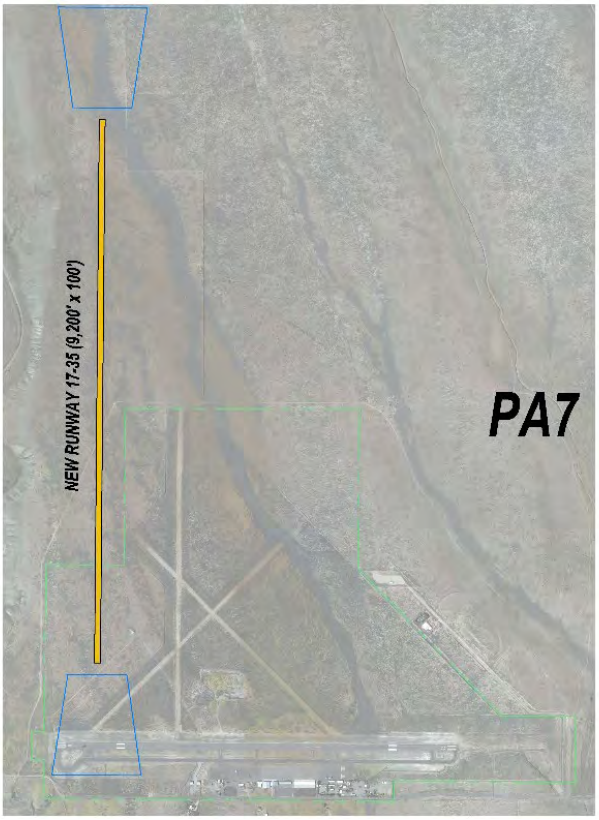

Exhibit 4H. Concept PA7

IDENTIFICATION OF DEVELOPMENT ALTERNATIVES FOR EVALUATION

In this section, airport development alternatives are defined. Each alternative addresses airside and landside facility needs with a variance in features and/or placement. The airside component in each of the alternatives is derived from the earlier review of preliminary airfield concepts. Since concepts proposing Runway 8-26 changes were eliminated due to fatal flaws, only the remaining concepts are considered in the airport development alternatives.

The proposed landside improvements are comprised of facilities that can be placed in more than one location on the airport, or they are fixed by function and generally have only one option for placement. Any airside or landside improvements that are fixed by function are defined as common features.

Common Features

Common features, which are inherently included in all Grant County Airport development alternatives, but are not specifically depicted include the following:

- Taxiways and taxilanes to provide access to runways, apron area and hangar development areas
- GA terminal renovation
- T-hangar (6-unit) in pre-defined location (design under way)
- ARFF building modifications to accommodate additional truck
- Additional Jet A tank and secondary containment
- Auto parking area improvements (marking, lighting)
- Wayfinding signage in terminal areas
- Security enhancements (lighting, fencing)
- Utility and drainage improvements
- Improving aesthetics

In addition to the facility improvements listed above, follow-up coordination with the FAA is recommended with respect to the Runway 26 instrument approach and visibility minimums. All future development[1] on or in the proximity of SVC requires airspace review. The FAA's airspace review is key to the FAA-established instrument approach visibility minimums. With ¾-mile visibility minimums for one of the SVC approaches, this requires a primary surface that is 1,000 feet wide. Further, a transitional surface (7:1 slope of protected airspace) begins at the edge of the primary surface. This 7:1 slope typically drives the location of the building restriction line (BRL), which guides the placement of structures. At SVC, many of the existing buildings are in the BRL. In some cases, the FAA considers the obstacle free zone (OFZ) to be the more critical screening tool for obstructions in the runway environment from a planning standpoint. For SVC, all buildings are clear of the OFZ. Still, the FAA's airspace review remains the predominant force in identifying hazards to air navigation. The Airport Layout Plan (ALP) drawings addressed in the next and final chapter will identify the airspace issues at SVC that are associated with the preferred alternative, once approved by Grant County.

Development Alternatives

All future development at SVC should be demand driven. In other words, improvements recommended during the 10-year planning period may be delayed or expedited depending on, for example, factors such

[1] This includes the ongoing review of changes at the Chino Mines where the pond elevation has been rising and crane height may be an issue.

as actual aviation activity or FAA's priorities in addressing non-standard conditions at SVC. The SVC facility improvements depicted in the alternatives include immediate needs, those that are recommended within the 10-year planning period, and those beyond the planning period. Since Grant County will continue to update their airport development plans for SVC every 5 to 10 years, or as needed, the opportunity to make minor adjustments or completely revamp the County-selected 2021 plan remains. However, a thoughtful and strategic decision today may help ensure that improvements made before the next planning study will not preclude or make cost prohibitive any necessary changes to the development plan in the future. Consequently, the role of the various SVC stakeholders in the evaluation, feedback and decision-making process is critical. These stakeholders include the planning advisory committee (PAC), Grant County key personnel, tenants, community members, and other interested parties and airport users.

The development alternatives for SVC are titled as follows:

- **Alternative 1** – C-III Runway
  - *Alternative 1A* – New Runway 14-32/B-II Runway 8-26
  - *Alternative 1B* – New Runway 17-35/B-II Runway 8-26
- **Alternative 2** – B-II, Runway 8-26/ B-I Runway 12-30
- **Alternative 3** – B-II, Runway 8-26/ B-I Runway 17-35

Alternative 1A – Airport Reference Code C-III, Runway 14-32/B-II Runway 8-26

In Alternative 1A (**Exhibit 4I**), the Grant County Airport is upgraded to a C-III airport in the long-term to accommodate the needs of the USFS. This includes the construction of a northwest-southeast runway with dimensions of 9,200 x 100 feet, defined by the USFS to support their BAe 146 aircraft. Runway 8-26 remains a B-II runway with current dimensions. The unpaved crosswinds are abandoned upon the completion of the initial phase of Runway 14-32 construction. The initial phase is proposed to meet the needs of B-I aircraft, which means a length of 4,480 feet. While the minimum width required for B-I is 60 feet, a width of 75 feet should be considered so the crosswind can better serve the B-II aircraft activity when Runway 8-26 is temporarily closed for pavement projects. Various parcels of property are to be acquired for this alternative—the majority of which is needed for the ultimate buildout of Runway 14-32, an estimated 204 acres. However, it is possible that the completion of Runway 14-32 may be 20+ years in the future due to funding limitations. For this reason, the timing of land acquisition provides some flexibility. Although the goal of the proposed 9,200-foot runway is to serve the USFS-defined needs, the distant future growth of SVC may see additional jet traffic that could be served by the C-III runway. Protecting for the possibility of a C-III runway of 9,200 feet, whether or not it is constructed, builds in more planning flexibility for Grant County.

Landside facilities in Alternative 1A include an airport maintenance equipment storage building, hangar development, and dedicated USFS helicopter operations/parking area. The airport maintenance equipment storage building is placed east of the terminal parking lot and south of the GA terminal. The

1,000' 500' 0 1,000'

1" = 1,000'

N

FUTURE RUNWAY 14-32 (9,200' X 100') (ASPHALT)

EXISTING RUNWAY 8-26 (6,802' X 100') (ASPHALT)

LAND TO BE ACQUIRED

LAND TO BE ACQUIRED

LAND TO BE ACQUIRED

LAND TO BE ACQUIRED

DIRT RUNWAY TO BE ABANDONED

DIRT RUNWAY TO BE ABANDONED

DIRT RUNWAY TO BE ABANDONED

NO BUILD AREA FOR RUNWAY VISIBILITY ZONE

PRIMARY SURFACE

USFS AVIATION RESERVE FOR LARGE HELICOPTER OPS/PARKING

LONG-TERM GA HANGAR DEVELOPMENT AREA

CORPORATE HANGARS

AUTO PARKING EXPANSION

T-HANGARS

AIRPORT MAINTENANCE EQUIPMENT STORAGE

ULTIMATE PROTECTION ZONE
1000' x 1700' x 1510'
34:1 NONPRECISION APPROACH SURFACE

EXISTING PROTECTION ZONE
500' x 1000' x 700'
20:1 VISUAL APPROACH SURFACE

EXISTING PROTECTION ZONE
1000' x 1700' x 1510'
34:1 NONPRECISION APPROACH SURFACE

RPZA RSAA BRL OVEL RVZ

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Alternative 1A

EXHIBIT 4I

building is set back away from the apron to ensure the apron frontage remains clear for revenue-producing hangars and other facilities that desire or require apron. To the far west of the existing buildings is a designated GA hangar development area. This area could remain a land use designation for future flexibility (potentially for a private developer) or be converted to a layout of conventional and/or T-hangars. Two large corporate hangars are proposed west of the commercial terminal—one of which would help serve the near-term transient aircraft needs identified by stakeholders including some pilot survey respondents early in the study. Auto parking expansion south of the two corporate hangars is proposed to support the terminal area and the corporate hangar users. A future six-unit T-hangar located south of the existing 6-unit T-hangar will meet the near-term needs of SVC aviation demand. The adjacent 10-unit T-hangar proposed just east of that T-hangar will serve additional demand in the planning period and beyond.

This alternative offers a development plan that could serve the 50-year outlook for SVC with its proposed airside and landside facilities. In order of magnitude cost comparison, this alternative represents the greatest cost with the proposed C-III runway.

Alternative 1B – Airport Reference Code C-III, Runway 17-35/B-II Runway 8-26

Alternative 1B (**Exhibit 4J**) is identical to Alternative 1A in terms of a proposed new C-III runway's dimensions and the proposed landside facilities. The difference is that Alternative 1B proposes a Runway 17-35 alignment, which has less desirable wind coverage than Runway 14-32. Land acquisition for the full buildout of the new runway requires approximately 307 acres to the north. On a preliminary planning-level assessment, costs for Alternative 1B are anticipated to be similar to Alternative 1A as noted earlier in the preliminary airfield concepts discussion. A more detailed engineering assessment is necessary to produce detailed costs.

Alternative 2 – Airport Reference Code B-II, Runway 8-26 /B-I Runway 12-30

Development Alternative 2 (**Exhibit 4K**) keeps SVC as a B-II airport facility with existing Runway 8-26 providing the greatest runway length for the planning period and beyond. To meet the crosswind runway needs, Runway 12-30 is paved to dimensions of 4,840 by 75 feet like the initial phase of runway development in Alternative 1. Runway 12-30 has the best individual runway wind coverage of the crosswind runway options in each of the three alternatives. Following the paving of Runway 12-30, the unpaved crosswinds (Runway 3-21 and Runway 17-35) are to be abandoned. The major drawback with the B-II alternatives is that the USFS needs remain unserved. This means that the USFS would continue to operate on B-II with restrictions as they have in the past—reduced fuel and retardant loads to account for the limited runway in a segment of their aircraft fleet such as the BAe 146. Further, aircraft will not be permitted on the parallel taxiway when the larger wing-spanned aircraft are using the runway, namely during fire season. *The USFS has remained at SVC over the years in spite of their aircraft load restrictions on Runway 8-26 since its geographic location is ideal. They may be able to continue at SVC in the future*

without adequate runway length depending on aircraft fleet use and aerial firefighting missions, but the existing runway does impact their firefighting capacity and efficiency.

Land acquisition to the northeast of the airport boundary is required for Runway 12-30 to accommodate a portion of the runway as well as the RPZ. The existing unpaved runway's location does not comply with FAA design standards so sliding it northwest clears the southeast Runway 30 RPZ of facilities and Airport Road.

Landside facilities in Alternative 2 are similar to Alternative 1 but offer alternative locations for some facilities. The airport maintenance equipment storage building is placed southwest of the commercial terminal building/ARFF station near the south airport boundary that runs along Airport Road. Like Alternative 1, the building's location away from the apron ensures the "prime real estate" is reserved for development that needs the apron frontage while keeping the airport equipment in a convenient location. Just west of the commercial terminal, a single large corporate hangar is proposed. This requires removal of the old FAA Flight Service Station building, which is in poor condition. The new corporate hangar offers an opportunity to redevelop the area with a new structure that can store large transient aircraft. Aside for the new six-unit T-hangar already under design that is located south of the existing T-hangars, additional based aircraft storage is needed for future growth. As noted previously in Alternative 1, the six-unit T-hangar proposed for near-term construction will serve the immediate/near-term needs of based aircraft, but additional T-hangars should be planned as demand grows. The 10-unit T-hangar planned just east of the new six-unit (under design) could also serve demand in the planning period, if needed. Further, two banks of T-hangars to the west of the building area are proposed. Further west, three conventional/box hangars are proposed to offer additional based aircraft capacity and options. At the far west end near Runway 8 are two designated land uses—one for helicopter operations/parking and one for a prospective large commercial tenant for revenue-generating purposes. The helicopter area is located to maintain separation from the small GA aircraft most affected by rotor wash. Its location is at the opposite end of the USFS facilities which is much less convenient for the USFS if they require the additional parking, namely for their large helicopters. The large commercial tenant land use designation is for long-term planning purposes, so a large contiguous parcel is reserved for more substantial revenue potential. The location is removed from the busy terminal area. Although not included in Alternative 1, another parcel is designated as aviation reserve in Alternative 2, but for long-term terminal area purposes. This designation is to ensure the apron frontage is not consumed by hangar or other development between the terminal buildings but rather protected for long-term terminal area growth.

