



## Lighting Assessment

**C10638**

**Burndell Road, Yapton**

Prepared for

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**November 2021**

**Omnia ref: C10638/LA/1.1**

ISO Accredited Certification (UKAS)



## Quality Assurance

| Issue/revision            | Issue 1                                 | Revision 1                              | Revision 2 | Revision 3 |
|---------------------------|-----------------------------------------|-----------------------------------------|------------|------------|
| Remarks                   | Draft for comment                       | Final Version                           |            |            |
| Date                      | 29/10/2021                              | 03/11/2021                              |            |            |
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| Project number            | C10638/LA/1.0                           | C10638/LA/1.1                           |            |            |

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## Executive Summary

This report has been prepared in support of a planning application for a residential development on land off Burndell Road, Yapton.

The site is located in the vicinity of the TJ Waste & Recycling facility. Arun District Council has subsequently raised concerns that artificial lighting associated with the premises has the potential to affect amenity levels for future residents. There are also concerns that the development itself could prevent or constrain operations at the facility due to the change in land use. A Lighting Assessment was therefore undertaken to consider the likely effects.

A baseline study, including desk top review, was undertaken to determine existing conditions in the vicinity of the site.

A qualitative assessment was undertaken to determine the potential for loss of amenity at the proposed site. This indicated that the development is unlikely to expose future residents to unacceptable lighting levels, and the proposals would not prevent or constrain operations at the facility.

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## Table of Contents

|     |                                     |    |
|-----|-------------------------------------|----|
| 1.0 | INTRODUCTION                        | 1  |
| 1.1 | Background                          | 1  |
| 1.2 | Proposed Development                | 1  |
| 1.3 | Acronyms                            | 2  |
| 1.4 | Confidentiality                     | 2  |
| 2.0 | LIGHTING BACKGROUND                 | 3  |
| 2.1 | Documents Consulted                 | 3  |
| 2.2 | Legislative Framework               | 3  |
| 2.3 | National Planning Policy            | 3  |
| 2.4 | National Planning Practice Guidance | 4  |
| 2.5 | Local Planning Policy               | 4  |
| 3.0 | METHODOLOGY                         | 6  |
| 3.1 | Introduction                        | 6  |
| 3.2 | Baseline                            | 6  |
| 3.3 | Assessment                          | 6  |
| 4.0 | BASELINE                            | 8  |
| 4.1 | Introduction                        | 8  |
| 4.2 | Surrounding Area                    | 8  |
| 4.3 | Existing Lighting                   | 8  |
| 4.4 | Environmental Zone                  | 8  |
| 4.5 | Sensitive Receptor Locations        | 8  |
| 5.0 | ASSESSMENT                          | 10 |
| 6.0 | SUMMARY                             | 12 |
| 7.0 | ABBREVIATIONS                       | 13 |

## APPENDICES

|             |                             |
|-------------|-----------------------------|
| Appendix I  | Drawings                    |
| Appendix II | Dispersion Model Input Data |

## 1.0 INTRODUCTION

### 1.1 Background

This report has been prepared in support of a planning application for a residential development on land off Burndell Road, Yapton.

Omnia's partner consultant Redmore Environmental, completed works detailed herein as set out within the Quality Assurance Section of this document. Text has been reproduced with permission of the Author who completed the assessment as a sub consultant to Omnia.

The site is located in the vicinity of TJ Waste & Recycling. Arun District Council (ADC) has subsequently raised concerns that artificial lighting associated with the premises may affect amenity levels at the development. There are also concerns that the development itself could prevent or constrain operations at the premises due to the change in land use. A Lighting Assessment was therefore undertaken to consider the likely effects.

### 1.2 Proposed Development

The site is located on land to the rear of Paynters Croft, off Burndell Road, Yapton, BN18 0HR, at approximate National Grid Reference (NGR): 498509, 102685. Reference should be made to Figure 1 for a map of the site and surrounding area.

The proposals comprise the construction of 23 residential dwellings and associated infrastructure. Reference should be made to Figure 2 for a site layout plan.

