

Wicken Streetlights

Analysis and Options

prepared for Wicken Parish Council

September 2019

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Preface

This document is designed to provide a comprehensive summary both to the Parish Council and the residents of the Parish of Wicken such that the decisions taken by the Parish Councillors are based on the best available data and fully transparent.

Throughout the document, there are summary boxes (grey) which contain suggestions for policy decisions to be made by the Parish Council in incremental steps in order to clarify the exact basis on which the choice of lighting is made.

Photographs

A number of illustrations and photographs are used in this document. Please be aware that the colour reproduction whether viewed onscreen or in printed copy will vary according to the camera used, the ambient light, and colour reproduction abilities of printers and screens.

Executive Summary

Wicken Parish Council has requested a document to assist them in making an informed decision about which would be the most appropriate scheme for Wicken streetlights.

The Council is aware that there are policies, guidelines and advice which they should consider and decide how they will choose to comply with these issues. This document sets out a framework which will assist the decision-making process by focusing on the key issues individually.

The council is concerned that it understands the total cost of the project before making any decision and how that varies according to the type of replacement light which is ultimately selected.

Opinions and views of residents have been sought and will be incorporated into the discussion to decide what is best for the village overall. These views have been included in the analysis so that the Council can assess the impact that each variable may have on the outcome.

The Council is mindful that spending public money has to be done prudently and requires analysis of the relative costs of different solutions to be weighed up against the performance of those solutions against environmental criteria.

Case studies of local installations of lights have also been included to provide information about both good and poor practice.

This document is to be made available within the Parish so that everyone has access to the same information

Current Situation

Responsibility of Parish Council

Wicken Parish Council, in common with many other Parish Councils, is responsible for the maintenance and repair, including replacement costs, of all the street lighting within the village.

The Parish Council also pays for the electricity consumed by the streetlighting out of the annual precept received from South Northants Council. The precept is met from taxes paid by residents under the Community Charge.

In the last three years, Wicken Parish Council has met the following costs (accounting year 1st April to 31st March)

	Maintenance	Electricity cost	Relates to
2018/19	240	£1422	4 quarters
2017/18	240	£2296	7 quarters
2016/17	240	£533	2 quarters

The precept in 2018/2019 is set at £7480 so electricity costs account for £1662 (22%) of this figure.¹

Need for change

There are 22 streetlights in Wicken which have been surveyed by EON who currently maintain the infrastructure for the electrical supply. This map shows the position of the lights and proposed changes as of March 2019.

Lights on telegraph poles 15 (68%)

Lights on lamp standards 7 (32%)

The advice from EON is that the telegraph pole at the entrance to the Sports Club needs to be replaced which would mean a new lamp standard as EON do not replace with new telegraph poles. Further investigation of the pole is required to confirm this.

In some parts of the village, the electricity supply is underground and in other parts, it is still on telegraph poles. It has been confirmed with Western Power Distribution that they have no plans or budget to put the whole electricity supply underground.

¹ Source: Wicken Parish Clerk

Many of the lights are in a poor state of repair and showing signs of their age. It is no longer the practice to replace like for like as there are more efficient types of lighting which can now be used.

The windfall of the Solar Farm money provides an opportunity to upgrade the lighting rapidly rather than on a piecemeal basis funded out of the precept.

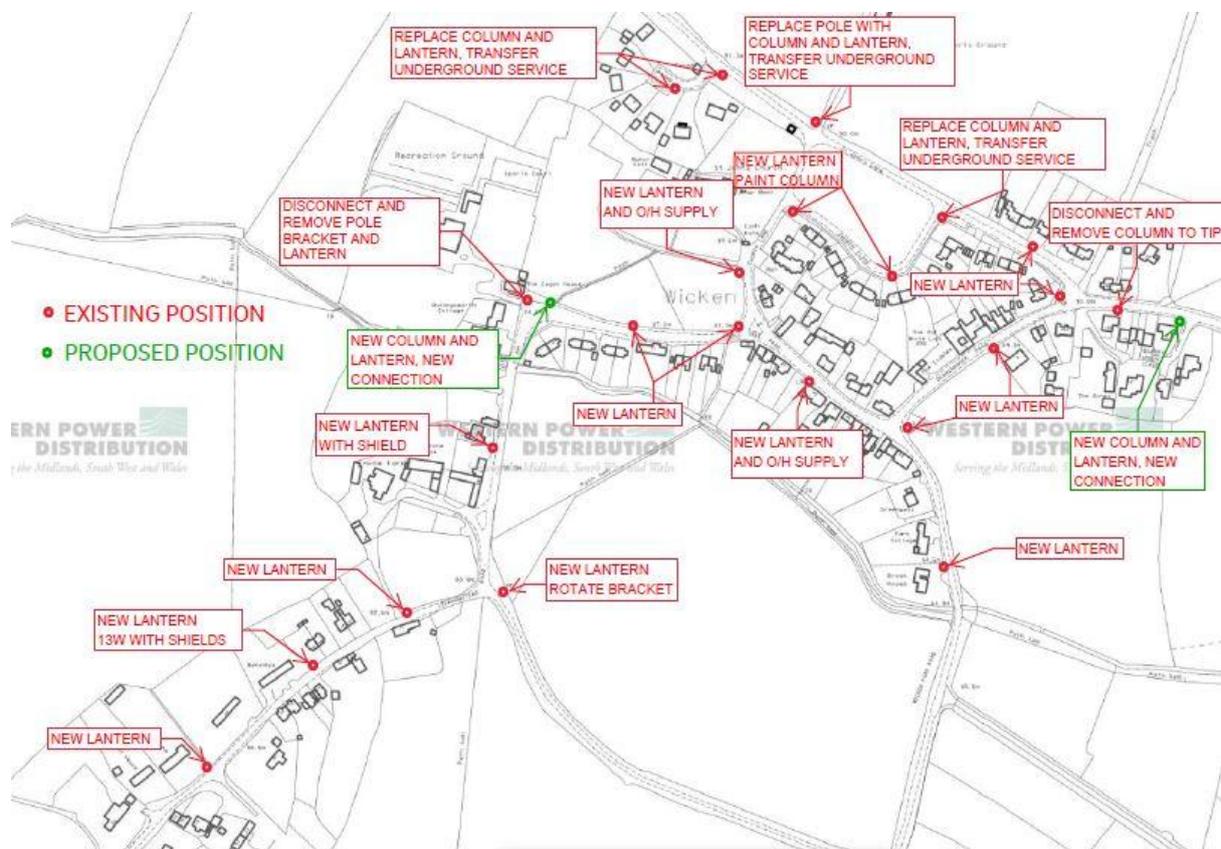


Figure 1: Wicken streetlight map

Types of Light in current use

It has not been possible to determine a precise date when the lights were first installed in Wicken. However, an examination of the old photographs of Wicken would suggest that there was no lighting before the 1960s but there definitely was by the 1970s (Gudgeon, 2009)