Alternative 3 – Airport Reference Code B-II, Runway 8-26 /B-I Runway 17-35

Like Alternative 2 above, Alternative 3 (**Exhibit 4L**) keeps SVC as a B-II airport facility with existing Runway 8-26 providing the best available runway length. The primary airside difference is that Runway 17-35 is the proposed future paved crosswind. As noted earlier, Runway 17-35 is the least desirable from a wind component perspective. The remaining two unpaved crosswind runways (Runways 3-21 and 12-30) are to be abandoned in this alternative.

1,000' 500' 0 1,000'

1" = 1,000'

N

ULTIMATE PROTECTION ZONE
1000' x 1700' x 1510'
34:1 NONPRECISION APPROACH SURFACE

FUTURE RUNWAY 17-35 (9,200' X 100') (ASPHALT)

LAND TO BE ACQUIRED

DIRT RUNWAY TO BE ABANDONED

DIRT RUNWAY TO BE ABANDONED

NO BUILD AREA FOR RUNWAY VISIBILITY ZONE

DIRT RUNWAY TO BE ABANDONED

LAND TO BE ACQUIRED

PRIMARY SURFACE

USFS AVIATION RESERVE FOR LARGE HELICOPTER OPS/PARKING

EXISTING RUNWAY 8-26 (6,802' X 100') (ASPHALT)

EXISTING PROTECTION ZONE
500' x 1000' x 700'
20:1 VISUAL APPROACH SURFACE

EXISTING PROTECTION ZONE
1000' x 1700' x 1510'
34:1 NONPRECISION APPROACH SURFACE

LAND TO BE ACQUIRED

LONG-TERM GA HANGAR DEVELOPMENT AREA

CORPORATE HANGARS

AUTO PARKING EXPANSION

T-HANGARS

AIRPORT MAINTENANCE EQUIPMENT STORAGE

LAND TO BE ACQUIRED

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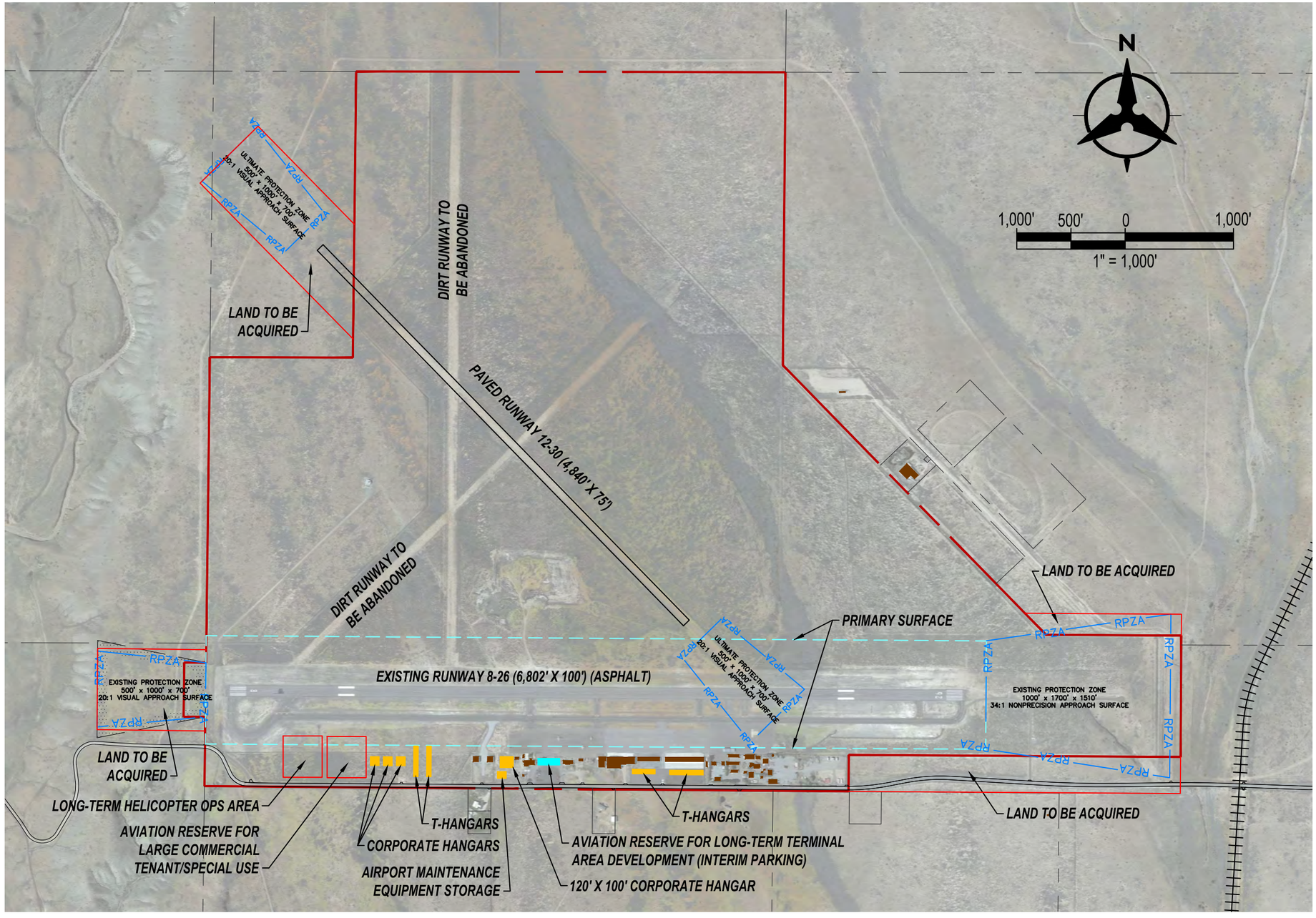
Alternative 1B

EXHIBIT 4J



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Alternative 2

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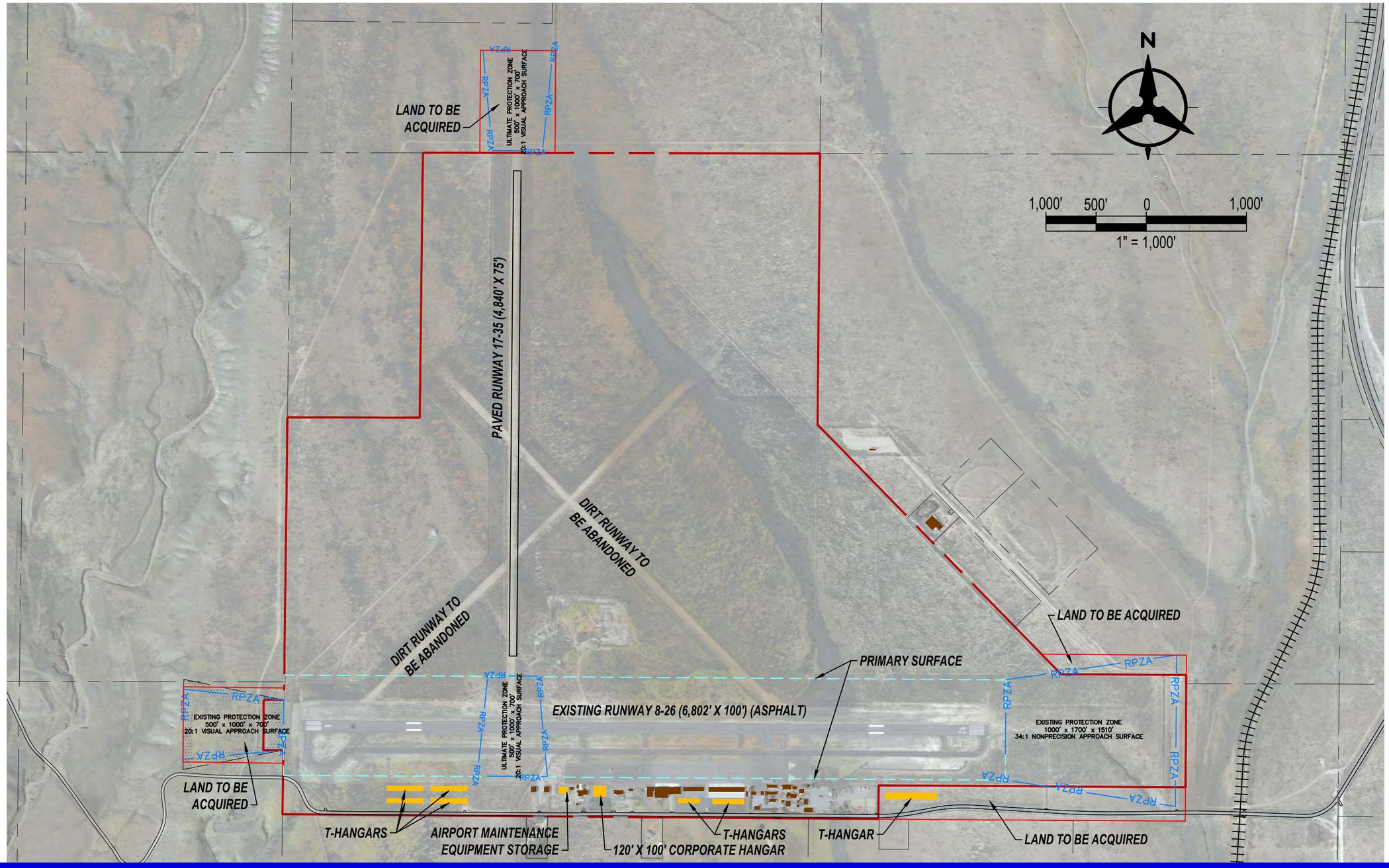
EXHIBIT 4K



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Alternative 3

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EXHIBIT 4L

The limitations for the USFS are similar to those addressed above regarding runway length. Land acquisition is required north of the existing airport boundary to accommodate the future RPZ for Runway 17.

Land acquisition is also shown east of the USFS where a 10-unit T-hangar is proposed within this linear parcel between Airport Road and the parallel taxiway near the Runway 26 end. Four additional T-hangars are proposed at the far west end of the building area near Runway 8 end. No new landside development is proposed in the approach to Runway 35 which lies east of the four proposed new T-hangars. In this alternative, the undeveloped space between the commercial and GA terminals is proposed for a large corporate hangar primarily serving transient aircraft operators and potentially a future fixed base operator (FBO) if the County chooses to allow an FBO to take over fueling and offer other support services. The airport maintenance equipment storage building in Alternative 2 remains in the vicinity of the terminal area but is placed at the apron edge where the old FAA Flight Service Station building is located. This provides the opportunity to redevelop the area with a new and more appealing facility visible to pilots and passengers flying in, which builds on the County's past efforts with the commercial terminal building and ARFF station.

COMPARATIVE EVALUATION AND SELECTION OF PREFERRED ALTERNATIVE

On December 7, 2021, the PAC held a virtual meeting to review and comparatively evaluate the various development alternatives. **Table 4.2** offers a summary of the development alternatives.

Table 4.2 Summary of SVC Development Alternatives

Component	Alternative 1	Alternative 2	Alternative 3
Airport Reference Code	C-III	B-II	B-II
Runway Improvements	1A: New Runway 14-32 1B: New Runway 17-35 (9200x100) Abandon all unpaved crosswind runways	Pave Runway 12-30 (4840 x 75) Abandon R3-21 and R17-35	Pave Runway 17-35 (4840 x 75) Abandon R3-21 and R12-30
Wind Coverage at 10.5 knots for individual runway & combined with Rwy 8-26	Rwy 14-32: 90.28% Combined: 98.11% Rwy 17-35: 84.15 % Combined: 98.54%	Rwy 12-30: 94.15% Combined: 98.15%	Rwy 17-35: 84.15% Combined: 98.54%
Dedicated Helicopter Ops/Parking Area	Adjacent to and east of USFS	Far west end near Runway 8	None
Corporate Hangars	Two 80'x80' west of commercial terminal	Large 120' x 100' west of commercial terminal Three small west of building area	Large 120' x 100' between terminal buildings along apron

Component	Alternative 1	Alternative 2	Alternative 3
T-Hangars	Two banks within existing bldg. area, GA hangar land use to the west	Two banks within existing bldg. area, two (6-unit each) to the west	Two banks within existing bldg. area, one (10-unit) east of USFS, four (10-unit each) near Runway 8 end
Airport Maintenance Equipment Storage/Shop	South of GA terminal near south airport boundary, east of terminal area parking	Southwest of commercial terminal near south airport property boundary	West of commercial terminal along apron
Land Acquisition	Substantial land required for New Runway 14-32	Land required for north segment of Runway 12 & RPZ	Land required for Runway 17 RPZ & T-hangar east of USFS
Other		Aviation Reserve - Lg commercial tenant/ special use at west end - Long-term terminal area development	

Each alternative's airside and landside features were presented along with a number of factors for the PAC to consider while evaluating each alternative. These factors included:

- Operational safety, efficiency
- Land use functionality
- Flexibility for long-term development
- Public and tenant benefits and challenges
  - GA (private and business aviation)
  - Commercial air service
  - USFS
- County vision
- Compliance
- Ease of phased development and funding
- Other potential business and community considerations

It's important to note that while the development alternatives respond to future improvement needs addressed in the study, an airport sponsor also has a "no action" alternative to consider. This means that Grant County may choose to maintain existing facilities without investing in additional capital improvements to address aviation demand. The "no action" does serve as a baseline from which the development alternatives may be compared, particularly from a cost and environmental impact standpoint. In the "no action" option, the airfield configuration would remain unchanged and the landside and support facilities would not be expanded or upgraded. While the costs and potential environmental

impacts could be minimized with the "no action" alternative, it could be especially detrimental to existing and growing aviation demand at an airport like SVC that already serves a broad spectrum of aviation users. Such demand would be displaced by using other area airports, if feasible, or simply remain unserved. Further, facility limitations could deter existing airport tenants and transient operators users from remaining at SVC—a potential impact on airport revenues. This not only impacts the surrounding community, but it is detrimental to the regional, state, and national air transportation systems. Also notable among the drawbacks of a "no action" alternative is that it detracts from the airport's ability to serve as an economic engine in the community, a role that many airports serve in their communities. Last but not least, the "no action" does not fully align with Grant County's mission statement for SVC, as outlined in the *Introduction* at the beginning of the report. Consequently, the "no action" option is considered unsatisfactory to the PAC and Grant County.

