

City of Johns Creek Police Department

<i>Subject:</i> Small Unmanned Aerial Systems (sUAS)	<i>Number:</i> 02-55
<i>Reference:</i>	<i>Amends:</i>
<i>Effective:</i> 01/18 <i>Revised:</i>	<i>Review Date:</i> Annually <i># of Pages:</i> 8

PURPOSE:

The purpose of this policy will be to describe the conditions, limitations, and authority to operate small Unmanned Aerial Systems (sUAS) for law enforcement operations to include: search and rescue, area searches, person searches, aerial observation of critical incidents, crime scene photography, and community outreach photography.

POLICY (02-55):

It is the policy of the Johns Creek Police Department that trained and authorized personnel may use/deploy a sUAS when such use is appropriate in the performance of their duties. The deployment of a sUAS will be in accordance with federal, state, and municipal law and as the needs of the department dictate.

DEFINITIONS:

Certificate of Authorization (COA): A COA is an authorization issued by the Federal Aviation Administration (FAA) for public operation of small unmanned aircraft systems. COAs must be renewed every two years.

Pilot-in- Command (PIC): During a sUAS operation, the Pilot-in-Command is in charge of the sUAS Operator (if not one in the same), sUAS Visual Observer(s), or anyone else that may be directly participating in the sUAS operation.

Small Unmanned Aircraft System (sUAS): A system that includes the necessary equipment, network, and personnel to control an unmanned aircraft that weighs less than 55 pounds.

sUAS Commander: The sUAS Commander will be assigned by the Chief of Police or his designee and will have overall control of any maintenance, records, and deployment of the sUAS. The sUAS Commander will also be responsible for any necessary reporting, licensing, or approval required by the Federal Aviation Administration (FAA) and ensuring all sUAS operators are aware of and comply with FAA regulations.

sUAS Operator: A person exercising control over the sUAS during flight.

sUAS Visual Observer: Observers are trained officers who act as spotters for the sUAS Operator.

Visual Flight Rules (VFR): Must have a minimum visibility of 3 statute miles and a cloud layer above 500 feet. Winds must be less than 20 knots or 23 miles per hour.

PROCEDURES:

Administration (02-55-01)

The sUAS Commander will be the administrator of the drone program and will be the point of contact for the FAA. On a monthly basis, the sUAS Commander will complete a report in the FAA COA Application Processing System (CAPS). The report procedures are documented in the department's approved COA. Each sUAS operator assigned a sUAS aircraft will submit a monthly flight documentation memo to the sUAS Commander.

Authorized Uses (02-55-02)

Deployment of the sUAS must only be for law enforcement purposes and shall not be done in a manner that will violate FAA guidelines or regulations. It is the operator's responsibility to inform any requesting supervisor or command staff of those guidelines if they feel that the requested deployment violates any federal regulation. The sUAS use is to provide an aerial visual perspective that will further the department's mission and enhance the safety of the public and law enforcement officers. Such deployments include but are not limited to:

1. **Public Relations:** The sUAS may be used to record, document, and display its use at events sponsored by the department.
2. **Area Searches:** The sUAS may be deployed when conducting an area search where a ground search may pose a danger to officers or the public.
3. **Security Checks:** The sUAS may be deployed while conducting security checks of businesses or private lots in furtherance of the department's goals.
4. **Crime Scene/Area Documentation:** The sUAS may be deployed to assist in documenting crime scenes that cover large areas or are located in areas that may be unsafe for personnel. The sUAS may also be deployed to document any scene where an aerial perspective is needed.
5. **Search and Rescue:** The sUAS may be deployed during search and rescue operations to assist in locating lost persons, subjects of AMBER Alerts, Mattie's Call, or other search and rescue operations.

6. Tactical Situations: The sUAS may be deployed during certain tactical situations such as hostage/barricaded gunman, active shooters, warrant services, or any other situation where an aerial or remote view is necessary.

Deployment of UAS (02-55-03)

Prior to deployment of any sUAS the operator will ensure that all permits and authorizations (COA) from the FAA are in place.

1. Only authorized approved personnel will be permitted to deploy the sUAS. Personnel deploying the sUAS will be trained and authorized by the department.
2. The sUAS Operator will inspect all equipment to include the unit, controller, batteries, and display prior to deployment. Any malfunction equipment will be reported to the sUAS Commander. Prior to flight, the sUAS Operator will complete the JCPD Pre-flight Checklist.
3. Each sUAS aircraft will be the responsibility of the officer assigned. The sUAS Operator is authorized to decline to fly the sUAS when he/she feels the flight would be unsafe or against FAA regulations.
4. Each deployment of the sUAS will be documented in the department issued Drone Operator's Logbook. When deployed in conjunction with a call for service, the sUAS Operator will complete a supplemental report. If the video or photos taken from the drone were used during an operation and are evidence, they will be attached to the electronic case file in RMS.
5. When available, the sUAS Operator will deploy the sUAS with the aid of a sUAS Visual Observer. The visual observer can be collocated with the sUAS Operator or positioned at a ground site to give a better line of sight. All sUAS Visual Observers will be ground-based and should not be deployed from a moving vehicle. The sUAS Operator can request additional observers if needed. All sUAS Visual Observers will be properly trained. At no time will a second sUAS be used as an observation platform for the primary sUAS. If operating a sUAS at night, the use of a Visual Observer is mandatory.

