



## Chapter 5 – Visual Aids

- Wind direction indicators
- **Markings & Markers**
  - Heliport identification marking
  - Maximum allowable mass marking, D-value marking, FATO dimension markings
  - FATO perimeter markings or markers (surface-level heliport)
  - Aiming point markings
  - TLOF perimeter markings
  - Touchdown/positioning marking
  - Ground taxiway markings
  - Air taxiway markings
  - Helicopter stand (parking) markings

## Wind Direction Indicator

A wind direction indicator shall be located so as to indicate the wind conditions over the FATO and TLOF and in such a way as to be free from the effects of airflow disturbances caused by nearby objects or rotor downwash. It shall be visible from a helicopter in flight, in a hover or on the movement area.

*Recommendation.— Where a TLOF and/or FATO may be subject to a disturbed airflow, then additional wind direction indicators located close to the area should be provided to indicate the surface wind on the area.*

*Should be a truncated cone made of lightweight fabric and should have the following minimum dimensions:*

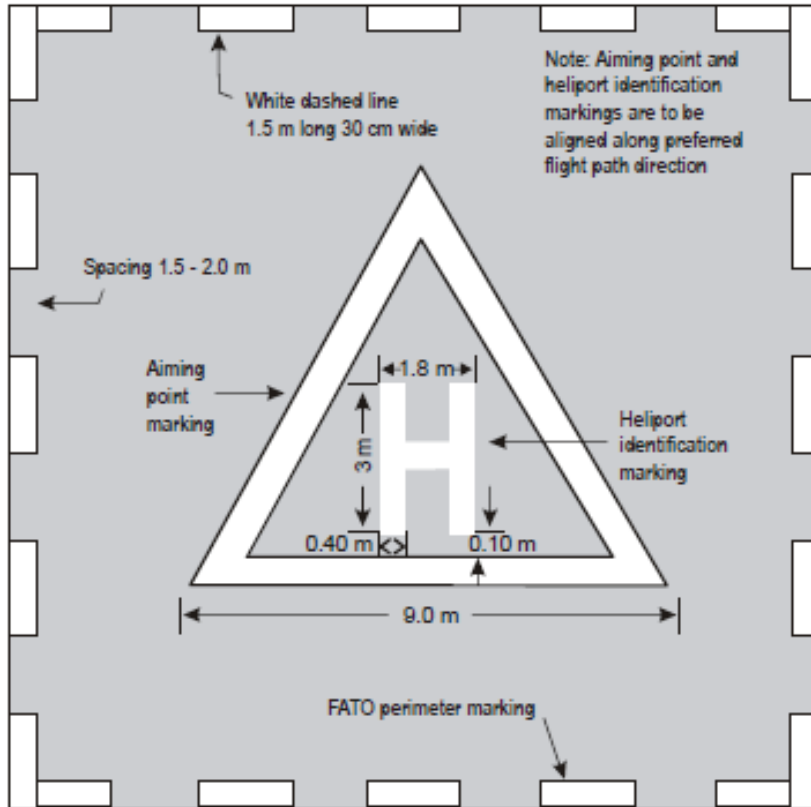
	<i>Surface-level heliports</i>	<i>Elevated heliports and helidecks</i>
<i>Length</i>	<i>2.4 m</i>	<i>1.2 m</i>
<i>Diameter (larger end)</i>	<i>0.6 m</i>	<i>0.3 m</i>
<i>Diameter (smaller end)</i>	<i>0.3 m</i>	<i>0.15 m</i>

*The colour of the wind direction indicator should be so selected as to make it clearly visible and understandable from a height of at least 200 m (650 ft) above the heliport, having regard to background. Where practicable, a single colour, preferably white or orange, should be used. Where a combination of two colours is required to give adequate conspicuity against changing backgrounds, they should preferably be orange and white, red and white, or black and white, and should be arranged in five alternate bands the first and last band being the darker colour.*

A wind direction indicator at a heliport intended for use at night shall be illuminated.

