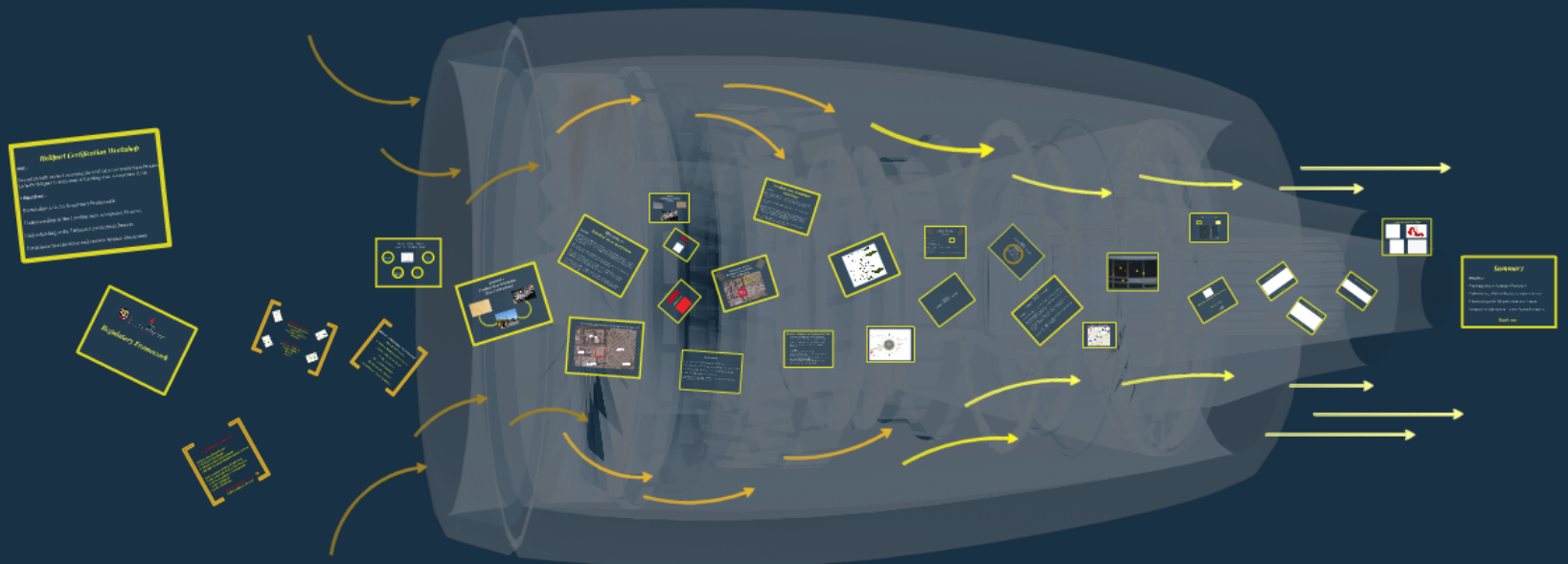
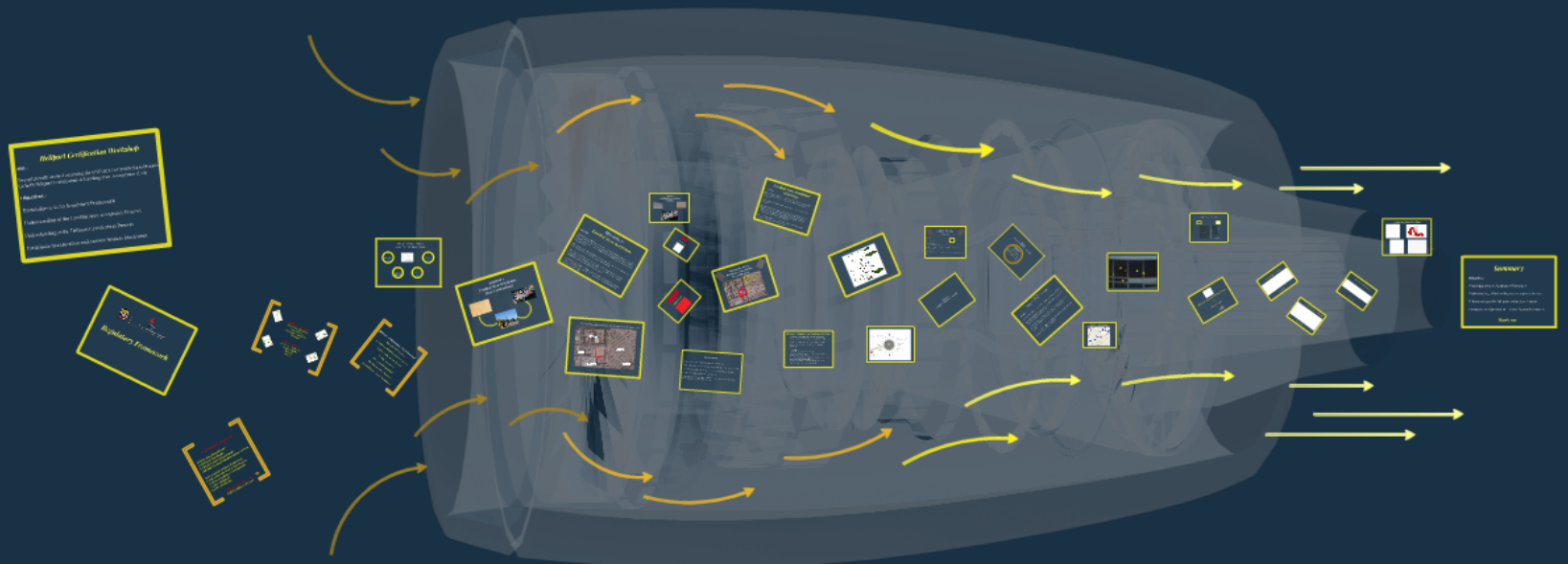


