FAIRFAX COUNTY PARK AUTHORITY

M E M O R A N D U M

TO: Chairman and Members
Park Authority Board

FROM: Sara Baldwin, Acting Executive Director

DATE: November 2, 2017

Agenda

Committee of the Whole
Wednesday, November 8, 2017 – 5:45 p.m.
Boardroom – Herrity Building
Chairman: William G. Bouie
Vice Chair: Ken Quincy

1. Update on Unmanned Aircraft System (UAS) Activities on Parkland – Information*

*Enclosures

If accommodations and/or alternative formats are needed, please call (703) 324-8563. TTY (703) 803-3354

Committee Agenda Item
November 8, 2017

INFORMATION (with presentation and discussion)

Update on Unmanned Aircraft System (UAS) Activities on Parkland

In the first half of 2017, a staff team comprised of representatives from each of the Park Authority's functional areas completed a study report of the use of Unmanned Aircraft Systems (UAS), also known as "drones," on county parkland. This study report and the team's recommendations were presented to the Park Authority Board at its regular meeting on July 12, 2017.

The Park Authority Board directed staff to undertake several follow-on actions to the study. These included working with the UAS community to explore programming opportunities and evaluating one or more park locations for suitability for outdoor UAS activities in addition to the current use at Poplar Ford Park. Park Services staff took the lead on the programming side and held two well-attended drone-flying demonstration events indoors at the South Run field house on September 18 and October 13, 2017.

The Drone Study Team reconvened to consider possible outdoor UAS launching sites on parkland in addition to Poplar Ford Park. The team applied location selection criteria as detailed in the study report on page 18 and selected two potential sites for further evaluation: Lake Fairfax Park in Reston and Pope's Head Park in Fairfax Station. The next step is for Park Planning and Public Information Office staff to conduct public outreach to obtain stakeholder and community input on the two potential outdoor UAS sites. One or more public meetings will be held in December to collect public input and a web page will be established to provide information and collect feedback.

Enclosed for background information are the Drone Study Report (Attachment 1), which includes recent administrative updates at the request of the County Attorney's Office, and aerial imagery of the two sites under consideration (Attachment 2).

FISCAL IMPACT:
Introduction of UAS/drone flying activities in Fairfax County parks has the potential to generate revenue through programming, use permits, and partnerships.

ENCLOSED DOCUMENTS:
Attachment 1: UAS in Fairfax County Parks Report – November 2017 Revision
Attachment 2: Aerial Imagery of Potential Outdoor UAS Sites

Committee Agenda Item
November 8, 2017

STAFF:
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Aimee Vosper, Deputy Director/CBD
Judy Pedersen, Public Information Officer
Todd Brown, Director, Park Operations & Acting Director, Resource Management
Barbara Nugent, Director, Park Services Division
David Bowden, Director, Planning and Development Division
Andrea Dorlester, Manager, Park Planning and Real Estate Services Branches
Ryan J. Stewart, Senior Planner, Park Planning Branch

Attachment 1

UNMANNED AIRCRAFT SYSTEMS IN FAIRFAX COUNTY PARKS

NOVEMBER 2017

(Revised)

ACKNOWLEDGEMENTS

Fairfax County Park Authority Board

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EXECUTIVE SUMMARY

Unmanned Aircraft Systems in Fairfax County Parks

Figure 1: A "drone" in flight
Source: Wikimedia Commons

Unmanned Aircraft Systems, also known as UAS or "drones" are a technology becoming increasingly popular for recreational and commercial use. The Fairfax County Park Authority (FCPA) recognizes that allowing UAS within its park system offers many opportunities to the public and may have a unique role toward fulfilling the agency's mission, yet also presents certain inherent risks to public safety. To this end, the study's goals are twofold: determine how to respond to the growing UAS market, and provide its Board and staff with recommendations on managing the community's desire to enjoy UAS while protecting the public's safety and balancing the requirements of activities on park land.

Study Process

A staff team representing each of FCPA's functional areas was assigned to make recommendations to the Park Authority Board and senior leadership. The methodology included background research on national trends; airspace regulation; safety considerations, natural and cultural resource management; and current and planned park activities. Collaboration with County agencies and external stakeholders supplemented the team's background research and informed the study's findings. Public outreach and comment will be a key element of implementing the study's recommendations.

Recommendations

The study team recommends a multidisciplinary approach toward integrating UAS into the park system. As detailed on page 16, specific efforts include:

- Expanding UAS to areas beyond Poplar Ford Park,
- Developing UAS-centric programming,
- Conducting an ongoing public outreach campaign on UAS use within the parks,
- Recommend UAS pilots adhere to community-based safety guidelines,
- Promoting the sustainable use of parks and facilities,
- Applying UAS technologies to support FCPA staff, and
- Considering commercial and non-recreational UAS activity where appropriate.

In support of the above recommendations, staff developed criteria to identify parkland potentially suitable for UAS activities.

Once realized, a UAS program will position FCPA to meet this growing demand, provide new recreational opportunities for the public, and provide for the enjoyment of this emerging technology within its parks.

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BACKGROUND

In January 2017, the Fairfax County Park Authority (FCPA) began a study to determine whether its park lands and facilities could support the expansion of unmanned aircraft systems (also known as "UAS" or "drones") for hobbyist recreational use and commercial activity. The need for the study is twofold:

1. To respond to and leverage emerging national market trends in UAS use, and

2. Provide FCPA leadership and staff with recommendations on managing the community's desire to enjoy UAS within the park system while protecting the public's safety and balancing the requirements of other users and activities on park land.

The interdisciplinary study team consisted of representatives of all divisions of the Park Authority, in consultation with Fairfax County governmental departments including the County Attorney, Risk Management, and the Office of Emergency Management.

The scope of the study included background research of literature, federal airspace management rules and procedures, safety guidelines, UAS usage trends, and policies of other parks and recreation organizations. The team developed site selection criteria and used its knowledge of the park system and recommendations from the UAS community to recommend potential sites for further feasibility analysis. Staff conducted stakeholder interviews to obtain information and understand the viewpoints of potential UAS users. Multiple stakeholders contributed their knowledge to the study, including the Federal Aviation Administration (FAA), surrounding local jurisdictions, recreational and commercial UAS pilots, and environmental advocates. Given the rapid pace with which UAS have emerged and government entities continue to address these issues, this report and its recommendations should be considered accurate as of November 2017. Some adjustment during implementation may be necessary to account for current conditions.

Unmanned Aircraft Systems

Unmanned Aircraft Systems (UAS or, less accurately, "drones"[1]) refer to vehicles used without a human operator on board. The vehicle is instead controlled by an operator via a remote-control system. Many higher-end UAS include limited autonomous operation, where human control is supplemented by onboard computer systems. Originally used for military and

Photo credit: Peter Linehan (Flickr.com). Used with permission.

[1] This study uses the statute definition of "UAS" as adopted by the Federal Aviation Administration: an aircraft that is operated without the possibility of direct human intervention from within or on the aircraft. UAS includes the unmanned aircraft and its associated elements, including communications links and control components.

peacekeeping operations, their use has grown to include hobbyist recreation, commercial, scientific, agricultural, or industrial applications.

National Trends

The FAA projects the rapid, continued growth of UAS use, both recreationally and commercially. In 2015, the FAA began requiring all UAS weighing more than 0.55 pounds and less than 55 pounds to be registered using a new online system (aircraft weighing over 55 pounds were to be registered using an existing process).[2] While the number of unregistered aircraft is believed to far exceed the number of registered, the FAA has used this data to project the increase (Figure 3).

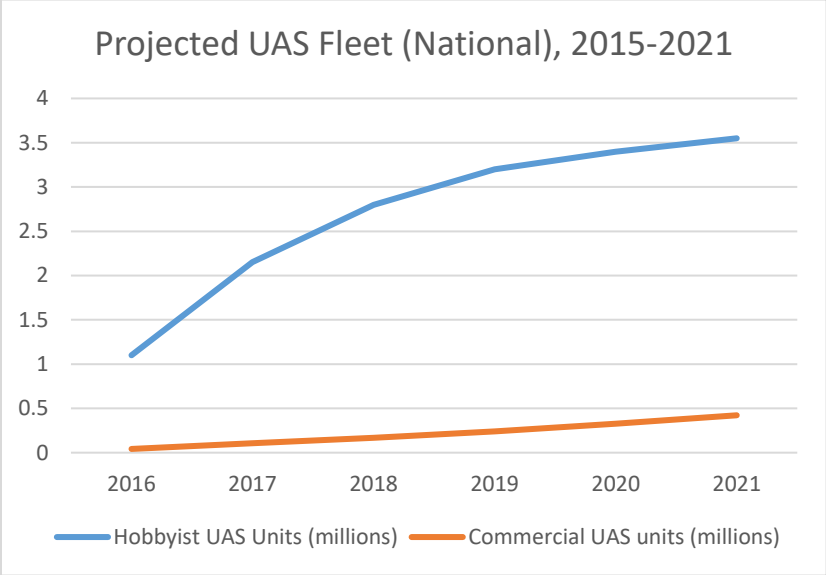

Figure 3: Projected UAS Fleet based on FAA registration trends through February 2017.

FAA registrations suggest that the recreational use will continue to grow, fueled by falling prices and the inclusion of new technologies such as cameras, but slowing over time as UAS prices settle and the rate of early adoption slows. The FAA reports the commercial sector to be in its early stages of growth, and projects the 2021 non-hobbyist fleet size to be ten times greater than the size of the fleet in 2016. Much of this non-hobbyist growth is attributed to consumer-grade aircraft, although rapid expansion of the professional-grade, custom-built fleet is expected as more complex uses are employed and the regulations for use clarified. [3]

Commercial and institutional uses vary; however, FAA registration data show that the major national trends include aerial photography (34%); construction, industrial, and utility inspection (26%); real estate (26%); and agriculture (21%) (Figure 4). These figures reflect that a single UAS

[2] As of May 2017, a federal appeals court has struck down the 2015 FAA rule compelling recreational users to register UAS. The FAA still recommends registration as a safety measure.

[3] Federal Aviation Administration: *Forecast: Unmanned Aircraft Systems,* https://www.faa.gov/data_research/aviation/aerospace_forecasts/media/Unmanned_Aircraft_Systems.pdf.

may be used for multiple uses.[4] Similarly, aerial photography, real estate, and emergency management applications are anecdotally experiencing rapid growth within the Washington, DC region.

