

NAVAL POSTGRADUATE SCHOOL
AIRSPACE CONTROL AUTHORITY
CAMP ROBERTS, CA
Aug 2018

JIFX AIRSPACE CONTROL PLAN (08-01-2018)

SECTION 1 – General

a. REFERENCES: Naval Postgraduate School (NPS) Pre-Mishap Plan, Camp Roberts Maneuver Training Center-Heavy (MTC-H) Aviation Procedures Guide (27May14), McMillan Airfield User's Guide, Camp Roberts Regulation 350-1, Oakland Air Route Traffic Control Center and Camp Roberts, CA Joint Use Letter of Procedure, dated May 1, 2002, (Attachment 1).

b. PURPOSE: This Airspace Control Plan (ACP) outlines airspace procedures for NPS field experimentation (FX) related activities (JIFX, faculty research projects, etc.) aboard Camp Roberts CA ARNG base and within Restricted Area R-2504A/B. The ACP is directive for all NPS FX event participants.

c. IMPLEMENTATION: ALL NPS FX participants will strictly adhere to this ACP, as well as Camp Roberts range and aviation procedures to ensure the safe, efficient and expeditious use of airspace with minimum restrictions. **Safety shall not be compromised.**

(1) Changes to this ACP will be approved by the Air Boss and NPS FX Director and disseminated via the TOC Commander or the Air Boss via briefings or direct radio communication as required.

(2) This ACP shall be updated as changes to air space and procedures dictate.

(3) The Special Instruction (SPINS) to this ACP is event specific and will be updated and promulgated before each JIFX or other related FX event.

d. SAFETY: This ACP is based on the understanding that all flight operations to include those on the McMillan Runway proper must be coordinated and approved by the Air Boss. Safety of all personnel is the number one priority. It can't be stressed enough, when operating in any part of the Camp Roberts range complex that heads-up vigilance must be exercised. The potential for near miss or mid-air is high but are mitigated by cooperative use of this ACP. If hazards to aviation are observed, immediately take protective measures and provide this information to the TOC Air Boss.

!! CAUTION!! NO Unmanned Aircraft Systems (UAS) EQUIPMENT TO INCLUDE: GCUs, VIDEO, ETC., WILL BE TURNED ON UNLESS PRIOR APPROVAL IS OBTAINED FROM THE AIRBOSS. !!CAUTION!!

e. RANGE FLAG. NO FLIGHT Operations are permitted unless the RED RANGE FLAG located on McMillan Airfield is flying. The R-2504 airspace is considered "HOT" when the flag is raised. NPS Field Lab staff or their representative will ensure the flag is raised prior to flight operations and lowered at the end of flight operations each day.

SECTION 2 – Airspace Control Order

The NPS FX operations airspace (figure 1) lies within R-2504 (sfc to 15,000' MSL). At no time will any participants operate an Unmanned Aircraft (UA) outside of the boundaries of R-2504 unless they are in receipt of an FAA Certificate of Authorization (COA) for such flight activities. Doing so, without prior FAA approval is a violation. Each section of airspace is identified as follows:

NOTE: ALL MEASUREMENTS ARE IN FEET AND MSL UNLESS OTHERWISE SPECIFIED.

- a. **R-2504.** The Camp Roberts restricted airspace R-2504 was amended by the FAA on 7 Jun 2010. This airspace revision created two sub areas (A & B), which together occupy the same exact lateral dimensions. The R-2504A extending from the surface to but not including 6,000 feet mean sea level (MSL) and the R-2504B, extending from 6,000 MSL to 15,000 feet MSL. Together, R-2504A and R-2504B occupy the same lateral and vertical dimensions of the original R-2504. This action was created to allow for greater access to airspace by both Visual Flight Rules (VFR) and Instrument Flight Rules (IFR) aircraft when the RAS is active. The R-2504 coordinates are listed in Table 1 and depicted in Fig 1.

Table 1. RAS Boundaries (Lat/Long & MGRS):

1	35°42'18" N, 120°47'59" W	10SFE9905753460
2	35°42'18" N, 120°47'24" W	10SFE9993753480
3	35°42'58" N, 120°45'37" W	10SGE0259854774
4	35°46'38" N, 120°44'42" W	10SGE0382461585
5	35°47'18" N, 120°44'49" W	10SGE0362062813
6	35°47'54" N, 120°45'53" W	10SGE0198863886
7	35°49'10" N, 120°45'44" W	10SGE0216066233
8	35°51'00" N, 120°46'29" W	10SGE0095469597
9	35°51'11" N, 120°47'59" W	10SFE9868869885
10	35°48'50" N, 120°50'02" W	10SFE9569865471
11	35°46'00" N, 120°49'59" W	10SFE9589060234
12	35°44'03" N, 120°48'12" W	10SFE9865856689
13	35°43'08" N, 120°49'04" W	10SFE9738954965
14	35°42'44" N, 120°48'52" W	10SFE9770754232

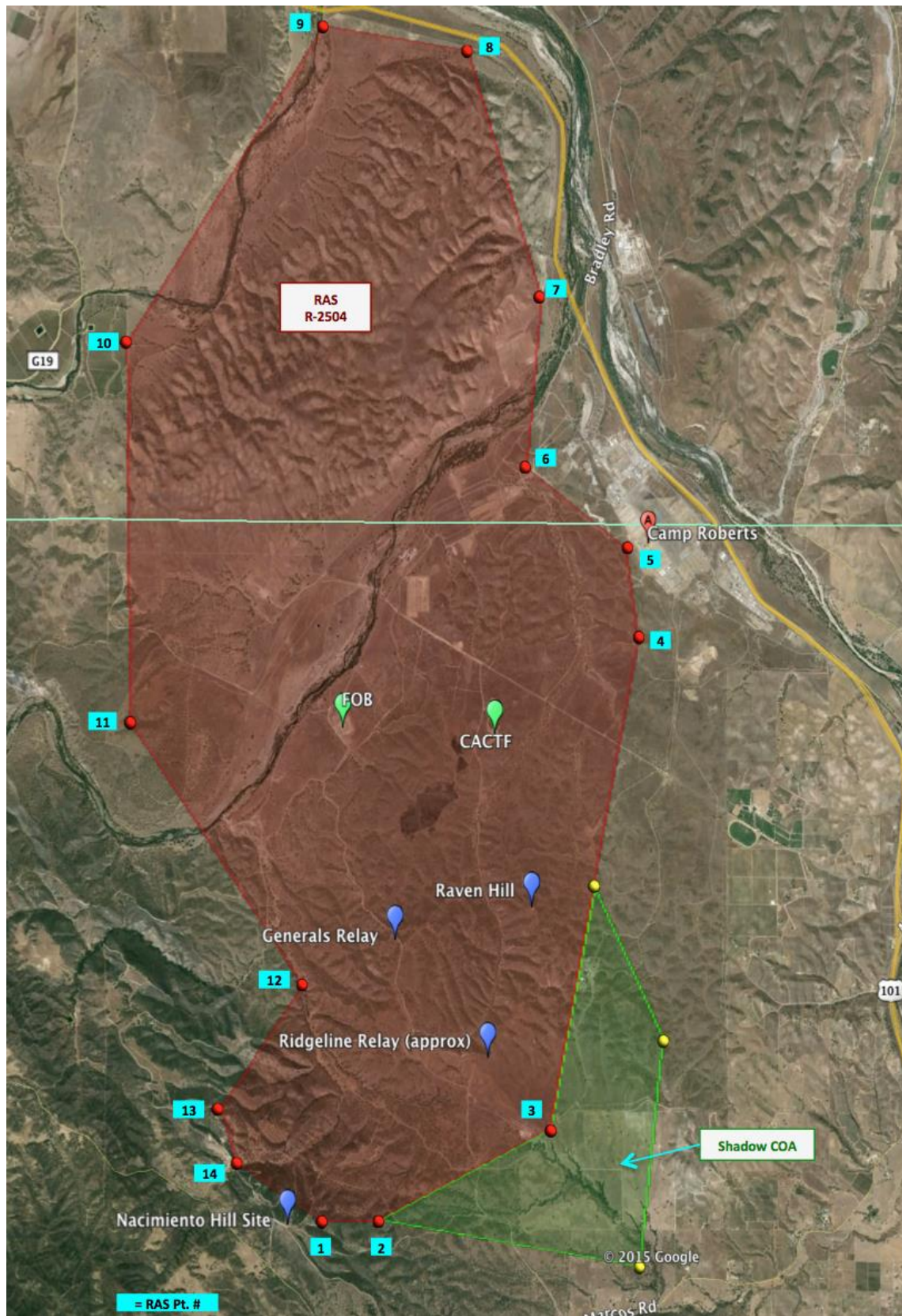


Figure 1. R-2504 Restricted Air Space (RAS) and Shadow UAS COA (2015-WSA-59).