The development is located in the vicinity of the TJ Waste & Recycling facility. As such, ADC has provided the following consultation response:

*"The proposed development would be located within the proximity of existing waste infrastructure in Northwood Farm, with the proposed dwellings along the southern site boundary of the application site being some 100m to the north of the area of waste operations. Existing waste sites and infrastructure should be protected from inappropriate neighbouring developments that may prejudice their continuing efficient operation, as per Policy W2 of the Waste Local Plan.*

*As per W2 of the Waste Local Plan and in accordance with the 'agent of change principle', the applicant should demonstrate that the proposed development would not prevent or prejudice the ongoing operation of the waste management site by way of submission of a waste infrastructure assessment. The guidance provided on this matter by the MWPA suggests an appropriate assessment would include the following matters;*

- Identification of pre-existing conditions such as noise, light, odours, vibration, dust and other emissions;*
- Confirmation of pre application consultation/engagement with the minerals operator (to demonstrate a full understanding of the existing and potential of noise, light, odours, vibration, dust and other emissions."*

In response to the consultation comments, a Lighting Assessment has been undertaken in order to

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investigate potential impacts at the development, consider its suitability for the proposed end-use and determine whether the development could affect ongoing operations of TJ Waste & Recycling. The findings are detailed in the following report.

### **1.3 Acronyms**

All acronyms used within this report are defined in the Abbreviations listings, set out in Section 7.

### **1.4 Confidentiality**

This report has been prepared solely for the use of the Client. Should any third party wish to use or rely upon the contents of the report, written approval must be sought from Omnia; a charge may be levied against such approval.

## 2.0 LIGHTING BACKGROUND

### 2.1 Documents Consulted

The following legislation and guidance was used in this assessment:

- Guidance Notes for the Reduction of Obtrusive Light GN01/20, The Institution of Lighting Practitioners (ILP), 2020;
- Guidance on Undertaking Environmental Lighting Impact Assessments PLG04, ILP, 2013;
- Lighting in the Countryside: Towards Good Practice, Department for Communities and Local Government, 1997;
- Clean Neighbourhoods and Environment Act, 2005; and,
- Environmental Protection Act, 1990.

### 2.2 Legislative Framework

Light pollution was introduced within the Clean Neighbourhoods and Environment Act (2005) as a form of statutory nuisance under the Environmental Protection Act (1990). This was amended to include the following nuisance definition:

*"(fb) artificial light emitted from premises so as to be prejudicial to health or nuisance;"*

Although light was described as a statutory nuisance, no prescriptive limits or rules have been set for assessment. Guidance produced by the International Commission on Illumination (CIE), ILP and the Chartered Institute of Building Services Engineers (CIBSE) have been referred to whilst undertaking this assessment.

The Lighting in the Countryside: Towards Good Practice guidance produced by the Department for Communities and Local Government aims to identify good practice in the planning and design of rural areas and advises on how this can be achieved. The document states:

*"Lighting itself is not a problem; it only becomes a problem when it is excessive, poorly designed or badly installed."*

The document provides advice on how to reduce impacts associated with development, as well as identifying relevant considerations for environmental assessments.

### 2.3 National Planning Policy

The revised National Planning Policy Framework<sup>1</sup> (NPPF) was published in July 2021 and sets out the Government's planning policies for England and how these are expected to be applied.

Chapter 15 of the NPPF details objectives in relation to conserving and enhancing the natural environment. It states that:

*"Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including*

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<sup>1</sup> NPPF, Ministry of Housing, Communities and Local Government, 2021.

*cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:*

*c) limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation."*

The implications of the NPPF have been considered throughout this assessment.

## **2.4 National Planning Practice Guidance**

The National Planning Practice Guidance<sup>2</sup> (NPPG) web-based resource was launched by the Department for Communities and Local Government on 6<sup>th</sup> March 2014 and updated on 1<sup>st</sup> November 2019 to support the NPPF and make it more accessible. The light pollution pages are summarised under the following headings:

- 1. What light pollution considerations does planning need to address?*
- 2. What factors can be considered when assessing whether a development proposal might have implications for light pollution?*
- 3. What factors are relevant when considering where light shines?*
- 4. What factors are relevant when considering when light shines?*
- 5. What factors are relevant when considering how much the light shines?*
- 6. What factors are relevant when considering possible ecological impacts of lighting?*
- 7. What other information is available that could inform approaches to lighting and help reduce light pollution?*

These were reviewed and the relevant guidance considered as necessary throughout the undertaking of this assessment.

