1. Call to Order
2. Pledge to the Flag and Moment of Silence
3. Welcome: Flagler County Board Chair
4. Drone Presentation/Discussion
5. Wildfire Mitigation Update
6. Public Comment
7. Adjournment

While this is a workshop only and no decisions are expected to be made by any of the governmental bodies, if a person decides to appeal any matter that may be discussed for a future proceeding, a record of the workshop may be needed and, for such purposes, the person may need to ensure that a verbatim record of the workshop is made.
Drones Enhancing Public Safety

Flagler County Board of County Commissioners Workshop
December 17, 2018
Drone Features

- Variety - sizes, shapes and functions
  - Portable and convenient -

- Unmanned, remote control

- Computer control: Precision

- Economically Feasible

- Efficient
Utilization of Drones
Public Safety/Response/Recovery

- Monitoring/Surveillance of active incident
  - Wildfires
  - Large building fires
  - On-Scene personnel accountability
  - Hazardous materials incidents
  - Active assailant incident
  - Provide live video feed through open source internet applications such as YouTube, Facebook, etc.

- Incident Mapping
- Search and Rescue
- Pre-incident Planning
- Damage Surveys/Assessments
Utilization of Drones
Administrative/Non-Public Safety

- Building Inspections – Roofs, large commercial projects
- Communication Tower Inspections
- Code Enforcement (Limits of Law)
- Land Management - Asset inventory, visualization, site development, mapping, etc.
- 3D modeling – Building and natural topographic features
- Agricultural/Silviculture - Tree health, tree count, etc.
- Drainage Canal Assessments
- Road and Bridge Construction Projects
- Promotional/Informational Videos
Use During a Disaster

Road Conditions

Structural Damage

Flooding

Debris
Next Steps

Establish:

- Policies, Procedures, and Protocol Development
- Purchase Equipment
- Training and Proficiency
- Obtain Certificate of Authorization
- Seek State grant funding for on-going operational needs
- Public/Media Awareness
Regulatory Matters

FAA Authorization

- Part 107 Remote Pilot
- License individual as a Remote Pilot
- Jurisdictional Certificate of Authorization
  - Outlines and/or completely waives some Part 107 regulations when used by a jurisdiction (i.e.: local government)

Remote Pilot Training/Licensing/Deployment

- Operation of a UAS is a skill that must be trained and then maintained
- Part 107 license can be obtained having never operated a UAS
- Ongoing training and practice necessary to maintain proficiency
- Technology moving very quickly – difficult to stay current
- Proficient operators working under established guidelines would allow UAS and FireFight or other manned aircraft to operate simultaneously
Estimated Program Startup Cost

Training Equipment
$20,000

Lower operational and mobilization cost compared to conventional aircraft.
Future Options - Specialized Equipment

- Light imaging, detection, and radar (LIDAR) mapping
- FLIR (Forward looking infrared), thermal imaging
- NDVI (normalized difference vegetation index) for monitoring plant health etc.
- Deployment of external loads
  - floatation device for swimmer in distress
  - radio repeater
Benefits

- Increase public safety with regard to their situational awareness.
- A safe and cost-effective way to view potentially dangerous situation.
- Search and rescue, disaster support, aerial observation support and communication tower inspections.
- Provide real-time situational awareness.
Integration Into Public Safety
Questions
1985

131 homes lost, 200 damaged
25,000 acres burned
All volunteer Fire Department
1 Dispatcher
1998

- All 45,000 residents of Flagler County evacuated
  - (1st time in US history)
- 71 homes lost in Flagler County, 100’s damaged
- 82,000 acres burned in Flagler, 22% of the County
1998
2011

- Espanola fire burns 5,100 acres
WILDFIRE MITIGATION FORMS

- **Education**
  - Firewise, Ready Set Go

- **Mechanical**
  - Vegetation removal with hand tools and mechanized equipment.

- **Prescribed Fire**
PRESCRIBED FIRE
POST HURRICANE MATTHEW

- Florida Forest Service fireline work on County property.
- Hazardous Tree Removal
- Prescribed Fire Program
- HMGP
HURRICANE MATTHEW
FLORIDA FOREST SERVICE PARTNERSHIP

Approximately 5 acres cleared by Florida Forest Service via 30’ wide strip.
HAZARDOUS TREE REMOVAL

568 Trees Removed
<table>
<thead>
<tr>
<th></th>
<th>Project Costs</th>
<th>Federal Share</th>
<th>Local Share</th>
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<tbody>
<tr>
<td>Materials</td>
<td>$63,230.00</td>
<td>$47,422.00</td>
<td>$15,808.00</td>
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<td>Labor</td>
<td>$22,626.00</td>
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<td>Fees (survey if necessary)</td>
<td>$33,239.00</td>
<td>$24,929.00</td>
<td>$8,310.00</td>
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<tr>
<td><strong>Total Project Costs:</strong></td>
<td><strong>$119,095.00</strong></td>
<td><strong>$89,321.00</strong></td>
<td><strong>$29,774.00</strong></td>
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1.5 – 2 acres per day
FIRST PRIORITY HMGP PROJECTS