ARGYLL AND BUTE COUNCIL **ENVIRONMENT, DEVELOPMENT AND INFRASTRUCTURE COMMITTEE**

ROAD AND INFRASTRUCTURE SERVICES **31 AUGUST 2023**

STREET LIGHTING COLUMN REPLACEMENT

1.0 INTRODUCTION

1.1 An LED Lighting Upgrade Project was approved and works commenced late 2016 involving the installation of LED luminaires to over 14,000 lighting columns. Funding was also included for column replacements based on those columns in poorest condition being prioritised.

1.2 The LED programme has been substantially completed in terms of luminaire replacement, with the column replacement element planned to be completed this financial year. The new LED units give a far more natural light improving colour definition as well as providing more directional light which in turn results in a darker sky and a significant reduction in light pollution.

1.3 The LED programme has resulted in the Council significantly reducing its street lighting energy consumption and there has been a corresponding reduction in carbon emissions as a result of this project. Energy costs are volatile with exact figures changing on a regular basis. However, prior to the LED project our street lighting costs were approximately £700k per annum, compared to £350k following the LED replacement. With recent price increases the energy costs have increased nearer to £700k, however, this figure would be around £1.4M if we had not progressed the LED project.

1.4 Works have commenced on capital street lighting improvement schemes involving column, underground cabling and switch gear replacement and upgrade.

2.0 RECOMMENDATIONS

2.1 It is recommended that Members of the Environmental, Development and Infrastructure Committee consider and note this report.

3.0 DETAIL

<u>LED Street Lighting Upgrade Project</u>

3.1 The LED project was agreed by Council and involved the installation of 14,442

street lighting luminaires. The project was funded through £3.9M of prudential borrowing and set out to deliver improvements as follows**:**

This business case recommended that Council:-

- Progresses with an innovative lighting energy efficient scheme as detailed in this business case in order to reduce future cost pressure relating to street lighting electricity.
- Agrees to a tender process being completed and that the energy efficient scheme is progressed utilising the most cost effective model as determined from the tender process.
- Agrees that the remaining reduced electricity budget is inflated in line with energy costs on an annual basis.
- Agrees that the balance of savings generated is used to fund a column replacement programme with replacements being prioritised on condition.

3.2 The project has been substantially completed with a small number of luminaires yet to be installed, largely in the Lorn area together with a few specialist heritage style lanterns which are being assessed across the wider Council area. The project was interrupted by the pandemic when works were physically stopped on site and also further disruption from the availability of lanterns as we exited the pandemic due to global supply issues.

3.3 93.4% of old Sox and Son fittings (the old orange inefficient lighting which predates LED) have now been replaced by energy efficient LED luminaires. Carbon emissions have greatly reduced as a result of the project, as detailed below in Table 1. The carbon savings are significant and contribute towards the Council's drive towards net zero. Whilst the amount of energy consumed has reduced significantly, the energy costs have increased back to previous levels due to inflation, however, the energy costs are likely to have been double what they now are if this project had not gone ahead.

Table 1 – Carbon Emissions

Year	Units	Total (Annual)
2022/23	tonnes CO_2	673
2021/22	tonnes CO_2	738
2020/21	tonnes CO_2	810
2019/20	tonnes CO_2	889
2018/19	tonnes CO_2	996
2017/18	tonnes CO_2	1,636

3.4 Table 2 below shows our energy usage from street lighting since 2017/18. Energy price increases have had a detrimental effect over the last couple of years.

Table 2 – Energy Usage

Year	Units	Total (Annual)
2022/23	kWh	3,224,175
2021/22	kWh	3,224,175
2020/21	kWh	3,228,999
2019/20	kWh	3,232,558
2018/19	kWh	3,267,835
2017/18	kWh	4,288,415

3.5 As part of the LED project, column assessments were carried out which have identified 237 no. columns in the poorest condition (Category 3 / 4) and these are to be replaced at an approximate cost of £193k. Works to replace these columns will be commenced through mixed model work packages (internal/external contractors) this financial year. The total budget remaining in the LED project is £647k as of June 2023 which will be used to complete the LED upgrade and installations and commence the column replacement works associated with the project.

Capital Improvement Works

3.6 Street lighting has a capital budget of £740k and works have been identified and are being progressed as per Appendix 1. This capital funding will be used to continue improvements to our street lighting network and inventory.

3.7 These lighting stock improvement works will help to address issues with an aged cabling network and significantly reduce the number of service disruption issues experienced across the network.

4.0 CONCLUSION

4.1 This report provides an update on the LED street lighting replacement programme which is nearing completion and capital improvement works to replace columns and cabling prioritised based on condition.

5.0 IMPLICATIONS

5.1 Policy – LED Business Case approved via Council.

5.2 Financial – Utilising funding allocated through the LED project together with additional funding allocated via the budget process.

5.3 Legal – None known.

5.4 HR – None known.

5.5 Fairer Scotland Duty: None known.

5.5.1 Equalities – None known.

5.5.2 Socio-economic Duty – None known.

5.5.3 Islands – None known.

5.6 Climate Change – Due regard will be given to climate change with a view to minimising any climate change impact and these will be considered as and when they arise.

The LED project has produced a significant reduction in carbon resulting from the reduced energy now required for the Council's street lighting stock.

5.7 Risk – None known.

5.8 Customer Service – None known.

Executive Director with responsibility for Road and Infrastructure Services, Kirsty Flanagan

Policy Lead for Roads and Transport, Councillor Andrew Kain

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For further information contact:
Jim Smith, Head of Road and Infrastructure Services
Jim.Smith@argyll-bute.gov.uk

APPENDICES

Appendix 1 – Programme of street lighting capital improvement works

APPENDIX 1 – PROGRAMME OF STREET LIGHTING CAPITAL IMPROVEMENT WORKS

Area	Location	Works details
BC	Argyll Street Car Park/Pier Esplanade	26 column/cable replacements
BC	Ladeside Street and Ladeside Place, Rothesay	18 column/cable replacements
BC	St Brides Road/Blain Terrace Ballochgoy, Rothesay	12 column/cable replacements
BC	A815 Shore Road, Innellan	66 column/cable replacements
HL	Rosedale Gardens	7 column/cable replacements
HL	Eastwood Lane from A814	9 column/cable replacements
HL	Kathleen Park (from Rhu Road Higher)	12 column/cable replacements
HL	Kilmahew Drive & Kilmahew Grove Cardross	20 column/cable replacements
HL	St Modens way	15 column/cable replacements
Lorn	Nant drive/ Etive Gardens/ Coe Gardens/ Ure Gardens/ Crecan Gardens/ Lonan Drive/ Orchy Gardens	71 column/cable replacements
Mull	Back Brae	22 column/cable replacements