As a result, there are a number of different styles used within the village most of which can no longer be replaced. It is intended to limit the number of variations for new street lamps or luminaires. (Luminaire is the industry term for the LED bulb set and its surrounding housing)

it should also be noted that the lights in the village are not at consistent heights above the road surface varying between 3 metres and 8 metres. Lamp standards tend to be supplied in fixed lengths whereas some adjustment may be made where the light is attached to a telegraph pole.



Solar Farm Fund

The idea of upgrading the lighting in the village was amongst the first suggestions made when the Solar Farm Committee was set up ². At the time there were many competing schemes and lack of information on the scale of the total capital expenditure meant that nothing further was progressed at that time.

² Minutes of SolarFarm Committee October 2015

In March 2017 the subject was again tabled and a more detailed summary of the proposal was provided with the proviso that more work was needed to determine the best type of light to be installed.

The Solar Farm Committee recommended employing a consultant to advise on the scheme at the cost of £2,850 plus VAT but this was not taken up. ³

Subsequent meetings have concluded that a sum of £12,000 should be set aside for the lighting.⁴ In October 2018 this was revised downwards to £9,000 and an additional provisional sum of £3000 for the following year.⁵ These were estimates based on approximate costs per fitting at the time.

Parish Council Objectives

Potential guidance for the Parish Council

The Parish Council has approved documents in conjunction with South Northants Council in respect of the extent of the Conservation Area and a Village Design Statement copies of which are contained in Appendix 3. These form part of the policies to be applied by Wicken Parish Council.

In early 2014 the Campaign to Protect Rural England carried out a survey amongst local authorities on the effects of light pollution and their policies toward public lighting installations. (Campaign to Protect Rural England, 2019)

The report concluded with nine recommendations which are recorded here in full:

1	Light Pollution Policy	All local authorities should have a policy to control light pollution in their Local Plan, in line with the National Planning Policy Framework and the associated National Planning Practice Guidance on light pollution. This should include identifying existing dark areas that need protecting.
2	Street Lighting Policy	Local authorities should consider preparing a Street Lighting Policy, which could include Environmental Lighting Zones to ensure that the appropriate lighting levels are used in each zone, with very strict requirements applying in identified dark areas.
3	Part-Night Lighting Schemes	We encourage local authorities to investigate how part-night lighting schemes (e.g. switching off between midnight and 5 am) or dimming could work in their areas, including examining the cost, energy and carbon savings. This should be done in full consultation with the local community.

³ Minutes of Wicken Parish Council 4/7/2018

⁴ Minutes of Wicken Parish Council 1/11/2017

⁵ Minutes of Wicken Parish Council 29/10/2018

4	LANTERNS research project	All local authorities who are switching off or dimming street lighting should monitor crime and accident statistics and consider taking part in the Institution of Lighting Professionals/LANTERNS research project which aims to quantify any effects of changes to street lighting on road traffic accidents and crime.
5	LED Lighting	Local authorities should give careful consideration to the type of Light-Emitting Diodes (LED) lighting they use and consider the potential impacts that higher temperature blue-rich lighting has on ecology and on human health.
6	Targets for Replacing lights	Local authorities with responsibility for street lighting could set targets for replacing all their street and road lights with less light polluting types, such as full cut off flat glass lamps.
7	Testing new street lighting	New street lighting should be tested 'in situ' before a lighting scheme is rolled out across a wider area to ensure that it is the minimum required for the task and does not cause a nuisance to residents.
8	Preserving dark skies	Local authorities should have a strong presumption against new lighting in existing dark areas, unless essential as part of a new development or for public safety reasons that have been clearly demonstrated.
9	Highways Agency Guide	The Highways Agency should review the lighting section of the Design Manual for Roads and Bridges, which is used to design motorway and trunk road lighting, to ensure it remains relevant for local authorities.
Notes	<ul style="list-style-type: none"> • Para 4.14 of the South Northants Local Plan referred to development schemes and set out a brief light pollution policy. The plan has not yet been formally approved as the Inspector has called for amendments • The Institution of Lighting Professionals has produced information which is referenced later in this study • The LANTERNS study was conducted by Dr Phil Edwards of the London School of Hygiene and Tropical Medicine but has now concluded. The study was the impact of lighting on health • The National Planning Policy Framework is available online (UK Government, 2019) • Recommendation 9 is not directly relevant to Wicken. 	

The Parish Council may wish to consider :

Adopting this list of recommendations as a baseline with which the Council will comply in reaching its decision over a lighting scheme for Wicken

South Northants Council

An opinion was sought from the Planning Department of South Northants Council with regard to their policy on lighting and the use of contemporary or heritage lighting in conservation areas. The following information was received from their planning officer, Daniel Callis.

- Planning permission or Conservation Area consent to replace the lights is not required
- He confirmed that the Council has no specific policy regarding replacement street lighting other than it should minimise pollution.
- The Council is generally supportive of LED use
- He accepted that Wicken has no distinct heritage to follow in Wicken
- He indicated that it would be inappropriate to place heritage style lights on telegraph poles as they would look out of place
- He would not favour installing new lamp standards alongside existing telegraph poles because of the increase in "street clutter" which would occur.
- He believed that a mixed approach of part contemporary/ part heritage is acceptable if the economics allow, but it is entirely up to the village.

