Q13.1.20 – Green Belt

The ExA acknowledges the Local Authorities' objections to the proposed development in the Green Belt. Without prejudice to these objections, the ExA would like to understand from the Local Authorities whether there are any particular locations within the Green Belt where the effects of the Project on openness would be particularly pronounced, and conversely, whether there are locations where effects on openness would be avoided or at the lower end of the harm scale.

1.0 Introduction

1.1 Graveham notes that the ExA's question refers to impact on 'openness' rather than any conflict with purposes of including land within the Green Belt. However, as is explained in section 2 below, 'openness' is related to two of the national purposes and therefore reference is also made to purposes in the assessment that follows.

1.2 Green Belt is a policy constraint, rather than an explicit environmental one, the fundamental aim of which is to prevent urban sprawl by keeping land permanently open. Whilst national policy does not define what 'openness' means, it is normally equated with the absence of built development, as a counterpoint to 'urban sprawl'.

1.3 However, this should not be taken to mean that an area of Green Belt will always be devoid of any development nor that additions to existing development will always be 'inappropriate' or otherwise unacceptable.

1.4 National policy provides for certain types of development to be accepted as not 'inappropriate' within the closed lists set out at NPPF (2023) paragraphs 149 – 150, whereas others may be deemed acceptable even where inappropriate, provided that very special circumstances that clearly outweigh harm to the Green Belt and any other harm resulting from the proposal, can be demonstrated.

1.5 In this instance, the applicant has accepted that the project as a whole represents 'inappropriate' development in the Green Belt, resulting in 'definitional harm' to which significant weight should be attached in the planning balance. However, because this is a large scale linear project, it is necessary to go beyond this to understand the actual level of harm that may occur, which may vary between locations and over time.

1.6 Harm to Green Belt openness is capable of having a spatial and a visual dimension. Whilst national policy refers to the need to consider impact on openness in general terms, it is a matter of planning judgement as to whether visual impacts affecting openness come into play, on a case-by-case basis. As such, the concept of 'openness' is open-textured, with a number of case specific factors capable of being relevant, including how developed a particular area of Green Belt would be 'with' and 'without' the project.

1.7 In making such an assessment it is not the visual quality of the affected land that is material. Landscape impact is a separate environmental issue and the two should not be conflated. Impacts on openness and potential conflict with Green Belt purposes can however be wide ranging, including the introduction of light or noise pollution (as examples) or an increase in the severity of the same.

1.8 Whilst it is legitimate to take into account the effectiveness of mitigation in terms of reducing impacts on Green Belt openness or conflict with its purposes, development that is otherwise inappropriate is not made more appropriate by its limited visual impact. An allied consideration is the potential impact of mitigation intended to screen the development on openness, for example, by foreshortening views.

1.9 Gravesham recognises that the impact of the project on Green Belt openness will differ between the construction phase; the early stages of the operational phase; and the later stages of the operational phase, once landscaping has matured.

1.10 Whilst the construction phase will be temporary, it will be of considerable duration and the construction compounds/temporary stockpiling of materials will have an impact both on Green Belt openness and purposes. However, it is not intended here to provide comments on the construction phase given the time and resources available to the Council and the limited detail provided in the application.

1.11 In addition, Gravesham notes that the plans as submitted are largely illustrative and subject to the submission of final designs as per Requirement 3 to Schedule 2 of the draft Development Consent Order. There may therefore be detailed changes permissible under Limits of Deviation and which accord with adopted Design Principles, whereby outcomes may differ. Gravesham also notes that there are a number of sensitive areas where the submitted drawings are unclear or there has yet to be agreement with third parties on a final design solution, which could have implications in terms of Green Belt openness and purposes.

1.12 For the sake of brevity, a long-list of application documents reviewed to respond to the ExA's question has not been included here. Reference will however be made to individual documents where appropriate.

2.0 Outputs from Gravesham Stage 1 and Stage 2 Green Belt studies

2.1 The extent of the Green Belt in Gravesham is shown on the the Gravesham Local Plan Core Strategy Policies Map (2014) which is available at: Gravesham Local Plan Core Strategy Policies Map - September 2014 .

2.2 Whilst any assessment of impact on Green Belt openness will involve professional judgement, it is important that it is underpinned by some form of transparent methodology so the reader can understand how conclusions have been reached.

2.3 There is no standard methodology for undertaking such an exercise. To ensure a degree of consistency in assessing the impact on openness, Gravesham has referred back to its own Stage 1 and Stage 2 Green Belt studies and reviewed whether these can assist. The relevant documents are:

- Gravesham Stage 1 Green Belt Study (April 2018) at: https://localplan.gravesham.gov.uk/consult.ti/sareg18/consultationHome
- Gravesham Stage 2 Green Belt Study and Appendices (August 2020) at: https://localplan.gravesham.gov.uk/consult.ti/REG18S2/consultationHome

2.4 Neither of these documents were intended to assess the solus Green Belt impact of Lower Thames Crossing, as a stand-alone project. It is important however that there

is consistency of approach between these studies and any assessment of the impact of Lower Thames Crossing on Green Belt openness.

Stage 1 Study

2.5 The objective of the Stage 1 Green Belt study was to assess the contribution selected parcels of land made to both national and local Green Belt purposes based on a RAG (Red/Amber/Green) rating. This piece of work was undertaken in house.

2.6 It is not necessary to go into the detail of the report, other than to note what parcels were affected by the Lower Thames Crossing proposals and the headline findings. The plan reproduced below shows the affected parcels – most importantly parcels 6, 7 and 11a (see Table 1 below).

Figure 1: Gravesham Stage 1 Green Belt Study (April 2018) parcels most affected by Lower Thames Crossing.

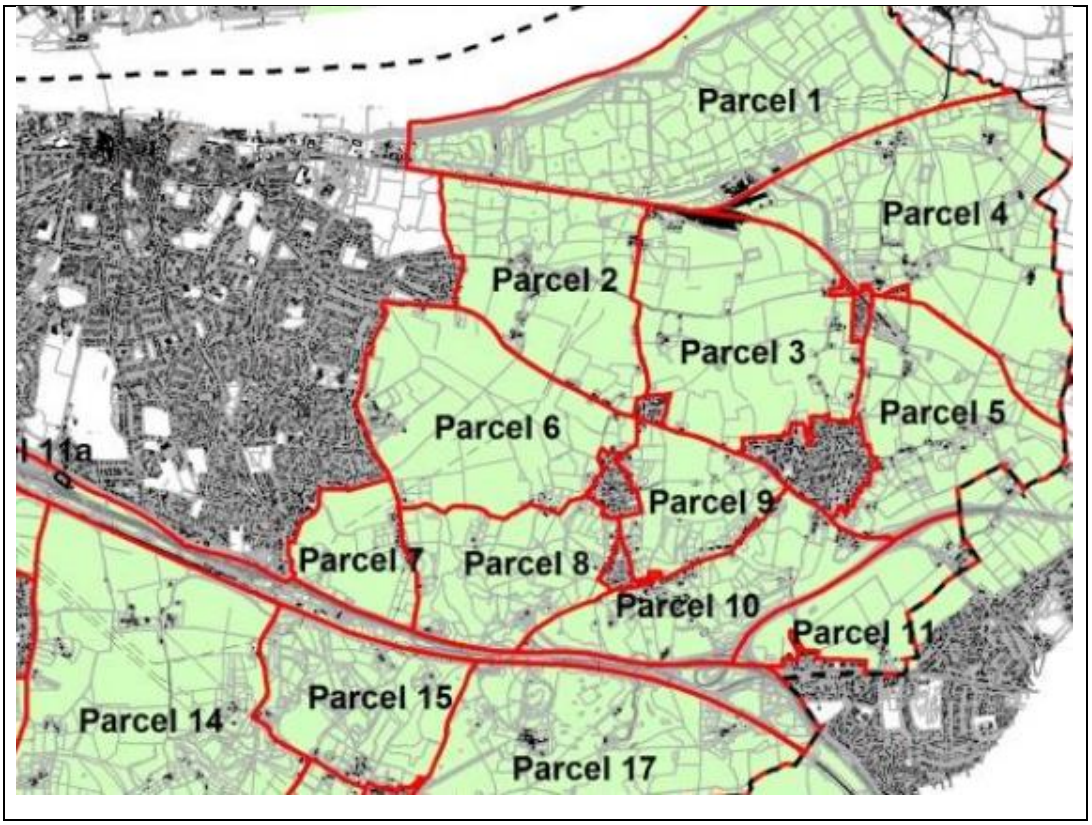


Table 1: Gravesham Stage 1 Green Belt Study (April 2018) key findings in relation to parcels through which Lower Thames Crossing would pass on the surface in terms of contribution parcel makes to relevant Green Belt purposes.

Parcel number and name		Green Belt Purpose			
		1	2	2a	3
6.	East of Gravesend				
7.	South East of Gravesend				
8.	Shorne Woods				
10.	South of Shorne				
11.	North West of Strood				
11a.	A2 and High Speed Railway Corridor				
15.	Jeskyn's and Ashenbank Woods				
17.	Cobham Park				

Significant contribution	
Contribution	
Minimal/no contribution	

2.7 It should be noted that in assessing the contribution that parcels made to the Green Belt purposes, national purposes 4 and 5 were not considered relevant. A local purpose (2a – to prevent other settlements in the Green Belt from merging) was also considered. The parcels were therefore assessed against the following purposes:

- 1 to check the unrestricted sprawl of large built-up areas;
- 2 to prevent neighbouring towns merging into one another;
- 2a to prevent other settlements in the Green Belt from merging, and
- 3 to assist in safeguarding the countryside from encroachment;

Stage 2 Study

2.8 The Gravesham Stage 2 Green Belt Study (August 2020) was undertaken by external consultants (LUC) with the objective of assessing the relative harm to Green Belt purposes, in the event of different parcels of land being released for development on the edge of the urban area and rural settlements inset from the Green Belt. This was a finer grained analysis that not only considered harm to Green Belt purposes through release but also the impact on the integrity of neighbouring Green Belt land as a result of such release. This was done on a 'with' and 'without'

Lower Thames Crossing basis to test whether its construction would have implications should it be promoted as a potential future Green Belt boundary..

2.9 For the avoidance of doubt, Gravesham wishes to make clear that the Stage 2 Study did not assess the impact of Lower Thames Crossing itself on Green Belt openness or its conflict with national or local purposes. The inclusion of a 'with' Lower Thames Crossing scenario was purely to understand the implications should it be constructed and was 'without prejudice' to the Council's objection in principle to the project. Neither would the presence of Lower Thames Crossing, in itself, provide sufficient 'exceptional circumstances' to release land for development in this area. That would be a separate consideration.

2.10 In relation to land affected by the Lower Thames Crossing around Riverview Park, the general conclusion reached within the Stage 2 study was that harm to Green Belt purposes would increase if further development (i.e. housing) moved out eastwards from Thong Lane, but that this would be moderated to the south of the estate because the fields in this area were relatively contained by the A2 to the south, the AONB and Shorne Woods on higher ground to the east, and the existing urban area to the north and north-west. The Stage 2 study did not look at areas where there were absolute constraints or areas where it was considered that high harm to the Green Belt purposes would result if land was releasedfor development. Assessment of development impacts on the A2/HS1 corridor was largely confined to the area to the west of the Cobham South Services. The overall results are shown in the Figure 2 below.

2.11 The overall results for each parcel within the Stage 2 study are underpinned by a more detailed assessment contained in the Stage 2 Appendices. The most relevant parcels in relation to Lower Thames Crossing here are GR3; GR4; GR5; GR6; GR7; GR8 and GR9 (adjacent to Gravesend) and SR5 and TC5 (at the A289 junction).

2.12 While the scope of the Stage 2 study was to consider the potential harm to the national purposes of the Green Belt of releasing land for development, only purposes 1, 2 and 3 were considered relevant to this study, as there were no historic relevant to the assessment area (purpose 4) and it was considered that all parcels contributed equally to assisting urban regeneration (purpose 5). No consideration was given to local Green Belt purposes.

Of the 3 purposes, the following are considered to be the most relevant:

- To check the unrestricted sprawl of large built-up areas; and
- To safeguard the countryside from encroachment.

The justification for selecting these two national purposes in this context is the point made at paragraph 1.2 above – i.e. that whilst national policy does not define what 'openness' means, it is normally equated with the absence of built development, as a counterpoint to 'urban sprawl'.

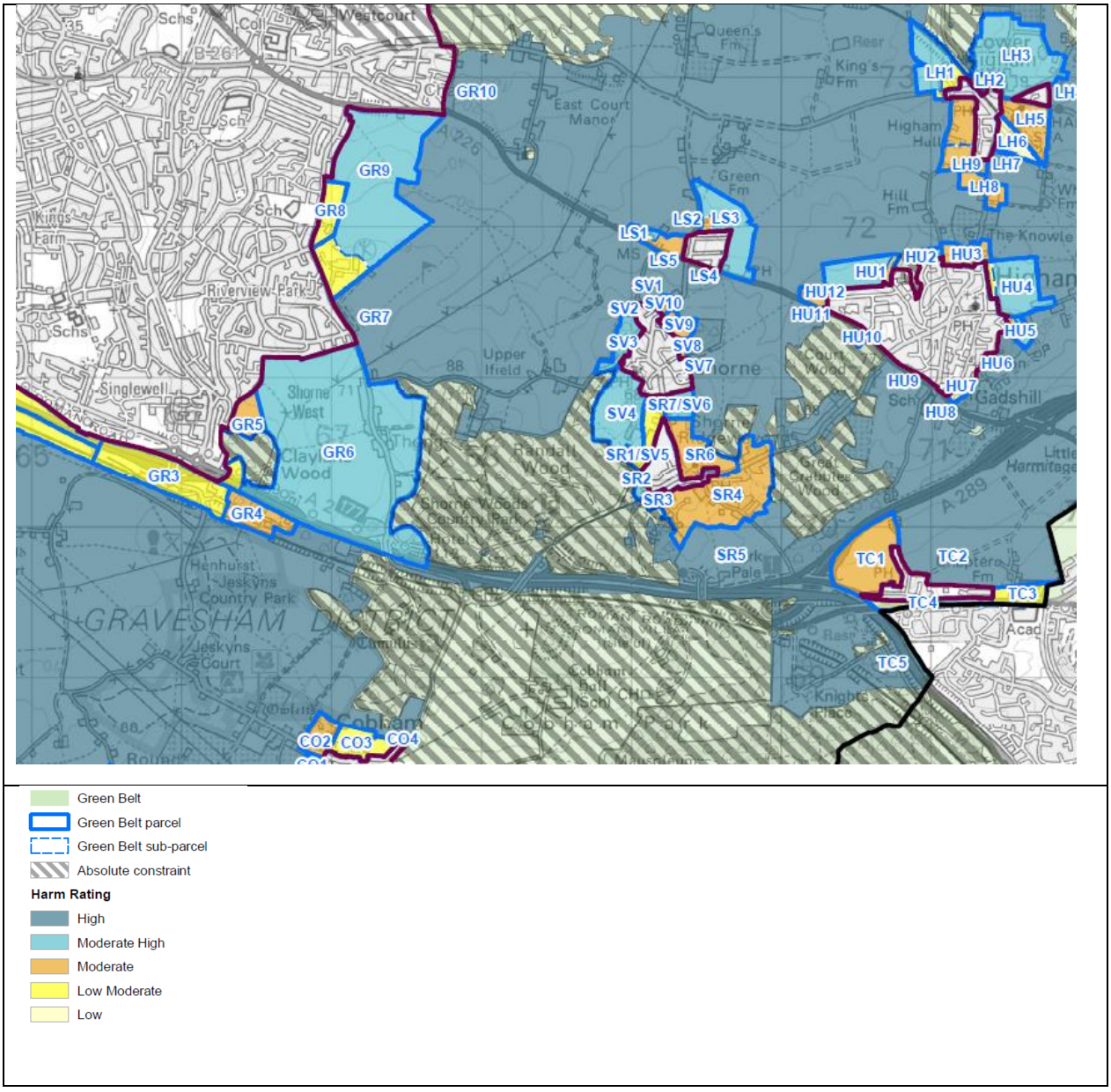
2.13 In examining each parcel in this respect, the Stage 2 study asked two specific questions:

- How relevant is each Green Belt purpose to land in this parcel?; and

- To what extent do 'openness' (in Green Belt terms), distinction between the inset settlement and Green Belt land, and containment by urbanising influences affect their level of contribution to the Green Belt purposes?

2.14 Figure 2 below provides a visual overview of the conclusions of the Stage 2 Study assessment of the relative level of harm that would result if those parcels listed in paragarph 2.11 above (and other areas in the vicinity of the proposed Lower Thames Crossing, excluding areas of major constraint) were released for development. The detailed assessment of the relative level of harm that would result, assessed against the two Green Belt purposes, referred to in paragraph 2.12, for each of these parcels is set out in Tables A – H in Appendix A to this submission.

Figure 2: Assessment of overall level of harm to Green Belt purposes through release of land for urban development.



3.0 Methodology used for assessing impact of Lower Thames Crossing on Green Belt openness.

3.1 Whilst the Gravesham Stage 1 and Stage 2 Green Belt studies are useful in identifying the contribution various parcels of land make to Green Belt purposes and the relative harm that might occur should land in certain areas be released for development, they differ in terms of purpose from any assessment of the harm to openness that may occur as a result of building Lower Thames Crossing.