C. Shadow COA Boundaries (pending as of Jun 2015):

2015-WSA-59 Operating Area

Altitude: At or below 2,500 feet Above Ground Level (AGL)

1	N 35 44'47", W 120 45' 10"	10SGE0319958148
2	N 35 43'38", W 120 44' 27"	10SGE0432956047
3	N 35 41'57", W 120 44' 42"	10SGE0402352925
4	N 35 42'18", W 120 47' 24"	10SFE9993753480
5	N 35 42' 58", W 120 45' 37"	10SGE0259854774

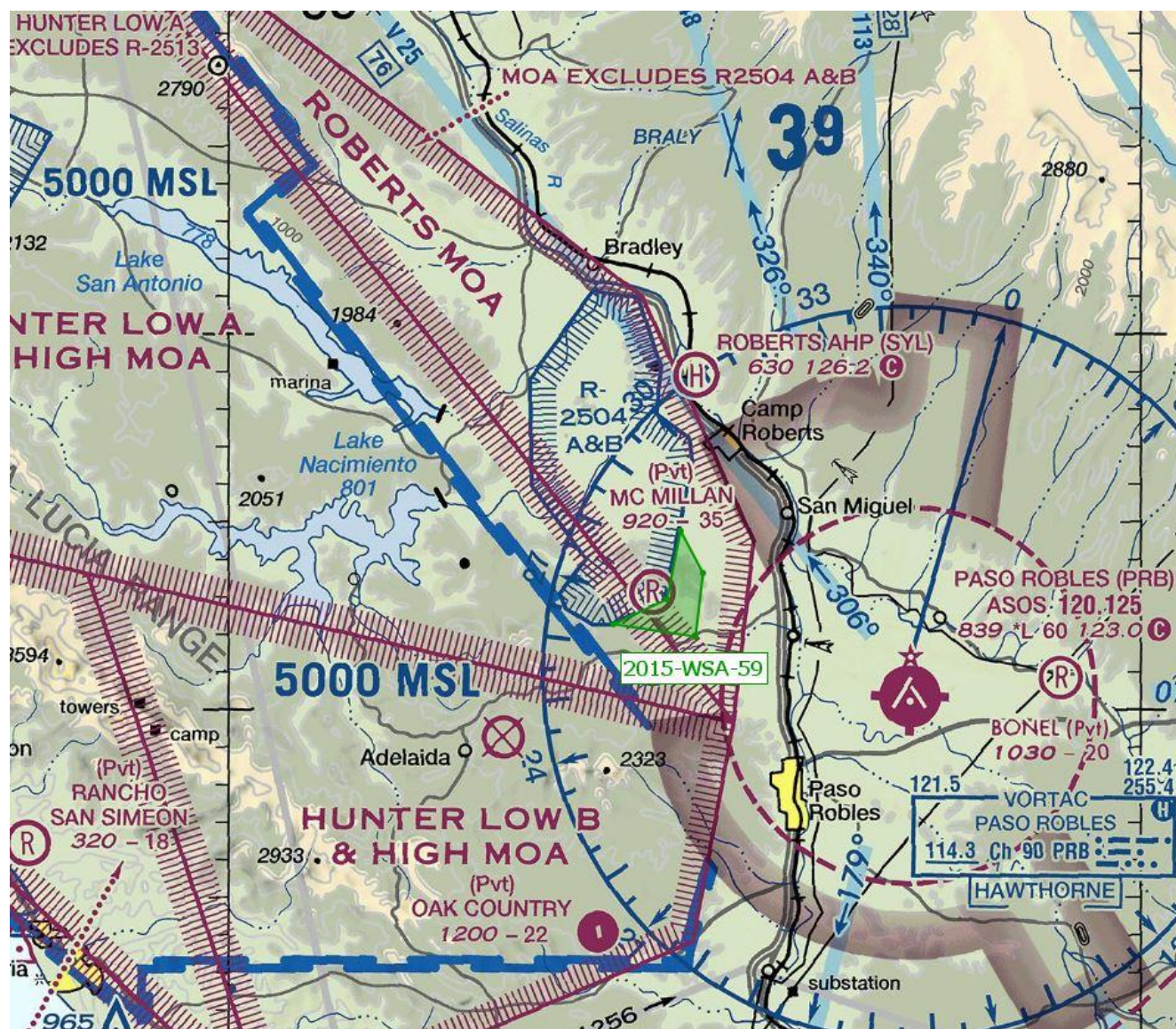


Figure 2: Camp Roberts local airspace showing pending Shadow UAS COA boundary

D. Restricted Operating Zones (ROZ). The Camp Roberts restricted airspace (RAS), R-2504 is divided into restricted operating zones (ROZ) to aid in deconfliction of airborne assets. UAS operators will have the R-2504 boundary and each zone boundary that they intend to operate loaded in their GCS prior to flight. Note: Camp Roberts Installation boundaries are NOT the same as R-2504 airspace boundaries. Camp Roberts requires a 300 foot safety buffer be maintained inside of the R-2504 boundary to ensure unmanned aircraft remain within the restricted airspace. In addition, a separate flight zone has been established for Scan Eagle based upon a Hazard Pattern Analysis (see also par. F and Fig 3).