The Parish Council may wish to consider :

Adopting the general guidance provided by an officer of the South Northants Planning Department to guide Councillors in reaching a decision consistent with these views.

Cost reduction

The reason that so many schemes have been implemented by local councils across the United Kingdom is the reduction in running costs and the longer life of LED bulbs.

Hammersmith and Fulham Council claim a 56% reduction in running costs⁶ and Wigan Council claim 60% reduction ⁷

There is a photograph on the Hammersmith and Fulham page which demonstrates the risks of light spill into upper storey rooms if the height and proximity of luminaires are not undertaken with care.

EON has suggested that the running costs for Wicken will reduce to about 25% per annum from their current level dependant on the type of design selected.

⁶ <https://www.lbhf.gov.uk/articles/news/2019/05/new-led-streetlights-deliver-huge-energy-savings>

⁷ <https://www.wigan.gov.uk/Docs/PDF/Resident/Parking-Roads-Travel/LED-street-lights-FAQ.pdf>

Value for Money

Local government organisations can be held to account for public expenditure on any project or its day to day operations. In order to clarify the meaning of Value for Money, it may be helpful to consider the National Audit Office definition. (National Audit Office, 2019)

The National Audit Office (NAO) uses three criteria to assess the value for money of government spending i.e. the optimal use of resources to achieve the intended outcomes:

- **Economy:** minimising the cost of resources used or required (inputs) – **spending less;**
- **Efficiency:** the relationship between the output from goods or services and the resources to produce them – **spending well;** and
- **Effectiveness:** the relationship between the intended and actual results of public spending (outcomes) – **spending wisely.**

Optional fourth criteria (not always feasible to be equable to all parties)

- **Equity:** the extent to which services are available to and reach all people that they are intended to – **spending fairly.** Some people may receive differing levels of service for reasons other than differences in their levels of need.

The Parish Council may wish to consider :

To what extent can the final decision made on the streetlight project be consistent with the principles set out by the National Audit Office.

Research

Some members of the Parish Council made a visit to the village of Abthorpe, north-west of Silverstone, on the evening of the 28th November 2018 to view the contemporary lights installed within their conservation area.

The following general conclusions were drawn from this visit:

- The spacing of their lights is rather too wide which results in darker areas between pools of light
- The lights seemed to be successful at directing light downwards into the area they wished to be lit (see the chapter on light spread)
- The lights were too harsh (they are 4000k). The picture is designed to show the light spread and colour within the limitations of the camera.



Figure 2: Street lighting in Abthorpe

Technical analysis

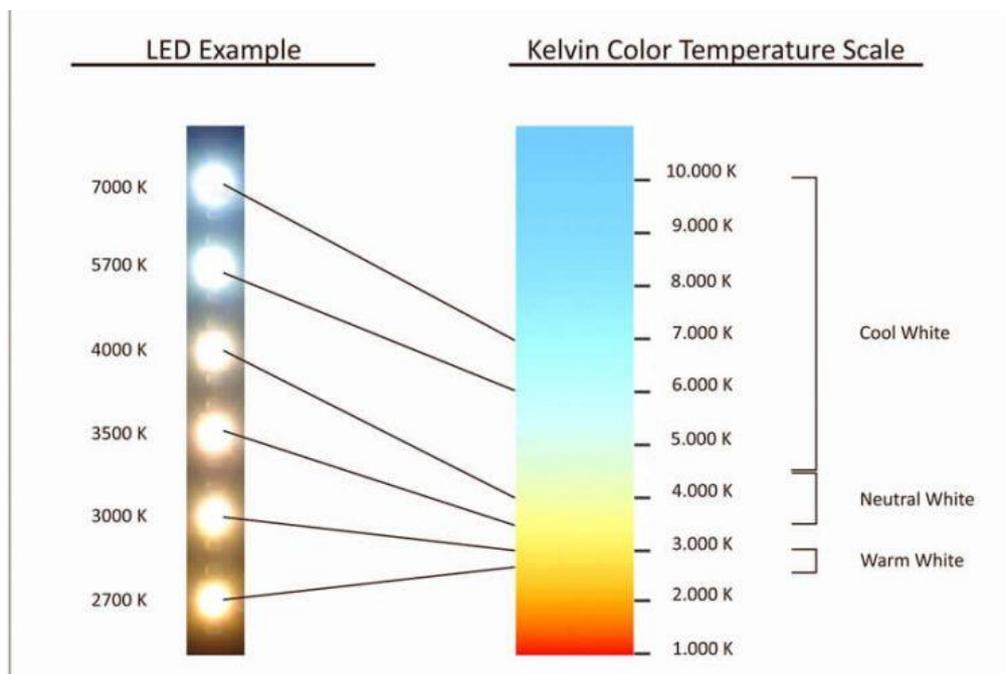
LED lighting

A light-emitting diode (LED) is a semiconductor light source that emits light when current flows through it. Electrons in the semiconductor recombine with electron holes, releasing energy in the form of photons. The colour of the light (corresponding to the energy of the photons) is determined by the energy required for electrons to cross the bandgap of the semiconductor. White light is obtained by using multiple semiconductors or a layer of light-emitting phosphor on the semiconductor device.⁸

LEDs have many advantages over incandescent light sources, including lower energy consumption, longer lifetime, improved physical robustness, smaller size, and faster switching. They also operate at a lower temperature than conventional lights.

Light pollution

Colour temperature



LED lights are capable of being much brighter than former methods of lighting but the key to avoiding potentially harmful blue light is to ensure the colour temperature stays at the lower end of this scale.

⁸ Lighting Research Center. "How is white light made with LEDs?". *Rensselaer Polytechnic Institute*. Retrieved January 12, 2019. via Wikipedia

Current industry thinking is that the standard for street lighting in residential areas should be no more than 2700K. Many local authorities moved to reduce costs and took on early examples of LED lights at 4000K or more although some have implemented a 3000K limit subsequently. The lights at Abthorpe referred to elsewhere in this document are 4000K.