Heliport Certification Workshop

الهيئة العامة للطيران المدني
GENERAL CIVIL AVIATION AUTHORITY



Heliport Certification Workshop

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Heliport Certification Workshop

Aim:-

To explain with worked examples the UAE GCAA's Certification Process for both Heliport Certification & Landing Area Acceptance (LAA)

Objectives:-

Knowledge of GCAA Regulatory Framework

Understanding of the Landing Area Acceptance Process

Understanding of the Heliport Certification Process

Participate in a Question and Answer Session/Discussion

United Arab Emirates

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Regulatory Framework

United Arab Emirates

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GCAA Regulatory Framework

Civil Aviation Regulations:-
CAR Part IX Aerodrome
CAR Part X Safety Management
CAR Part XI Aerodrome Emergency Services

Civil Aviation Advisory Publication
CAAP 30 Certification & LAA Process
CAAP 59 Aerodrome Developments
CAAP 70 Heliports
CAAP 71 Helidecks

GCAA DG Directive 01/15
Full Compliance by 2018

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GCAA Regulations

Air Service :- If an heliport operator intends to serve helicopters that are performing an Air Service, then the heliport operator shall apply for an Heliport Cetificate.

Private Use - Landing Area Acceptance (LAA) If a heliport operator intends to serve helicopters that are being used for private use (not Air Service) operations, then the heliport operator shall apply for an "Landing Area Acceptance".

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Landing Area Acceptance

Private Use Operations

Royal Palaces

Government Buildings

Hospitals

Full Certification

Air Service - Public Use

Pleasure Flights

Training

Hotels

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GENERAL CIVIL AVIATION AUTHORITY

Heliport Certification & Safety Oversight

GCAA Internal Procedures

Development & Implementation of eServices

Audit Recording System - Q-Pulse

Training of Inspectors

PPE - Inspection Equipment

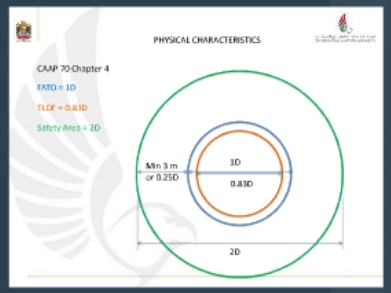
Checklists (LAA & Certification)

GCAA Workshops - Technical Committees

Physical Characteristics
Acronyms and Abbreviations

FATO – Final Approach and Take-off Area

This is the area over which the final phase of the approach manoeuvre to hover or landing is completed and from which the take-off manoeuvre is commenced.



Safety Area

Safety Area is a defined area surrounding the FATO which is free of obstacles and intended to reduce the risk of damage to helicopters accidentally diverging from the FATO.

"D" or the "D – Value

"D" = Largest overall dimension of the helicopter when the rotors are turning measured from the most forward position of the main rotor tip path to the most rearward position of the tail rotor tip path plane or helicopter structure.

TLOF – Touchdown and Lift-Off Area

This is the area on which a helicopter may touchdown or lift off.

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Helicopter Characteristics

Specifications (AW109 Power with PW206C) [edit]

Data from www.agustawestland.com[43][44]

General characteristics

- **Crew:** 1 or 2
- **Capacity:** 6 or 7 passengers
- **Length:** 11.448 m (37 ft 7 in) fuselage
- **Width:** 2.88 m (9 ft 5 in)
- **Height:** 3.50 m (11 ft 6 in)
- **Empty weight:** 1,590 kg (3,505 lb)
- **Max takeoff weight:** 2,850 kg (6,283 lb)
- **Powerplant:** 2 × Pratt & Whitney Canada PW206C Turboshaft engine, 418 kW (561 hp) each
- **Main rotor diameter:** 11.00 m (36 ft 1 in)