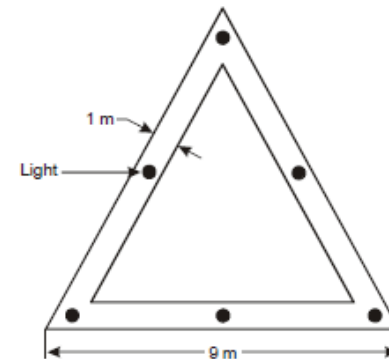


## Aiming Point & Heliport Identification Markings



**Aiming Point within FATO**

- At or near centre of FATO
- White in colour
- Dimension not less than depicted
- *All markings can be edged with a 10 cm black border to improve contrast*
- Tip of Aiming point marking oriented in preferred final approach direction
- *Aiming point within FATO is recommendation*



**Aiming Point outside of FATO**

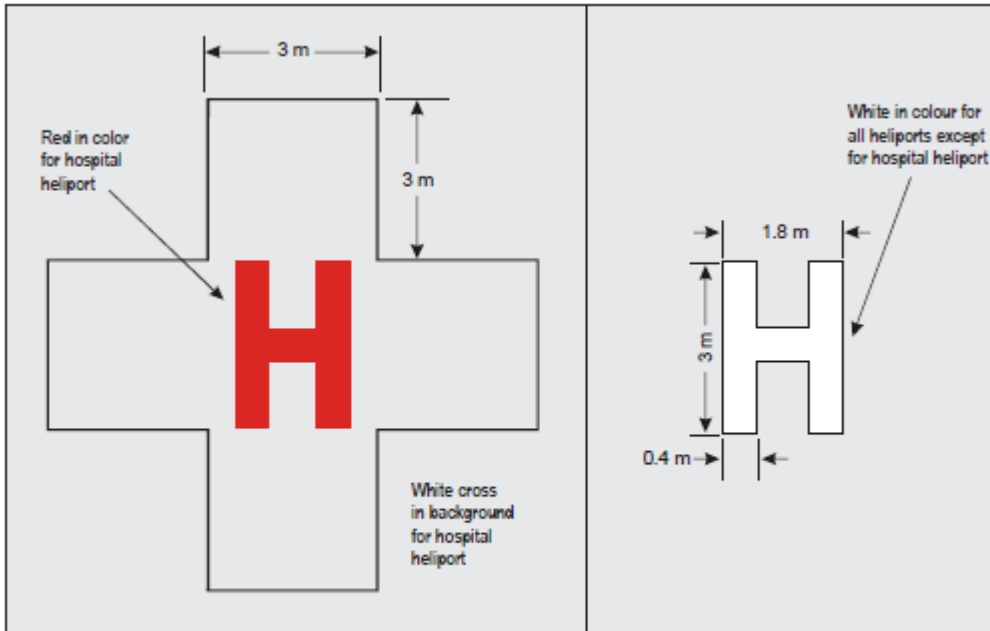


Figure 5-3. Hospital heliport identification and heliport identification marking



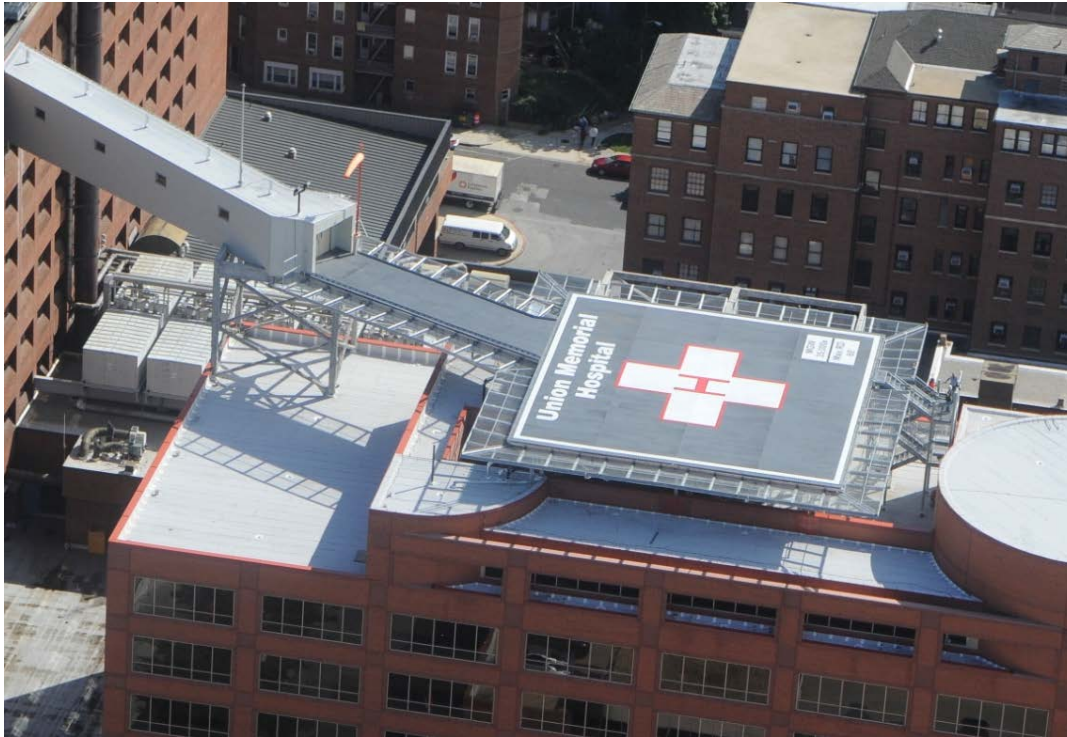
Figure 5-2. FATO designation marking and heliport identification marking for a runway-type FATO

