



**DATE:** April 9, 2024

**TO:** Council Public Safety Committee

**FROM:** Fire Chief

**SUBJECT:** Hayward Fire Department Unmanned Aircraft Systems Program: Adopt a Resolution and Policy Statement Regarding the Use of Monitoring Technologies and an Operational Policy for the Hayward Fire Department's Unmanned Aircraft Systems Program

### **RECOMMENDATION**

That the Council adopts a resolution and policy statement regarding the use of monitoring technologies (Attachment II) and an operational manual for implementation of an Unmanned Aircraft Systems (UAS) Program for the Hayward Fire Department (HFD).

### **SUMMARY**

The FY25 CIP projects will include the implementation of project funds associated with the purchase of 8 total unmanned aircraft systems, also known as drones, and supporting equipment such as batteries, speakers, monitors, and training services. These devices will be used in various projects and programs throughout Hayward to ensure the greatest efforts in public safety, including usage during weather emergencies, unusual structure fires, wildland monitoring and abatement assessments, earthquake events, hazmat and/or hazardous events, and many other uses. The added capability of instant visibility in hard-to-access areas will improve response time and resource allotment.

### **BACKGROUND AND DISCUSSION**

Drones have been increasingly utilized to enhance life-saving efforts by fire departments around the world, and improvements to stability, battery, range, and imaging have made drones a natural addition to firefighting success stories. The City of Hayward has an established drone program within the Hayward Police Department, with successful implementation since early 2022. This program set precedence for operating procedures to preserve privacy and etiquette by the department for all residents and visitors of the City of Hayward. The Hayward Fire Department will utilize the existing policies of the Hayward Police Department to ensure alignment in program directives and commitment to the public.

Intended HFD usage includes:

1. Weather Emergencies: assess road access for fire apparatus following mudslides/washouts, assess structural stability of buildings, search for stranded victims and assess inaccessible areas during floods.
2. Hazmat and other unusual hazardous events (e.g. Calpine): UAS will allow HFD personnel to evaluate specific threats from a safe distance, with the ability to read placards, identify the extent of a spill, identify heat sources that can't be detected without thermal imaging, and identify resource needs.
3. Significant Earthquake: UAS will be indispensable following a significant earthquake, allowing personnel to survey a broad area, assess structural/infrastructure damage, identify possible rescue needs, and gain visual access to locations blocked by debris or damage.
4. Wildland Fire: Provide aerial intelligence on fire spread, spot fires, threatened structures and other assets, potential line location (note: HFD UAS will be grounded if other aviation resources arrive on scene)
5. Unusual Structure Fires (e.g. Holiday Bowl, B Street and Main): By providing the ability to see through smoke, identify structural instability, identify heat sources, and maintain accountability when smoke and other factors inhibit situational awareness and tactical decision making.
6. Over the Bridge/Boat Rescue: Quickly and safely determine if there is actually a victim in the water, accurately locate the victim, visually identify victim's location to rescuers, and communicate to the victim via an external loudspeaker.
7. Mass Casualty Incidents
8. Mutual Aid
9. Training/Recruitment
10. Any situation in which the Incident Commander would benefit from the increased situational awareness provided by an aerial perspective.
11. Lost Hiker: UAS can significantly enhance our ability to accurately locate lost or injured hikers in a timely manner, reducing time spent locating the patient which will in turn reduce their exposure time and allow us to provide care or rescue sooner. UAS will also allow us to assess equipment needs and best access in the case of injury, technical (low or high angle) rescue, and possible need for evacuation by aircraft.

To ensure that all personnel are properly trained and follow required safety and privacy provisions, HFD has also established a training program and partnership. All HFD UAS pilots will receive formal training and will obtain a Remote Pilot Certificate from the FAA and will comply with the rules set forth under 14 CFR Part 107. If the determination is made that Remote Pilots will need to deviate from Part 107 rules in order to perform emergency missions, Part 107 Waivers will be obtained. HFD will communicate directly with the Hayward Executive Airport and request permission to conduct flights within Class D airspace.

Additionally, there will be a named Program Coordinator to manage and support all drone-related applications throughout the department. The Program Coordinator will:

1. Identify equipment and software needs
2. Apply for Part 107 waivers, and, if necessary, navigate the application process for a Certificate of Authority
3. Create a UAS policy that encompasses Operations, Training, Mission Uses, Risk Management, and Privacy
4. Create a training plan that includes both initial training and ongoing training to maintain pilot proficiency, and develop a Remote Pilot Taskbook
5. Ensure that the HFD UAS Program complies with local, state, and federal regulations and that currency is maintained for all required qualifications
6. Ensure that documentation is maintained for flight hours, pilot training, currency, and equipment use
7. Stay current on evolving policy, technology and industry standards

## **STRATEGIC ROADMAP**

This agenda item supports the Strategic Priority of Enhance Community Safety and Quality of Life. This item is not specifically related to a project identified in the project identified in the Strategic Roadmap. Staff is bringing forth this new item because it impacts the overall efforts to strengthen emergency preparedness.

## **FISCAL IMPACT**

The UAS program will require the purchase of equipment and special personnel training. The total initial cost of the required equipment (Eight (8) UAS aircrafts, cameras, batteries and other equipment) is estimated at \$72,976. The total cost for initial training and certification of twelve pilots is estimated at \$11,988. The total initial cost for project start-up is \$84,964,

excluding annual software cost. This program is being funded by Measure C funds as allotted in the FY25 budget plan.

**NEXT STEPS**

Staff requests the feedback of the Public Safety Committee on this draft proposal prior to presenting to the City Council.

*Prepared by:* Lauren Dekas, Management Analyst

*Recommended by:* Garrett Contreras, Fire Chief

Approved by:



---

Kelly McAdoo, City Manager