

Columbia

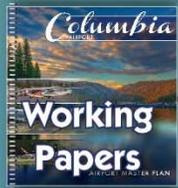
AIRPORT



AIRPORT MASTER PLAN

PURPOSE OF AN AIRPORT MASTER PLAN

- Provide a visioning document to guide Tuolumne County and other decision makers regarding the future development of Columbia Airport.
- Address local, regional, and national changes in the aviation industry that could impact the development and priorities of the Airport.
- To have a current and FAA-approved ALP on record to remain eligible for FAA development grants.
- To maximize the economic development potential of the Airport to the County and the region.



INITIATION

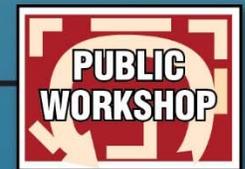
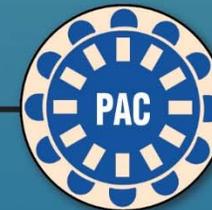
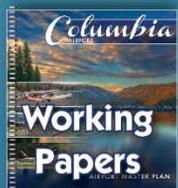


January 2016

INVENTORY

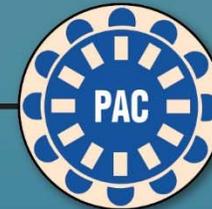
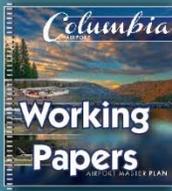
FORECASTS

FACILITY REQUIREMENTS

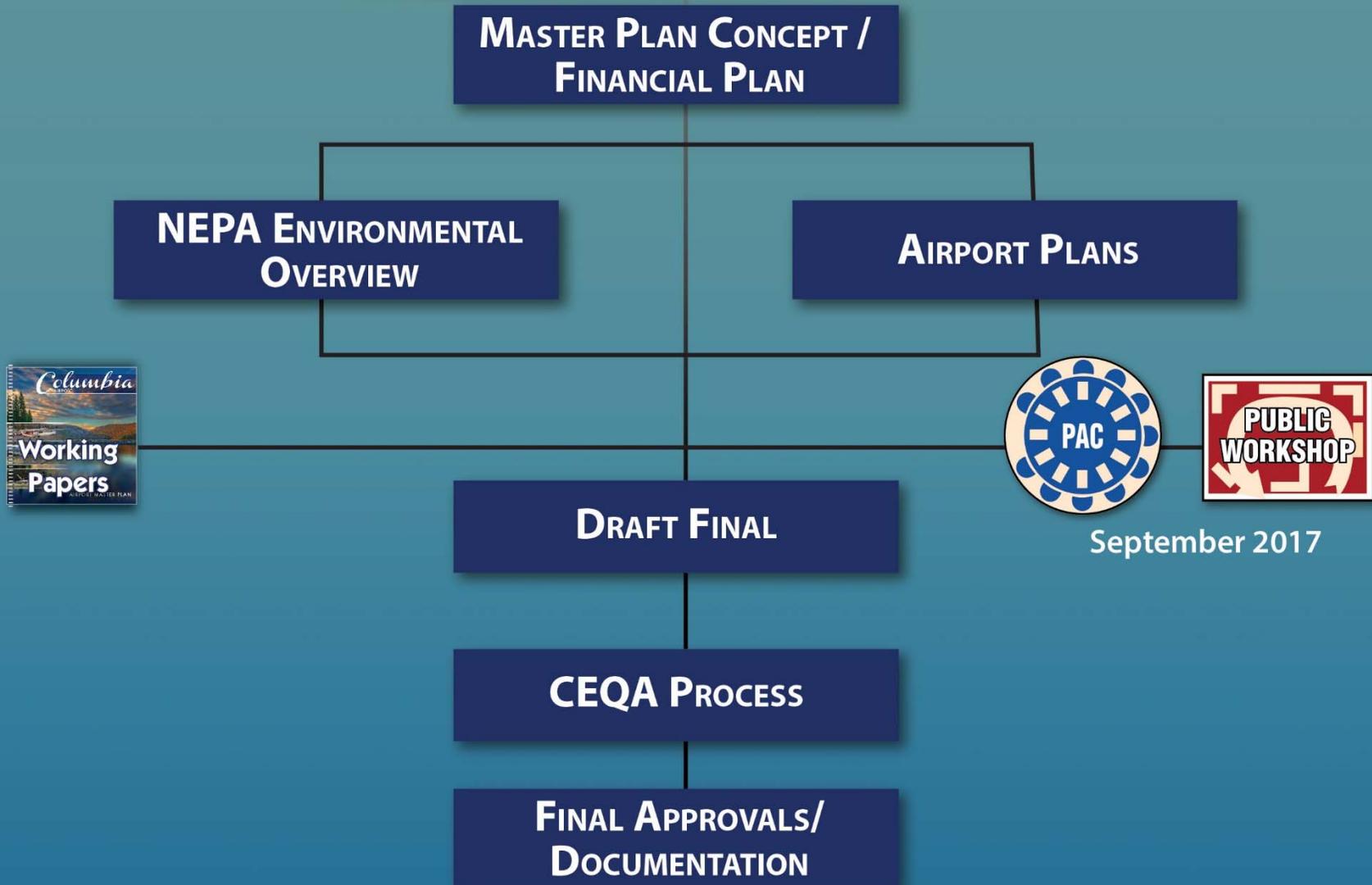


July 2016

AIRPORT ALTERNATIVES



December 2016



METHODS OF STUDY INVOLVEMENT

PLANNING ADVISORY COMMITTEE (PAC)

- Comprised of approximately 15 members representing various entities (Airport, County, Governmental, Tenants, Economic Development, etc.)
- Provided input regarding the current and future use of the Airport
- Four (4) meetings scoped during the course of the study process.