## Hospital Heliport Identification Markings

- 'H' is red in colour
- Centered on white cross
- Again can be outlined in black or red for contrast
- Cross arm of 'H' oriented at right angle to preferred final approach direction

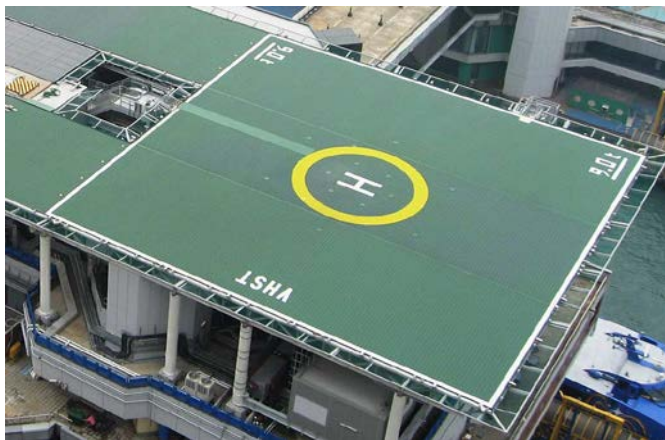
## Runway-type FATO Markings

- Displayed at each end



Contract around Cross very effective at locations that might experience snow or ice

## Maximum Allowable Mass Marking



Shall be displayed at elevated heliports  
Should be at surface level heliports

- Readable from preferred approach
- 1,2,or 3 digits
- Expressed in tonnes (1000 kg), rounded down
- Followed by letter "t"
- 1000 lbs for states that not metric
- Letter "t" not required
- Should be expressed with decimal down to nearest 100 kg
- Colour contrasting with background
- FATO less than 15 m – 60 cm height
- FATO 15-30 m – 90 cm height
- FATO greater than 30 m – as depicted in Fig 5-4