Few manufacturers offer colour temperatures below 3000K but the selected lights for this analysis are all capable of being made at 2700K and some can even be supplied at values down to 2200K.

The evidence for the harm done by blue light is inconsistent. The CPRE referred to it as being harmful, as do the French government.⁹ The European Government does not commit itself¹⁰ and the American Medical Association expresses concern about blue lighting.¹¹ The UK Government acknowledges the theoretical possibility but has moved to counter a Public Health England report which was misread.¹²

There are complaints about the move to LED lighting in some locations¹³ and analysis of the effect of global light pollution has been widely recorded.¹⁴

The Parish Council may wish to consider :

Adopting a policy that Wicken should minimise light pollution from all sources as a guiding principle

Adopting a policy that street lights in Wicken will have a colour temperature of 2700K or less. (This is not affected by the type of luminaire selected)

⁹ <https://www.france24.com/en/20190515-led-light-can-damage-eyes-health-authority-warns>

¹⁰ https://ec.europa.eu/health/scientific_committees/opinions_layman/artificial-light/en/index.htm#7

¹¹ <https://www.ama-assn.org/press-center/press-releases/ama-adopts-guidance-reduce-harm-high-intensity-street-lights>

¹² <https://www.aop.org.uk/ot/science-and-vision/research/2018/04/07/phe-moves-to-quell-led-streetlight-fears>

¹³ <https://www.bbc.co.uk/news/magazine-38526254>

¹⁴ <https://www.nationalgeographic.com/science/2019/04/nights-are-getting-brighter-earth-paying-the-price-light-pollution-dark-skies/>

Light spread

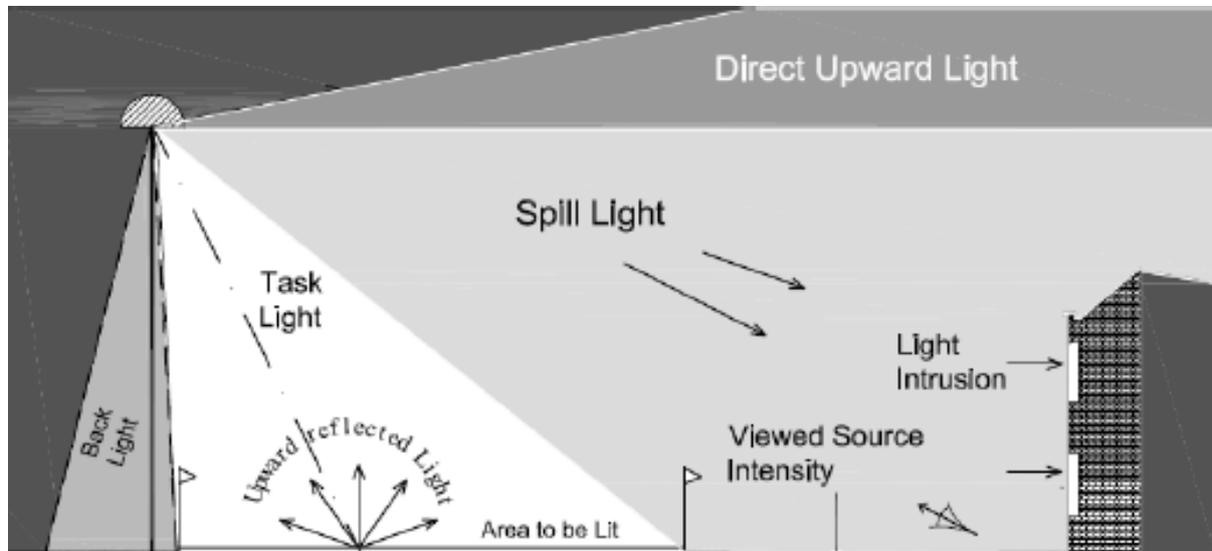


Figure 3: Source - Institution of Lighting Professionals

The diagram in Figure 3 depicts the areas which may be illuminated. The aim of the Wicken Scheme should be to ensure the following:

- minimisation of the backlight which can be achieved by
 - tipping the head of the light where the luminaire design permits. Not every design can actually achieve this.
 - placing small plastic strips at the rear/sides of the light to reduce/eliminate light - important to protect intrusion into bedroom windows
- Maximising the task light so that it provides exactly the right amount of light to meet the task and no more
- Eliminating Direct Upward Light
- Eliminating Spill light which is directly related to:
 - the height of the luminaire above the ground
 - the proximity of the luminaire to buildings both in front, behind and to the side.
 - the power output of the light
 - the variation in the light spread between luminaire designs

Dimming

It is possible to have the lights individually set at the factory during manufacture to dim between specific hours. This setting cannot be altered once the light is installed. This will be over-ridden only where the photoelectric cell detects sufficient light to extinguish the light completely.

As Wicken has relatively low footfall during these hours it would not inconvenience residents when walking outside but would have the advantage of reducing still further any potential light pollution into bedroom windows and the overall cost of running the lights.

The Parish Council may wish to consider :

Setting the lights to reduce to 20% of their full lighting capacity between the hours of midnight and 0500 to meet residents requirements for minimal light pollution.

OR

To extinguish the lights completely between the same hours.

Light output

The industry no longer uses wattage, a measure of power consumed by a light but lumens.

Lumens (denoted by lm) are a measure of the total amount of visible light (to the human eye) from a lamp or light source. The higher the lumen rating the "brighter" the lamp will appear.

A 3000 lumen light source emits a similar brightness to a 150W incandescent bulb or a 50W LED bulb.

Consultation

First Consultation

The Parish Council issued a document to every household in February 2019 which asked for comments on the proposed changes to the streetlights in Wicken. (Appendix 2)

There was an 18% response to the survey which would be regarded as an above-average response (10% - 15%) for a survey with no follow-up contact.

67% of the replies were supportive of a move to LED lighting on the grounds of safety, efficiency and low light pollution.

Only 11% of respondents were in favour of removing the lighting or significantly reducing it.