Of the various development alternatives, the PAC determined that Alternative 1B comprised the most desirable airside (runway) option. Further, many of the landside features of Alternative 1B were identified as the most favorable with some adjustments. After further discussion, the PAC identified Alternative 1B with modifications as their "preferred alternative" to be recommended to Grant County for review and approval. The preferred alternative was also presented to the community at a virtual Public Information Workshop on December 15, 2021.

Exhibit 4M illustrates the PAC-selected preferred alternative for future development of Grant County Airport. Highlights of this development include:

- Upgrade SVC to a C-III airport in the long-term to accommodate the needs of the USFS
- Construct new north-south Runway 17-35 to dimensions of 9200 x 100 feet defined by the USFS to support their BAe 146 aircraft.
- Maintain Runway 8-26 as a B-II runway with current dimensions.
- Abandon unpaved crosswinds upon completion of Runway 17-35's initial phase[2] of construction.
- Construct helicopter operations area apron to the east of the existing USFS facilities with area for staging equipment (approximately three acres)
- Acquire 450 acres of land to support the full buildout of new Runway 17-35 (420 acres), the protection and possible development of land along Airport Road at the southeast

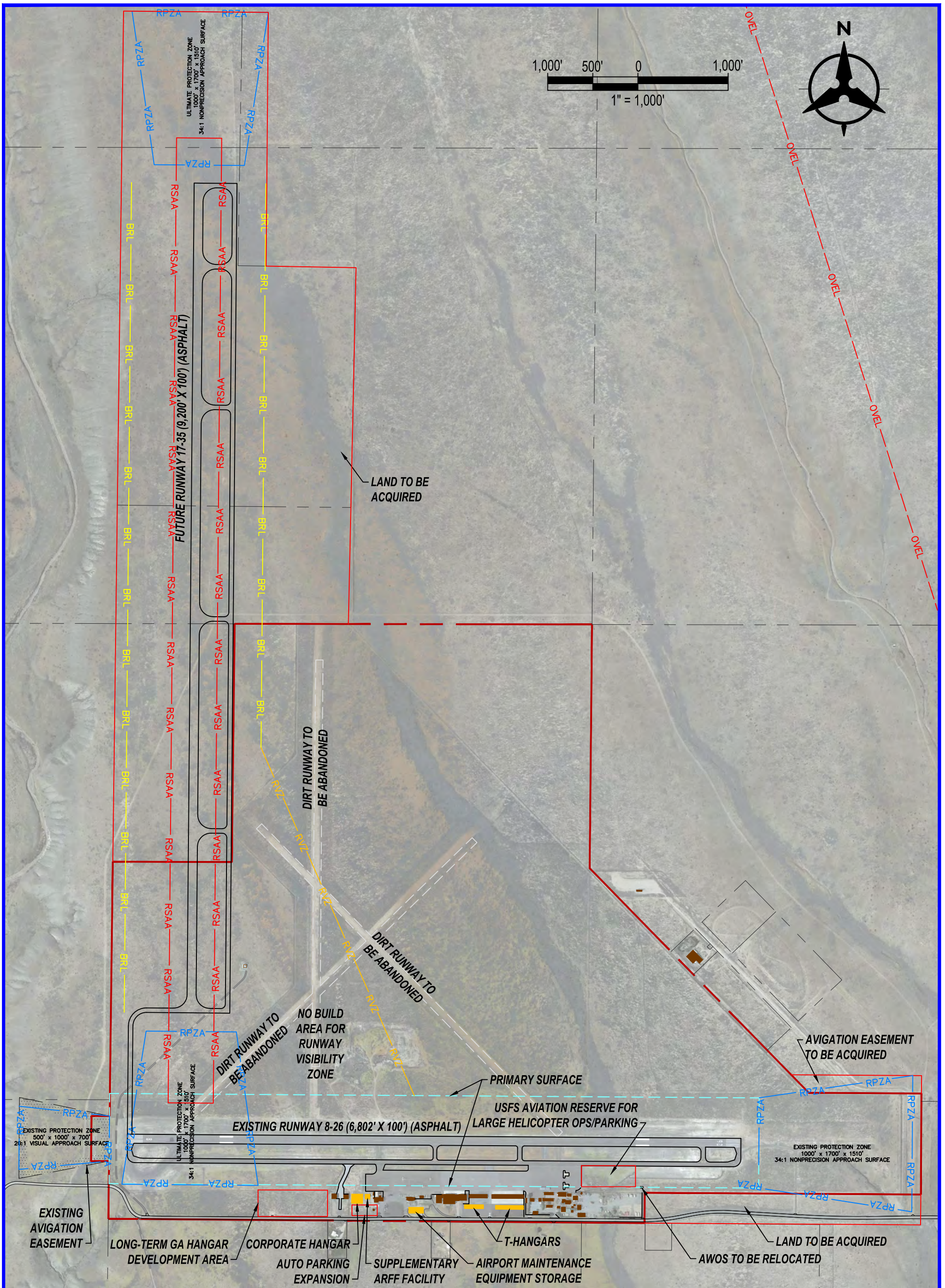
[2] Initial phase of Runway 17-35 is proposed to meet the needs of B-I aircraft, at a minimum. However, if funding permits, the initial phase should include the construction of a B-II runway with dimensions of 6,980 by 75 feet to serve as a backup runway when Runway 8-26 is shut down for maintenance and other pavement projects.

corner of airport property (24 acres) and for the protection of Runway 26 RPZ's northern portion (6 acres)

- Construct corporate hangar west of the commercial terminal building to serve transient aircraft storage needs
- Reserve approximately five acres to the west of the existing building area for future GA hangar development
- Construct airport equipment storage building to the south of the GA terminal building near Airport Road
- Improve ARFF facilities with supplementary bay west of existing ARFF station but east of proposed corporate hangar to accommodate new large ARFF vehicle
- Expand terminal area auto parking to the west near the proposed corporate hangar
- Construct six-unit T-hangar located south of the existing 6-unit T-hangar to meet the near-term needs of SVC aviation demand. Construct adjacent 10-unit T-hangar proposed just east of that T-hangar to serve additional demand in the planning period and beyond.

The PAC discussed three key factors when comparing the two C-III runway options: wind coverage, land use impacts, and long-term flexibility with landside development. The Runway 14-32 alignment has better wind coverage which is just over 90% at 10.5 knots while the Runway 17-35 alignment's wind coverage is just over 84% for the same wind speed. However, when either runway is combined with Runway 8-26, the airfield's total wind coverage exceeds the FAA-recommended 95%. Despite the better alignment for crosswinds on Runway 14-32, its placement has a more substantial impact on adjacent land use development while the proposed new Runway 17-35 would be contained on fully undeveloped property to be acquired. Further, the PAC determined that the placement of new Runway 17-35 offers better landside facility development opportunities for the distant future.

Following the PAC's selection of a preferred alternative, the airport manager presented the recommendation to the Grant County Commission for review and approval. In a letter dated, March 10, 2022 (see appendices), Grant County officially approved the preferred alternative, so the remainder of the study could be completed.



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Draft Preferred Alternative

EXHIBIT 4M

CHAPTER 5 - IMPLEMENTATION

INTRODUCTION

The Implementation element of the planning study translates the preferred development alternative selected by Grant County (March 10, 2022), into a number of projects over the planning period. These projects are presented as the Airport Capital Improvement Plan (ACIP) for the Grant County Airport in ranking priority with cost estimates and anticipated funding sources. Projects expected to be completed beyond the planning period (2030) are excluded but mentioned in the narrative. Such projects are likely to go unfunded before 2030, due to higher priorities and the limited availability of federal, state and local funds.

Planning-level cost estimates for the projects are presented with the eligible federal and state portions identified, which often represent the large majority of the project funding. The ACIP provides Grant County with an early opportunity to budget for their share of costs and assess the need to potentially shift development timeframes for some projects to ensure financial feasibility. Further, federal and/or state funding may be inadequate or unavailable for a project's proposed timeframe, which also changes the implementation schedule. Finally, any changes in aviation activity or airport user needs could also influence the timing of projects. Consequently, the ACIP is updated routinely based on various factors. An updated ACIP for the near-term is submitted to the Federal Aviation Administration (FAA) annually.

Also crucial to the planning study is that proposed airport improvements be depicted on the Airport Layout Plan (ALP) set of drawings. The ALP set, briefly described later in the chapter, is reviewed and approved by Grant County and then submitted to the FAA for review and approval. Upon completion of the approval process, the ALP officially becomes the guide for future airport development in combination with the ACIP. Projects must be depicted on an FAA-approved ALP to be eligible for FAA grant funding.

AIRPORT CAPITAL IMPROVEMENT (ACIP)

The ACIP for Grant County Airport is presented in two development phases with the first phase (near-term, through 2025) comprised of the highest priority projects while subsequent projects are listed as intermediate term (2026-2030). Also important to the phased development scheduling of projects is to minimize airfield operational impacts and to ensure that prerequisite planning, environmental and land acquisition projects are initiated in a timely manner to ensure construction is also timely.

Grant County Airport projects eligible for federal funding may receive up to 95% of project costs under current congressional authorization. Although Grant County is responsible for a 5% local match, New Mexico Aviation Division typically covers half of their match, or 2.5% of the project costs. The planning-

level cost estimates are in 2022 dollars. These costs will vary from actual project costs since numerous factors such as timing, site conditions, construction costs, and inflation may impact actual figures.

Near-Term Development (2025)

Near-term development projects represent Grant County's highest priorities for airport improvements. A total of 13 projects are identified through 2025. These projects total $7.13 million, as shown in **Table 5.1**, of which nearly $893,000 is the local funding share. The near-term improvements are generally comprised of two pavement maintenance management projects, two additional buildings (T-hangar and airport maintenance equipment storage facility), an additional fuel tank, apron expansion to the east for helicopters, airfield lighting improvements, acquisition of a second aircraft rescue and firefighting (ARFF) vehicle, and the initial phases of new Runway 17-35 including an environmental assessment and land acquisition.

Table 5.1 – Near-term Projects for SVC

#	Year	Project Description	Federal (FAA AIP)	Federal (BIL-AIG)	State	Local/Other	Total
1	2022	Runway 8-26 Pavement Maintenance Management Project	573,895	-	30,600	30,600	635,095
2	2022	Additional Jet A tank and Secondary Containment	-	-	1,800,000	200,000	2,000,000
3	2023	Aircraft Apron, Taxiway A and Connectors-Pavement Maintenance Management Project	-	475,000	12,500	12,500	500,000
4	2023	Recurring State Maintenance Grant (bi-annual, 2023)	-	-	20,000	2,222	22,222
5	2023	Additional ARFF Truck (Class 3/Index A-B) to increase capacity	-	-	585,000	65,000	650,000
6	2024	Environmental Assessment (EA) for Land Acquisition & Proposed Development	142,500	-	3,750	3,750	150,000
7	2024	Apron Expansion to the East for Helicopter Parking	475,000	-	12,500	12,500	500,000
8	2024	Construct T-hangar	-	-	500,000	500,000	1,000,000
9	2024	Construct Airport Maintenance Equipment Storage	-	-	450,000	50,000	500,000
10	2025	Land Acquisition	237,500	-	6,250	6,250	250,000
11	2025	Recurring State Maintenance Grant (bi-annual, 2025)	-	-	20,000	2,222	22,222
12	2025	Update Runway Lighting and PAPI Systems	-	432,250	11,375	11,375	455,000
13	2025	Taxiway Lighting System	-	451,250	11,875	11,875	475,000
		Subtotal Near-term (thru 2025)	$ 1,428,895	$ 1,358,500	3463850	$ 908,294	$7,159,539

Source: Projects derived from Airport Action Plan Study and County-approved Preferred Alternative. Cost estimates prepared by Bohannan Huston Inc. in 2022 dollars. Note: Figures are rounded. AIP = Airport Improvement Program. BIL-AIG = Bipartisan Infrastructure Law-Airport Improvement Grant.

A narrative description of each near-term project from Table 5.1 follows.