3.2 This is because the Stage 1 and Stage 2 studies address harm should land be released from Green Belt for development, whereas the question posed by the ExA relates to harm caused by locating a major piece of strategic highway infrastructure in an area that will still remain designated Green Belt under existing policy.

3.3 Aside from any direct impact of the development on Green Belt, it may also result in additional severence, leaving areas currently designated as Green Belt more isolated from the wider countryside and more associated with the urban areas they abut.

3.4 However, the basic premise remains sound that the more an area contributes to those Green Belt purposes associated with 'openness' (i.e. to check unrestricted sprawl of large built-up areas and to safeguard the countryside from encroachment), the more sensitive it will be to the introduction of major new development, such as the Lower Thames Crossing.

3.5 In considering how to approach its assessment in response to the ExA's question, Gravehsam has had regard to the content of Design Manual for Roads and Bridges (DMRB) LA101: Introduction to Environmental Assessment (July 2019) and LA107: Landscape and Visual Effects (Feb 2020). However, these are not directly relevant given Green Belt is a policy designation rather than an environmental constraint and neither document makes reference to it. Gravesham has therefore taken the following process, adopting DMRB principles in the evaluation of overall levels of harm.

3.6 To assess level of harm to Green Belt openness as a result of Lower Thames Crossing, the route through Gravesham has been subdivided into the following sections: all distances are approximate and measured either straight line from Google Earth or (where possible) the Engineering Plans.

- Section 1: A2/HS1 corridor between M2 junction 1 and Park Pale bridge (@ 1,100 metres)
- Section 2: A2/HS1 corridor between Park Pale bridge to Brewers Road bridge (@1,200 metres)
- Section 3: A2/HS1 corridor between Brewers Road bridge and Thong Lane bridge (@ 900 metres)
- Section 4: A2/HS1 corridor between Thong Lane bridge and Gravesend East junction, onwards to Singlewell – including new junction with A122 (@1,500 metres)
- Section 5: A122 corridor between A2 and Thong Lane – including new junction with the A2 as per the above (@ 1,100 metres)
- Section 6: A122 corridor between Thong Lane and southern tunnel portal (@ 1,100 metres)
- Section 7: A122 corridor north of southern portal – proposed above ground access routes and structures only.

The impact of the earthworks to form Chalk Park have not been included in this assessment, as the area will remain 'open', would not involve the introduction of built urban features and would remain countryside – albeit in a changed form. Comments are provided however on issues with the draft Development Consent Order and the Works and Engineering Plans as they relate to this part of the project.

3.7 In assessing level of harm to Green Belt openness, the following information is presented and questions asked:

- Description of area as existing
- Proposed works in this area
- Does the application provide sufficient information to determine impact on Green Belt openness or are there areas of uncertainty that should be brought to the ExA's attention?
- Can these areas of uncertainty be dealt with at a later stage, under DCO requirements relating to detailed design?
- Do the Gravesham Stage 1 or Stage 2 Green Belt studies provide information on the sensitivity of the affected area to development or performance in terms of relevant Green Belt purposes?
- Does the proposal result in an increase in the area occupied by development and how significant is any such increase?
- Is the area occupied by the additional development effectively contained within an area or corridor that is already developed and does this have implications in terms of spatial openness?
- Would the proposed development result in visual harm to Green Belt openness, either through the introduction of new development, intensification or other factors?
- Would proposed mitigation reduce that harm and over what time period?
- Would the proposed mitigation harm current Green Belt openness?
- Based on the above, what is considered to be the overall level of harm to Green Belt openness, from the propsective of the user and and on-looker, as a result on the project in this area?
- Would the proposal be in conflict with the Green Belt purposes, in particular purpose 1 - to check unrestricted sprawl of large built-up areas and purpose 3 -to safeguard the countryside from encroachment? If so, to what extent?
- Could the proposal be reasonably modified to avoid, reduce, mitigate or compensate for harm to Green Belt openness or conflicts with national purposes?

3.8 Visual harm is assessed qualitatively from the perspective of:

- The user of the highway, as the infrastructure would remain in the Green Belt following opening. This group is likely to represent the greatest number of people who would experience the presence of the project, numbering in the millions over the lifetime of the development. Whilst these people would also

benefit from the project, that stands to be assessed seperately within the planning balance.

- The users of HS1, who may have fleeting (at @ 130 mph) sight of the new infrastructure as trains pass by, when not in cutting. Again, this has the potential to involve a high number of people, given there are around two trains per hour in each direction on domestic services plus regular international services.
- On lookers, within the surrounding area, who may experience the project at either close range from publicly accessible areas or at a distance.

3.8 The results of Gravesham's assessment based on the above framework are set out in the following section. In arriving at a conclusion on levels of harm, a DMRB based approach has been followed, as set out in Table 2 below.

Table 2: Magnitude and nature of impact on Green Belt openness and potential conflict with associated purposes.

Magnitude of impact (change)		**Typical descriptions**
Major	Adverse	Total loss or large scale impact on openness and conflict with related purposes through addition of new uncharacteristic or conspicuous features.
	Beneficial	Large scale improvements to openness and reduction in conflict with related purposes through removal of uncharacteristic or conspicuous features and subsequent restoration.
Moderate	Adverse	Partial loss or noticable impact on openness and conflict with related purposes through addition of new uncharacteristic, noticeable features or elements.
	Beneficial	Partial or noticable improvement to openness and reduction in conflict with related purposes by restoration of existing features or elements or removal of noticeable detracting features or elements.
Minor	Adverse	Slight loss of openness and conflict with related purposes through addition of one (maybe more) new uncharacteristic or conspicuous features or elements.
	Beneficial	Slight improvement to openness and reduction in conflict with related purposes by the removal and restoration of one (maybe more) new uncharacteristic or conspicuous features or elements.
Negligible	Adverse	Very minor loss of openness and conflict with related purposes.
	Beneficial	Very minor noticeable improvement to openness and reduction in conflict with related purposes.
No change		No noticeable alteration or improvement, temporary or permanent, relating to Green Belt openness or related purposes.

3.9 The ExA should note that the Council has not sought to undertake a similar assessment of reasonable alternatives as this would be the responsibility of the applicant in the first instance. It is not considered sufficient however to claim that

because alternative routes would also be in the Green Belt, the level of harm associated with each would be the same.

3.10 Photographs included in section 4 are for illustrative purposes only and have **not** been prepared in accordance with Landscape Institute Technical Guidance Note 06/19: Visual Representation of Development Proposals.

4.0 Assessment of level of Green Belt harm based on the different sections of the project in Gravesham.

Section 1	**A2/HS1 corridor between M2 junction 1 and Park Pale bridge (@ 1,100 metres)**
1 Description of area as existing Highway infrastructure comprises Junction 1 of the M2, with the A289 Wainscott By-pass merging from the north east and the Strategic Road Network (SRN) progressing westward as the multi-lane A2 dual-carriageway trunk road. Park Pale overbridge provides access to the Rochester and Cobham Golf club to the south of the A2, with this reached by Park Pale Lane, running from Brewers Road to the west. To the east of the bridge lies a small industrial estate, on the site of Park Pale Farm. To the north the land is largely laid to grass, with sporadic tree cover, sloping southwards down from Shorne Ridgeway. To the south of junction 1 and the A2, the area has more tree cover, with the High Speed 1 (HS1) railway progressing in an east-west direction, to run parallel with the A2 at Park Pale. The railway is on embankment at this point but runs in cutting further to the west. South-east of the railway lies Knights Place Farm, whilst directly south is the golf course. The main road is lit and there are gantry signs at the off-slips serving the A289. The highway is generally well screened by existing vegetation and is contained within well defined corridors. Public footpaths cross the area to the south of Shorne Ridgeway (NS161) and across the golf course to the south of HS1 (NS180 and NS161 through Colewood). There is also pedestrian access down Park Pale Lane and over Park Pale bridge. A permissive footpath crosses Brewers Wood to the north before joining Park Pale Lane. Footpath NS179 runs parallel to the south side of HS1. There is a footway following the A289 from Park Pale that connects to Bowersden Lane, Crutches Lane and A226 at Higham.	

2. Proposed works in this area

A2/M2 mainline carriageway is shown as 4 lanes in either direction, with two parallel two-lane connector roads. Relatively minor works are proposed to other slips. Large drainage pond with access road shown to north of junction, with large area of mitigation woodland planting connecting Brewers Wood with Great Crabbles Wood, screening residential properties on higher ground from road. Works also shown to south of A2 around Park Pale overbridge and start of upgraded footpath/cycle route to south side of HS1 leading to Brewers Road. Whilst M2 is currently 3 lanes in either direction past junction 1, additional works and reconfiguration to create 4 lanes appear to be taking place largely within existing limits. Plans show minor loss in width of central reservation immediately east of Park Pale overbridge. Main interventions outside of the existing highway limits appear to be the introduction of large drainage pond and mitigation woodland at Park Pale. The road will continue to be lit and number, size and nature of required gantry signage assumed to be as per illustrative plans.

3. Does the application provide sufficient information to determine impact on Green Belt openness or are there areas of uncertainty that should be brought to the ExA's attention?

General Arrangements plan appears to be adequate for this purpose (REP3-029 August 2023).

4. Can these be dealt with at a later stage, under DCO requirements relating to detailed design?

Not applicable.

5. Do the Gravesham Stage 1 or Stage 2 Green Belt studies provide information on the sensitivity of the affected area to development or performance in terms of relevant Green Belt purposes?

The Stage 1 study identifies main affected parcels as being parcel 10 (which makes a significant contribution towards preventing neighbouring towns from merging and a contribution toward preventing the countryside from encroachment) and parcel 11a – the A2/M2 corridor (which makes a significant contribution in terms of checking the unrestricted sprawl of urban areas and preventing neighbouring towns from merging) but is deemed to make a minimal or no contribution to safeguarding the countryside from encroachment as it is already a transport corridor.

The relevant parcel from the Stage 2 study is SR5 which states that release of the parcel as a whole would constitute significant encroachment of the countryside and have implications in terms of urban sprawl and coalesence with the urban area of Strood. These conclusions are not particularly relevant in this case as the main works lie within the existing A2/M2 corridor, with only proposed drainage lagoon, access and woodland mitigation lying within parcel 5a.

6. Does the proposal result in an increase in the area occupied by development and how significant is any such increase?

The main highway works would be largely confined to existing highway limits on A2/M2 corridor and slips, although layout would be significantly reconfigured. The main increase in area occupied by development would be as a result of drainage lagoon and associated access. Mitigation planting to north of junction 1 would cover a significant area and would not be occurring in the absence of the proposal.

7. Is the area occupied by the additional development effectively contained within an area or corridor that is already developed and does this have implications in terms of spatial openness?

The main works are contained with existing highway corridor with drainage lagoon adjacent to the north. Presumably this will be fenced and result in the loss of open field/grassland. The result would therefore be a minor decrease in spatial openness.

8. Would the proposed development result in visual harm to Green Belt openness, either through the introduction of new development, intensification or other factors?

The road is already lit but full implications of signage/gantries on the main A2 corridor or adjacent connector roads will only be known at the later detailed stage. There would be harm to visual openness as a result of mitigation planting on slopes to north of junction, potentially blocking off and foreshortening views towards Shorne and southwards towards the wider countryside. An intensification of the use of the main road through introduction of the LTC and induced trips is likely, which could cause visual harm, although area is already greatly disturbed by existing presence of SRN. Users of the road would be aware of both spatial and visual impacts, as would those using PROW networks etc. in particular when in close proximity. Users of HS1 would have distant but very fleeting views when passing the Park Pale area.

9. Would proposed mitigation reduce that harm and over what time period?

Mitigation here relates mainly to woodland planting north of junction which would close off and foreshorten views, reducing openness over time but the actual impact depends on density and form of planting and what vistas are kept open. This relates, therefore, also to landscape impacts.

10. Would the proposed mitigation cause harm to current Green Belt openness?

See above in relation to mitigation planting.

11. Based on the above, what is considered to be the overall level of harm to Green Belt openness, from the perspective of the user and on-looker, as a result on the project in this area?

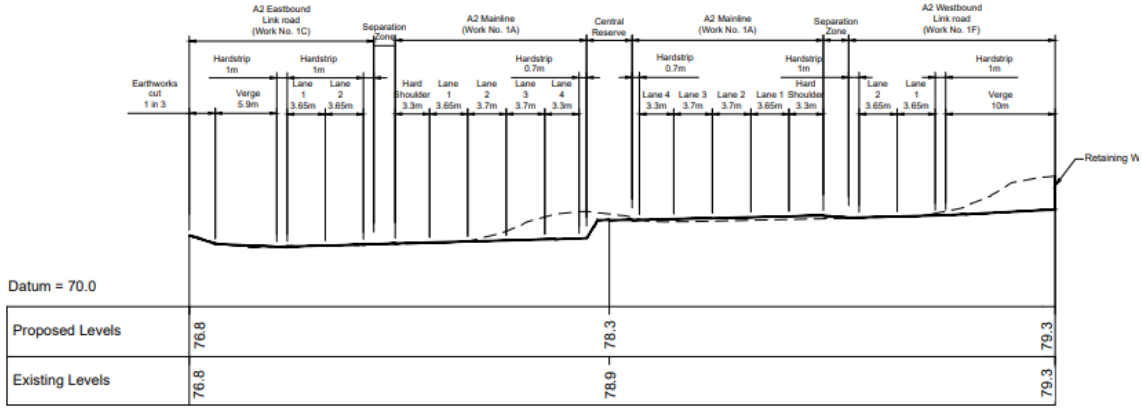
Negligable to minor adverse – much would depend on features such as the drainage pond and mitigation woodland being of appropriate design and naturalistic. The access road should also be of some form of bound track rather than hard surfaced/kerbed etc. and of rural design. Fencing and boundary treatments in areas away from main carriageway should reflect local vernacular rather than standard highway furniture. Landscape and other impacts should be assessed seperately.

12. Would the proposal be in conflict with the Green Belt purposes, in particular purpose 1 - to check unrestricted sprawl of large built-up areas and purpose 3 -to safeguard the countryside from encroachment? If so, to what extent? In general terms, the proposal would not be inconflict with purposes 1 and 3 but sensitivity of design is required to achieve this, especially in the area around Park Pale and on the slopes leading up to Shorne Ridgeway.
13. Could the proposal be reasonably modified to avoid, reduce, mitigate or compensate for harm to Green Belt openness or conflicts with national purposes? See comments above.

Section 2	**A2/HS1 corridor between Park Pale bridge to Brewers Road bridge (@1,200 metres)**
1 Description of area as existing The A2 rises from east to west between Park Pale and the Brewers Road bridge, with the two carriageways seperated by a largely well-wooded central reservation which is around a maximum 45 metres wide. The northern coast-bound carriageway sits at a lower level than the southern carriageway. It is understood that the road was designed in this way to address issues of variable geology and ground stability. The carriageways here are 4 lanes wide in either direction, with the fourth lanes formed by the merging slips from the A289 Wainscott By-Pass. East of Park Pale, the M2 reduces to three lanes and only returns to four lanes where the A289 etc. rejoin. The road is lit in this section, with overhead gantry signage and hard shoulders. A vehicle containment bund protects the adjacent HS1 from errant vehicles at the Cobham off-slip for a distance of approximately 280 metres and it is only to the east of this point that woodland cover screens the adjoining railway. HS1 runs around 50 metres south of the A2 at Park Pale, closing to around 20 metres at Brewers Road. To the south of HS1, the area is comprised of the Rochester and Cobham Golf Course and woodland forming part of the Grade II Registered Cobham Hall park and garden. To the north of the A2, on rising ground, lies Brewers Wood. Park Pale Lane runs parallel to the eastbound A2 between Brewers Road and Park Pale. Although this is screened from the A2 by trees for much of its length, the main road does become visible on approaching Park Pale. The A2 coastbound off-slip for the Cobham junction leaves the A2 on passing under Brewers Road bridge. The road/HS1 corridor is well contained between Brewers Wood to the north and the wooded edge of the Rochester and Cobham Park Golf Course/Cobham Park to the south.	

2. Proposed works in this area

There are no proposals at the current time to reconstruct Park Pale Bridge. Brewers Road bridge would be reconstructed as a green bridge to link AONB and habitat to north and south of main trace, which would also provide a degree of screening of the road beneath. The main carriageway carrying the A2/M2 would be 4 lanes wide with hard shoulders in this section, with a two-lane connector roads running parallel to the north and south. The wide central wooded reservation would be lost to an expanded road area and to keep the carriageway effectively within its existing limits. On and off slips would be provided from the northern connector road to the Cobham/Shorne Brewers Road junction but those to the south for Cobham would be omitted. Park Pale Lane would continue to run on its existing course to the north of the main road. The General Arrangements drawings (REP3-029) show the road lit from the central reservation and from the verges to the north and south local connector roads. Assumed positions of gantrys are shown but their final position and design will be subject to future consideration to meet DMRB standards. An upgraded footpath/cycleway to the south of HS1 is shown on the plans. Full sections showing relationship of proposed works to HS1 embankment/cutting and vehicle containment bund in vicinity of the Brewers Road off-slip have not been provided. Given the difference in levels between the northern and southern carriageways here it would have been useful to see other sections. Note that draft DCO v.5.0 includes retaining walls and some other structures as ancilliary works and that these may not all be shown on the drawings (REP3-077). These may have an impact on visual openness and/or be further urbanising features or impact on remaining countryside aspects making the road more urban and less rural.



CROSS-SECTION A-A
A2 MAINLINE AND A2 LINK ROADS - 1

3. Does the application provide sufficient information to determine impact on Green Belt openness or are there areas of uncertainty that should be brought to the ExA's attention?

