



## **Thurrock Flexible Generation Plant**

**Preliminary Environmental Information Report  
Appendix 6.1: Addendum to the Assessment of Landscape and Visual Resources**

**Date:** October 2018



**Environmental Impact Assessment**  
**Preliminary Environmental Information Report**

**Volume 6**

**Appendix 6.1**

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This report is also downloadable from the Thurrock Flexible Generation Plant website at:  
<http://www.thurrockpower.co.uk>

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## Summary

This document is an addendum to the assessment of landscape and visual resources reported in Volume 3, Chapter 6 of the PEIR. It supplements that assessment to provide further information about potential landscape and visual impacts of taller exhaust stacks for Thurrock Flexible Generation Plant, if that were found to be necessary following further design work.

## Qualifications

This document has been prepared by Corinna Demmar, a Chartered Landscape Architect, who has over 30 years' experience of landscape architecture and landscape and visual impact assessment.



## 1. Addendum to Chapter 6

### 1.1 Introduction

- 1.1.1 This appendix is an addendum to the assessment of landscape and visual resources reported in Volume 3, Chapter 6 of the Preliminary Environmental Information Report (PEIR). It supplements that assessment and should be read alongside it.
- 1.1.2 Design work for Thurrock Flexible Generation Plant is ongoing at the time of publication of this PEIR and public consultation. It is possible that in the course of further design of the development for optimum efficiency by recovering waste heat from the gas engine exhausts, an increase to the exhaust stack height for air pollutant dispersion could be recommended.
- 1.1.3 The air quality assessment reported in the PEIR (Volume 3, Chapter 12) has assessed an optimum stack height of 40 m for the current facility design, which has also formed the basis of the assessment of landscape and visual resources reported in Chapter 6. The air quality assessment is conservative, i.e. considers the 'worst-case' impacts compared to any greater stack height.
- 1.1.4 This addendum provides further information about the 'worst-case' landscape and visual impact of taller exhaust stacks up to 50 m in height, in order that this impact can be considered during public and statutory consultation, should a change in stack height of between 40 m and 50 m subsequently be made during further design.
- 1.1.5 If a stack height of greater than 40 m is considered likely to be necessary in the final development design, this change will be fully considered in the next stage of the environmental impact assessment and the maximum design envelope parameter specified in the Environmental Statement for the Development Consent Order application would be updated accordingly.

### 1.2 Visualisations

- 1.2.1 A Zone of Theoretical Visibility (ZTV) has been generated for a 50 m stack height for comparison with the 40 m stack height ZTV figure in Volume 3, Chapter 6: Landscape and Visual Resources. The 40 m ZTV is shown in Figure 1.1 and the 50 m ZTV is shown in Figure 1.2, below.
- 1.2.2 Comparing these figures, it can be seen that although the 50 m ZTV is slightly more extensive, it is not significantly so. The need for additional viewpoints has been carefully assessed and not considered necessary.

- 1.2.3 The wirelines in Volume 3, Chapter 6: Landscape and Visual Resources, Figures 4.30 to 4.43 in the chapter, have been revisited for this addendum. Figure 1.3 to Figure 1.16 of this appendix show the stack height of first 40 m and then 50 m shown in different colours on the figure, for ease of comparison.
- 1.2.4 An assessment of the effects of the potential increased stack height has been undertaken and is set out below.

### 1.3 Construction Phase

#### Landscape Effects

##### *Landscape Character*

- 1.3.1 It is considered that there would be no significant additional effects experienced by the landscape receptors during the construction phase as a result of the increase of the stack height. The effects on NCA 81: Greater Thames Estuary would remain **minor** adverse, which is not significant. The effects on the Thurrock LCAs would remain **minor to moderate** adverse, which are not significant.

#### Visual Effects

##### *Visual Resources and Receptors*

- 1.3.2 As with the lower stack height, the direction from which the construction of Thurrock Flexible Generation Plant will have the most impact is from the north, both from the drained farmland and from the elevated ridge. **High** sensitivity viewers at these locations will experience **medium** impacts (Viewpoint 6, Figure 1.4, Viewpoint 9, Figure 1.7 and Viewpoint 7, Figure 1.5) which would result in **moderate to major** effects that are significant.

### 1.4 Operational Phase

#### Landscape Effects

##### *Landscape Character*

- 1.4.1 Maximum effects during the operation and maintenance phase would be as set out above for construction phase.



