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(Green 2)
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The following circular is hereby promulgated for information, guidance and necessary action.

Emile N. Aaro
DIRECTOR GENERAL

**AUTONOMOUS UNMANNED AIRCRAFT VEHICLE (UAV) OPERATING PROCEDURES-ZIPLINE
OPERATIONS – WESTERN KENYA**

1.0 Introduction

1.1 This AIC is issued to notify the aviation industry of the coordination procedures prepared to guide the Autonomous UAV operations in the western part of the Kenya within class G airspace following regulatory approvals for UAV routes and Zipline Operations.

1.2 ITEMS AGREED DURING STAKEHOLDERS' COORDINATION COMMITTEE MEETING

- 1.2.1 Zipline Ltd to acquire a VHF radio of sufficient range and coverage for their area of operations together with a licence from CA (K) capable of sustaining two-way communications with aeronautical stations and on 118.0 MHz and to meet the requirements applicable in class G airspace.
- 1.2.2 The radio shall be manned by qualified personnel (RT proficient and airspace knowledge) during the hours of operation. They should be able to demonstrate an adequate knowledge of aviation English for use in communications between Zipline operator and the pilots, considering the operational conditions of class G airspace which is where the operation will be conducted in.
- 1.2.3 The routes approval will specify conditions for operations and communicated in the approval letter.
- 1.2.4 Helicopter operators to raise their minimum level for normal operations from 500ft AGL to 800ft AGL to allow for a margin of separation between UAVs and Helicopters. Helicopter operators will notify the UAV operator for operations below this minimum within the UAVs approved area of operation.
- 1.2.5 Flight Information Centre (FIC) and briefing offices will notify flights intending to operate in this area to take note of UAV operations as per the publication of the UAV operations.
- 1.2.6 Zipline shall provide Authority with operational data for each operation on as well as the frequency. This shall be sent via email to ats@kcaa.or.ke and uas@kcaa.or.ke.
- 1.2.7 The Radio call sign for zipline will be (zipline)

2.0 PROCEDURES FOR OPERATIONS WITHIN THE AREA COVERED BY APPROVED ROUTES FOR UAV OPERATIONS

- 2.0.1 The UAS flight shall be contained within a radius of 20m of the designated flight path.
- 2.0.2 The UAS shall only be operated at a maximum height of 390 ft. AGL.
- 2.0.3 The UAS shall give way to other air traffic operating within the area.
- 2.0.4 The UAS operator shall not alter the route of flight without permission from the Authority.
- 2.0.5 The UAS operator shall coordinate with other air operators within the area of operation giving traffic information as requested at all times using published telephone lines and radio frequency 118.0MHZ as applicable.
- 2.0.6 The UAS operator shall ensure that all necessary information is shared with KCAA and other air operators.
- 2.0.7 Medical evacuations flight (MEDEVAC), VIP movements and events and Search and Rescue operations shall take precedence over UAV operations. All UAV operations shall cease within the identified area when any of the above has been notified to the UAV operator.
- 2.0.8 No helicopter will operate below 800ft AGL within the area covered by approved UAV routes unless for takeoff, landings or climb out after takeoff or approach to landing (Normal Aviation practice). Helicopter operators will notify the UAV operator for operations below this minimum on frequency 118.0 MHZ. The UAV operator shall cease operations within the area that has been indicated by Helicopter operator for operations below 800ft AGL.
- 2.0.9 UAV operator shall cease operations to allow crewed aviation takeoffs and landings for any operations within the area covered by approved UAV routes.
- 2.0.10 UAV operator shall monitor on frequency 118.0 MHz at all times during their operations for coordination with crewed aircraft operations.
- 2.0.11 The radio shall be manned by qualified personnel (RT proficient and airspace knowledge) during the hours of operation.

2.1 PROCEDURES FOR ARRIVING CREWED FLIGHTS

- 2.1.1 Flights approaching the area covered by Approved UAS routes shall broadcast their position on 118.0MHz, as required by regulations, giving the following details:
 - a) Callsign.
 - b) Departure aerodrome.
 - c) Destination.
 - d) ETA destination.
 - e) Indicate areas (using well known geographical location) where they intend to descend below 800ft AGL.
 - f) Any other relevant information.
- 2.1.2 The UAV operator shall in response, provide the current position of their zips to the pilot of arriving aircraft using standard RT (this may include the ADEP/ADES, estimated position and any other additional information which will provide better situational awareness to the pilot). The UAV operator shall give way to crewed flights whenever it's determined that there is likely to be a conflict between the crewed aircraft and UAV operator.
- 2.1.3 The UAV operator shall also ensure that no UAV departs from the area around the destination aerodrome where the crewed aircraft will be descending below 800ft until the aircraft has landed.

