



Putting the air ambulance at the heart of Blackawton...night and day.

By Toby Russell, Community Landing Sites Development Officer

Background

As you may be aware Devon Air Ambulance (DAA) has been working hard towards extending flying operations into the hours of darkness.

As of late November 2016, we have increased operations to midnight every day which means around an extra 8 hours of service each day during the darker winter 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.

DAA are working with communities across Devon to create a network of 'community landing sites' - these are pre-surveyed floodlit landing sites which are part-funded and managed by local communities. We currently have 32 community sites ready for night landing with a further approx. 130 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 a 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 Blackawton

Devon Air Ambulance has been working with Blackawton Parish Council and several local residents to identify a suitable area for a night landing site in the village. Following a review of 8 potential sites, we have concluded that the community field (behind the village hall) in Blackawton would make a good location.

DAA Operations staff have visited the site and completed an initial survey which has shown the site is large enough to meet night landing requirements. The site also offers good access to the community, an important feature as we want Air Ambulance paramedics to be able to easily leave the site on foot to go to a patient (should they arrive in the community before a land ambulance). There is also vehicle access to the village hall meaning a patient can quite quickly be transferred from a land ambulance to the aircraft.

There are several requirements for DAA to be able to land at night at the community field in Blackawton. The first will be the removal of most of the fruit trees in the field, to open-up a large enough area for landing. The second will be the installation of a new 10m steel column and two LED lights. That column would ideally be located alongside the hedge by the lane (see map below), illuminating a central area of the landing site. Power for the lighting (240v) could be taken from the village hall, underground via a trench to the lighting column.

Each landing site included in the Devon-wide network is formally surveyed by DAA. This is when we collect important 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.

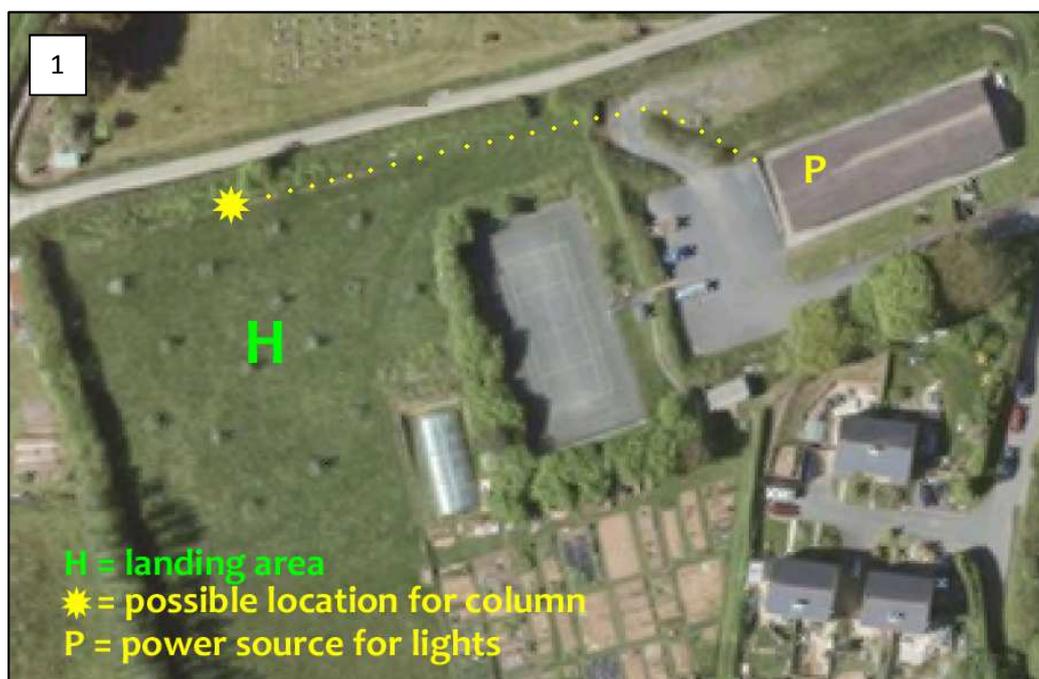


Photo 1: shows the proposed night landing site at the community field in Blackawton and location for the 10m lighting column (route for the power cable is underground from the village hall).

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.

We expect the costs of running each landing site to be low – when turned on the cost to run the LED lights is minimal at a few pence per hour and of course they will only start to cost money when turned on in an emergency. The main cost involved is likely to be insurance.

Landing site costs and fundraising:

The cost to purchase and install the new lighting, remote switching unit and associated electrical work at Blackawton will need be established once all parties, and the local community, are all aware and supportive of the project.

DAA will be very pleased to offer the community a grant to cover the installation costs (i.e. contractor costs) of the work involved. The community will need to raise the funds to purchase the lighting equipment involved, which as a ballpark will be around £3,000. Added to that, the community will need to carry out the removal/relocation/replacement of the trees within the field.

Should anyone wish to contribute to the project or find out more please speak to Steve Thomas, 01803 712840 or steve@fatboydesigns.co.uk

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

This drawing shall not be copied. Mark from the dimensions shown in the drawing or given in relevant specifications.