## Visual Effects

### *Visual Resources and Receptors*

- 1.4.2 As with the lower stack height, the direction from which Thurrock Flexible Generation Plant will have the most impact is from the north, both from the drained farmland and from the elevated ridge. The impact on **high** sensitivity viewers at these locations will experience **medium** impacts (Viewpoint 6, Figure 1.3, Viewpoint 9, Figure 1.6 and Viewpoint 7, Figure 1.4) which would result in **moderate to major** effects, which are significant. While the increased stack height makes the development more obvious, the effects are not considered unacceptable.
- 1.4.3 While Thurrock Flexible Generation Plant will be more obvious from other locations due to the additional height of the stacks, it is sufficiently distant from the viewer for the effects not to be significant (e.g. Viewpoint 15, Figure 1.10).

## 1.5 Decommissioning Phase

### Landscape Effects

#### *Landscape Character*

- 1.5.1 Maximum effects during decommissioning would be as set out above for construction phase.

### Visual Effects

#### *Visual Resources and Receptors*

- 1.5.2 As with the lower stack height, the direction from which the decommissioning of Thurrock Flexible Generation Plant will have the most impact is from the north, both from the drained farmland and from the elevated ridge.
- 1.5.3 The sensitivity of visual receptors is expected to be the same as it currently is, due to the presence of the sewage treatment works, Tilbury substation and the overhead power lines. The magnitude of impact of the decommissioning phase is expected to be the same or lower than the magnitude of impact for the construction phase, that is **negligible to medium** (Viewpoint 6, Figure 1.3, Viewpoint 9, Figure 1.6 and Viewpoint 7, Figure 1.4). The effects are considered to be **negligible to moderate to Major** adverse, which are not significant to significant.

## 1.6 Cumulative Effects

### Landscape Effects

#### *Landscape Character*

- 1.6.1 There will be no additional significant cumulative effects on landscape resources and receptors compared to those reported for the lower stack height (see Volume 3, Chapter 6: Landscape and Visual Resources, Section 5) because the built footprint remains the same. There is a slight intensification of the industrial nature of the landscape, but not so significant as to change non-significant effects to significant effects.

#### *Visual Resources and Receptors*

- 1.6.2 There will be no additional significant cumulative impacts compared to those for the lower stack height (see Volume 3, Chapter 6: Landscape and Visual Resources, Section 5) as the extent of the Thurrock FGP development remains the same. There is a slight intensification of the industrial nature in views, but in most this is insignificant. Those viewers that would experience significant cumulative effects with a 40 m high stack are the same as those for a 50 m high stack.