Training (02-55-04)

The sUAS Commander will conduct the training required by the COA to all sUAS operators and visual observers. If the sUAS Commander is not a certified instructor, the training will be proctored by a member of the department's training unit.

1. Training will include a presentation with a quiz to document the operator's knowledge of applicable Federal Regulations and department policy.

2. For sUAS Operators, training will also include a flight course that will measure the sUAS operator's ability to fly the aircraft.

Restrictions (02-55-05)

The sUAS and equipment are only approved for uses that support legitimate law enforcement functions of the department.

1. The sUAS will only be used in a manner that is safe and in accordance with departmental policies and FAA regulations.
2. The sUAS will not be weaponized or used to transport any weapons, explosives, or incendiary devices. Exceptions to this policy may include a request by EOD or Bomb Squad when dealing with a suspicious package where use of the sUAS will prevent law enforcement officers or the public from being exposed to unnecessary dangers. Use of the sUAS in this manner can only be approved by the Chief of Police.
3. The sUAS will not be used or deployed for personal use.
4. The sUAS will not be used to surveil private areas such as inside buildings, through windows, or any other areas where a search warrant would be needed. If a request for deployment does not meet one of the search warrant exceptions, then the sUAS Operator must request a search warrant prior to deployment.

Launching/Recovery (02-55-06)

1. Prior to take off, the sUAS will be programmed to allow it to return home if the signal is lost from the transmitter.
2. When the sUAS is deployed to meet an approved mission task, it shall be recovered within the same general area if possible.
3. A designated safe area of at least 25 feet shall be maintained during lift off between the sUAS and personnel.
4. The sUAS should not be flown within unsafe distances to any object or person.

Weather –The PIC shall verify the weather conditions in the immediate area of operations. The local weather may be accessed via internet, phone application, or may be observed on site. The sUAS will not be flown outside the weather minimums identified by the manufacturer or the approved Certificate of Waiver/Authorization (COA) by the FAA. The PIC shall have final determination of risk due to weather and authority over any mission.

Hazards to the public – The PIC shall make every effort to ensure that flight operations will not pose any undue risk to the public who are not directly involved with the effort. The PIC shall have final determination of risk to the public and authority over any launch of his/her own aircraft. In all cases, the sUAS will not be flown over people. That is in direct violation of the FAA approved COA.

Hazards to property – The sUAS Operator shall make every effort to ensure that flight operations will not pose any undue risk to any property in the area involved with the effort. The PIC shall have final determination of risk to the property and authority over launch of his/her own aircraft. In all cases, the sUAS will not be flown over property that is in violation of the FAA approved COA.

Hazards to personnel – The sUAS Operator shall make every effort to ensure that flight operations will not pose any undue risk to the personnel directly involved with the effort. The PIC shall have final determination of risk to the public and authority over any launch of his/her aircraft.

Proximity to controlled airspace – Operations inside any controlled airspace shall only be performed under approval of the FAA COA.

Launch site selection shall be driven by safety first and foremost. Selection of launch sites will be considered based upon:

1. Ability to maintain adequate buffer zones between aircraft and personnel. The sUAS Operator shall maintain a buffer of at least 25 feet for vertical take-off and landing (VTOL), aircraft between aircraft operations, and all non-essential personnel. A designated individual can be identified as a safety officer to ensure the safety of the launch and recovery area.

Environmental Assessment (02-55-07)

No launches shall occur until all environmental assessments have been considered. The sUAS Operator has the final authority to abort any launch based upon hazards to the environment, themselves, or other personnel in the area.

The sUAS Operator shall select a launch site that ensures sUAS departures are not overpopulated areas.

Primary Landing Site (02-55-08)

Typically, the primary landing shall be the same as the launch site. The sUAS Operator has final authority for any approaches to the primary site and may wave off any approach deemed unsafe.

Alternate Landing Sites (02-55-09)

1. The sUAS Operator shall designate at least one alternate landing site. In the event that the primary landing site is deemed unsafe, procedures to utilize the secondary site will be invoked.

Mission Abort Sites - The sUAS Operator may optionally designate an “abort site” whereby the aircraft may be “dumped” in an emergency situation. The abort site shall be so far removed as to provide absolute minimal risk should the aircraft be required to vacate airspace in an emergency. Should the sUAS Operator deem it necessary, the sUAS may be flown to this site and inserted without regard to the safety of the aircraft or flight equipment.