22% of respondents raised specific concerns about lights outside their home of which one respondent subsequently withdrew their expression of concern having viewed the Abthorpe lights.

This survey did not seek views on the design criteria of the luminaires which might be used and no comments were made in support of one type or another.

The assumption was made that residents omitting to respond to the survey were ambivalent about what scheme was introduced.

Second Consultation

An informal exercise was undertaken by a few individuals to visit households in the village and show pictures of luminaire designs with a request to choose the favourite. It was indicated that cost was not a consideration in reaching this choice.

Concerns have been raised on the Parish Council and by residents about the extent to which this private analysis reflects, with accuracy, the views of all adults within the parish. These concerns include:

- The survey was based on the number of households rather than individuals so overstates the result
- Not all households were included
- There is evidence of households being duplicated in the results
- There is evidence of households not actually in Wicken Parish being included
- The phrasing of the questioning, based on subsequent evidence obtained, suggests that there was a lack of consistency in the way the information was obtained
- There is evidence that some responses were qualified but those comments were not recorded

- The contemporary light shown was not the one under consideration by the Parish Council at the time.

A large number of people who were asked in this survey expressed a preference for a heritage luminaire based on the pictures they were shown

Design Options for Wicken

Replacement of existing fittings

Consideration has been given to the following three options during the course of this analysis:

1. Replace all of the lights with contemporary fittings
2. Replace all of the lights with heritage fittings
3. Replace all of the lights currently attached to telegraph poles with contemporary lights and those currently on lamp standards with heritage lights

The above is subject to position changes for lights recommended on safety grounds.

- The light on Deanshanger Road moved from its current position overlooking the houses on Quarry Green Close to the corner of Quarry Green Close and Deanshanger Road to light the junction. Power cables run beneath the pavement in this location minimising costs of re-installation.
- The light currently on a telegraph pole at Rectory Corner is too far back to be effective. It has been recommended that this is moved down the bank containing the Gospel Elm to a position adjacent to the footpath leading towards the Church. Costings have been provided for a trench which stops on the side of the path closest to the Coachhouse to the Rectory.

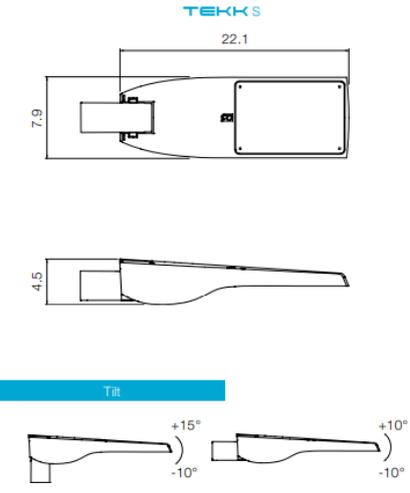
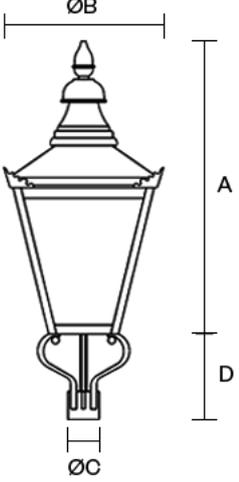
The Parish Council may wish to consider :

Accepting the professional advice as to the most appropriate siting for the two lights listed above.

The original suggestion of replacing all the lights in the village with heritage lights on new lamp standards has been relegated to being a less desirable option. (internal letter to Parish Councillors dated 27th August 2019)

Contemporary and Heritage fittings

Two potential fittings are under consideration to see if they meet all the criteria

Tekk S Line contemporary fitting	DW Windsor Street Heritage fitting
	
Actual Dimensions	
	
<p>Length 210mm</p>	
<p>Height 45mm</p>	<p>Height 833mm (A) (A+D = 1021mm)</p>
<p>Width 79mm</p>	<p>Width 440mm</p>

Case Studies from similar locations

Castlethorpe

The older part of Castlethorpe has been replacing heritage lights first installed some 15 years ago. Nine heritage style lamps have been newly installed. The lights are taken onto the Milton Keynes Council asset register so the local parish council may not be aware of complaints or requests for shields to be applied as this would be done directly by the householder with MK Council.¹⁵

A visual inspection of the lights in Castlethorpe showed that some were placed extremely close to the dwellings and light pollution would be inevitable. It was evident that some of the polycarbonate in the lantern had yellowed and dead insects were present which showed maintenance may not have been that frequent. Therefore, it is probably not an excellent comparison for Wicken



Figure 4: Illustrates the shadow cast by the lantern immediately below

¹⁵ Source : Chair of Castlethorpe Parish Council



Figure 5: Note reflection of the lantern in the upper storey window



Figure 6: note proximity of light to Velux window



Figure 7: Note siting of the lamp means the roof is lit but the spread is only halfway across the road surface



Figure 8: Note spread of the light on the gable end from light in Figure 9



Figure 9: Note light spill above and behind the light on the tree

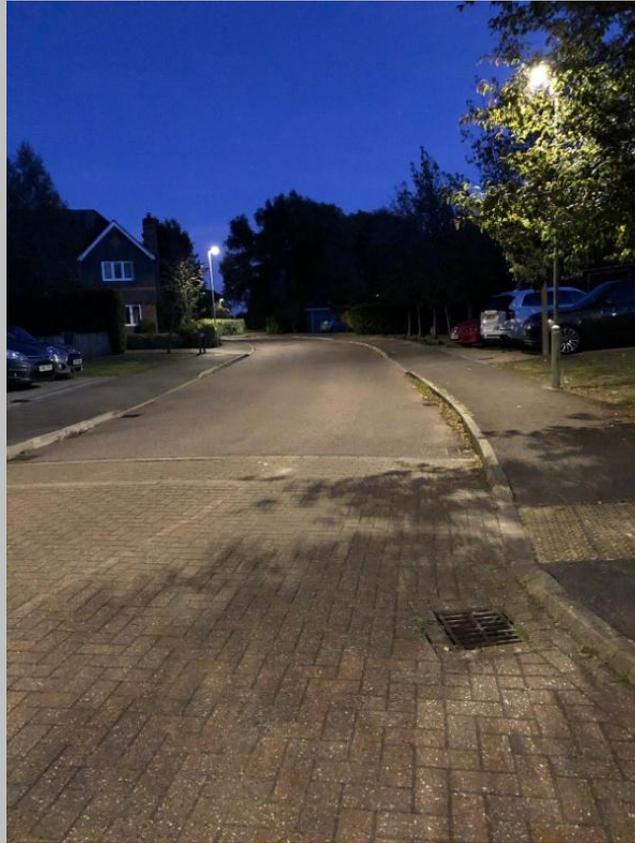
Abthorpe

Abthorpe was selected as a village to view on the basis that the older part was a conservation area and would have similar issues to Wicken. The lights were installed by EON but using 4000K LED luminaires.



