



Norwich Western Link

Environmental Statement

Chapter 10: Biodiversity

Appendix 37: Solar Exposure Analysis

Sub Appendix D: Sunlight hours, area-based solar radiation and daylight attenuation factors

Author: WSP

Document Reference: 3.10.37d

Version Number: 00

Date: March 2024



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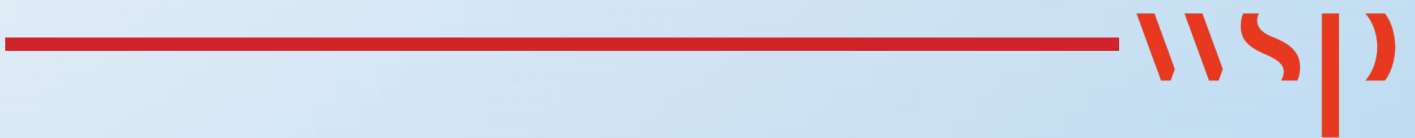


1 Introduction

- 1.1.1 This document presents a series of figures showing the outputs of the Illuminance modelling analysis for the permanent viaduct structure and associated temporary works. The figures show the modelled Seasonal and Annual Illuminance for multiple scenarios including: Baseline Scenario; Temporary Works Scenario; Temporary Works to Baseline Ratio; Temporary Works and Permanent Structure Scenario; Temporary Works and Permanent Structure to Baseline ratio; Permanent Structure Scenario; and Permanent Structure to Baseline Ratio.
- 1.1.2 We have included a summary of key information shown in this document in an accessible format in section 1.1.1. However, some users may not be able to access all technical details that are included in the rest of this document. If you require this document in a more accessible format, please contact norwichwesternlink@norfolk.gov.uk