1. **Runway 8-26 pavement maintenance management project.** This project includes crack fill, seal coat, grooving, and markings for Runway 8-26 (design, construction). For planning purposes, pavement maintenance projects are recurring throughout the planning period. This project will keep the runway in a safe and serviceable condition.
2. **Additional Jet A Tank and Secondary Containment.** To reduce the frequency of fuel deliveries and ensure an ample supply of Jet A is available, particularly during fire season for the U.S. Forest Service (USFS), an additional Jet A tank is needed. Further, secondary containment is necessary for possible spills in the truck loading/off-loading area and around the tanks to comply with environmental regulations.
3. **Apron, Taxiway Pavement Maintenance Management.** This project includes crack fill, seal coat, and remarking of a public apron area (dimensions of 970'x190'). Further, this project includes a slot drain—valley gutter to intercept and direct flow to the east. Drainage improvements are required to address the flooding problem on the apron. With heavy rainfall, stormwater flows from the apron and ponds near the fuel tanks and airfield pavements. *Note: This project also includes an update to Grant County's DBE Plan, as required.*
4. **Recurring State Maintenance Grant (bi-annual, 2023).** New Mexico Aviation Division (NMAD) typically provides a state maintenance grant to SVC every other year to cover routine airfield maintenance needs.
5. **ARFF Truck (Class 3/Index A-B).** This project includes the purchase of a second ARFF truck (Class 3/Index A-B) to provide additional capability until mutual aid arrives. While the airport's existing vehicle does meet minimum FAA requirements for a Class 3/Index A facility, additional firefighting support may not arrive for 20 minutes. A larger (Class 4/Index B) ARFF vehicle has been recommended by the FAA's Safety and Standards Certification Inspector, but a larger truck will not fit into the existing ARFF station. This project adds a second Class 3/Index A-B ARFF truck that will fit into the existing station while increasing firefighting capability. Note: Acquisition of a larger truck is proposed for a later project (beyond 2030) when a new ARFF station bay to accommodate its larger size may be funded and constructed.
6. **Environmental Assessment (EA) for Land Acquisition and Proposed Development.** This project reviews the potential environmental impacts associated with the proposed new Runway 17-35 and landside development at SVC for which a significant amount of land is required for acquisition. Before FAA will fund major construction projects such as a new runway, the FAA needs to issue a FONSI (Finding of No Significant Impact) regarding the environmental consequences. Potential issues for SVC may include cultural resources or biological resources.
7. **Apron Expansion for Helicopter Parking.** This project includes the design and construction of additional apron east of the USFS. A dedicated helicopter operations area separate from the fixed wing aircraft is needed at SVC to minimize rotor wash impacts on the smaller fixed aircraft and

reduce impacts from blowing debris. The apron is proposed adjacent to and just east of the existing USFS facilities. The USFS often brings in a large Chinook helicopter during fire season that is accompanied by support trailers, fuel trucks, and other equipment and supplies that require significant apron space. This project is the first phase of apron expansion to the east to support SVC helicopter activity. This project includes AWOS[1] relocation to the north side of the airfield to adequately separate this wind-sensitive equipment from rotor wash. The apron is proposed adjacent to and just east of the existing USFS facilities, which is near the existing AWOS. A stand-by generator is to be acquired for the relocated AWOS to ensure continued weather reporting when power is out. According to SVC, there are frequent disruptions to commercial power during summer thunderstorms.

8. **Construct T-hangar**. A new six-unit T-hangar is proposed just south of one of the existing T-hangars to help address existing and projected demand at SVC. There are several aircraft owners on a waiting list for hangar space at SVC who have been on the list well over a year. Design is complete, so this project will be for construction.
9. **Construct Airport Maintenance Equipment Storage.** Adequate space to store SVC equipment and parts is required, so they're not placed in multiple buildings/hangars or left outside. Maintenance equipment is presently stored outside or in one of the ARFF station bays. Repair parts are stored in the old Flight Service Station (FSS) building and one of the T-Hangars. This project will provide SVC with more effective and efficient access to necessary equipment and supplies. The building is proposed south of the GA terminal adjacent to Airport Road.
10. **Land Acquisition.** Land Acquisition is required for the proposed new Runway 17-35 construction, landside facility development and protected surfaces. An estimated 420 acres is required for the proposed development of new Runway 17-35. Another 24 acres is needed along Airport Road at the southeast boundary of the airport adjacent to the USFS area. Finally, a six-acre segment of the Runway 26 RPZ should be acquired in fee simple or, at a minimum, avigation easement.
11. **Recurring State Maintenance Grant (bi-annual, 2025)**. New Mexico Aviation Division (NMAD) typically provides a state maintenance grant to SVC every other year to cover routine mowing and weed control.
12. **Update Runway Lighting and PAPI Systems**. This project includes the replacement (LED conversion) of the existing medium intensity runway lighting (MIRL) system installed in 2006, which is outdated and inefficient. Without replacement, the system may become unreliable and

[1] Automated Weather Observing System (AWOS)

require frequent and costly maintenance. This project will also replace the aging precision approach path indicator (PAPI) systems on Runway 8 and Runway 26, which were installed in 2008.

13. **Taxiway Lighting System**. As activity grows at SVC, including the level of night operations, a medium intensity taxiway lighting (MITL) system should be installed for parallel Taxiway A and connectors. The MITL system should be installed to replace the existing retroreflective edge markers. This improvement will better serve aircraft ground movement between dusk and dawn.

Intermediate Term Development (2030)

Grant County Airport projects planned for the intermediate term, which spans 2026 through 2030, have an estimated total cost of $10.25 million. **Table 5.2** outlines these additional 13 projects and their estimated costs by anticipated funding source. As shown, the local share of these projects is $2.48 million, which is primarily attributed to the two highest-dollar projects—a new T-hangar and utility infrastructure improvements. It's important to reiterate that while the projects are proposed within the 2030 planning period, various factors may influence the timing of projects.

Table 5.2 – Intermediate Term Projects for SVC

#	Project Description	Federal (FAA AIP)	Federal (BIL-AIG)	State	Local/Other	Total
14	New Runway 17-35 (6,850 x 75 feet) - Phase I	4,750,000	-	125,000	125,000	5,000,000
15	Taxiway Pavement Maintenance Management	-	294,975	7,763	7,763	310,500
16	Recurring State Maintenance Grant (bi-annual, 2027)	-	-	20,000	2,222	22,222
17	Pilot Lounge ADA and Updates	-	-	450,000	50,000	500,000
18	Runway 8-26 Pavement Maintenance Management (2028)	712,500	-	18,750	18,750	750,000
19	Utility infrastructure and drainage improvements	-	-	-	500,000	500,000
20	Corporate Hangar	-	-	175,000	175,000	350,000
21	Auto parking improvements, expansion	-	-	450,000	50,000	500,000
22	Apron Pavement Maintenance Management	237,500	-	6,250	6,250	250,000
23	Airport Action Plan Update 2029	190,000	-	5,000	5,000	200,000
24	Recurring State Maintenance Grant (bi-annual, 2029)	-	-	20,000	2,222	22,222
25	Security lighting improvements	-	-	315,000	35,000	350,000
26	Additional T-hangar	-	-	-	1,500,000	1,500,000
	Subtotal Intermediate term (2026-2030)	$ 5,890,000	$ 294,975	$ 1,592,762	$ 2,477,207	$ 10,254,944

Source: Projects derived from Airport Action Plan Study and County-approved Preferred Alternative. Cost estimates prepared by Bohannan Huston Inc. in 2022 dollars. Note: Figures are rounded. AIP = Airport Improvement Program. BIL-AIG = Bipartisan Infrastructure Law-Airport Improvement Grant.

14. **New Runway 17-35 (6850x75) – Phase I**. This project represents the first phase of proposed new crosswind Runway 17-35 development. For enhanced safety, the FAA recommends a crosswind runway if the primary runway provides less than 95% wind coverage. Runway 8-26 has less than 95% wind coverage at 10.5 mph (13 knots), which is a key threshold of sensitivity for smaller aircraft in the A-I/B-I family. Consequently, a crosswind runway needs to accommodate B-I aircraft, at a minimum. However, two additional and significant needs at SVC call for a longer runway. The first is the need for a back-up runway with 6,850 feet when Runway 8-26 is closed for improvements, which would allow commercial passenger service and other aviation activity to continue. Secondly, the USFS needs a 9,200-foot runway to adequately serve their aerial firefighting missions launched out of SVC during fire season since some of their fleet is presently weight-restricted. This means that they are unable to carry the optimum fire retardant and fuel load. Consequently, this project proposes to design/construct an interim length of 6,850 length to serve existing traffic when Runway 8-26 is closed. A subsequent project beyond the 2030 planning period proposes to extend the runway to its ultimate planned length of 9,200 feet.
15. **Taxiway Pavement Maintenance Management.** This project includes taxiway crack filling, seal coat, and markings. Pavement maintenance management projects are required to keep the taxiway in a safe and serviceable condition.
16. **Recurring State Maintenance Grant (bi-annual, 2027).** New Mexico Aviation Division (NMAD) typically provides a state maintenance grant to SVC every other year to cover routine mowing and weed control.
17. **Pilot Lounge ADA and Updates.** This project includes updates to the General Aviation (GA) terminal pilot's lounge to address ADA[2] standards and update the aging facility. The GA Terminal needs to be updated to better serve visitors, tenants and the maintenance staff who have office space within the building.
18. **Runway 8-26 Pavement Maintenance Management (2028)**. For planning purposes, pavement maintenance projects are recurring to keep the runway in a safe and serviceable condition.
19. **Utility Infrastructure and Drainage Improvements**. The purpose of this project is to support the airport's existing and future development needs in terms of utility infrastructure and drainage. This project includes bringing a waterline to the airport and extending other utilities, as

[2] ADA is the American Disabilities Act, which is a civil rights law prohibiting discrimination against individuals with disabilities in all areas of public life, including jobs, schools, transportation, and all public and private places that are open to the general public.

appropriate. Some utility and drainage improvements beyond this project may be included in other development/ expansion projects at SVC.

20. **Corporate Hangar.** This project proposes the construction of a corporate hangar west of the commercial passenger terminal for transient aircraft. Based on existing demand by larger aircraft, transient pilot input, and projected growth in aviation activity at SVC, a large corporate hangar is needed.
21. **Auto Parking Improvements and Expansion.** The auto parking pavement at SVC is in need of improvement. In addition, markings are needed, and additional lighting is required. Further, this project includes the expansion of auto parking to the new corporate hangar area (including lighting). Numerous airport user survey respondents as well as stakeholders pointed out the need for additional lighting to enhance security and make facilities more conspicuous between dusk and dawn.
22. **Apron Pavement Maintenance Management.** For planning purposes, pavement maintenance projects are recurring to keep the runway in a safe and serviceable condition.
23. **Airport Action Plan Update 2029.** The Airport Action Plan should be updated regularly to address changes in aviation activity and types of users, new airport design standards, changes in facility needs and changes in airport system and community needs.
24. **Recurring State Maintenance Grant (bi-annual, 2029).** New Mexico Aviation Division (NMAD) typically provides a state maintenance grant to SVC every other year to cover routine mowing and weed control.
25. **Security Lighting Improvements**. This project is comprised of additional lighting for enhanced security at night around the GA terminal and fuel farm, and the installation of additional terminal area signage. Proper signage should clearly guide new visitors to their destination, namely the commercial passenger terminal, GA terminal, and auto parking area.
26. **Additional T-hangar.** This project includes the addition of another T-hangar adjacent to the new T-hangar proposed earlier in the ACIP. This project is proposed to address growing based aircraft tenants and those on the hangar waiting list.

Combined Phases

The combined costs of the two development phases in the planning period are presented in **Table 5.3**. All 26 projects for Grant County Airport are estimated at $17.38 million, of which 12 projects are eligible for federal funding in the amount of $8.97 million. The state funding total in Table 5.3 is $5.04 million which is comprised of matching funds for the federal grants in addition to state-funded SVC projects (no federal dollars). Total local dollars required for the ACIP is $3.37 million. This ACIP represents an aggressive plan for improvements should funding be available.

Table 5.3 – 10-Year Development Plan Costs for SVC

Description	Federal (FAA AIP)	Federal (BIL-AIG)	State	Local/Other	Total
Phase I Development Costs (through 2025)	1,428,895	1,358,500	3,448,352	892,797	7,128,544
Phase II Development Costs (2026 - 2030)	5,890,000	294,975	1,592,762	2,477,207	10,254,944
Total Development Costs for Planning Period	$ 7,318,895	$ 1,653,475	$ 5,041,115	$ 3,370,004	$ 17,383,489

Source: Tables 5.1 and 5.2. Note: Figures are rounded. AIP = Airport Improvement Program. BIL-AIG = Bipartisan Infrastructure Law-Airport Improvement Grant.