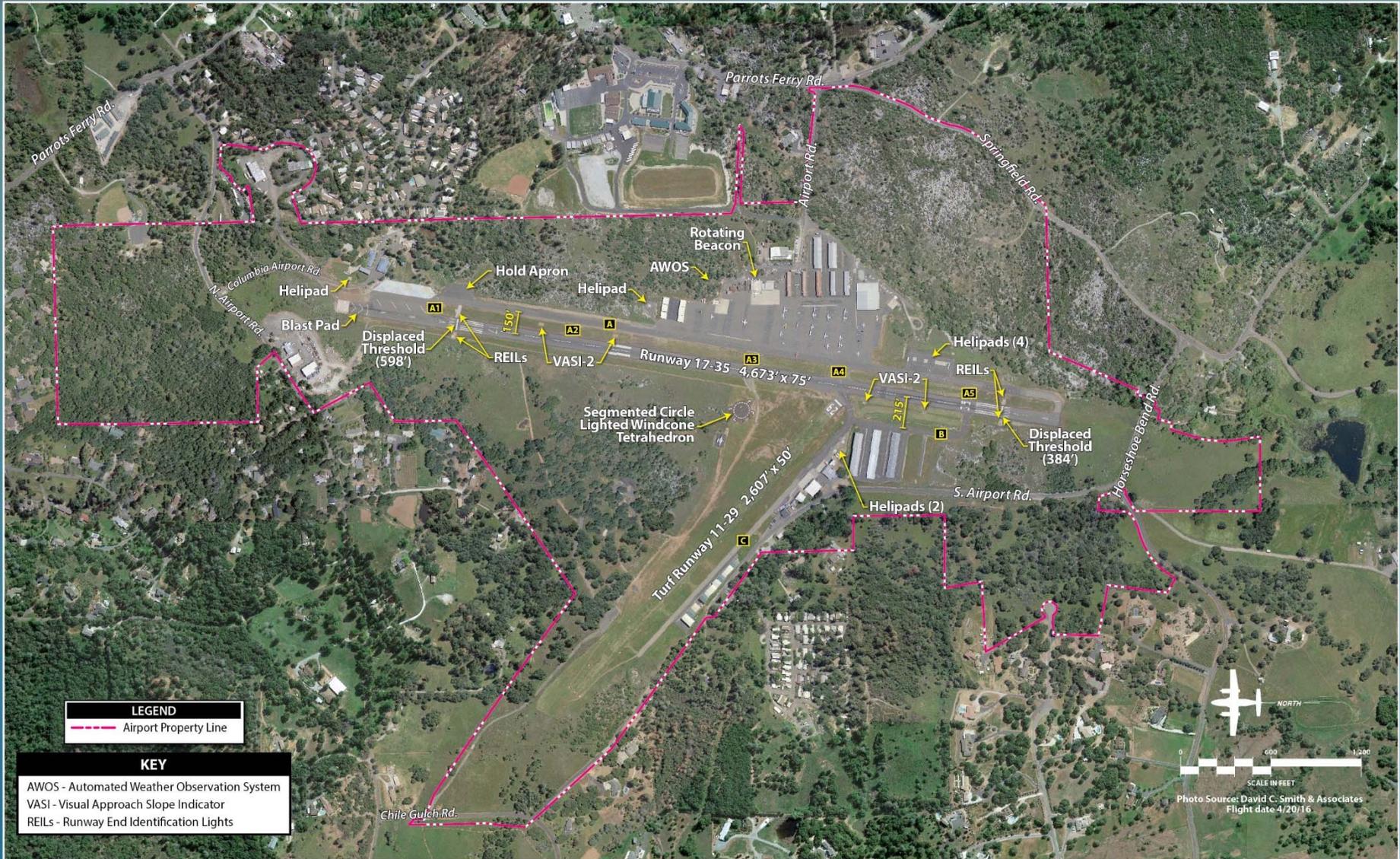
METHODS OF STUDY INVOLVEMENT

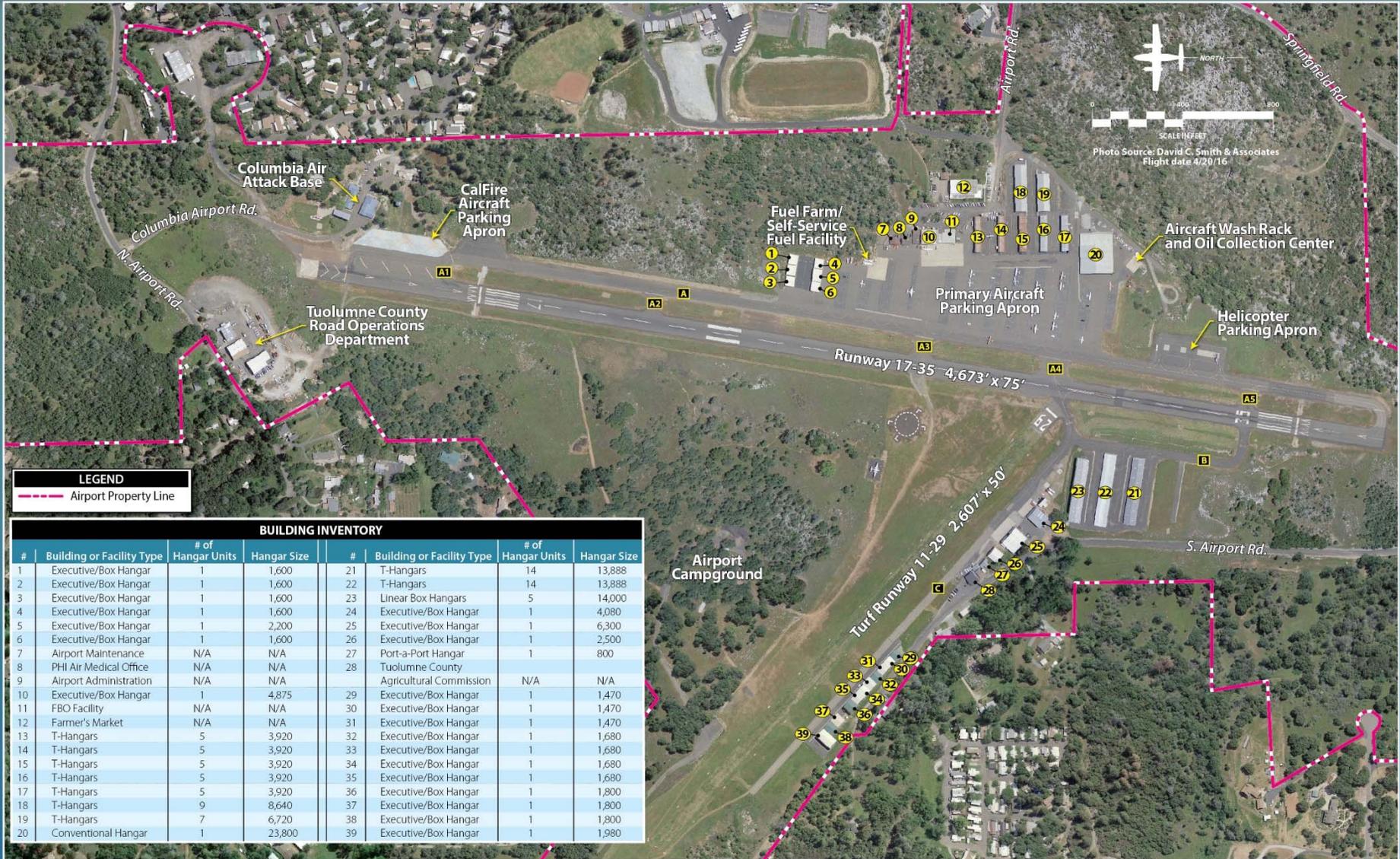
PUBLIC INFORMATION WORKSHOPS

- Allow the public an opportunity to obtain information, ask questions, and provide input regarding the Master Plan.
- Three (3) workshops scoped during the course of the study process.

CUSTOM MASTER PLAN STUDY WEBSITE

- <http://columbiamasterplan.airportstudy.com>





	2015	2020	2025	2035
BASED AIRCRAFT				
Single Engine	133	138	144	154
Multi-Engine	7	7	7	6
Turboprop	4	6	9	12
Jet	0	1	2	3
Helicopter	4	6	8	10
TOTAL BASED AIRCRAFT	148	158	170	185
ANNUAL OPERATIONS				
ITINERANT				
General Aviation	21,000	23,100	25,500	28,800
Air Taxi	1,740	2,000	2,200	2,500
CalFire	1,900	2,100	2,100	2,100
Military	17	100	100	100
Total Itinerant	24,657	27,300	29,900	33,500
LOCAL				
General Aviation	21,000	23,100	25,500	28,800
Total Local	21,000	23,100	25,500	28,800
TOTAL OPERATIONS	45,657	50,400	55,400	62,300
PEAK OPERATIONS FORECAST				
Annual Operations	45,657	50,400	55,400	62,300
Peak Month	5,940	6,550	7,200	8,100
Design Day	200	220	240	270
Busy Day	250	280	300	340
Design Hour	30	33	36	41
ANNUAL INSTRUMENT APPROACHES	490	550	600	670

EXHIBIT 2G AIRCRAFT REFERENCE CODES

A-I