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"D" Value 13.04m

Length 11.448m

"D" or the "D – Value

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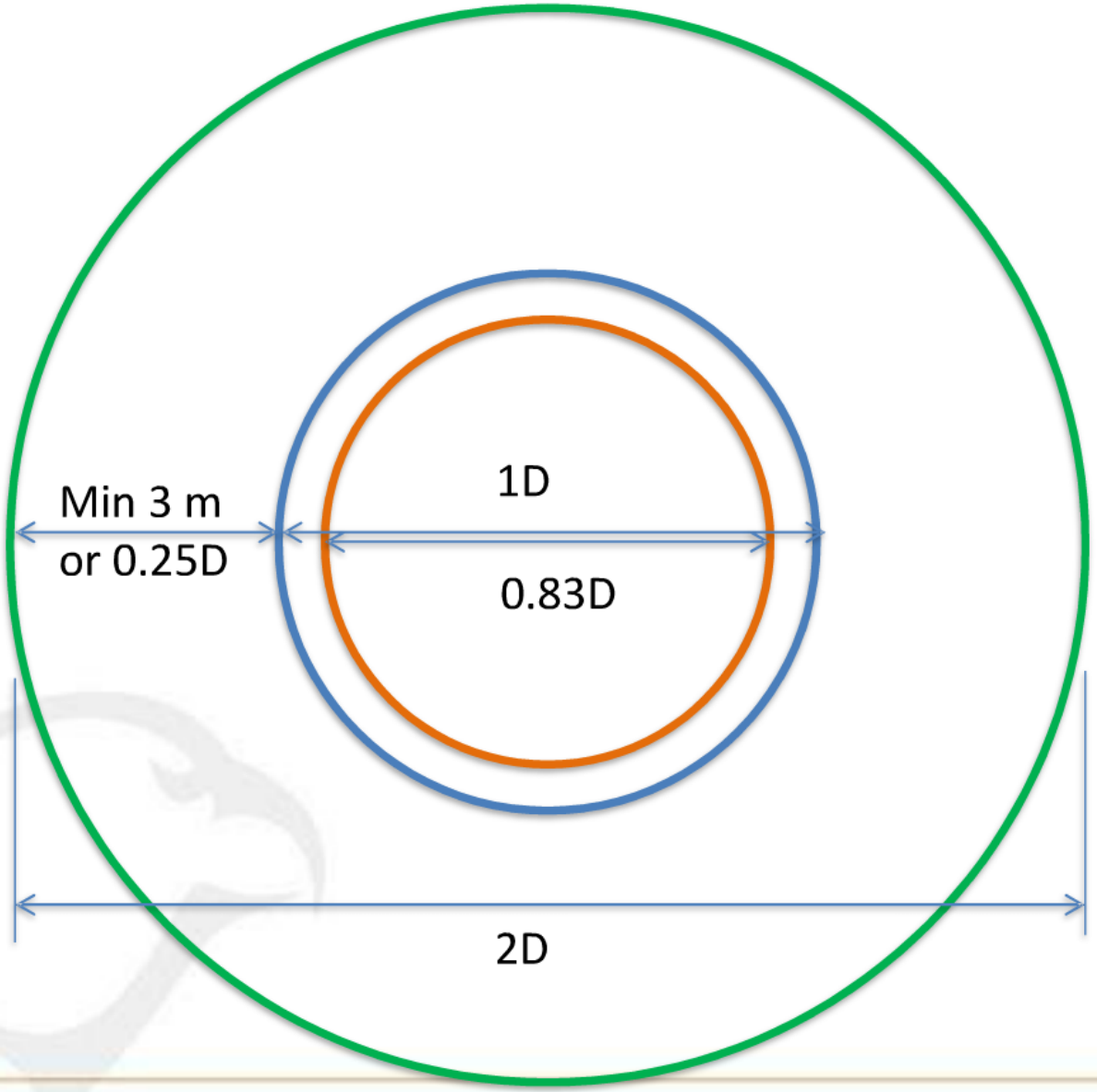
PHYSICAL CHARACTERISTICS

CAAP 70 Chapter 4

FATO = 1D

TLOF = 0.83D

Safety Area = 2D



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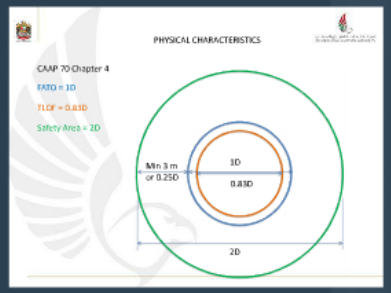

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This is the area on which a helicopter may touchdown or lift off.

5 Minute Break

Exercise 1
Landing Area Accetpance
(New Contruction)

(Exercise 1)
Landing Area Acceptance

SCENARIO

It is proposed to build a heliport for the GCAA on some land opposite the GCAA Head Office in Abu Dhabi. The heliport is to be sufficient in size to accommodate an AW109 helicopter and to keep costs to a minimum, the amount of pavement used must be as little as possible.

The area proposed is shown in Red and is approximately 70 m x 70 m. The heliport is to be available for use for both day and at night operations.

A 12 story hospital is located to the west of the site but will not be involved in the actual operation or maintenance of the heliport. It is possible, however, that the hospital may wish to use the facility if the need arises.

A 4 story office block is located to the south and to the east is a public car park for a major sports stadium. The car park is not generally used except during sporting events when it can be full.

The area proposed is shown in Red and is approximately 70 m x 70 m.

Your Teams Task

1. Based on the scenario, design a heliport within the usable area.

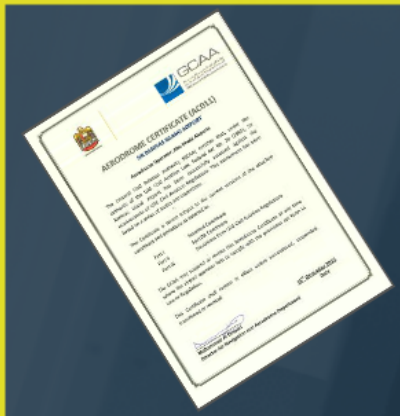
2. Include all applicable markings, lighting and other visual aids as you consider necessary.

3. Indicate where within the area where you would consider building the heliport.

4. Indicate appropriate approach and departure paths.

5. List any concerns that you may have with the site and what, if any, procedures you might put in place to mitigate these concerns.

The area proposed is shown in Red and is approximately 70 m x 70 m.



Outcome Exercise 1
Landing Area Accetpance
New Contruction

- D Value 13.04m
- Safety Area 26.08m
- FATO 13.04m Perimeter marking, white edge lights - 12 square, 10 circle
- TLOF 10.9m Perimeter marking, green inset lights - 12 square, 14 circle
- Heliport identification marking, white "H"

Comments

- Lit windsock
- RFFS - Response
- Approach departure paths to the north-east
- Public protection. Area is surrounded by public footpaths and roadways
- Street lighting may create confusion to pilots operating at night and may also cause obstacles within the approach/take-off paths
- Sand protection.