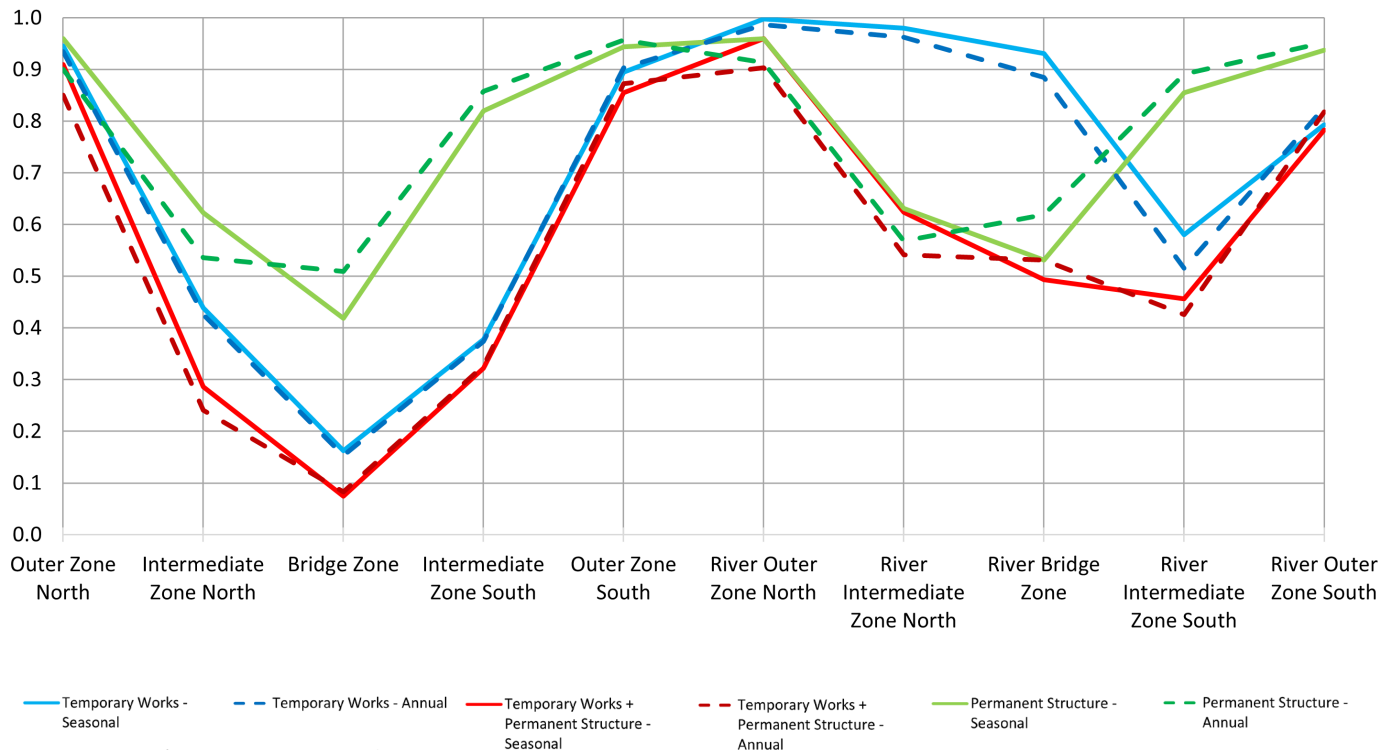
Appendix D

Sunlight Hours, Area-based Solar Radiation & Daylight Attenuation Factors



Sunlight Hours Attenuation Factor - Graph

Sunlight Hours Attenuation Factor



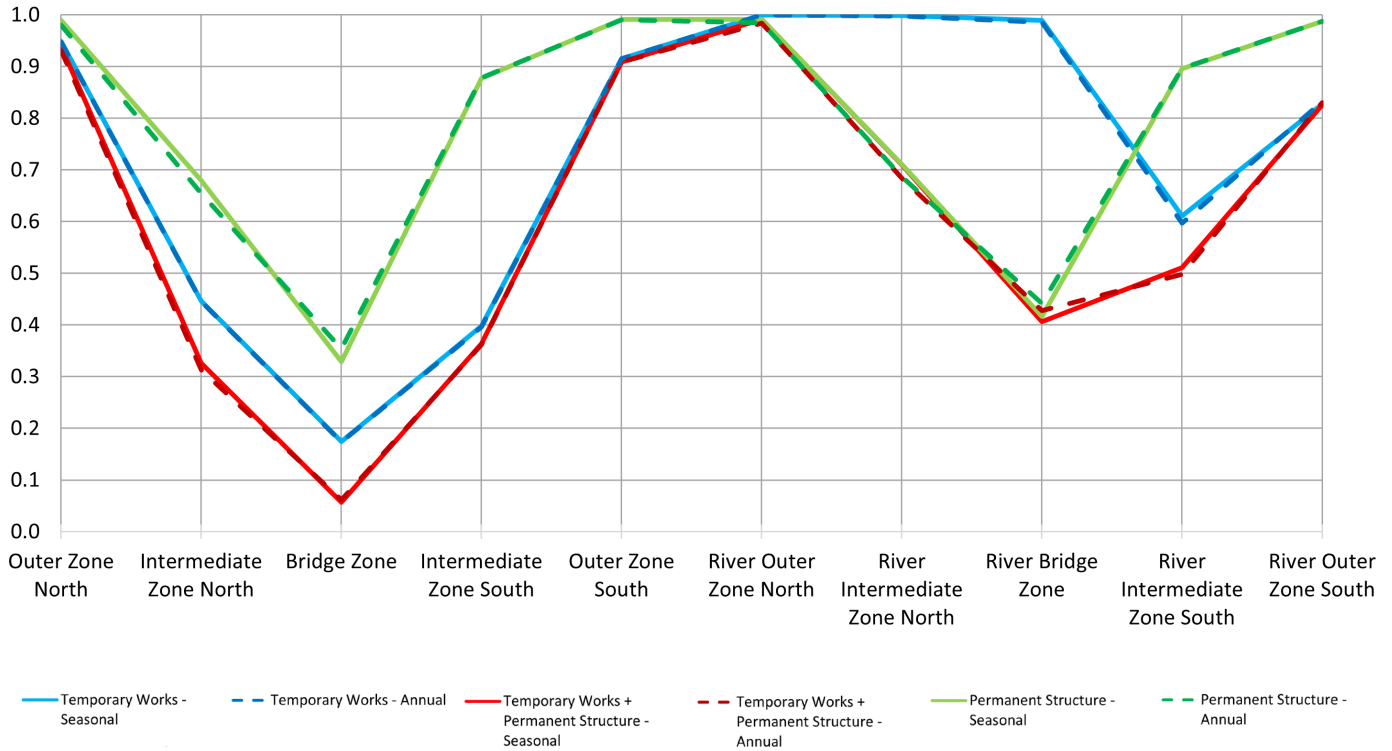
Sunlight Hours Attenuation Factor - Tables