In general yes, but further sections showing levels and relationship with HS1 would have been helpful.

This is particularly the case adjacent to the southern connector road east of Brewers Road bridge where it was necessary to construct an earth vehicle containment bund to protect HS1 from errant vehicles in place of the originally proposed landscaping. Note that this is an outstanding issue in SoCG with HS1 (APP-110)

4. Can these be dealt with at a later stage, under DCO requirements relating to detailed design?

Gravesham wishes to have greater certainty over what Errant Vehicle Protection measures will be required adjacent to HS1 as part of the final design because this could affect outcomes and potential for landscape mitigation. It is noted that discussions on this with HS1 are ongoing and this should be resolved as it proved to be a major issue when the

railway was constructed under the 1996 Act. See also comments on next section as the issue also applies there.

5. Do the Gravesham Stage 1 or Stage 2 Green Belt studies provide information on the sensitivity of the affected area to development or performance in terms of relevant Green Belt purposes?

The Stage 1 study identifies main affected parcels being parcel 10 (which makes a significant contribution towards preventing neighbouring towns from merging and a contribution toward preventing the countryside from encroachment) and 11a – the A2/M2 corridor (which makes a significant contribution in terms of checking the unrestricted sprawl of urban areas and preventing neighbouring towns from merging) but is deemed to make a minimal or no contribution to safeguarding the countryside from encroachment as it is already a transport corridor. Parcel 17 lies to the south of HS1 but would only be directly affected by the works to the adjoining footpath linking Brewers Road to Park Pale.

The Stage 2 study does not look at this area directly given most of the area lies within the Kent Downs AONB, which was treated as an absolute constraint for Local Plan purposes.

6. Does the proposal result in an increase in the area occupied by development and how significant is any such increase?

Whilst the applicant has sought to contain the main development within the existing A2/M2 corridor, it would result in the loss of the wide wooded central reservation through this section. This results in a loss of spatial openness as a result, which is made significant because of its urbanising effect and loss of a rural/countryside feature that visually links the Kent Downs AONB to the north and south and screens one carriageway from another. In the absence of more detailed plans and sections showing the relative levels of the carriageways at key points and the need for retaining walls/vehicle containment features it is difficult to understand what the severity of impact will be.

The proposed improvements to the footpath south of HS1 will also result in an increased in the developed area, particularly if the intention is to make this a more formal surfaced route.

7. Is the area occupied by the additional development effectively contained within an area or corridor that is already developed and does this have implications in terms of spatial openness?

Whilst the area occupied by the additional development is contained within a defined transport corridor, the wooded central reservation is of sufficient scale to be important in terms of mitigating the adverse impact of the road on Green Belt openness.

8. Would the proposed development result in visual harm to Green Belt openness, either through the introduction of new development, intensification or other factors?

Yes – whilst the road runs through a well defined transport corridor, the loss of the wooded central reservation, in particular, will adversely impact on Green Belt openness, intensifying the visual impact of the highway, particularly to users, but also on-lookers using the PROW network, Park Pale Lane and proposed connector roads. Whilst this will be mitigated to a certain degree by the inclusion of a green bridge at Brewers Road, this will not off-set the harm caused by the loss of the wide wooded central reservation.

9. Would proposed mitigation reduce that harm and over what time period? Proposed mitigation in the form of the Brewers Road green bridge would partially mitigate harm over the time it takes trees etc. to become established. However, this will not offset the substantial harm that will occur as a result of the loss of the wide wooded central reservation.
10. Would the proposed mitigation cause harm to current Green Belt openness? See comments above.
11. Based on the above, what is considered to be the overall level of harm to Green Belt openness, from the perspective of the user and on-looker, as a result on the project in this area? **Moderate adverse -** even though the impact is constrained to the existing transport corridor, it would result in the loss of the central wooded reservation. This would have a noticable impact on openness and conflict with the related purposes by making the corridor more urban and far less rural.
12. Would the proposal be in conflict with the Green Belt purposes, in particular purpose 1 - to check unrestricted sprawl of large built-up areas and purpose 3 -to safeguard the countryside from encroachment? If so, to what extent? See above – the proposal would make this part of the A2 corridor more urban and far less rural and, to the extent that the wooded central reservation still represents residual countryside, would not safeguard it from encroachment.
13. Could the proposal be reasonably modified to avoid, reduce, mitigate or compensate for harm to Green Belt openness or conflicts with national purposes? It is difficult to see how it would be possible without widening the corridor to maintain seperation between the carriageways, which in itself would have additional non Green Belt impacts. Making the corridor wider is constrained by HS1 to the south, whilst making it wider to the north would impact on Park Pale Lane and the access to the golf club and adjoining woodland. Thought would also probably have to be given to removing the existing haulage yard etc. at Park Pale to make way for further mitigation.

Section 3	**A2/HS1 corridor between Brewers Road bridge and Thong Lane bridge (@ 900 metres)**
1 Description of area as existing The A2 continues as a four lane dual carriageway with hard shoulders westward to the Thong Lane overbridge. The wooded central reservation is around 30 metres wide at Brewers Road, reducing to a 5 metre wide grass verge around 450 metres to the west. Just before this point, the road begins to slope downwards. The road is lit, with an overhead gantry just before the Thong Lane overbridge, westbound. The Cobham junction on and off-slips lie just beyond the Brewers Road bridge on the westbound carriageway. These feed into a large lit roundabout at the junction of Halfpence Lane with Brewers Road. HS1 runs in a box cutting to the south side of the A2 in this section, passing under the southern Cobham junction slip roads in a cut and cover tunnel, before emerging into a wide, banked cutting on the northern edge of Ashenbank Wood. This cutting extends for around 490 metres between	

Halfpence Lane and the Scotland Lane landbridge (see photo below). Darnley Lodge Lane links the Halfpence Lane junction with the Thong Lane overbridge to the west, passing to the north of the HS1 cutting. The box cutting at the junction and the top of the cutting, west of Halfpence Lane, are provided with an Errant Vehicle Protection steel barrier and a planted bund. Between Darnley Lodge Lane and the A2 a residual area of woodland survives that once formed part of Brice's Plantation (see photo below of Errant Vehicle Protection, bund and remaining area of Brices Plantation). The maximum width of this woodland at Scotland Lane is around 55 metres, although it narrows down to nothing at the Halfpence Lane junction, where close boarded fencing was installed to screen the A2 from vehicle headlights distracting drivers on the A2 and the Cobham westbound on-slip. On the A2 eastbound carriageway there is an overhead gantry in advance of the Cobham off-slip. National Cycle Route 177 currently runs alongside the A2 eastbound carriageway through this section. To the north of the A2 lies Shorne Woods Country Park on rising ground and the Inn on the Lake motel. This section of the A2/HS1 corridor is well contained between Ashenbank Wood to the south and Shorne Woods to the north.

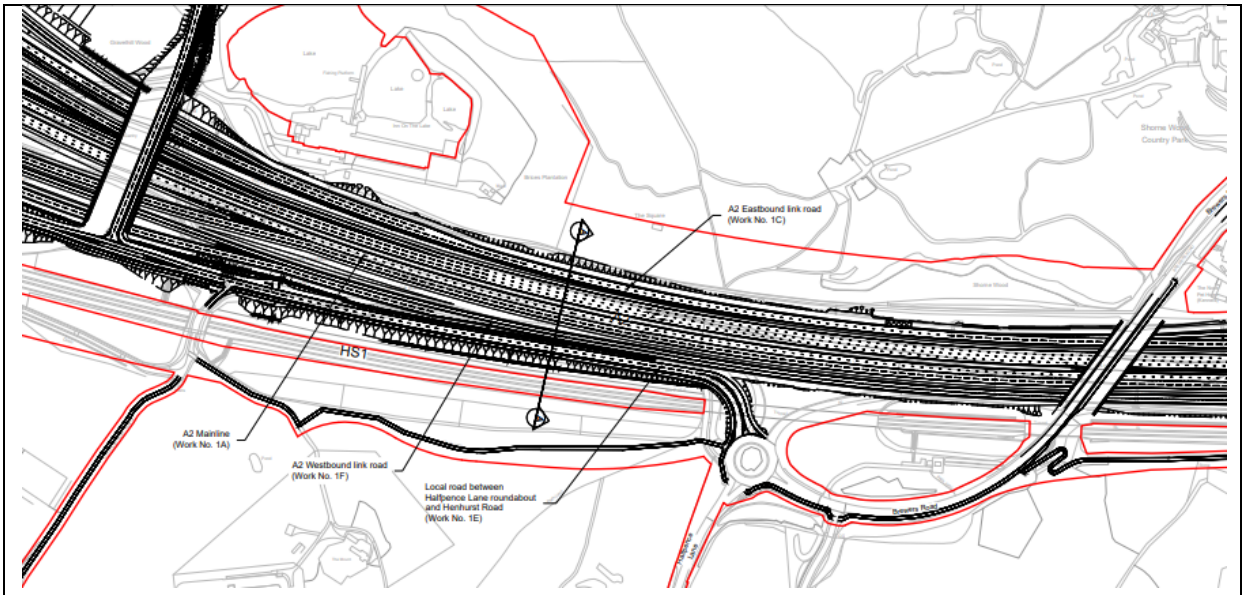
Darnley Lodge Lane from Scotland Lane junction, looking east – note steel barrier, planted bund and remaining area of Brices Plantation on left hand side of road (north)

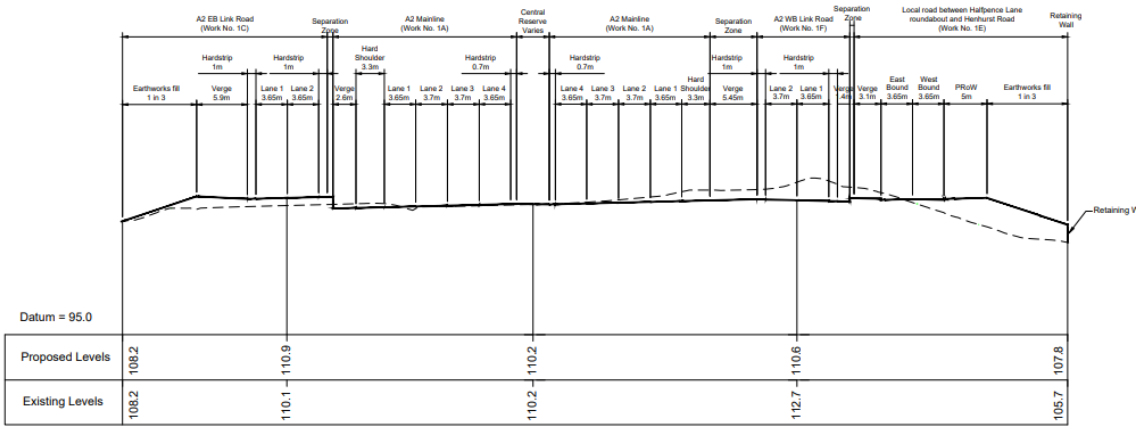
HS1 cutting from Scotland Lane land bridge, looking east – Lower Thames Crossing works would project into this cutting, providing space for Darnley Lodge Lane. Bank would be surcharged and supported by a retaining wall in the cutting.

2. Proposed works in this area

The mainline A2/M2 would continue as a four lane dual carriage road with hard shoulders under Brewers Road bridge westwards to a point approximately 300 metres east of the Thong Lane overbridge. At this point, the southern two-lane connector road would begin to divide, whilst merges would join the more northerly eastbound routes. This effectively represents the start of the A2/A122 junction, with further seperation of lanes occuring another 100 metres westward before the Thong Lane green bridge. It is not intended to describe the different paths these routes represent given the complexity of the junction. It is sufficient to say however that on passing under Brewers Road bridge, where the western off-slip would disappear to make way for the southern two-lane connector road, the road corridor would comprise four lanes plus hard shoulder in the centre, plus northern and southern two lane connector roads either side. This component would have an overall width of around 63 metres, which is similar to the existing width when the 30 metres of the (now tapering) wooded central reservation is included. This central reservation would be lost to accomodate the new carriageways and a narrow central reserve with lighting columns etc. At the new Thong Lane green bridge, the General Arrangement plan (REP3-029) appears to show 14 lanes, including merges, with a total width of around 125 metres, not counting Darnley Lodge Lane. This compares to the existing carriageway width at this point of around 41 metres. To accomodate the wider road, the drawings appear to show a long retaining wall to the southern side of the main carriageways, as they pass under the Thong Lane green bridge, and a soft embankment to the north, close to the entrance to the Inn on the Lake motel.

The Thong Lane bridge would be reconstructed and extend further to the south than at present. To the south of the main carriageways, a new local road would be provided (Darnley Lodge Lane) providing a link between Brewers Road/Halfpence Lane and Thong Lane/Scotland Lane. This would progress onwards towards Gravesend East, where no road exists at present, diverting traffic that would have joined the A2 at Brewers Road on to the next available junction. Whilst the General Arrangement Plan (REP3-029) shows Darnley Lodge Lane to be a two-way road with an east and west bound carriageway, this does not appear to accord with the description of work 1E or 2E in the draft DCO (REP3-077) which refers to a one-lane single carriageway road. To accomodate Darnley Lodge Lane, the works would need to encroach the HS1 cutting at this point, with this being recontoured and a retaining wall provided (see section below). Unfortunately, the sections do not show the relationship with HS1 and what additional works would be required for Errant Vehicle Protection – this is important as the works would require the removal of the existing earth bunding, which would affect what can be acheived at this point in terms of landscape mitigation. A design solution does not appear to have been agreed with HS1. Also, Darnley Lodge Lane itself appears to be in a constrained position, siting above retaining structures to the north and south with very little space for landscaping. A more detailed section immediately east of the Thong Lane green bridge would have been helpful. A proposed footpath/cycleway route would pass east-west south of HS1 through Ashenbank Wood connecting Halfpence Lane/Brewers Road with Scotland Lane/Thong Lane.





CROSS SECTION A-A
A2 MAINLINE AND A2 LINK ROADS - 2

3. Does the application provide sufficient information to determine impact on Green Belt openness or are there areas of uncertainty that should be brought to the ExA's attention?

No – In order to understand the full impact of the project and how the interface with HS1 will be addressed, there is a need for a series of appropriately scaled sections across the transport corridor including the HS1 cutting. It is also necessary to understand what Errant Vehicle Protection options are available to protect the HS1 cutting to the south of Darnley Lodge Lane. This will have implications for how the transport corridor 'reads' on the ground and what the severity of impact on Green Belt openness (in both spatial and visual terms) will be and what the potential is for mitigation. There is a risk that the entire width of the transport corridor including HS1 will become an extremely prominent gap here (dividing the southern and northern sections of the Kent Downs AONB) and that simply providing a green bridge at Thong Lane will not be sufficient in terms of mitigation.

4. Can these be dealt with at a later stage, under DCO requirements relating to detailed design?

No – having this information available to the ExA is central to understanding impacts and what is acheivable at the detailed design stage.

5. Do the Gravesham Stage 1 or Stage 2 Green Belt studies provide information on the sensitivity of the affected area to development or performance in terms of relevant Green Belt purposes?

Main affected parcels from the Stage 1 study are GR6 (which includes the Inn on the Lake site) and 11a (the A2/M2 corridor). GR6 also covers the area west of Thong and currently relates more to the countryside than the urban area and is important in this respect. 11a is considered to make a significant contribution towards checking the unrestricted sprawl of urban areas and preventing neighbouring towns from merging but is deemed to make a minimal or no contribution to safeguarding the countryside from encroachment as it is already a transport corridor. However, this has to be caveated in this instance because of the degree of expansion proposed in the width of the transport corridor and the loss of areas which contribute to its rural character, including the tapering wooded central reservation west of Brewers Road bridge and the residual part of Brice's Plantation, to the south of the A2 between Halfpence Lane, Thong Lane and Darnley Lodge Lane.

This area does not lies in a parcel assessed in detail in the Stage 2 study as most of the area lies within the Kent Downs AONB, which was treated as an absolute constraint.

6. Does the proposal result in an increase in the area occupied by development and how significant is any such increase?

There would be a significant increase in the area occupied by highway infrastructure with the loss of the wooded section of central reservation and the residual part of Brice's Plantation. This would make this part of the transport corridor far more urban and removal those surviving rural elements that relate well to its surroundings and the wider countryside.

7. Is the area occupied by the additional development effectively contained within an area or corridor that is already developed and does this have implications in terms of spatial openness?

Whilst the existing highway is contained within a constrained corridor, the residual part of Brice's Plantation to the south relates more to the countryside south of HS1 to the extent that HS1 is perceived to run through a countryside fringe in its own corridor adjcent to the existing A2. Should the proposal go ahead in its existing form, there is a risk that those two corridors would be combined with no or little effective mitigation between them. This would have serious implications in terms of both spatial and visual openness.

8. Would the proposed development result in visual harm to Green Belt openness, either through the introduction of new development, intensification or other factors?

Yes – as per the above.

9. Would proposed mitigation reduce that harm and over what time period?

No – mitigation is largely limited to the proposed Thong Lane green bridge with little room for mitigation between the A2 and HS1 corridors. Because of this, it is difficult to see what the Thong Lane green bridge actually connects to on the south side in terms of integrating green infrastructure. A more detailed plan would have been helpful at this pinch point.