- Beech Baron 55
- **Beech Bonanza**
- Cessna 150
- Cessna 172
- Cessna Citation Mustang
- Eclipse 500/550
- Piper Archer
- Piper Seneca

C-II, D-II



- Cessna Citation X (750)
- Gulfstream 100, 200, 300
- Challenger 300/600
- **ERJ-135, 140, 145**
- CRJ-200/700
- Embraer Regional Jet
- Lockheed JetStar
- Hawker 800

B-I



- Beech Baron 58
- Beech King Air 100
- Cessna 402
- **Cessna 421**
- Piper Navajo
- Piper Cheyenne
- Swearingen Metroliner
- Cessna Citation I (525)

C-III, D-III *less than 100,000 lbs.*



- ERJ-170
- CRJ 705, 900
- Falcon 7X
- **Gulfstream 500, 550, 650**
- Global Express, Global 5000
- Q-400

B-II



- Super King Air 200
- Cessna 441
- DHC Twin Otter
- Super King Air 350
- Beech 1900
- Citation Excel (560), Sovereign (680)
- Falcon 50, 900, 2000
- **Citation Bravo (550)**
- Embraer 120

C-III, D-III *over 100,000 lbs.*



- ERJ-90
- Boeing Business Jet
- B-727
- **B-737-300, 700, 800**
- MD-80, DC-9
- A319, A320

A-III, B-III



- DHC Dash 7
- **DHC Dash 8**
- DC-3
- Convair 580
- Fairchild F-27
- ATR 72
- ATP

C-IV, D-IV



- **B-757**
- B-767
- C-130 Hercules
- DC-8-70
- MD-11

C-I, D-I



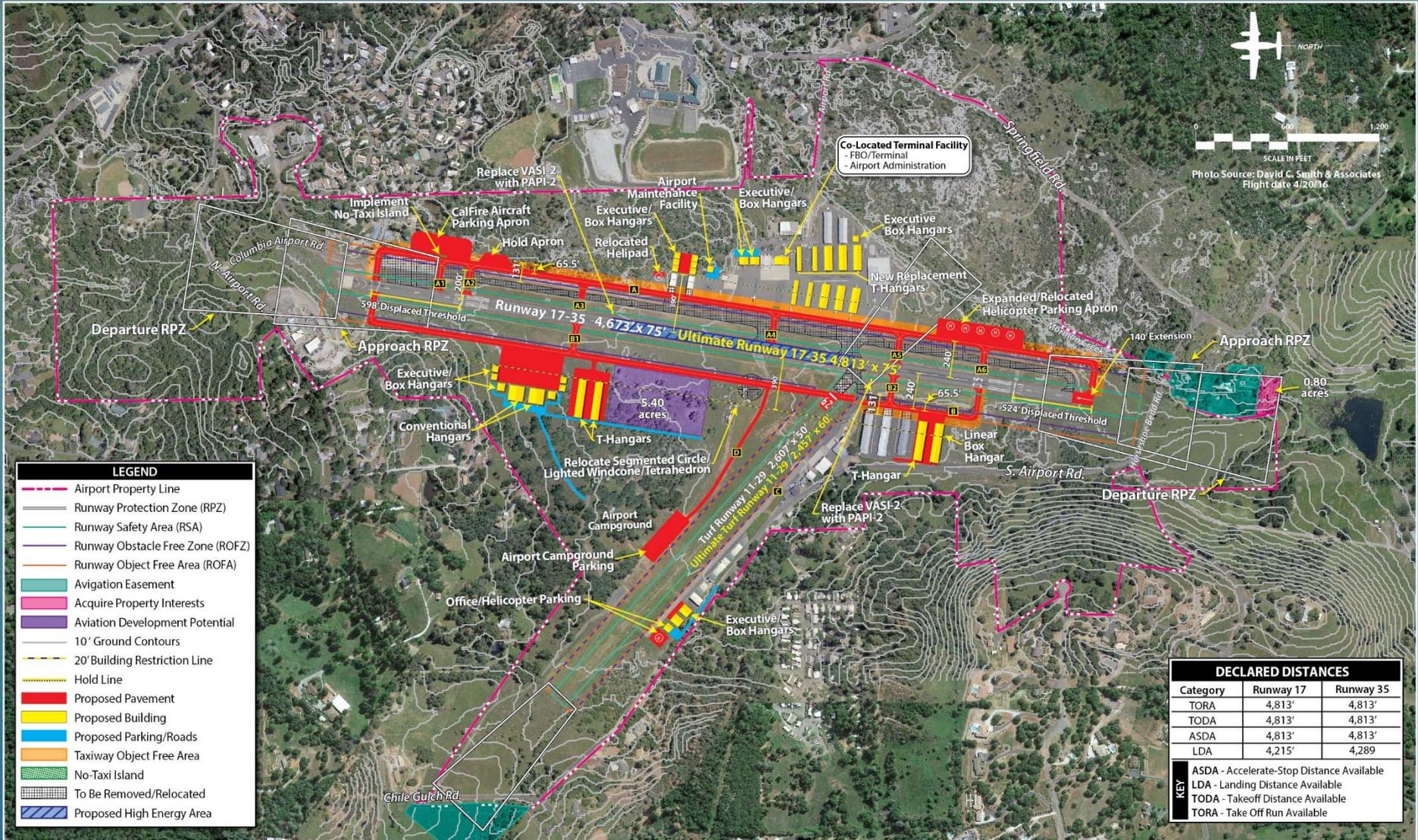
- Beech 400
- **Lear 31, 35, 45, 60**
- Israeli Westwind