2.2 PROCEDURES FOR DEPARTING CREWED FLIGHTS

- 2.2.1 The Pilot in Command of a crewed aircraft shall notify the UAV operator on the notified telephone numbers of the eminent departure giving the following details:
- a) Callsign
 - b) Aerodrome of departure (or description of area of departure in coordinates)
 - c) Estimated time of departure
 - d) any other relevant information
- 2.2.2 The UAV operator shall ensure that no UAV is allowed to depart within the affected route until the crewed aircraft has departed and reported on radio to be above a height of 800Ft AGL.
- 2.2.3 The UAV operator will also give traffic information on any zips already airborne and that may be operating around the area of intended operation by the crewed aircraft.

2.3 EMERGENCY AND UNUSUAL SITUATIONS

- 2.3.1 The pilot in command, on realizing an emergency situation, marginal weather conditions or other conditions that may necessitate descent below 800ft AGL within the area covered by approved UAV routes will immediately broadcast on frequency 118.0 MHZ giving the following details:
- a) Aircraft call sign.
 - b) Area in which the flight is descending below 800ft AGL.
- 2.3.2 The UAV operator on receiving such information shall immediately give way to crewed aircraft under emergency or facing unusual situation.
- 2.3.3 Zipline shall immediately notify other operators and FIC any loss of control or deviation from approved route by any UAV.

2.4 SEARCH AND RESCUE OPERATIONS, VIP MOVEMENTS AND EVENTS, CASUALTY EVACUATIONS, EMERGENCIES etc.

- 2.4.1 Air Traffic Services (ATS) or Rescue Coordination Centre (RCC) or State agencies, as the case may be, will notify UAV operator on the notified telephone numbers in case of any of the following operations which shall have priority over UAV operations:
- a) MEDEVAC.
 - b) Aircraft in emergency.
 - c) Aircraft involved in search and rescue activities.
 - d) VIP and state aircraft.

3.0 CONTACTS

3.0.1 In FIC Contacts:

Frequency 118.5 MHZ
Mobile: +254 725 834906
+ 254 (020) 6827101

3.0.2 Zipline contacts:

Phone Number: +254 11 2481 360
Email Address: ke1.flightops@flyzipline.com
Radio Contact: Frequency 118.0 MHZ (Broadcast within area of operation)
Radio Telephony call-sign: Zipline

4.0 APPROVED AREAS OF OPERATION

1. ROUTE 6609 TO KADENGE DISPENSARY

- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°07'33.96"S 35°10'02.64"E, 0°10'12.72"S 35°14'35.16"E, 0°10'39.72"S 35°15'10.80"E, 0°12'19.08"S 35°17'04.20"E, 0°11'41.23"S 35°16'39.05"E.
- c) **Drop zone coordinates:** 0°12'50.18"S 35°18'25.18"E.
- d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 1)

2. ROUTE 7849 TO GOD AGAK HEALTH CENTER

- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°09'23.76"S 35°06'16.20"E, 0°07'24.60"S 35°08'26.16"E, 0°15'02.52"S 35°01'35.76"E, 0°18'50.04"S 34°58'43.32"E, 0°29'54.24"S 34°51'35.28"E,
- c) **Drop zone coordinates:** 0°30'04.04"S 34°51'9.52"E
- d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 1)

3. ROUTE 7854 TO NYANG'IELA LEVEL 4 HOSPITAL

- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°07'22.80"S 35°05'48.84"E, 0°12'43.56"S 35°00'59.40"E, 0°18'33.48"S 34°56'37.32"E, 0°24'01.08"S 34°51'17.64"E, 0°30'0.36"S 34°45'27.72"E
- c) **Drop zone coordinates:** 0°32'19.78"S 34°42'23.84"E.
- d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 1)

4. ROUTE 7894 TO CHEPNG'OMBE HEALTH CENTER

- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°07'22.80"S 35°08'25.80"E, 0°18'49.68"S 35°02'53.52"E, 0°30'14.40"S 34°57'46.80"E, 0°42'11.88"S 34°57'23.40"E
- c) **Drop zone coordinates:** 0°50'22.14"S 35°00'11.07"E.
- d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 2)

5. ROUTE 7897 TO IGENA ITAMBE DISPENSARY

- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°06'41.04"S 35°08'10.68"E, 0°18'08.28"S 35°03'07.92"E, 0°30'13.32"S 34°57'47.52"E, 0°37'27.12"S 34°55'44.40"E
- c) **Drop zone coordinates:** 0°38'14.03"S 34°54'58.40"E
- d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 1)

6. ROUTE 7899 TO NYAMBASO MATERNITY AND NURSING HOSPITAL

- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°07'27.48"S 35°06'46.44"E, 0°22'42.96"S 35°00'51.12"E, 0°35'16.08"S 34°52'9.48"E, 0°39'00.72"S 34°51'0.00"E.
- c) **Drop zone coordinates:** 0°38'57.90"S 34°50'41.09"E.