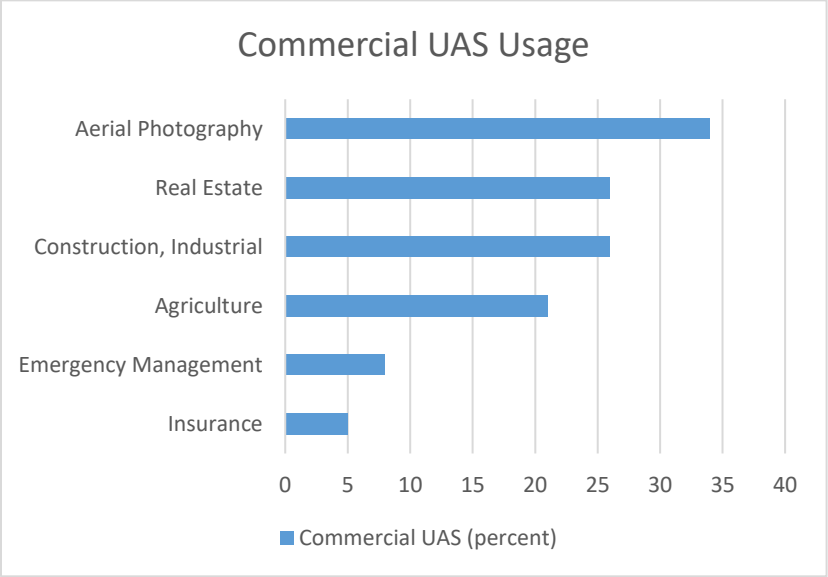

Figure 4: Commercial UAS types based on FAA registrations, 2016-17

REGULATORY FRAMEWORK

Park Authority Policy and Regulation

The Park Authority does not regulate airspace or the use of UAS; however, it is empowered to enact rules governing the use of its lands and facilities, and for protecting the safety and welfare of the public.[5] Like all other park activities, the use of UAS on park land must comply with established FCPA policies and rules.

The use of UAS within FCPA's lands and facilities is currently governed by its Regulation §1.17, Remote-Control Devices and Powered Models or Toys:[6]

> *No person shall operate hobby rockets, remote-control gliders or powered remote-control or tethered planes, boats, cars or other like devices in a park except in areas designated by and with the express written permission of the Park Authority.*

Users of UAS within the park system are subject to both the FCPA's rules and regulations and other requirements imposed by the FAA.

[4] Ibid.
[5] Va. Code Ann. § 15.2-5700 et seq., the Park Authorities Act
[6] Fairfax County Park Authority Policy Manual, June 26, 2013.

UAS activities may also be supported by numerous other FCPA policies including, but not limited to, those addressing park planning and development, athletic field use, natural and cultural resources management, permitted activities and commercial use, operations and management, user fees, partnerships, and safety and security.

National, State, and Local Parks Regulation

As of this writing, recreational UAS use in both the National Park Service and Virginia's Department of Conservation and Recreation park systems are prohibited. Local parks' regulations vary and, in general, use is considered on a case-by-case basis. Jurisdictions east of Fairfax County, such as Arlington County and the City of Alexandria, are within a FAA-designated Flight-Restricted Zone (FRZ), discussed below, where UAS use is particularly limited. In comparison, FCPA's own regulations and practices are in line with those of its neighbors. On a national level, a 2015 query of National Recreation and Parks Association (NRPA) members found that many park agencies either had no policies in place or their staffs were unaware of any such policies.[7]

FAA Regulation

The FAA is charged with managing the National Airspace System, including manned and unmanned aircraft operations. Like manned aircraft pilots, it is the responsibility of all UAS pilots to know and follow the applicable rules, whether flying for recreational or commercial purposes. These rules are subject to periodic change and are outside of FCPA's jurisdiction; however, current pilot and airspace requirements have informed this study. Table 1 summarizes the FAA's published rules at the time of this report.[8]

The FAA classifies the National Airspace System using alphabetical designations A, B, C, D, E, and G. Airspace classes D (around Ft. Belvoir), G (uncontrolled), and B (the controlled airspace serving Dulles International Airport) overlay Fairfax County at various altitudes.

[7] Dolesh, Richard, "The Drones are Coming," Parks and Recreation Magazine, March 2015, page 48.
[8] UAS: Getting Started, Federal Aviation Administration, June 2, 2017. https://www.faa.gov/uas/getting_started/ and FAA's Guidance for Small UAS Operators, brochure published November 2016.

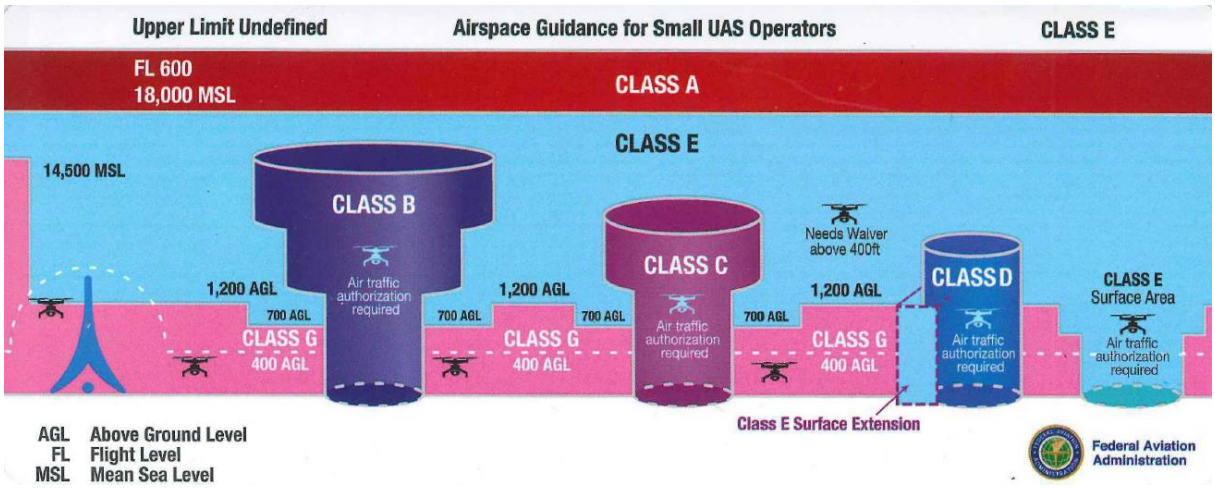

Figure 5: Airspace Guidance for Small UAS Operators (FAA)

Figure 6: 2016 National Championship Drone Racing (Drone Magazine)

	Recreational Use	Commercial/Institutional Use
Legal Basis	14 CFR Part 101 and 336 Public Law 112-95	14 CFR Part 107
Pilot Requirements	None	Must obtain a Remote Pilot Airman Certificate Must be 16 years old Must pass TSA vetting
Aircraft Requirements	Must be registered if over 0.55 lbs.*	Must be less than 55 lbs. Must be registered if over 0.55 lbs. Must undergo pre-flight safety check
Location Requirements	Specific airspace authorization not required 5 miles from airports without prior notification to airport and air traffic control	Class G airspace**
Operating Rules	Yield right-of-way to manned aircraft Must keep the aircraft in sight (visual line-of-sight) UAS must be under 55 lbs. The aircraft is operated in accordance with a community-based set of safety guidelines and within the programming of a nationwide community-based organization Must notify airport and air traffic control before flying within 5 miles of an airport Notification of a heliport is recommended if within 5 miles	Must keep the aircraft in sight (visual line-of-sight)** Must fly under 400 feet** Must fly at or below 100 mph** Yield right-of-way to manned aircraft** Must not fly over people** Must not fly from a moving vehicle** Operations are permitted within a 400 foot radius of a structure and up to 400 feet above the height of a structure
Example Applications	Educational and recreational (hobbyist) flying	Commercial uses (photography, aerial surveying, inspections) Institutional use (such as Park Authority or local government applications)

Table 1: FAA's UAS Operators' Rules (National)

* *The requirement for recreational users to register aircraft is not required as of May 2017. See* Taylor v. Huerta, Court of Appeals, Dist. of Columbia Circuit, 2017.[9] The FAA encourages all users to register aircraft as a safety measure.

** These rules are subject to waiver from the FAA.

Washington, DC Regional Airspace

Per the FAA's own guidance, the Washington, DC regional airspace is some of the most restrictive in the United States. Rules enacted after September 11, 2001 provide for the security of the nation's capital, yet limit the public's ability to fly UAS. These flight rules include a Special

[9] Taylor v. Huerta, Court of Appeals, Dist. of Columbia Circuit, May 19, 2017. Google Scholar: http://scholar.google.com/scholar_case?case=15932350315687343901&hl=en&as_sdt=6,47&as_vis=1

Flight Rules Area covering a 30-mile radius from Washington-Reagan National Airport, consisting of an inner ring and outer ring, as shown in Figure 8.

Within the inner ring, or Flight Restricted Zone (FRZ), UAS flights are prohibited without specific FAA authorization. Given these restrictions, the FAA has created an outreach effort, the No Drone Zone, to assist federal, state, and other partners in promoting the safe flight of UAS. Digital media toolkits are available for partner use.[10]

Figure 7: No Drone Zone Signage

UAS flights are permitted within the outer ring, provided that operators abide by the applicable FAA rules.

The region's airspace configuration and associated altitudes are depicted in Figure 9.