Beyond Planning Period (after 2030)

The planning period for the Airport Action Plan Study is through 2030. With a lengthy list of airport improvement needs, some projects are proposed beyond 2030. Further, availability in funding, changing priorities or user needs, or other factors could change the timing of the 26 projects within the planning period listed above. The 26 projects proposed for the planning period is ambitious but is representative of the numerous needs at SVC. The additional projects proposed beyond the planning period include:

- **Extend and Widen Runway 17-35 to Ultimate 9,200 x 100 feet**. As noted in Project #14, the USFS needs a 9,200-foot runway to adequately serve their aerial firefighting missions launched out of SVC during fire season since some of their fleet is presently weight-restricted. This means that they are unable to carry the optimum fire retardant and fuel load. This project completes the buildout of the new runway from its interim dimensions of 6,850 x 75 feet to its ultimate dimensions of 9,200 x 100 feet.
- **Expand Helicopter Apron to the East**. This project expands the apron constructed in Project #7 adjacent to the USFS. Additional helicopter apron will be required to serve peak activity, ensure rotor wash impacts on fixed wing aircraft are reduced by increased separation, and to support staging of support equipment.
- **Supplemental ARFF Station**. The existing ARFF station at SVC has two bays, both of which are inadequate to store a larger ARFF (Class 4/Index B) vehicle that is planned for acquisition. Consequently, a supplemental ARFF station with a larger bay is proposed for development.
- **Larger ARFF Vehicle**. A larger ARFF vehicle (Class 4/Index B) has been recommended by the FAA's Safety and Standards Certification Inspector to increase firefighting capacity at SVC due to the time and distance of mutual aid. In Project #5 identified earlier, Grant County will purchase a second ARFF vehicle like their current vehicle that can be stored in their existing ARFF station. The larger vehicle will be acquired upon completion of the supplemental ARFF station.
- **Aviation Reserve**. Following the projects identified in the ACIP through 2030 as well as those beyond 2030, there will be undeveloped airport property that is considered aviation reserve.

This property is generally located in two places: at the west end of the existing building area and on the north side of Runway 8-26. Property at the west end of the existing building area is to accommodate long-term demand for general aviation (GA) development. Undeveloped property on the north side may also be used for distant future aviation needs or potentially establish opportunities for revenue-generating aeronautical and non-aeronautical businesses similar to the business/industrial park ideas discussed within the community in the past.

SVC Development Summary

Exhibit 5A illustrates the phased development plan for SVC, which corresponds with the various projects described earlier. Red represents the near-term projects (through 2025) for SVC, which includes project numbers 1 through 13. Intermediate term projects are blue and include project numbers 14 through 26, which span years 2026 to 2030. The remaining projects proposed beyond the 2030 planning period are represented by green.

FUNDING SOURCES

As previously noted, the various funding sources for the ACIP include federal, state and local/other. While the ACIP's breakdown of funding shown in the previous tables addresses the portions attributed to these funding sources, the availability of that funding is not guaranteed. Availability of federal funding is often based on budgets, needs of other airports in the national air transportation system, priority ranking for the types of projects (e.g., safety-related projects are high ranking), and actual aviation demand.

Federal

Federal funding is predominantly comprised of funding that comes through the FAA. This is typically through the Airport Improvement Program (AIP)[3], presently authorized by Congress at over $3.18 billion for more than 3,000 eligible airports nationwide. Airport sponsors are required to provide a match to AIP grants, which is typically 10% of local funds to receive an AIP grant covering 90% of total project cost. However, Grant County Airport is in a specially designated area that permits AIP grants covering 95% with the remaining 5% match from the sponsor. The match is typically split between Grant County and the NMDOT Aviation Division.

[3] AIP funds derived from the Airport and Airway Trust Fund, which is supported by user fees such as fuel and passenger taxes/fees.

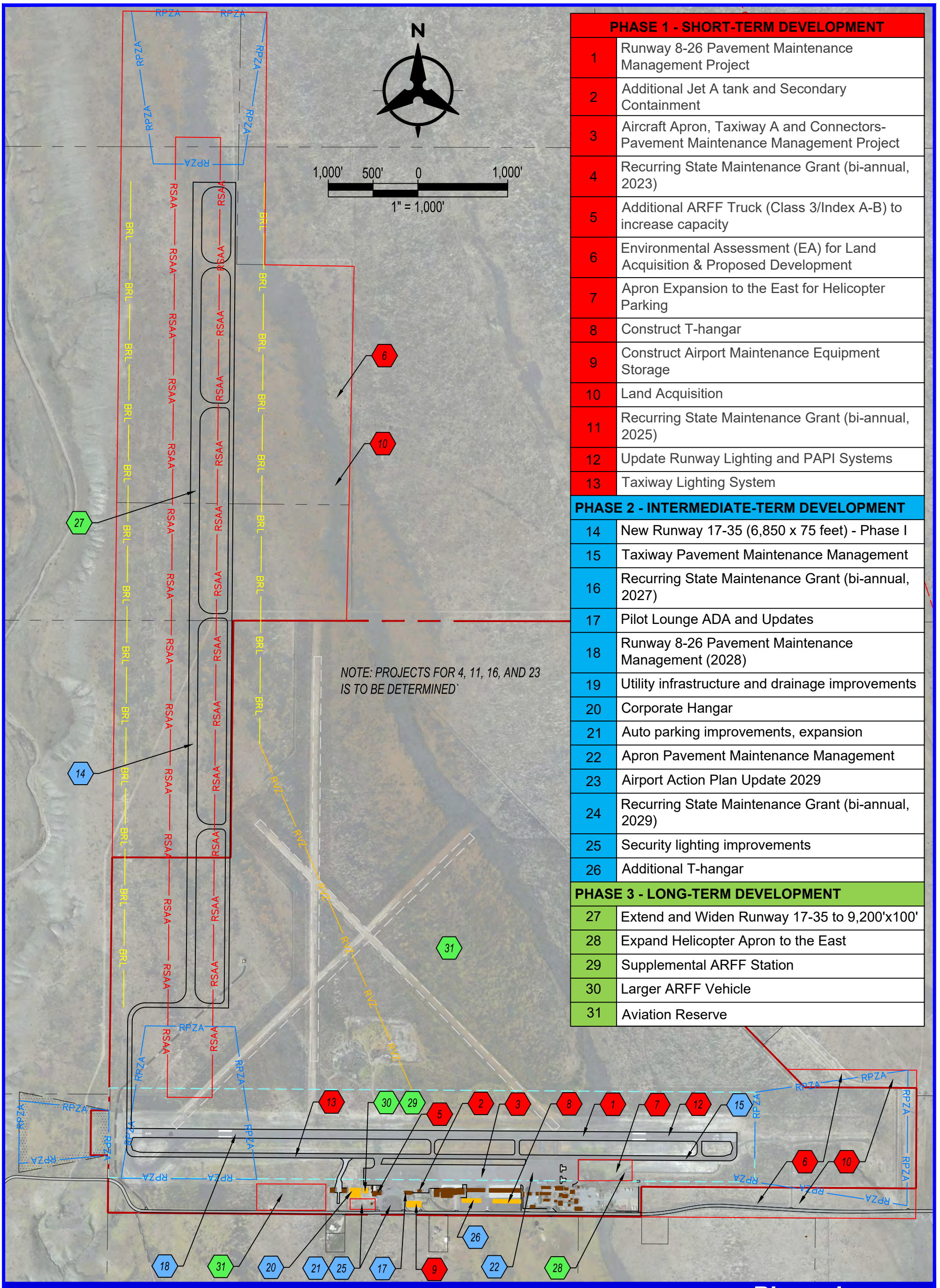
In addition to the standard AIP authorization, other funds were recently made available to airports in the NPIAS. In 2020, $400 million in supplemental appropriations[4] from the General Fund were made available under the AIP statute; these funds are supporting eligible and justified projects from FY2020 to 2022. Prior to the supplemental appropriations, eligible airports received economic relief during the pandemic from the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) enacted in March 2020. The CARES Act included $10 billion in funds for airports nationwide of which Grant County received $69,000 for SVC. Additionally, the Coronavirus Response and Relief Supplemental Appropriation Act, 2021 (CRRSSA) provided $23,000 in funding to Grant County. FAA distributed another $59,000 to Grant County as an Airport Rescue Grant under the American Rescue Plan Act of 2021.

Despite the ongoing distribution of AIP funding as well as recent supplemental funding, airport needs continue to outpace available funds. Consequently, the FAA must prioritize projects to distribute the limited funds. New legislation passed in November 2021 strives to support the extensive airport capital needs over the next five years. This new legislation, referred to as the Bipartisan Infrastructure Law (BIL), dedicates funding for transportation, broadband and utilities. More importantly, the BIL invests $20 billion over five years in aviation nationwide. The FAA described the three categories of this aviation-related funding as follows:

- Airport Infrastructure ($15 million) – for airport projects that increase safety and expand capacity.
- Airport Terminals ($5 billion) – to replace aging terminals, increase terminal energy efficiency and accessibility and more,
- Air Traffic Facilities ($5 billion) – to replace facilities and equipment and improve safety security and environmental standards.

Of these funds, New Mexico will receive approximately $18 million for their 46 eligible airports. Each airport will receive funding based on their NPIAS role: Primary and Nonprimary. As noted in Chapter One, Inventory, the nonprimary airports like SVC are further broken into four categories: National, Regional, Local and Basic. Some airports may be unclassified, and those airports are not currently eligible for BIL funding.

[4] Supplemental appropriations are derived from the General Fund under the Consolidated Appropriations Act signed into law on December 27,2020; funds are available for award through September 2022.



PHASE 1 - SHORT-TERM DEVELOPMENT	
1	Runway 8-26 Pavement Maintenance Management Project
2	Additional Jet A tank and Secondary Containment
3	Aircraft Apron, Taxiway A and Connectors-Pavement Maintenance Management Project
4	Recurring State Maintenance Grant (bi-annual, 2023)
5	Additional ARFF Truck (Class 3/Index A-B) to increase capacity
6	Environmental Assessment (EA) for Land Acquisition & Proposed Development
7	Apron Expansion to the East for Helicopter Parking
8	Construct T-hangar
9	Construct Airport Maintenance Equipment Storage
10	Land Acquisition
11	Recurring State Maintenance Grant (bi-annual, 2025)
12	Update Runway Lighting and PAPI Systems
13	Taxiway Lighting System
PHASE 2 - INTERMEDIATE-TERM DEVELOPMENT	
14	New Runway 17-35 (6,850 x 75 feet) - Phase I
15	Taxiway Pavement Maintenance Management
16	Recurring State Maintenance Grant (bi-annual, 2027)
17	Pilot Lounge ADA and Updates
18	Runway 8-26 Pavement Maintenance Management (2028)
19	Utility infrastructure and drainage improvements
20	Corporate Hangar
21	Auto parking improvements, expansion
22	Apron Pavement Maintenance Management
23	Airport Action Plan Update 2029
24	Recurring State Maintenance Grant (bi-annual, 2029)
25	Security lighting improvements
26	Additional T-hangar
PHASE 3 - LONG-TERM DEVELOPMENT	
27	Extend and Widen Runway 17-35 to 9,200'x100'
28	Expand Helicopter Apron to the East
29	Supplemental ARFF Station
30	Larger ARFF Vehicle
31	Aviation Reserve

GRANT COUNTY AIRPORT

AIRPORT ACTION PLAN

Bohannan Huston
www.bhinc.com 800.877.5332

Phased Development Map

EXHIBIT 5A

Grant County Airport is categorized as a "regional" facility, which receives $295,000 annually over five years under the BIL funding. This funding may be fully expended annually or combined over multiple years for a larger project. Any funds not expended by an airport will be rolled into discretionary funds. The FAA has stated that projects eligible for the BIL funding will generally align with the AIP eligibility criteria. However, specific guidance on the BIL will not be available until Spring 2022. Consequently, SVC projects identified for BIL funding are similar to those that would be eligible for AIP.

Also notable for SVC, the BIL funding will support both airside and landside facility needs such as improving runways, taxiways, and terminal development projects. Further, projects that improve accessibility for persons with disabilities, access for historically disadvantaged populations, airfield safety and energy efficiency are included.

State

The New Mexico Department of Transportation (NMDOT) Aviation Division manages an aviation fund for public use airports in the state. The state's aviation fund is comprised of aviation fuel taxes. The majority of the airports in the New Mexico airport system are also in the NPIAS and receive federal grants, and the state will help the airport sponsor match those grants. As previously mentioned, the FAA covers 95% of an eligible project's costs for SVC and the state will cover half of the sponsor's 5% match, or 2.5% of the project cost. Beyond the grant match program, the state also provides state-only grant funding which is typically a 50-50 or 90-10 split with the sponsor; these projects may include those that are eligible or ineligible for federal funding. The state focuses on addressing shortfalls in the New Mexico Airport System Plan (NMASP) and priority needs of the sponsors.