- d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 1)
- 7. ROUTE 6618 TO NYAMARIMBA SUB-COUNTY HOSPITAL**
- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°08'04.56"S 35°05'58.20"E, 0°12'06.12"S 35°02'59.28"E, 0°18'14.40"S 34°58'24.24"E, 0°21'11.52"S 34°55'0.12"E
- c) **Drop zone coordinates:** 0°22'18.39"S 34°54'17.51"E
- d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 1)
- 8. ROUTE 6620 TO SIGOTI DISPENSARY**
- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°07'08.76"S 35°08'20.76"E, 0°12'25.56"S 35°04'55.20"E, 0°18'00.36"S 35°01'59.16"E, 0°21'57.24"S 34°59'2.04"E
- c) **Drop zone coordinates:** 0°20'50.38"S 34°58'14.26"E
- d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 1)
- 9. ROUTE 6683 TO MASOGO SUB-COUNTY HOSPITAL**
- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°06'04.32"S 35°05'33.00"E, 0°06'06.12"S 35°02'55.68"E, 0°06'10.44"S 35°01'22.08"E
- c) **Drop zone coordinates:** 0°05'54.17"S 35°00'20.09"E
- d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 4)
- 10. ROUTE 6604 TO WANGANGA HEALTH CENTER SITE**
- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°10'33.92"S 35°05'3.55"E, 0°07'07.89"S 35°06'50.88" E, 0°10'31.64"S 35°05'5.52"E
- c) **Drop zone coordinates:** 0°11'35.02"S 35°04'24.04"E
- d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 4)
- 11. ROUTE 6605 TO HOLO DISPENSARY SITE**
- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°07'15.24"S 35°06'45.00"E, 0°08'36.24"S 35°05'47.04"E, 0°07'31.44"S 35°06'56.52"E
- c) **Drop zone coordinates:** 0°10'10.75"S 35°06'3.89"E
- d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 4)
- 12. ROUTE 6606 TO NYAKONGO DISPENSARY SITE**
- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°07'32.88"S 35°05'36.24"E, 0°07'41.88"S 35°05'22.92"E, 0°06'21.60"S 35°07'22.08"E, 0°10'56.64"S 35°01'22.44"E
- c) **Drop zone coordinates:** 0°12'03.07"S 35°00'50.74"E
- d) **Highest Height AGL (ft) = 390**

(See Route in APPENDIX 4)

13. ROUTE 6607 TO OREN HEALTH CENTER SITE

- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°06'44.28"S 35°06'39.60"E, 0°10'13.44"S 35°02'01.68"E, 0°08'55.32"S 35°03'41.76"E
- c) **Drop zone coordinates:** 0°11'13.57"S 35°01'02.14"E
- d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 4)

14. ROUTE 6611 TO NYANGORE DISPENSARY SITE

- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°04'58.08"S 35°07'43.68"E, 0°06'30.96"S 35°08'06.36"E, 0°03'31.68"S 35°07'43.68"E
- c) **Drop zone coordinates:** 0°01'47.34"S 35°07'22.52"E
- d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 4)

15. ROUTE 6612 TO MILENYE DISPENSARY SITE

- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°06'24.12"S 35°07'12.72"E, 0°07'07.32"S 35°04'21.72"E, 0°06'43.56"S 35°05'0.60"E
- c) **Drop zone coordinates:** 0°07'16.78"S 35°03'43.53"E
- d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 1)

16. ROUTE 8429 TO KINASIA HEALTH CENTER SITE

- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°08'21.84"S 35°05'49.92"E, 0°10'49.08"S 35°03'56.52"E, 0°06'20.88"S 35°07'28.56"E, 0°13'49.80"S 35°01'10.20"E
- c) **Drop zone coordinates:** 0°14'56.77"S 35°00'37.36"E
- d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 1)

17. ROUTE 8455 TO MNARA DISPENSARY SITE

- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°07'33.96"S 35°10'2.64"E, 0°09'16.20"S 35°12'53.28"E, 0°09'22.98"S 35°12'41.11"E
- c) **Drop zone coordinates:** 0°10'10.93"S 35°13'58.49"E
- d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 4)

18. ROUTE 8456 TO MUHORONI COUNTY HOSPITAL SITE

- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°07'04.44"S 35°09'06.84"E, 0°06'25.92"S 35°08'06.00"E, 0°07'54.12"S 35°10'03.72"E
- c) **Drop zone coordinates:** 0°09'05.57"S 35°12'17.54"E
- d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 4)

19. ROUTE 8460 TO NYAKOKO DISPENSARY SITE

- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°05'39.48"S 35°04'47.28"E, 0°05'56.76"S 35°06'48.24"E, 0°05'22.56"S 35°03'01.09"E
- c) **Drop zone coordinates:** 0°05'09.11"S 35°00'09.89"E
- d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 4)

