***Generously provided as an example by a Tribal Organization***

**Environmental Protection Department**

**Internal Operational Procedures**

***“Drone Flight and Maintenance”***

*(Revised September 1, 2016)*

***Approved by:***

***name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***

***name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***

***Purpose:***

The purpose of the Environmental Protection Department (EPD) drone Internal Operation Procedure (I.O.P.) is to provide guidance to EPD staff on drone flight safety and drone flight operations on ThisOrganization Community properties only. This I.O.P. follows the recommendations contained within the June 21, 2016 dated FAA rules, Title 14, Code of Federal Regulations (14 CFR) part 107, Flight Safety and how to operate Government Unmanned Aircraft (UA), Unmanned Aircraft System (UAS).

The EPD drone (DJI Phantom 3 Professional) was purchased by the ThisOrganization Environmental Protection Department through Clean Water Act 106 Water Pollution Control Program grant funding provided by the United States EPA to collect video, photo and GPS field data for the support of the Environmental Programs of the Water Pollution Control Program as well as other related environmental media programs grant.

***Drone Training:***

1. It is important that before any EPD staff member operates the EPD drone that they become familiar with flight safety and flight controls before flying the drone by themselves:
2. Attend one-on-one flight training from an experienced staffer who is familiar with DJI drone piloting.
3. Have at least 1 hour of one-on-one flight training before being able to fly the drone solo.
4. Review flight safety videos identified by the drone flight trainer.
5. Upon completion EPD Director has determination to either issue a Drone Certificate to Operator of DJI Phantom 3 Professional or go retake training.

Observer Training????????

***Maintenance:***

1. Preflight equipment check is required before flying drone. (Battery Charge, Firmware update)
2. After each flight the drone is to be cleaned of dirt and dust, the blades removed and inspected for any damage, and batteries and hand controller are to be recharged for the next user.
3. Upon discovery of any damage to the drone, the Environmental Programs Manager or EPD Director is to be notified so replacement parts can be ordered to insure the drone is safe to fly.
4. All video and photos collected during a flight are the responsibility of the drone pilot and are to be transferred from the drone to the G: drive so that the next flight has a clean memory chip for collection of videos and photos. The Drone memory chip is not to be used as long term storage of videos.

***Flight Operations:***

1. Restricted areas:
	1. Stay 2-miles away from airports, unless you have permission and are working in partnership with the ThisOrganization airport manager to video or photograph within the airport official boundary.
	2. Do Not fly drone at first responder activities (Fire, Police, Car Accidents, House fires etc.) unless preapproved or requested to do so by the Police or Fire Chief.
	3. Do Not fly drone within 500 feet of Tribal Justice Center, or any Police, Fire, Security or tribal government buildings or complex unless preapproved or requested to do so by the Police or Fire Chief or the ThisOrganization Council.
	4. Do Not fly drone within 500 feet of any operating farm equipment unless it has been pre-approved by the Farm Manager or another responsible individual affiliated with the farm to video or photograph farm equipment in action.
	5. Do Not fly drone within 500 feet of any active construction site unless it has been pre-approved or requested by the ThisOrganization Capital Projects or other ThisOrganization Authority to video or photograph construction activity in action.
	6. Do not fly over persons unless they are protected such as in vehicles on a road, in homes or under structures. The intent is to avoid flying over vulnerable persons such as those attending parties, gatherings or celebrations outside without protection from falling drones.
2. As referenced within 14 CFR part 107.29, Daylight Operations:
	1. No person may operate a small unmanned aircraft system (UAS) during night.
	2. No person may operate a UAS during periods of civil twilight unless the UAS has lighted anti-collision lighting visible for at least 3 statute miles. The remote pilot in command may reduce the intensity of the anti-collision lighting if he or she determines that, because of operating conditions, it would be in the interest of safety to do so.
	3. For purposes of paragraph (b) of this section, civil twilight refers to the following:
		1. A period of time that begins 30 minutes before official sunrise;
		2. A period of time that ends 30 minutes after official sunset;
3. Drone is to be flown at all times below 400 feet above ground level and at speeds below 25 mph. To insure compliance, the flight checklist will require the programming of the UAS to a default flight level of 400 feet or less so that in-flight commands do not accidentally exceed the 400 foot elevation from ground level.
4. Flight plans must be developed two weeks before each flight occurs and approved by the the EPD Director or by Environmental Manager only if EPD Director position is vacant or communication with EPD Director prior to flight. Flight plans log form must include:
	1. the drone pilot’s name
	2. the drone observer’s name
	3. the date of the proposed flight,
	4. the proposed times of the flight
	5. a map of flight path
	6. the duration of the proposed flight,
	7. the purpose of the flight
	8. whether or not photographs will be taken by the drone
	9. whether or not video will be taken by the drone
	10. a statement that a review was conducted by the drone pilot for any temporary flight restrictions posted by the FAA
	11. a statement that a review was conducted with the ThisOrganization Farms by the drone pilot for any scheduling of aerial crop dusters or other applicators
5. Drone flights must have one pilot and one observer at all times. If either one is not available the fight will be rescheduled
6. The observer must notify the drone pilot if any other aircraft is observed in the area or vicinity of the flight plan. The pilot must stop operation and land the drone if another aircraft is in the area. The right of way belongs to any manned aircraft or air vehicle.
7. Approved pre-flight plans must be copied to the ThisOrganization Police Department. ThisOrganization Security, ThisOrganization Farms, ThisOrganization Cultural Resources and the ThisOrganization Airport Manager at least 24 hours prior to the flight to allow for cancellation of the drone flight plan if needed. One week notification is preferred.
8. The EPD DJI Phantom 3 Professional drone is a drone that has been specifically designed for indoor flight. If indoor flight is approved the environmental manager must give one week notice to director of flight to ensure staff is out of the indoor scheduled flight area. The flight plan, the pilot and observer must insure precautions are made to avoid injury to persons or damage to property during the scheduled indoor flight.