10. Would the proposed mitigation impact on current Green Belt openness? Proposed mitigation would not have an adverse impact on current Green Belt – the issue is that what is proposed is insufficient to mitigate adverse impacts of the project itself.
11. Based on the above, what is considered to be the overall level of harm to Green Belt openness, from the perspective of the user and on-looker, as a result on the project in this area? **Moderate Adverse at Brewers Road rising to Major Adverse at Thong Lane** due to large scale impact on openness and conflict with related purposes through addition of uncharacteristic features and loss of residual countryside features. Impact on openness would be apparent both to the road user and the on-looker.
12. Would the proposal be in conflict with the Green Belt purposes, in particular purpose 1 - to check unrestricted sprawl of large built-up areas and purpose 3 -to safeguard the countryside from encroachment? If so, to what extent? The proposal would be in conflict with Green Belt purposes through the introduction of a more urban form of highway infrastructure, of a scale and form uncharacteristic of this part of the Green Belt whilst removing residual countryside features that soften and integrate SRN into the immediate rural area. This conclusion is not affected by the transport corridor remaining of a limited (but significantly expanded) width between Shorne Woods and Ashenbank Woods.
13. Could the proposal be reasonably modified to avoid, reduce, mitigate or compensate for harm to Green Belt openness or conflicts with national purposes? The overall scheme could only be reasonably modified by reducing its scale, in terms of the size of the junction and the number of running lanes to allow for a better design solution. As it currently stands, the proposal appears over engineered, incongrous and unsympathetic to its setting, seriously detrimental to Green Belt openness and in conflict with the purposes of including land in it. A small improvement could be made by removing the existing Halfpence Lane roundabout and replacing it with a tee-junction and landscaping, given this may no longer be required with the removal of the Brewers Road A2 off-slip. Beyond this, to re-introduce reservations to incorporate landscaping would mean encroaching on Shorne Woods Coutry Park SSSI, with knock on effects on the junction to the west, which is already constrained.

Section 4	**A2/HS1 corridor between Thong Lane bridge and Gravesend East junction, onwards to Singlewell – including new junction with A122 (@1,500 metres)**
1. Description of area as existing The A2 continues as a 4 lane dual carriageway with narrow central reservation between the Thong Lane overbridge and Gravesend East. The road is lit, three sets of overhead gantries westbound between Cobham South Services and Gravesend East. The overall width of the dual carriageway, including hard shoulders, is around 43 metres. The road continues to descend into a dip beyond Thong Lane but begins to rise again at Cobham South Services, some 660 metres to the west. Vehicles visiting Cobham South Services are obliged, on	

leaving, to rejoin the A2 beyond Gravesend East via a parallel connector road that links to the Gravesend East off-slip. This is seperated from the A2 main carriageway by steel vehicle containment barriers. The parallel local connector road linking Cobham South Services to Gravesend East increases the overall with of the A2 to around 55 metres immediately west of the services. Cobham South Services comprises a single storey building measuring around 18 metres by 13 metres, a range of covered fuel pumps and parking for cars and commercial vehicles in a compound measuring around 80 metres by 80 metres. This area is lit and there are illuminated advertisements. Immediately to the south-west of Cobham South Services lies the HS1 Singlewell Feeder Station (see plan and section). This comprises a range of air insulated switchgear, transformers and some small buildings taking electricity from the National Grid overhead power lines adjacent to feed the railway. There is also what is believed to be a large concrete 'blast wall' to the northern side of the transformers, designed to reduce risks associated with possible explosions (see photo below). HS1 passes by the south of Cobham South Services on an embankment at this point, around 140 metres distant from the edge of the A2. HS1 emerges from cutting onto embankment close to The Nook where the track height is around 89m AOD, passes Cobham South Services at the Feeder Station at around 80m AOD before re-entering cutting about 200 metres west of the Services at 74m AOD. The track level of HS1 therefore stands around 10 metres above the existing A2 at Cobham South Services. The area south of the A2, north of HS1 and west of Thong Lane is well wooded, with some of this being compensatory woodland planting associated with the construction of HS1. Jeskyns Community Woodland (Forest England) occupies the land south of HS1 on rising ground. It comprises a mix of grassland and woodland designed for public access and for ecological benefit. Three residential properties and commercial uses occupy some of the land immediately adjacent to the south-east side of the Gravesend East junction, with the HS1 infrastructure maintenance depot beyond to the south-west. The A2 continues westward beyond Gravesend East as a 4 lane dual carriageway towards Singlewell.

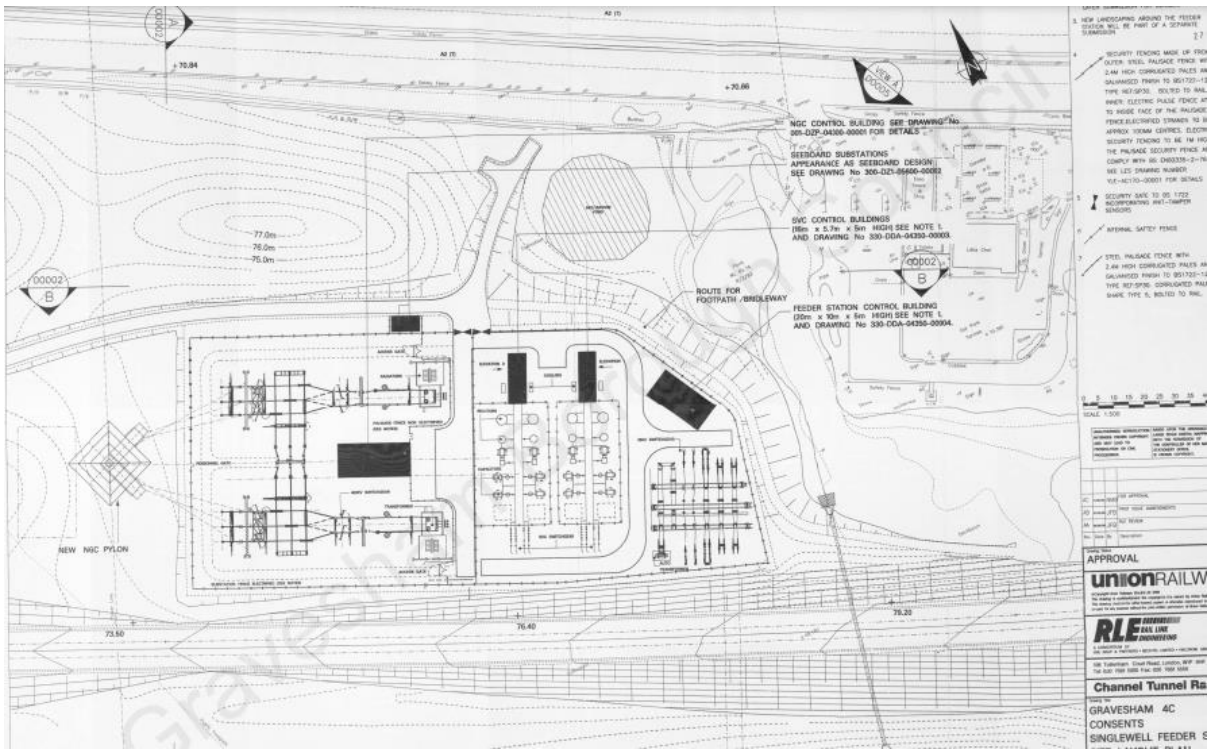
The eastbound carriageway of the A2 between Gravesend East and Thong Lane is of similar character and design to the westbound and includes an overhead gantry immediately west of the now disused and cleared Cobham North Services and on the approach to the Thong Lane overbridge. Cobham North Sevices was on a built up platform in the dry valley running north. National Cycle Route 177 currently runs adjacent to the northern side of the eastbound carriageway. The electricity pylons and overhead lines crossing the A2 around 550 metres east of Gravesend East are prominent. The land to the north of the A2 in this section comprises areas of woodland immediately adjacent to Thong Lane and at Claylane Wood, to the east of Gravesend East. Otherwise the land to the north comprises very open undulating farmland, traversed by electrical power lines, with the urban area (Riverview Park) around 1,000 metres to the north and the isolated rural settlement of Thong to the north-east, with Shorne Woods on higher ground beyond that. Overall, the area is very open to the north but more contained to the south.

Area covered by Section 4

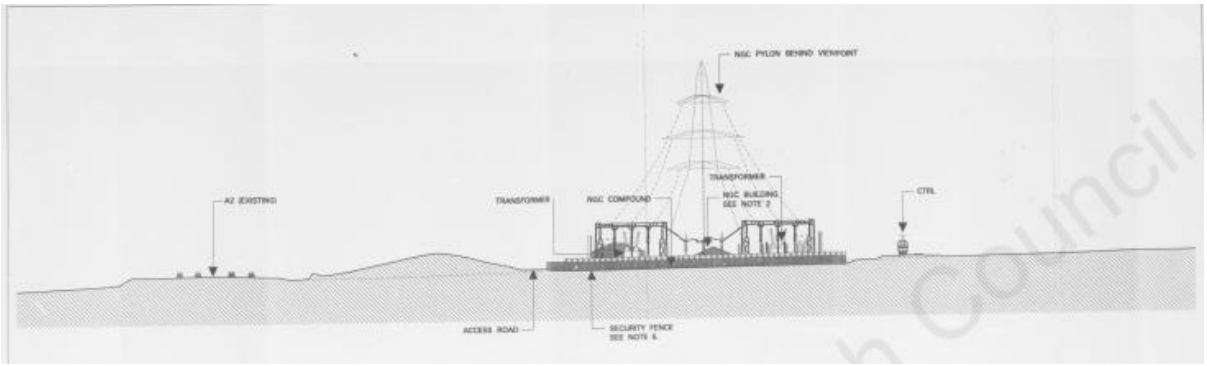
Closer view of Cobham South Services and Feeder Station – note drainage pond to west of service area – track down towards link road from Feeder Station is turning head for low loaders when changing transformers.

View from link road between Cobham South Services and Gravesend East junction of what is believed to be a ‘blast wall’ structure on Feeder Station site

Plan of Feeder Station – shows position of pond, culvert and screening earthworks (GR/00/827)



Section of Singlewell Feeder Station – shows relationship of HS1 to existing A2 and intervening bunding intended to mitigate visual impact of Feeder Station. This presumably would be lost as part of current scheme (GR/00/827)

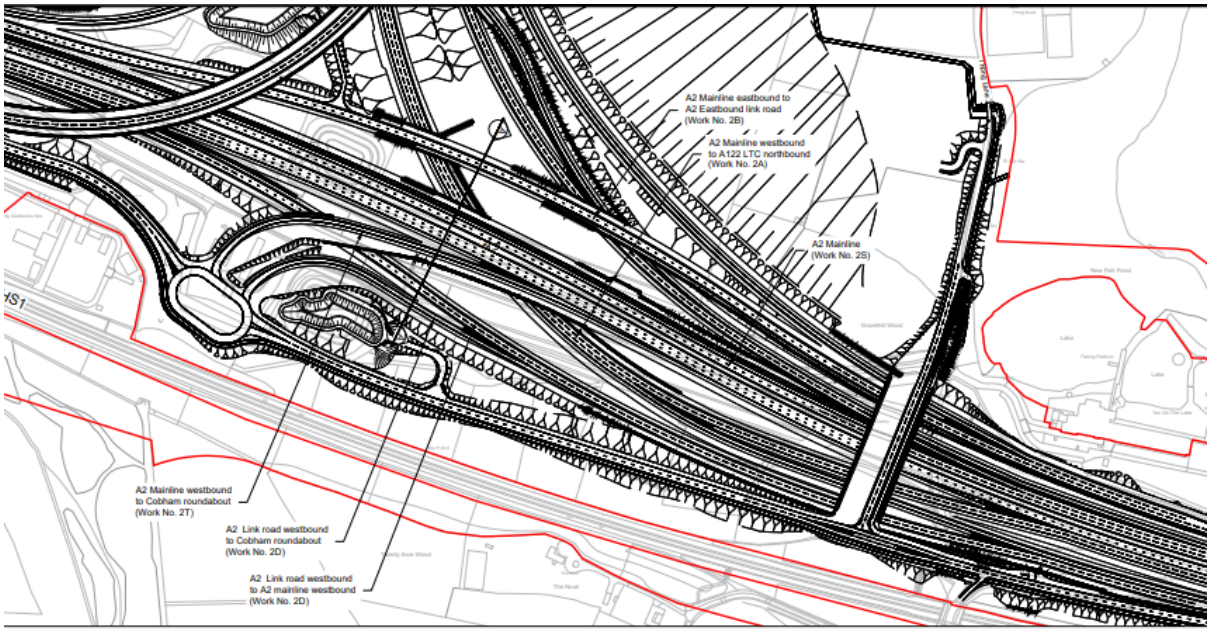


2. Proposed works in this area

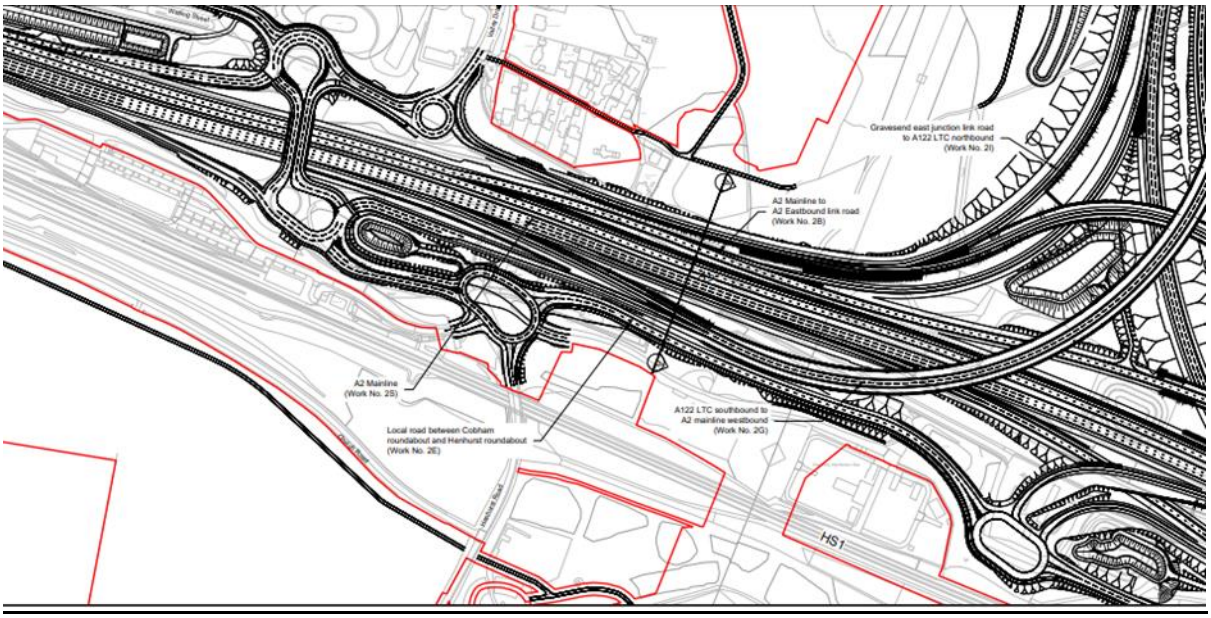
The design of the proposed junction, west of Thong Lane green bridge is extremely complex with the core element being the intersection between the A2 and the A122, incorporating free flowing sliproads. It is not necessary to detail the full functionality of the junction here as this is not relevant in terms of Green Belt impact, rather its scale, land take, and complexity compared to the existing layout. The plan extracts provided below show the layout of the junction, including the removal of the Cobham South Services and the continuation of the main line connector roads to the north and south of the core element of the junction. To the south of the southern connector road, Darnley Lodge Lane would continue on embankment down from Thong Lane, to a roundabout on the site of Cobham South Services before continuing westwards to another roundabout and a modified Gravesend East junction. Expanded sections provided by the applicant show the indicate the relationship between the new road network and HS1 at some points, it being noted that Darnley Lodge Lane would be on embankment above the level of HS1 between Thong Lane green bridge and Cobham south roundabout (REP2-069 and 071). To the west of this roundabout, a viaduct would cross the drainage ponds serving HS1 and the Singlewell Feeder Station (REP3-077, Work 2E(i)). A similar local feeder road would be provided to the north of the core of the junction, linking the southern end of Valley Drive at Gravesend East, with the Brewers Road junction at Cobham and onwards to the A289. In addition to the demolition of the Cobham South Services, the works to the south of the A2 would involve the removal of significant areas of woodland and landscaping that was undertaken to mitigate the impact of HS1 and the Singlewell Feeder Station. As noted above, the extension of Darnley Lodge Lane to the west of Thong Lane would be on embankment down to the site of the former Cobham South Services, opening up views across the junction and the A2 to the north. The relationship between this new road and HS1 is unclear, including any need for Errant Vehicle Protection of the ability to provide significant landscape mitigation. To the north of the A2, earthwork mitigation to create a false cutting feature on the alignment of the A122 would be provided, with extensive landscape planting. The location of the A2/A122 junction is in a dip and several of the link roads would be below existing ground level. The new junction arrangements would extend to the south of the existing A2, resulting in a loss of mature landscaping and significantly narrowing the gap between public highway, HS1and the Singlewell Feeder Station. It is noted that the safety margin between the Singlewell Feeder Station and public highway does not appear to have been agreed with HS1 (APP-110). To

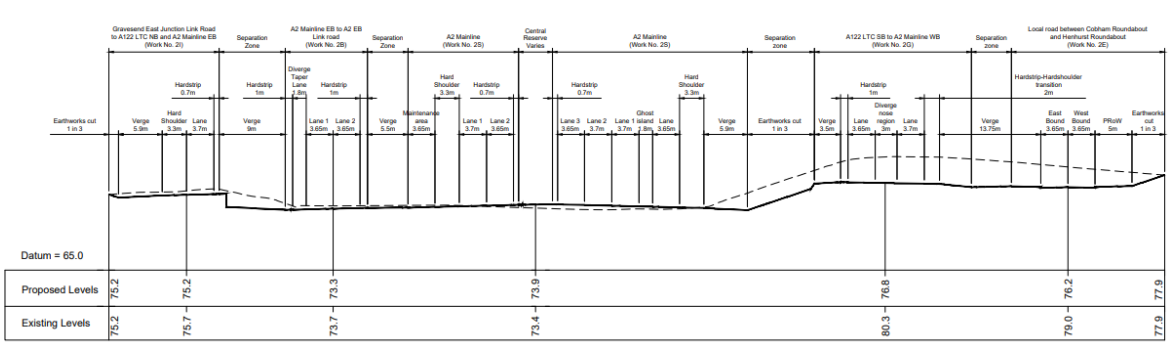
the north of the A2, the new junction extends into the open farm land some 600 metres before finally narrowing down to a dual carriageway that proceeds onwards to Thong Lane in cutting before passing under the Thong Lane green bridge. The maximum height of any element of the A2/A122 junction would be the A122 Lower Thames Crossing southbound to A2 westbound link, which would be 16.8 metres AOD above existing ground level, with a Finished Road Level (FRL) of 88.34m AOD. This would be below the level of the Thong Lane green bridge, with an FRL of 105.49m AOD. Earthworks and planting to the Thong Lane green bridge would prevent views to the west and the junction, although it would be visible from the extended Darnley Lodge Lane, other locations close by and in some instances at a distance where not screened by earthworks or planting. The General Arrangement plans (APP-016) indicate that the junction would be lit by roadside columns, including at its highest point. Whilst modern lighting can be designed to avoid spillage, this together with lighting from vehicles, is likely to mean that the junction would be visible at night. A gantry across the A122 to the west of Thong may also be visible, depending on height relative to the cutting at that point. There is also likely to be an increase in road noise in the vicinity of the new road, although this is likely to be contained to a degree by the false and real cuttings and landscape planting over time).