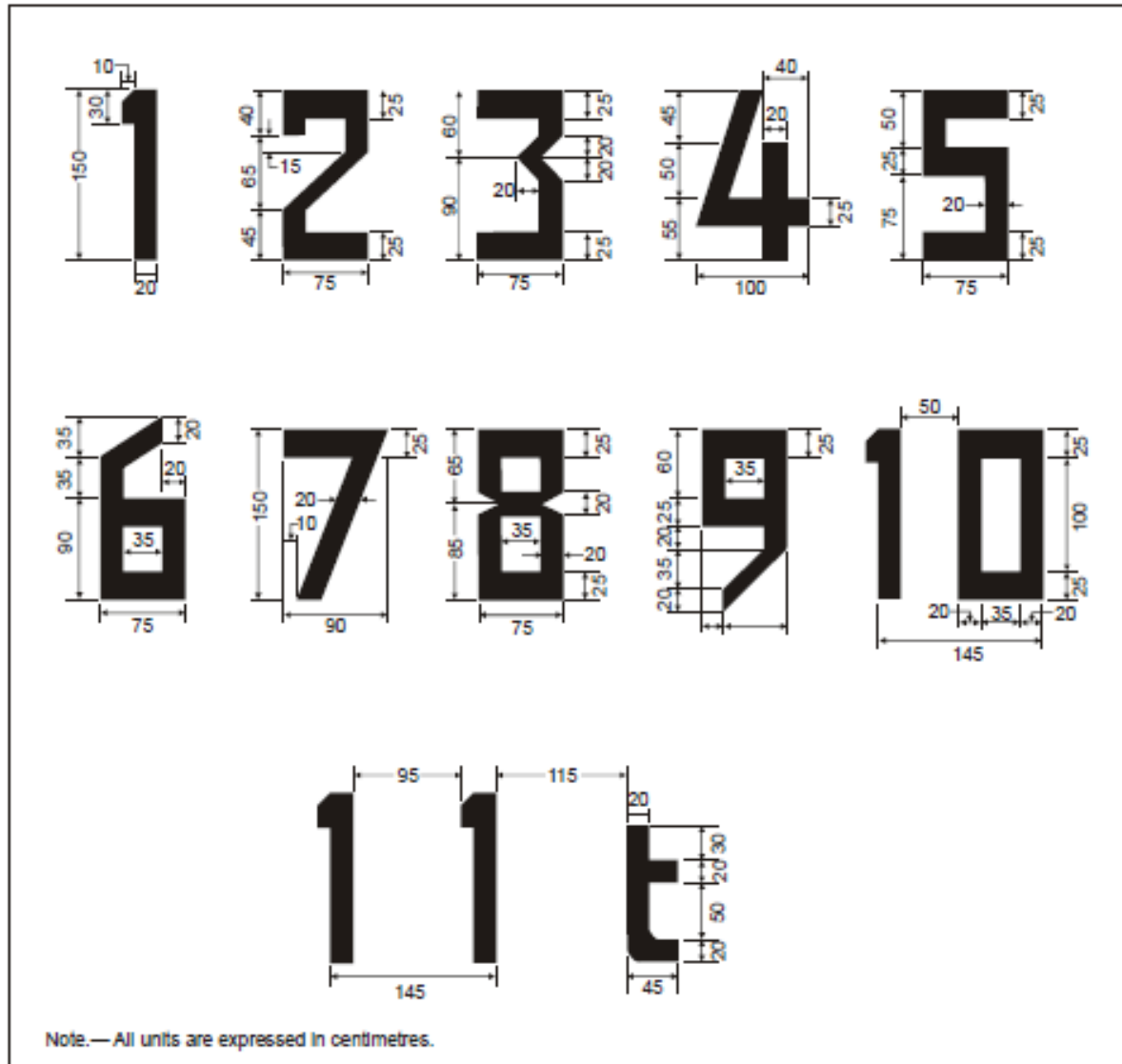


Figure 5-4. Form and proportions of numbers and letters



## D-value Marking

*D-value marking should be displayed at surface-level and elevated heliports designed for helicopters operated in Performance Class 2 or 3.*

Shall be located within the TLOF or FATO and readable from preferred final approach direction

- Shall be white and rounded to nearest metre or foot rounded down
- Should have contrasting background colour
- *Same dimensions and portion as in figure 5-4*





## FATO Dimension(s) Marking

*The actual dimension(s) of the FATO intended to be used by helicopters operated in performance class 1 should be marked on the FATO.*

*If the actual dimension(s) of the FATO to be used by helicopters operated in performance class 2 or 3 is less than 1 D, the dimension(s) should be marked on the FATO.*

A FATO dimension marking shall be located within the FATO and so arranged as to be readable from the preferred final approach direction.

The dimension(s) shall be rounded to the nearest metre or foot.