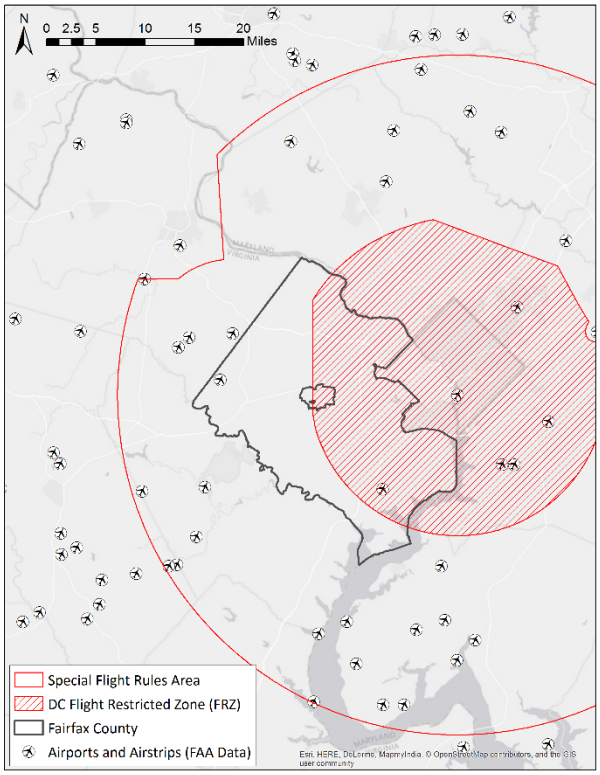

Figure 8: Washington, DC Special Flight Rules Area (SFRA)

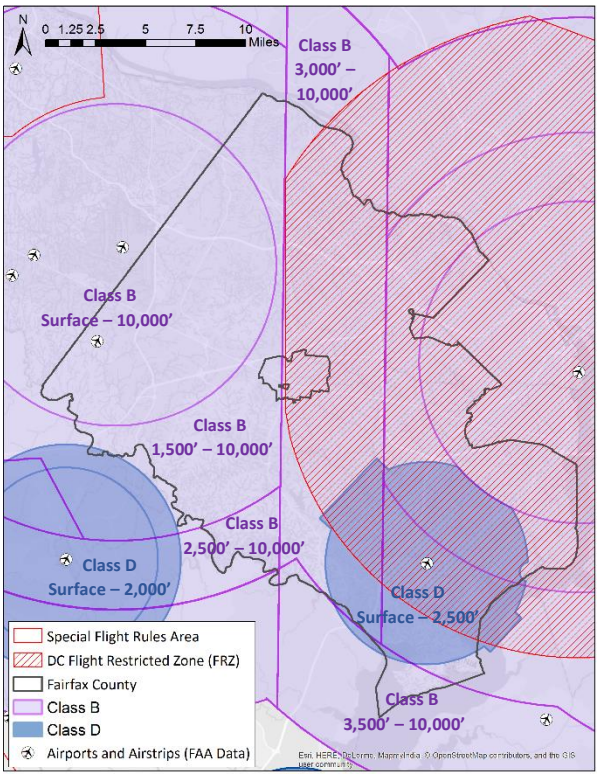

Figure 9: Washington, DC Regional Airspace
Note: Class G airspace underlies Class B where Class B begins at above surface level.

[10] No Drone Zone, Federal Aviation Administration, June 2, 2017, https://www.faa.gov/uas/where_to_fly/no_drone_zone/

SAFETY CONSIDERATIONS

The safe and responsible use of UAS is paramount, and the associated concerns are not unfounded. Technological failures, personal injuries, possible collision with manned aircraft, and privacy intrusions are widely reported. While UAS operations carry certain inherent risks, most UAS operators are responsible, law-abiding persons wishing to enjoy their hobby in a safe manner.

The Special Rule for Model Aircraft (Section 336 of Public Law 112-95) requires recreational UAS pilots to operate under a community-based set of safety guidelines and within the programming of a nationwide community-based organization (CBO). The membership-based Academy of Model Aeronautics (AMA) is perhaps the largest such CBO; however, there are numerous others that follow similar safety protocols. The AMA nationwide safety rules are provided as an example in Appendix 2.

Community-based safety guidelines are promulgated by the FAA and vary by CBO. Common examples include:

- Staying below 400 feet and below surrounding obstacles where possible
- Keeping the aircraft in eyesight at all times
- Staying clear of manned aircraft operations
- Not flying over persons and moving vehicles
- Contacting the airport and control tower if flying within five miles of an airport or helipad
- Avoiding flights in inclement weather and high winds
- Not flying while under the influence of alcohol or drugs
- Not flying near sensitive infrastructure such as power stations or government facilities
- Not conducting surveillance or aerial photography where there is the expectation of privacy
- Limiting the number of aircraft in the air at one time (both for safety and to avoid frequency spectrum conflicts)

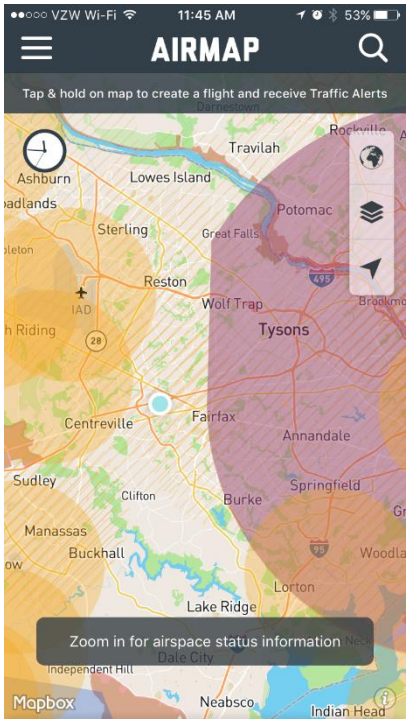

Figure 10: Airmap mobile application showing the user's location (blue dot), FRZ (red), and areas requiring airport and air traffic control notification (orange).

UAS uses radio frequency spectrum to allow communication between the aircraft and its control device. The use of spectrum and radio frequency are governed by the Federal Communications Commission (FCC).

The FAA and other organizations have developed tools that encourage the safe use of UAS. Airmap (www.airmap.com) and the FAA's B4UFly (www.faa.gov/uas/where_to_fly/b4ufly) provide location-based mapping for reference on

mobile devices. Such mobile applications allow the pilot to locate suitable locations for UAS flights, reference contact information for nearby airports, and read current FAA advisories.

CURRENT OPERATIONS

Poplar Ford Park, located at 6704 Bull Run Post Office Road, Chantilly, is currently the only location approved for model aircraft and UAS flights within the park system. FCPA shares a Memorandum of Agreement with Northern Virginia Radio Control (NVRC), a hobbyist flight organization, for it to operate remote-controlled aircraft at a designated area within the park. This use is depicted on the park's Conceptual Development Plan, approved by the Park Authority Board on March 25, 2015. Under the agreement, NVRC leases its use of the site from FCPA, carries its own insurance coverage, and agrees to abide by community-based safety guidelines and field rules, which include any needed notification to Dulles International Airport and air traffic control. NVRC is affiliated with the national Academy of Model Aeronautics (AMA); its members are required to also hold membership in AMA and abide by its safety guidelines and organization rules. NVRC hosts many flight-related events throughout the year.

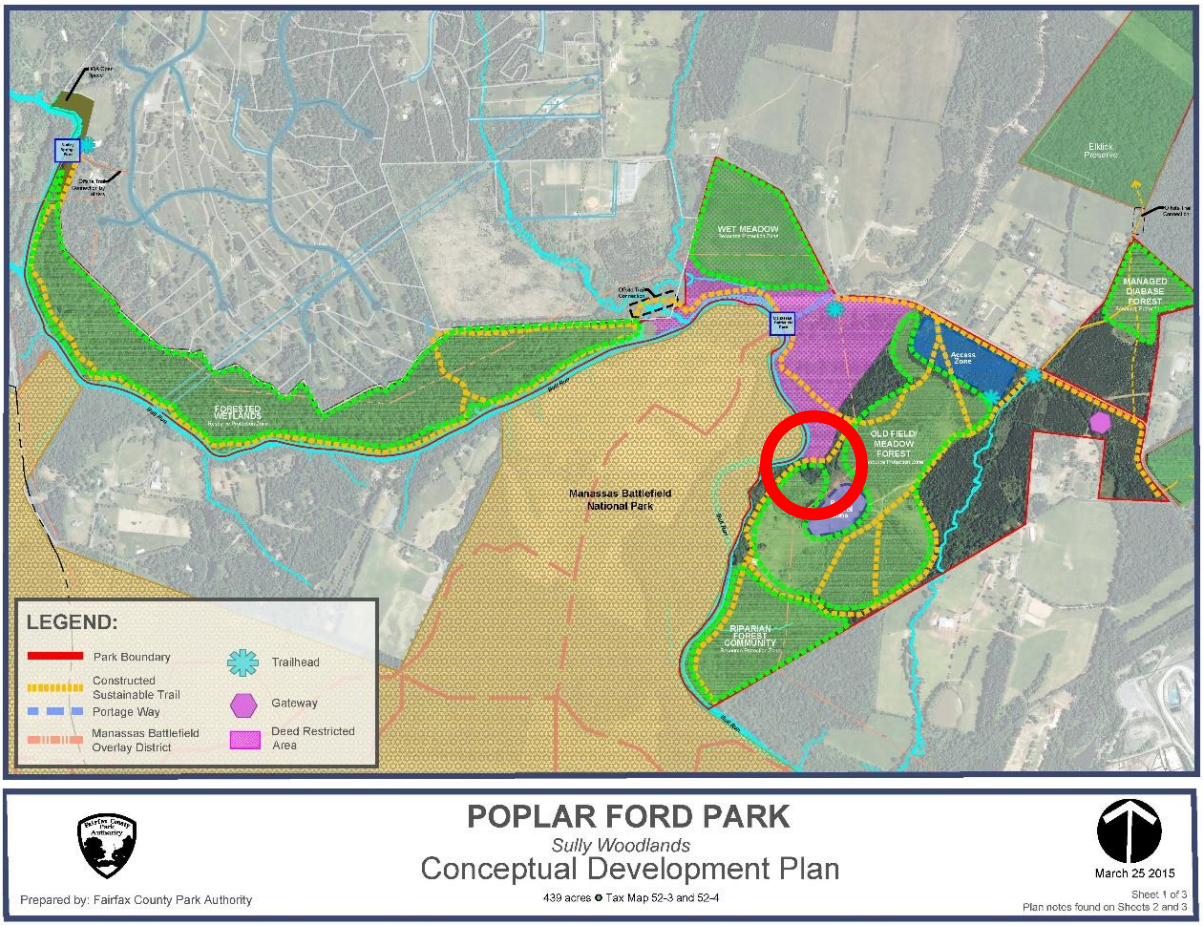

Figure 11: Conceptual Development Plan of Poplar Ford Park

Other opportunities for UAS exist outside of FCPA's park system. NVRC has a similar agreement with Fairfax County Department of Public Works (DPWES) to operate a site in Lorton known as the Lorton-Burnett Field. Like its activities at Poplar Ford, NVRC is subject to community-based safety guidelines, field rules, and pilot qualification. Fairfax County Public Schools has also recognized the value of UAS in STEM education and conducts limited flights at schools outside of the FRZ. Numerous commercial venues offer indoor/outdoor racing and radio-controlled events. Public libraries frequently host classes where students learn to construct and fly their own UAS projects.