Eastern end by Thong Lane overbridge



Western end by Gravesend East junction





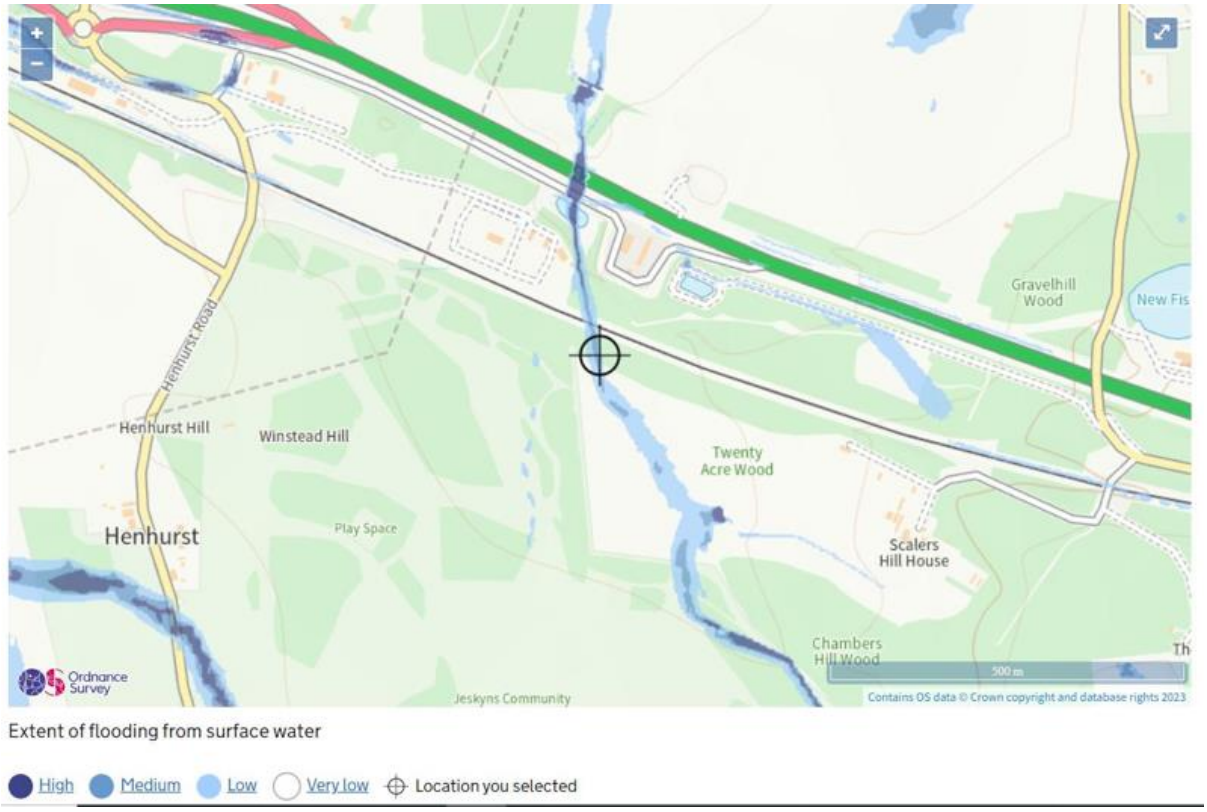
CROSS SECTION A-A
A122 LTC/A2 JUNCTION - 2

3. Does the application provide sufficient information to determine impact on Green Belt openness or are there areas of uncertainty that should be brought to the ExA's attention?

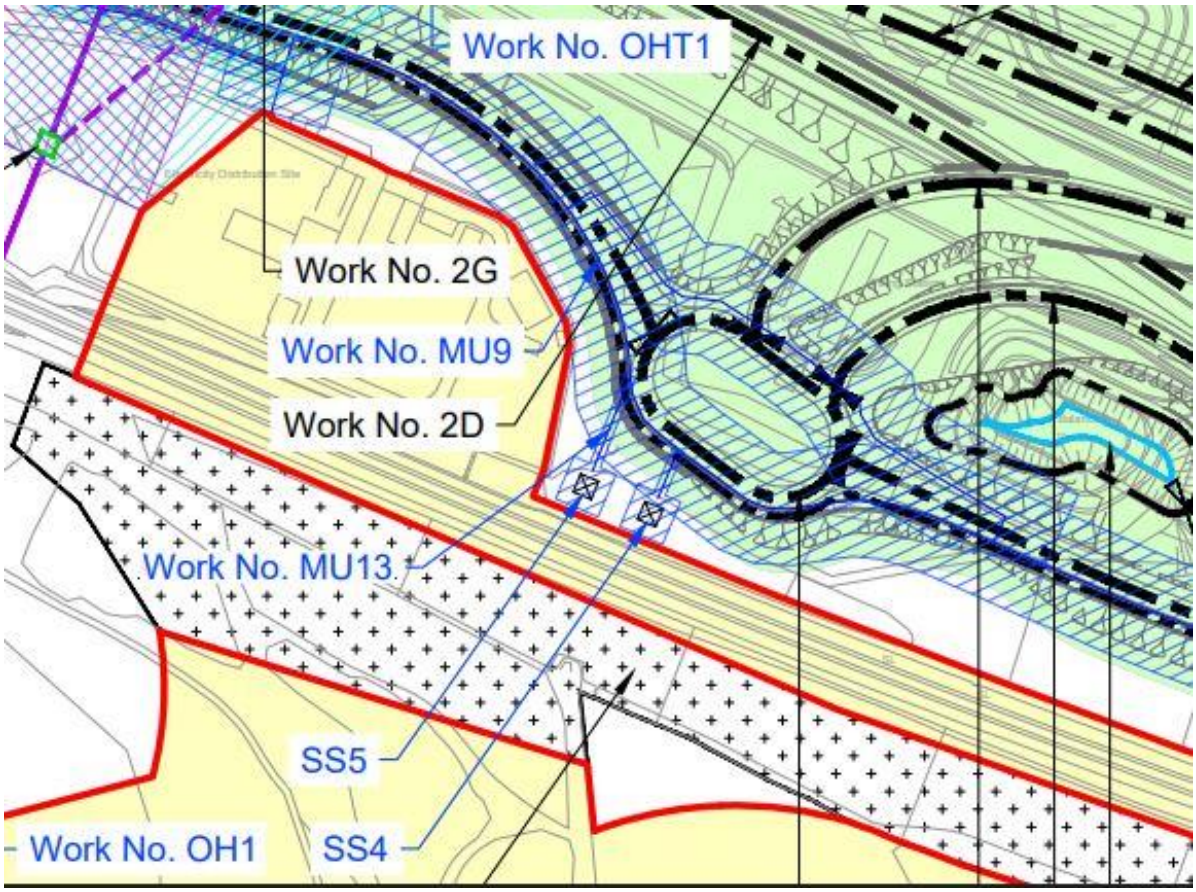
Whilst the applicant has provided further expanded sections of the junction, these are extremely difficult to interpret alongside the plans (REP2-069 and 071). Gravesham considers that the visualisations and photomontages provided in support of the application are also difficult to interpret given the scale of what is proposed. The ExA will also be mindful that the DCO process also seeks to proactively engage with the general public and if the local planning authority is having difficulties, then lay people are likely to find themselves in an even worse position. Gravesham points out that at EIA Scoping, the applicant was asked to produce a digital terrain model of the scheme so that impacts could be better understood but this was not produced. Whilst a 'fly-though' has been produced for year 15 for promotional purposes, it only provides a view from above and is no substitute for an verfified

digital model that can be interogated. Gravesham is particularly concerned regarding the lack of detail regarding the interface of the project with HS1 in this section; the relative levels of HS1 compared to adjoining roads; whether Errant Vehicle Protection will be required and the form this might take; and the effectiveness of proposed landscape mitigation in terms of both Lower Thames Crossing and HS1, having regard to the presence of the Singlewell Feeder Station. It is also a matter of concern that it appears the applicant has yet to resolve with HS1 what the required safety margin is between the Singlewell Feeder Station and the public highway, particularly as we understand that HS1/National Grid had to install a blast wall to the front of the transformers (APP-110). It is noted that HS1 has committed to provide a viaduct over the existing HS1 drainage ponds to the west of the Cobham South Services (Work 2E(i) REP3-077). Whilst these ponds currently receive water from HS1 and the Feeder Station, there is also a culvert under HS1 from the south which would carry water in an extreme rainfall event. The extent of the affected area is shown on the EA surface water flood risk map reproduced below. The surface water drainage arrangements would also have to deal with this, plus an allowance for climate change and be capable of being maintained long-term. This may have implications for the final design, resulting in a reduction in the area available for landscaping, leaving the A2/A122 junction more open to view from HS1 and the south. Gravesham also notes that the Works Plan shows two new sub-stations to be built south of the Cobham roundabout in this location (Works Plan REP2-037 shown as SS4 + SS5 and Work MU13 in the dDCO REP3-077) which appear to conflict with the position of the existing drainage culvert under HS1 (see plan below) The ExA will also note that the LTC works will also significantly reduce landscaping that was put in place to mitigate HS1, leaving this more open to view – including from the A2/A122 junction.

EA surface water flood risk map in area of Cobham South Services – location of culvert under HS1 shown on appended plan of Feeder Station



Extract from Works Plan (REP3-037) showing locations of proposed substations south of Cobham roundabout and comprising Work MU13 in the dDCO (REP3-077). Note position of southern end of the culvert under HS1 shown on plan. See also plan of Feeder Station attached. Note that low-loader turning head to serve feeder station to facilitate replacement of transformers (40 year maintenance period) is also lost.



4. Can these be dealt with at a later stage, under DCO requirements relating to detailed design?

No – it would be prudent to have additional information and detail to understand the implications of the project, particularly in terms of its relationship with HS1 and any required safety margin to the Singlewell Feeder Station. Understanding whether or not the drainage issue has been properly addressed would also be useful, given simply replacing the existing HS1 drainage arrangement may not be sufficient to meet modern standards, having regard to potential flows through the culvert from land to the south during an extereme rainfall event due to climate change. If this cannot be accomodated in the space available, it may necessitate a change in design shown that may have other kock-on effects on the junction.

5. Do the Gravesham Stage 1 or Stage 2 Green Belt studies provide information on the sensitivity of the affected area to development or performance in terms of relevant Green Belt purposes?

The Stage 1 study identifies the most relevant parcels as being parcel 7 (South East of Gravesend) and 11a (A2/M2 corridor). Parcel 15 covers land south of HS1 and is not

relevant as the proposal is largely contained by the alignment of HS1. Parcel 7 is considered in particular to make a significant coontribution toward checking the sprawl of the built up area and protecting the countryside from encroachment. Parcel 11a (the A2/M2 corridor) is considered to make a significant contribution in terms of checking the unrestricted sprawl of urban areas and preventing neighbouring towns from merging) but is deemed to make a minimal or no contribution to safeguarding the countryside from encroachment, as it is already a transport corridor.

The Stage 2 Study included the A2 corridor east of Cobham South Services, south to HS1, as an area where release for development would cause High Harm. Parcels GR4 and GR3 to the west were considered to have a degree of urban developmen, and were seen as relatively self-contained, with release for development seen as resulting in moderate harm in terms of an increase in urban sprawl. Parcel GR6 represents the main area between the south-eastern side of Gravesend, Thong and Shorne Woods, on higher ground to the east. This area was seen as relating more to the countryside than the urban area but the overall harm rating as a result of releasing this parcel for development was considered to be Moderate High given its relative level of self-containment between the urban area and Shorne Woods, on higher ground, to the east.

6. Does the proposal result in an increase in the area occupied by development and how significant is any such increase?

The current developed area here comprises the A2 itself and Cobham South Services, to the south. The Cobham North Services have been demolished, leaving an area of hardstanding and previously developed, but largely open, land to the north. Whilst there is more sporadic development to the south of the A2 at the Gravesend East junction, much of the area is wooded and screens HS1 and the Singlewell Feeder Staion. The proposed works on and adjacent to the alignment of the A2 at this point would be significant by any standards, and have a major adverse impact in terms of the spatial component of Green Belt openness.

7. Is the area occupied by the additional development effectively contained within an area or corridor that is already developed and does this have implications in terms of spatial openness?

Whilst there is a degree of containment to the south as a result of the HS1 corridor, this is not the case to the north, where the projection of the junction into open land east of Claylane Wood would result in a significant extension of built development that would have a major adverse impact in terms of spatial openness.

8. Would the proposed development result in visual harm to Green Belt openness, either through the introduction of new development, intensification or other factors?

Yes – whilst the applicant has sought to screen the development through the use of false cuttings and landscape planting in the vicinity of the junction, there would remain an impact on visual openness due to the works on the A2 and the new junction. It is also worth noting that the expanded sections show large changes in levels, made possible retaining walls etc. which will also impact on visual openness through the introduction of alien and intrustive structures. Whilst more distant views may be screened to a certain extent, close up views would remain both to users of the infrastructure, people walking or cycling etc. along the extended Darnley Lodge Lane and within the public open space to be created to the north of the A2. The extent and severity of impact on visual openness is difficult to assess on the basis of the submission material. Reduction in landscaping to screen HS1 and the

Singlewell Feeder Station (including planted earthworks specifically included in the original design to screen from the A2) will also have an impact.

9. Would proposed mitigation reduce that harm and over what time period?

The proposed mitigation would reduce impact, particularly as landscaping matures but it is likely due to the scale of the infrastructure that residual harm would remain high. Irrespective of this, landscape mitigation would take a long time to be established and effective. Much of the current landscaping was planted as a result of the HS1 works and this would now be largely lost. Photos below show the area prior to construction of HS1 and how long landscaping took to become established – say 15 – 20 years post completion. For Lower Thames Crossing, this would represent 2045 – 50. By this time, further highway interventions may be required .

Cobham South Services and land to east in 2003

Same area 10 years on in 2013

Same area 15 years on in 2018

10. Would the proposed mitigation cause harm to current Green Belt openness?

Potentially, as the creation of false cuttings and landscape planting used to screen the infrastructure would foreshorten views, resulting in a loss of openness.

11. Based on the above, what is considered to be the overall level of harm to Green Belt openness, from the perspective of the user and on-looker, as a result on the project in this area?

In terms of the A2 corridor and the associated parts of the junction to the north and south of the A2, it is considered that the spatial and visual impact on Green Belt openness would be **Major Adverse**. This is because of the large scale impact on openness and conflict with related purposes through the addition of new uncharacteristic or conspicuous features. This is notwithstanding that part of the affected area is an existing transport corridor, given the scale of the proposed intervention.