## **2.5 Local Planning Policy**

The Arun Local Plan 2011-2031<sup>3</sup> was adopted by ADC on 18<sup>th</sup> July 2018. Review of the document identified the following policies of relevance to this assessment:

*"Policy QE SP1*

*Quality of the Environment*

*The Council requires that all development contributes positively to the quality of the environment and will ensure that development does not have a significantly negative impact upon residential amenity, the natural environment or upon leisure and recreational activities enjoyed by residents and visitors to the District.*

*The location of existing industrial and commercial uses, including waste management uses, must be taken into consideration when assessing proposals for development sensitive to noise, light, odour and outputs to air. This is to ensure*

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<sup>2</sup> <https://www.gov.uk/guidance/air-quality--3>.

<sup>3</sup> Arun Local Plan 2011-2031, ADC, 2018.

*that land allocated for these uses are protected and to ensure that the amenity of new developments and facilities is safeguarded from the impacts of incompatible land uses."*

*"Policy QE DM2*

*Light Pollution*

*Planning permission for proposals which involve outdoor lighting must be accompanied by a lighting scheme prepared according to the latest national design guidance and relevant British Standards publications. Outdoor lighting schemes will be considered against the following criteria*

- a. No adverse impact on neighbouring uses or the wider landscape, particularly with regard the South Downs International Dark Sky Reserve designation;*
- b. Light levels being the minimum required for security and working purposes;*
- c. Minimising the potential glare and spillage; and*
- d. The degree to which outdoor lighting can be powered by on-site renewable sources.*

*Where appropriate, the Local Planning Authority will seek to control the times of illumination."*

West Sussex County Council (WSSC) has produced a Waste Local Plan<sup>4</sup> which covers ADC's administrative extents. This provides the basis for making consistent decisions about planning applications for waste management facilities. Review of the document indicated the following of relevance to this assessment:

*"Policy W2: Safeguarding Waste Management Sites and Infrastructure*

*Development that would prevent or prejudice the use of existing waste management sites or infrastructure that make an important contribution to the transfer of waste will not be permitted unless:*

- (a) the current use is temporary and the site or infrastructure is unsuitable for continued waste use;*
- (b) continued use of the site or infrastructure for waste management purposes would be unacceptable in terms of its impact on local communities and/or the environment*
- (c) redevelopment of the site or loss of the infrastructure would form part of a strategy or scheme that has wider social and/or economic benefits that clearly outweigh the retention of the site or the infrastructure for waste use; or*
- (d) a suitable replacement site or infrastructure has been identified and permitted."*

The above policies have been taken into consideration throughout the undertaking of the assessment.

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<sup>4</sup> Waste Local Plan, WSSC, 2014.

## 3.0 METHODOLOGY

### 3.1 Introduction

The Lighting Assessment included the establishment of baseline ambient light conditions and qualitative evaluation of associated impacts.

The methodology for each element of the assessment is outlined in the following subsections.

### 3.2 Baseline

Existing lighting conditions in the vicinity of the development were identified in order to provide a reference for assessment. The Lighting in the Countryside<sup>5</sup> document states the following items should be considered during the determination of a baseline:

- A review of the area and landscape together with any designations;
- An overview of existing lighting;
- Identification of potential receptors; and,
- Environmental Zone Classification.

These were considered by undertaking a detailed desk-top study using relevant mapping resources.

The ILP has developed an Environmental Zone classification system for the categorisation of assessment locations. This is summarised in Table 1.

**Table 1 Environmental Zone Classification**

| Environmental Zone | Surrounding | Lighting Environment             | Examples                                                  |
|--------------------|-------------|----------------------------------|-----------------------------------------------------------|
| E0                 | Protected   | Dark                             | UNESCO Starlight Reserves, IDA Dark Sky Parks             |
| E1                 | Natural     | Intrinsically dark               | National Parks, Areas of Outstanding Natural Beauty etc   |
| E2                 | Rural       | Low district brightness areas    | Village or relatively dark outer suburban locations       |
| E3                 | Suburban    | Medium district brightness areas | Small town centres or suburban locations                  |
| E4                 | Urban       | High district brightness areas   | Town/city centres with high levels of night-time activity |

The criteria shown in Table 1 were utilised to determine the most appropriate Environmental Zone for the development location.

### 3.3 Assessment

Any lighting associated with TJ Waste & Recycling has the potential to cause light trespass at the proposed development. Impacts were therefore assessed using a qualitative risk based methodology.

