Putting the air ambulance at the heart of Thorverton…night and day.

Toby Russell, Community Landing Sites Development Officer

Background

As you may be aware Devon Air Ambulance (DAA) has increased operations to midnight every day which means around an extra 8 hours of service each day during the darker winter months. We hope to extend operations to 2am within the next few months. Our vision is to eventually provide a 24hr service and this is a huge step in realising that dream. This will bring a much needed operationally effective service - day and night - to your community.

To support night operations, DAA are working with communities across Devon to create a network of 'community landing sites' - these are surveyed floodlit landing sites which are part-funded and managed by local communities. Using 'known' sites means we can land in communities as quickly and safely as possible 'during the hours of darkness'.

There are currently 78 community sites ready for night landing, with a further approx. 140 sites at various stages of development. We expect to have upwards of 250 sites throughout Devon within the next 3-4 years.

What makes a good night landing site?

A night landing site could take many different shapes or forms - it could be a green, sports pitch or playing field, a school playground or local field.

A landing site needs to be a flat area of at least 50m x 50m, to provide maximum operational benefit and safety, have pedestrian and vehicle access nearby and could be on grass, tarmac or concrete. A nearby power source for lighting is useful although not essential. Whilst tall trees or power lines within the site might be a hazard, if they are on the periphery they may not cause a problem.

Floodlighting is an essential component of a community landing site for both safety and practical reasons – it will illuminate the site during landing and take-off and will help when loading a patient in the aircraft or during transfer between a land / air ambulance.

Where there are no existing lights in place or infrastructure to support new lighting, we are asking communities to install a 10m high steel column with a set of two 150-watt LED lights. This lighting system could be powered by mains electricity supply (240v) or an off-grid solar / wind power option which includes a set of batteries.

All lighting systems need to incorporate a GSM control switch, operated using a mobile phone SIM card, which will enable the lights to be turned on/off remotely meaning no-one needs to be on hand when the Air Ambulance arrives and takes-off.

Proposal to establish a community landing site in Thorverton

Devon Air Ambulance has reviewed several open sites in the village and the football pitch has been identified as the best area for a night landing site. The football pitch offers good access from the air and is well located in the village meaning a patient can quickly be transferred via stretcher from a land ambulance to the aircraft or Air Ambulance medical teams can easily leave the site on foot to go to a patient in the village.

DAA Operations staff have visited the site and completed a survey of the night landing site. During that survey, we collected information on the site and any potential hazards, which will be passed onto the pilots and air crew. Having this info ensures our pilots can quickly assess a landing site well before they arrive there, speeding up the time it takes to get paramedics onto the ground (potentially saving around 15-20mins) and to a patient.

The main requirement for DAA to be able to land at night at Thorverton football pitch will be the installation of a new 10m steel column and two LED lights. That column would ideally be located along the northern boundary (see photo below), illuminating a central/eastern half of the pitch. Power for the lighting (240v) could be taken from the WI building (subject to their approval), underground around the pitch, to the lighting column.