Local Match, Local Other and Third Party

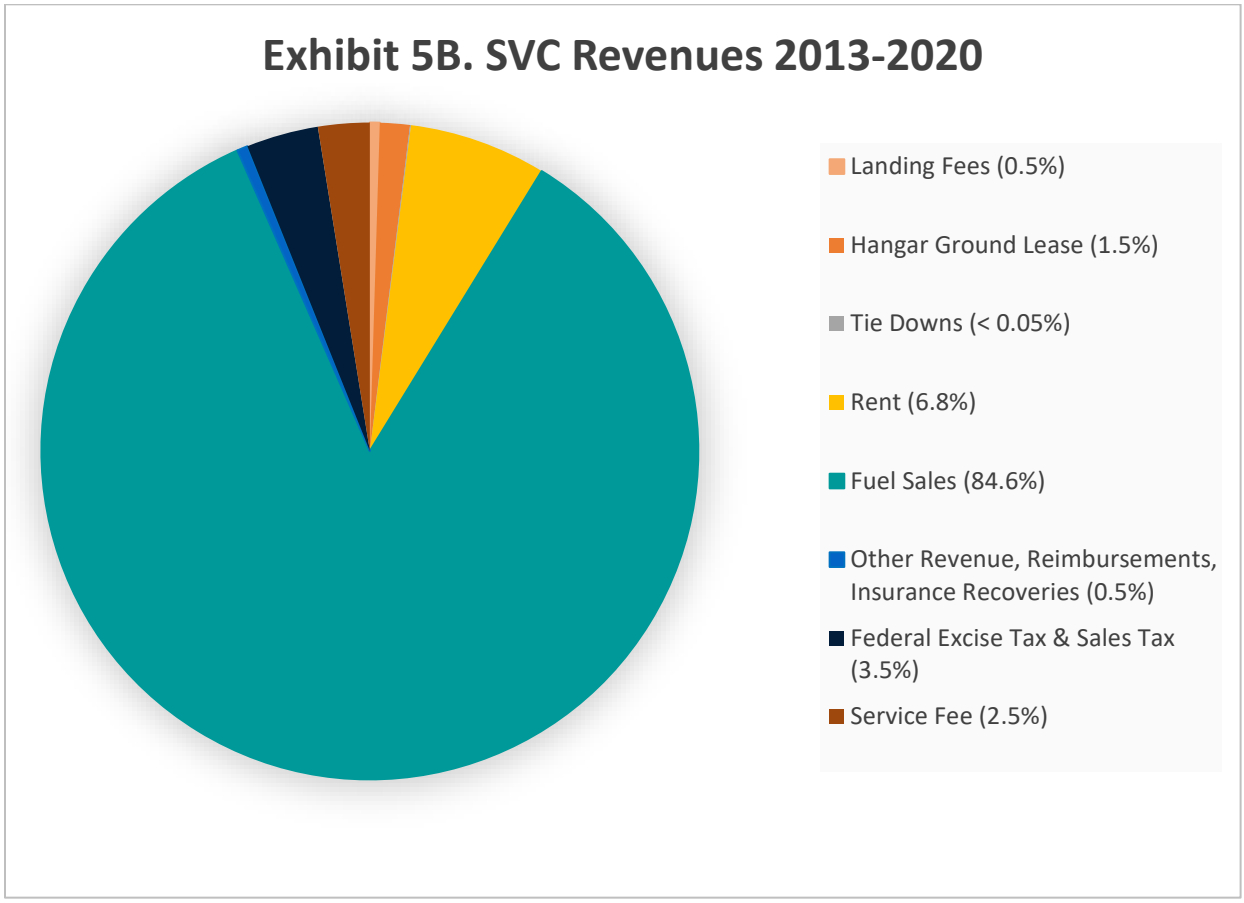
A local sponsor match is required for federal and state grants.

In Tables 5.1 and 5.2 presented earlier, the local/other funding column refers to Grant County's financial responsibility for each project. This column includes the required matching portion of a project funded by the FAA and/or NMDOT Aviation Division as well as the total cost of projects ineligible for federal or state funding. However, Grant County may use third party financing for such projects to reduce their costs. Hangar development, which is not eligible for AIP funds is an example of a project to be funded by the County or through third-party financing. Private investors, as part of their ground lease, often agree to construct facilities if the lease provides adequate time to amortize their investment. The FAA and state may participate in site preparation and taxilanes available to the public in the hangar development area, but the actual hangar and stub taxiways up to the hangar are ineligible for federal funding.

Clearly, there is a significant financial need to support the proposed development at SVC. Grant County Airport's revenues have typically fallen short of fully covering operational expenses in the past so covering grant matches for capital improvements is a challenge—common for many GA and small commercial service airports.

Historical Airport Operating Revenues and Expenses

This section briefly reviews historical Grant County Airport operating revenues and expenses to provide insight on the airport's cash flow. Historical data collected from Grant County spans 2013 to 2020. **Exhibit 5B** illustrates the representative portion of each revenue stream in total over the last eight years. Fuel represents 84.6% of all airport revenues since 2013 with rent (for hangars) ranking second highest in revenue generation at 6.8% of the total. Likewise, **Exhibit 5C** illustrates the representative portion of each expense over the last eight years of which fuel purchases comprise the largest portion of expenses at 59.0% followed by personnel at 28.5%.



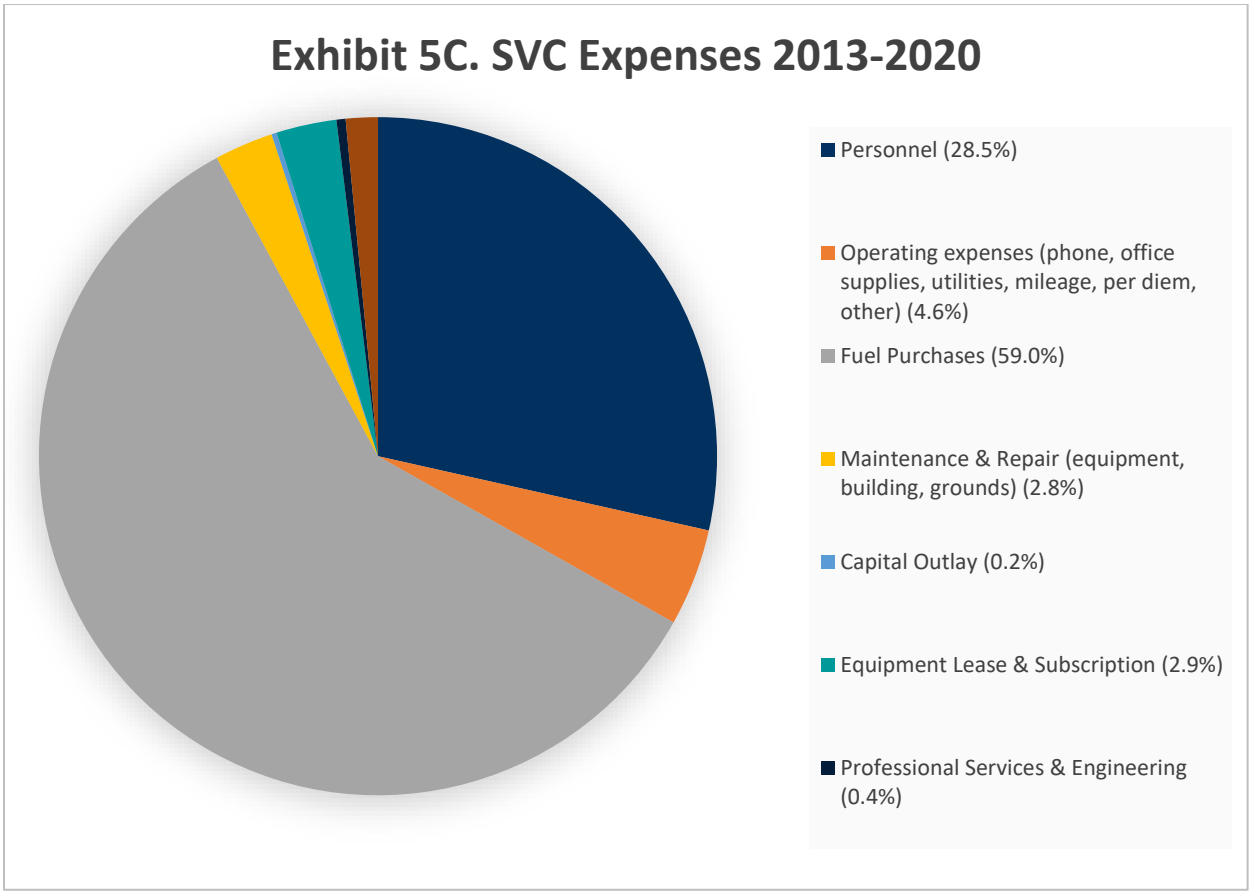


Table 5.4 presents the specific annual revenue and expense figures for SVC from 2013 through 2020 as derived from Grant County records. As evident by the data, SVC's revenues and expenses have continued to increase over the years. In fact, 2020 revenues are nearly five times the SVC revenue in 2015.

Table 5.4 – Historical Airport Operating Revenues and Expenses (SVC)

Description	2013	2014	2015	2016	2017	2018	2019	2020
REVENUES								
Landing Fees	5,532	3,239	1,436	-	-	1,175	3,469	6,040
Hangar Ground Lease	3,029	24,885	1,779	5,825	4,516	6,800	8,675	8,272
Tie Downs	260	790	113	-	-	-	802	-
Rent	31,595	27,008	24,022	24,192	52,773	38,585	44,489	50,219
Fuel Sales	-	-	189,885	501,101	489,085	729,563	805,895	950,030
Other Revenue, Reimbursements, Insurance Recoveries	-	900	17	75	-	10,834	9,614	1,091
Federal Excise Tax & Sales Tax	-	-	-	-	19,608	37,726	41,128	55,272
Service Fee	-	-	5,360	16,491	13,856	23,364	22,393	28,298
TOTAL Revenues	40,415	56,822	222,612	547,684	579,838	848,045	936,465	1,099,222
EXPENSES								
Personnel	140,533	137,321	122,573	124,071	181,123	211,294	209,374	254,515
Misc. Operating Expenses (phone, office supplies, utilities, mileage, per diem, other)	24,297	26,482	22,941	30,130	28,685	30,945	31,598	29,688
Fuel Purchases	-	-	213,588	366,388	430,112	546,831	628,730	668,945
Maintenance & Repair (equipment, building, grounds)	5,409	6,271	19,927	8,914	15,488	31,448	23,538	24,732
Capital Outlay	-	-	-	-	-	11,795	-	-
Equipment Lease & Subscription	-	-	14,385	25,568	28,504	24,954	20,516	25,404
Professional Services & Engineering	-	-	-	-	3,249	1,581	12,828	3,373
Gross Receipts Tax	-	-	-	-	7,639	19,300	22,924	24,090
TOTAL Expenses	170,238	170,074	393,415	555,072	694,801	878,146	949,507	1,030,747

Source: Grant County Records

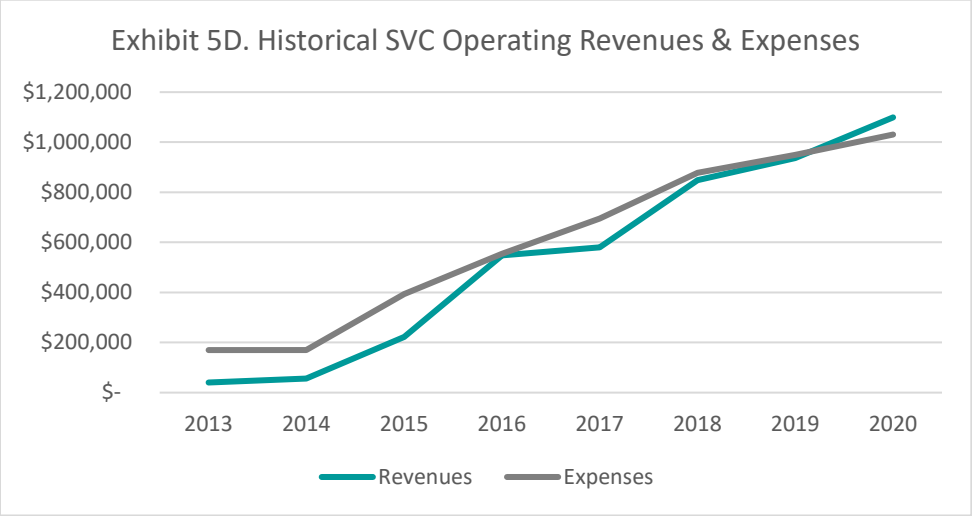
Table 5.5 summarizes the cash flow for SVC for the same time period. The table shows that SVC expenses in 2015 exceeded revenues by nearly $171,000, while 2020 concluded with a positive cash flow for SVC of nearly $68,500.

Table 5.5 – Cash Flow (SVC)

Description	2013	2014	2015	2016	2017	2018	2019	2020
Revenues	40,415	56,822	222,612	547,684	579,838	848,045	936,465	1,099,222
Expenses	170,238	170,074	393,415	555,072	694,801	878,146	949,507	1,030,747
Cash Flow	$ (129,823)	$ (113,252)	$ (170,803)	$ (7,388)	$ (114,963)	$ (30,101)	$ (13,042)	$ 68,476

Source: Table 5.5 and Grant County Records

In **Exhibit 5D**, SVC's revenues and expenses are graphically depicted for 2013 through 2020. As shown, expenses generally follow the upward path of revenues and in recent years, the negative cash flow amount has diminished with revenues surpassing expenses in 2020. While revenues and expenses fluctuate and positive cash flow is not guaranteed, SVC has clearly shown financial improvement in recent years.