New Construction

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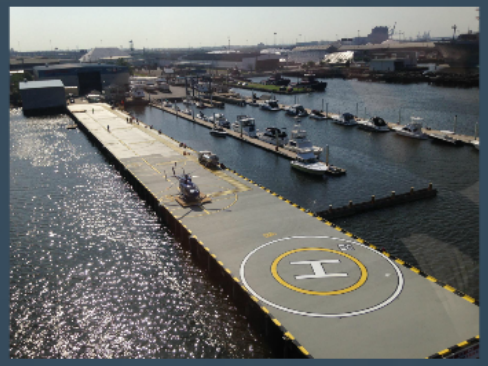
5 Minute Break

Exercise 2
Landing Area Acceptance
(Existing)



Landing Area Acceptance (Existing)

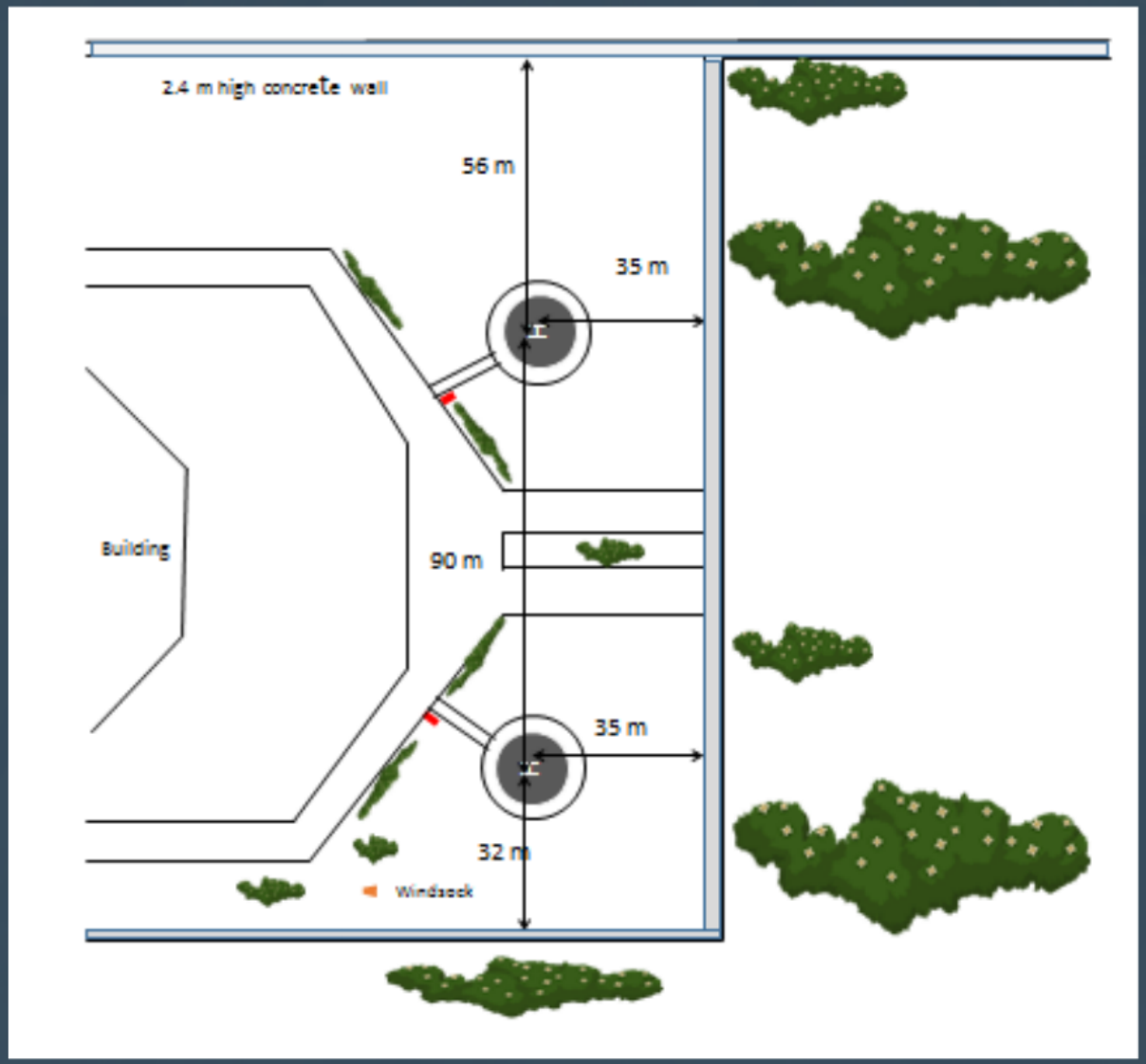
SCENARIO

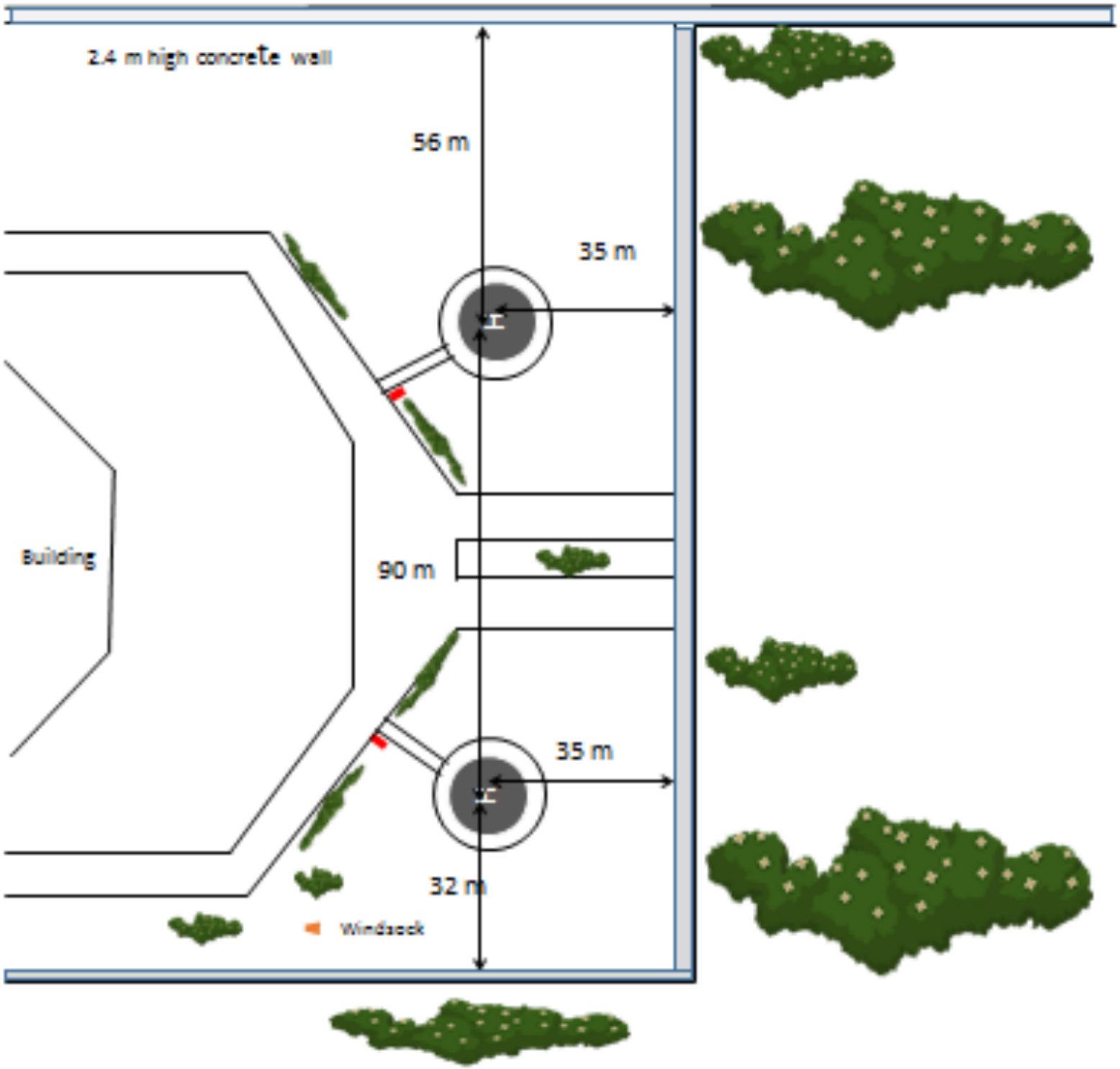
This is a private heliport and is for the use only of the owner of the facility. It is not available for use by any other person without the permission of the owner.

The heliport is used infrequently with, on average, only 1 or 2 movements per month.

The heliport has been in existence for a number of years and was recently refurbished in late 2014. This involved the renewal of the pavement, the repainting of the markings and the installation of new lights. All of this was based on the original markings and lighting.

The area that the heliport is located is all grass apart from the footpaths leading to each heliport and around the edge.