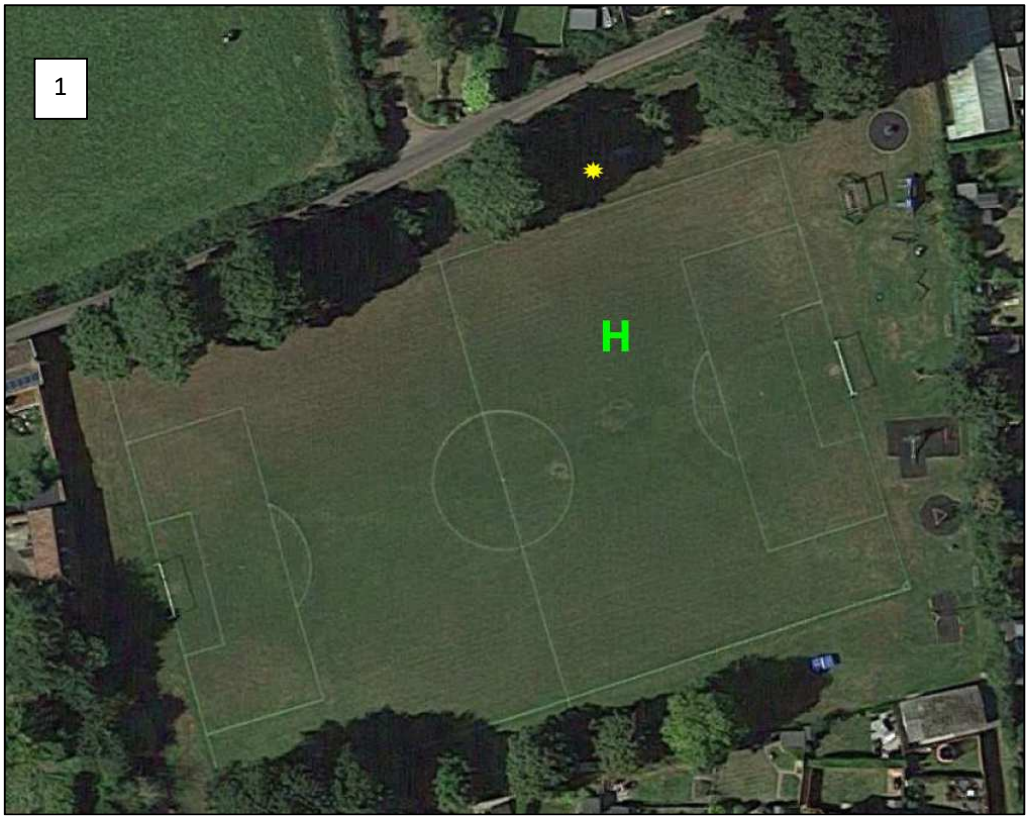


Photo 1: shows the proposed night landing site at Thorverton football pitch; the yellow dot indicates location for the 10m lighting column, H indicates the landing area (no markings or other infrastructure are required).

Lighting column & LED lights

As mentioned, a new 10m steel lighting column will need to be installed at the site. That column would have two 150-watt LED lights positioned at the top of the column, directed at a 60° angle to illuminate the landing area. There are no markings or other infrastructure needed to identify the landing area.

The need for a 10m high column is that, during trials, we assessed lighting columns at 6, 8 and 10m high. Only at 10m high were we able to achieve a large enough and yet 'tight' pool of light which would not cause glare for the helicopter pilots and crew as they land / take-off. Please see page overleaf with drawings of the 10m lighting column.

Photo 2: shows a 10m lighting column with LED's in place at a community landing site in Devon.

Managing a landing site:

Each community will need to put in place a system to monitor their landing site and report to DAA on any site changes. This is not arduous but means that the site is looked after properly, for example, by keeping rubbish free from the landing area or notifying DAA of any temporary (e.g. events) or permanent changes. Having the pitch as a night landing site does not in any way change how the site is managed for sports/community use etc.

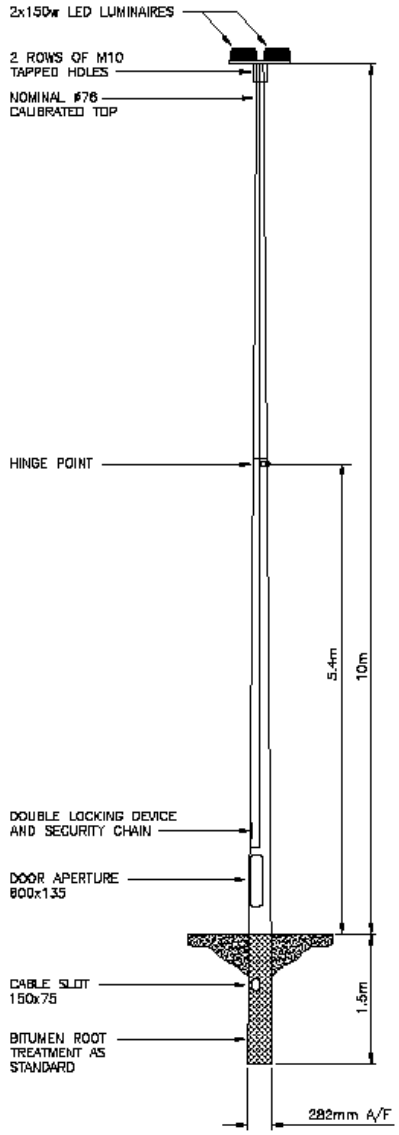
We expect the costs of running each landing site to be low – the LED lights cost around £0.15p per 4 hours of use and the remote switching unit costs under £10 a year to be kept operational. The main annual cost involved is likely to be insurance. However, the community might expect some limited maintenance costs of the equipment in the future and so we advise all communities to hold a small budget for future maintenance.

Overview of next steps & Project costs:

- Promote the project within the village and involve the community
- The cost to purchase and install the new lighting, remote switching unit and associated electrics at Thorverton is £2,945.79 (which includes a grant of £2,996.37 from DAA)
- Local fundraising will be required (community fundraising, grant funding, sponsorship, events etc.) to fund the equipment costs (the DAA grant covers labour costs)
- A planning application for the lighting column will need to be submitted
- Once funding and permissions are in place the lighting can be installed and the night landing site becomes operational for Devon Air Ambulance.