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<sup>5</sup> Lighting in the Countryside; Towards Good Practice, Department for Communities and Local Government, 2005.

The basic concept of risk assessment is that the overall risk depends on the probability of an event occurring together with the likely consequences if it was to occur. For lighting assessments, the probability can be considered as the likelihood of unacceptable lighting levels (impact), and the consequence can be considered to be the effect on the receptor if that increase (impact) took place. These two facets can be summarised by the source-pathway-receptor concept.

The first stage in the assessment was to identify the lighting sources associated with TJ Waste & Recycling. This included consultation with the operator and review of satellite imagery resources.

The second stage in the assessment was to undertake a qualitative analysis in order to determine the potential for significant impacts at the proposed development. This defined the pathway effectiveness through consideration of the distance between source and receptor and the presence of any features which would block light, such as buildings or vegetation. The potential for loss of amenity was then determined.

Following identification of potential impacts at the individual receptor locations, an overall view on the likely impacts of lighting levels on the development was developed.

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## 4.0 BASELINE

### 4.1 Introduction

Existing conditions in the vicinity of the development site were identified in order to provide a baseline for assessment. These are detailed in the following Sections.

### 4.2 Surrounding Area

The development is located in a mixed urban-agricultural setting which comprises open space, industrial/commercial land use and residential properties. Existing dwellings are adjacent to the northern and eastern boundaries of the site with agricultural fields to the west and south-west. The site is bordered to the south by TJ Waste & Recycling.

### 4.3 Existing Lighting

TJ Waste & Recycling is located approximately 65m south of the proposed development. Consultation was undertaken with the operator in order to understand activities on site. The following information was provided:

- The site operates under an Environmental Permit authorised by the Environment Agency (EA) (reference: FB3330AE/V003);
- The site is operational between 8:00 and 17:00 from Monday to Friday and 8:00 and 12:00 on Saturdays; and,
- Security lighting is installed on site, activated by motion sensors.

Existing street lighting is also positioned along the following roads:

- Abbots Fields; and,
- Burndell Road.

### 4.4 Environmental Zone

Based on the criteria displayed in Table 1 and the results of the desktop study, the assessment extents were defined as Environmental Zone E2 and E3. This was because the site is situated in a suburban setting with a medium to low level of existing lighting. As such, the criteria for Environmental Zone E2 stated in Table 1 were used throughout the assessment as a worst-case.

### 4.5 Sensitive Receptor Locations

A review of the proposed development layout was undertaken in order to identify relevant receptor locations throughout the site. These are summarised in Table 2 and shown visually in Figure 3.

**Table 2 Sensitive Receptors**

| Receptor |         | NGR (m) |        | Distance from Source (m) | Direction from Source |
|----------|---------|---------|--------|--------------------------|-----------------------|
|          |         | X       | Y      |                          |                       |
| 1        | Plot 13 | 498485  | 102620 | 95                       | North-west            |
| 2        | Plot 15 | 498515  | 102639 | 80                       | North                 |

| Receptor |         | NGR (m) |        | Distance from Source (m) | Direction from Source |
|----------|---------|---------|--------|--------------------------|-----------------------|
|          |         | X       | Y      |                          |                       |
| 3        | Plot 17 | 498534  | 102649 | 75                       | North                 |
| 4        | Plot 20 | 498573  | 102672 | 85                       | North                 |
| 5        | Plot 21 | 498569  | 102695 | 110                      | North                 |

## 5.0 ASSESSMENT

The results of the baseline assessment indicated that the development is located in Environmental Zone E2 to E3. As such, a level of night-time lighting would be expected due to the outer suburban setting of the proposals.

The baseline study indicated a low level of lighting associated with TJ Waste & Recycling. Due to the nature of the luminaires as security lighting, activated by motion only, there is unlikely to be a significant level of illumination during the majority of the time. In addition, there are also a number of other existing lighting fixtures along nearby roads. As such, light spill from TJ Waste & Recycling is not considered to be out of place in the context of the local area and is unlikely to lead to loss of amenity at the proposed development.

As shown in Figure 2, the proposed site layout shows the positioning of garages and back gardens along the southern boundary to allow for a buffer zone between unit façades and the site boundary. Acoustic fencing is also to be installed along the southern and eastern boundaries, providing a further barrier to light trespass. The layout also retains the existing vegetative buffer along the northern, western and southern boundaries.