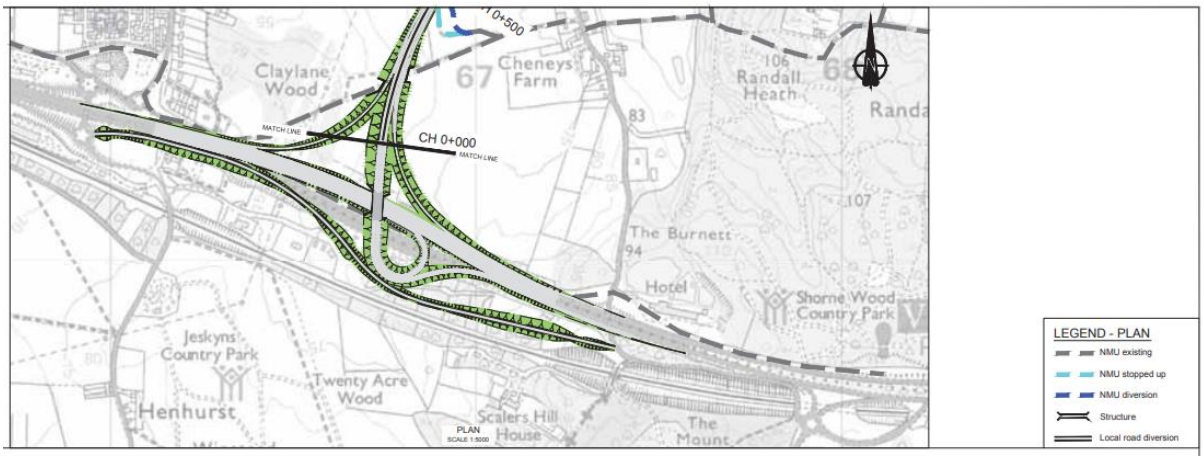
12. Would the proposal be in conflict with the Green Belt purposes, in particular purpose 1 - to check unrestricted sprawl of large built-up areas and purpose 3 -to safeguard the countryside from encroachment? If so, to what extent?

The proposal in this area would introducing a major urbanising feature over and above the existing A2 dual carriageway in this area, effectively resulting in an extension of urban sprawl to the east of Gravesend into what is otherwise largely countryside. This is notwithstanding the existing presence of the A2 corridor, given the scale of the intervention.

13. Could the proposal be reasonably modified to avoid, reduce, mitigate or compensate for harm to Green Belt openness or conflicts with national purposes?

Difficult to see how it could be unless it was made less complex with fewer connections or by possibly reducing running speeds, if that resulted in making the junction more compact. Note that the scheme now proposed is of a far greater scale than when the Western Southern Link to the east of Gravesend was chosen as the preferred option in 2017.

For information, this is the illustrative junction plan that was consulted on in 2016, before the announcement was made on the preferred option the following year – see https://highwaysengland.citizenspace.com/ltc/lower-thames-crossing-consultation/user_uploads/scheme-assessment-report---volume-3-appendices-part-3-of-5.pdf The junction has since grown to make further connections and to include the works on the A2 to the east, through the Kent Downs AONB.



Section 5	A122 corridor between A2 and Thong Lane – including new junction with the A2 as per the above (@ 1,100 metres)

1. Description of area as existing

The land to the north of the A2 in this section comprises areas of woodland immediately adjacent to Thong Lane and at Claylane Wood, to the east of Gravesend East. Otherwise the land to the north comprises very open undulating farmland, traversed by electrical power lines, with the urban area (Riverview Park) around 1,000 metres to the north and the isolated rural settlement of Thong to the north-east, with Shorne Woods on higher ground beyond that. Overall, the area is very open to the north but more contained to the south. Traffic noise from the A2 is clearly audible over the farmland to the west of Thong and lighting would be visible on the main road at a distance. The area is crossed by footpath NS174, through Claylane Wood and by NS167 and 169 across the open farmland. Extensive views across this area both towards the south, where the tower of Cobham Church can be viewed at a distance; east, towards Shorne Woods on higher ground; and west, out of Thong contribute significantly towards openness. There are currently few buildings in this part of the Green Belt, other than those associated with the settlement of Thong and some more isolated buildings, such as Thong Lodge, linked to its past function as part of the Cobham Hall Estate.

2. Proposed works in this area: See section 4 above for description of A2/A122 junction and dual carriageway in cutting through to Thong Lane green bridge. Works in this area will also include changes to the locations of pylons and power lines, which may have a marginal impact – this would also depend if there is a change in the size of any pylons in particular locations. General Arrangement plans (APP-016) show the landscaping in the area being largely a mix of woodland (partly for ecology) and grassland. It is assumed that the final detail of such landscaping will be subject to consultation at a later stage, should a DCO be granted.

3. Does the application provide sufficient information to determine impact on Green Belt openness or are there areas of uncertainty that should be brought to the ExA's attention?

Comments above in relation to the main A2/A122 junction apply. Once the dual carriageway descends into cutting, details are generally sufficient to undertake a high level Green Belt assessment.

4. Can these be dealt with at a later stage, under DCO requirements relating to detailed design?

Above comments in relation to main A2/A122 junction apply.

5. Do the Gravesham Stage 1 or Stage 2 Green Belt studies provide information on the sensitivity of the affected area to development or performance in terms of relevant Green Belt purposes?

Within the Stage 1 study, the area affected lies in Parcel 7. This is considered in particular to make a significant contribution toward checking the sprawl of the built up area and protecting the countryside from encroachment.

The Stage 2 Study, identies the area to the north of the A2 as lying in Parcel GR6. This represents the main area between the south-eastern side of Gravesend, Thong and Shorne Woods, on higher ground to the east. This area was seen as relating more to the countryside than the urban area but the overall harm rating as a result of releasing this parcel for development was considered to be Moderate High given its relative level of self-containment between the urban area and Shorne Woods, on higher ground, to the east. The area to the south of the A2 lies within an area where the introducton of development would result in High Harm.

6. Does the proposal result in an increase in the area occupied by development and how significant is any such increase?

As with the A2/A122 junction, there would be a significant increase in area occupied by development, with this extending further northwards towards Thong Lane green bridge. There would therefore be a significant impact in terms of the spatial element of Green Belt openness as a result of introducing a significant piece of highway infrastructure into what is otherwise a largely open area.

7. Is the area occupied by the additional development effectively contained within an area or corridor that is already developed and does this have implications in terms of spatial openness?

No – this area is largely undeveloped, except for the small rural settlement of Thong and other sporadic development and utilities. As per the Green Belt studies, it is however relatively well contained between the urban area to the west and north, the A2 to the south, and Shorne Woods, on higher ground, to the east.

8. Would the proposed development result in visual harm to Green Belt openness, either through the introduction of new development, intensification or other factors?

Yes – there would be visual impacts, particularly because of the introduction of the large scale A2/A122 junction. Whilst the false cutting and real cutting would assist in mitigating visual impacts, these together with landscaping may have the effect of foreshortening views and thus impact on openness. There is also an additional factor here in that the area currently relates well to the surrounding countryside, whereas once Lower Thames Crossing is built, the area to the west and north of it will be severed and may be perceived more as an adjunct to the urban area.

9. Would proposed mitigation reduce that harm and over what time period?

Yes – as landscaping matures, this is likely to assist in mitigating visual impacts. However, this mitigation is unlikely to be total.

10. Would the proposed mitigation harm current Green Belt openness?

Yes – for the reasons set out above mitigation is likely to foreshorten views making the area appear less open and sever the western and northern area from the wider countryside

making it appear more as an adjunct to the urban area. Thong Lane green bridge would be a possitive feature, improving connectivity through that corridor but would not totally mitigate the severence caused by the cutting.

11. Based on the above, what is considered to be the overall level of harm to Green Belt openness, from the perspective of the user and on-looker, as a result on the project in this area?

Major Adverse in the vicinity of the junction, reducing to **Moderate Adverse** as the dual carraigeway approaches Thong Lane green bridge in cutting.

12. Would the proposal be in conflict with the Green Belt purposes in particular purpose 1 - to check unrestricted sprawl of large built-up areas and purpose 3 -to safeguard the countryside from encroachment? If so, to what extent?

The A2/A122 junction could be conceived as sprawl, as per the comments above. Apart from the A122 in cutting, the residual areas would not be built up and would remain in countryside type uses and generally open. However, the points made above regarding foreshortening of views and the area north and west of the cutting being severed from the wider countryside and becoming more of an adjunct to the urban area apply.

13. Could the proposal be reasonably modified to avoid, reduce, mitigate or compensate for harm to Green Belt openness or conflicts with national purposes?

Apart from the comments made in respect of the junction, difficult to see how the remainder of the route through this area could otherwise be modified. Comments made above regarding consultation on final landscape design solution apply.

Section 6	**A122 corridor between Thong Lane and southern tunnel portal (@ 1,100 metres).**

1. Description of area as existing

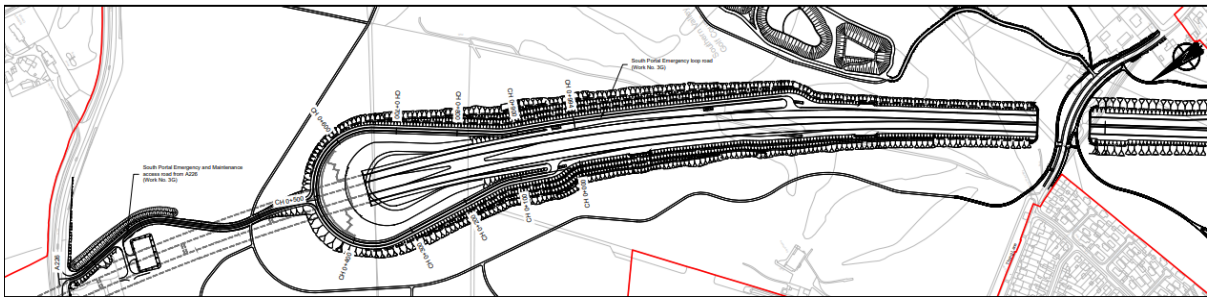
The area is comprised of a large area of undulating farmland, sloping down from Thong Lane towards the A226 Rochester Road. The highest ground takes the form of a plateau of flat land adjacent to and east of Thong Lane, which once formed part of Gravesend Airport but is now occupied by the Cascades Leisure Centre. This consists of an indoor leisure pool with flumes and a dry sports centre, as well as other facilities, outdoor pitches, a golf driving range, pitch and putt, model railway track, and associated car parking. The majority of the built facilities, which are large in scale, are clustered together and located within 270 metres of Thong Lane, the Green Belt boundary at this point. The complex is generally well screened by mature trees and hedgerows, seperating it from adjoining farmland. Planning permission has recently been granted to rebuild the lesiure centre and reconfigure the immediate grounds (4.5 hectares) under application reference 20221293. To the south of Cascades lies the Southern Valley Golf Course, which was granted planning permission following a called in appeal in 1994 under application reference 19920672. The golf course ceased operating in August 2022. Access is from Thong Lane to the clubhouse abutting the southern boundary of the Cascades Leisure Centre. Whilst the site has been reconfigured to accomodate golfing activities, it retains an open aspect. To the south of the golf course, occupying the gap between it and the rural settlement of Thong, lies a small nursery complex with other associated uses and a bungalow, on the corner of the Shorne Ifield Road. The

area is subdivided into a number of small fields or paddocks, with some disturbed ground. The actual number of buildings on site are few and the complex is well screened by trees and hedgerows. To the north of the Cascades Leisure Centre, set at a lower level, is an area of playing pitches serving Thamesview School, on the opposite side of Thong Lane in the urban area. There are views over the arable land here from higher ground to the south, along the Shorne-Ifield Road and from Thong Lane, to the west and the A226 Rochester Road, to the south. There are several well-used public rights of way crossing this area of farmed land, including NG7 (corner of Thong Lane to Shorne); NG8 (Thong Lane through golf course to Chalk Church); and NG9/NS165 (Muggins Lane to Upper Ifield).

2. Proposed works in this area

Proposed works in this area involve the construction of a 3 lane dual carriageway road in the base of a cutting to the east and north east of the Thong Lane south green bridge. Landscaping and planting on the green bridge itself would screen the road to either side. The finished road level of the green bridge would be set at 68.61 metres AOD, around 2.9 metres above existing ground level. The depth of cutting here would be 11 metres below the finished road level or around 57.61 metres AOD. The cutting would become deeper on approaching the southern portal, around 1,100 metres distant and would be around 28 metres below existing ground level at that point. The width of cutting immediately east of the Thong Lane green bridge would be around 52 metres, widening on the approach to the southern portal, where a bowl would be created around 230 metres in width, that would also accommodate emergency accesses routes and other features, including the tunnel portal structure and control room. The latter would project above ground as a built form but this appears to be within the cutting area and would not therefore impact on openness within the next section considered below. The profile of the cutting would include shallower 1 in 2 upper slopes, seperated by a narrow bench before adopting a steeper slope of 1 in 1. This would allow the upper slopes to be seeded and planted with a chalk grassland mix, with the intention that only the steeper lower slopes would be exposed chalk. The latest Design

Principles document (REP3-110) states that fencing would be positioned within the cutting (as would all lighting and signage) and that there would be no hedges or tree planting to the edge of the cutting, it avoid it becoming a linear feature in an otherwise largely open landscape (design principles S3.01 and S3.02). It is unclear from the General Arrangement plans however as to whether this is what is shown (APP-016 and REP3-029). The works in this area would also include the construction of a series of drainage ponds to the south of the cutting on the upper slopes of this section. It is unclear whether these would be wet ponds or infiltration ponds. Various other earthworks and recontouring would take place around the cutting and at Chalk Park, largley to dispose of spoil arising from the construction of the project. The network of footpaths, described in section 1 above, would be reconfigured.



3. Does the application provide sufficient information to determine impact on Green Belt openness or are there areas of uncertainty that should be brought to the ExA's attention?

Yes – detail is sufficient for a high level assessment of severity of Green Belt harm.

4. Can these be dealt with at a later stage, under DCO requirements relating to detailed design?

Not applicable.

5. Do the Gravesham Stage 1 or Stage 2 Green Belt studies provide information on the sensitivity of the affected area to development or performance in terms of relevant Green Belt purposes?

The Stage 1 Study includes the area within Parcel 6, which is considered to make a significant contribution toward checking the unrestricted sprawl of large built up areas and safeguarding the countryside from encroachment.

The Stage 2 Study includes the main open area through which the cutting would pass within Parcel GR7. This includes both the golf course and adjoining farmland, which have a distinct landform and strong relationship with the open countryside. Release of land within the golf course was considered to result in a moderate weakening of the existing Green Belt boundary, also weakening the integrity of the Green Belt between Gravesend and Shorne. Release of land in this parcel was considered to constitute significant urban sprawl and encroachment of the countryside. Parcel GR9 would also be affected by the proposals, with this planned to be largely occupied by Chalk Park to the east of Thong Lane. This area too was considered to have a stronger relationship with the countryside than the urban, although it was accepted there was a degree of containment formed by the urban area to the north of the A2. Release of the parcel was considered to constitute a significant encroachment of the countryside, resulting in increased urban sprawl.

6. Does the proposal result in an increase in the area occupied by development and how significant is any such increase?

The proposal would result in a significant increase in the area covered by development, albeit this would be in cutting. This would however represent a significant loss of spatial openness.

7. Is the area occupied by the additional development effectively contained within an area or corridor that is already developed and does this have implications in terms of spatial openness?

Although the area occupied by the additional development is not contained within an area that is already developed, the extent of encroachment would be contained within the cutting. Whilst it makes no difference in terms of the spatial dimension of openness, it has implications in terms of the visual.

8. Would the proposed development result in visula harm to Green Belt openness, either through the introduction of new development, intensification or other factors?

It is likely that the development would be seen, especially in close proximity by those using Chalk Park, in an elevated position from that existing and the public rights of way network particularly as there would be no screening to the top of the cutting, as a matter of design choice. The deep cutting may also be visible from higher ground above and at a greater distance from elsewhere as a feature within the landscape. This part of the scheme may also be visible at night, due to lighting (even if well designed) and from vehicle lighting.

9. Would proposed mitigation reduce that harm and over what time period?

Proposed mitigation in terms of the design of the cutting and the position of fences etc. The effectiveness of this mitigation would benefit from an early stage, particularly once the chalk grassland has become established. Landscaping in the wider area will take longer to mature.

10. Would the proposed mitigation harm current Green Belt openness?

Proposed mitigation itself is unlikely to have an adverse impact on Green Belt openness. Whilst Chalk Park would have a visual impact, it would remain open even if views become marginally foreshortened across it.

11. Based on the above, what is considered to be the overall level of harm to Green Belt openness, from the perspective of the user and on-looker, as a result on the project in this area?

The scale of incursion is significant in spatial terms and there are likely to be associated visual impacts, even if unintended or difficult to identify at this stage. However, because the road would be in cutting and clear efforts are proposed to mitigate, the overall level of harm to Green Belt openness is considered to be **Moderate Adverse.**

12. Would the proposal be in conflict with the Green Belt purposes, in particular purpose 1 - to check unrestricted sprawl of large built-up areas and purpose 3 -to safeguard the countryside from encroachment? If so, to what extent?

The road in cutting would still represent a spatial encroachment of the countryside and represent an urban form of development, albeit in this instance, this would be contained within the proposed cutting. The impact of the proposal on Green Belt purposes would

therefore be limited by the design. The drainage ponds and associated earthworks to the north of the cutting are likely to appear an alien feature in what is effectively a chalk downland landscape. These would need to be designed to appear as naturalistic as possible.

13. Could the proposal be reasonably modified to avoid, reduce, mitigate or compensate for harm to Green Belt openness or conflicts with national purposes?

It is difficult to see what design changes could be made to mitigate harm further in this instance other than putting part of or the whole section in tunnel, which would have allowed for reinstatement of the golf course.