***Accident Reporting:***

**The pilot is responsible for reporting all drone accidents.**

1. The pilot must report the accident to the EPD Director within one (1) business day. The report will include:
2. the date and time of the accident
3. the location of the accident
4. if anyone was hurt; who was hurt; and the extent of injuries. Any injury requiring hospitalization will be reported to the ThisOrganization TOSHA Director within 24 hours
5. if property damage occurred; the location or address of the property; and the extent of the property damage
6. the pilot’s name, the observer’s name, their title/position and phone numbers
7. a detailed description from both the pilot and from the observer stating what happened along with any photos of the accident site; property damage; damage to the drone or any other relevant photographic evidence or information
8. The pilot will also fill out a ThisOrganization Indian Community Incident Report on any property damages and provide the report to the EPD Director within one (1) business day. The EPD Director will forward the report to the ThisOrganization Treasurer.

***Property Inventory Control:***

The DJI Phantom 3 Professional drone is the property of the ThisOrganization Indian Community held by the ThisOrganization EPD and was purchased using U.S. EPA grant funds. When the drone is not in use, it is to be locked up in the EPD Water Quality Specialist’s locking cabinets. If the locking cabinets are not available the drone is to be locked up in the Environmental Programs Manager’s Office.

All photos and videos are the property of the ThisOrganization Indian Community and shall follow data sharing agreements of the ThisOrganization Indian Community and shall also comply with the Social Networking Policy Section 4.1.6 (*Photographs and Other Media Recording)*, dated 11/7/2012 which states:

*4.1.6.1 Photographs and other media recordings taken in Community government facilities, on Community owned and operated properties (whether held in fee or in trust), or at private Community-sponsored events shall not be posted online without the express written permission of the Community Council.*

**ThisOrganization Indian Community**

**Environmental Protection Department Drone Pre-Flight Plan**

**Today’s Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

|  |  |  |  |
| --- | --- | --- | --- |
| **Date of Flight Start** | **Time Flight Starts** | **Operator (Pilot) Name & Contact Information** | **Description and Purpose of Flight:** |
|  |  |  |
| **Date of Flight End** | **Time Flight Ends** | **Observer Name & Contact Information** |
|  |  |  |

**Drone Make & Serial Number \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

***Drone altitude****:*

***Drone Speed****:*

***Photographs taken****? Yes No*

***Video recorder****? Yes No*

***Checked All Flight Restrictions*** *Yes No*

**{INSERT AERIAL MAP HERE or INCLUDE ATTACHMENT}**

**Environmental Programs Manager Flight Approval:**

**Signature:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Print Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**EPD Director Flight Approval:**

**Signature\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Print Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Date: \_\_\_\_\_\_\_\_\_\_\_\_\_ Time of Notification: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Notification To Required Parties:🞎 *ThisOrganization Indian Community Police & Security,* 🞎 *ThisOrganization Airport Manager,* 🞎 ThisOrganization Cultural Resources,🞎 *ThisOrganization Farms and or Farm Manager*, 🞎 ThisOrganization Planning (as applicable), 🞎 GIS Manager (as applicable).**

INSERT PHOTO/MAP