NOTES

THIS LAYOUT SHOWS THE FOLLOWING:

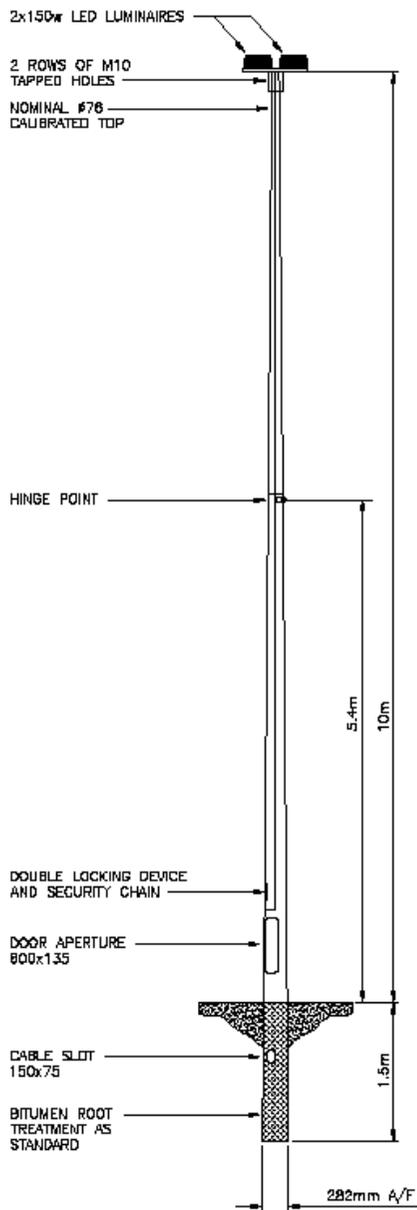
10m RAISING & LOWERING COLUMN USING A TWIN FLOODLIGHT BRACKET ON TOP, USING 2x150w LED LUMINAIRES.

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

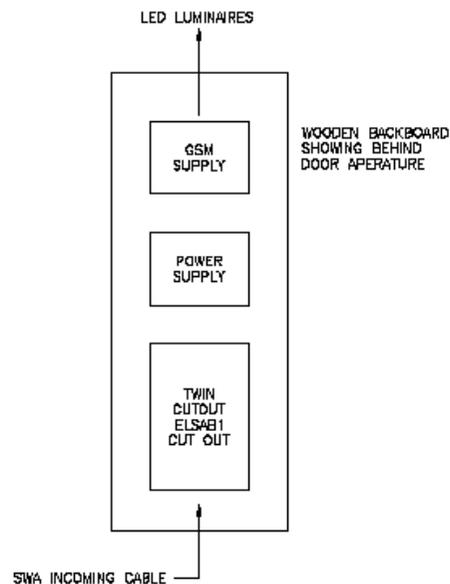
INSTALLATION METHOD:-

ROOT MOUNTING

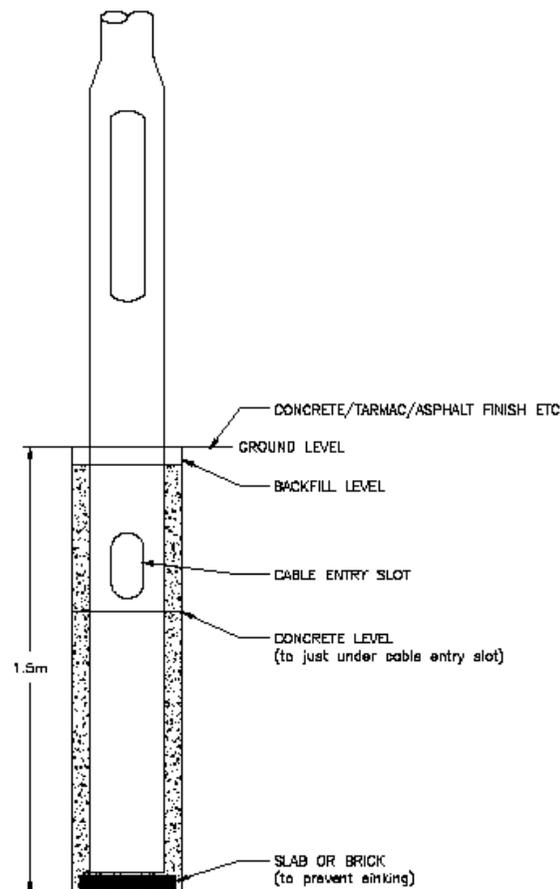
1. EXCAVATE HOLE APPROX. 100mm/200mm LARGER THAN THE BASE OF COLUMN DIAMETER TO FULL DEPTH OF RDDT.
2. PLACE A SLAB OR BRICK (TO PREVENT SINKING).
3. USING A SEMI-DRY CONCRETE MIX, PUT BOTTOM COVERING IN FIRST, THEN LOWER COLUMN ON TO SLAB.
4. CONTINUE CONCRETE FILLING (TO JUST UNDER CABLE ENTRY SLOT)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



A) ERECTED POSITION



B) SET-UP IN COLUMN



C) DETAIL OF COLUMN

If to client use

General Notes:

1.

Scale	Ratio	Scale	Ratio
mm	mm	mm	mm
Ratio			

Client	
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MAT Electrics

1. H. 365 44473
F. 01962 48871

MAT Electrical LTD
Unit 10, Riverside Court
Riverside, Colchester, Essex, CO1 1JL

Project Title

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

CONSTRUCTION		
Drawn by	Designed by	Subscribed by

Project No	Date	Scale @ 1:1
		MM @ 1:1

DRAWING NUMBER		
10001-001		