CONTRA COSTA COUNTY
Public Works Department-Airports Division

DATE: November 4, 2019

TO: Airports Committee
Supervisor Diane Burgis, Chair
Supervisor Karen Mitchoff, Vice Chair

FROM: Keith Freitas,
Director of Airports

SUBJECT: Unmanned Aerial Systems (UAS) Operations at County Airports

Issue:
As requested by the Airports Committee, this memorandum provides an overview of the expected UAS operations at both Buchanan Field and Byron Airports during the next few years. The UAS operations are being considered by various Contra Costa County Departments (Public Works, Fire Protection District and Sheriff) along with various private companies. It is important to note that this memorandum only covers UAS operations conducted on and over County airport facilities.

The majority of the UAS operations anticipated will be conducted by the Public Works Department-Airports Division (Airports Division). Airport Operations staff is intending to use UAS's to perform security patrols, airfield/facility inspections and wildlife hazard abatement. The Public Works Department (flood control, facilities, capital projects and road construction), County's Fire Protection District and Sheriff have also expressed interest in conducting testing and training operations at the two County Airports. This will allow them to be better prepared to deploy UAS equipment during their specific first responder missions. Additionally, private UAS hardware and software companies have expressed interest in conducting training and testing operations at both Buchanan Field and Byron Airports because of the close proximity to their headquarters located in Silicon Valley and San Francisco.

For the Airports Division to meet both the short-term and long-term goals mentioned above we will pursue a two prong approach. The Airports Division will continue to explore partnership opportunities with existing FAA designed UAS Flight Test Sites. Should a partnership come to fruition, this would allow CCR and C83 to quickly become an operational as an FAA designated satellite UAS test site. The Airports Division is also working to secure a Certificate of Authorization (COA) from the Federal Aviation Administration (FAA) to authorize specific types of UAS operations. The four main reasons that an entity will request a COA are: 1) to fly within controlled air space (such as an airport); 2) to fly beyond line of sight (where the pilot is no longer able to see the UAS); 3) to fly over people; and or 4) to fly at night. County staff and private entities will have to submit separate COA's to the FAA for their specific operations at the County airports. The Airports Division would work with County staff and private entities to vet their proposal(s) with various County stakeholders. The FAA would then have to

authorize the specific COA request.

Background:

It is important to review the previous actions by the Board of Supervisors regarding economic development, UAS operations and attraction of new technology businesses at Buchanan Field and Byron Airports. On January 16, 2018, the Board of Supervisors took action to ratify the execution of a Letter of Intent (LOI) between the California Department of Technology to partner with several private UAS manufactures and operators in the FAA Integrated Pilot Program (IPP). This IPP was developed by the FAA to assist them in developing specific regulations for UAS operations. Ultimately, the proposal submitted by Contra Costa County, California Department of Technology and AirMap was not selected for this FAA IPP program.

On August 14, 2018, the Board of Supervisors adopted Resolution No. 2018/462. The Board resolved the following:

- Buchanan Field and Byron Airports are essential economic engines that aid the County in meeting the current and future transportation and economic needs of the community.
- The Director of Airports shall continue to actively pursue innovative and sustainable opportunities to enhance airport facilities and partnerships to remain competitive in the regional marketplace.
- The Director of Airports will work closely with the County Administrators Office and the County Economic Development Manager to further the economic development potential of airports, as they are capital assets to the County and an integrated transportation asset to the Bay Area region.

On February 26, 2019, the Board of Supervisors took action to authorize the Director of Airports to promote and market Buchanan Field and Byron Airports as testing locations for emerging aeronautical related technologies. Airport staff has convened several working groups with expertise in emerging aeronautical related technologies to assist in the development and implementation of a marketing and attraction strategy. Over the past 18-months of this effort two companies XWing and Volans-i have relocated their design, assembly and testing operations to Buchanan Field Airport. Additionally, two other companies are currently in discussions with the Airports Division staff to explore relocating their assembly and testing operations to the Byron Airport.

Additionally, the FAA Aerospace Forecast Report Fiscal Years 2017 to 2037 projects that in the next 5 years the small hobbyist UAS/drones will more than triple from 1.1 million vehicles to 3.5 million vehicles. During that same time frame the commercial UAS/drone market will grow from 42,000 to 442,000 vehicles. Concurrently, certificated pilots of these UAS vehicles are expected to increase from 20,000 to approximately 300,000.

Lastly, it is important to note that current and future UAS airspace and operating regulations are the sole purview of the FAA. Any operation of an aircraft, balloon, glider, UAS, etc. falls under the jurisdiction of the FAA, which preempts state and local governments.

Current Private Company UAS Testing Request:

The UAS company 3DR is in the process of achieving FAA Type Certification for one of its commercial drone systems, the H520-G. The Type Certificate will allow the H520-G to be used in and around what has been deemed sensitive and critical infrastructure. Airports, specifically those with FAA air traffic control towers, have been deemed sensitive and critical. Not only are they subject to higher levels of security, but they are also the locations where manned traffic transition through the altitude bands where drone traffic typically operates (usually between ground level and 400 feet).

The County and 3DR and have been working together in a partnership with the FAA for about a year during 3DR's testing period to demonstrate that they are able to meet the security and traffic integration needs of an airport environment. 3DR is also working with the FAA Air Traffic organization to define a training program to supplement the standard Part 107 (UAS/drone) license with air traffic communications and coordination.

3DR has performed several testing operations at both Buchanan Field and Byron Airports. Most recently 3DR has requested to use Buchanan Field (CCR) and its associated FAA Air Traffic Control Tower personnel, to test and perfect the program before standardizing the practices. In order to meet the FAA expectations and objectives, 3DR will need to operate the H520-G as if it were a Type Certified aircraft. This entails operating under 14 Code of Federal Regulations Part 91 rules rather than Part 107 and will require a specific COA to fly Part 91 prior to Type Certificate approval. The Airports Division will be the COA applicant and holder of the granted authority. 3DR and its H520-G will be the initial approved aircraft. The COA would be maintained by the Airports Division beyond the term of these particular tests and it is expected that we could amend and extend the COA to include other aircraft and capabilities in the future. As a result, the COA could become a useful asset for the County in bringing UAS businesses and jobs to the area.

Next Steps for UAS Training and Operations:

The Airports Division will continue to explore partnership opportunities with existing FAA designed UAS Flight Test Sites. The goal will be to become operational as an FAA designated UAS test site. The Airports Division will also continue working with the FAA to request a COA to allow UAS testing and training operations at Buchanan Field and Byron Airports.

These options are expected to allow the Airports Division, Contra Costa County Fire Protection District and Sheriff to conduct both training and operational missions at Buchanan Field and Byron Airports. It is important to note that each specific UAS testing or training request would first be vetted by the Airports Division and then be required to secure a separate COA approval/authorization from the FAA.

cc: Laura Strobel, Senior Deputy County Administrator
Brian Balbas, Public Works Director
Steve Kowalewski, Chief Deputy Public Works Director
Mark Goodwin, Chief of Staff District 3
Anne O, Chief of Staff District 4