Annual Assessment	Outer Zone North	Intermediate Zone North	Bridge Zone	Intermediate Zone South	Outer Zone South	River Outer Zone North	River Intermediate Zone North	River Bridge Zone	River Intermediate Zone South	River Outer Zone South
Temporary Works	0.95	0.44	0.16	0.38	0.89	1.00	0.98	0.93	0.58	0.79
Temporary Works & Permanent Structure	0.91	0.29	0.07	0.32	0.85	0.96	0.62	0.49	0.46	0.78
Permanent Structure	0.96	0.62	0.42	0.82	0.94	0.96	0.63	0.53	0.86	0.94

Seasonal Assessment	Outer Zone North	Intermediate Zone North	Bridge Zone	Intermediate Zone South	Outer Zone South	River Outer Zone North	River Intermediate Zone North	River Bridge Zone	River Intermediate Zone South	River Outer Zone South
Temporary Works	0.93	0.43	0.15	0.37	0.90	0.99	0.96	0.88	0.52	0.83
Temporary Works & Permanent Structure	0.85	0.24	0.08	0.33	0.87	0.90	0.54	0.53	0.43	0.82
Permanent Structure	0.90	0.54	0.51	0.86	0.96	0.91	0.57	0.62	0.89	0.95

Area-based Solar Radiation Attenuation Factor - Graph

Area-based Solar Radiation Attenuation Factor

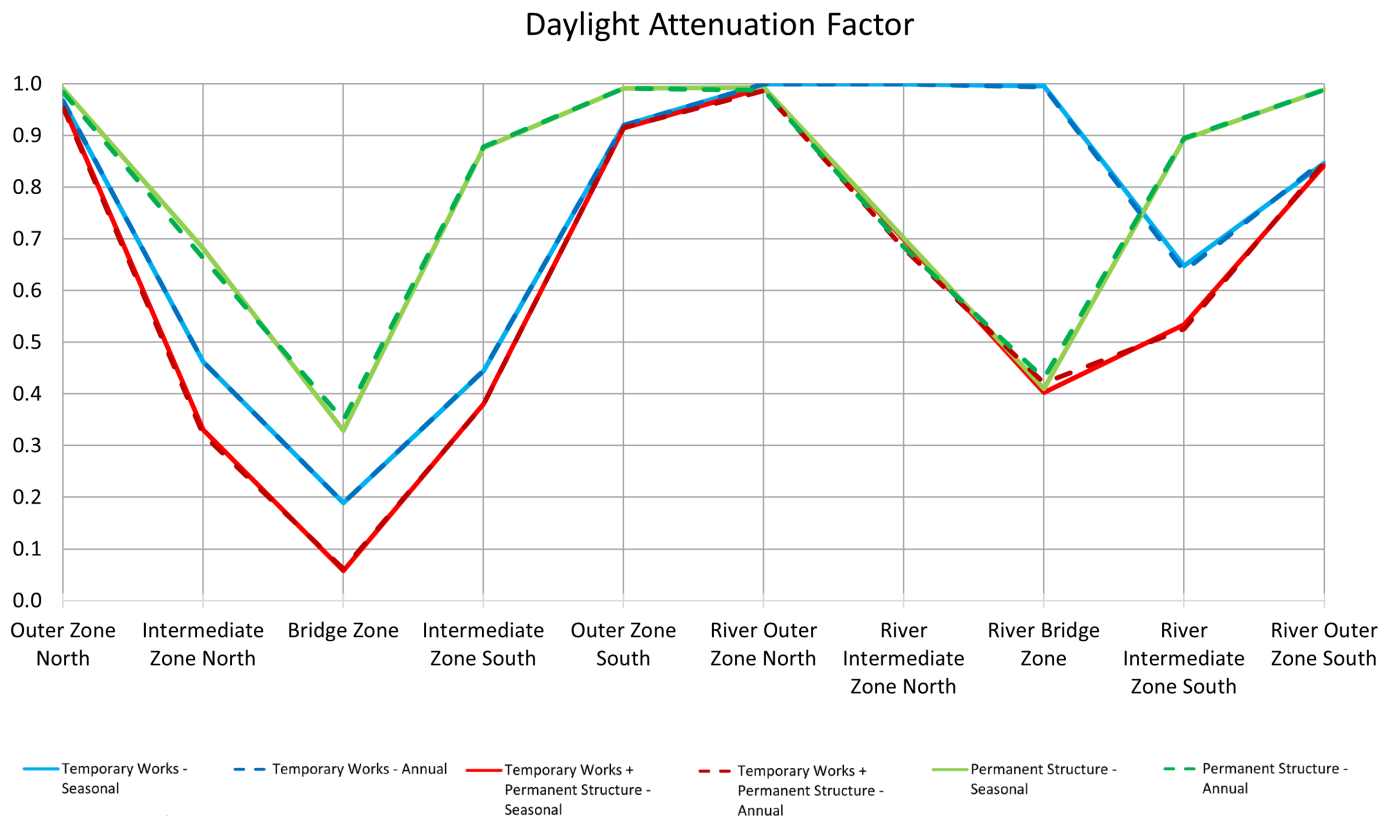


Area-based Solar Radiation Attenuation Factor - Tables

Annual Assessment	Outer Zone North	Intermediate Zone North	Bridge Zone	Intermediate Zone South	Outer Zone South	River Outer Zone North	River Intermediate Zone North	River Bridge Zone	River Intermediate Zone South	River Outer Zone South
Temporary Works	0.95	0.45	0.17	0.40	0.92	1.00	1.00	0.99	0.61	0.83
Temporary Works & Permanent Structure	0.94	0.33	0.06	0.36	0.91	0.99	0.71	0.41	0.51	0.83