RESOURCE MANAGEMENT

In keeping with FCPA's dual mission of providing recreational opportunities and stewarding its natural and cultural resources, the introduction of UAS flights at locations outside of Poplar Ford Park should undergo appropriate analysis to determine and minimize resource impacts.

Like any activity, UAS use has the potential to negatively impact FCPA's resource capital. Existing park conditions and natural features may limit the use of UAS to certain areas and/or times of the year. Flights may disturb wildlife such as birds and their nesting habitats, may increase visitor traffic to open areas as UAS popularity continues to grow, and may generate disruptive noise. These impacts may be minimized through appropriate research and a site selection process that seeks to deconflict UAS flights with other valued characteristics.

Figure 12: Bobolink (Dolichonyx oryzivorus)

During the study, the Audubon Society of Northern Virginia, American Bird Conservancy, and Northern Virginia Conservation Trust provided FCPA with several recommendations. Among them:

- Prepare comprehensive biological inventories for considered park areas for FCPA and the public to better understand what natural resources are present
- Prohibit UAS in natural areas and natural resource-based parks
- Limit UAS to previously-disturbed areas such as athletic fields and parking lots.
- Invite the public to comment on draft plans, biological inventories, and site selection criteria
- Support decisions with science

In addition to natural resources, FCPA stewards historic sites and structures that may be damaged through improper UAS operations. While the adherence to community-based safety guidelines will minimize much of this risk, flights adjacent to significant structures should be limited to those associated with preservation, maintenance, and interpretation.

RECOMMENDATIONS

The study team recommends a proactive, interdisciplinary approach toward offering UAS opportunities to the public. Broad strategies include the following:

Expand UAS activities to locations beyond Poplar Ford Park

To meet the growing interest in UAS, FCPA should consider expanding the flight opportunities for new and experienced hobbyists to locations beyond Poplar Ford Park. Locations would be established using the location and site criteria below. Selected locations would be made available at specific times for the public and would be scheduled to deconflict with other activities. This programmatic approach provides an equitable use of lands and facilities across multiple recreational events.

Staff recommends that the locations be supervised and activities conducted in partnership with a sponsoring community-based organization (CBO) and its members to ensure that safety is maintained and that all FAA requirements are met.

Staff should select one to two locations outside of Poplar Ford Park to serve as a pilot program. Depending on the success of the pilot program, FCPA could approve additional locations to meet public demand. Any sites considered for UAS flights should first undergo appropriate evaluation for their feasibility and subject to a public comment process. Future FAA mapping tools will provide an additional resource to aid in site selection. FCPA should consult with nearby airports and air traffic control to determine the appropriateness of a site within the region's airspace.

Develop UAS-centric programming

Staff should consider hosting UAS-specific classes and camps that introduce participants to the recreational UAS hobby. Such events could provide teaching and instruction from experienced UAS pilots or in partnership with CBOs and allow for indoor/outdoor racing or competitive UAS sporting, or support STEM education. While the focus of this programming would begin with the casual user, experienced hobbyists may also sign up for classes to access FCPA-approved flight locations. Like other similar initiatives, UAS programming could be a revenue-generating activity.

Conduct an ongoing public outreach campaign on UAS use within the parks

Staff should develop public outreach on its UAS efforts to increase the public's awareness of the FAA's operating requirements, resources available to UAS users, and FCPA-specific guidance and programs. The campaign would make extensive use of the FCPA website and social media, and could include public informational meetings in coordination with CBOs and UAS enthusiasts, surrounding jurisdictions, schools, libraries, and other stakeholder groups.

Recommend UAS pilots adhere to community-based safety guidelines

As a basic safety measure (and FAA requirement), pilots operating within the park system should adhere to community-based safety guidelines, such as those adopted by nationwide community-based organizations. These guidelines provide a framework for operating UAS in a safe and responsible manner, which is particularly important given the potential conflicts between UAS flights and other activities within the park system. To ensure a safe operating environment for pilots and park users, UAS activities should be overseen by a CBO, requiring its members to obtain proper safety training and education.

Because FAA rules and procedures may change from time to time, UAS operators – both hobbyists and commercial users – should be responsible for maintaining awareness of current guidelines to ensure the safe operation of their aircraft.

If a UAS has been registered with the FAA, operators should provide the registration number and the operator's contact information to FCPA prior to operating in park land. The operator should be responsible for keeping this information up to date with FCPA. All registered aircraft should be marked with the registration number per FAA guidance.

Similarly, all users would be subject to the County's noise ordinance and all other local laws and regulations.

Expand partnerships with nationwide community-based organizations

Partnerships with CBOs enable FCPA to offer new services and programs to the public. Likewise, FCPA can offer park land to accommodate the needs of user groups in a region where open space for outdoor activities (or indoor recreational space suitable for UAS) is relatively limited.

CBOs offer the additional benefit of experience in both flight operations and safety. In its consultation with the FAA, the FAA advised the project team that, if considering expansion to new sites, its partnership with NVRC should be used as a model. Doing so provides a level of safety oversight, airspace coordination, and facility maintenance which would be difficult for FCPA to provide on its own. In addition, the current partnership model requires a CBO to maintain a liability insurance policy coving itself and its members in the event of personal injury or property damage.

Promote the sustainable use of parks and facilities

Introducing UAS activities into new areas may ultimately create the need for additional maintenance. Such sites should be monitored for over-use on a routine basis, and staff should be permitted to close areas for maintenance as appropriate. Further controls may be necessary to prevent over-use and minimize any detrimental effects to park land and facilities.

Apply UAS technologies to support FCPA staff

As technology advances, new applications offer increasingly greater opportunities for FCPA to use UAS in support of its resource management, programming, planning and development, and other lines of business. Staff should explore innovative approaches as the market evolves.

Institutional and local government functions are regulated by Part 107 and are subject to the same criteria as commercial use.

Consider commercial and non-recreational UAS activity where appropriate

Given the variety of commercial applications and the unique requirements of its users, proposed commercial operations should be evaluated on a case-by-case basis for alignment with the FCPA mission, and for any potential impacts to park land, resources, and facilities. Commercial users should submit a description of the proposed activity to staff to initiate the request. Where feasible, FCPA could seek partnerships with commercial providers to enhance its abilities to manage the park system, plan for future activities, and support FCPA permitted activities such as aerial photography or videography for weddings and marketing. As a condition of approval, users should obtain the appropriate FCPA permits and provide evidence of any necessary FAA waivers or authorizations. As an option, pilots may choose to fly recreationally without engaging in commercial activity.

Location Selection Criteria

The study team recommends that parks and other sites considered for the introduction of UAS activities meet the following criteria:

1. Locations within the FRZ should not be considered.
2. Countywide, District, and Local parks may be suitable locations. Resource-based parks may also be suitable, if staff determines that the activities would not adversely impact, or would enhance, the park's resources. RECenters and field houses may be considered, if they provide adequate indoor space to safety and responsibly operate. Golf courses are generally not appropriate for recreational flights due to the potential for disrupting golfers and visitors.
3. Locations should be served by adequate parking onsite or nearby. Vehicular, bicycle, and pedestrian traffic should be able to easily access the site during normal operating hours.
4. Locations should provide adequate open space to allow a UAS pilot or spotter to maintain eyesight on the aircraft, allow for safe distances between spectators and operators, and provide safe clearance between structures and aircraft.
5. Flight activities should not be located near public safety, schools, or institutional facilities without prior coordination with the appropriate neighbors.
6. Recognizing that FCPA's athletic field inventory is in high demand, fields and scheduled facilities should have the capacity to support new uses without impacting existing users or leagues.
7. Preference should be given to locations where there is a shared interest from FCPA and a community-based organization.
8. Locations under consideration should be evaluated for consistency with an approved Park Master Plan, especially if a site requires additional built facilities or infrastructure to support UAS operations.

Site Considerations

The team recommends that the site conditions within the locations being considered meet the following criteria:

1. Sites should avoid Resource Protection Areas (RPAs) and sensitive natural and cultural resource areas.
2. The area should be free from lighting poles, telecommunications structures, and vertical obstructions.
3. Sites should be free from heavily used and highly-trafficked park areas such as playgrounds, amusement areas, and gathering places.
4. Sites should be able to facilitate spectator and crowd control, to separate aircraft from other park users and non-operators. Fenced areas may be suitable for this purpose.
5. ADA accessibility should be considered in site selection.

Parks for Further Study

Using the recommended location criteria as a guide, and recommendations from the local UAS community, staff assessed the potential of hosting UAS at multiple park locations. While no single site met every desired attribute, the following park locations are recommended for further evaluation as candidates in a future UAS pilot program. This list is expected to evolve over time, and staff should continue to consider additional locations as opportunities emerge.

Park/Facility	Supervisory District
Baron Cameron Park	Hunter Mill
Frying Pan Farm Park – Field House	Hunter Mill
Greenbriar Park	Springfield
Lake Fairfax Park	Hunter Mill
Laurel Hill Park	Mount Vernon
Mason Neck West Park	Mount Vernon
Pope's Head Park	Springfield
Rock Hill District Park	Sully
South Run District Park – Field House	Springfield