*Note.— If the FATO is rectangular both the length and width of the FATO relative to the preferred final approach direction is indicated.*

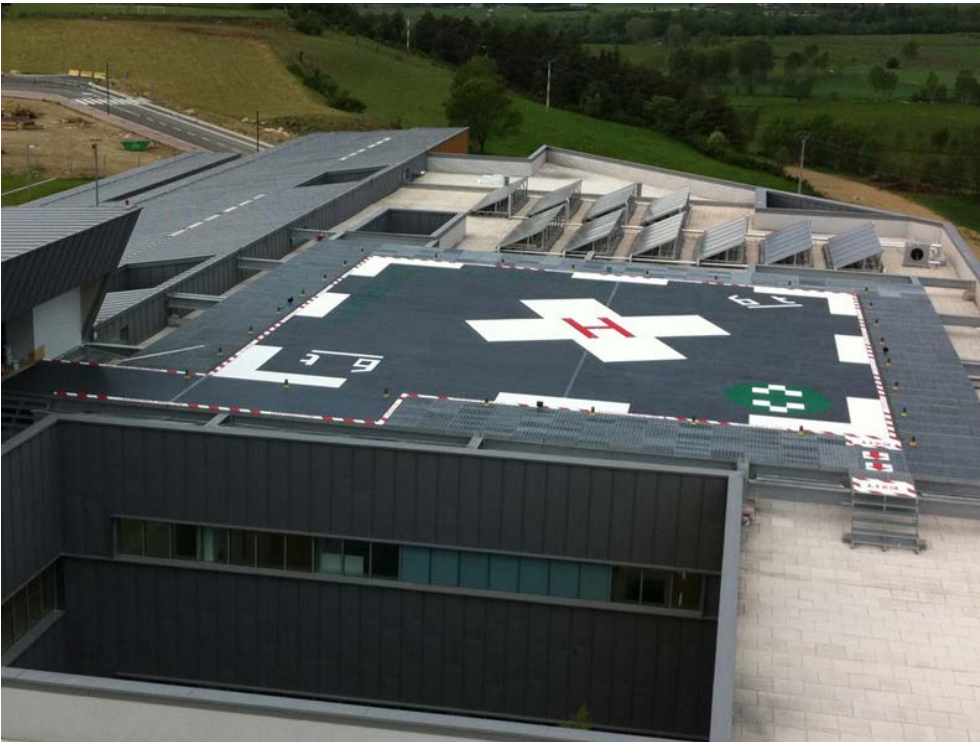
*The numbers of the marking should have a colour contrasting with the background and should be in the form and proportion shown in Figure 5-4.*



## FATO Perimeter Marking or Markers

FATO perimeter marking or markers shall be provided at a surface-level heliport where the extent of the FATO is not self-evident. [This is the same for elevated heliports].

FATO perimeter marking or markers shall be located on the edge of the FATO.



- 30 cm in width
- 1.5 m in length
- Spacing between markings 1.5 – 2.0 m
- Shall be white



## Runway Type FATO Perimeter Marking

Perimeter of the FATO shall be defined with markings or markers spaced at equal intervals of not more than 50 m with at least three markings or markers on each side including a marking or marker at each corner.

FATO perimeter marking shall be a rectangular stripe with a length of 9 m or one-fifth of the side of the it defines and a width of 1 m.

FATO perimeter markings shall be white.





## TLOF Perimeter Marking

A TLOF perimeter marking shall be displayed on a TLOF located in a FATO at a surface-level heliport if the perimeter of the TLOF is not self-evident.

TLOF perimeter marking shall be displayed on an elevated heliport, a helideck and a shipboard heliport.

*A TLOF perimeter marking should be provided on each TLOF collocated with a helicopter stand at a surface-level heliport.* [This only applies if the FATO and TLOF are not coincidental].