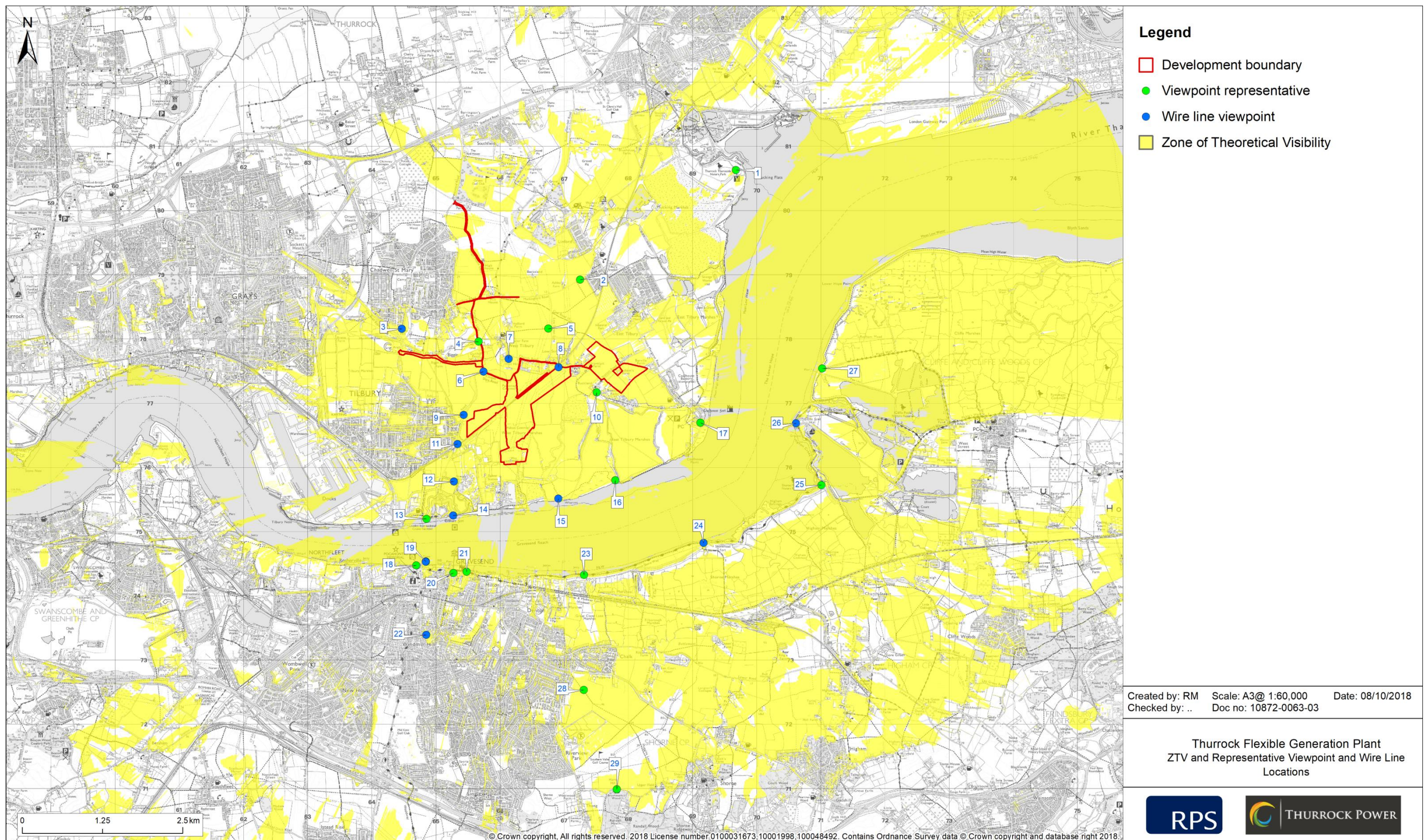


Figure 1.1: ZTV with 40 m stack height



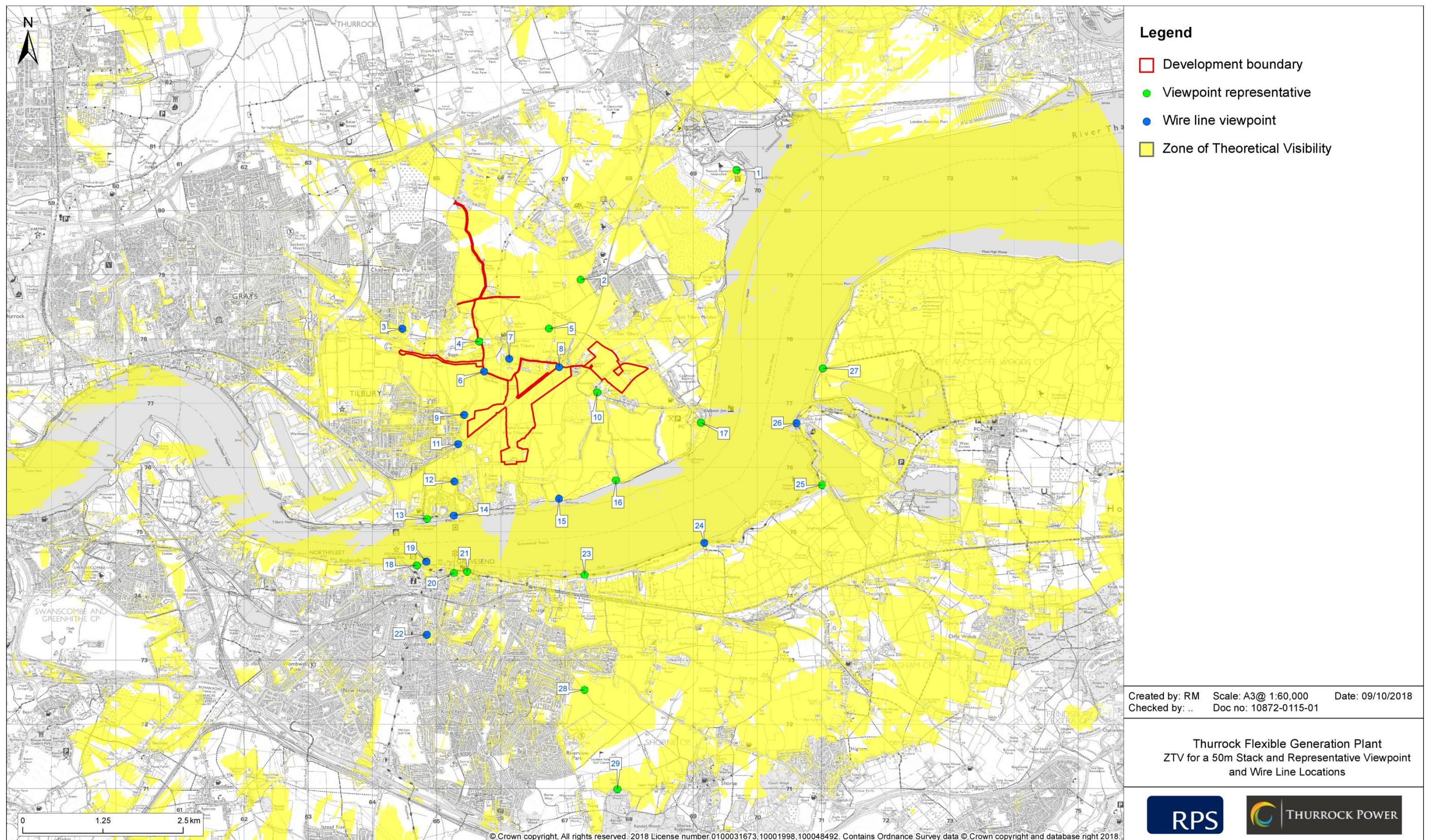


Figure 1.2: ZTV with 50 m stack height



## 2. Viewpoint, Panorama and Wireline Figures

Figures 1.3 to 1.16





Existing view



Proposed wireline view

Ref: 10872-0047-007



Date of Photo: 30/08/2018  
 Lens Type: 50mm

Distance to site: 2.19km  
 OS reference: 564469, 178159

Direction to site: southeast  
 Viewpoint height: 24.1m AOD

Horizontal field of view: Approx. 75°  
 Viewing distance: 300mm @ A3

- Thurrock FGP Facility (40m Stacks)
- Thurrock FGP Facility (50m Stacks)

**Viewpoint 3**  
**Figure: 1.3**





Existing view



Proposed wireline view

Ref: 10872-0047-007



Date of Photo: 07/09/2018  
 Lens Type: 50mm

Distance to site: 0.869km  
 OS reference: 565739, 177493

Direction to site: southeast  
 Viewpoint height: 2.9m AOD

Horizontal field of view: Approx. 75°  
 Viewing distance: 300mm @ A3

— Thurrock FGP Facility (40m Stacks)  
 — Thurrock FGP Facility (50m Stacks)

**Viewpoint 6**  
**Figure: 1.4**





Existing view



Proposed wireline view

Ref: 10872-0047-007



Date of Photo: 25/09/2018  
Lens Type: 50mm

Distance to site: 0.992km  
OS reference: 566134, 177692

Direction to site: south  
Viewpoint height: 5.68m AOD

Horizontal field of view: Approx. 75°  
Viewing distance: 300mm @ A3

- Thurrock FGP Facility (40m Stacks)
