LIGHTING PLAN

Balcombe Well Site

Lower Stumble

Balcombe

[redacted]

Contents

Executive Summary

Type	Numbers	Lux	Noise level Lp at 10m Db(A)
Work lighting	6	100	64 (<10 dB above background)
Security lighting	10 – Perimeter 2 – Vehicle gate	5 50	64 (<10 dB above background)

- Light spill over will be partially visible and filtered by intervening trees
- The impact of noise at residences of the operation of the site would be minor
- The potential impact on bats is deemed to be negligible

Site Description

The well site is situated approximately 800m south of the village of Balcombe and 100m to the east of the B2036 (London Road). Vehicular access to the site entrance is by unpaved track from London Road. The surrounding area is predominantly rural.

The site is bounded by forest to the north, the B2036 to the west and the existing access track to the south and east. Immediately surrounding the site is Lower Beanham Wood and Lower Stumble Wood. The London to Brighton railway is located approximately 40m to the east of the site.

There are no public rights of way near the site. The closest public right of way is approximately 500m north west of the site off the B2036

The closest residential property to the site is Kemps Farm, which is located approximately 380m to the north. Kemp's House forms part of the Kemps Farm complex and is grade II* listed.

Lighting Overview

Lighting for the site should be considered in two broad categories: work lighting and security lighting. Work lighting is designed to allow operations to continue safely and effectively during periods of insufficient natural light. Security lighting is designed to create conditions that deny a would-be adversary the opportunity to use darkness to conceal his or her act. For both types of lighting visual intrusion and light spill over must be kept to a minimum, particularly in close proximity to residential properties and busy roads where it may cause nuisance or distraction.

Work Lighting

Work lighting can be further categorized as general lighting and task lighting. General lighting illuminates a whole space while task lighting illuminates only the area immediately around a specific task.

On the Balcombe site all operational areas will be lit with task-based lighting towers, which will be inward facing to avoid disturbance to neighbouring properties and bats that use the surrounding vegetation to commute and forage.

Recommendations – Work Lighting

- Lamp type – LED
- Lighting level: 100 Lux

- Colour Rendition Index (CRI)* – good
- Strike/restrike** – poor
- Position – mounted on 5m poles, 8m inside the well site perimeter at 20m intervals; shared with perimeter lamps
- Six (6) lamps required (One on each corner; two on perimeter)
- Shrouding – None; lamps will be inward and downward facing.

Security Lighting

The objective of security lighting is to create conditions that deny a would-be adversary the opportunity to use darkness to conceal his/her act.

Perimeter lighting

Perimeter lighting takes one of two forms: controlled or glare. Controlled lighting is the most common type, usually made up of standard street lighting luminaires and focused on the lines of the perimeter. Glare lighting projects illumination beyond the perimeter to illuminate potential approaching adversaries.

Area lighting

This type of lighting is used to illuminate areas within the perimeter which an adversary must cross to reach their objective. On this site, the work lighting will perform this function when required.

Flood lighting

This type of lighting illuminates the well site in general and should be sufficiently bright for security personnel to identify a moving silhouette. On this site, the work lighting will perform this function when required.

Recommendations – Security Lighting

Perimeter – Continuous, controlled lighting around the entire perimeter of the well site. Specifications:

- Lamp type – LED
- Lighting level:
    - Perimeter - 5 Lux, minimum
    - Vehicle entrance gate – 50 Lux
- Colour Rendition Index (CRI)* – good (for use with CCTV)
- Strike/restrike** – instant
- Position – mounted on 5m poles, 8m inside the well site perimeter at 20m intervals
- 10 lamps required (12 on perimeter, 2 at vehicle gate)
- Shrouds – each lamp shall be fitted with a shroud to prevent spill over into the surrounding vegetation

*CRI – The extent to which a particular lamp type reproduces colours similar to those observed under daylight.

**Strike/restrike – The time required to relight if switched of intentionally or by power failure.

Environmental impact

An impact assessment conducted by RSK Environment Ltd in October 2017 concluded the following regarding light spill over from the site:

- *Light spill over will be partially visible and filtered by intervening trees. Views of the other components from the rig location are to be obscured by intervening mature conifers, trees and hedgerow.*
- *The plant noise levels have been predicted to be below the first aim of the NPPF technical guidance (<10 dB above background) during the periods of operation. As such, the impact at residences of the operation and demobilisation of the site would be minor.*
- *To minimise the potential disturbance to bats during periods of 24 hour working all operational areas of the drilling platform will be lit with task-based lighting which will be inward facing to avoid light spill to areas outside of the works footprint and therefore minimising the potential for negative impacts to bats. Lighting cowls will be utilised to further reduce light spillage to areas outside of the works footprint.*
- An enclosed flare will be situated within the stone drilling platform fenced compound which offers negligible potential for foraging and commuting bats which will likely utilise the habitats surrounding the works footprint. Additionally, this area will also be lit during the testing phase which will further dissuade bats from entering the working footprint. This combination of factors will limit the potential for bats to be disturbed by the light produced by the flare. The potential impact of the flare on bat species in the area is therefore deemed to be negligible.

Appendix A: Well Site Map

KEY

- Perimeter lamp
- Entrance gate lamp
- Work lamp
- 100 Lux area
- 5 Lux area