20. ROUTE 8505 TO YAGO DISPENSARY SITE

- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°05'33.72"S 35°09'06.12"E, 0°04'51.96"S 35°10'22.80"E, 0°05'10.68"S 35°10'30.36"E
- c) **Drop zone coordinates:** 0°04'47.66"S 35°10'43.88"E
- d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 4)

21. ROUTE 7902 TO ORWAKI DISPENSARY SITE

- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°06'41.04"S 35°08'10.68"E, 0°12'52.92"S 35°04'39.72"E, 0°27'10.08"S 34°57'15.84"E
- c) **Drop zone coordinates:** 0°28'54.51"S 34°57'3.01"E
- d) **Highest Height AGL (ft) = 39**
(See Route in APPENDIX 1)

22. ROUTE 7911 TO TINGWA DISPENSARY SITE

- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°06'50.04"S 35°09'59.76"E, 0°09'42.84"S 35°22'48.36"E, 0°09'53.28"N 35°31'6.60"E
- c) **Drop zone coordinates:** 0°13'06.34"N 35°30'40.92"E
- d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 3)

23. ROUTE 7937 TO NYABONGE DISPENSARY SITE

- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°07'22.80"S 35°08'25.80"E, 0°14'50.28"S 35°01'45.12"E, 0°10'29.64"S 35°05'40.92"E
- c) **Drop zone coordinates:** 0°36'39.35"S 34°48'53.54"E
- d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 1)

24. ROUTE 7938 TO ENDIBA DISPENSARY SITE

- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°33'34.92"S 34°56'37.68"E, 0°07'44.76"S 35°06'54.72"E, 0°07'30.72"S 35°08'25.08"E
- c) **Drop zone coordinates:** 0°33'39.34"S 34°57'42.51"E
- d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 1)

25. ROUTE 7968 TO KE1_WFH SITE

- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
 - b) **Enroute coordinates:** 0°06'08.28"S 35°07'54.12"E, 0°05'53.31"S 35°08'06.60"E, 0°06'07.20"S 35°07'51.60"E
 - c) **Drop zone coordinates:** 0°06'52.28"S 35°07'36.61"E
 - d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 4)
- 26. ROUTE 7045 TO CHANGAIYA DISPENSARY**
- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
 - b) **Enroute coordinates:** 0°07'08.1"S 35°10' 22.2"E, 0°10'02.5"S 35°20'06.1" E, 0°05'55.5"S 35°028'30.7" E, 0°02'01.2"E 35°28'33.2"E, 0°10' 3.3"S 35°20'06.3"E
 - c) **Drop zone coordinates:** 0°01'07.01"N 35°28'38.05"E
 - d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 3)
- 27. ROUTE 7064 TO KAPNG'ETUNY DISPENSARY**
- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
 - b) **Enroute coordinates:** 0°06'33.1"S 35°08'08.0"E, 0°06'50.0" S 35°09'59.6" E, 0°09'15.1"S 35°23'46.8" E, 0°03'38.1" S 35°30'27.8"E, 0°00'07.6"N 35°30'40.1"E
 - c) **Drop zone coordinates:** 0°09'22.84"N 35°33'56.39"E
 - d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 3)
- 28. ROUTE 7095 TO NABKOI DISPENSARY**
- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
 - b) **Enroute coordinates:** 0°04'06.3"S 35°28'45.5"E, 0°06'29.1" S 35°08'40.0"E, 0°09'55.7"S 35°20' 5.3" E, 0°02'48.5"S 35°28' 44.2" E, 0°04'20.6"N 35°030'16.3"E
 - c) **Drop zone coordinates:** 0°08'22.30"N 35°27'56.89"E
 - d) **Highest Height AGL (ft) =390**
(See Route in APPENDIX 3)
- 29. ROUTE 7117 TO ANAIBKOI HEALTH CENTRE**
- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
 - b) **Enroute coordinates:** 0°06'50.0"S 35°09'59.6"E, 0°04'38.1" S 35°28'51.0"E, 0°07'26.1"N 35°31'34.6" E, 0°09'16.1"S 35°23' 46.2"E, 0°07'12.0"N 35°31'45.3"E
 - c) **Drop zone coordinates:** 0°09'55.02"N 35°31'17.19"E
 - d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 3)
- 30. ROUTE 7717 KEUMBU SUB COUNTY REFFERAL HOSPITAL**
- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
 - b) **Enroute coordinates:** 0°07'55.5"S 35°06'34.4"E, 0°25'23.1"S 35°00'02.1"E, 0°42'56.1"S 34°51' 40.6"E, 0°25'55.3"S 34°59' 56.1"E, 0°42' 14.06"S 34°52'19.3"E
 - c) **Drop zone coordinates:** 0°44'02.62"S 34°50'51.66"E
 - d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 1)
- 31. ROUTE 7725 TO KIOBONYO DISPENSARY**
- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E