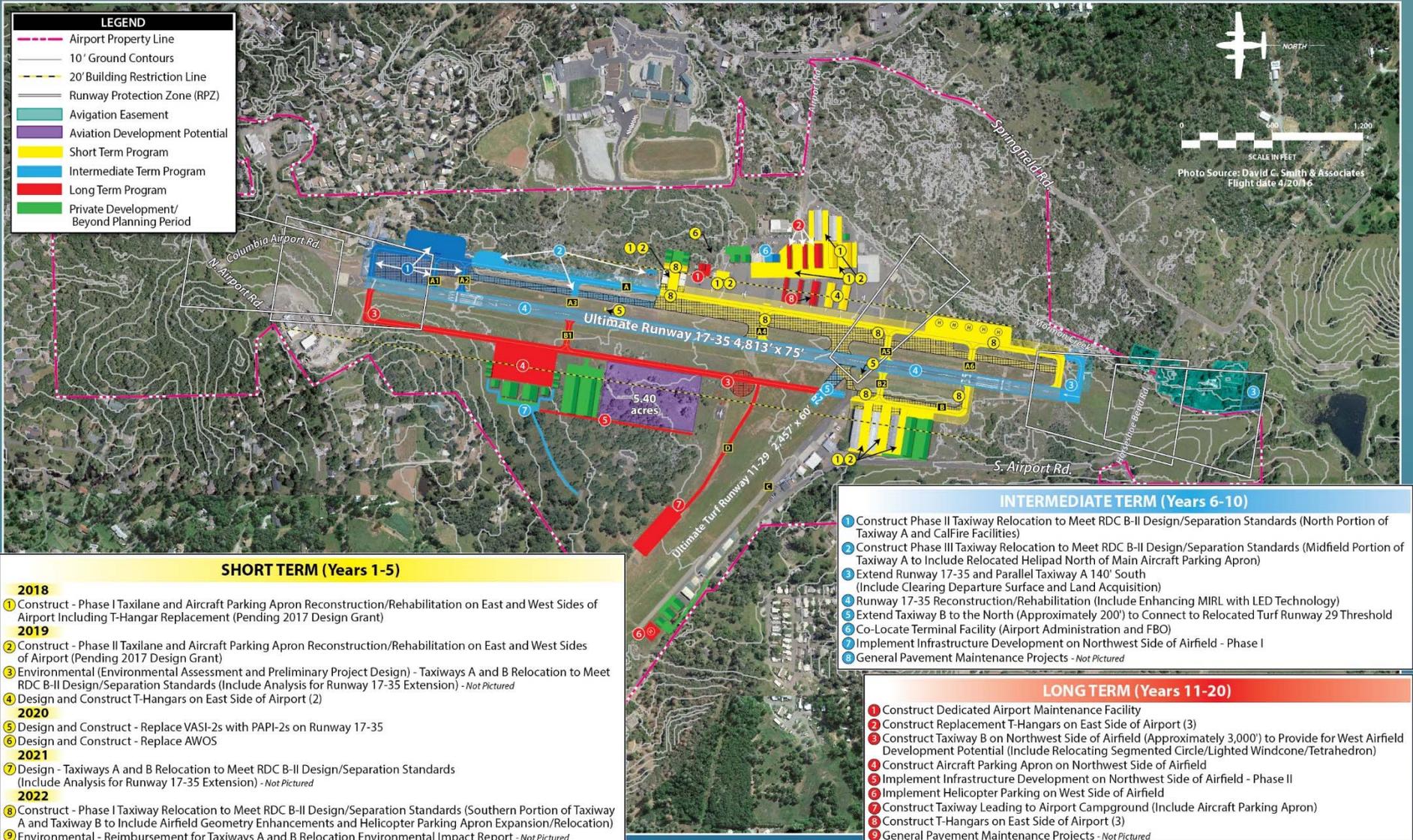
D-V



- **B-747-400**
- B-777
- B-787
- A-330, A-340

Note: Aircraft pictured is identified in bold type.

