Surveillance Impact Report

Public Utilities Commission
Unmanned Aircraft Systems (Drones)

As required by San Francisco Administrative Code, Section 19B, departments must submit a Surveillance Impact Report for each surveillance technology to the Committee on Information Technology ("COIT") and the Board of Supervisors.

The Surveillance Impact Report details the benefits, costs, and potential impacts associated with the Department's use of Unmanned Aerial Vehicles or Drone technology.

DESCRIPTION OF THE TECHNOLOGY

The Department's mission is: to provide our customers with high quality, efficient and reliable water, power, and sewer services in a manner that is inclusive of environmental and community interests, and that sustains the resources entrusted to our care. San Francisco Public Utilities Commission provides retail drinking water & wastewater services to the City of San Francisco, wholesale water to three Bay Area counties, green hydroelectric & solar power to Hetch Hetchy electricity customers, and power to the residents & businesses of San Francisco through the CleanPowerSF program.

In line with its mission, the Department uses Unmanned Aerial Vehicles or Drone technology to: enable more efficient use of City resources and improved ability to inspect, manage and protect City infrastructure and natural resources.

Public Utilities Commission shall use Unmanned Aerial Vehicles or Drone technology only for the following authorized purposes:

1. Construction Management: Examples include inspection of project sites for contract and environmental compliance.
2. Environmental Monitoring & Documentation: Examples include monitoring of vegetation type and health, wildlife, and streams/reservoirs.
3. Inspections: Conducting surveys and assessments of SFPUC properties and assets. Examples include survey of bay and ocean outfalls, inspection of large wastewater collections and power line surveys.
4. Disaster Relief: Drones may be used in disaster relief to record footage of damage and assess the role PUC may play in responding to such disasters.
5. Marketing and Public Education: Drones may be used to capture footage of the watershed, as an example, to be used in public education and/or marketing materials.

Prohibited use cases involve any uses not stated in the Authorized Use Case section.

SFPUC UAV operations will always be consistent with our approved use cases in SFPUC Drone Policy. SFPUC shall not exchange raw drone data containing PII between City departments, or disclose such data to the public, except for exigent public safety needs or as required by law.

Department technology is located SFPUC watersheds and SFPUC construction sites.

Surveillance Oversight Review Dates

COIT Review: July 17, 2020
Board of Supervisors Review: August 4, 2021

Technology Details

The following is a product description of Unmanned Aerial Vehicles or Drone technology:

The DJI Phantom 4 Pro is an aerial survey drone that combines centimeter-level navigation and positioning with a high-performance imaging system for use during surveying, mapping or inspection operations.

A. How It Works

To function, Unmanned Aerial Vehicles or Drone technology utilizes an unmanned aircraft flown by a pilot via a ground control system, or autonomously through use of an on-board flight computer, communication links, or other any additional equipment, for the purpose of capturing images from an aerial perspective.

Data collected or processed by the Unmanned Aerial Vehicles will not be handled or stored by an outside provider or third-party vendor on an ongoing basis. The Department will remain the sole Custodian of Record.

IMPACT ASSESSMENT

The impact assessment addresses the conditions for surveillance technology approval, as outlined by the Standards of Approval in San Francisco Administrative Code, Section 19B:

- The benefits of the surveillance technology outweigh the costs.
- The Department's Policy safeguards civil liberties and civil rights.
- The uses and deployments of the surveillance technology are not based upon discriminatory or viewpoint-based factors and do not have a disparate impact on any community or Protected Class.

The Department's use of the surveillance technology is intended to support and benefit the residents of San Francisco while minimizing and mitigating all costs and potential civil rights and liberties impacts of residents.

A. Benefits

The Department's use of Drone technology has the following benefits for the residents of the City and County of San Francisco:

X	Education	Education: Drone imagery to promote SFPUC projects and educate the public and on our mission and operations.
☐	Community Development	
☐	Health	
☐	Environment	
☐	Criminal Justice	
☐	Jobs	

☐	Housing	
X	Other	Public Safety: Efficient inspection of critical infrastructure (dams, sewer infrastructure, power lines) helps ensure infrastructure is operating safely, minimizing overall risk of failure.

B. Civil Rights Impacts and Safeguards

The Department has considered the potential impacts and has identified the technical, administrative, and physical protections as mitigating measures:

- SFPUC utilization of Drone technology is limited to monitoring assets and infrastructure on SFPUC owned lands and private property. Staff and consultants participating in SFPUC drone operations take precautions to ensure PII is not captured. If incidental PII is captured, data is scrubbed to remove any identifying information.

C. Fiscal Analysis of Costs and Benefits

The Department's use of Unmanned Aerial Vehicles ("UAV" or Drone technology) yields the following business and operations benefits:

Benefit		**Description**
X	Financial Savings	Drones are more efficient and cost effective than traditional methods. In environmental monitoring example, for an 8,000 ft fountain thistle site, it would take an estimated 120 labor hours to collect data if done by individuals counting plants, using traditional methods, costing an estimated $120,000. With a drone it would take two people less than two days and cost about $22,000, including labor and equipment.
X	Time Savings	Performing manual infrastructure inspections and environmental monitoring adds significant time to operations. See specific fountain thistle example above.
X	Staff Safety	See construction management and inspection examples above. Using a drone to capture imagery keeps staff out of dangerous and compromising situations (high structure inspections)
X	Data Quality	Some locations which are difficult to access by personnel may be more easily photographed using drone technology, providing improved overall data.

Number of FTE (new & existing)	2-4 employees, roughly 15-20 hours/month.		
Classification	1770 photographer, 1824 Principal Analyst, 9922 Public Service Aide		
	Annual Cost	***Years***	***One-Time Cost***
Total Salary & Fringe	*$30,364*		
Software			
Hardware/Equipment			$4,000
Professional Services	*$10,000*		
Training			
Other			
Total Cost			***$44,364***

The Department funds its use and maintenance of the surveillance technology through operating budget.

COMPARISON TO OTHER JURISDICTIONS

Unmanned Aerial Vehicles or Drone technology are currently utilized by other governmental entities for similar purposes.