The risk associated with lighting from TJ Waste & Recycling at the identified receptors was assessed. The findings are summarised in Table 3.

**Table 3 Risk Assessment**

| Receptor |         | Distance from Source (m) | Potential Risk                                                                                                                                                                                                                                                                                                                                                                            |
|----------|---------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1        | Plot 13 | 95                       | Due to the orientation of the proposed site there will not be any windows with direct line of sight towards TJ Waste & Recycling<br>The acoustic fencing and garages associated with the development will also partially block any light spillage                                                                                                                                         |
| 2        | Plot 15 | 80                       | Due to the orientation of the TJ Waste & Recycling, it is anticipated that the pathway between the lights and dwelling will be blocked by existing buildings associated with Northwood Farm and vegetation along the boundary of Northwood Farm and the development site<br>The acoustic fencing and garages associated with the development will also partially block any light spillage |
| 3        | Plot 17 | 75                       | Due to the orientation of the TJ Waste & Recycling, it is anticipated that the pathway between the lights and dwelling will be blocked by existing buildings associated with Northwood Farm and vegetation along the boundary of Northwood Farm and the development site<br>The acoustic fencing and garages associated with the development will also partially block any light spillage |
| 4        | Plot 20 | 85                       | Due to the orientation of the TJ Waste & Recycling, it is anticipated that the pathway between the lights and dwelling will be blocked by existing buildings associated with Northwood Farm and vegetation along the                                                                                                                                                                      |

| Receptor |         | Distance from Source (m) | Potential Risk                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------|---------|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          |         |                          | boundary of Northwood Farm and the development site<br>The acoustic fencing associated with the development will also partially block any light spillage                                                                                                                                                                                                                                                                       |
| 5        | Plot 21 | 110                      | Due to the orientation of the TJ Waste & Recycling, it is anticipated that the pathway between the lights and dwelling will be blocked by existing buildings associated with Northwood Farm and vegetation along the boundary of Northwood Farm and the development site<br>The acoustic fencing and garages associated with the development, as well as the dwelling on Plot 21, will also partially block any light spillage |

As shown in Table 3, the pathway between lighting from TJ Waste & Recycling and the proposed receptors will be blocked by existing buildings associated with Northwood Farm and vegetation along the boundary of Northwood Farm and the development site, as well as acoustic fencing and garages associated with the development. As such, based on the risk assessment results, the following outcomes have been determined:

- Lighting at TJ Waste & Recycling is unlikely to cause loss of amenity for future residents; and,
- The siting of a residential development to the north of TJ Waste & Recycling will not prevent or prejudice the use of the facility.

As such, the proposals are considered to comply with the requirements of the NPPF and Policy W2 of the Waste Local Plan<sup>6</sup>.

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<sup>6</sup> Waste Local Plan, WSCC, 2014.

## 6.0 SUMMARY

This report has been prepared in support of a planning application for a residential development on land off Burndell Road, Yapton.

The site is located in the vicinity of the TJ Waste & Recycling facility. ADC has subsequently raised concerns that artificial lighting associated with this premises has the potential to affect amenity levels for future residents. There are also concerns that the development itself could prevent or constrain operations at the premises due to the change in land use. A Lighting Assessment was therefore undertaken to consider the likely effects.

A baseline study was undertaken to determine existing conditions in the vicinity of the site. The results were utilised to classify the surrounding area as Environmental Zone E2 - rural and E3 - suburban.

A qualitative assessment was undertaken to determine the potential for impacts at the development site. This indicated:

- Lighting at TJ Waste & Recycling is unlikely to cause loss of amenity for future residents; and,
- The siting of a residential development to the north of TJ Waste & Recycling will not prevent or prejudice the use of the facility.

As such, the proposals are considered to comply with the requirements of the NPPF and Policy W2 of the Waste Local Plan<sup>7</sup>.

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<sup>7</sup> Waste Local Plan, WSCC, 2014.