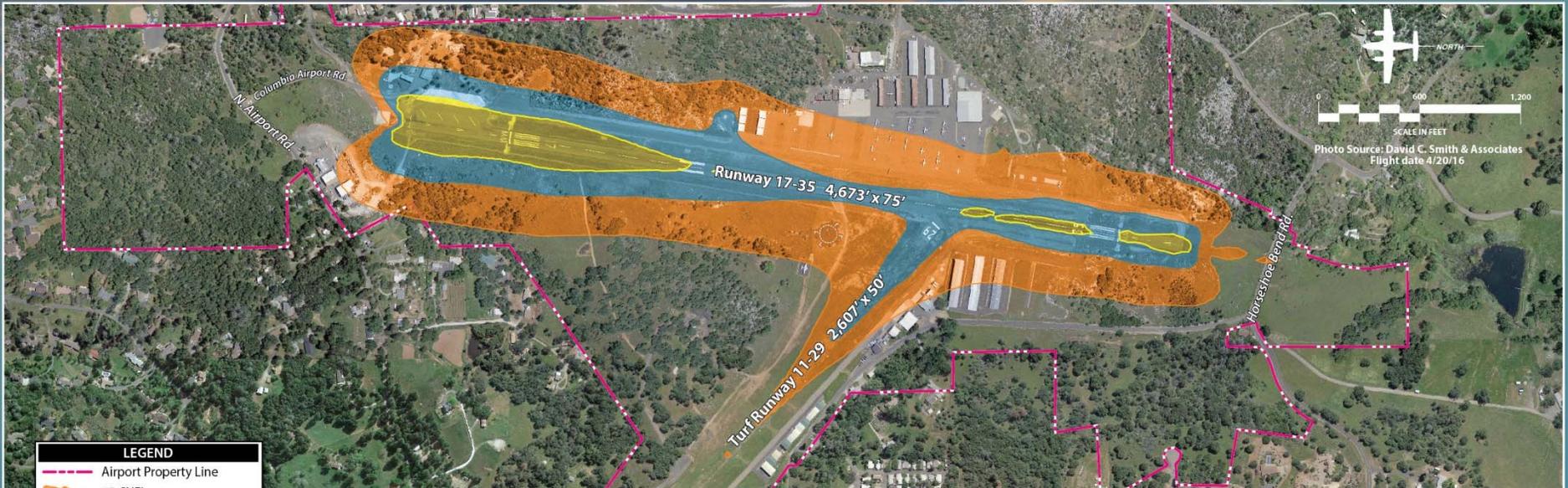




	Total Project Cost	FAA Eligible	State Eligible	Airport/Local Share
Short Term Program Total	\$25,269,600	\$22,040,640	\$402,829	\$2,826,131
Intermediate Term Program Total	\$31,500,000	\$27,545,040	\$430,896	\$3,524,064
Long Term Program Total	\$8,886,800	\$6,174,090	\$265,645	\$2,447,065
TOTAL PROGRAM COSTS	\$65,656,400	\$55,759,770	\$1,099,370	\$8,797,260

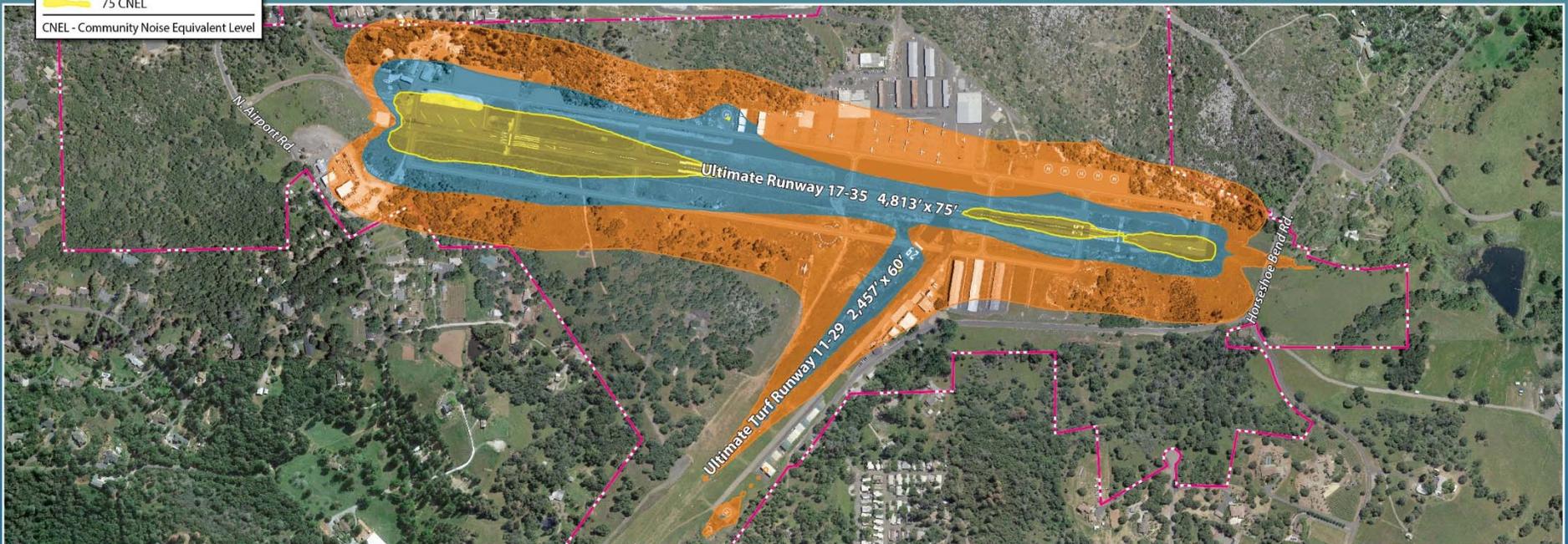
- Each FAA grant must be coordinated/approved by the County’s Board of Supervisors.
- The County can pursue projects on their own without FAA funds.
- The Airport receives up to \$150,000 annually through non-primary entitlements.
- FAA discretionary funds will be needed for many projects.
- Additional environmental documentation will be needed on certain projects identified in the CIP.