Permanent Structure	0.99	0.68	0.33	0.88	0.99	0.99	0.71	0.42	0.90	0.99

Seasonal Assessment	Outer Zone North	Intermediate Zone North	Bridge Zone	Intermediate Zone South	Outer Zone South	River Outer Zone North	River Intermediate Zone North	River Bridge Zone	River Intermediate Zone South	River Outer Zone South
Temporary Works	0.95	0.45	0.17	0.40	0.92	1.00	1.00	0.99	0.60	0.83
Temporary Works & Permanent Structure	0.93	0.31	0.06	0.36	0.91	0.98	0.68	0.43	0.50	0.83
Permanent Structure	0.98	0.65	0.35	0.88	0.99	0.98	0.69	0.44	0.90	0.99

Daylight Attenuation Factor - Graph



Daylight Attenuation Factor - Tables

Annual Assessment	Outer Zone North	Intermediate Zone North	Bridge Zone	Intermediate Zone South	Outer Zone South	River Outer Zone North	River Intermediate Zone North	River Bridge Zone	River Intermediate Zone South	River Outer Zone South
Temporary Works	0.97	0.46	0.19	0.44	0.92	1.00	1.00	1.00	0.65	0.85
Temporary Works & Permanent Structure	0.96	0.33	0.06	0.38	0.91	0.99	0.70	0.40	0.53	0.84
Permanent Structure	0.99	0.68	0.33	0.88	0.99	0.99	0.70	0.41	0.89	0.99

Seasonal Assessment	Outer Zone North	Intermediate Zone North	Bridge Zone	Intermediate Zone South	Outer Zone South	River Outer Zone North	River Intermediate Zone North	River Bridge Zone	River Intermediate Zone South	River Outer Zone South
Temporary Works	0.97	0.46	0.19	0.44	0.92	1.00	1.00	0.99	0.64	0.85
Temporary Works & Permanent Structure	0.95	0.32	0.06	0.38	0.91	0.99	0.68	0.42	0.53	0.85
Permanent Structure	0.98	0.66	0.35	0.88	0.99	0.99	0.68	0.43	0.89	0.99