- Thurrock FGP Facility (50m Stacks)

**Viewpoint 7**  
**Figure: 1.5**





Existing view



Proposed wireline view

Ref: 10872-0047-007



Date of Photo: 04/09/2018  
 Lens Type: 50mm

Distance to site: 0.84km  
 OS reference: 566911, 177559

Direction to site: southwest  
 Viewpoint height: 3.5m AOD

Horizontal field of view: Approx. 75°  
 Viewing distance: 300mm @ A3

— Thurrock FGP Facility (40m Stacks)  
 — Thurrock FGP Facility (50m Stacks)

**Viewpoint 8**  
**Figure: 1.6**





Existing view



Proposed wireline view

Ref: 10872-0047-007



Date of Photo: 25/09/2018  
 Lens Type: 50mm

Distance to site: 0.68km  
 OS reference: 565431, 176817

Direction to site: southeast  
 Viewpoint height: 2.85m AOD

Horizontal field of view: Approx. 75°  
 Viewing distance: 300mm @ A3

— Thurrock FGP Facility (40m Stacks)  
 — Thurrock FGP Facility (50m Stacks)

**Viewpoint 9**  
**Figure: 1.7**





Existing view



Proposed wireline view

Ref: 10872-0047-007

		Date of Photo: 30/08/2018 Lens Type: 50mm	Distance to site: 0.776km OS reference: 565335, 176364	Direction to site: east northeast Viewpoint height: 6.4m AOD	Horizontal field of view: Approx. 75° Viewing distance: 300mm @ A3	Thurrock FGP Facility (40m Stacks) Thurrock FGP Facility (50m Stacks)	<b>Viewpoint 11</b> <b>Figure: 1.8</b>
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Existing view