Landing Safety & Crowd Control (02-55-10)

All landing sites shall be maintained and operated as the launch sites. Personnel shall maintain a buffer of at least 25 feet for VTOL, aircraft between aircraft operations, and all non- essential personnel.

Emergency Procedures (02-55-11)

Lost Link - If during flight operations the link between the sUAS and the remote station/controller is lost (flight controls), the sUAS is designed to utilize onboard GPS to return to the take-off position. The sUAS will either gain altitude if below 20 meters or maintain altitude if above 20 meters. sUAS Operators should always be mindful that the sUAS has no collision avoidance in RTH (Return to Home) mode. The Operator will observe the sUAS and attempt to recover control. The remote control is designed to re-establish connection automatically. If a lost link occurs and the sUAS auto returns, the sUAS Operator will advise all units in the area via radio.

Lost Communications - If operating in controlled airspace, the sUAS Operator will maintain communications with the Air Traffic Control (ATC) through use of a two-way radio or cellular phone. If communication is unable to be established, the sUAS Operator will immediately land the sUAS until communications are established. Communication between the sUAS Operator and the Observer will be via cell phone, police radio, or verbal commands. If communication is lost between the sUAS Operator and the sUAS Observer, the sUAS Operator will land the sUAS until communication can be restored, emergencies notwithstanding.

Lost Line of Sight - In the event that both crew members lose sight of the aircraft, the sUAS Operator will initiate a Go-Home on the remote control. The Go-Home protocol is identical to the Loss of Link protocol. Once visual contact with the aircraft is re-established, the sUAS Operator will take-back the aircraft using the remote control.

Emergency Landing- If during flight the Operator has an emergency, he/she will take every step to ensure that no person or property is damaged. In the event of a catastrophic failure such as a broken rotor or battery fire, the sUAS Operator will guide the sUAS to a safe location. If the sUAS makes an uncontrolled

landing, the Operator will announce to all personnel. The sUAS Operator will request any necessary equipment be brought to the landing site (i.e. fire extinguisher).

In the unlikely event that the sUAS interacts with a person on the ground, either during flight or during an uncontrolled landing, EMS will be immediately summoned, and units on the ground will render first aid. All officers are trained in first aid, CPR, and the use of an AED.

Night Operations (02-55-12)

Night operations will only be conducted when a sUAS Operator can provide a safety case to mitigate and avoid any collisions with hazards.

Night operations are considered any flight that occur 30 minutes after sunset and 30 minutes before sunrise.

Only sUAS Operators with previous daytime flight experience will conduct nighttime sUAS operations.

All night operations will be conducted at the minimum necessary altitude to avoid ground hazards not to exceed 400 AGL.

All night operations will be conducted with the use of an Observer to assist in navigation and hazard avoidance. The Observer will place themselves in a location that allows for compliance with VFR flight and allows for constant scanning of the flight area for any hazards. The Observer will notify the sUAS Operator immediately if they lose sight of the sUAS or observe a possible flight hazard.

The navigational lights on the sUAS will be used at all times. The lights will be visible 360 degrees from the sUAS. Currently, the Johns Creek Police Department uses the DJI Inspire 1 aircraft. The DJI Inspire 1 is equipped with Front and Rear LED lights that give aircraft status indications. The front LEDs are red, and the rear LEDs are green. At no time will an Operator attempt to cover or disguise the aircraft status indicators located on the sUAS. When operating the sUAS at night, the aircraft will be equipped with Lume Cube search and rescue lights. Each aircraft is also equipped with a Night Operations Anti-Collision Strobe Light. These lights are visible over 10 nautical miles.

Maintenance (02-55-13)

Each sUAS Operator is responsible for the maintenance of the sUAS aircraft assigned to them. The maintenance will be continued and ongoing. A pre-tour inspection will be conducted of the sUAS. Pre-flight inspections will be completed prior to launch using the JCPD Pre-Flight Checklist. Additionally, a post flight inspection will be completed at the conclusion of the flight using the same methodology with noted exceptions for battery usage.

If at any time the sUAS Operator observes any condition that would prevent the sUAS from flight or pose a possible hazard, the sUAS Operator will immediately move to a stand-down status until the problem is resolved. In addition, the sUAS Operator will immediately notify the sUAS Commander of the aircraft's current status.

If repairs are needed, only factory-approved DJI parts will be used.

All noted discrepancies will be recorded in the sUAS Operators Log Book.

Equipment (02-55-14)

Each sUAS Operator will have the following equipment assigned to them:

1. One DJI Inspire 1 drone with HD camera
2. One DJI Zenmuse XT FLIR camera
3. Three Intelligent Flight batteries
4. One battery charger for flight batteries
5. Two controllers with Crystal Sky monitors or iPads (and battery chargers)
6. One night operations strobe light
7. Two micro SDHC memory cards
8. Two Lume Cube lights
9. One Drone Operator's Logbook
10. One case to protect all assigned equipment