

Upgrading the streetlights in Great Alne to LED luminaries

Brief:

To investigate options for upgrading the parish's existing streetlights to LED luminaries.

Discussions held with:

1. Warwickshire County Council- Annette MacKie
2. Zeta Lighting who are highly recommended by local Warwickshire PCs, as a very cost effective and reliable private company alternative.

Benefits:

- Upgrading to LED lamps produces a significant cost benefit to the parish in terms of annual electricity costs (more so in light of the recent and future expected energy cost increases).
- One local Warwickshire council reported more than *halving* their electricity costs with EON once their 37 parish streetlights had been converted to LED last year.
- The following example was provided to the Clerk by WCC:
 - Assuming switch from 70W bulb at approx. £41.33 per annum to a 27 W replacement LED at approx. £14.27 per annum.
 - This is more than a 60% saving per streetlight.
- On the basis of last month's EON energy bill (£142), this would roughly be a saving of approx. £85 pcm.
- Upgrading to LEDs would meet one of GAPC's longer-term climate change objectives.
- Upgrading the concrete columns to steel is a necessary upgrade due to the age of the existing concrete columns which may, in due course, become a safety issue. Furthermore, concrete columns are no longer produced.

Background:

- The inventory of the parish's streetlights was updated (March 2021) during the course of this research - and this formed the basis of discussions with both WCC and Zeta Lighting.
- The parish currently has 27 streetlights, 9 of which have been upgraded to LED'S over the course of the last 3 years. This leaves 18 streetlights to address.
- These 18 streetlights are a mix and match combination of different lamps, very old wiring and concrete columns or telegraph poles in various stages of age and wear. Seemingly each street light is a different combination to the previous one!
- On this basis, there is not a single 'one stop shop' solution that will work for all 18 streetlights. For example, where there are luminaries on telegraph poles, new brackets and wiring boxes will also be required.

Options:

1. Change just the luminaries to LEDs – in the knowledge that the columns will need to be 'sleeved' or replaced with steel columns in the medium-long term future.
2. Change the luminaries and add a 'sleeve' over the concrete column which would strengthen the support of the concrete column holding the lantern, delaying the need to change to steel columns.
3. Change the luminaries and the concrete columns to steel ones at the same time.

In terms of costs, option 1) is the cheapest, 2) is the middle cost option and 3) is the most expensive in terms of initial outlay. However, option 3, doing luminary and column at the same time, would be more cost effective in the long term compared to combining option 1 and then the sleeve aspect of option 2, or option 1 and then changing the column element of option 3 (assuming the luminaries have already been changed then this element would be deducted in the cost calculation).

The issue with the concrete columns:

- Concrete columns are no longer produced.
- Without a more thorough inspection of the columns, it's difficult to determine the shelf-life of our existing concrete columns.
- However, the concrete columns are over 50 years old and may well have 'concrete cancer'.
- We could arrange a survey of the columns to assess the extent of this, which would cost approx. £625 + VAT for a day's inspection/survey visit.
- Both WCC and Zeta advised that we should consider replacing the concrete columns for steel columns- which also have a narrower profile. As explained above, this can either be done at the time the luminaries are changed or over a period of time when funds allow.

Info on electricity supply:

Until recently, the parish had three MPANs (Meter Point Administration Number). In April 2021 we went from three points of supply to two. The MPAN is a unique 13-digit reference used in Great Britain that identifies each electricity supply point.

Previously the parish held three MPANs:

- *Continuous,*
- *Dusk until Dawn &*
- *Half night/Pre-dawn.*

The Half night/Pre-dawn MPAN accounted for an 80W MBF lantern that was lit between Sunset to 22.00/05.30 to Sunrise (Half night), this lantern has since been upgraded to a low wattage LED lantern operating all through the night (dusk until dawn). The parish's Half night/Pre-dawn MPAN was therefore no longer required and was logically disconnected/removed from the inventory record. The MPAN ref was MPAN 1490080004837 and it was disconnected on 21 April 2021.

The remaining MPAN refs are: 1490070004830, 1490090012640.

Quotation from Zeta Lighting:

'Please see below pricing for the work to be carried out for Great Alne. As mentioned, it's possible to offer a supply and install replacement for the existing lanterns without needing to sleeve the concrete or change to steel columns.

However, I would advise, when the Parish will be in a position to do so, to look at upgrading the equipment. I have broken down the costs so you can review the different options. (PLEASE NOTE: All costs exclude VAT).

Option 1 costing:

Description	Quantity	Cost	Total
Supply and install Zeta luminaire to be fitted on existing concrete/steel column	14	£280.10	£3,921.40
Supply and install Zeta luminaire onto telegraph pole – including new bracket, IP box and DNNO transfer	2	£1,502.78	£3,005.56
Carriage		£75.00	£75.00
			Total £7,001.96

Option 2 costing:

- If you wish to fit sleeves onto the concrete column, the cost of a supply and install will be **£650.55 per**
 - Up to 10 in total at one time
 - This option would be to strengthen the support of the concrete column holding the lantern, delaying the need to change to steel column further.

Option 3 costing:

- If you wish to change the concrete column, the cost of supply and install (including 5m steel column and underground DNO connection) will be **£1,727.05 per (roughly £31,086 + VAT for all 18 streetlights)**
 - Up to 10 in total at one time
 - This would update the parish to the latest specification as concrete columns are no longer produced.

Quotation from WCC:

- There was no discussion of options with WCC as County strongly advise PCs to change both the luminaire and the column at the same time. However, the question could be asked.
- The upgrade work can be carried out over a period of years to coincide with an annual roll out programme/ budget availability/ EON's contract for scheduling, ie we can arrange to replace 3 or 4 per annum.
- A rough ball park for replacement of a street lamp with an LED luminaire plus steel column is approx. £1,500 per + VAT. Rough estimate therefore of £27,000 + VAT to do all 18 streetlights.
- If the streetlight is on the main road there may be traffic management cost implications.
- Timeframe – it will take a couple of months to put together an estimated cost and then from the date of instruction there is a 4-6 week delivery time, depending on EON's scheduling.
- WCC is a 'one stop shop' and would coordinate the works with EON. (Zeta would need to work in tandem with EON on some of the streetlamps (ie the ones with the very old wiring) – so there may be timing implications for some of the streetlights).
- The LED bulbs have a 15 year guarantee and will be replaced by WCC FOC.

- The steel columns come with a 25 year guarantee. If they get knocked down, the PC has to pay for replacement, but if there is an integral defect, the manufacturer will replace.

Financing:

- Reserves of £3,000 in the budget for street lighting replacement (£1,000 from 2020-21 and £2,000 budgeted for 2021-22).
- Reserves in the Business Money Manager Account of £9,296.
- Option of an interest free loan for environmental projects available from WCC (ie the Green Shoots Programme) or through Government-owned finance companies such as Salix.
- Hybrid option of part-funding and part loan.

Health Warning:

Please note this information is high level and therefore provided for initial discussion purposes only. The quotation received from Zeta is now over 6 months old, and prices may have changed in the current economic climate. Further, WCC have not been out to survey the parish streetlights so there may be further aspects to consider in due course, or further delays to factor in due to availability of materials and staff.

Kyla Brown

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