- b) **Enroute coordinates:** 0°06'38.0"S 35°06'56.1"E, 0°25'03.4"S 34°52'46.8"E, 0°08'28.2"S 35°04'57.8"E, 0°13'37.9"S 35°00'53.9"E, 0°29'43.6"S 34°50'49.7"E
- c) **Drop zone coordinates:** 0°31'13.87"S 34°51'00.51"E
- d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 1)
- 32. ROUTE 7930 TO CENGALO DISPENSARY**
- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°06'45.6"S 35°09'28.6"E, 0°10'11.7"S 35°25'10.8"E, 0°02'04.3"S 35°29'06.7"E, 0°10'39.1"N 35°27'20.8"E, 0°04'51.5"S 35°28'51.1"E
- c) **Drop zone coordinates:** 0°09'26.52"N 35°24'22.68"E
- d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 3)
- 33. ROUTE 7931 TO MUCHORWE DISPENSARY**
- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°09'52.7"S 35°21'52.4"E, 0°06'55.2"S 35°10'22.2"E, 0°01'29.0"N 35°30'38.6"E, 0°00'57.7"N 35°30'31.4"E, 0°00'55.3"N 35°30'12.6"E
- c) **Drop zone coordinates:** 0°02'00.31"N 35°30'52.85"E
- d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 3)
- 34. ROUTE 7898 TO MAGOMBO HEALTH CENTRE SITE**
- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°06'41.04"S 35°08'10.68"E, 0°09'47.88"S 35°06'05.76"E, 0°14'09.60"S 35°04'06.60"E, 0°18'08.28"S 35°03'07.92"E, 0°23'07.44"S 35°01'31.08"E, 0°29'31.20"S 34°58'16.32"E, 0°34'59.52"S 34°56'42.72"E, 0°39'02.16"S 34°55'24.24"E, 0°33'16.92"S 34°56'35.88"E, 0°38'52.44"S 34°55'26.04"E.
- c) **Drop zone coordinates:** 0°40'17.59"S 34°54'48.10"E
- d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 1)
- 35. ROUTE 7896 TO GESURE HEALTH CENTRE**
- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°07'24.60"S 35°08'26.16"E, 0°11'52.80"S 35°04'42.60"E, 0°21'19.08"S 34°56'38.76"E, 0°33'14.40"S 34°52'42.24"E, 0°31'10.56"S 34°52'54.84"E, 0°19'20.28"S 34°59'00.24"E, 0°10'36.84"S 35°05'41.28"E, 0°07'44.76"S 35°06'54.72"E, 0°21'15.48"S 34°56'40.20"E, 0°34'14.16"S 34°52'22.80"E, 0°36'59.04"S 34°52'13.80"E
- c) **Drop zone coordinates:** 0°38'11.62"S 34°52'06.35"E
- d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 1)
- 36. ROUTE 7900 TO NYANCHANORI DISPENSARY**
- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°06'59.40"S 35°06'58.68"E, 0°11'40.20"S 35°05'02.24"E, 0°14'33.36"S 35°04'08.84"E, 0°21'48.96"S 35°01'24.96"E, 0°28'59.16"S 34°58'37.20"E, 0°15'59.40"S 35°03'38.16"E, 0°08'36.60"S 35°06'16.92"E, 0°44'16.44"S 34°54'38.16"E, 0°13'55.92"S 35°04'10.20"E, 0°24'39.96"S 34°59'59.64"E, 0°33'5.40"S 34°56'57.12"E, 0°43'48.36"S 34°54'52.56"E
- c) **Drop zone coordinates:** 0°45'07.62"S 34°55'11.70"E

- d) **Highest Height AGL (ft)** =390
(See Route in APPENDIX 2)

37. ROUTE 7115 TO BURNTFOREST SUBCOUNTY

- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°06'29.11"S 35°08'40.20"E, 0°08'14.57"S 35°15'06.06"E, 0°09'15.48"S 35°23'46.32"E, 0°01'28.92"N 35°30'30.24"E, 0°07'48.00"N 35°31'2.28"E,
- c) **Drop zone coordinates:** 0°12'50.25"N 35°26'10.73"E
- d) **Highest Height AGL (ft)** = 390
(See Route in APPENDIX 3)

38. ROUTE 7646 TO EGETUKI DISPENSARY

- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E;
- b) **Enroute coordinates:** 0°07'24.60"S 35°08'26.16"E, 0°11'00.96"S 35°05'26.16"E, 0°16'42.96"S 35°00'32.76"E, 0°33'29.52"S 34°51'11.88"E, 0°45'39.60"S 34°44'4.56"E;
- c) **Drop zone coordinates:** 0°46'17.71"S 34°43'7.24"E;
- d) **Highest Height AGL (ft)** =390
(See Route in APPENDIX 2)