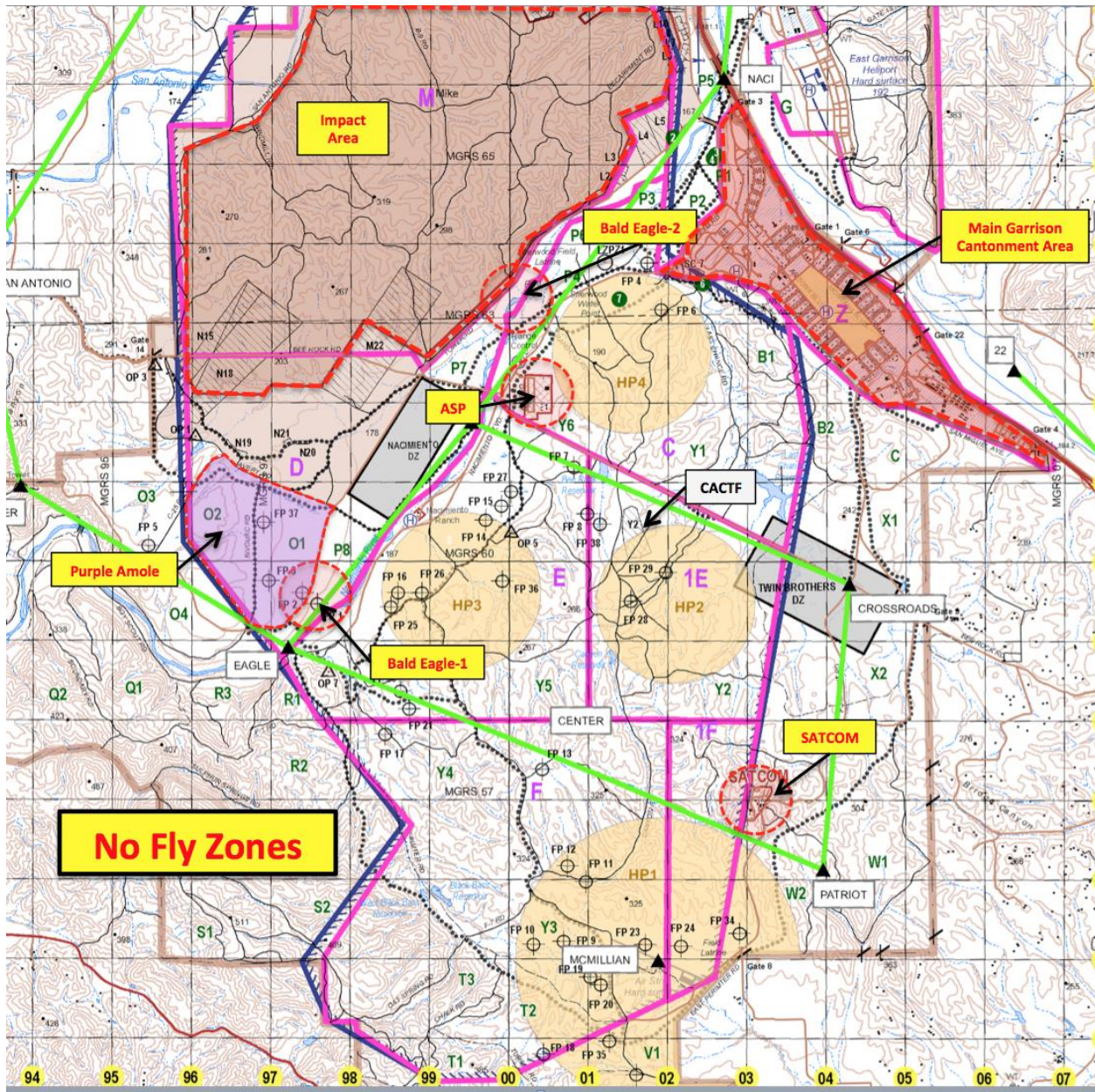


Figure 3: Camp Roberts Restricted Operating Zones (A-F, M, Z), No Fly Zones, and Holding Points within the R-2504

Table 2. Restricted Operating Zones (ROZ) A through E

ROZ A		ROZ B		ROZ C		ROZ D		ROZ E	
1	10SGE0404774452	1	10SGE0522370584	1	10SGE0354662759	1	10SFE9971762184	1	10SGE0100058000
2	10SGE0514474473	2	10SGE0533164817	2	10SGE0373861593	2	10SFE9965962025	2	10SFE9759958000
3	10SGE0523970592	3	10SGE0537864817	3	10SGE0347560874	3	10SFE9963061709	3	10SFE6713458789
4	10SGE0500670310	4	10SGE0538264115	4	10SGE0100061372	4	10SFE9950661457	4	10SFE9767259337
5	10SGE0479370064	5	10SGE0539863999	5	10SGE0002061868	5	10SFE9902360915	5	10SFE9795859514
6	10SGE0459569895	6	10SGE0533563920	6	10SFE9971762184	6	10SFE9866360649	6	10SFE9807259717
7	10SGE0430669683	7	10SGE0491164130	7	10SFE9992162806	7	10SFE9844360376	7	10SFE9844360376
8	10SGE0404469494	8	10SGE0478664328	8	10SFE9996962952	8	10SFE9806159672	8	10SFE9866360649
9	10SGE0382069371	9	10SGE0467364444	9	10SFE9994963093	9	10SFE9795859514	9	10SFE9902360915
10	10SGE0338769255	10	10SGE0445764465	10	10SFE0006363130	10	10SFE9767259337	10	10SFE9950661457
11	10SGE0337969141	11	10SGE0434364536	11	10SGE0012463224	11	10SFE9733559000	11	10SFE9963061709
12	10SGE0332668976	12	10SGE0426764778	12	10SGE0027263517	12	10SFE9713458789	12	10SFE9965962025
13	10SGE0316868997	13	10SGE0420264983	13	10SGE0037663559	13	10SFE9598060267	13	10SFE6671762184
14	10SGE0306068998	14	10SGE0409365393	14	10SGE0064064105	14	10SFE9576162607	14	10SGE0002061868
15	10SGE0294568993	15	10SGE0353265385	15	10SGE0076364272	15	10SFE9649962611	15	10SGE0100061372
16	10SGE0286669306	16	10SGE0342965629	16	10SGE0094664336	16	10SFE9877562618		
17	10SGE0269869631	17	10SGE0334065843	17	10SGE0100164423	17	10SFE9891362409		
18	10SGE0256669802	18	10SGE0327566141	18	10SGE0115264432	18	10SGE0006463533		
19	10SGE0234770049	19	10SGE0324166472	19	10SGE0137564502	19	10SGE0038164093		
20	10SGE0219070216	20	10SGE0396866694	20	10SGE0155164590	20	10SGE0061864300		
21	10SGE0158470782	21	10SGE0379467071	21	10SGE0158564726	21	10SGE0121964592		
22	10SGE0136270881	22	10SGE0370867326	22	10SGE0175364793	22	10SGE0157565284		
23	10SGE0137470965	23	10SGE0355567868	23	10SGE0182964798	23	10SGE0144565553		
24	10SGE0160071107	24	10SGE0361668217	24	10SGE0196764869	24	10SGE0189865757		
25	10SGE0177171080	25	10SGE0368368527	25	10SGE0184363644	25	10SGE0206966223		
26	10SGE0192771121	26	10SGE0367868648	26	10SGE0238863549	26	10SGE0196764869		
27	10SGE0227171612	27	10SGE0354168885	27	10SGE0269463584	27	10SGE0182964798		
28	10SGE0252171881	28	10SGE0332668976	28	10SGE0320063400	28	10SGE0175364793		
29	10SGE0257671893	29	10SGE0337969141	29	10SGE0349863074	29	10SGE0158564726		
30	10SGE0271972000	30	10SGE0338769255			30	10SGE0155164590		
31	10SGE0294572219	31	10SGE0382069371			31	10SGE0137564502		
32	10SGE0319572540	32	10SGE0404469494			32	10SGE0115264432		
33	10SGE0339872810	33	10SGE0459569895			33	10SGE0100164423		
34	10SGE0374773366	34	10SGE0500670310			34	10SGE0094664336		
35	10SGE0374373786	35	10SGE0514770486			35	10SGE0076364272		
						36	10SGE0064064105		
						<u>ROZ D (Cont.)</u>			
						37	10SGE0037663559		
						38	10SGE0027263517		
						39	10SGE0015663283		
						40	10SGE0006363130		
						41	10SFE9994963093		
						42	10SFE9996962952		

Table 3. Restricted Operating Zones (ROZ) 1E through Z

ROZ 1E		ROZ F		ROZ 1F		ROZ M		ROZ Z	
1	10SGE0314258000	1	10SFE9877356690	1	10SGE0200054478	1	10SFE9575863019	1	10SGE0666861455
2	10SGE0200058000	2	10SFE9759958000	2	10SGE0200058000	2	10SFE9573065440	2	10SGE0661261412
3	10SGE0100058000	3	10SGE0100058000	3	10SGE0314258000	3	10SFE9645765442	3	10SGE0677561352
4	10SGE0400061372	4	10SGE0200058000	4	10SGE0259854774	4	10SFE9645566640	4	10SGE0678361166
5	10SGE0200060874	5	10SGE0200054478			5	10SFE9723566626	5	10SGE0636061413
6	10SGE0347560137	6	10SGE0100053999			6	10SFE9722967435	6	10SGE0502661956
		7	10SGE0000053480			7	10SFE9734267438	7	10SGE0469661972
		8	10SFE9899953459			8	10SFE9745567503	8	10SGE0438062166
		9	10SFE9808954091			9	10SFE9751967525	9	10SGE0378362720
		10	10SFE9808654193			10	10SFE9759767593	10	10SGE0349363063
		11	10SFE9766554185			11	10SFE9767267685	11	10SGE0337463210
		12	10SFE9765554950			12	10SFE9801768130	12	10SGE0320063400
						13	10SFE9812468291	13	10SGE0269463584
						14	10SFE9842068545	14	10SGE0238863549
						15	10SFE9840569141	15	10SGE0184363644
						16	10SFE9875769161	16	10SGE0215763844
						17	10SFE9884569335	17	10SGE0222964078
						18	10SFE9885269476	18	10SGE0237764254
						19	10SFE9884369634	19	10SGE0269864511
						20	10SFE9881869777	20	10SGE0267364575
						21	10SGE0088769512	21	10SGE0264964690
						22	10SGE0206966223	22	10SGE0262665503
						23	10SGE0189865757	23	10SGE0282265777
						24	10SGE0144565553	24	10SGE0279165650
						25	10SGE0157565284	25	10SGE0283065571
						26	10SGE0121964592	26	10SGE0288265535
						27	10SGE0061864300	27	10SGE0292565527
						28	10SGE0038164093	28	10SGE0308465293
						29	10SGE0006463533	29	10SGE0317965075
						30	10SFE9891362409	30	10SGE0371164206
						31	10SFE9877562618	31	10SGE0392663984
								32	10SGE0431163741
								33	10SGE0476363408
								34	10SGE0496163182
								35	10SGE0498163126
								36	10SGE0557762233
								37	10SGE0584662003
								38	10SGE0637061709

E. Holding Points (HP)

Table 4. Holding Points (HP) 1-4.