Appendix A – Airport Development Grant History

Capital Improvement Program Report

New Mexico Department of Transportation - Aviation Division
SILVER CITY - GRANT COUNTY
Report Filter - Types: All, Statuses: All

All Projects

Year	Project Name	Status	FAA	State	Local	Total
2000						
	Construction of apron and taxiway areas, lighting and signage, and pavement markings	Closed	1,060,200.00	58,900.00	58,900.00	$1,178,000.00
	Install curbing, rehabilitate pavement surfaces	Closed	0.00	8,102.00	8,102.00	$16,204.00
		SubTotal:	$1,060,200.00	$67,002.00	$67,002.00	$1,194,204.00
2003						
	Operation surface and Navaid improvements	Closed	330,000.00	19,970.00	16,700.00	$366,670.00
	Terminal utility systems upgrading	Closed	0.00	3,000.00	3,000.00	$6,000.00
		SubTotal:	$330,000.00	$22,970.00	$19,700.00	$372,670.00
2007						
	ARFF Vehicle, Replace Runway Lighting and Electrical vault,Conduct EA for Runway 8/26 extension, Vertical Visual Guidance System	Closed	827,709.00	17,042.00	17,042.00	$861,793.00
	Install Visual Guidance Approach	Closed	166,250.00	4,375.00	4,375.00	$175,000.00
	Tractor/Mower Assembly	Closed	0.00	26,385.00	26,385.00	$52,770.00
		SubTotal:	$993,959.00	$47,802.00	$47,802.00	$1,089,563.00
2008						
	SVC-07-003 - ANIMAL CONTROL FENCING	Closed	67,419.00	5,625.00	5,625.00	$78,669.00
	SVC-08-001 - INSTALL/UPGRADE VISUAL AIDS 8/26 ENHANCED TAXIWAY MARKINGS	Closed	280,314.00	7,377.00	7,377.00	$295,068.00
		SubTotal:	$347,733.00	$13,002.00	$13,002.00	$373,737.00
2009						
	SVC-09-001 - Perimeter Fencing - Phase 2, Acquire vacum sweeper	Rejected / Deferred	333,000.00	8,763.00	8,763.00	$350,526.00
		SubTotal:	$333,000.00	$8,763.00	$8,763.00	$350,526.00
2010						
	SVC-10-001 - Install Animal Control Fencing - Re-Mark Airport pavements	Closed	137,500.00	15,973.00	15,974.00	$169,447.00
	SVC-10-002 - Acquire Vacuum Sweeper	Rejected / Deferred	236,180.00	8,975.00	6,050.00	$251,205.00
	SVC-10-003 - Wildlife Hazard Assessment	Closed	95,000.00	2,500.00	2,500.00	$100,000.00
		SubTotal:	$468,680.00	$27,448.00	$24,524.00	$520,652.00

Year	Project Name	Status		FAA	State	Local	Total
2011							
	SVC-11-001 - Apron Rehab - Phase I Design Only	Closed		95,000.00	2,500.00	2,500.00	$100,000.00
	SVC-11-002 - Acquire Vacuum Sweeper	Closed		0.00	166,250.00	8,750.00	$175,000.00
			SubTotal:	$95,000.00	$168,750.00	$11,250.00	$275,000.00
2012							
	SVC-12-01 - Airport Maintenance Items	Closed		0.00	13,500.00	1,503.00	$15,003.00
	SVC-12-02 - Crack Filling Enhanced Taxiway Markings & Surface Painted Hold Signs	Closed		0.00	96,298.00	48,044.00	$144,342.00
	SVC-12-03 - Rehabilitate Terminal Apron	Closed		720,000.00	40,000.00	40,000.00	$800,000.00
			SubTotal:	$720,000.00	$149,798.00	$89,547.00	$959,345.00
2013							
	SVC-13-01 - Apron Rehabilitation Phase III	Closed		527,725.00	13,887.50	13,887.50	$555,501.00
	SVC-13-02 Action Plan	Closed		0.00	90,000.00	10,000.00	$100,000.00
			SubTotal:	$527,725.00	$103,887.50	$23,887.50	$655,500.00
2014							
	SVC-14-01 Annual Maintenance Grant	Closed		0.00	8,923.00	992.00	$9,915.00
	SVC-14-02 FUEL FARM	Closed		0.00	100,000.00	50,000.00	$150,000.00
			SubTotal:	$0.00	$108,923.00	$50,992.00	$159,915.00
2015							
	SVC-15-01 Annual Maintenance Grant	Closed		0.00	9,000.00	1,000.00	$10,000.00
	SVC-15-02 8-26 PAVEMENT MAINTENANCE	Closed		0.00	150,000.00	50,000.00	$200,000.00
	SVC-15-03 UPDATE SWPPP AND FUEL FARM	Closed		0.00	7,200.00	800.00	$8,000.00
			SubTotal:	$0.00	$166,200.00	$51,800.00	$218,000.00
2016							
	SVC-16-01 Annual Maintenance Grant	Closed		0.00	8,562.00	951.00	$9,513.00
	SVC-16-02 RWY 8-26 Mill and Inlay Phase I Design	Closed		149,101.00	4,394.00	4,395.00	$157,890.00
	SVC-16-03 New PAPI Light System for Runway 8-26	Closed		0.00	13,500.00	1,500.00	$15,000.00
	SVC-16-04 New AWOS	Closed		0.00	86,889.00	9,654.00	$96,543.00
	SVC-16-05 Replace/Repair Airport Beacon	Closed		0.00	14,400.00	1,600.00	$16,000.00
			SubTotal:	$149,101.00	$127,745.00	$18,100.00	$294,946.00
2017							
	SVC-17-01 Annual Maintenance Grant	Closed		0.00	10,000.00	1,111.00	$11,111.00
	SVC-17-02 RW 8-26 Mill and Inlay-Phase II Construction & Install Two Emergency Generators	Closed		2,632,628.00	69,279.00	69,280.00	$2,771,187.00

Year	Project Name	Status	FAA	State	Local	Total
		SubTotal:	$2,632,628.00	$79,279.00	$70,391.00	$2,782,298.00
2018						
	SVC-18-01 2018 Annual Maintenance Grant	Closed	0.00	9,000.00	1,000.00	$10,000.00
	SVC-18-02 APRON RECONSTRUCTION - PER	Closed	49,729.00	1,250.00	1,250.00	$52,229.00
	SVC-18-03 - TERMINAL BUILDING REPAIRS - PER	Closed	47,500.00	1,250.00	1,250.00	$50,000.00
		SubTotal:	$97,229.00	$11,500.00	$3,500.00	$112,229.00
2019						
	SVC-19-01 AIRFIELD MAINTENANCE & COSUMABLE ITEMS	Funded - State AVI	0.00	20,000.00	2,222.00	$22,222.00
	SVC-19-02 - FUEL FARM IMPROVEMENTS - DESIGN	Funded - State AVI	0.00	112,000.00	5,000.00	$117,000.00
	SVC-19-03 - TERMINAL BUILDING RENOVATION & CODE COMPLIANCE	Funded - State AVI	364,800.00	315,309.00	81,200.00	$761,309.00
		SubTotal:	$364,800.00	$447,309.00	$88,422.00	$900,531.00
2020						
	SVC-20-01 - TAXIWAY A REHABILITATION DESIGN	Funded - State AVI	0.00	53,750.00	46,250.00	$100,000.00
	SVC-20-02 - FUEL FARM EXPANSION - CONSTRUCTION	Funded	0.00	360,000.00	40,000.00	$400,000.00
		SubTotal:	$0.00	$413,750.00	$86,250.00	$500,000.00
2021						
	1-ALP/ AAP Update	Funded	0.00	108,000.00	12,000.00	$120,000.00
	3-replace ARFF Vehicle	Requested	0.00	405,000.00	45,000.00	$450,000.00
	Fuel Farm Secondary Containment Construction	CIP	0.00	200,000.00	200,000.00	$400,000.00
	GA Hangar Development and Construction	Requested	0.00	450,000.00	50,000.00	$500,000.00
	SVC-21-02 AIRFIELD MAINTENANCE AND CONSUMABLE ITEMS	Application In Process	0.00	20,000.00	2,222.00	$22,222.00
		SubTotal:	$0.00	$1,183,000.00	$309,222.00	$1,492,222.00
2022						
	Runway 8-26 rehabilitation	CIP	573,895.00	15,102.50	15,102.50	$604,099.00
	T-Hangar Expansion - Phase 1 Design	CIP	71,250.00	1,875.00	1,875.00	$75,000.00
		SubTotal:	$645,145.00	$16,977.50	$16,977.50	$679,100.00
2023						
	Annual Maintenance Grant	CIP	0.00	20,000.00	2,222.00	$22,222.00
	Apron Rehabilitation - crack fill, seal coat, remarking	CIP	190,000.00	5,000.00	5,000.00	$200,000.00
	T-Hangar Development - Phase 2 Construdtion, DBE update	CIP	0.00	125,000.00	125,000.00	$250,000.00
		SubTotal:	$190,000.00	$150,000.00	$132,222.00	$472,222.00

Year	Project Name	Status		FAA	State	Local	Total
2024							
	New Runway - Phase 1 Environmental Assessment	CIP		142,500.00	3,750.00	3,750.00	$150,000.00
	US Forest Service Fire Cache Warehouse	CIP		0.00	250,000.00	250,000.00	$500,000.00
			SubTotal:	$142,500.00	$253,750.00	$253,750.00	$650,000.00
2025							
	New Runway - Phase 2 Land Acquisition	CIP		150,000.00	3,947.00	3,948.00	$157,895.00
	Semi-annual NMAD Maintenence Grant	CIP		0.00	20,000.00	2,222.00	$22,222.00
			SubTotal:	$150,000.00	$23,947.00	$6,170.00	$180,117.00
2026							
	Construct Box Hangar 60' x 80'	CIP		0.00	250,000.00	250,000.00	$500,000.00
	New Runway - Phase 3 Design	CIP		450,000.00	25,000.00	25,000.00	$500,000.00
	Replace RW 8-26 MIRL/PAPI/Sign (LED)	CIP		332,500.00	8,750.00	8,750.00	$350,000.00
	West Hangar Development - Phase 1 Design	CIP		95,000.00	2,500.00	2,500.00	$100,000.00
	Wildlife Hazard Assessment Update	CIP		95,000.00	2,500.00	2,500.00	$100,000.00
			SubTotal:	$972,500.00	$288,750.00	$288,750.00	$1,550,000.00
2027							
	New Runway - Phase 4 Construction	CIP		13,300,000.00	350,000.00	350,000.00	$14,000,000.00
			SubTotal:	$13,300,000.00	$350,000.00	$350,000.00	$14,000,000.00
2028							
	New Runway - Phase 5 Parallel Taxiway Construction	CIP		2,250,000.00	125,000.00	125,000.00	$2,500,000.00
			SubTotal:	$2,250,000.00	$125,000.00	$125,000.00	$2,500,000.00
All Projects				$25,770,200.00	$4,355,553.00	$2,157,024.00	$32,282,777.00

Appendix B – Runway Length Analyses (FAA Charts)

Figure 3-1. 75 Percent of Fleet at 60 or 90 Percent Useful Load

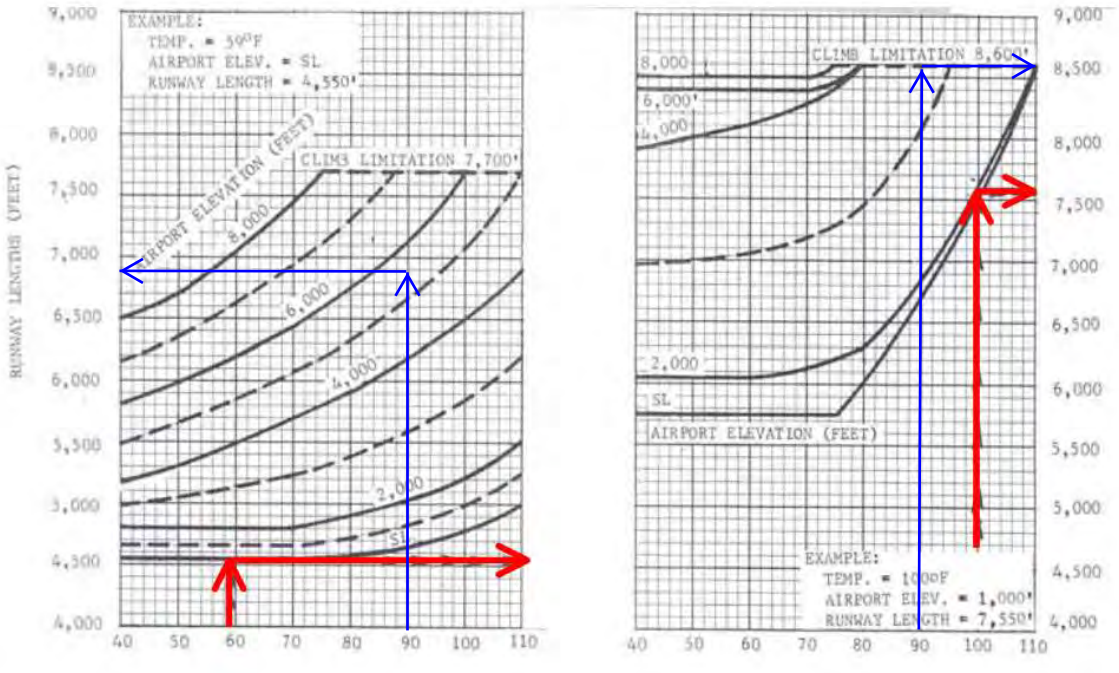
SVC
>90.3° F
>Elevation 5,446 ft MSL

Gradient
9 ft difference between runway ends, so add 90 ft (9 ft x10 per FAA guidance) to runway length required