Proposed wireline view

Ref: 10872-0047-007



Date of Photo: 04/09/2018  
 Lens Type: 50mm

Distance to site: 1.093km  
 OS reference: 565278,175783

Direction to site: northeast  
 Viewpoint height: 4.567m AOD

Horizontal field of view: Approx. 75°  
 Viewing distance: 300mm @ A3

- Thurrock FGP Facility (40m Stacks)
- Thurrock FGP Facility (50m Stacks)

**Viewpoint 12**  
**Figure: 1.9**





Existing view



Proposed wireline view

Ref: 10872-0047-007



Date of Photo: 04/09/2018  
 Lens Type: 50mm

Distance to site: 1.461km  
 OS reference: 565269, 175252

Direction to site: northeast  
 Viewpoint height: 7.2m AOD

Horizontal field of view: Approx. 75°  
 Viewing distance: 300mm @ A3

- Thurrock FGP Facility (40m Stacks)
- Thurrock FGP Facility (50m Stacks)

**Viewpoint 14**  
**Figure: 1.10**





Existing view



Proposed wireline view

Ref: 10872-0047-007



Date of Photo: 30/08/2018  
 Lens Type: 50mm

Distance to site: 1.093km  
 OS reference: 566905, 175513

Direction to site: north northwest  
 Viewpoint height: 8.8m AOD

Horizontal field of view: Approx. 75°  
 Viewing distance: 300mm @ A3

— Thurrock FGP Facility (40m Stacks)  
 — Thurrock FGP Facility (50m Stacks)

**Viewpoint 15**  
**Figure: 1.11**





Existing view



Proposed wireline view

Ref: 10872-0047-007



Date of Photo: 05/09/2018  
 Lens Type: 50mm

Distance to site: 2.31km  
 OS reference: 564842, 174534

Direction to site: northeast  
 Viewpoint height: 3.5m AOD

Horizontal field of view: Approx. 75°  
 Viewing distance: 300mm @ A3

— Thurrock FGP Facility (40m Stacks)  
 — Thurrock FGP Facility (50m Stacks)

**Viewpoint 19**  
**Figure: 1.12**





Existing view



Proposed wireline view

Ref: 10872-0047-007



Date of Photo: 05/09/2018  
 Lens Type: 50mm

Distance to site: 3.3km  
 OS reference: 564846, 173387

Direction to site: north northeast  
 Viewpoint height: 55.85m AOD

Horizontal field of view: Approx. 75°  
 Viewing distance: 300mm @ A3

— Thurrock FGP Facility (40m Stacks)  
 — Thurrock FGP Facility (50m Stacks)

**Viewpoint 22**  
**Figure: 1.13**







Existing view



Proposed wireline view

Ref: 10872-0047-007

 	<p>Date of Photo: 25/09/2018 Lens Type: 50mm</p>	<p>Distance to site: 2.32km OS reference: 67307, 174332</p>	<p>Direction to site: northwest Viewpoint height: 6.8m AOD</p>	<p>Horizontal field of view: Approx. 75° Viewing distance: 300mm @ A3</p>	<ul style="list-style-type: none"> <li><span style="color: yellow;">—</span> Thurrock FGP Facility (40m Stacks)</li> <li><span style="color: red;">—</span> Thurrock FGP Facility (50m Stacks)</li> </ul>	<p><b>Viewpoint 23</b> <b>Figure: 1.14</b></p>
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Existing view



Proposed wireline view

Ref: 10872-0047-007



Date of Photo: 07/09/2018  
 Lens Type: 50mm

Distance to site: 3.23km  
 OS reference: 569169, 174825

Direction to site: west northwest  
 Viewpoint height: 5.25m AOD

Horizontal field of view: Approx. 75°  
 Viewing distance: 300mm @ A3

— Thurrock FGP Facility (40m Stacks)  
 — Thurrock FGP Facility (50m Stacks)

**Viewpoint 24**  
**Figure: 1.15**





Existing view



Proposed wireline view

Ref: 10872-0047-007



Photo Date: 05/09/2018  
Lens Type: 50mm

Distance to site: 4.18km  
OS reference: 570611, 176687

Direction to site: west  
Viewpoint height: 6.1m AOD

Horizontal field of view: Approx. 75°  
Viewing distance: 300mm @ A3

— Thurrock FGP Facility (40m Stacks)  
— Thurrock FGP Facility (50m Stacks)

**Viewpoint 26**  
**Figure: 1.16**