Table 2: Recommended Parks for Further Study

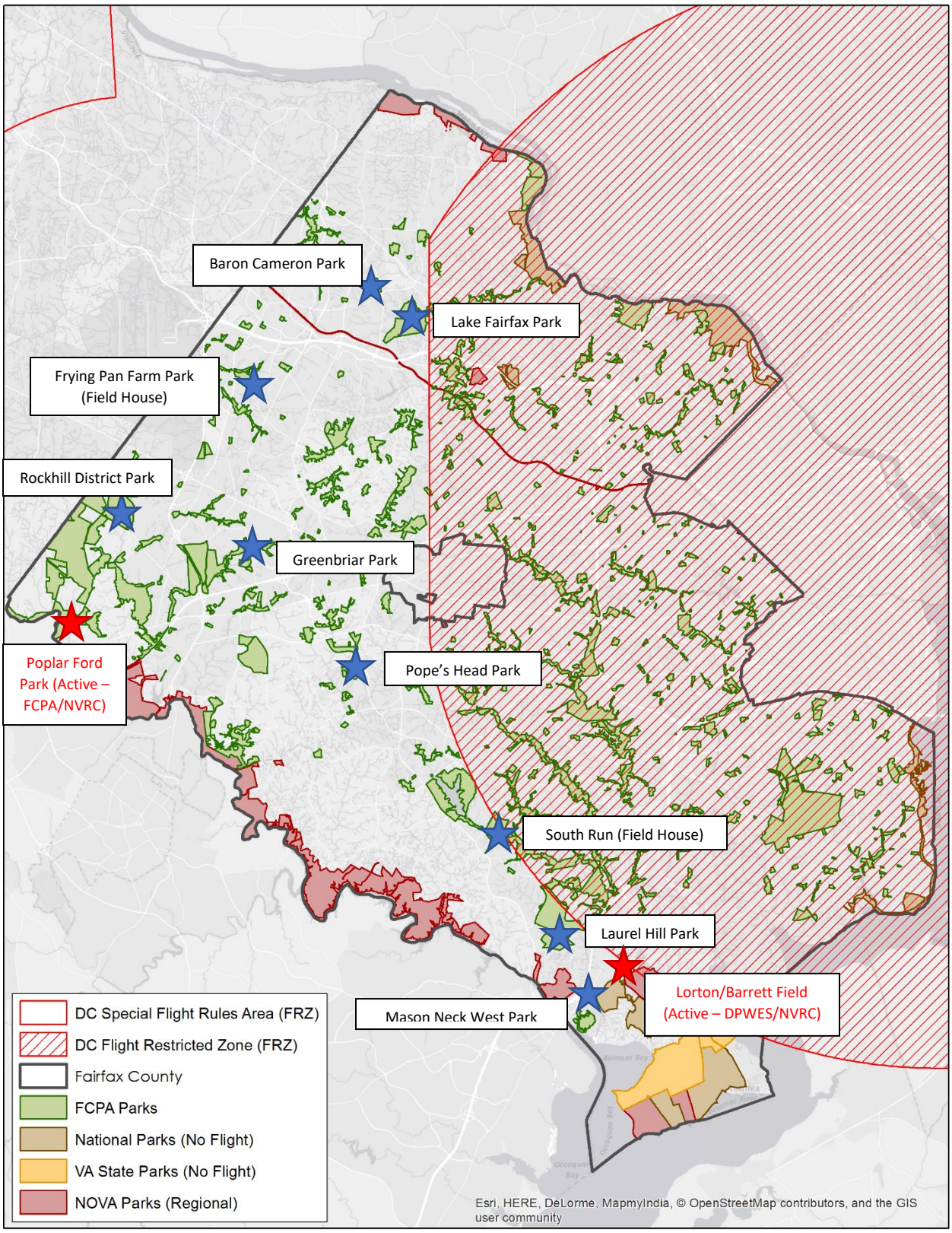

Figure 13: Parkland and Potential UAS Sites

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APPENDIX 1

Memorandum of Agreement for the Use of Poplar Ford Park

Memorandum of Agreement – RC Model Aircraft Use at Poplar Ford Park

THIS MEMORANDUM OF AGREEMENT (Agreement or MOA), dated JUNE 7, 2016, between the Northern Virginia Radio Control Club (NVRC), a non-profit Virginia Corporation, and The Fairfax County Park Authority (FCPA)

WITNESSETH:

WHEREAS, FCPA recognizes that many of its constituents are radio control (RC) model aircraft enthusiasts, and that the making and flying of RC model aircraft is recognized as a healthy and constructive recreation activity; and

WHEREAS, a portion of the FCPA property known as Poplar Ford Park has been identified and specifically designated for the use of a radio control model aircraft use; and

WHEREAS, FCPA desires safe and controlled RC model aircraft use at Poplar Ford Park by a qualified and experienced organization; and

WHEREAS, NVRC is an experienced and qualified RC model aircraft flying organization which desires use of a portion of Poplar Ford Park;

NOW, THEREFORE, in consideration of the respective covenants and agreements to be kept and performed by the parties, FCPA and NVRC do mutually agree as follows:

ARTICLE I

SCOPE OF SERVICES

A. The recitals above are incorporated in full herein

B. FCPA agrees to identify a specific area of Poplar Ford Park, designated as the Poplar Ford RC Model Aircraft Park (RC Model Aircraft Park) on Exhibit A, for the use by the NVRC to fly RC model aircraft

C. NVRC agrees to administer the rules of the RC Model Aircraft Park during operating hours and provide on-site supervision during use. When FCPA approves, in writing,

1

revised rules governing use of the RC Model Aircraft Park. NVRC shall promptly post and ensure continued posting of those rules. Approved rules governing use of the RC Model Aircraft Park shall remain in effect at all times

D. NVRC will recruit and train a Safety Officer who will administer the safety and flight rules in the RC Model Aircraft Park. NVRC will, at all times, have the name and phone number of the Safety Officer on file with FCPA's Director of the Park Operations Division and the FCPA's Risk Manager

E. Radio control model aircraft flying at the site shall be supervised by NVRC. Only persons who meet the criteria in Article I. F. below shall be permitted to use the RC Model Aircraft Park. NVRC and/or FCPA staff shall have authority in the RC Model Aircraft Park to request that violators of the posted rules remove themselves from the RC Model Aircraft Park

F. Use of the RC Model Aircraft Park for RC model aircraft flying is restricted to members in good standing of the NVRC

G. The RC Model Aircraft Park will only be available for RC model aircraft use when a NVRC member is present and will be closed for this use at all other times

H. The days and hours of use of the RC Model Aircraft Park shall be established by this Agreement and posted in the RC Model Aircraft Park by the Park Authority. Those hours may not exceed the operational restrictions in Article VI. below

ARTICLE II

USE AREA

The RC Model Aircraft Park consists of the RC model aircraft activities area for staging, aircraft maintenance, take-off/landing area and Overfly Area collectively and generally known as the "Flying Field", the entrance zone, vehicle parking area and the tractor path from the entrance zone to the Flying Field. All of the Use Area is within Poplar Ford Park and will be known as The RC Model Aircraft Park shown in Exhibit A

ARTICLE III

COMPENSATION AND FEES

The NVRC will compensate the FCPA the equivalent of approximately Five Thousand and 00/100 dollars ($5,000.00) per year for use of a portion of Poplar Ford Park for RC model aircraft flying. The compensation shall be provided in dedicated volunteer hours based on an hourly rate of $20/hour. Each member of the club shall contribute 5 hours of volunteer service annually for improvements at the park assuming a minimum of 50 members. The value of this work is a minimum of Five Thousand and 00/100 dollars ($5,000)

Additionally, the NVRC shall compensate the FCPA for stabilization and annual maintenance of the Tractor Path access route from Bull Run Post Office Road to the flying field site. Payments shall be made to the FCPA as follows:
A one-time payment of Five Thousand and 00/100 dollars ($5,000) shall be provided on or before September 30, 2013. Additional annual payments of Two Thousand Five Hundred and 00/100 dollars ($2,500) shall be provided on or before January 30, 2015 and for each year thereafter that the Agreement is in effect. This compensation shall be specifically for the maintenance of the Tractor Path as described more fully below in Article X "Maintenance Responsibilities" and shall not be used by the Park Authority for any other purpose without the written consent of the NVRC

All payments shall be in US Dollars made payable to the Fairfax County Park Authority and are due to the Park Authority on or before 5:00 P.M on the dates noted sent to the following address:

Fairfax County Park Authority
12055 Government Center Parkway, Suite 927
Fairfax, Virginia 22035

Attn: Administration Division – Shashi Dua
Lease Payment – NVRC Poplar Ford Park

On or before September 30, 2013, NVRC shall apply for a matching Mastenbrook Grant in the maximum allowable amount (currently $10,000) which, if approved, shall be credited against

the compensation provided by NVRC as received by the Park Authority for Tractor Path maintenance. Any funds made available through the matching Mastenbrook Grant from this application shall be available to the Park Authority to be utilized at the sole discretion of the Park Authority for maintenance of the Tractor Path

ARTICLE IV

EVENTS

NVRC may conduct up to three (3) events annually at the RC Model Aircraft Park. At the RC Model Aircraft Park an event shall be defined as advertised organized activity that organized for a specific purpose such as a competition that is anticipated to have more than 25 attendees. No event may have more than 40 attendees or 25 vehicles at one time at the RC Model Aircraft Park. All events must be permitted through the Park Authority. If the event includes an admission fee or any type of financial exchange the NVRC shall provide a percentage of the gross revenue to the Park Authority in accordance with the current approved "Schedule of Rates, Fees and Other Charges".
(http://infoweb.fairfaxcounty.gov/parks/parkserv/2012feeschedule.pdf)Guidance on the permitting of events and related activities can be found at:
http://www.fairfaxcounty.gov/parks/wp-parkusepermit.htm.

ARTICLE- V

TERM

The term of this Agreement shall be two (2) years from the date of this Agreement unless terminated by either party under the provisions of Article XI of this Agreement. By mutual written consent of both parties, the agreement may be extended two (2) additional years. Further use of this site for flying RC model aircraft shall be subject to a new agreement

ARTICLE VI

OPERATIONAL RESTRICTIONS

NVRC's use of the RC Model Aircraft Park must comply with the following restrictions:

1. No pilot will fly while impaired by the use of alcohol, medications, or drugs

2. No explosives or fireworks of any kind are allowed at the field at any time

3. New club members will qualify for unsupervised flight status in accord with the current NVRC Pilot Training and Qualification Guide

4. Days of Operation are Monday through Sunday, seven days/week for the entire year

5. Hours of RC model aircraft use (a.k.a. "Flight Time") are 9:00 AM until sunset. 6. Use of the facility is limited to twenty-five (25) cars at any one time except for permitted Events as described above in Article IV

7. Model aircraft size may not exceed 55 lbs. in weight, and must have mufflers to suppress noise. All aircraft flying in the Overfly Area shall not exceed Fairfax County sound thresholds. The threshold shall be 96 dBA at 3 meters (measured with slow response off the wingtip) on hard surface and 94 dBA on dirt/short grass

8. All participants are responsible for removing their personal trash from the Overfly Area

9. There may be no more than four (4) fueled model aircraft in flight at any one time

10. Users must fly their planes within the boundaries of the Overfly Area as outlined on Exhibit A

11. Engines will not be run up in the pits

12. No torque rolls shall be performed over the pilot pits and control area shown at the Active Area portion of the Overfly Area shown on Exhibit A

13. Helicopter Procedures:

- Helicopters shall be flown in the same traffic pattern as fixed-wing aircraft.
- Helicopters shall not be hovered in front of a pilot station, or anywhere over the Active Area
- All helicopters shall be started in the pit area. The rotor head shall be held stationary whenever the model is at rest. The helicopter shall be carried (not flown) between the pit area and the runway

14. All aircraft and radios will undergo a standard written preflight check

15. Flyers will obtain the proper frequency control pin and attach it to the transmitter antenna when in use, and will maintain their transmitter on the impound stand when not in use.