Yarnton

This village is to the south-west of Kidlington and has had a recent installation of Holophane S line lights set at 3000K and 3000 lumens. The aim is to show the degree of spill light reaching upper storey windows.





As the above photographs are directly related to one of the early potential choices of luminaires for Wicken (now excluded because they cannot supply a luminaire with 2700K or lower), research of sources of photographs for the DW Windsor "Street" lights have been reviewed.

The following photograph is taken from the DW Windsor website. This photograph shows the degree of spill light from this form of light. The tree behind the lamp is lit above and behind the fixture.



Figure 10: Source - D W Windsor website - promotional material

Comparative Performance to meet all objectives

This table identifies differences between the operational performance of each type of luminaire

	Tekk S Line	D W Windsor Street
Colour temperature ≤ 2700K	Yes	Yes
Shielding (post-installation)	Yes	Yes
Dimming	Yes	Yes
Light output at the requested level	Yes	Yes
Height setting	According to current height on telegraph poles and 3m to 4 m for replacement lamp standards	Pole 5m to 6M
Backlight reduction	Design minimises backlight with tilt option but additional shielding possible	Design is for 360 degrees of light but can be reduced by shielding or blocking out

		one or more sides of the lantern
Spill light reduction	The angle of luminaire setting and shielding	Shielding

To provide a direct comparison between lights there is a scale called a G scale from 1-6 which classifies the amount of light intensity viewed at different angles away from the light source. A lower figure on the scale being preferable for residential street lighting (see Figure 3)

The key to this measure is the column marked "At 90° and above" which determines the amount of spill light which could be an intrusion into dwellings. It also considers the light which shines above the horizontal which is the main factor in light pollution.

	Rating on G scale
Tekk S line	G2
D W Windsor Street	Cannot be rated as light spills above horizontal

Table A.1 — Luminous intensity classes

Class	Maximum Light intensity cd/klm			
	At 70°	At 80°	At 90° and above	Other Requirement
G1	-	200	50	None
G2	-	150	30	None
G3	-	100	20	None
G4	500	100	10	Light intensity above 95° to be zero
G5	350	100	10	Light intensity above 95° to be zero
G6	350	100	0	Light intensity above 90° to be zero

The Parish Council may wish to consider :

Whether these two choices of lights meet the standards on light pollution suggested by CPRE and South Northants Planning and policies adopted by Wicken Parish Council

Financial Implications

Replacement Costs - comparison

These figures are based on data obtained in September 2019 based on 2700K luminaires

	Contemporary		Heritage
Number of LEDs	16	32	16 or 32
Unit cost - attached to a telegraph pole	£433.29	£556.28	Not applicable
Unit cost - lamp standard	£340	£340	£1670
Fitting of light	£433.29	£556.28	£409
Total	£773.29	£896.28	£2079

Installing a heritage lamp standard and light is between 2.68 and 2.31 times more expensive than installing a lamp standard and contemporary light. DW Windsor has confirmed that the 16 LED and 32 LED would be the same price.

Quotations for options

Figures have been obtained for a number of variations to the two key options shown below. The number of individual LED lights within either type of fitting can have beneficial effects of reducing glare. Doubling the number of LEDs from 16 to 32 permits one to achieve the same lumen output (c 3000 lumens) but only running the light at 65% of full power. The lighting result is the same but the 32 individual bulbs are not working at the maximum output as they would be in the 16 LED version which can cause glare.

For the Tekk S line lights only there is an option to reduce the colour temperature to 2200K which would add £40.68 to a 16 LED array and £82.20 to a 32 LED array to the cost of the individual light

The quotations have been supplied by EON and DW Windsor following on-site visits and requests by individuals within the Parish Council for particular permutations of lighting arrangements.

Option 1 - Replacement of all lights with contemporary fittings (Tekk S Line) Figures rounded to the nearest whole number.

	2700K	2200K
16 LED fittings	£16,598	£17,493
32 LED fittings	£19,304	£21,113

Option 2 - Replacement of 13 lights with contemporary fittings (Tekk S Line) and 9 with heritage lights (D W Windsor "Street"). Figures rounded to the nearest whole number.

16 LED	2700K	2200K
Contemporary	£5,633	£6,162
Heritage	£20,364	£20,364 *
Total	£25,997	£26,526
32 LED		
Contemporary	£7,232	£8,300
Heritage **	£20,364	£20,364 *
Total	£27,596	£28,664

* No price differential in heritage lights.

** DW Windsor have quoted the same price for 32LED as 16LED

DW Windsor Street can only provide identical LED arrays at 2700K so in the event of a hybrid scheme being selected it may be prudent to have one uniform colour temperature at 2700K.

Both Rectory Corner and the Sports Club entrance are currently on telegraph poles but would be replaced with lamp standards. The light on Deanshanger Road will be moved to the corner of Deanshanger Road and Quarry Green Close. For clarification, these are more expensive because they require groundworks to complete these individual lights. These amounts have been incorporated into the total figures given.

Running Costs

The research indicates that the village has been given estimates by EON that suggest that there should be a cost reduction to c 25% of the current level. This is based on Option 1 being adopted.¹⁶

There are indications that the power consumption of the heritage light may be greater than the contemporary equivalent. However, it is probably not material enough given the relative numbers proposed of each light in Option 2 to make a significant financial difference when you consider the overall cost saving.