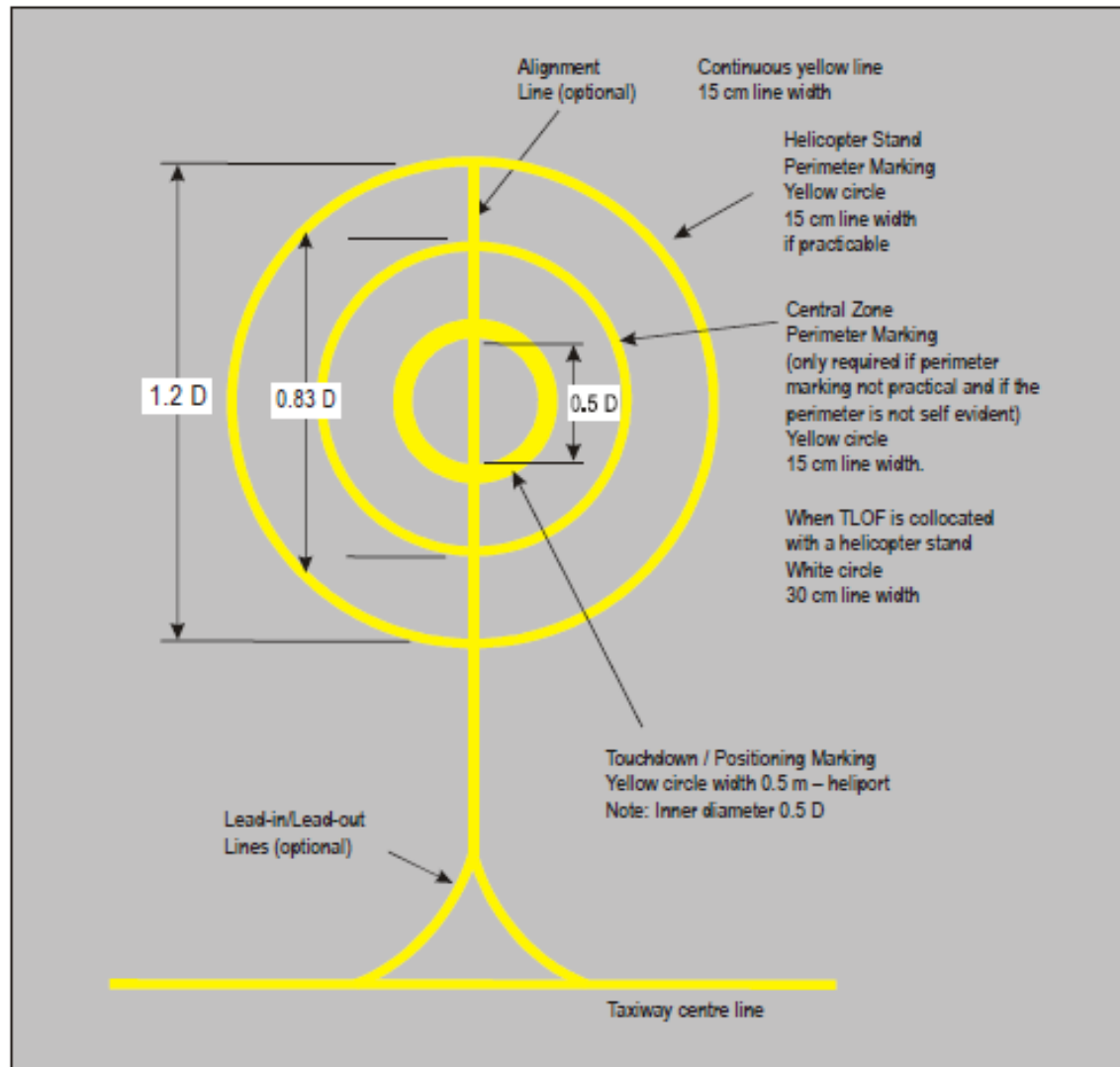
TLOF perimeter marking shall be located along the edge of the TLOF.

TLOF perimeter marking shall consist of a continuous white line with a width of at least 30 cm.





## Helicopter Stand and Taxiway Markings













## Flight Path Alignment Guidance Marking

Flight path alignment guidance marking(s) should be provided at a heliport where it is desirable and practicable to indicate available approach and/or departure path direction(s).

*Flight path alignment guidance marking can be combined with a flight path alignment guidance lighting system.*