39. ROUTE 7683 TO IBENO DISPENSARY

- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°29'29.76"S 34°58'16.32"E, 0°09'35.64"S 35°06'10.80"E, 0°16'01.20"S 35°03'46.80"E, 0°29'42.00"S 34°58'9.12"E, 0°46'46.92"S 34°51'37.08"E, 0°33'33.84"S 34°51'10.44"E,
- c) **Drop zone coordinates:** 0°46'47.98"S 34°51'10.34"E
- d) **Highest Height AGL (ft)** = 390
(See Route in APPENDIX 2)

40. ROUTE 7654 TO ENTANDA DISPENSARY

- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°06'24.64"S 35°07'43.17"E, 0°11'00.24"S 35°03'50.76"E, 0°16'19.56"S 35°00'43.20"E, 0°16'46.56"S 35°00'27.00"E, 0°33'33.89"S 34°51'10.44"E,
- c) **Drop zone coordinates:** 0°34'08.10"S 34°50'35.41"E
- d) **Highest Height AGL (ft)** = 390
(See Route in APPENDIX 1)

41. ROUTE 7696 TO ITUMBE DISPENSARY

- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°07'24.60"S 35°08'26.16"E, 0°12'21.60"S 35°04'36.48"E, 0°17'03.84"S 35°03'25.20"E, 0°20'45.96"S 35°01'48.36"E, 0°27'34.20"S 34°59'17.52"E, 0°34'13.44"S 34°56'42.72"E, 0°45'42.48"S 34°52'53.40"E, 0°49'27.09"S 34°51'10.80"E,
- c) **Drop zone coordinates:** 0°49'58.92"S 34°50'37.50"E
- d) **Highest Height AGL (ft)** = 390
(See Route in APPENDIX 2)

42. ROUTE 6987 TO MIRANGA DISPENSARY

- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°05'53.88"S 35°05'13.20"E, 0°05'49.20"S 35°04'29.28"E, 0°05'47.76"S 35°02'56.04"E, 0°05'44.52"S 35°03'28.44"E

- c) **Drop zone coordinates:** 0°05'55.97"S 35°02'28.06"E
- d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 4)

43. ROUTE 7573 TO RIKENDO DISPENSARY

- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°06'41.04"S 35°08'10.68"E, 0°10'36.84"S 35°05'41.64"E, 0°18'08.28"S 35°03'07.92"E, 0°29'52.42"S 34°58'01.93"E, 0°46'46.92"S 34°51'56.16"E, 0°47'13.04"S 34°51'37.97"E
- c) **Drop zone coordinates:** 0°48'00.23"S 34°50'45.85"E
- d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 2)

44. ROUTE 7847 TO ATELA HEALTH CENTRE SITE

- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°07'24.60"S 35°08'26.16"E, 0°22'38.64"S 35°01'32.88"E, 0°24'15.12"S 35°01'6.96"E
- c) **Drop zone coordinates:** 0°25'29.70"S 34°59'49.97"E
- d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 1)

45. ROUTE 7852 TO MATATA NURSING HOSPITAL SITE

- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°07'03.72"S 35°06'14.04"E, 0°20'01.68"S 34°55'16.32"E, 0°29'21.84"S 34°44'54.60"E
- c) **Drop zone coordinates:** 0°30'12.62"S 34°44'18.51"E
- d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 1)

46. ROUTE 7855 TO OBER HEALTH CENTRE SITE

- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°33'34.92"S 34°56'37.68"E, 0°07'44.76"S 35°06'54.72"E, 0°07'30.72"S 35°08'25.08"E
- c) **Drop zone coordinates:** 0°29'12.76"S 34°48'38.57"E
- d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 1)

47. ROUTE 7857 TO OMIRO DISPENSARY SITE

- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°07'22.80"S 35°05'48.84"E, 0°20'22.92"S 34°54'57.60"E, 0°25'49.80"S 34°49'15.60"E
- c) **Drop zone coordinates:** 0°27'12.57"S 34°48'10.38"E
- d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 1)

48. ROUTE 7859 TO RANGWE SUB COUNTY HOSPITAL SITE

- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°06'44.28"S 35°06'39.60"E, 0°17'00.24"S 34°58'00.84"E, 0°35'43.44"S 34°35'30.84"E

- c) **Drop zone coordinates:** 0°36'01.90"S 34°34'53.88"E
- d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 1)

49. ROUTE 7705 TO BURNT KEERA DISPENSARY

- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°07'21.5"S 35°06'31.6"E, 0°18'25.5"S 34°59'35.8"E, 0°31'11.1"S 34°52'01.5"E
- c) **Drop zone coordinates:** 0°38'19.84"S 34°48'26.81"E
- d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 1)

50. ROUTE 7707 TO KEGOGI HEALTH CENTRE

- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°07'22.6"S 35°08'25.8"E, 0°17'54.3"S 34°59'56.7"E, 0°26' 26.9"S 34°54'40.0"E
- c) **Drop zone coordinates:** 0°32'40.94"S 34°50'26.88"E
- d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 1)