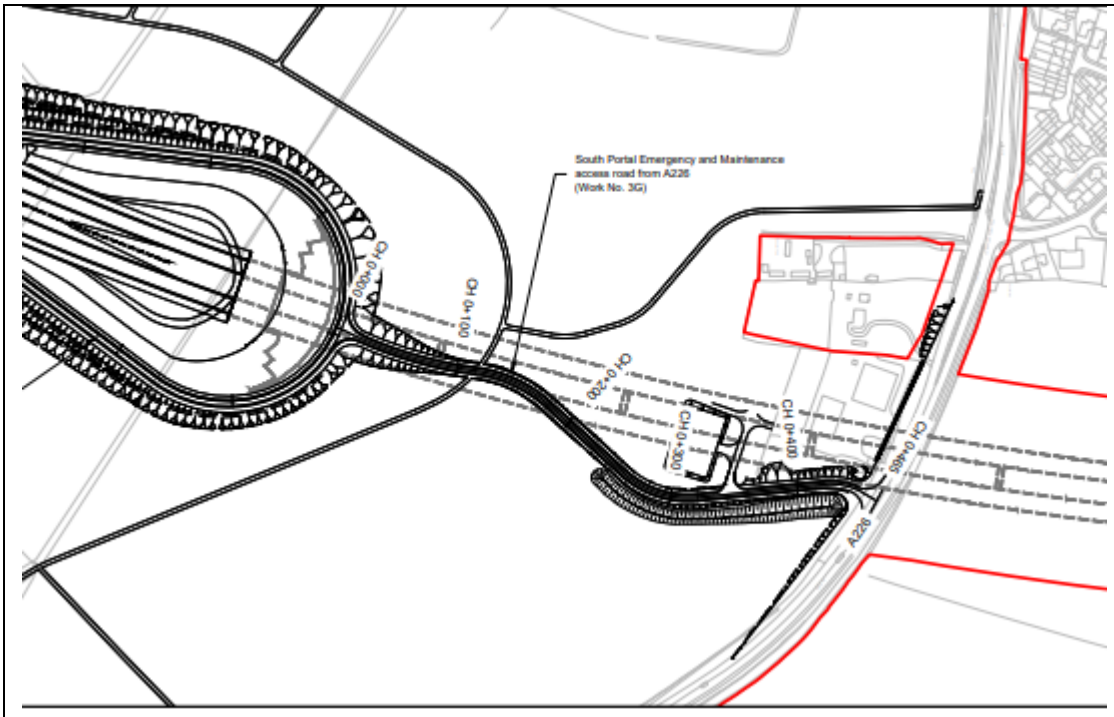
Section 7	**A122 corridor north of southern portal – proposed above ground access routes and structures only.**

1 Description of area as existing

Small area of open arable farmland on rising ground to the south side of the A226. Currently very open and divided into large fields. Built development within the Green Belt to the south side of the A226 includes a small complex of farm buildings, which would not be deemed inappropriate and therefore openness is not an issue. Small enclosure comprising authorised gypsy and traveller sites. Polperro lies further to the west in an isolated position within an enclosed curtilege. Land to south of A226 is on marginally higher ground with sporadic tree and hedgerow cover. No street lighting. Bus service (190) passes by this area, which utilises double deck vehicles hence passenger on upper deck would have view of area. Footpath NG7 crosses to south of site on higher ground. Development to the north comprises historic Chalk Church and pre-war properties in Church Lane that pre-date planning control. Area remains pre-dominately open however and within a largely agrarian landscape.

2. Proposed works in this area:

Proposed works in this area include an emergency access/service road to the tunnel portal from the A226, a rendezvous point to the west of the access point and a substation to serve the southern portal. The substation works (MU21) would be located south of the existing farm compound and would have a maximum height of 6.7 metres (See draft DCO v.5.0 at REP3-077). A helicopter landing pad for emergency access would also be provided within the Order limits. The Land Plans (REP3-011 v.4.0 August 2023) show the farm buildings (13-41) to the north of the substation being subject to permanent acquisition of subsoil and rights and temporary possession of land at surface. Should the existing buildings remain or be replaced in a similar form to exisiting, any substation building would be viewed within a tight cluster of development. This is setting aside any impact the sub-station may have on the adjoining gypsy and traveller site once built and during the operational phase. Little is shown by way of landscaping on the General Arrangements plans for the immediate area but is is assumed that this could be secured through detailed designs if a DCO was to be granted.



3. Does the application provide sufficient information to determine impact on Green Belt openness or are there areas of uncertainty that should be brought to the ExA's attention?

Yes – although more detail on landscape treatment would be needed at the detailed design stage..

4. Can these be dealt with at a later stage, under DCO requirements relating to detailed design?

Yes – subject to point made above.

5. Do the Gravesham Stage 1 or Stage 2 Green Belt studies provide information on the sensitivity of the affected area to development or performance in terms of relevant Green Belt purposes?

The Stage 1 Study includes the area within Parcel 6, which is considered to make a significant contribution toward checking the unrestricted sprawl of large built up areas and safeguarding the countryside from encroachment.

The Stage 2 Study includes the main open area through which the cutting would pass within Parcel GR7. This includes both the golf course and adjoining farmland, which have a distinct landform and strong relationship with the open countryside. Release of land within the golf course was considered to result in a moderate weakening of the existing Green Belt boundary, also weakening the integrity of the Green Belt between Gravesend and Shorne. Release of land in this parcel was considered to constitute significant urban sprawl and encroachment of the countryside. Parcel GR9 would also be affected by the proposals, with this planned to be largely occupied by Chalk Park to the east of Thong Lane. This area too was considered to have a stronger relationship with the countryside than the urban, although it was accepted there was a degree of containment formed by the urban area to the north of the A2. Release of the parcel was considered to constitute a significant encroachment of the countryside, resulting in increased urban sprawl.

6. Does the proposal result in an increase in the area occupied by development and how significant is any such increase? Yes but this is marginal given the scale and extent of the full site.
7. Is the area occupied by the additional development effectively contained within an area or corridor that is already developed and does this have implications in terms of spatial openness? There is some existing development in the form of the farm buildings (should they or similar be retained) and the gypsy and traveller site adjoining. New substation is the main feature and, subject to this being of acceptable design, has the potential to 'read' as a cluster within the otherwise largely open landscape.
8. Would the proposed development result in visual harm to Green Belt openness, either through the introduction of new development, intensification or other factors? Yes – but this is likely to be minor in context. Access route and rendezvous point etc. would also need to be appropriately designed to ensure that they are as unobtrusive as possible. Assume that they would have to be lit at night if operational and lighting scheme would need to be agreed so as to avoid as far as possible urbanisiing features. Could be lit in part at least from the sub-station building?
9. Would proposed mitigation reduce that harm and over what time period? Landscape mittigation would need to be agreed.
10. Would the proposed mitigation harm current Green Belt openness? Unlikely as minor in scale.
11. Based on the above, what is considered to be the overall level of harm to Green Belt openness, from the perspective of the user and on-looker, as a result on the project in this area? **Minor Adverse** given slight loss of openness and conflict with related purposes through addition of one (maybe more) new uncharacteristic or conspicuous features or elements.
12. Would the proposal be in conflict with the Green Belt purposes, in particular purpose 1 - to check unrestricted sprawl of large built-up areas and purpose 3 -to safeguard the countryside from encroachment? If so, to what extent? Limited degree of conflict.
13. Could the proposal be reasonably modified to avoid, reduce, mitigate or compensate for harm to Green Belt openness or conflicts with national purposes? See above.

5.0 Chalk Park

5.1 The applicant intends to dispose of spoil on land adjacent to the South Portal and to landscape this as open space for community use. An area of land to the north of Chalk Park, to the east of Thong Lane and south of the A226, would be returned to the existing landowner. The impact of these works has not been assessed as part of this exercise, as it would remain 'open', would not include the introduction of any urban features and would effectively remain 'countryside', albeit in a different form.

5.2 However, the works would have an impact on residents adjoining in Thong Lane to the east and, depending on the height of Chalk Park and its landscape treatment, potentially afford views of the cutting and affect its impact in terms of the visual component of Green Belt openness.

5.3 The works to create Chalk Park are contained in draft DCO v.5.0 August 2023 (REP3-077) are included under Work OSC4. This states:

> Work No. OSC4 – as shown on sheets 11 and 13 of the works plans and being the implementation of new recreational site, to include—
>
> (a) the establishment of a hilltop landform; and
>
> (b) the creation of landforms and associated landscape.

5.4 In terms of Limits of Deveiation of those works, the draft DCO states:

6 (b) in respect of Works Nos. OSC4(a) and OSC5(a), deviate vertically from the levels shown on the engineering drawings and sections to a maximum of 2 metre upwards or 2 metre downwards;

6(c) in respect of Works Nos. OSC4(b) and OSC5(b) deviate vertically from the levels shown on the engineering drawings and sections to a maximum of 5 metre upwards or 5 metre downwards.

5.5 On consulting the Works Plans submitted at Deadline 3 in August 2023 (REP3-037), the plans don't appear to distinguish between OSC4(a) and OSC4(b). Neither do the Engineering Drawings appear to provide levels, contours or sections of the works to which the limits of deviation would apply.

5.6 GBC requests that the applicant provide the relevant plans (where a msitake has been admitted), given potential impact can only be assessed once the baseline scheme is understood, along with the implications of the proposed limits of deviation. In addition, could the applicant direct the Council to any photomontages and assessment providing information tare in area on the visual impact of Chalk Park, having regard to the upper and lower parameters set out within the limits of deviation?

5.7 It would be helpful if this also included an assessment of impact of the proposed earthworks when viewed from the rear of the adjoining properties on the east side of Thong Lane.

5.8 In addition to the above, it is noted that the works here are extensive and exceed 1 hectare in area, within EA Flood Zone 1. As the works could affect surface water drainage and run-off, which could affect adjoining land, it is assumed that some form of Flood Risk Assessment/ surface water drainage strategy will be required under the DCO at the detailed stage.

6.0 Conclusions

6.1 The Council maintains its view (set out in REP3-164) that the applicant has failed to undertake a robust assessment of Green Belt impacts to the north and south of the River, based on a clear and transparent methodology. In the absence of a formal assessment by the applicant, Gravesham has attempted to undertake what work it can following the issue of EXAQ1 (25 August 2023) to provide an evidenced view on Green Belt impacts. In so doing, Gravesham has come across several areas where it is difficult to determine the impact of the proposed works given absence of the necessary level of detail on the submitted plans.

6.2 Gravesham remains of the opinion that the applicant should have provided a computer generated model of the A2/A122 junction area to assist in evaluating impacts (as originally requested) rather than rely on sections and visualisations. Whilst the fly-through is helpful, it is no substitute for such a model because it only provides a view from above and is not capable of being interrogated at ground level.

6.3 As there is no standard methodology for determining the severity of Green Belt impacts, Gravesham has formulated its own methodology based on an approach derived from the Design Manual for Roads and Bridges (DMRB). In so doing, regard has also been had to the Gravesham Stage 1 and Stage 2 Green Belt studies (2018 and 2020), although it should be recognised that these were undertaken for a different purpose and not to evaluate the impact of a stand-alone project.

6.4 Put simply, the conclusion reached is that the project in Gravesham has a lesser impact where the intervention results in the least change or where the visual impact is mitigated by the road being in cutting and landscaped. Even where visual impact is mitigated, there will still remain a spatial impact on openness. The highest degree of harm is likely to occur on the A2 on the approach to the Thong Lane green bridge; around the A2/A122 junction; and north of the A2 before the impact is moderated where the road descends into cutting.

6.5 Whilst detailed analysis is provided in the main body of this report, the level of harm in various sections of the project are considered to be:

Section 1: A2/HS1 corridor between M2 junction 1 and Park Pale bridge (@ 1,100 metres)	Negligible to Minor Adverse
Section 2: A2/HS1 corridor between Park Pale bridge to Brewers Road bridge (@1,200 metres)	Moderate Adverse
Section 3: A2/HS1 corridor between Brewers Road bridge and Thong Lane bridge (@ 900 metres)	Moderate Adverse rising to Major Adverse
Section 4: A2/HS1 corridor between Thong Lane bridge and Gravesend East junction, onwards to Singlewell – including new junction with A122 (@1,500 metres)	Major Adverse
Section 5: A122 corridor between A2 and Thong Lane – including new junction with the A2 as per the above (@ 1,100 metres)	Major Adverse reducing to Moderate Adverse

Section 6: A122 corridor between Thong Lane and southern tunnel portal (@ 1,100 metres)	Moderate Adverse
Section 7: A122 corridor north of southern portal – proposed above ground access routes and structures only.	Minor Adverse

6.6 In terms of the A2 corridor, the main impact east and immediately west of the Brewers Road bridge results from the increase in areas of highway (albeit within the same corridor) and the loss of the well-wooded central reservation. In design terms, retention of a wooded central reservation within a wider corridor would have had a beneficial impact in terms of the visual dimension of Green Belt openness and also probably in terms of landscape. There would however have been dis-benefits in terms of increased impact on biodiversity etc. with loss of woodland (including SSSI) to the north. As this would have been a reasonable alternative, the preferred option needs to be sufficiently evidenced.

6.7 The area of greatest impact on Green Belt openness would be around the A2/A122 junction and its approaches. This area is very constrained for such a large and complex junction, with HS1 mitigation also being removed. This implies that there is likely to be an in-combination impact on Green Belt openness both from the Lower thames Crossing and HS1 being further revealed. The junction and highway works are also likely to be visible from HS1 so passengers will also be aware of a loss of Green Belt openness.

6.8 While Gravesham recognises that the proposed junction design affords a high degree of local connectivity for local residents and business to benefit from the project, it is clear that a substantially reduced and less complex junction (like that in the 2016 consulttaion) would probably have a lesser impact and that this should be considered as a reasonable alternative. At ISH4, the applicant stated that the local connections afforded by the submitted junction design were necessary for project benefits to be delivered.

6.9 In reviewing the plans in detail, Gravesham is also concerned that there are potential areas of conflict with HS1 that need to be resolved at this stage to understand what mitigation is possible, given Lower Thames Crossing will result in the removal of much of the mitigation that was provided to screen HS1. The need for Errant Vehicle Protection and the area available for landscaping, maintaining safety clearance to HS1, will also be an issue. Key areas in this respect are:

- **HS1 cutting between Halfpence Lane/Brewers Road and Scotland Lane** – more detailed section would be useful to show the relationship of Darnley Lodge Lane with HS1 railway/catenaries etc. There is a need to understand here what Errant Vehicle Protection will be required and area available for landscape mitigation to understand impact of project on visual openness.
- **HS1 cutting and embankment west of Scotland Lane to Cobham South Services/new roundabout** – the extension of Darnley Lodge Lane here will be on a slight embankment, descending alongside and quite close to HS1. The relationship between the two is unclear from the plans and what will be required in terms of Errant Vehicle Protection and what landscape planting would be possible to mitigate impacts.

- **Area around Singlewell Feeder Station and Cobham roundabout** – the required safety margin between the public highway and the Feeder Station does not appear to have been agreed and this presumably would be critical in terms of how close the roundabout and road to the north could be located. Given the complexity of the junction and the need to meet DMRB standards in terms of geometry, it would be prudent to confirm this now as there may be 'knock-on' effects for the rest of the junction and the ability to accommodate landscape mitigation. In addition, whilst the applicant has agreed to re-provide a drainage pond for HS1 and cross this by viaduct, it is not clear that they have considered the need to accommodate flows from the south through the HS1 culvert. This may also have implications for the design of the scheme in this area and the ability to mitigate impacts. There would also appear to be two substations located where the culvert is likely to discharge to the north of HS1.

6.10 For the sake of completeness, Gravesham has not sought to evaluate the impact of Chalk Park as part of its Green Belt assessment because this is likely to remain open albeit at a higher level. It is noted however that the draft DCO (REP2-004 page 12 Section 6 (2) (b) & (c)) refers to limits of deviation in terms of the height of Chalk Park relative to those shown on the Engineering Plans and the Works Plans. Gravesham has been unable to locate the plans or sections showing these levels or a Works Plan distinguishing between the two parts of Chalk Park to which the limits of deviation apply. National Highways has now stated that these are not shown on plans and there is therefore an error in the application.

Gravesham Stage 2 Green Belt Study (August 2020)

Main outputs from assessment of harm against Green Belt purposes for parcels relevant to Lower Thames Crossing.

Table A	**Parcel GR3: Part of A2/HS1 corridor west of Claylane Wood**
Description	Strip of land containing three residential dwellings, neighbouring industrial uses, hardstanding and buildings alongside the railway line, and a stretch of Henhurst Road. The land lies between the A2 Watling Street and the railway line, adjacent to the southern edge of Gravesend. Despite some areas of open land, the residential and industrial uses and the degree of containment by infrastructure constitute a significant urbanising influence. The A2 to the north provides strong distinction from the urban edge, but the presence of the railway line to the south defines a distinct boundary with the wider Green Belt countryside.
Purpose 1: To check the unrestricted sprawl of large built-up areas	
Moderate	The land adjoins the built-up area of Gravesend, and the parcel has some openness and distinction from the urban edge, but urbanising uses within the parcel and the containing influence of the railway limit the extent to which development crossing the A2 could be considered to constitute significant sprawl southwards. The parcel has a degree of separation from both the wider countryside and from the settlement.
Purpose 3: To safeguard the countryside from encroachment.	
Relatively limited	The parcel has some openness and distinction from the settlement edge, but transport infrastructure, residential and industrial uses associated with the proximity of the urban area limit the extent to which this land can be perceived as open countryside. The parcel has a degree of separation from both the wider countryside and from the settlement.
Impact of release on the contribution of adjacent land to the Green Belt purposes	
To what extent would release of land for development within the parcel increase containment of adjacent Green Belt land? Would this increase the overall level of harm? Would the release of land result in a weaker distinction between the urban area and the countryside? Releasing this land would not increase containment of any adjacent land. It would also result in no significant change in strength of distinction between the inset settlement and the Green Belt, which would be defined to the south by the railway line	
Overall harm to Green Belt purposes from release of land	
Low/Moderate	Release of the parcel would constitute moderate sprawl of Gravesend and a relatively limited encroachment on the countryside. It would constitute a negligible weakening of the integrity of adjacent Green

	Belt land. Therefore, the harm to the Green Belt purposes of releasing this parcel would be low-moderate.
Variations of harm within the parcel	
Are there smaller areas within the parcel that could be released with less harm to the Green Belt purposes? Or conversely are there areas where harm would be higher? There is no potential for reduced release of land that would result in less harm to the Green Belt purposes.	