2.4 m high concrete wall
56 m
35 m
Building
90 m
35 m
32 m
Windsock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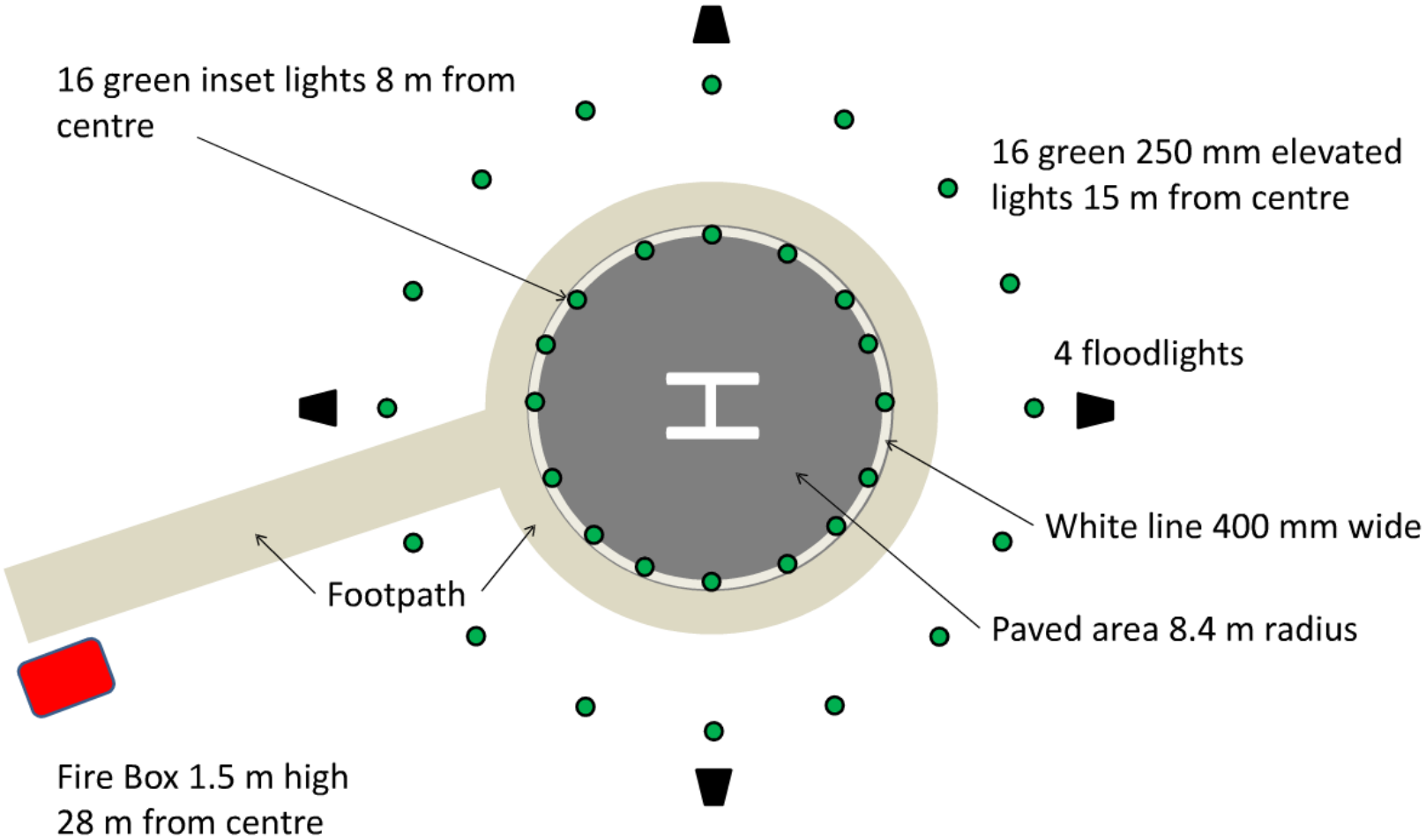
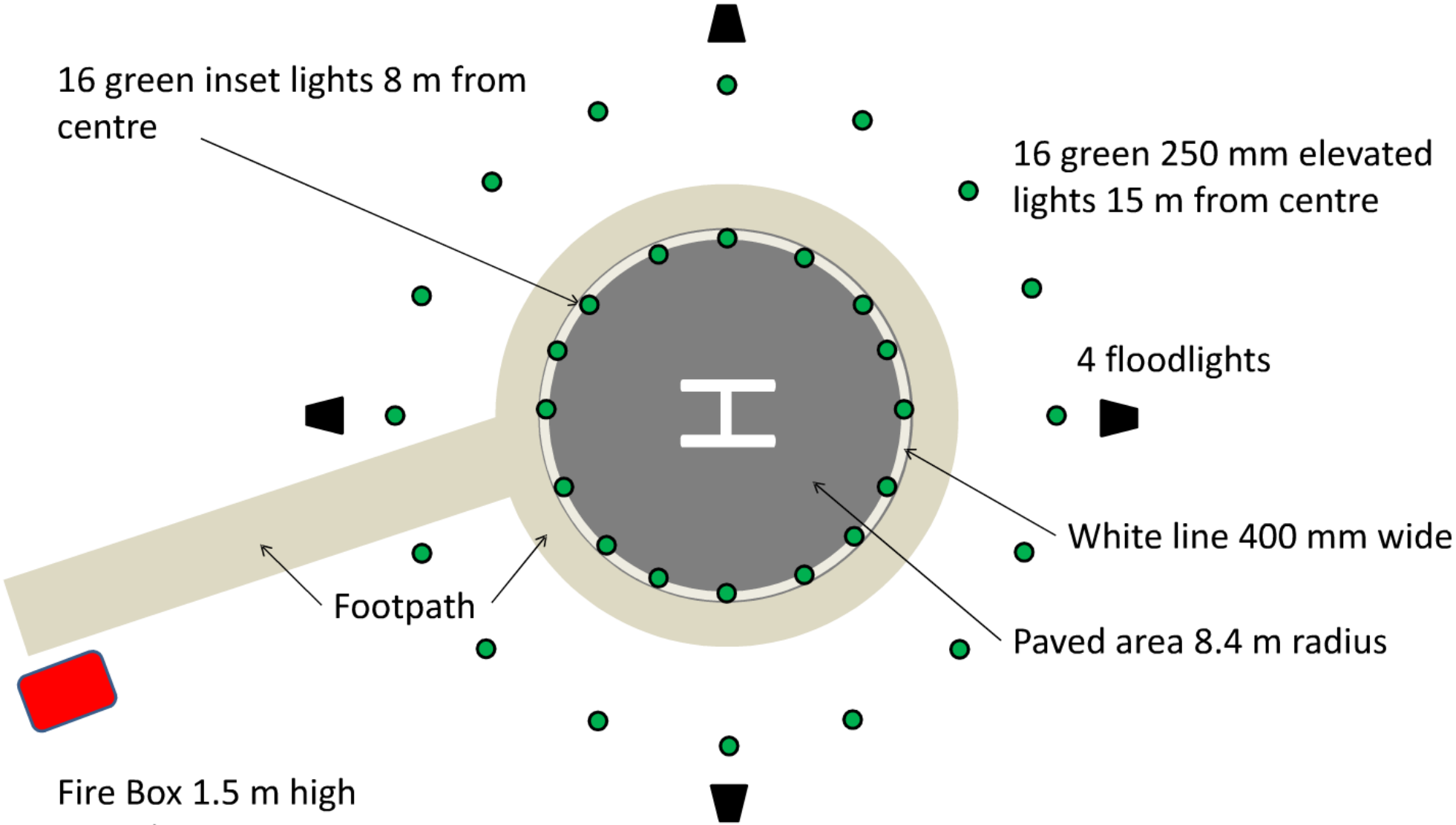

16 green inset lights 8 m from centre
16 green 250 mm elevated lights 15 m from centre
4 floodlights
White line 400 mm wide
Paved area 8.4 m radius
Footpath
Fire Box 1.5 m high
28 m from centre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Footpath
Fire Box 1.5 m high
28 m from centre

(Exercise 2) Landing Area Acceptance (Existing)

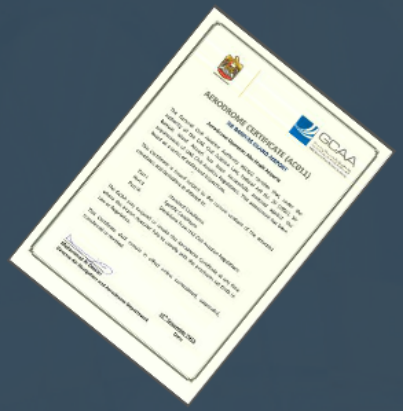
As an inspector you have been requested to conduct an inspection of the heliport and decide if a LAA may be issued.

You have no information on the original design or to what standards or specifications the heliport was originally designed to.

Team Tasks

1. Determine the “D” value of the heliport.
2. To establish if the heliport meets with current regulations and list any non-compliances.
3. List any restrictions or conditions that should be placed on the approval if you were to issue a LAA.
4. List any recommendations that you would make to the owner to enhance the safety of the heliport.