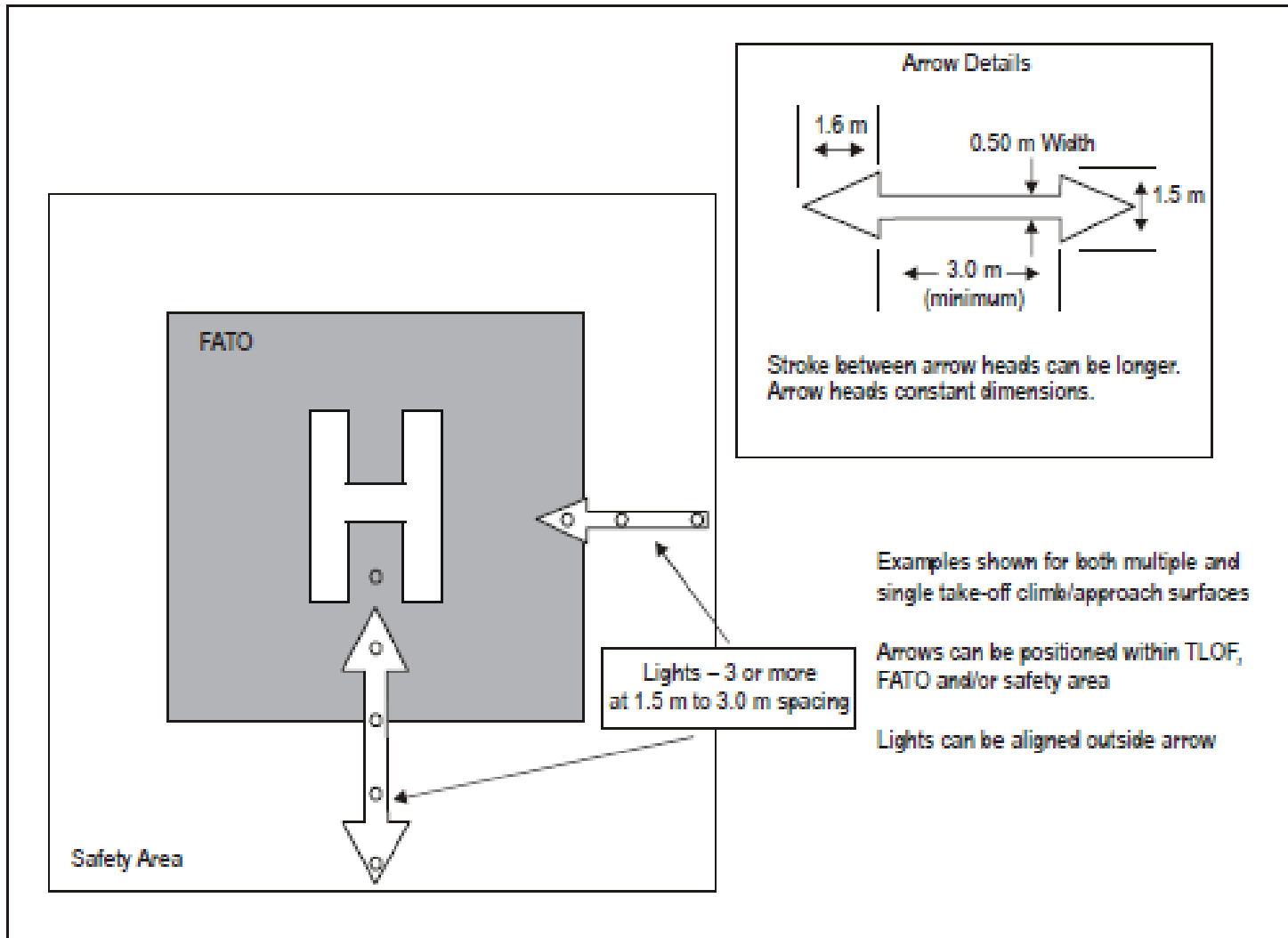
Flight path alignment guidance marking shall be located in a straight line along the direction of approach and/or departure path on one or more of the TLOF, FATO, safety area or any suitable surface in the immediate vicinity of the FATO or safety area.

Flight path alignment guidance marking shall consist of one or more arrows marked on the TLOF, FATO and/or safety area surface.

- Stroke of the arrow(s) shall be 50 cm in width and at least 3 m in length.
- When combined with a flight path alignment guidance lighting system it shall take the form shown in Figure 5-9 which includes the scheme for marking 'heads of the arrows' which are constant regardless of stroke length.

*In the case of a flight path limited to a single approach direction or single departure direction, the arrow marking may be unidirectional. In the case of a heliport with only a single approach/departure path available, one bidirectional arrow is marked.*

*Markings should be in a colour which provides good contrast against the background colour of the surface on which they are marked, preferably white.*



**Figure 5-9. Flight path alignment guidance markings and lights**









# Questions?



## Baillie & Associates

International Aviation Regulations & Standards Development

**Christopher J. F. Baillie**  
*Managing Director*

Ottawa, Ontario, Canada

[chrisbaillie@storm.ca](mailto:chrisbaillie@storm.ca)