Table B	**Parcel GR4: Part of A2/HS1 corridor south and east of Claylane Wood**
Description	A narrow strip of relatively flat land, contained between the A2 Watling Street and the HS1 railway line and located on the south eastern edge of Gravesend. The parcel contains a substation, a service station and some intervening woodland and adjoins woodland to the east and an area of grassland containing various urbanising developments to the west. The A2 and ancient woodland beyond this to the north provides strong distinction from the urban edge, but the presence of the railway line to the south defines a distinct boundary with the wider Green Belt countryside.
Purpose: To check the unrestricted sprawl of large built-up areas	
Moderate	The land is close to the built-up area of Gravesend, and the A2 creates distinction from the urban edge. However, urbanising uses within the parcel have some impact on openness, and the containing influence of the railway limits the extent to which development crossing the A2 could be considered to constitute significant sprawl southwards.
Purpose: To safeguard the countryside from encroachment.	
Relatively limited	The parcel has some openness and distinction from the settlement edge, but industrial uses associated with the proximity of the urban area, and containment to the south by the railway line, limit the extent to which this land can be perceived as open countryside. The parcel has a degree of separation from both the wider countryside and from the settlement.
Impact of release on the contribution of adjacent land to the Green Belt purposes	
To what extent would release of land for development within the parcel increase containment of adjacent Green Belt land? Would this increase the overall level of harm? Would the release of land result in a weaker distinction between the urban area and the countryside? Releasing this land (in combination with the release of GR3, which lies between it and the inset settlement) would not increase containment of any adjacent land. It would however result in a minor weakening of distinction between the inset settlement and	

the Green Belt as, although the boundary would be defined to the south by the railway line, it would result in development extending east beyond the ancient woodland (Claylane Wood) bounding the existing eastern settlement edge of Gravesham.	
Overall harm to Green Belt purposes from release of land	
Moderate	Release of the parcel would constitute moderate sprawl of Gravesend and a relatively limited encroachment on the countryside. It would constitute a minor weakening of the integrity adjacent Green Belt land. Therefore, the harm to the Green Belt purposes of releasing this parcel would be moderate.
Variations of harm within the parcel	
Are there smaller areas within the parcel that could be released with less harm to the Green Belt purposes? Or conversely are there areas where harm would be higher? There is no potential for reduced release of land that would result in less harm to the Green Belt purposes.	

NB. The remainder of the A2/HS1 Corridor to the east, beyond Cobham South Services, is included in an area where harm is assumed to be 'High' or the AONB absolute constraint applies.

Table C	**Parcel GR5: Small parcel of land immediately north of Claylane Wood, east of Riverview Park at Shorne West.**
Description	Open farmland located to the east of Gravesend, sloping down towards the settlement edge to the west. Garden boundaries and a narrow strip of woodland create limited distinction from the urban edge containing the parcel to the west and north west. There is no defined boundary feature to separate the parcel from the wider countryside to the east, but the landform in this area creates a stronger association with the town and Claylane Wood, an ancient woodland, defines a distinct boundary to the south.
Purpose: To check the unrestricted sprawl of large built-up areas	
Moderate	The land adjoins the large built-up area of Gravesend and is open and largely uncontained by development. However, the woodland strip creates limited distinction from the adjacent inset settlement edge, so the land has a relationship with both the urban area and the countryside.
Purpose: To safeguard the countryside from encroachment.	
Moderate	The land contains the characteristics of open countryside but it is partly contained by development. Landform strengthens association with the urban area, limiting the extent to which the woodland strip

	creates distinction from the urban edge. Overall the parcel has a relationship with both the urban area and the countryside.
Impact of release on the contribution of adjacent land to the Green Belt purposes	
To what extent would release of land for development within the parcel increase containment of adjacent Green Belt land? Would this increase the overall level of harm? Would the release of land result in a weaker distinction between the urban area and the countryside? Releasing this land would not increase the containment of any adjacent land. Although there is no specific alternative boundary feature, the existing inset boundary is weak and the sloping landform around the parcel's margin creates enough distinction for the overall impact on the adjacent Green Belt to be limited.	
Overall harm to Green Belt purposes from release of land	
Moderate	Release of the parcel would constitute moderate sprawl and encroachment on the countryside and a negligible weakening of the integrity of adjacent Green Belt land. Therefore, the harm to the Green Belt purposes of releasing this parcel would be moderate.
Variations of harm within the parcel	
Are there smaller areas within the parcel that could be released with less harm to the Green Belt purposes? Or conversely are there areas where harm would be higher? There is no potential for reduced release of land that would result in less harm to the Green Belt purposes.	

Table D	**Parcel GR6: Main area of land north of A2 surrounding Thong**
Description	Large open expanse of farmland on the eastern edge of Gravesend between Claylane Wood (an ancient woodland, and therefore considered to be constrained from development) and Thong Lane (adjacent to the Riverview Park estate). The parcel is relatively flat, with a gentle downhill slope towards Gravesend on its western fringes, and extends east out towards the Shorne and Ashenbank Woods SSSI. There is no significant distinction between the urban area and the parcel. The parcel includes the washedover settlement of Thong (a linear settlement along Thong Lane) which has some limited urbanising influence but largely retains a countryside character, creating only a limited sense of urban containment. The southeast of the parcel, to the east of Thong Lane, is tightly enclosed by the A2 to the south, Gravehill Wood to the west, and Shorne and Ashenbank Woods SSSI to the north and east. This land contains lakes and a hotel.

Purpose: To check the unrestricted sprawl of large built-up areas	
Relatively Significant	The land adjoins the large built-up area of Gravesend and is open and largely uncontained by development. The absence of any strong distinction between the parcel and the urban area, and the presence of washed-over development at Thong, do however cause some weakening of contribution, but overall the land relates more strongly to the countryside than to the urban area.
Purpose: To safeguard the countryside from encroachment.	
Relatively Significant	The parcel lacks strong distinction from the inset edge of Gravesham and has some limited containment as a result of the presence of washed-over development at Thong, but is largely open countryside. Overall the land relates more strongly to the countryside than to the urban area.
Impact of release on the contribution of adjacent land to the Green Belt purposes	
To what extent would release of land for development within the parcel increase containment of adjacent Green Belt land? Would this increase the overall level of harm? Would the release of land result in a weaker distinction between the urban area and the countryside? Releasing this land (in combination with the release of GR5, which is entirely contained by it) would cause some minor containment of adjacent Green Belt land to the northeast, but the edge of the Shorne and Ashenbank Woods SSSI to the east, and the HS1/A2 corridor to the south, would constitute strong boundaries that would limit harm to the wider Green Belt.	
Overall harm to Green Belt purposes from release of land	
Moderate High	Release of the parcel would constitute relatively significant sprawl and encroachment on the countryside and relatively limited loss of separation between towns. There would be a minor weakening of the integrity of adjacent Green Belt land. Therefore, the harm to the Green Belt purposes of releasing this parcel would be moderate-high.
Variations of harm within the parcel	
Are there smaller areas within the parcel that could be released with less harm to the Green Belt purposes? Or conversely are there areas where harm would be higher? A much smaller release, of the open but very contained area of land on the settlement edge lying between Claylane Wood and the A2, to the east of houses at Sheldon Heights, would have no impact on the wider Green Belt. Harm to Green Belt purposes from release of this area would be low-moderate.	

Table E	Parcel GR7: Large area of open farmland east of Thong Lane, including Southern Valley Golf Course, northwards to A226
Description	The area comprises Southern Valley golf course, adjacent to the inset settlement edge at Riverview Park to the south of Cascades Leisure Centre, adjoining farmland to the east. The area contains no urbanising development to diminish openness and is not contained by any urbanising development. The landform, sloping away eastwards with a pronounced valley on the golf course, creates some distinction from the adjacent urban edge, along which Thong Lane also forms a consistent Green Belt boundary.
Purpose: To check the unrestricted sprawl of large built-up areas	
Significant	The land adjoins the built-up area of Gravesend. The parcel's openness, distinction from the settlement edge and lack of urbanising containment mean that it has a strong relationship with the countryside.
Purpose: To safeguard the countryside from encroachment.	
Significant	Openness, a distinct landform, a clear inset boundary and lack of containment give this area a strong relationship with the countryside.
Impact of release on the contribution of adjacent land to the Green Belt purposes	
To what extent would release of land for development within the parcel increase containment of adjacent Green Belt land? Would this increase the overall level of harm? Would the release of land result in a weaker distinction between the urban area and the countryside? Releasing land on the golf course would be a moderate weakening of the consistent Green Belt boundary formed by Thong Lane, weakening of the integrity of remaining Green Belt land between Gravesend and Shorne.	
Overall harm to Green Belt purposes from release of land	
High	Release of land beyond this part of Thong Lane area would constitute significant sprawl and encroachment on the countryside and a moderate loss of separation between towns. It would cause a moderate weakening of the integrity of adjacent Green Belt land. Therefore, the harm to the Green Belt purposes would be high.
Variations of harm within the parcel	
Are there smaller areas within the parcel that could be released with less harm to the Green Belt purposes? Or conversely are there areas where harm would be higher? There is no potential for reduced release of land that would result in less harm to the Green Belt purposes.	

Table F	Parcel GR9: Cascades Leisure Centre and farmland running northwards to the A226, excluding Thamesview School playing field (GR8)
Description	The central and northern parts of the parcel comprise of open farmland beyond Thong Lane to the east of Gravesend. To the south the buildings of the Cascades Leisure Centre also lie to the east of Thong Lane, along with a golf driving range, pitch and putt course and playing fields. Aside from the buildings of the leisure centre, the parcel is open in character, and a shallow valley just to the east of Thong Lane helps to create distinction from the inset edge to the west, although this is offset by a degree of containment from development in the suburb of Chalk extending eastward to the north of the A226 Rochester Road. The leisure centre buildings and associated open space lies on high ground which falls away to the north and east, and although it has clearly defined boundary vegetation it extends significantly eastwards into the rural area.
Purpose: To check the unrestricted sprawl of large built-up areas	
Relatively Significant	This is open land adjoining the built-up area of Gravesend. Thong Lane is a clear boundary to the settlement, but the eastward extent of Gravesend to the north, and the presence of development within the southern part of the parcel, create some containment. Overall the parcel has a stronger relationship with the countryside than with the urban area.
Purpose: To safeguard the countryside from encroachment.	
Relatively Significant	Land which has some recreational uses associated with the proximity of the urban area, and some limited containment by inset development to the north, but is largely visually-open farmland which has a stronger relationship with the countryside than the settlement.
Impact of release on the contribution of adjacent land to the Green Belt purposes	
To what extent would release of land for development within the parcel increase containment of adjacent Green Belt land? Would this increase the overall level of harm? Would the release of land result in a weaker distinction between the urban area and the countryside? Releasing this land, in combination with the release of parcel GR8 which is entirely contained by it, would not significantly increase the containment of any adjacent land, but the absence of any existing boundary feature to the east means that it would represented a moderate weakening of the boundary formed by Thong Lane which, although breached by development in several locations, is nonetheless a clearly defined feature.	
Overall harm to Green Belt purposes from release of land	

Moderate High	Release of the parcel would constitute relatively significant sprawl and encroachment on the countryside, and relatively limited loss of separation between towns. It would constitute a moderate weakening of the integrity of adjacent Green Belt land. Therefore, the harm to the Green Belt purposes of releasing this parcel would be moderate-high.
Variations of harm within the parcel	
Are there smaller areas within the parcel that could be released with less harm to the Green Belt purposes? Or conversely are there areas where harm would be higher? The recreational space around the leisure centre has a clear boundary, but release of this area along, without the farmland to the north, would weaken the latter through increased containment and would therefore still result in moderate-high harm. However releasing only the immediate area around the leisure centre buildings, which is less open and more strongly associated with the urban edge than most of the parcel, would result in low-moderate harm to the Green Belt purposes.	

Table G	**Parcel SR5: Area south of Shorne Ridgeway down to M2 junction 1**
Description	Area of open grassland with scattered clusters of tree cover, sloping southward from the wooded upper slopes to the south of The Ridgeway towards the M2/A2/A289 junction. There is a haulage depot alongside the A2 but this has little urbanising influence over the parcel as a whole and does not significantly diminish openness. The tree cover on the northern boundary provides some distinction from the adjacent residential area and the parcel is not contained by urban development. The outer boundary with adjacent Green Belt land is defined to the east and west by the edge of woodland blocks (which are largely designated as SSSI and/or ancient woodland) and to the south by road infrastructure. Although visually intrusive, the motorway does not constitute urban containment, given the size of the parcel and the openness of the valley along which it runs.
Purpose: To check the unrestricted sprawl of large built-up areas	
Moderate	The parcel includes land which is close to Strood and which is open and uncontained by urban development, with strong distinction from the inset settlement of Shorne Ridgeway, and which therefore has a very strong relationship with the countryside. However it has even stronger separation from Strood, with the M2, A289 and associated tree cover in between.
Purpose: To safeguard the countryside from encroachment.	
Significant	Tree cover and the visually open valley landform create strong distinction from the inset settlement to the north, and the parcel is open and

	uncontained by urban development. The parcel has a very strong relationship with the countryside.
Impact of release on the contribution of adjacent land to the Green Belt purposes	
To what extent would release of land for development within the parcel increase containment of adjacent Green Belt land? Would this increase the overall level of harm? Would the release of land result in a weaker distinction between the urban area and the countryside? The release of this parcel, in combination with the release of SR4, would result in a strong and consistent boundary between the inset settlement and the Green Belt, defined by major roads and the edge of blocks of (mostly ancient) woodland. However, although containment by major road infrastructure and woodland would limit containment of other Green Belt land, development on this valley side would represent a minor weakening of the perceived separation between Gravesend and Strood, as perceived from the A2/M2.	
Overall harm to Green Belt purposes from release of land	
High	Release of the parcel would constitute significant encroachment on the countryside, a relatively significant impact on prevention of the coalescence of towns, and a moderate impact on the Green Belt's role in preventing the sprawl of Strood. It would have a minor impact on the integrity of adjacent Green Belt land. Therefore the harm to the Green Belt purposes of releasing this parcel would be moderate-high.
Variations of harm within the parcel	
Are there smaller areas within the parcel that could be released with less harm to the Green Belt purposes? Or conversely are there areas where harm would be higher? There is no potential for reduced release of land that would result in less harm to the Green Belt purposes.	

Table H	**Parcel TC5: Area of grassland and woodland south of M2 junction 1 around Knights Place Farm, westward to Cobham and Rochester Golf Course which lies within the Kent Downs AONB.**
Description	Elevated area of open grassland and woodland blocks lying adjacent to the southern edge of Strood, and to the south west of Three Crutches, west of the M2 motorway corridor. There are two covered reservoirs between the M2 and the railway line, but no urbanising development to diminish openness, and there is no containment by any urban development. A railway line runs roughly parallel to the motorway, roughly 200-400m away, beyond which to the south lie extensive woodlands. The M2 motorway provides strong distinction from the urban edge of Strood, as do the rising landform and extensive tree cover.

Purpose: To check the unrestricted sprawl of large built-up areas	
Significant	The parcel is adjacent to the large built-up area of Strood. The parcel's strong distinction from the urban edge, lack of urban containment and openness means that it has a very strong relationship with the countryside.
Purpose: To safeguard the countryside from encroachment.	
Significant	Lack of urban containment and strong distinction from adjacent inset settlement mean that land beyond the M2 is generally perceived as open countryside, with only a weak relationship with the settlement.
Impact of release on the contribution of adjacent land to the Green Belt purposes	
To what extent would release of land for development within the parcel increase containment of adjacent Green Belt land? Would this increase the overall level of harm? Would the release of land result in a weaker distinction between the urban area and the countryside? Releasing land in this area would not increase the containment of any adjacent land, but although the railway line or woodlands could form a clear new Green Belt edge any breach of the strong and consistent settlement boundary formed by the M2 motorway corridor would constitute a moderate weakening of the distinction between the inset settlement and adjacent Green Belt.	
Overall harm to Green Belt purposes from release of land	
High	Release of the parcel would constitute significant encroachment on the countryside and significant sprawl of the large built-up area, and a moderate weakening of the separation between towns. It would constitute a moderate weakening of the integrity of adjacent Green Belt land. Therefore, the harm to the Green Belt purposes of releasing this parcel would be high.
Variations of harm within the parcel	
Are there smaller areas within the parcel that could be released with less harm to the Green Belt purposes? Or conversely are there areas where harm would be higher? There is no potential for reduced release of land that would result in less harm to the Green Belt purposes.	

NB: Details relating to parcel TC1 have not been included here given limited impact.