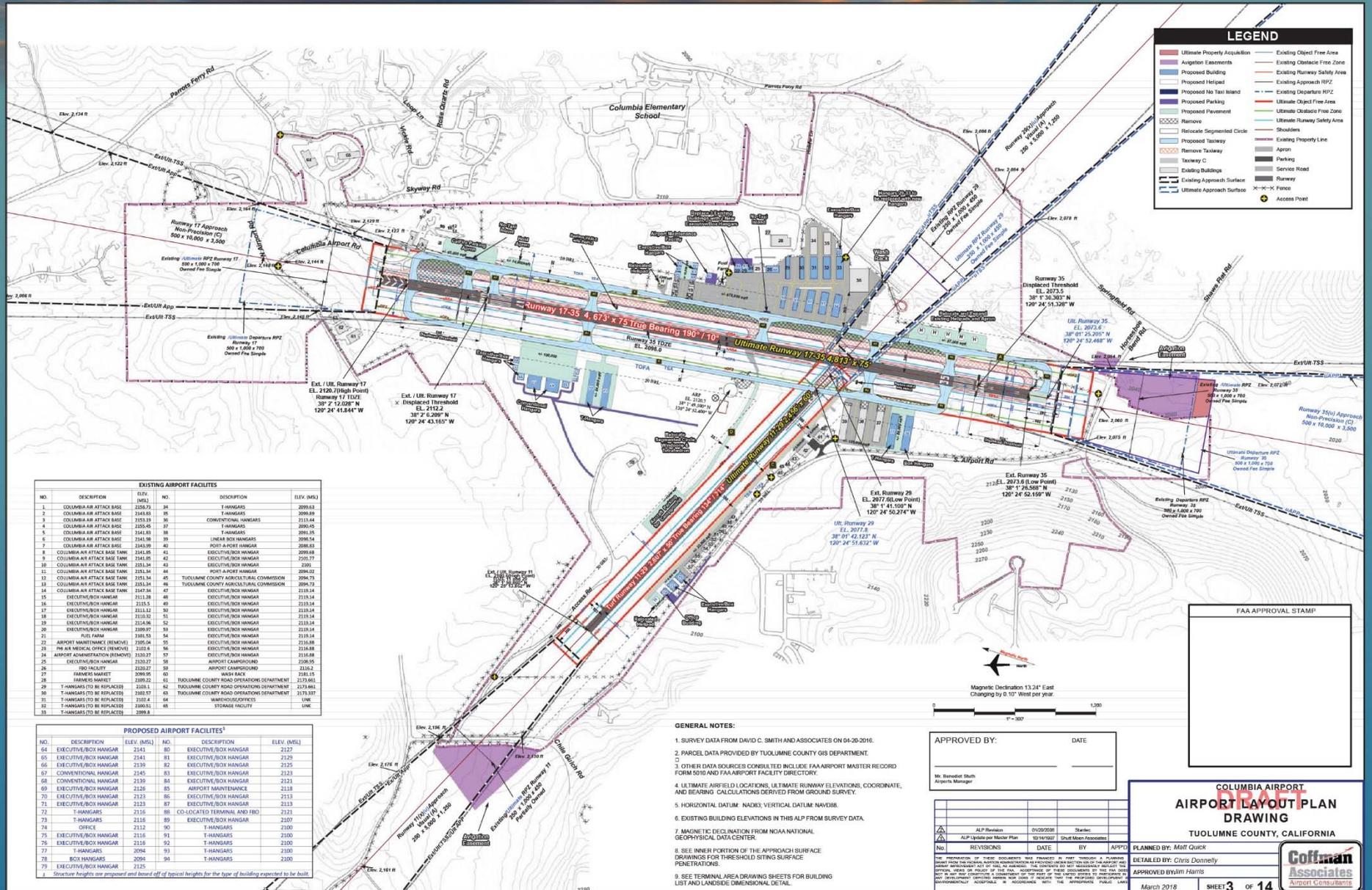
EXHIBIT B4: 2015 NOISE CONTOURS



LEGEND	
	Airport Property Line
	65 CNEL
	70 CNEL
	75 CNEL
CNEL - Community Noise Equivalent Level	

EXHIBIT B5: 2035 NOISE CONTOURS





LEGEND

Ultimate Property Acquisition	Existing Object Free Area
Aviation Elements	Existing Obstacle Free Zone
Proposed Building	Existing Runway Safety Area
Proposed Helipad	Existing Approach RPZ
Proposed No Taxi Island	Existing Departure RPZ
Proposed Parking	Ultimate Object Free Area
Proposed Pavement	Ultimate Obstacle Free Zone
Proposed Taxiway	Ultimate Runway Safety Area
Proposed Taxiway	Shoalies
Proposed Taxiway	Existing Property Line
Proposed Taxiway	Parking
Proposed Taxiway	Apron
Proposed Taxiway	Service Road
Proposed Taxiway	Runway
Proposed Taxiway	Ultimate Approach Surface
Proposed Taxiway	X-M-K Fence
Proposed Taxiway	Access Point