Outcome Exercise 2
Landing Area Acceptance (Existing)



D Value 20

FATO = 30 m diameter

TLOF = 16.8 m diameter

Safety Area = Minimum of 40 m diameter

D value is based on the size of the available pavement (TLOF) which is 16.8 m in diameter .
TLOF = 0.83 Diameter

20 x 0.83 = 16.6 Diameter

The FATO lights are at a distance of 30 m diameter. Is this acceptable given that the FATO should be 1D?

Outcome Exercise 2
Landing Area Acceptance
(Existing)

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Outcome Exercise 2
Landing Area Acceptance
(Existing)

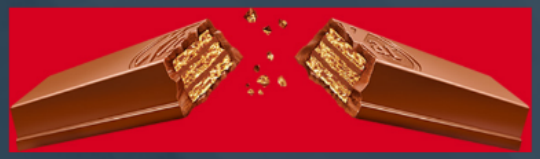
The windsock might not be visible from the far heliport and may not give an accurate indication of the wind over that heliport.

The fence is an obstruction

The trees in the vicinity of the heliport may create obstructions if not maintained.

The FATO lights are green and not white.

TLOF should have half spaced lights over a 45 deg angle.



20 Minute Break

Exercise 3
Heliport Certification - Oversight

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Heliport Certification - Oversight

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GCAA Disclaimer

The following photos are NOT representative of any Heliport within the United Arab Emirates (UAE) - they have been staged/found for the purpose of this workshop

United Arab Emirates

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Exercise 3
Heliport Certification - Oversight

Scenario

You are conducting an annual audit of an existing certificated heliport.

On arrival at the heliport you sit in the cafeteria having a cup of coffee and watch operations on the heliport.

Look at the photos and come up with some areas that you may wish to place greater emphasis on during the audit based on what you observe.

If you do notice some non-compliances, indicate whether these would be Level 1, Level 2 or Level 3 findings.

Part of your - Audit Preparation


LONDON
H

Outcome Exercise 3
Heilport Certification - Oversight


3
1
LONDON
H

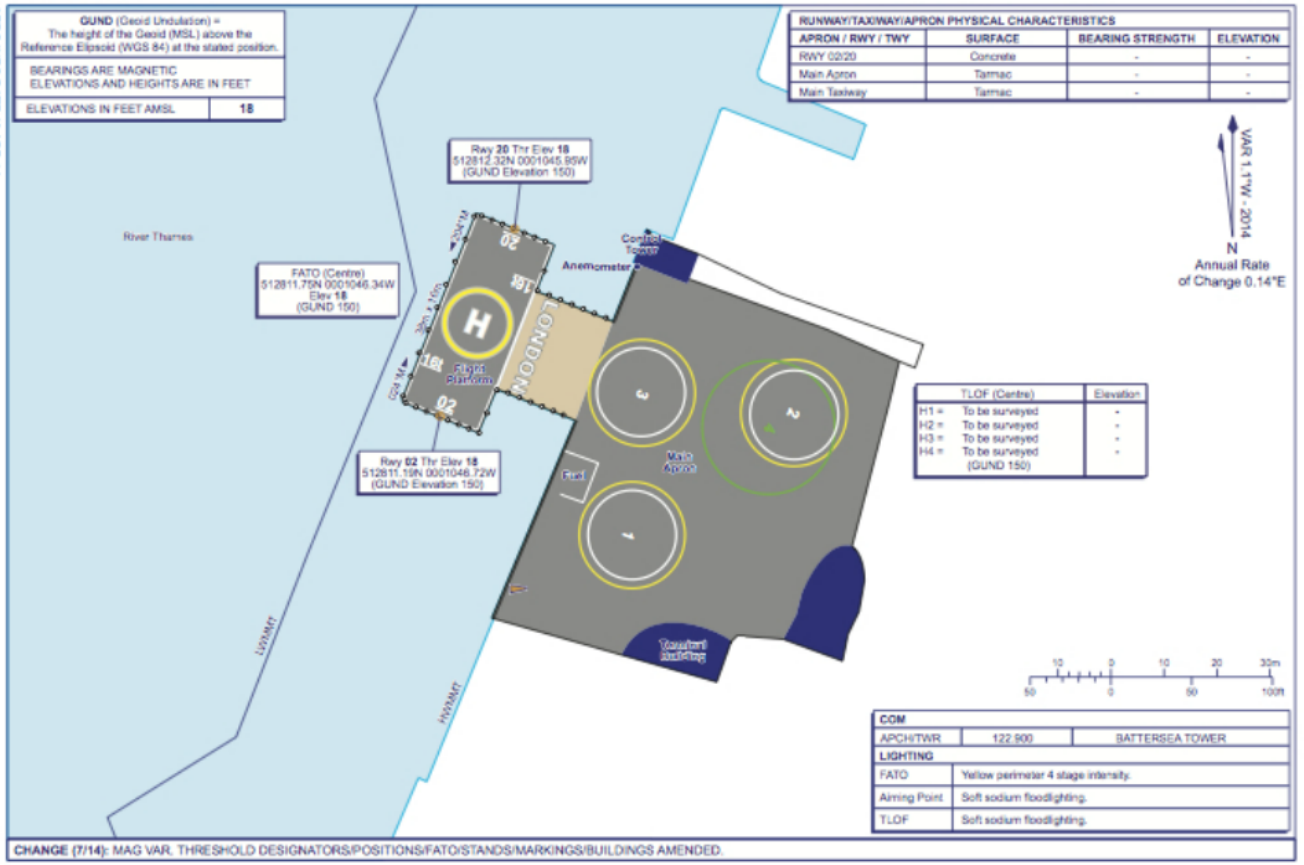
HELICOPTER CHART - ICAO

ARP 512812N 0001046W

AD ELEV 18FT

LONDON HELIPORT
EGLW

AERO INFO DATE 16 APR 14



CHANGE (7/14): MAG VAR, THRESHOLD DESIGNATORS/POSITIONS/FATO/STANDS/MARKINGS/BUILDINGS AMENDED.