HP #	Holding Point	
1	10SGE0121655276	3 10SFE9938659622
2	10SGE0209959467	4 10SGE0153362628

F. NO-FLY ZONES: Various areas of Camp Roberts are off-limits to UA. These “off-limit” areas are identified as “No-fly Zones”. See Fig. 3 and 1-6 below.

(1) SATCOM No-Fly Zone. Altitude SFC – 15,000’ MSL

N35°44'06.30" W120°45'14.15" (GE 033566)
500 meter radius

(2) Ammunition Supply Point (ASP) No-Fly Zone. Altitude SFC – 15,000’ MSL

N35°46'58.00" W 120°47'01.00" (GE 004620)
350 meter radius

(3) Range Control No-Fly Zone. Altitude SFC – 15,000’ MSL

N35°47'14.50" W120°47'07.04"
140 meter radius

(4) Impact Area (ROZ M)

(see Fig. 3)

(5) Purple Amole No-Fly Zone for CAT 3 UAS.

Training Areas O2 and O3 are designated no-fly areas for small UAS (NOTAM’d out seasonally) due to endangered plant species Purple Amole.

N35°46'22.04" W120°49'24.21"; N35°45'31.06" W120°49'24.53";
N35°45'31.79" W120°50'08.86"; N35°45'46.36" W120°50'11.11";
N35°46'21.56" W120°50'41.63"; N35°46'33.46" W120°50'43.23";
N35°46'32.48" W120°49'38.99"; N35°46'22.04" W120°49'25.50"
N35°46'22.04" W120°49'24.21".

(NOTE: NO OFF-ROAD AUTHORIZED FOR VEHICLES OR PERSONNEL).

(6) Bald Eagle Nesting Sites No-Fly Zone - Altitude SFC – 1500’ AGL.

- (N35°45'37.68" W120°48'47.69" (GE 0010563411)
- (FE 9769059592)

500 meter radius
(Seasonal, usually 01Dec thru 31Jul annually)

G. Scan Eagle Hazard Pattern (HAZPAT) Boundary:

Table 5. Scan Eagle HAZPAT distances and altitudes

MSL Altitude	AGL Altitude	Horizontal Distance from R-2504 Boundary
feet	feet	kilometers
2000	1420	0.337
3000	2420	0.574
5000	4420	1.049

Assumes: wind profile 40 kts constant with altitude, GCS at 580' MSL, descent at 5193 fpm

The coordinates of the hazard pattern (HAZPAT) boundary at Camp Roberts for 2,000' and 5,000' MSL are given below.

HAZPAT Boundary Coordinates for Camp Roberts, 2,000 ft MSL (blue line, Fig. 2)

-120.7481885. 35.77661020
-120.7628055. 35.71812818
-120.7905816. 35.70727287
-120.7991097. 35.70714286
-120.8120613. 35.71302572
-120.8150102. 35.71809568
-120.7999067. 35.73401844
-120.8295558. 35.76673125
-120.8304426. 35.81331974
-120.7980853. 35.85025836
-120.7769170. 35.84779633
-120.7651232. 35.81824589
-120.7672400. 35.79656851
-120.7497005. 35.78695958

HAZPAT Boundary Coordinates for Camp Roberts, 5,000 ft MSL (yellow line, Fig. 2)

-120.7686548. 35.72187006
-120.7557866. 35.77718361
-120.7570388. 35.78456492
-120.7737436. 35.79355181
-120.7729976. 35.81822794
-120.7822958. 35.84380741
-120.7951107. 35.84521741
-120.8231385. 35.81312841
-120.8222327. 35.76678348
-120.7923932. 35.73392394
-120.8054213. 35.71978122
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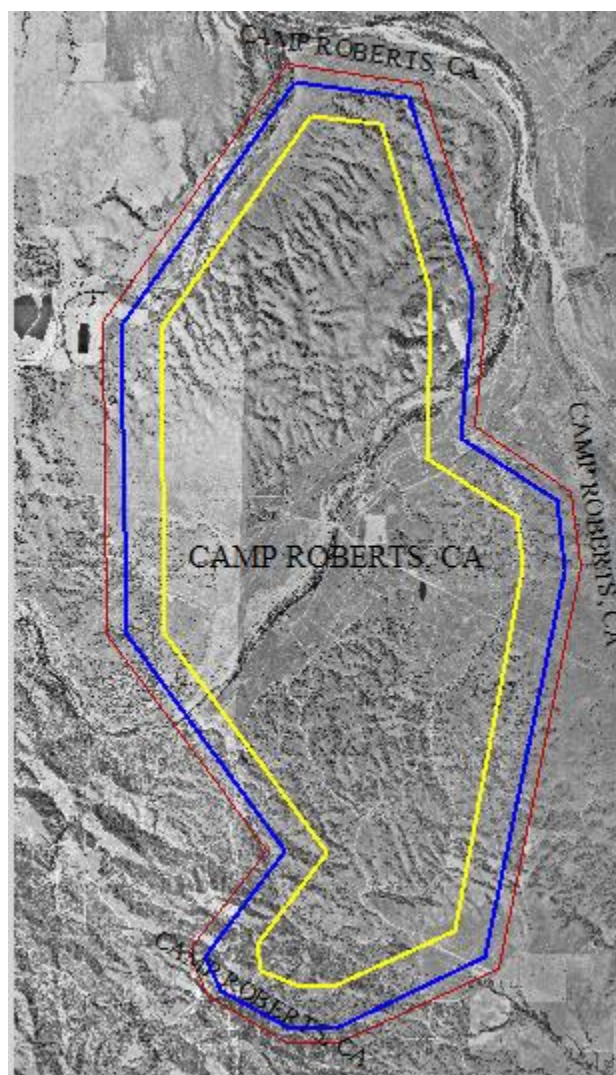


Figure 4: Scan Eagle Flight Zones at Camp Robert, CA. (red line is R-2504, blue line is the FB at 2,000ft MSL, yellow line is the FB at 5,000ft MSL.)

H. McMillan Airfield and CACTF Flight Operations.

All flight operations must be communicated to the Air Boss on the assigned frequency prior to commencement and at the completion of flight operations. Required radio calls to the Air Boss for flight operations are:

1. Request Permission to Radiate
2. 15 minute notice prior to starting operations with location and expected max altitude in feet AGL for non-fixed wing aircraft, and feet MSL for fixed wing aircraft. "Call Sign, commencing operations in 15 minutes at (assigned area) , XXX feet AGL/XXXX feet MSL"
3. Request Permission to Take off. "Call Sign, airborne"
4. Report When Airborne
5. Report When Established (Altitude & Location)
6. Request permission to make changes to planned operations (change to previously given max altitude or operating area). "Call Sign, increasing max altitude to XXX feet AGL/XXXX feet MSL"
7. Request Permission to Land. "Call Sign, on deck"
8. Report when safe on Deck
9. Report Operations complete for any on deck period exceeding 1 hour or after last flight of day. "Call Sign, operations complete or operations complete, expected to resume at XXXX time"
10. Report any mishap/crash of aircraft resulting in injury or significant damage to aircraft.

McMillan Airfield:

All event participants (on foot or on vehicle) must remain clear of the active runway and at all times unless first cleared by the Air Boss. Upon completion of runway operations or transit report "call sign & "clear of the runway" to the Air Boss on the assigned frequency. Only cleared event participants will be allowed into the infield area. Permission will be granted on a case by case basis

No fights are permitted over the McMillan Airfield cantonment area. Participants shall also not interfere with CA ARNG Shadow operations as depicted in Fig. 5.