51. ROUTE TO 7735 KITUTU CHACHE NORTH SUB COUNTY REFERRAL HOSPITAL

- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°07'09.8"S 35°06'22.9"E, 0°20'05.6"S 34°56'10.0"E, 0°19'44.1"S 34°56'26.2"E
- c) **Drop zone coordinates:** 0°34'41.3"S 34°47'55.5"E
- d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 1)

52. ROUTE TO 7790 NYAGESENDA DISPENSARY

- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°07'17.3"S 35°06'33.6"E, 0°29'15.9"S 34°52'59.6"E, 0°12'41.7"S 35°02'18.7"E
- c) **Drop zone coordinates:** 0°35'07.09"S 34°49'07.82"E
- d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 1)

53. ROUTE TO 7812 NYAMEMISO DISPENSARY

- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°06'56.7"S 35°06'50.5"E, 0°035'50.1"S 34°051' 53.9"E, 0°41'13.1"S 34°49'07.9"E
- c) **Drop zone coordinates:** 0°41'46.82"S 34°48'59.12"E
- d) **Highest Height AGL (ft) = 390**
(See Route in APPENDIX 1)

54. ROUTE 7882 TO BURNT FOREST COMMUNITY SITE

- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°06'07.55"S 35°07'52.14"E, 0°06'47.68"S 35°09'43.35"E, 0°07'59.91"S 35°14'07.99"E, 0°10'08.84"S 35°21'17.91"E, 0°05'52.12"S 35°28'34.82"E, 0°09'30.73"N 35°30'33.56"E, 0°08'46.73"N 35°30'48.09"E, 0°07'18.31"S 35°26'55.17"E, 0°00'21.03"S 35°30'41.40"E, 0°11'24.17"N 35°28'28.55"E.

- c) **Drop zone coordinates:** 0°12'56.7"S 35°26'07.3"E
- d) **Highest Height AGL (ft) = 390 ft**
(See Route in APPENDIX 3)

55. ROUTE 6613 TO MIGERE DISPENSARY

- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°06'32.68"S 35°07'37.61"E, 0°06'32.90"S 35°07'37.65"E, 0°06'25.46"S 35°07'53.15"E, 0°08'17.28"S 35°06'42.03"E, 0°06'11.05"S 35°07'24.84"E, 0°08'01.19"S 35°06'42.01"E, 0°06'09.10"S 35°07'20.92"E, 35°06'37.92"E, 0°06'52.58"S 35°07'34.72"E
- c) **Drop zone coordinates:** 0°08'33.6"S 35°06'29.8"E
- d) **Highest Height AGL (ft) = 390 ft**
(See Route in APPENDIX 4)

56. ROUTE 6616 TO MAKINDU DISPENSARY

- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°06'58.47"S 35°07'46.30"E, 0°06'33.67"S 35°07'23.02"E, 0°06'40.03"S 35°07'52.06"E, 0°06'31.24"S 35°08'06.40"E, 0°08'09.83"S 35°07'24.01"E, 0°07'57.38"S 35°07'34.67"E, 0°07'32.24"S 35°07'55.76"E, 0°07'48.85"S 35°07'52.43"E, 0°06'36.63"S 35°08'06.93"E, 0°06'13.61"S 35°07'58.30"E, 0°06'053.90"S 35°07'41.25"E
- c) **Drop zone coordinates:** 0°08'26.9"S 35°07'32.4"E;
- d) **Highest Height AGL (ft) = 387 ft**
(See Route in APPENDIX 4)

57. ROUTE 6610 TO JABER DISPENSARY

- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°06'07.55"S 35°07'52.14"E, 0°06'32.68"S 35°07'37.61"E, 0°06'40.03"S 35°07'52.06"E, 0°06'25.58"S 35°07'53.09"E, 0°07'43.85"S 35°12'51.20"E, 0°08'8.09"S 35°12'32.52"E, 0°07'52.73"S 35°12'07.52"E, 0°06'20.37"S 35°08'20.77"E, 0°06'29.11"S 35°08'27.94"E, 0°06'51.82"S 35°07'33.22"E
- c) **Drop zone coordinates:** 0°08'03.3"S 35°12'60.0"E
- d) **Highest Height AGL (ft) = 390 ft**
(See Route in APPENDIX 4)

58. ROUTE 6603 TO OLASI DISPENSARY

- a) **Launch Area Coordinates:** 0°06'07.55"S 35°07'52.14"E
- b) **Enroute coordinates:** 0°06'07.55"S 35°07'52.14"E, 0°06'45.90"S 35°07'27.00"E, 0°15'59.40"S 35°02'49.91"E, 0°08'11.61"S 35°06'42.80"E, 0°14'04.71"S 35°04'01.72"E, 0°09'16.65"S 35°06'18.06"E, 0°15'24.66"S 35°03'09.96"E, 0°07'47.70"S 35°06'50.40"E, 0°06'49.60"S 35°07'28.85"E
- c) **Drop zone coordinates:** 0°16'02.2"S 35°02'40.4"E
- d) **Highest Height AGL (ft) = 390 ft**
(See Route in APPENDIX 4)