If you would like more information on the development of a night landing site in Thorverton, please contact Toby Russell, Devon Air Ambulance *Community Landing Site Development Officer*, on: t.russell@daat.org

This drawing shall not be scaled. Work from the dimensions shown in the drawing or given in relevant specifications.



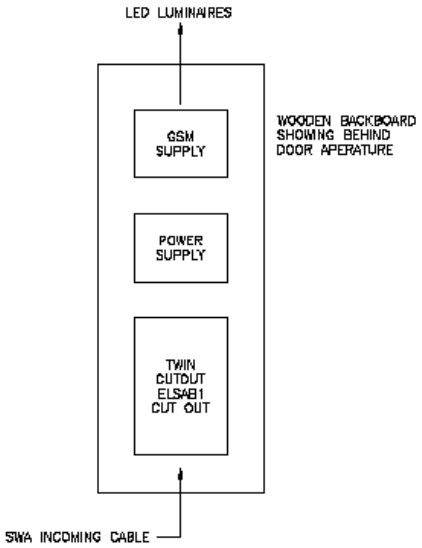
A) ERECTED POSITION

NOTES

THIS LAYOUT SHOWS THE FOLLOWING:

10m RAISING & LOWERING COLUMN USING A TWIN FLOODLIGHT BRACKET ON TOP, USING 2x150w LED LUMINAIRES.

DIRECT MAINS FED AND OPERATED USING THE GSM SWITCH (NO BY-PASS OPTION)

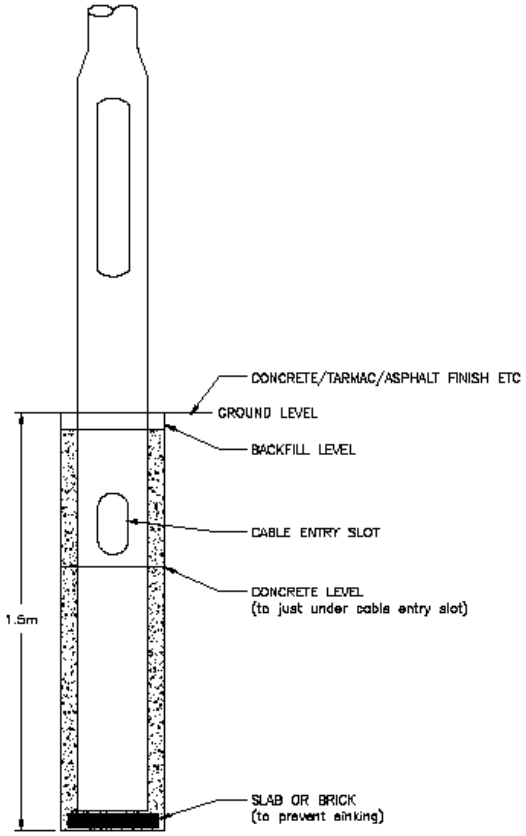


B) SET-UP IN COLUMN

INSTALLATION METHOD:-

ROOT MOUNTING

1. EXCAVATE HOLE APPROX. 100mm/200mm LARGER THAN THE BASE OF COLUMN DIAMETER TO FULL DEPTH OF ROOT.
2. PLACE A SLAB OR BRICK (TO PREVENT SINKING).
3. USING A SEMI-DRY CONCRETE MIX, PUT BOTTOM COVERING IN FIRST, THEN LOWER COLUMN ON TO SLAB.
4. CONTINUE CONCRETE FILLING (TO JUST UNDER CABLE ENTRY SLOT) AND INSERT SWA CABLE.
5. COMPACT EXCAVATED MATERIAL AS BACKFILL ON TOP OF CONCRETE.
6. IF REQUIRED, USE CONCRETE/TARMAC/ASPHALT FINISH.



C) DETAIL OF COLUMN

If in doubt ask

General Notes:

1.

No	Description	Drawn	Checked	No
	Revisions			

Client

MAT Electrics

M.A.T. Electrics LTD
Unit 10a Brooklyn Court
Northfield Industrial Estate
Colne, BB8 7QX

Project Title

Drawing Title
STANDARD LIGHTING COLUMN LAYOUT
MAINS FED INSTALLATION
WITH COLUMN GSM SWITCH

CONSTRUCTION

Drawn by	Designed by	Reviewed by
Project No	Date	Scale @ A3
		NONE @ A3

DRAWING NUMBER

Job number	Rev.	Number	No
	-	10001-001	

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