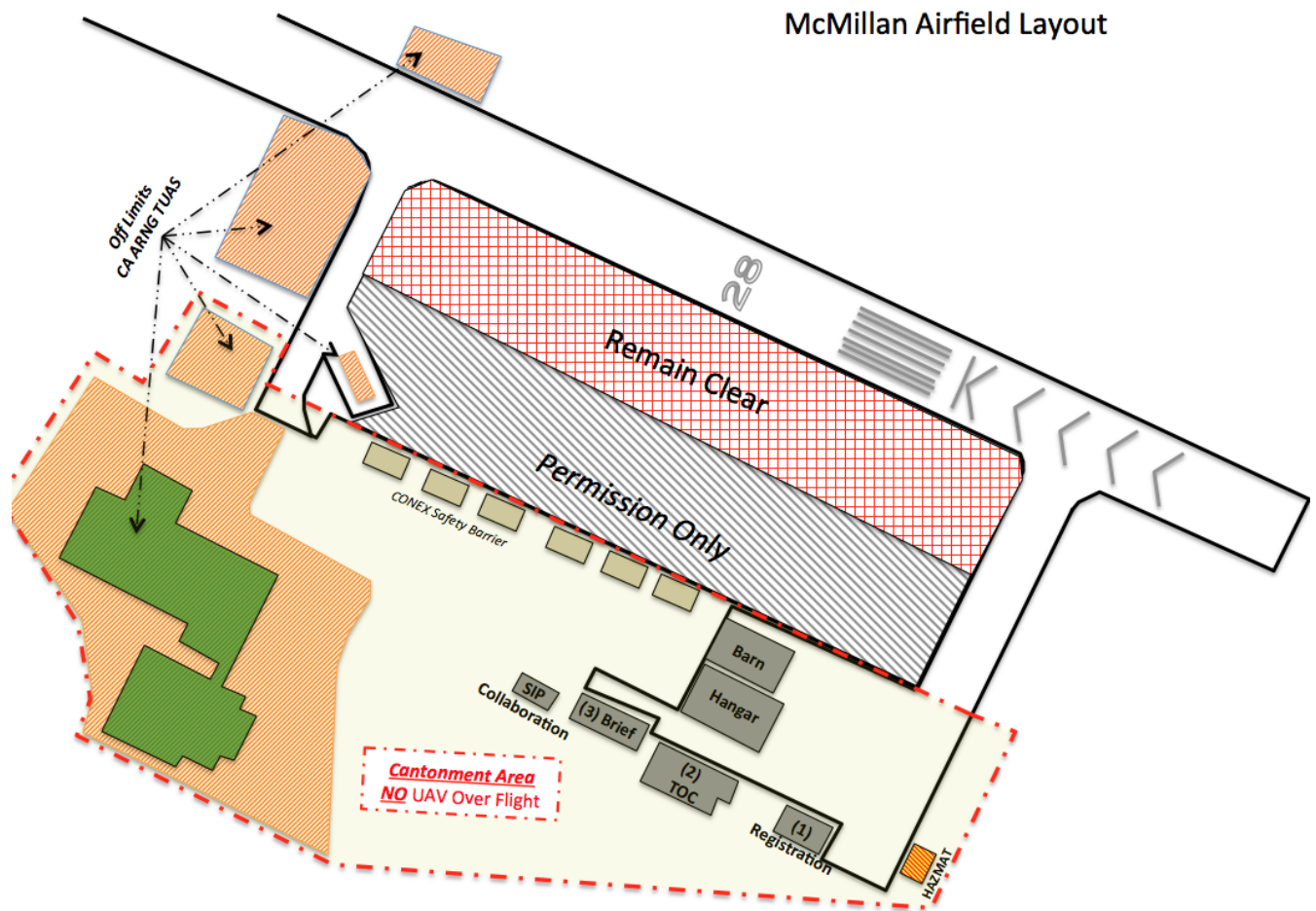


Figure 5. McMillan Airfield operating areas

Figure 6 depicts the McMillan Airfield UAS operating zones. Generally, UAS will be assigned to one of these zones based on UAV category and potential risk. Other Camp Roberts operating areas (i.e. FOB, Nacimiento Drop Zone, Raven Hill, etc.) may also be used to mitigate risk and reduce airfield congestion.

McMillan Airfield General JIFX UAS Runway Placement

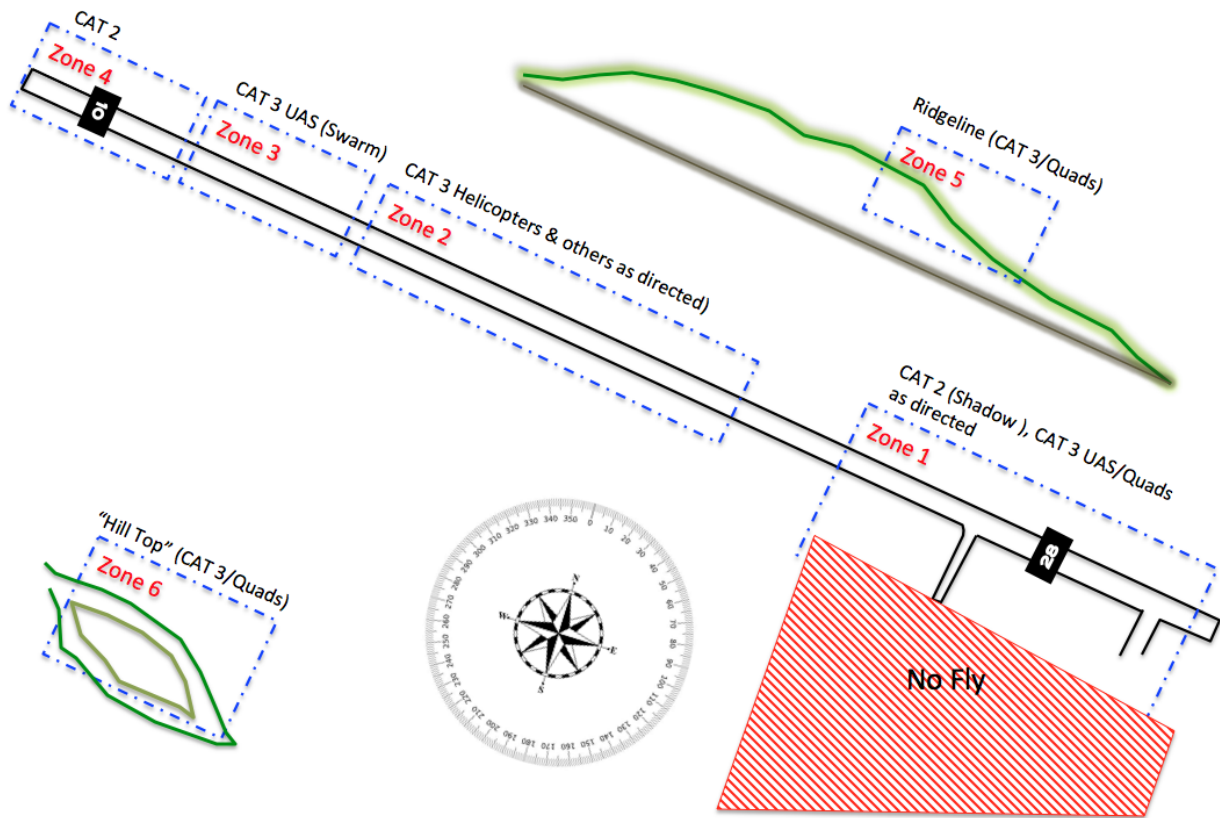


Figure 6. McMillan Airfield UAS runway placement zones

CACTF:

The center of the CACTF between the buildings (as depicted in Figure 7) is an operations area. The CACTF is divided into 4 primary zones (1N, 1S, 2N, 2S, 3, and 4) based upon geographic markers to de-conflict operations as required. One or more areas can be requested based upon experimental needs at the morning air operations brief or via the radio.