KISUMU CONTROL ZONE

LAUNCH SITE

Kipkelic

CHENGOLEEN

महिला महामाहिम

Oyugis

Keeler Dispensary

KLING & LING

Ogembo

Uki Dispersary

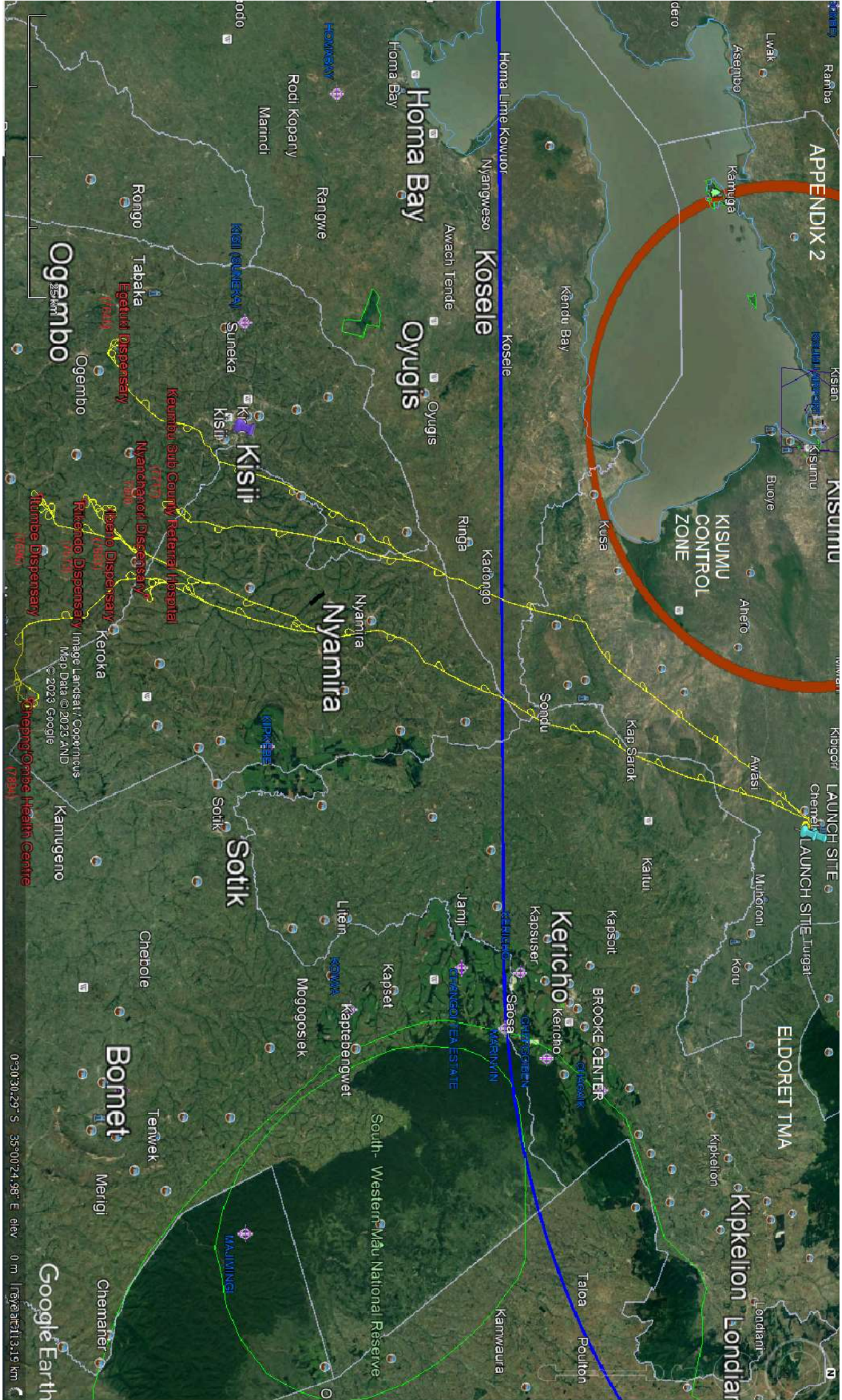
Walt Disney

26 km

0°25'21.15" S 31°51'27.00" E clcv

cyc alt 117.16 km

APPENDIX 2



Kapsabet

ELDORET CONTROL ZONE

Nandi Hills

KAPSABET WARD

ELDORET

Burnt Forest Area Security/Wellhead Security/Community Security/Police Dispensary

Changaiya Dispensary

Makori Dispensary

Amabul Health Centre

Kisumu Dispensary

Lake Narasha

Mwandwe Dispensary

Changaiya Dispensary

LAUNCH SITE

LEGEND
Route

10.6 km

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