Maintenance costs will vary between the types of light. EON have indicated that contemporary lights need cleaning every six years whereas the heritage needs it every

¹⁶ Email dated 21/3/2019

three years. This may entail removal of the polycarbonate shield to clean its inside and to remove insects. The polycarbonate can tend to yellow over time and the life expectancy before replacement is required is about ten years.¹⁷

The Parish Council may wish to consider :

Whether a hybrid solution of luminaires in Wicken meets the Value for Money criteria explained earlier in this document.

Whether there is sufficient information available to individual Councillors to make a selection as to the choice of lighting for Wicken

¹⁷ email dated 5/8/2019

Summary of policy considerations and decisions

Page No	Subject area	
9	CPRE recommendations	Adopting this list of recommendations as a baseline with which the Council will comply in reaching its decision over a lighting scheme for Wicken
10	South Northants guidance	Adopting the general guidance provided by an officer of the South Northants Planning Department to guide Councillors in reaching a decision consistent with these views.
11	Value for Money	To what extent can the final decision made on the streetlight project be consistent with the principles set out by the National Audit Office.
14	Light Pollution	Adopting a policy that Wicken should minimise light pollution from all sources as a guiding principle
14	Light Pollution	Adopting a policy that street lights in Wicken will have a colour temperature of 2700K or less. (This is not affected by the type of luminaire selected)
16	Dimming	Setting the lights to reduce to 20% of their full lighting capacity between the hours of midnight and 0500 to meet residents requirements for minimal light pollution.
16	Dimming	To extinguish the lights completely between the same hours.
18	Light re-location	Accepting the professional advice as to the most appropriate siting for the two lights listed above.
27	Comparative choices	Whether these two choices of lights meet the standards on light pollution suggested by CPRE and South Northants Planning and policies adopted by Wicken Parish Council
30	Decision	Whether a hybrid solution of luminaires in Wicken meets the Value for Money criteria explained earlier in this document
30	Decision	Whether there is sufficient information available to individual Councillors to make a selection as to the choice of lighting for Wicken

Appendix 1

List of lights on lamp standards

This list is for the luminaires which would have a heritage luminaire and new standard if a hybrid scheme is chosen. All other lights in the village are on telegraph poles and would have contemporary luminaire fitted under Option 2

Location	Description
Pound close entrance	Probable need for new lamp standard regardless of lantern selected
Pound close pavement	Probable need for new lamp standard regardless of lantern selected
Wicken Sports Club	Telegraph pole has been identified as needing replacing so new lamp standard with either choice
Village Green x 3	One of the three standards will need replacing with either choice. If the heritage lantern is chosen then all three will need replacing
Deanshanger Road/ Quarry Green Close	Current position to be moved to junction with Quarry Green Close. New standard required with either choice.
Opposite Reading Room - Wicken Park Road	New standard if heritage light was chosen for this location
Coachhouse- Cross Tree Road	New lamp standard required with either choice as currently on telegraph pole

Village Design statement 2016

Wicken lies on the edge of the shallow Ouse Valley about 11 kilometres (7 miles) southwest of Towcester, close to the border with Buckinghamshire. In medieval times it was divided into two parishes, each with its own church, divided by the brook which runs through the village. The parishes were reunited in 1587 and named Wicken, an event still celebrated locally every Ascension Day. Two sites of archaeological interest within the village embrace earthworks of the former settlements. These can be found in the area known as the Warren and in the garden of a private residence on Leckhampstead Road

Approaching the village from the southwest along the Leckhampstead Road, the lane slopes gently down towards the shallow valley formed by the brook, with substantial houses or garden walls close to the highway edge, creating a distinct local character. At a sharp bend in the road, the view opens out across a small paddock where much of the old ridge and furrow pattern is still visible. The view reveals much of the village beyond, dominated by the parish church of St John the Evangelist. This structure replaced a much older wooden church the stone tower being rebuilt in 1617 but the body of the church not until 1753 onwards. The remains of the former church in the older half of the village were excavated by the Time Team in 2006 whilst establishing the extent of the original manors. Leckhampstead Road continues downhill to cross the village brook, then turns sharply right into Cross Tree Road. Here a row of local authority houses and the former Victorian lace school (now a residence) face the Warren, a large tree-lined paddock which provides an attractive setting to a substantial stone house, which now forms a single dwelling that was once the gatehouse of Wicken's original manor, demolished in 1703. It is thought that The Warren was the site of many fairs and other community activities in the past. To the east of the Warren on Church Lane stands the former Victorian village school building and Village Hall. To its west is the former rectory, constructed using materials from the original manor, which is now a private residence again located in a fine landscaped setting. Church Lane joins Cross Tree Road by a small triangular area, beyond which there are a number of older properties on both sides of the road, hard against the pavement on the south side, for the short section before the junction with Deanshanger Road. In this section of the village, many of

the houses are listed and have characteristically steeply pitched roofs and substantial chimney stacks. A sharp left turn out of Cross Tree Road into Deanshanger Road soon reveals the edge of the settlement after passing The White Lion public house and a few Victorian cottages.

Wicken is fortunate in having many surviving older buildings in limestone together with, thatched roofs which add considerably to the attractiveness. There are also two interesting examples of timber-framed cottages with brick infilling, unusual for the district, and remains of a third timber-framed cottage survive at 29 Leckhampstead Road. To a great extent, the special character of Wicken is derived from the relationship between these older buildings and the open spaces adjoining them. The small amount of post-war housing in Wicken is mainly confined to its northern edge, a group of semi-detached buff brick houses grouped around two sides of a large green (Church Close), an adjacent group of red brick houses and a cluster of larger detached houses in well-landscaped plots beyond the church (Pound Close). At the entrance to the Close, there is a small stone wall compound, believed to be one of the only two remaining animal pounds in the county.