5 Minute Break

QUESTIONS RECEIVED FROM ATTENDEES

&

General Disscusion

United Arab Emirates

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GENERAL CIVIL AVIATION AUTHORITY

QUESTIONS RECEIVED FROM ATTENDEES

TYPE	QUESTIONS
Aerodrome or Heliport Operator	Regarding building heliport, do they have certifications? Do they been audited?
Civil Aviation Authority - Regulator	RESCUE & FIRE FIGHTING - OBSTACLE - SAFETY INSPECTION
Civil Aviation Authority - Regulator	1) Address the latest heliports' firefighting systems and techniques. 2) Address the operational aspects of heliports management.
Civil Aviation Authority - Regulator	With the introduction of ISO 19901-3 it was assumed there was now harmony amongst structural engineers regarding the design criteria for helidecks & helipads on elevated structures - essential for ensuring ALL helicopters up to a specific weight are covered. However this appears not to be the case. So, What are the Structural Design Criteria for Helidecks & Helipads on elevated structures?
Consultant	HELIPAD / HELIPORT DESIGN
Consultant	HELIPORT OPERATIONS

General Disscusion

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General Disscusion

QUESTIONS RECEIVED FROM ATTENDEES

TYPE	QUESTIONS
Civil Aviation Authority - Regulator	Unmanned Heliports or Helidecks
Consultant	Are there any regulations in the UAE that commercial operations with helicopters have to be compliant with Performance Class 1?
Helicopter Operator	Heliport fire protection standards
Helicopter Operator	HLO, HDA Training
Helicopter Operator	Heliport marking. Minimum acceptable standards and time frame to comply.
Air Traffic Service Unit	Heliport name marking direction on Hospital & oil deck obstacle limitation surface for point S approach minimum visibility for instrument heliport served by GNSS approach
Consultant	Healthcare facilities heliport safety procedures
Aerodrome or Heliport Operator	Healthcare facilities heliport safety procedures
Aerodrome or Heliport Operator	Helicopters using standard aircraft parking bay for operations.
Aerodrome or Heliport Operator	Compliance / Regulatory measures required when helicopters use an apron parking bay normally assigned

General Disscusion

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General Disscusion

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Aerodrome or Heliport Operator	Fire fighting
Manufacturer	Use of aluminium

General Disscusion

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General Disscusion

Questions from the Floor

Summary

Objectives:-

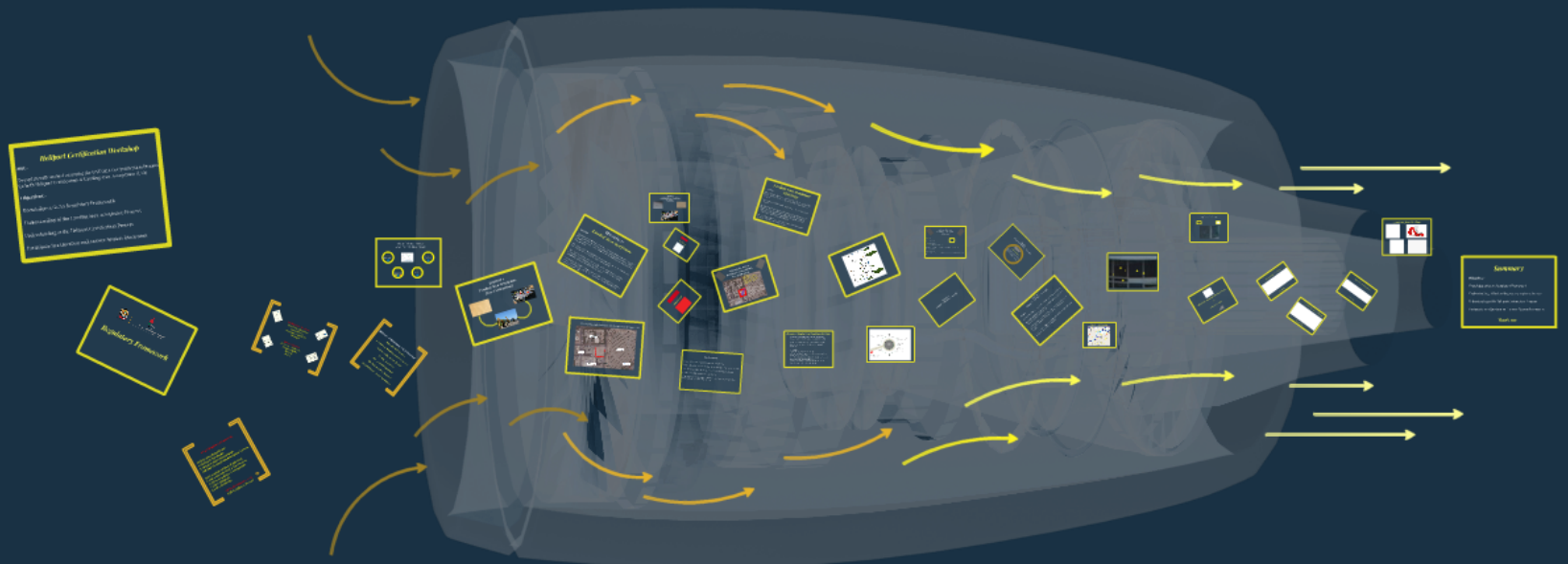
Knowledge of GCAA Regulatory Framework

Understanding of the Landing Area Acceptance Process

Understanding of the Heliport Certification Process

Participate in a Question and Answer Session/Discussion

Thank you



Heliport Certification Workshop

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