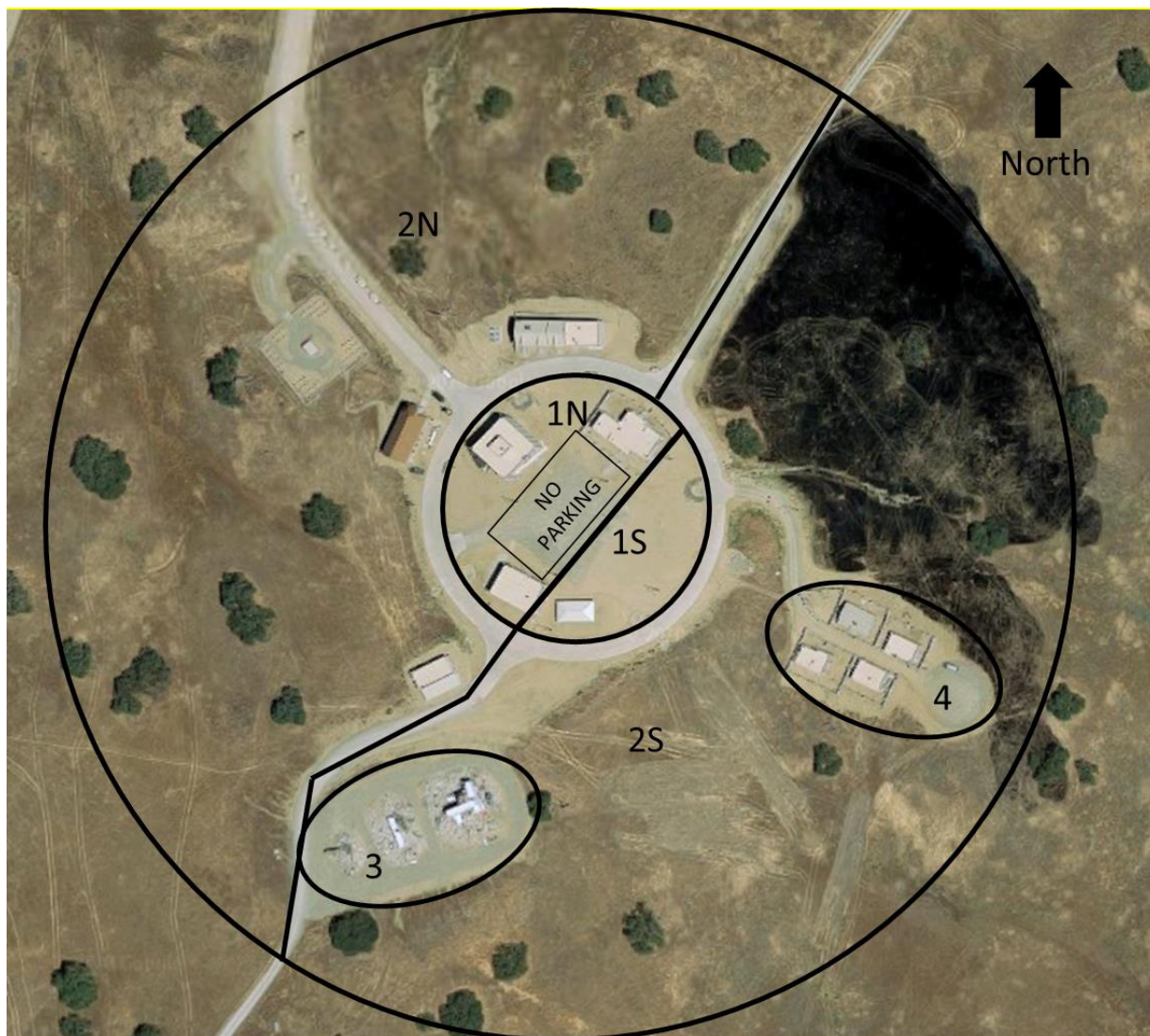


Figure 7. CACTF operating areas

I. Aviation Command & Control (C2) Structure & Procedures.

1. UAS activities predominantly take place at McMillan airfield. However, Camp Roberts offers numerous training areas that can support UAS operations. These typically include the CACTF, Raven Hill, the Forward Operating Base (FOB), and Nacimiento Drop Zone to name a few. Each site where UAS are flown shall have an NPS assigned Range Safety Officer (RSO). Each site RSO is responsible for the safe conduct of unit flight operations on the assigned range. The site RSO is subordinate to the Air Boss and Range Control for all safety of flight and ground safety matters. Each site RSO (call sign: “CACTF RSO”, FOB RSO”, etc.) shall be on site whenever air or ground operations are in effect and maintain radio contact with the Air Boss before any flight operation can occur on the assigned range. The Site RSO shall remain on sight until all site UAVs are safe on deck and all flight operations and ground operations for the site are secured.

Additionally, each unit/organization flying UAS shall appoint their own flight safety officer (FSO). Typically, this is an experienced flight engineer who is knowledgeable and experienced in the UAS and not directly involved in any other flight duties. The FSO is responsible for the safe conduct of flight operations from preflight, to launch, recovery, and post flight. The FSO maintains safety over watch of the organization’s UAS operations and communicates directly with the RSO during any safety of flight situations. This organizational structure is depicted in Fig. 7.

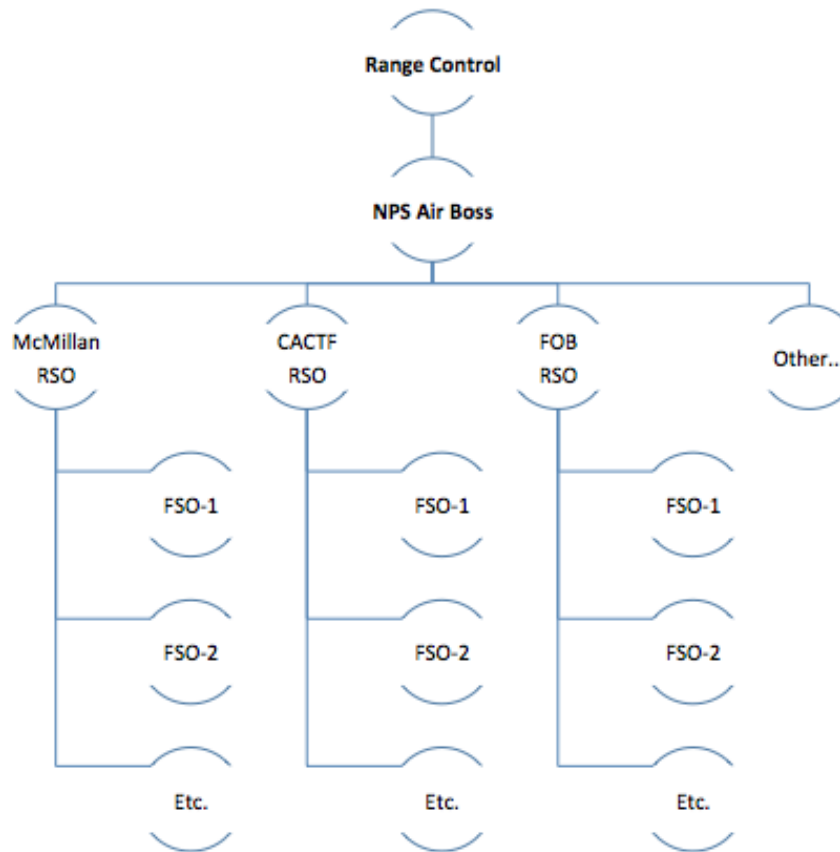


Figure 8. Range Air Safety Organization

2. All UAS entities will consist of at minimum a pilot in command (PIC)/Air Vehicle Operator, a Visual Observer (VO), a Mission Payload Operator (MPO, as required), and a Flight Safety Officer (FSO). All communication with the Air Boss will be done through the VO and not via the pilot at the controls of the UAS. The VO will be in constant, close visual contact with the PIC/AVO and maintain constant RF communications with the Air Boss for the entirety of air operations spanning pre-flight to post-flight shut down. Permission will be requested in advance to radiate RF and to conduct any flight operations (i.e., take the runway, power up systems, conduct preflight, power engines, prepare to launch, take off, prepare to land, land, post flight, and shut down (engines/RF), and reporting clear of runway.

The basic FX Air C2 structure and responsibilities is provided in paragraphs a-i below and depicted in depicted in Fig. 8.