When obtaining a frequency pin, a flyer will leave his NVRC card in the associated control pin slot or equivalent storage area

16. All transmitters must have an AMA gold sticker (narrow-band) if manufactured prior to 1992. All receivers are to be of the narrow-band type of operation at 20 KHz frequency separation. The 27 MHz and 53 MHz bands are exempt from these requirements. Receivers using the 2.4 GHz spread-spectrum frequency system do not require frequency control.

17. The use of transmitters on frequencies in the Amateur Radio Service bands above 50 MHz is restricted to persons holding a Technician, General, Advanced or Extra class Amateur Radio Service License issued by the FCC

18. All transmitters will be marked with the appropriate channel number (and/or colored wind streamers) as outlined in the AMA Membership Manual

ARTICLE VII
NVRC SITE ACTIVITIES

NVRC agrees to be responsible for the following:

1. Monitor activities and participants to ensure safe and proper utilization of the facility in accordance with AMA regulations and safety provisions

2. Appoint and train a field Safety Officer who is familiar with all the field rules and standard safety practices recommended by the AMA and will have the right to enforce those rules and practices as he/she deems fair, reasonable and appropriate. The Safety Officer shall be available by phone to the Fairfax County Park Authority during all radio-controlled model aircraft use. Field Rules are provided in Exhibit E

3. Make available to inexperienced RC pilots the current Pilot Training and Qualification Guide prepared and distributed by NVRC

4. Provide educational opportunities for the public for radio-controlled model aircraft activities including learning-to-fly opportunities

5. Report maintenance needs to FCPA

6. Liaison with FCPA for all matters related to radio-controlled model aircraft and related activities at this park

7. Open and close the entrance security gate and post the signs showing RC Model Aircraft Park in use

ARTICLE VIII

INSURANCE

A. NVRC agrees to secure and keep in force during the term of this Agreement a liability insurance policy covering itself and, through the Academy of Model Aeronautics (AMA), its members with the coverage as set forth in a policy form approved by FCPA's Risk Management Office with limits to be not less than $1,000,000

B. NVRC agrees to renew this policy on an annual basis, provide FCPA with a certificate of such renewal, and provide a minimum of thirty (30) days' notice of cancellation of such policy

C. NVRC shall provide the FCPA a certificate of insurance coverage, Commercial General Liability, to protect the participants. The Fairfax County Board of Supervisors, Fairfax County Park Authority and its officers, employees and volunteers shall be named as "additional insured" on the policy, and it shall be stated on the insurance certificate. If an "ACCORD" Insurance Certificate form is used by the group's insurance agent, the words "endeavor to" and "....but failure to mail such notice shall impose no obligation or liability of any kind upon the company" in the "Cancellation" paragraph of the form shall be deleted or crossed out

ARTICLE IX

LICENSES AND RESPONSIBILITIES OF NVRC

NVRC shall be solely responsible for obtaining any necessary licenses and for complying with any applicable Federal, State and municipal laws, codes and regulations in connection with their use of the designated RC model use area

ARTICLE X

MAINTENANCE RESPONSIBILITIES

A. FCPA shall provide general maintenance of grounds, including mowing the entrance drive/tractor path at Level "C" service (approximately once per month) subject to available funding

B. On or before June 30, 2014, following receipt from NVRC of the compensation payment of $5,000 noted in Article III "Compensation and Fees", the Park Authority shall procure, place and grade stone material or its equivalent on areas of the Tractor Path that do not currently have a stone surfacing for the purpose of creating a maintainable, sustainable and appropriate surface for vehicle access to the Flying Field. Furthermore, each year, following receipt from NVRC of the annual $2,500 compensation payment for Tractor Path maintenance, the Park Authority shall redress and maintain the existing tractor path to restore the condition to provide the same level of service that was created with the original placement of the surfacing. At a minimum the path shall be made passable for emergency vehicles, maintenance equipment, and the designed vehicle capacity for RC Model Aircraft Park described in this Agreement. It is understood by all parties that use of the Tractor Path for any vehicle traffic shall be closely monitored and managed by NVRC to minimize damage to the surface in adverse weather conditions. The maintenance work by the Park Authority is subject to available funding for maintenance services at similar Park Authority properties

C. NVRC may perform general maintenance activities with the RC Model Aircraft Park without further permission of the FCPA using their own or contracted labor

D. NVRC agrees to maintain the Active Area in a clean and undamaged state and shall have the right to make minor repairs (such as repairing depressions which result from settling)

E. Changes or alterations to the RC Model Aircraft Park shall be permitted only with the express written consent of FCPA, which may be granted or denied in its sole discretion

F. All improvements to, and permanent fixtures upon, the RC Model Aircraft Park shall become the property of FCPA

G. FCPA may temporarily displace RC model aircraft use at any time, without advance notice, to conduct maintenance activities at the park

H. Exhibit B lists typical maintenance activities and proposed improvements by NVRC

ARTICLE XI

TERMINATION FOR CONVENIENCE

A. FCPA or NVRC may rescind this Agreement for convenience by giving written notice. FCPA reserves the sole right and discretion at all times to cancel and terminate this Agreement without cause or recourse

B. Termination hereunder shall be effected by delivery to the other party of a written Notice of Termination ninety (90) days in advance of said termination, or not less than twenty-four (24) hours in advance of said termination if emergency public use of the assigned flying areas is required

ARTICLE XII

ASSIGNMENT

Neither this Agreement nor any interest therein, nor any claim thereunder, be assigned or transferred by NVRC, except as expressly authorized in writing by FCPA

ARTICLE XIII

NON-DISCRIMINATION

NVRC hereby certifies that they do not and will not practice any unlawful discrimination against any person or group on the basis of race, color, sex, age, religious creed, ancestry, or national origin, marital status or disability

ARTICLE XIV

INDEPENDENT CONTRACTORS

NVRC shall perform this Agreement as an independent contractor and shall not be considered agents of FCPA, nor shall any of the employees, agents, officers, members, or other personnel of NVRC be considered sub-agents of FCPA

ARTICLE XV

GOVERNING POLICIES

NVRC agrees to comply with the rules, regulations, procedures and policies of the Fairfax County Park Authority, unless otherwise stipulated in this Agreement

ARTICLE XVI

GOVERNING LAWS

This Agreement shall be construed, interpreted and enforced according to the regulations of Fairfax County and the laws of the Commonwealth of Virginia

ARTICLE XVII

ENTIRE AGREEMENT

This Agreement contains all of the Agreements and conditions made between the parties and may not be modified orally or in any other manner other than by written Agreement signed by all the parties or their respective successors in interest

IN WITNESS WHEREOF, FCPA and NVRC executed this Agreement:

ATTEST

_____ 6.7.16

Director Date

Fairfax County Park Authority

ATTEST

Carl W. Brisko 23 May 2016

President, NVRC Date

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I hereby certify that the above-named individual is a duly authorized signatory to execute this Agreement on behalf of NVRC.

(Seal)

_____

Corporate Secretary

Exhibit A – Poplar Ford Park – RC Model Aircraft Park – Existing Improvements
Exhibit B – Proposed Improvements and Donations
Exhibit C – Rules Overview
Exhibit D – Poplar Ford RC Model Aircraft Use Rules
Exhibit E – AMA Safety Code 2011

EXHIBIT A

Poplar Ford Park - RC Model Aircraft Park - Existing Improvements

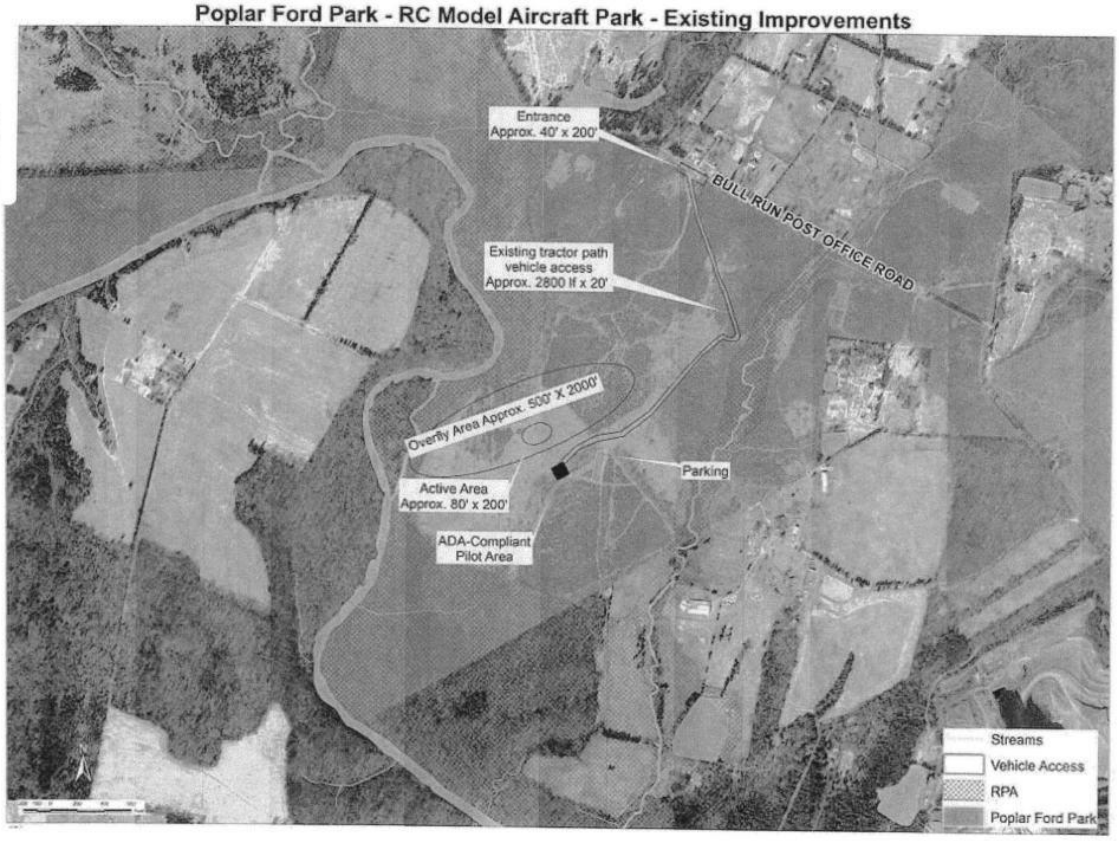


Exhibit B (to MOA)

Improvements and Donations

NVRC continues to provide the following annual maintenance

- Mowing the field weekly April through October 28 cut per year approximately value $150/cut = $4200/year
  2 hours x 28 = 56 hours a year
- Rolling of the field with a large roller annually costs about $600 rental + 4 hours labor
- Overseeding the field Kentucky fescue seed cost per year = $240/yr for 2 applications of 100 lbs each

  + 2 hours labor x 2 = 4 hours a year
- Russian Olive plant removal from east of field 30 man hours x 2 spring and fall = 60 hours
- Port a potty rental March through November 9x $80 =$720/yr

Long-term improvements provided

- Split rail safety fence about 40 man hours
- Solar battery charger $2000 + 32 man-hours
- Gravel cost $5000 in 2011
- Gravel cost $969.35 in 2013

Exhibit C (to MOA)

RULES OVERVIEW

Radio controlled model aircraft use at Poplar Ford Park is an approved use by the Fairfax County Park Authority (FCPA). The Northern Virginia Radio Control Club (NVRC) and the FCPA share a Memorandum of Agreement (MOA) giving permission to NVRC to use this site for radio controlled model aircraft use. Anyone desiring to participate in radio controlled model aircraft use must be a member of NVRC or an invited guest in compliance with the rules of the MOA.