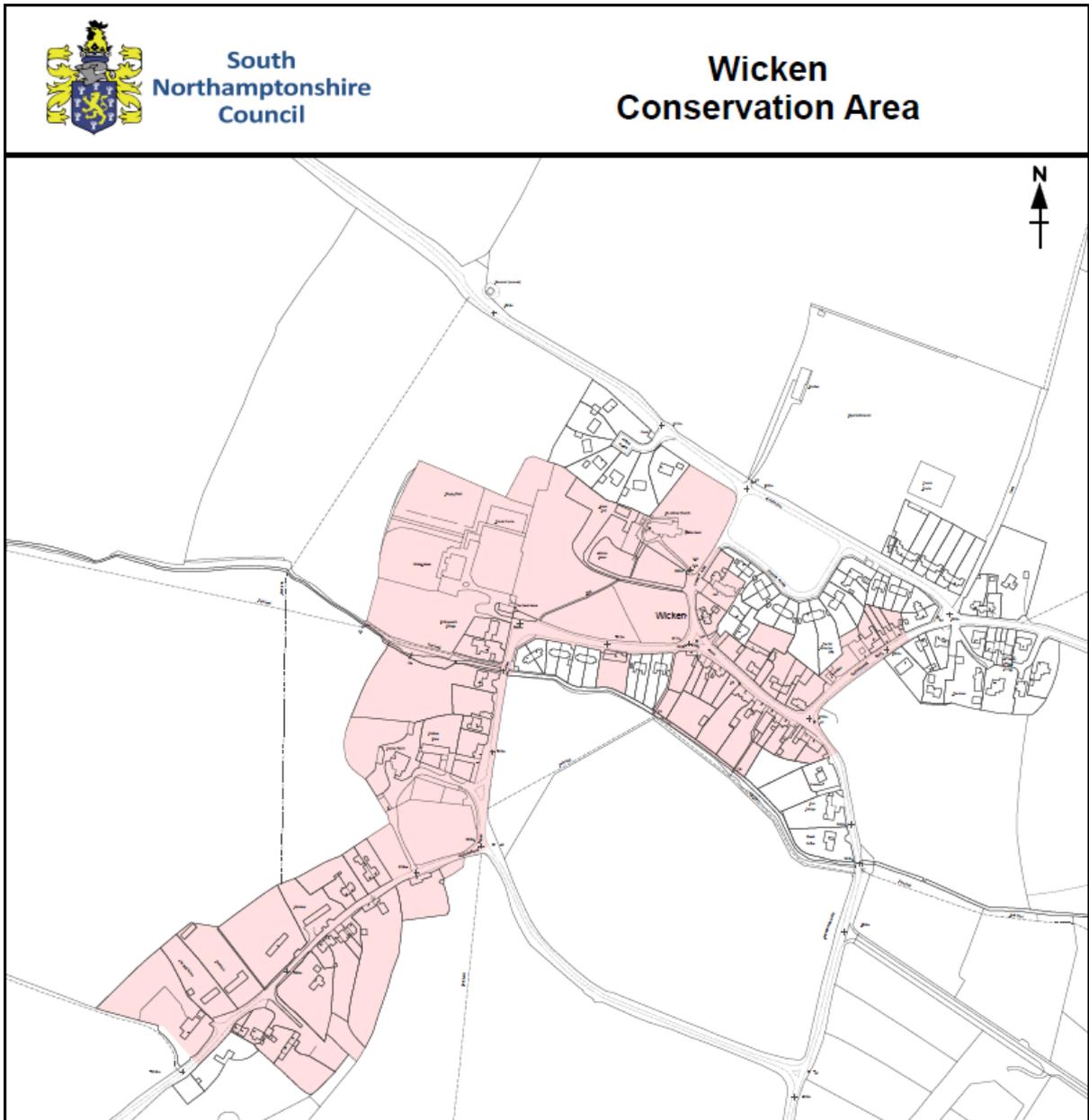
Planning Background

Most of Wicken is included in the Conservation Area which was first designated in 1973 and extended in 1981. Considering its relatively small size, the village has a large number of listed buildings (18 – 12% of the total number of dwellings), including the Grade II* parish church and the private residence known as The Rectory. The investigation by the Whittlebury Project and an archaeological dig by the Time Team have shown new evidence of the wide extent of the archaeological remains underneath the village. Wicken is defined as an 'Other' is a Restricted Infill Village in accordance with the definitions laid down in the Local Plan which makes provision for appropriate small scale windfall infill development and some housing to provide for local needs.

Future development

- Any new infill development within the Conservation Area should be constructed in a matching limestone with plain clay tile, slate or thatch roofing. Elsewhere within the village confines facing brickwork and clay or concrete tile roofing may be appropriate, matching similar materials on adjacent properties.
- The siting of any new building(s) must preserve the attractive views across the village, bearing in mind that the special character of Wicken is derived from the relationship between its older buildings and the open spaces adjoining them.
- Buildings should be preferably located close to the street edge but if set back a substantial garden wall or hedge should be incorporated along the street frontage.

Conservation Area Map



Appendix 2

Wicken Parish Council
Philip Ivens (Ch)

Dear Resident

Street Lighting

The Parish Council are planning a renewal of the street lights in the village. The existing ones are expensive to run and maintain, indeed some don't work at all.

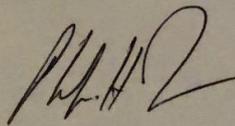
We hope to install good quality LED units which are more economical to run and also target the light downwards away from adjacent houses and cause less pollution to the night sky.

We have a duty of care to make sure there is adequate lighting at various points e.g. road junctions, where there are no footpaths etc. The entrance to the Sports Club is a classic example.

If you have any helpful suggestions as to how we can do this most effectively please contact by email, note or phone:

1. **Philip Ivens**
Sparrow Lodge Farm, Wicken Park Road, Wicken, MK19 6BZ
07866 537 872
philipivensandson@gmail.com
2. **Alan Cartwright**
Behihane, 28 Leckhampstead Road, Wicken, MK19 6BY
07803 042 256
alancartwright@alcris.co.uk

Yours faithfully



Philip Ivens (Ch)

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