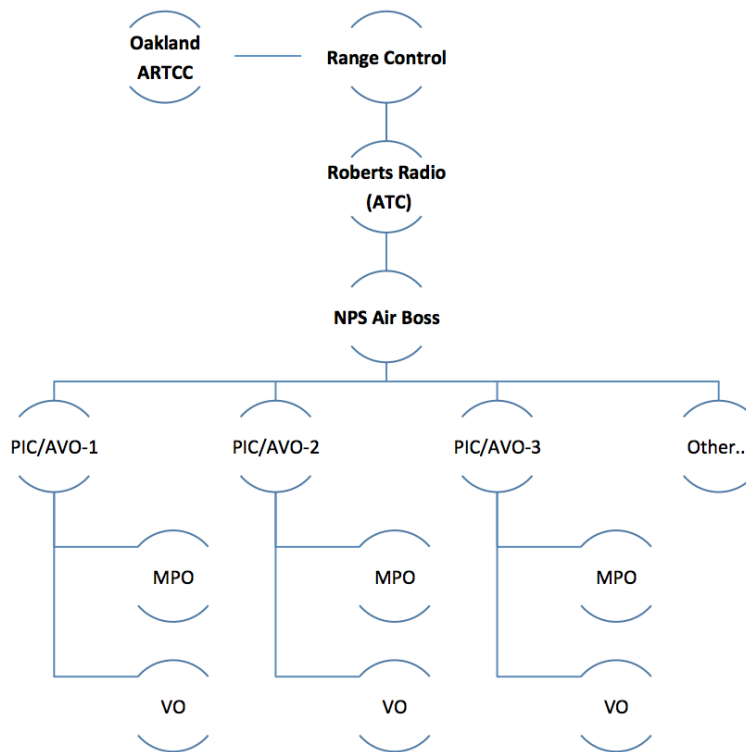


Figure 9. Air C2 organizational structure

a. Oakland Air Route Traffic Control Center (ARTCC). Federal Aviation Administration (FAA) designated controlling agency for the R2504 complex. (See also Attachment 1).

b. Range Control. Controlling authority for all range operations granted under authority of the Camp Roberts Garrison Commander (R2504 “Using Agency”).

c. Camp Roberts ATC “Roberts Radio”. Local Air Traffic Control (ATC) entity for all Camp Roberts air operations.

d. NPS Air Boss. Typically, an Air Force Special Operations Command (AFSOC) certified combat air controller. NPS McMillan personnel are also qualified to assume the role of Air Boss when AFSOC controllers are not available. The Air Boss is the NPS FX control authority for radiation of all frequencies and control all aviation activities. All FX participants must request permission to radiate on all assigned frequencies before going “hot.” All flying entities must obtain permission from the Air Boss before conducting preflight checks, powering up systems, starting engines, taking off or commencing landing procedures. The Air Boss will relay intentions to ATC and coordinate any deconfliction actions necessary.

e. Unmanned Aircraft Commander (UAC). The Unmanned Aircraft Commander (UAC) shall be responsible for the safe, orderly flight as related to the physical control of one or more UASs. The UAC may direct the actions of an AVO. The positional authority of the UAC is analogous to that of an “Aircraft Commander” of a manned aircraft. As with manned aircraft, a single individual may act as both UAC and perform other UAS Crewmember (UASC) duties.

f. Air Vehicle Operator (AVO)/Pilot in Command (PIC). The air vehicle operator (AVO) is in direct control of the unmanned vehicle. The AVO shall be designated as the Pilot in Command (PIC) and is responsible for the operation and employment of the unmanned vehicle. The AVO/PIC shall not perform concurrent duties as both pilot and observer.

g. Mission Payload Operator (MPO). The Mission Payload Officer (MPO) is responsible for the employment and tactics for any and all payloads onboard the unmanned vehicle. These payloads include, but are not limited to, EO and IR cameras, communications, and collection devices.

h. Visual Observer (VO). The Visual Observer is a trained person who assists the unmanned aircraft pilot in the duties associated with collision avoidance. This includes, but is not limited to, avoidance of other traffic, clouds, obstructions and terrain. An observer is required for all UAS operations at Camp Roberts. Additionally, the VO shall be the primary radio communication interface between the UAC/PIC/AVO and the NPS Air Boss and range safety officer (RSO).

i. Flight Safety Officer (FSO). The Flight Safety Officer (FSO) is designated by each participating unit. The FSO is responsible for the safe conduct of the entire UAS operation (preflight/flight/ Recovery /post-flight). The FSO is knowledgeable of all aircraft systems, functions, and safety of flight procedures and monitors the entire operation for safety hazards to personnel and the aircraft. The FSO cannot assume any other crew position.

J. FX C2 Frequencies

*****All FX participants (whether ground or aviation related) must request permission from the Air Boss to radiate on their approved frequency(s) before they power up their device and notify the Air Boss when the RF is shut down.*** The Air Boss will manage and de-conflict all RF frequency usage. Typical FX frequencies are contained in Table 6 and the Air C2 communication network is provided in Fig 9.

Table 6. Camp Roberts Air C2 Related Frequencies

Unit/Call Sign	Receive (MHz)	Transmit (MHz)
“AirBoss”	141.1875	139.0125
“FieldEx”	148.5875	142.3125
“McMillan”	151.775	151.775
“Camp Roberts Range Control”/MEDEVAC	126.2 38.90	
Oakland Center	128.7	
NPS GCS	5800/5850 (Up)	5300/5350 Down
Paso Robles Weather	132.175	(831) 239-3593

Restricted Frequencies: The following frequencies are reserved and not to be used by and FX participants:

SATCOM

X-Band 7.25 through 8.4 GHZ

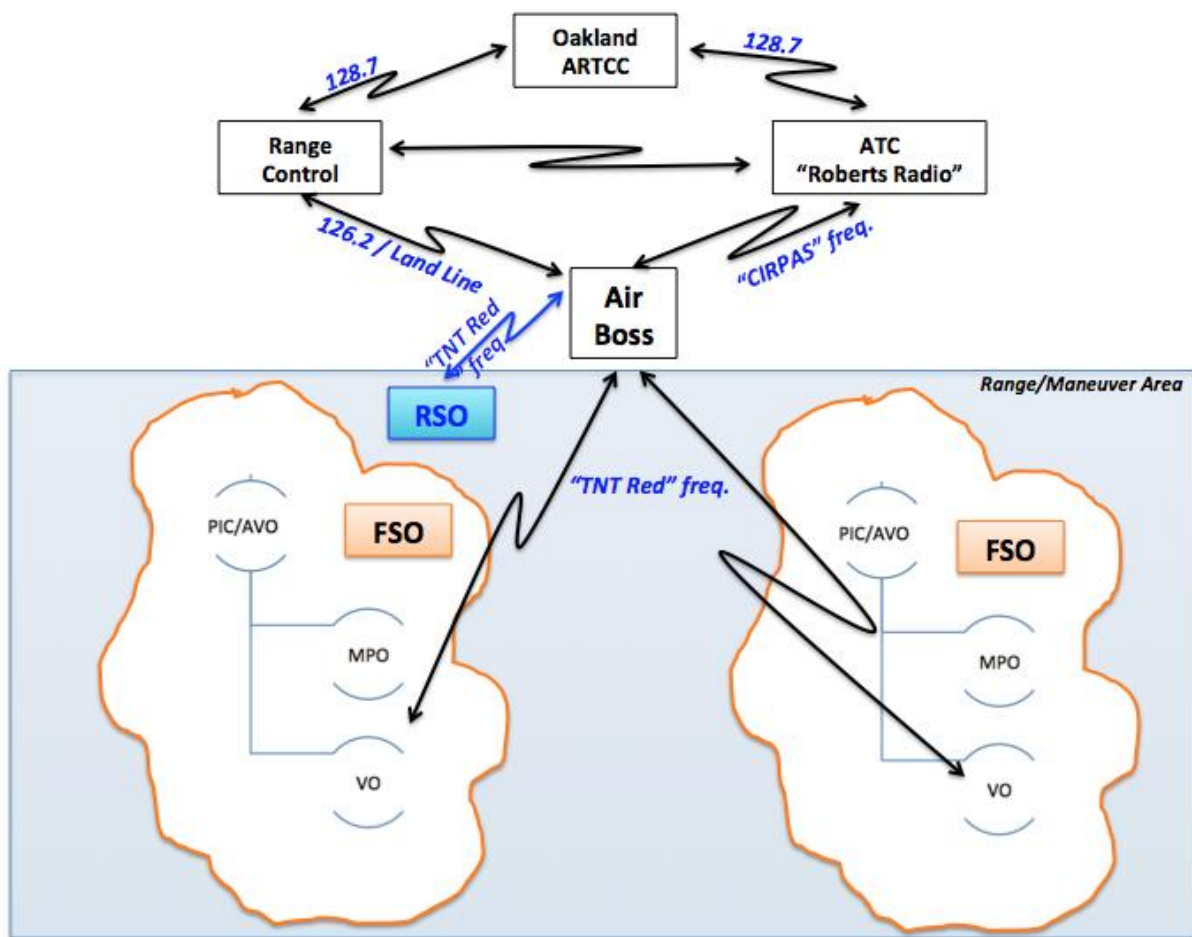


Figure 10. FX Air C2

K. Medical/MEDEVAC Procedures

a) Medical Procedures:

- i) Emergencies: In any emergency requiring medical attention immediately contact the JIFX Air Boss via Radio ("JIFX" or "AIR" channels) or via phone (805) -610-5735 or if unable call Range Control at (COM) 805-238-8269

NOTE: Do not dial "911" directly unless you are unable to contact airboss or JIFX staff, as this will connect you to an off post dispatcher which will have to relay the call to Camp Roberts potentially delaying Emergency Service's dispatch to your emergency. If you are unable to contact airboss via radio or phone, then call 991.