All users shall comply with the Field Rules or are subject to loss of the privilege of participating in radio controlled model aircraft activities.

The RC model aircraft use area is closed to non-participants during hours scheduled for flying. For your own safety please keep out of the area.

Schedule of Use		
Dates	**Days**	**Flying Time**
Jan 1 – Dec 31	Sunday - Monday	9:00 am – sunset

Radio controlled model aircraft users must be able to demonstrate their membership in the Academy of Model Aeronautics (AMA) which is their evidence of personal liability insurance for RC model aircraft activity.

Radio controlled model aircraft users shall be proficient in safely operating their aircraft prior to independent flying activities. Inexperienced users shall request assistance from a representative of the Sponsor for basic training and "learn to fly" coaching to obtain proficiency. The Safety Officer shall be the determining party regarding the proficiency of individual participants.

For questions about use please call the Fairfax County Park Authority at 703-222-8774 x14

Sponsor Safety Officer is –

_____

Exhibit D (to MOA)

POPLAR FORD RC MODEL AIRCRAFT USE RULES

1. This property is owned and operated by the Fairfax County Park Authority (FCPA)
2. This RC Model Aircraft Park is permitted for use to the Northern Virginia Radio Control Club (NVRC)
3. The FCPA has a Memorandum of Agreement with the (NVRC)
4. All RC model pilots must members of the Academy of Model Aeronautics (AMA) in order to ensure appropriate personal liability insurance coverage for their RC model aircraft activities
5. Liability insurance for each pilot shall be in the minimum amount of $2,500,000. An exception is made for aircraft with electric motors weighing less than 2 lbs. and which are incapable of speeds exceeding 60 mph; the liability requirement for such aircraft shall be in the amount of $500,000.
6. RC model aircraft pilots shall demonstrate competency for flying model aircraft as judged by the NVRC Safety Officer or his delegate
7. New RC model aircraft pilots will qualify for unsupervised flight status in accord with the current NVRC Pilot Training and Qualification Guide
8. No pilot will operate RC model aircraft while impaired by the use of alcohol, medications, or drugs
9. All RC model aircraft use will be done North of the PILOT LINE. Flyers will not stand on the airfield and/or the taxiways when flying
10. No more than four (4) aircraft shall be in the air at the same time
11. Engines shall not be run up in the pits
12. No torque rolls over the short grass, also known as the runway
13. Flyers shall obtain the proper frequency control pin and attach it to the transmitter antenna when in use, and shall maintain their transmitter on the impound stand when not in use. When obtaining a frequency pin, a flyer shall leave his NVRC club card (or his AMA card if he is a guest) in the associated control pin slot. Flyers utilizing 2.4 GHz wide spectrum equipment are not subject to frequency control
14. Radios shall be range checked before the first flight of the day
15. No explosives or fireworks of any kind are allowed at the field at any time
16. All engines having a displacement of more than 0.10 cubic inches must be fitted with an effective silencing device when being operated at the flying site
17. All transmitters must have an AMA gold sticker (narrow-band) if manufactured prior to 1992. All receivers are to be of the narrow-band type for operation at 20 KHz frequency separation. The 27 MHz and 53 MHz bands are exempt from these requirements
18. The use of transmitters on frequencies in the Amateur Radio Service bands above 50 MHz is restricted to persons holding either a Technician, General, Advanced or Extra class Amateur Radio Service License issued by the FCC.
19. All transmitters shall be marked with the appropriate channel number and/or colored wind streamers) as outlined in the AMA Membership Manual.
20. Model aircraft size may not exceed 55 lbs. in weight, and must have mufflers to suppress noise. All aircraft flying in the Overfly Area shall not exceed Fairfax County sound thresholds. The threshold shall be 96 dBA at 3 meters (measured with slow response off the wingtip) on hard surface and 94 dBA on dirt/short grass

EXHIBIT E

Academy of Model Aeronautics National Model Aircraft Safety Code

Effective January 1, 2011

A. **GENERAL**: A model aircraft is a non-human-carrying aircraft capable of sustained flight in the atmosphere. It may not exceed limitations of this code and is intended exclusively for sport, recreation and/or competition. All model flights must be conducted in accordance with this safety code and any additional rules specific to the flying site.

1. Model aircraft will not be flown:
   (a) In a careless or reckless manner.
   (b) At a location where model aircraft activities are prohibited.
2. Model aircraft pilots will:
   (a) Yield the right of way to all man carrying aircraft.
   (b) See and avoid all aircraft and a spotter must be used when appropriate. (AMA Document #540-D-See and Avoid Guidance.)
   (c) Not fly higher than approximately 400 feet above ground level within three (3) miles of an airport, without notifying the airport operator.
   (d) Not interfere with operations and traffic patterns at any airport, heliport or seaplane base except where there is a mixed use agreement.
   (e) Not exceed a takeoff weight, including fuel, of 55 pounds unless in compliance with the AMA Large Model Aircraft program. (AMA Document 520-A)
   (f) Ensure the aircraft is identified with the name and address or AMA number of the owner on the inside or affixed to the outside of the model aircraft. (This does not apply to model aircraft flown indoors).
   (g) Not operate aircraft with metal-blade propellers or with gaseous boosts except for helicopters operated under the provisions of AMA Document #555.
   (h) Not operate model aircraft while under the influence of alcohol or while using any drug which could adversely affect the pilot's ability to safely control the model.
   (i) Not operate model aircraft carrying pyrotechnic devices which explode or burn, or any device which propels a projectile or drops any object that creates a hazard to persons or property.
   Exceptions:
   - Free Flight fuses or devices that burn producing smoke and are securely attached to the model aircraft during flight.
   - Rocket motors (using solid propellant) up to a G-series size may be used provided they remain attached to the model during flight. Model rockets may be flown in accordance with the National Model Rocketry Safety Code but may not be launched from model aircraft.
   - Officially designated AMA Air Show Teams (AST) are authorized to use devices and practices as defined within the Team AMA Program Document (AMA Document #718).

   (j) Not operate a turbine-powered aircraft, unless in compliance with the AMA turbine regulations. (AMA Document #510-A).
3. Model aircraft will not be flown in AMA sanctioned events, air shows or model demonstrations unless:
   (a) The aircraft, control system and pilot skills have successfully demonstrated all maneuvers intended or anticipated prior to the specific event.
   (b) An inexperienced pilot is assisted by an experienced pilot.
4. When and where required by rule, helmets must be properly worn and fastened. They must be OSHA, DOT, ANSI, SNELL or NOCSAE approved or comply with comparable standards.

B. *RADIO CONTROL (RC)*

1. All pilots shall avoid flying directly over unprotected people, vessels, vehicles or structures and shall avoid endangerment of life and property of others.
2. A successful radio equipment ground-range check in accordance with manufacturer's recommendations will be completed before the first flight of a new or repaired model aircraft.
3. At all flying sites a safety line(s) must be established in front of which all flying takes place (AMA Document #706-Recommended Field Layout):
   (a) Only personnel associated with flying the model aircraft are allowed at or in front of the safety line.
   (b) At air shows or demonstrations, a straight safety line must be established.
   (c) An area away from the safety line must be maintained for spectators.
   (d) Intentional flying behind the safety line is prohibited.
4. RC model aircraft must use the radio-control frequencies currently allowed by the Federal Communications Commission (FCC). Only individuals properly licensed by the FCC are authorized to operate equipment on Amateur Band frequencies.
5. RC model aircraft will not operate within three (3) miles of any pre-existing flying site without a frequency-management agreement (AMA Documents #922-Testing for RF Interference; #923- Frequency Management Agreement)
6. With the exception of events flown under official AMA Competition Regulations, excluding takeoff and landing, no powered model may be flown outdoors closer than 25 feet to any individual, except for the pilot and the pilot's helper(s) located at the flight line.
7. Under no circumstances may a pilot or other person touch a model aircraft in flight while it is still under power, except to divert it from striking an individual. This does not apply to model aircraft flown indoors.
8. RC night flying requires a lighting system providing the pilot with a clear view of the model's attitude and orientation at all times.
9. The pilot of a RC model aircraft shall:
   (a) Maintain control during the entire flight, maintaining visual contact without enhancement other than by corrective lenses prescribed for the pilot.
   (b) Fly using the assistance of a camera or First-Person View (FPV) only in accordance with the procedures outlined in AMA Document #550.

C. **FREE FLIGHT**

1. Must be at least 100 feet downwind of spectators and automobile parking when the model aircraft is launched.
2. Launch area must be clear of all individuals except mechanics, officials, and other fliers.
3. An effective device will be used to extinguish any fuse on the model aircraft after the fuse has completed its function.

D. **CONTROL LINE**

1. The complete control system (including the safety thong where applicable) must have an inspection and pull test prior to flying.
2. The pull test will be in accordance with the current Competition Regulations for the applicable model aircraft category.
3. Model aircraft not fitting a specific category shall use those pull-test requirements as indicated for Control Line Precision Aerobatics.
4. The flying area must be clear of all utility wires or poles and a model aircraft will not be flown closer than 50 feet to any above-ground electric utility lines.
5. The flying area must be clear of all nonessential participants and spectators before the engine is started.