EXISTING AIRPORT FACILITIES

NO.	DESCRIPTION	ELEV. (MSL)	NO.	DESCRIPTION	ELEV. (MSL)
1	COLUMBIA AIR ATTACK BASE	2326.59	34	T-HANGARS	2099.89
2	COLUMBIA AIR ATTACK BASE	2343.83	35	T-HANGARS	2099.89
3	COLUMBIA AIR ATTACK BASE	2353.91	36	CONVENTIONAL HANGARS	2113.84
4	COLUMBIA AIR ATTACK BASE	2355.45	37	T-HANGARS	2005.45
5	COLUMBIA AIR ATTACK BASE	2341.83	38	T-HANGARS	2091.15
6	COLUMBIA AIR ATTACK BASE	2341.83	39	LINEAR BOX HANGARS	2086.14
7	COLUMBIA AIR ATTACK BASE	2343.99	40	PORT-A-PORT HANGAR	2086.83
8	COLUMBIA AIR ATTACK BASE	2341.85	41	EXECUTIVE/BOX HANGAR	2099.88
9	COLUMBIA AIR ATTACK BASE	2341.85	42	EXECUTIVE/BOX HANGAR	2099.88
10	COLUMBIA AIR ATTACK BASE	2351.34	43	EXECUTIVE/BOX HANGAR	2099
11	COLUMBIA AIR ATTACK BASE	2351.34	44	PORT-A-PORT HANGAR	2094.02
12	COLUMBIA AIR ATTACK BASE	2351.34	45	TUOLUMNE COUNTY AGRICULTURAL COMMISSION	2094.71
13	COLUMBIA AIR ATTACK BASE	2351.34	46	TUOLUMNE COUNTY AGRICULTURAL COMMISSION	2094.71
14	COLUMBIA AIR ATTACK BASE	2347.34	47	EXECUTIVE/BOX HANGAR	2118.14
15	EXECUTIVE/BOX HANGAR	2111.38	48	EXECUTIVE/BOX HANGAR	2119.14
16	EXECUTIVE/BOX HANGAR	2115.11	49	EXECUTIVE/BOX HANGAR	2119.14
17	EXECUTIVE/BOX HANGAR	2114.12	50	EXECUTIVE/BOX HANGAR	2119.14
18	EXECUTIVE/BOX HANGAR	2110.10	51	EXECUTIVE/BOX HANGAR	2119.14
19	EXECUTIVE/BOX HANGAR	2114.06	52	EXECUTIVE/BOX HANGAR	2119.14
20	EXECUTIVE/BOX HANGAR	2109.97	53	EXECUTIVE/BOX HANGAR	2119.14
21	POB FARM	2109.15	54	EXECUTIVE/BOX HANGAR	2119.14
22	AIRPORT MAINTENANCE (REMOVED)	2105.04	55	EXECUTIVE/BOX HANGAR	2116.88
23	FAA AIR MEDICAL OFFICE (REMOVED)	2103.8	56	EXECUTIVE/BOX HANGAR	2116.88
24	AIRPORT ADMINISTRATION (REMOVED)	2103.37	57	EXECUTIVE/BOX HANGAR	2116.88
25	EXECUTIVE/BOX HANGAR	2102.77	58	AIRPORT CAMPGROUND	2086.95
26	RPZ FACILITY	2102.07	59	AIRPORT CAMPGROUND	2104.2
27	FARMER MARKET	2099.95	60	WASH RACK	2181.15
28	FARMER MARKET	2099.02	61	TUOLUMNE COUNTY ROAD OPERATIONS DEPARTMENT	2173.861
29	T-HANGARS (TO BE REPLACED)	2103.11	62	TUOLUMNE COUNTY ROAD OPERATIONS DEPARTMENT	2173.861
30	T-HANGARS (TO BE REPLACED)	2100.97	63	TUOLUMNE COUNTY ROAD OPERATIONS DEPARTMENT	2173.861
31	T-HANGARS (TO BE REPLACED)	2103.4	64	WAREHOUSE/OFFICES	LINE
32	T-HANGARS (TO BE REPLACED)	2100.51	65	STORAGE FACILITY	LINE
33	T-HANGARS (TO BE REPLACED)	2099.8	66	STORAGE FACILITY	LINE

PROPOSED AIRPORT FACILITIES

NO.	DESCRIPTION	ELEV. (MSL)	NO.	DESCRIPTION	ELEV. (MSL)
64	EXECUTIVE/BOX HANGAR	2141	80	EXECUTIVE/BOX HANGAR	2122
65	EXECUTIVE/BOX HANGAR	2141	81	EXECUTIVE/BOX HANGAR	2129
66	EXECUTIVE/BOX HANGAR	2139	82	EXECUTIVE/BOX HANGAR	2125
67	CONVENTIONAL HANGAR	2145	83	EXECUTIVE/BOX HANGAR	2122
68	CONVENTIONAL HANGAR	2139	84	EXECUTIVE/BOX HANGAR	2121
69	EXECUTIVE/BOX HANGAR	2126	85	AIRPORT MAINTENANCE	2119
70	EXECUTIVE/BOX HANGAR	2124	86	EXECUTIVE/BOX HANGAR	2113
71	EXECUTIVE/BOX HANGAR	2123	87	EXECUTIVE/BOX HANGAR	2113
72	T-HANGARS	2116	88	CO-LOCATED TERMINAL AND RPZ	2121
73	T-HANGARS	2116	89	EXECUTIVE/BOX HANGAR	2107
74	OFFICE	2112	90	T-HANGARS	2100
75	EXECUTIVE/BOX HANGAR	2116	91	T-HANGARS	2100
76	EXECUTIVE/BOX HANGAR	2116	92	T-HANGARS	2100
77	T-HANGARS	2094	93	T-HANGARS	2100
78	EXECUTIVE/BOX HANGAR	2094	94	T-HANGARS	2100
79	EXECUTIVE/BOX HANGAR	2125	94	T-HANGARS	2100

1. Structure heights are proposed and based off of typical heights for the type of building expected to be built.

- ### GENERAL NOTES:
1. SURVEY DATA FROM DAVID C. SMITH AND ASSOCIATES ON 04-20-2016.
 2. PARCEL DATA PROVIDED BY TUOLUMNE COUNTY GIS DEPARTMENT.
 3. OTHER DATA SOURCES CONSULTED INCLUDE FAA AIRPORT MASTER RECORD FORM 5010 AND FAA AIRPORT FACILITY DIRECTORY.
 4. ULTIMATE AIRFIELD LOCATIONS, ULTIMATE RUNWAY ELEVATIONS, COORDINATE, AND BEARING CALCULATIONS DERIVED FROM SURVEY.
 5. HORIZONTAL DATUM: NAD83; VERTICAL DATUM: NAVD83.
 6. EXISTING BUILDING ELEVATIONS IN THIS ALP FROM SURVEY DATA.
 7. MAGNETIC DECLINATION FROM NOAA NATIONAL GEOPHYSICAL DATA CENTER.
 8. SEE INNER PORTION OF THE APPROACH SURFACE DRAWINGS FOR THRESHOLD SITING SURFACE PENETRATIONS.
 9. SEE TERMINAL AREA DRAWING SHEETS FOR BUILDING LIST AND LANDSIDE DIMENSIONAL DETAIL.

Magnetic Declination 13.24° East
Changing by 0.10° West per year

APPROVED BY: _____ DATE: _____
By: Brandon Smith, Airport Manager

NO.	REVISIONS	DATE	BY	APPROVED
1	ALP Revision	01/20/2018	Shane	
2	ALP Update per Master Plan	10/19/16	Shane	

FAA APPROVAL STAMP

COLUMBIA AIRPORT
DRAFT
AIRPORT LAYOUT PLAN
DRAWING
TUOLUMNE COUNTY, CALIFORNIA

PLANNED BY: Matt Quock
DETAILED BY: Chris Donnelly
APPROVED BY: Matt Harris
March 2018 SHEET 3 OF 14

Coffman Associates
Airport Consultants

NEXT STEPS

Master Plan



Airport Layout Plan



CEQA Environmental Process

- Coordination with Native American Heritage Commission for Sacred Lands File records search – November 2017. Negative results.
- Two tribes contacted – January 2018.
 - Tuolumne Band of Me-Wuk Indians: Replied Jan. 16, 2018 with no concerns as AMP does not authorize ground disturbing activities
 - Chicken Ranch Rancheria of Me-Wuk Indians: Replied Jan. 22, 2018 with no comments to offer.
- Public Review of Draft Initial Study and Mitigated Negative Declaration: June 11, 2018 – July 25, 2018