- ii) Routine: No routine medical care is available at Camp Roberts for civilian or military personnel visiting McMillan Airfield. The nearest military care is in the Presidio of Monterey. Civilian care is available in Paso Robles.
- iii) Hospital Facilities: The nearest hospital is Twin Cities in Templeton located at 1100 Las Tables Rd, Templeton CA. 93465, and their phone number is 805-434-3500.

iv) **MEDEVAC Requests.** Requests for MEDEVAC support should be limited to critically injured or ill personnel and made as follows:

- a. Range Control, 38.90 FM, CAGNET: 6-8269, or COM: 805-238-8269
- b. Patient Precedence: Patients are categorized based on the criticality of their condition as follows:

- (1) Urgent: Evacuate as soon as possible to prevent loss of life, limb, or eyesight.
- (2) Priority: Evacuate within four hours to prevent patient deterioration to urgent status or unnecessary pain and suffering.
- (3) Routine: Evacuation required but patient condition is stable and NOT expected to deteriorate significantly.

C. Request Format. Requests for MEDEVAC support should follow the standard “nine-line” format:

- (1) Grid coordinates of landing site.
- (2) Call sign and suffix of requesting agency. The requesting agency will remain on the Range Control frequency, 38.90 FM and will contact the aircraft using the same frequency.
- (3) Number of patients by precedence: Urgent, Priority or Routine (Priority and Routine MEDEVACs will only be done on a case by case basis as a result of prior coordination).
- (4) Special equipment required.
- (5) Number of patients by type: Litter or Ambulatory.
- (6) Number and type of wound, injury or illness.
- (7) Method of marking landing site (i.e. smoke, etc.)
- (8) Patient’s nationality and status (military or civilian).
- (9) Description of landing site.

Once communication with the aircraft is established, the pilot may request additional information such as:

- (1) Approximate size of the landing site.
- (2) Description of prominent obstacles or hazards, such as wires and antennas.
- (3) Approximate wind direction and speed.
- (4) Magnetic azimuth of the long axis of landing area.
- (5) Approximate angle of slope of the landing area.
- (6) Any information the pilot deems necessary.

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SECTION 3 – Special Instructions (SPINS) for Event:

JIFX 18-4

a. Date(s) / Time(s) Effective:

Date:	06 – 10 August 2018
Time:	Monday: 0800 – 1700 Tuesday: 0800 – 1700 Wednesday: 0800 – 1700 Thursday: 0800 – 1700 Friday: 0800 – 1700 (Extended flight hours may be approved by exception, and promulgated by the Airboss.)

B. Planned Normal Operating Altitudes:

All UAV operators must request and verify altitude blocks with the airboss prior to mission planning and launch and before any altitude changes outside of your allocated block during a flight. Make sure that failsafe procedures will either keep the aircraft within the allocated block during a failsafe event, or make sure that the airboss understands any deviations that might occur prior to mission planning and flight.

C. LOST COMM/LINK Procedures:

Please see the accompanying UAS quick reference document for details.

D. MANNED AIRCRAFT OPERATIONS:

Special consideration will be given whenever manned aircraft are participating in JIFX experiments. The following are minimum requirements:

1. Manned aircraft participating in JIFX must have an approved Prior Permission Required (PPR) number before they can enter R-2504. The pilot will obtain the PPR number. The

pilot will contact "Camp Roberts Range Control" prior to entering R-2504 on 126.2 and announce their PPR number for final approval.

2. The Airboss will establish communications with the pilot on VHF 126.2 or relay instructions through JIFX staff to the pilot.
3. The Airboss will ensure the pilot acknowledges an assigned altitude and is at that altitude prior to entering R-2504. The pilot will enter R-2504 airspace at McMillan Airfield.
4. The Airboss will ensure a minimum of 1,000 feet vertical separation is maintained between manned aircraft and unmanned aircraft.
5. Normally, **ONLY** government aircraft that have been specifically approved by Camp Roberts can land at McMillan Airfield. Whenever a manned aircraft has been approved to operate at McMillan Airfield and requests to land or depart McMillan Airfield the Airboss will:
 - (a) Coordinate with the 79th IBCT TUAS Commander to insure all RQ-7B Shadow operations are deconflicted and that the runway and taxiway (as required) are clear of all RQ-7B launch and recovery equipment.
 - (b) Ensure all personnel and equipment is at least 200 feet away from the edge of the runway.
 - (c) Announce over the Loud Voice and radio for ALL personnel to remain away from the runway when the aircraft reaches downwind or final or prior to taxing.
 - (d) Visually scan the runway to ensure all clear and provide landing/departure/taxi clearance to the pilot.
6. If manned aircraft are intending to conduct operations in support of JIFX within one of the Military Operating Areas (MOAs) as depicted on a VFR Sectional, coordination/scheduling of the MOAs must take place with NAS Lemoore (559) 998-1034.

E. BALLOON OPERATIONS: Anyone planning to utilize a balloon must coordinate and obtain Air Boss approval prior to launch. As a minimum, the location (GPS coordinates) and altitude of balloon is required. Each operator must comply with the NPS Balloon Standard Operating Procedures.

F. WEATHER MINIMUMS FOR OPERATIONS: Operations within the JIFX airspace will be conducted under Visual Meteorological Conditions (VMC). See and Avoid at all times. In the event of Instrument Meteorological Conditions (IMC), all aircrews will follow instructions from the Air Boss and expect to land.

G. MISHAP PROCEDURES: Follow procedures per the JIFX PMP. In the event of a crash or lost COMM/Link, notify the Air Boss immediately. Each pilot will have on hand a copy of the Pre-Mishap Plan.

Raymond Buettner, Director of NPS Field Experimentation

Attachment 1

Oakland Air Route Traffic Control Center and
Camp Roberts, California

JOINT USE LETTER OF PROCEDURE

EFFECTIVE: May 1, 2002

SUBJECT: Use of Restricted Area R-2504, Camp Roberts, California

1. PURPOSE: This Joint Use Letter of Procedure (LOP) establishes responsibilities, procedures and coordination requirements for military operations conducted in Camp Roberts Restricted Area R-2504.

2. CANCELLATION: Oakland Air Route Traffic Control Center and Camp Roberts, California, Joint Use LOP for Use of Restricted Area R2504, Camp Roberts, California, dated June 13, 1994.

3. SCOPE: In accordance with Sections 73.13, 73.15, and 73.17 of the Federal Aviation Regulations, this LOP establishes procedures for the use of Restricted Area R-2504 by Oakland Air Route Traffic Control Center as the Controlling Agency and the Commander, Camp Roberts, California, as the Using Agency.

4. RESPONSIBILITIES: The Using Agency shall ensure that all users of these procedures are properly briefed and will be responsible for compliance.

5. PROCEDURES:

- a. The Using Agency shall release the restricted area or portion thereof (as defined in thousands of feet) to the Controlling Agency when not in use for the purpose designated. Airspace need not be returned for periods of less than 30 minutes.
- b. During the time when the restricted area is released to the Controlling Agency, the FAA may clear IFR traffic and authorize VFR traffic into the area released.
- c. The Using Agency shall call the Controlling Agency at least 1 hour before scheduled use of R-2504 to request return of the airspace. This will allow the Controlling Agency sufficient time to vector IFR traffic away from the restricted airspace and notify VFR aircraft of restricted area activation.
- d. The Controlling Agency shall return the use of R-2504 or appropriate altitude requested to the Using Agency when air traffic permits, but no later than 1 hour after time request was initiated.

Original signed by Original signed by

Tommy E. Barclay
Air Traffic Manager
Oakland Air Route Traffic Control Center

Lawrence W. Kimmel, LTC, CAARNG
Commanding Officer
Camp Roberts, California