APPENDIX 2

Academy of Model Aeronautics National Model Aircraft Safety Code, Effective January 1, 2014[11]

The safety code below is intended to provide FCPA staff, its Board, and the public with an example of a safety code of a nationwide community-based organization. Other organizations may use similar guidelines tailored to their own activities.

A. GENERAL: A model aircraft is a non-human-carrying aircraft capable of sustained flight in the atmosphere. It may not exceed limitations of this code and is intended exclusively for sport, recreation, education and/or competition. All model flights must be conducted in accordance with this safety code and any additional rules specific to the flying site.

1. Model aircraft will not be flown:
   (a) In a careless or reckless manner.
   (b) At a location where model aircraft activities are prohibited.
2. Model aircraft pilots will:
   (a) Yield the right of way to all human-carrying aircraft.
   (b) See and avoid all aircraft and a spotter must be used when appropriate. (AMA Document #540-D.)
   (c) Not fly higher than approximately 400 feet above ground level within three (3) miles of an airport without notifying the airport operator.
   (d) Not interfere with operations and traffic patterns at any airport, heliport or seaplane base except where there is a mixed use agreement.
   (e) Not exceed a takeoff weight, including fuel, of 55 pounds unless in compliance with the AMA Large Model Airplane program. (AMA Document 520-A.)
   (f) Ensure the aircraft is identified with the name and address or AMA number of the owner on the inside or affixed to the outside of the model aircraft. (This does not apply to model aircraft flown indoors.)
   (g) Not operate aircraft with metal-blade propellers or with gaseous boosts except for helicopters operated under the provisions of AMA Document #555.
   (h) Not operate model aircraft while under the influence of alcohol or while using any drug that could adversely affect the pilot's ability to safely control the model.
   (i) Not operate model aircraft carrying pyrotechnic devices that explode or burn, or any device which propels a projectile or drops any object that creates a hazard to persons or property.
   Exceptions:
   - Free Flight fuses or devices that burn producing smoke and are securely attached to the model aircraft during flight.
   - Rocket motors (using solid propellant) up to a G-series size may be used provided they remain attached to the model during flight. Model rockets

[11] Academy of Model Aeronautics, *National Model Aircraft Safety Code,* January 1, 2014, http://www.modelaircraft.org/files/105.pdf. Accessed June 9, 2017.

may be flown in accordance with the National Model Rocketry Safety Code but may not be launched from model aircraft.

- Officially designated AMA Air Show Teams (AST) are authorized to use devices and practices as defined within the Team AMA Program Document. (AMA Document #718.)

(j) Not operate a turbine-powered aircraft, unless in compliance with the AMA turbine regulations. (AMA Document #510-A.)

3. Model aircraft will not be flown in AMA sanctioned events, air shows or model demonstrations unless:
   (a) The aircraft, control system and pilot skills have successfully demonstrated all maneuvers intended or anticipated prior to the specific event.
   (b) An inexperienced pilot is assisted by an experienced pilot.
4. When and where required by rule, helmets must be properly worn and fastened. They must be OSHA, DOT, ANSI, SNELL or NOCSAE approved or comply with comparable standards.

B. RADIO CONTROL (RC)

1. All pilots shall avoid flying directly over unprotected people, vessels, vehicles or structures and shall avoid endangerment of life and property of others.
2. A successful radio equipment ground-range check in accordance with manufacturer's recommendations will be completed before the first flight of a new or repaired model aircraft.
3. At all flying sites a safety line(s) must be established in front of which all flying takes place. (AMA Document #706.)
   (a) Only personnel associated with flying the model aircraft are allowed at or in front of the safety line.
   (b) At air shows or demonstrations, a straight safety line must be established.
   (c) An area away from the safety line must be maintained for spectators.
   (d) Intentional flying behind the safety line is prohibited.
4. RC model aircraft must use the radio-control frequencies currently allowed by the Federal Communications Commission (FCC). Only individuals properly licensed by the FCC are authorized to operate equipment on Amateur Band frequencies.
5. RC model aircraft will not knowingly operate within three (3) miles of any pre-existing flying site without a frequency-management agreement. (AMA Documents #922 and #923.)
6. With the exception of events flown under official AMA Competition Regulations, excluding takeoff and landing, no powered model may be flown outdoors closer than 25 feet to any individual, except for the pilot and the pilot's helper(s) located at the flightline.
7. Under no circumstances may a pilot or other person touch an outdoor model aircraft in flight while it is still under power, except to divert it from striking an individual.
8. RC night flying requires a lighting system providing the pilot with a clear view of the model's attitude and orientation at all times. Hand-held illumination systems are inadequate for night flying operations.[12]

[12] Staff recommends that UAS flights be limited to daylight hours unless otherwise approved by the Director's Office.

9. The pilot of an RC model aircraft shall:
    (a) Maintain control during the entire flight, maintaining visual contact without enhancement other than by corrective lenses prescribed for the pilot.
    (b) Fly using the assistance of a camera or First-Person View (FPV) only in accordance with the procedures outlined in AMA Document #550.
    (c) Fly using the assistance of autopilot or stabilization system only in accordance with the procedures outlined in AMA Document #560.

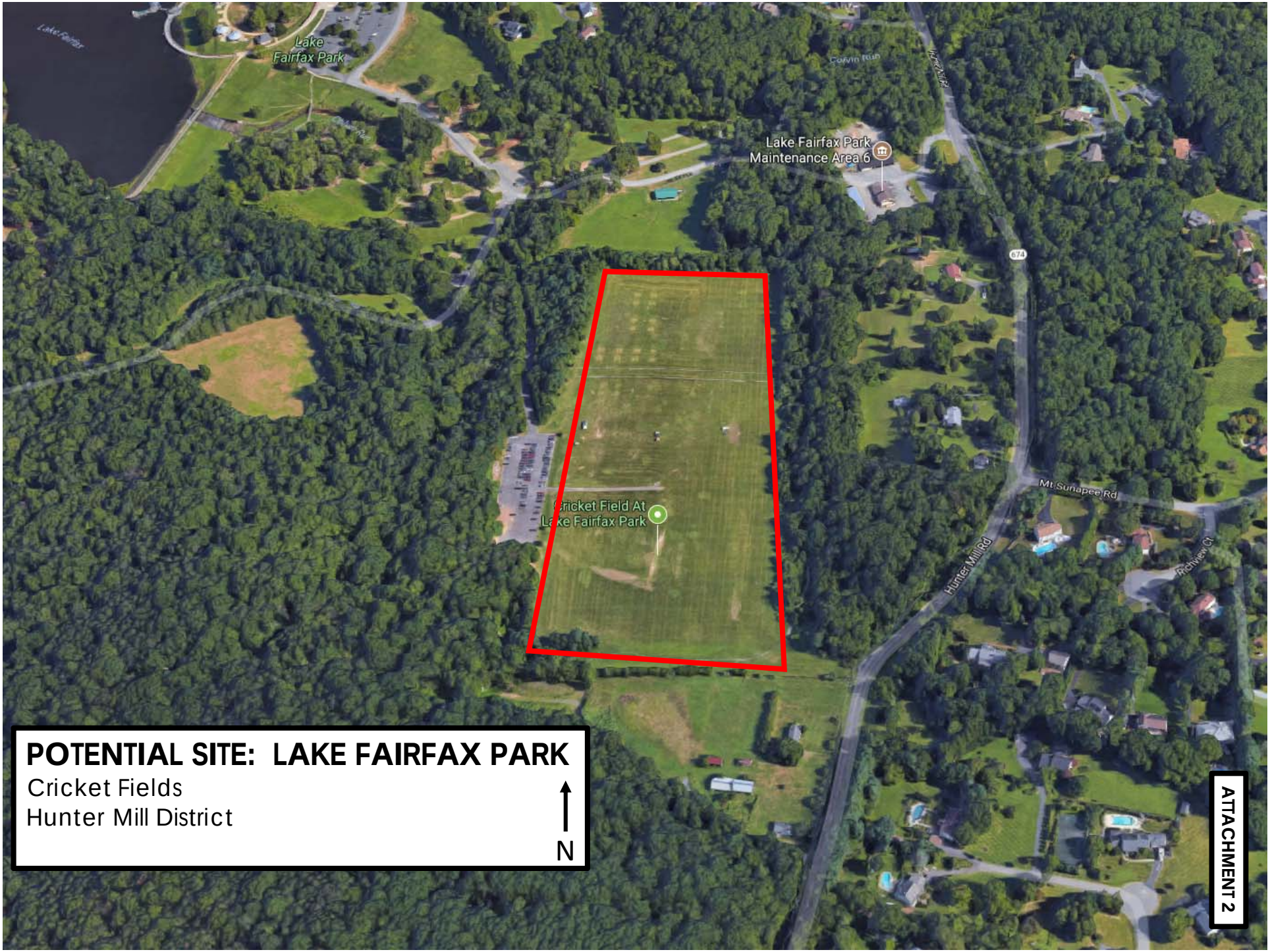
C. FREE FLIGHT

1. Must be at least 100 feet downwind of spectators and automobile parking when the model aircraft is launched.
2. Launch area must be clear of all individuals except mechanics, officials, and other fliers.
3. An effective device will be used to extinguish any fuse on the model aircraft after the fuse has completed its function.

D. CONTROL LINE

1. The complete control system (including the safety thong where applicable) must have an inspection and pull test prior to flying.
2. The pull test will be in accordance with the current Competition Regulations for the applicable model aircraft category.
3. Model aircraft not fitting a specific category shall use those pull-test requirements as indicated for Control Line Precision Aerobatics.
4. The flying area must be clear of all utility wires or poles and a model aircraft will not be flown closer than 50 feet to any above-ground electric utility lines.
5. The flying area must be clear of all nonessential participants and spectators before the engine is started.


Fairfax County Police Association
Nike Missile Base W-74 barracks
Popes Head Park Playground
Popes Head Park
Quiet Brook Rd
Ravencomb Ct
Open Play Area
Athletic Fields
Fairfax County Police Range
Bobs Ford Rd
POTENTIAL SITES: POPES HEAD PARK
Open Play and SYA Athletic Fields
Springfield District
N
ATTACHMENT 2


Lake Fairfax Park
Lake Fairfax Park Maintenance Area 6
Cricket Field At Lake Fairfax Park
Hunter Mill Rd
Mt Sunapee Rd
Richview Ct
674
POTENTIAL SITE: LAKE FAIRFAX PARK
Cricket Fields
Hunter Mill District
N
ATTACHMENT 2