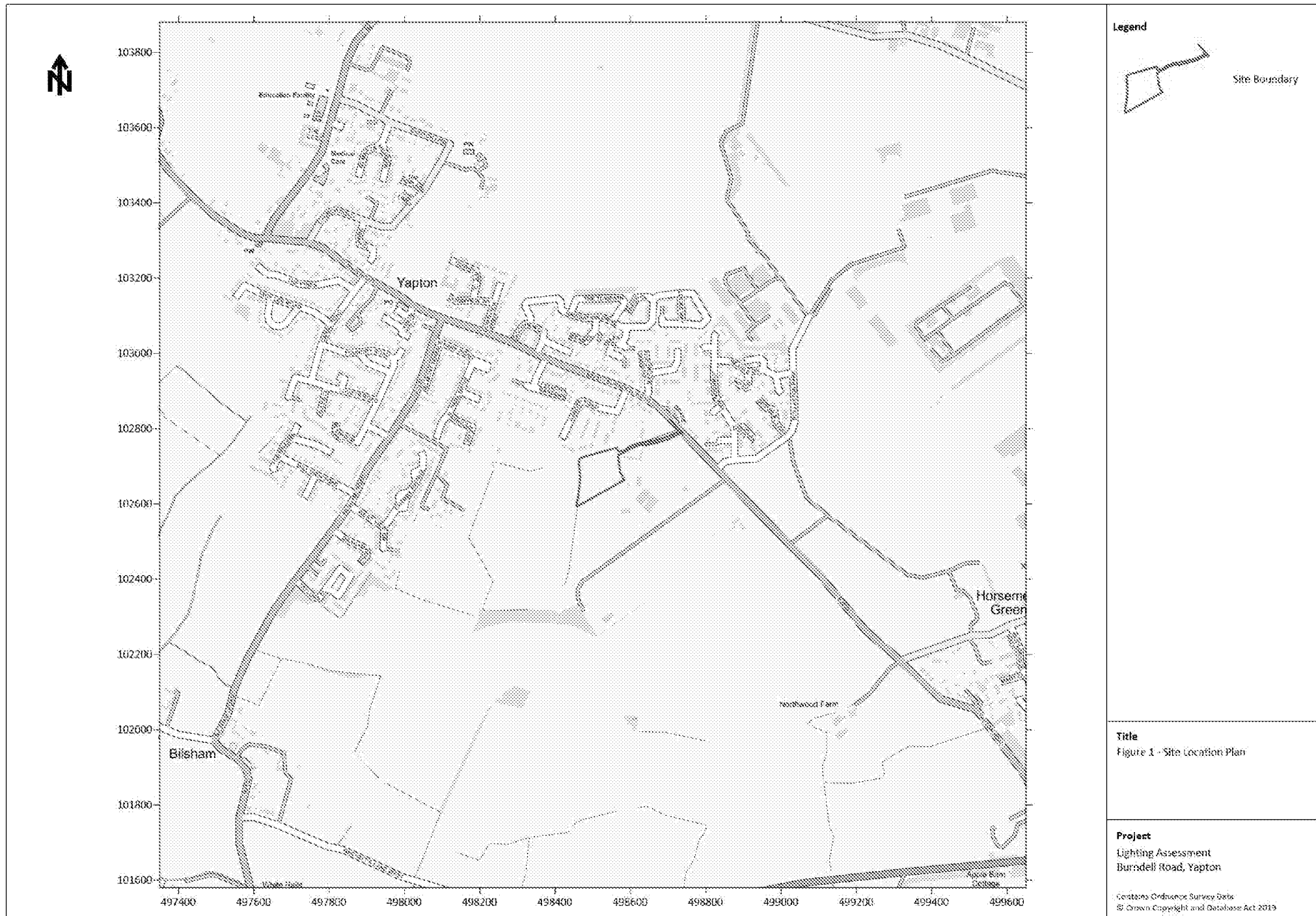
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## **7.0 ABBREVIATIONS**

|       |                                                         |
|-------|---------------------------------------------------------|
| ADC   | Arun District Council                                   |
| CIBSE | Chartered Institute of Building Services Engineers      |
| CIE   | International Commission on Illumination                |
| ILP   | Institute of Lighting Practitioners                     |
| MAGIC | Multi-Agency Geographic Information for the Countryside |
| NGR   | National Grid Reference                                 |
| NPPF  | National Planning Policy Framework                      |
| NPPG  | National Planning Practice Guidance                     |
| WSCC  | West Sussex County Council                              |

## **APPENDIX I**

### **Drawings**



**Legend**



**Title**

Figure 2 - Site Layout Plan

**Project**

Lighting Assessment  
Burndell Road, Yapton