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

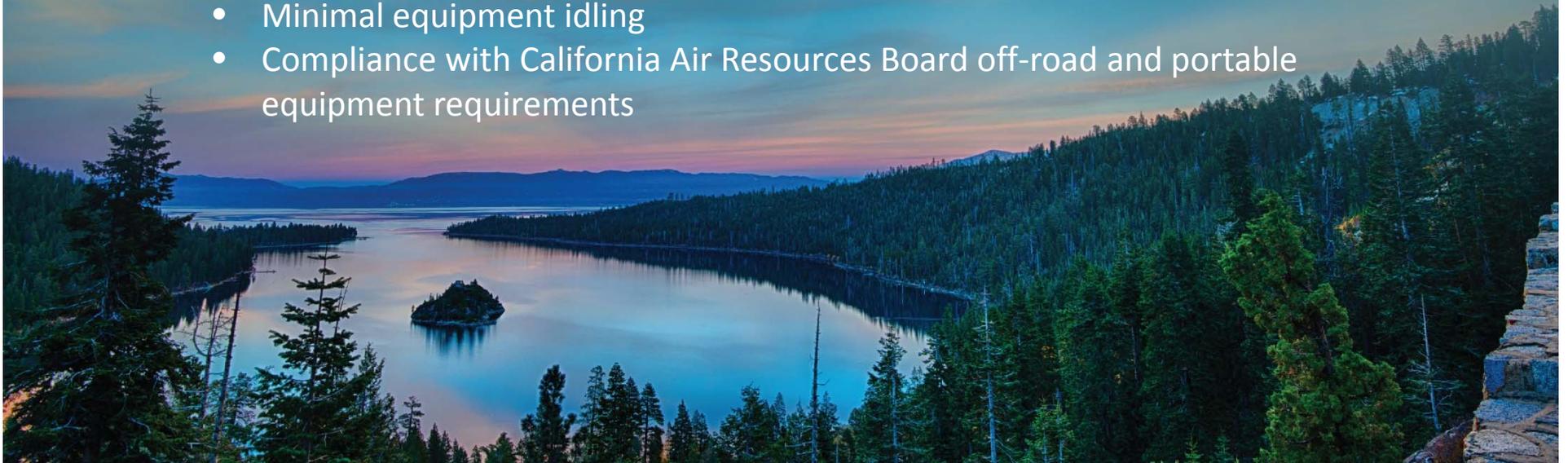
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|--|---|---|
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| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input checked="" type="checkbox"/> Geology & Soils |
| <input type="checkbox"/> Greenhouse Gas Emissions | <input checked="" type="checkbox"/> Hazards & Hazardous Materials | <input checked="" type="checkbox"/> Hydrology & Water Quality |
| <input type="checkbox"/> Land Use & Planning | <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise |
| <input type="checkbox"/> Population & Housing | <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Transportation/Traffic | <input type="checkbox"/> Tribal Cultural Resources | <input checked="" type="checkbox"/> Utilities & Service Systems |
| <input checked="" type="checkbox"/> Mandatory Findings of Significance | | |

AIR QUALITY

Impact: Future impacts to sensitive receptors to substantial pollutant concentrations.

Mitigation includes measures addressing:

- Exposed soils, and piles of dirt, sand, gravel or other construction debris
- Vehicle track out
- Street sweeping
- On-site vehicle speed limits
- Properly covered haul/dump trucks
- Proper construction equipment maintenance
- Minimal equipment idling
- Compliance with California Air Resources Board off-road and portable equipment requirements



BIOLOGICAL RESOURCES

Impact: Future impacts to special status species.

Mitigation includes surveys and follow-up plans, permits, or avoidance measures to be implemented on future construction projects, as appropriate:

- Botanical surveys and follow-up Rare Plant Mitigation Plans
- Pre-disturbance surveys for California red-legged and foothill yellow-legged frogs and appropriate avoidance or relocation measures
- Pre-disturbance surveys for bats and appropriate avoidance or temporary bat exclusion measures
- Nesting bird surveys and appropriate avoidance measures and/or buffers

BIOLOGICAL RESOURCES (cont.)

Impact: Future impacts to riparian vegetation and jurisdictional waters.

Mitigation includes:

- Avoidance, minimization, or mitigation measures in support of *Clean Water Act* Section 404 permits, Streambed alteration agreements, and/or *Clean Water Act* Section 401 Certifications

Impact: Future impacts to Local Tree Ordinance

Mitigation includes:

- Tree surveys and appropriate avoidance, replacement, or payment of in-lieu fees

CULTURAL RESOURCES

Impact: Future potential impacts to archaeological or paleontological resources, and uncovered human remains outside of a dedicated cemetery.

Mitigation includes:

- Surveys of previously unsurveyed areas
- Avoidance or approved data recovery efforts for protected resources per federal and state law
- Compliance with requirements for the handling of human remains, if encountered

GEOLOGY & SOILS

Impact: Future potential impacts to unstable and expansive soils.

Mitigation includes:

- Completion of site and project-specific geotechnical reports
- Incorporation of recommended construction practices and/or design remedies



HAZARDS & HAZARDOUS MATERIALS

Impact: Future potential emission of hazardous materials, substances or waste within one-quarter mile of an existing school.

Mitigation includes:

- A hazardous air pollutant (HAP) analysis prior to construction for development within $\frac{1}{4}$ mile of Columbia Elementary School, if needed
- Incorporation of all feasible recommended mitigation measures

Impact: Potential safety hazards for projects located within an airport land use plan.

Mitigation includes:

- Working with the County ALUC to update the ALUCP to reflect the new compatibility zones

HYDROLOGY & WATER QUALITY

Impact: Future potential hydrologic and/or water quality impacts.

Mitigation measures include:

- Notice of Intent to discharge under the Construction General Permit
- An update to the Stormwater Pollution Prevention Plan (SWPPP) and applicable best management practices

UTILITIES & SERVICE SYSTEMS

Impact: Future potential impacts related to the availability of sufficient water supplies.

Mitigation includes the implementation of water conservation strategies

Columbia
AIRPORT

QUESTIONS?