6,980 ft runway length required for 75% of fleet at 60% useful load

8,690 ft runway length required for 75% of fleet at 90% useful load

Note: previous study showed similar numbers. Gradient was noted as slightly higher in old study so 8700 ft was identified for the 75% fleet at 90% useful load



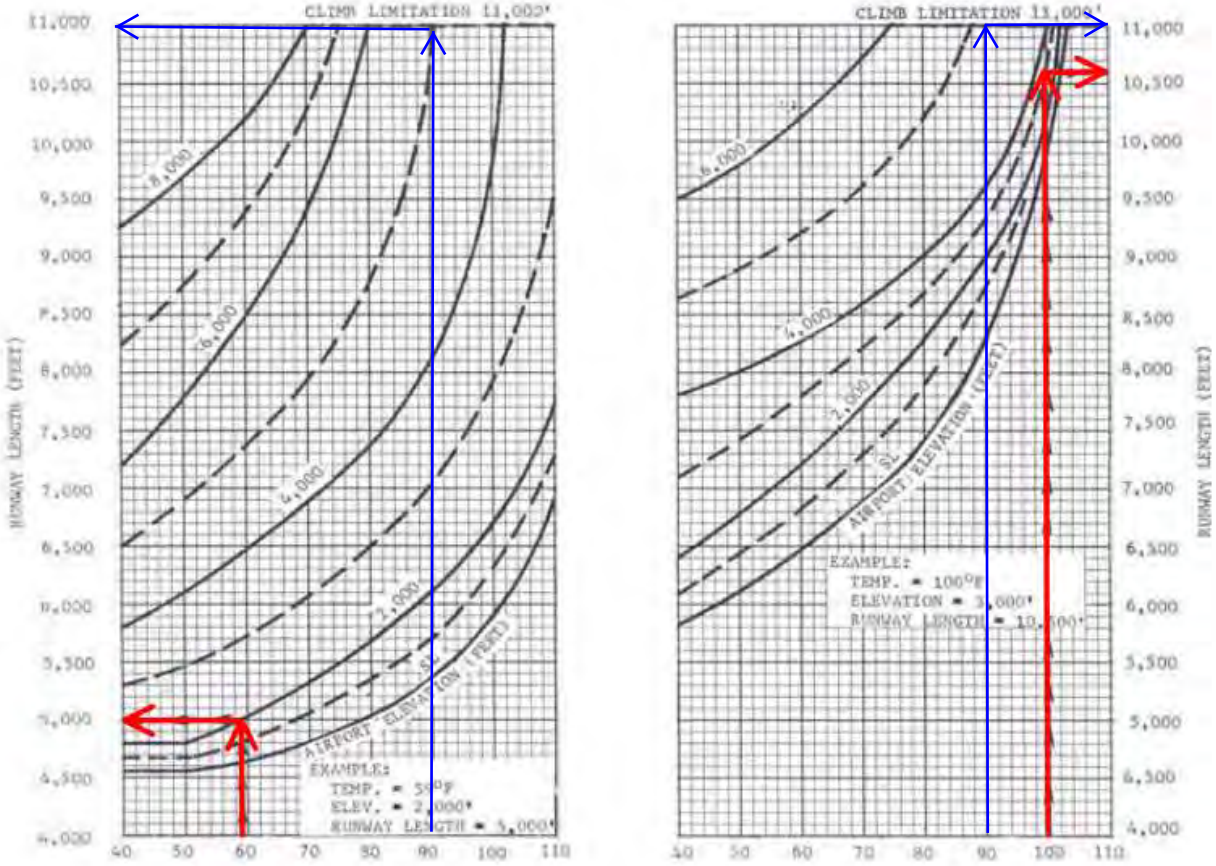
Mean Daily Maximum Temperature of Hottest Month of the Year in Degrees Fahrenheit

75 percent of feet at 60 percent useful load **75 percent of feet at 90 percent useful load**

SVC
>90.3° F
>Elevation
5,446 ft MSL

Need to 90 ft
for runway
gradient

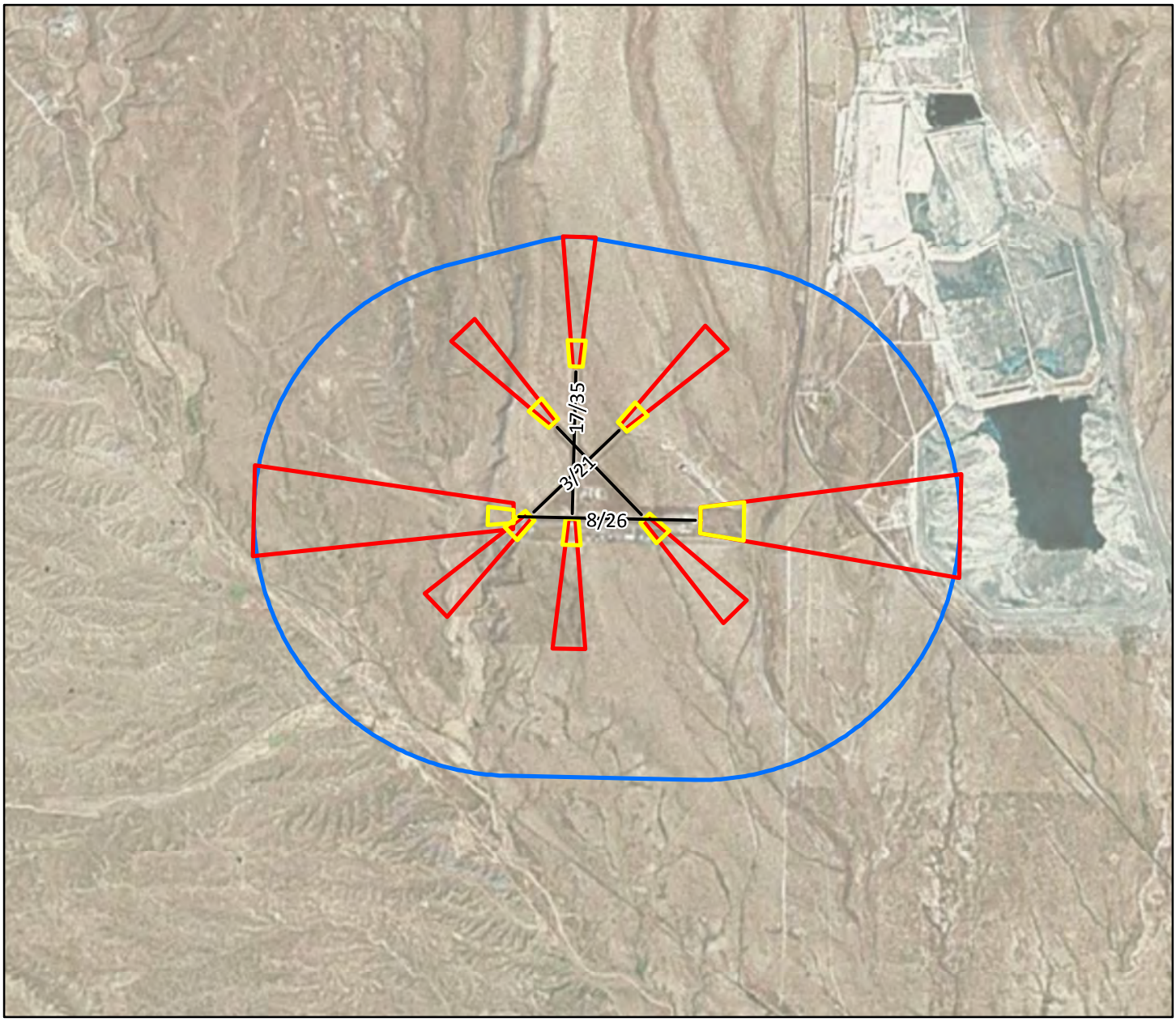
Figure 3-2. 100 Percent of Fleet at 60 or 90 Percent Useful Load



Mean Daily Maximum Temperature of Hottest Month of the Year in Degrees Fahrenheit

100 percent of feet at 60 percent useful load **100 percent of feet at 90 percent useful load**

Appendix C – Example of Airport Land Use Compatibility Diagram



Grant County

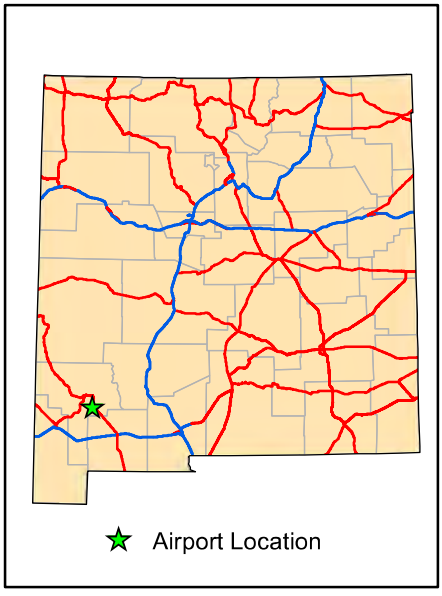
LEGEND

- Zone 1: Approach RPZ
- Zone 2: Approach Surface
- Zone 3: Horizontal Surface

0 6,000 12,000

1 inch = 6,000 feet

N



Zone 1 - Runway Protection Zone (RPZ): As outlined in Federal Aviation Administration Advisory Circular 150/5300-13, Airport Design, Paragraph 310, the purpose of the RPZ is best achieved through airport owner control over these areas. Control is preferably exercised through the acquisition of sufficient property interest in the RPZ and includes clearing RPZ areas (and maintaining them clear) of incompatible objects and activities. Where this is impractical, airport owners as a minimum should maintain the RPZ clear of all facilities supporting incompatible activities.

Zone 2 - Part 77 Approach Surface: Avigation easements are encouraged within this area and deed notification should be required of those purchasing property that the property falls within this Airport Influence Area. Tall Structures should be submitted under the Part 77 airspace review process, using FAA Form 7460-1, Notice of Proposed Construction or Alteration.

Zone 3 - Part 77 Horizontal Surface: Deed notification should be required of those purchasing property that the property falls within this Airport Influence Area. Tall structures should be submitted under the Part 77 airspace review process, using FAA Form 7460-1, Notice of proposed Construction or Alteration.

Recommended Airport Land Use Compatibility Diagram

Source: New Mexico Airport System Plan 2017

Appendix D – Grant County Approval of Preferred Alternative

March 10, 2022

Mr. Dumas Slade
Bohannan Huston, Inc.
Courtyard I
7500 Jefferson St. NE
Albuquerque, NM 87109-4335

Re: Grant County Airport (SVC) Action Plan Study

Dear Mr. Slade:

This letter serves as the approval of the Grant County Airport (SVC) Action Plan Study's "preferred alternative" as illustrated in the attached exhibit and summary.

The Grant County Commission requests that the Bohannan Huston Consultant Team proceed with the final planning study tasks based on the "preferred alternative." The preferred alternative addresses the near- to long-term development needs of SVC. Further, the County acknowledges that updates to the proposed improvements may be necessary in the future, as conditions and aviation demand changes at SVC. Implementation of the preferred alternative through future development will continue to support the safe and efficient operation of SVC.

If you have any questions, please contact the Grant County Airport Manager, Rebekah Wenger, at 575-388-4554 or rwenger@grantcountynm.gov.

Sincerely,

Chris M. Ponce
Commission Chairman

Office Of The Grant County Commissioners
1400 Highway 180 East, Silver City, NM 88061-7837 • P. O. Box 898, Silver City, NM 88062-0898
Telephone: (575) 574-0008 Fax (575) 574-0073

Appendix E – Legal Notice (Public Information Workshop)

OFFICE OF THE GRANT COUNTY COMMISSIONERS

1400 Highway 180 East – Silver City, NM 88061
Phone: 575-574-0008 Fax: 575-574-0073
www.grantcountynm.gov

NOTICE TRANSMITTAL SHEET

Date: November 19, 2021

To Be Published	To Be Posted	To Be Notified
Silver City Daily Press	Grant County Administration Center	Board of County Commissioners
Attention: Legal	1400 Highway 180 E. Silver City, NM 88061	Elected Officials & Department Heads
Publication Date:	www.grantcountynm.gov	Silver City Daily Press
Tuesday, November 23, 2021		Grant County Beat
		Community Access Television of Silver

PUBLIC NOTICE
Online Public Information Workshop – January 6, 2021

The Grant County Airport (SVC) Action Plan Study has an upcoming Online Public Information Workshop on **Wednesday, December 15, 2021** at **6:00PM**.

As part of the Grant County Airport Action Plan Study, an online public information workshop will be held to review various airport development alternatives under consideration. The workshop will begin with a presentation followed by questions and comments from the community. The Planning Advisory Committee's recommendations for future airport development will also be presented to the public. Upon request, a copy of the presentation materials can be emailed beginning December 1st. Please contact Ms. Rebekah Wenger, C.M., Grant County Airport Manager, at rwenger@grantcountynm.gov, or call (575) 313-9784 with any questions, comments or to request available materials.

To join the Zoom meeting from your computer, tablet, or smartphone using the following link:
https://us02web.zoom.us/j/86987121435?pwd=YlVDb1kwR3I1WmpLSm16TUJ3WndlZz09
Meeting ID: 869 8712 1435
Passcode: 272570

To dial in by phone: 346-248-7799
Meeting ID: 869 8712 1435
Passcode: 272570