

28th January 2016



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Lynne Stinson (Scheme Project Manager)
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Dear Lynne Stinson,

Application Number: **TR010019**

M4 (Junctions 3 to 12) Smart Motorway Development Consent Order Application – South East Water Response to Highways England’s Hydrological Risk Assessment for Groundwater Source Protection Zones’ (Document Ref: 514451-MUH-00-ZZ-RP-GE-400157) dated January 2016

Application Reference: TR010019

South East Water are writing to Highways England following a review of the ‘Hydrological Risk Assessment for Groundwater Source Protection Zones’ (Document Ref: 514451-MUH-00-ZZ-RP-GE-400157) dated January 2016 prepared on behalf of Highways England (To be referred to here as the HRA). The HRA was prepared for South East Water to address outstanding concerns raised by South East Water during the ongoing Examination Phase of the Development Consent Order (‘DCO’) application with regard to the potential impact of the M4 Smart Motorway Scheme (to be referred to within this letter as the Scheme) (Planning application reference: TR010019) on the groundwater system and South East Water’s ability to supply water for public supply purposes at both their Beenhams Heath and Bray Gravels Sites. South East Water received the main body of the document electronically 7th January 2016 with supporting figures received on CD Rom via post 14th January 2016.

To date, South East Water have twice requested that Highways England prepare a ‘Hydrogeological Risk Assessment’ in order to alleviate our concerns regarding the impacts the proposals could have on the quality of surface and groundwater resources that we abstract and subsequently treat for public water supply. The letters sent through to Highways England requesting this document are listed below (and are included within the Annex which updates the communications list sent through to South East Water by Highways England 11th November 2015 within their response to the Planning Inspectorate for Deadline III) :

- 18 December 2014 - Letter from South East Water to Highways England – Stated that ‘*We would welcome a separate ‘Hydrogeological Impact Assessment’ to be made available for consultation prior to granting of the work’*
- 22 October 2015 – Letter from South East Water to Highways England – Stated that ‘*South East Water are satisfied that a qualitative assessment of the potential impact of the Scheme to*

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deteriorate groundwater quality at both our Beenhams Heath and Bray Gravels Sites has been compiled within the Environmental Statement...Furthermore, South East Water are pleased to learn that this risk is planned to be quantitatively assessed within a formal Hydrogeological Risk Assessment (HRA) informed by data collected during ground investigations planned for completion by December 2015.'

South East Water requested a Hydrogeological Risk Assessment within previous correspondence which Highways England agreed to prepare within their 11th November 2015 response; Section 4.15.1 stated:

'Highways England confirms that a separate Hydrogeological Risk Assessment ("HRA") is to be undertaken, which will be completed and provided to the Examining Authority by the end of the Examination, in order to quantitatively assess the potential impacts of construction activities associated with the M4 J3-12 Smart Motorway scheme (the "Scheme"), on groundwater protection zones at South East Water's Thames Bray and Beenhams Heath Sites.'

However, the HRA, document 514451-MUH-00-ZZ-RP-GE-400157, sent to South East Water by Highways England in response to this request has the title *Hydrological Risk Assessment*.

South East Water specifically requested the preparation of a *Hydrogeological Risk Assessment* with the expectation that the development of a conceptual model is the fundamental approach used for such an assessment. South East Water anticipated that hydrogeological data (including aquifer parameters, groundwater level and groundwater abstraction data) would be acquired, interpreted and used to inform and produce an adequate description of the groundwater system at both our Beenhams Heath and Bray Gravels site. The expectation was that this would include quantitative descriptions of baseline groundwater flow and aquifer yield and consideration of groundwater abstraction volumes from South East Water's production boreholes.

The conceptualisation in turn should be used to evaluate and categorise the risk of the impact that the construction of the M4 Smart Motorway Scheme poses to the quality of groundwater abstracted from our public water supply boreholes located within Source Protection Zones (SPZs), as identified by the Environment Agency, associated with the Scheme. This process would then enable selection of appropriate mitigation measures to reduce the risk.

South East Water note that the introduction of the HRA, Section 1.1.2 states that:

'Further to Highways England's response to South East Water's Written Representation [Highways England's 11th November 2015 letter] Highways England were able to source and purchase additional private geological information from the British Geological Survey for this study which negated the need for targeted ground investigation to inform this assessment'

South East Water are pleased that Highways England have obtained secondary data to support the HRA and described and presented it within the main body of the document and supporting figures. However, additional data is required to support a full hydrogeological conceptualisation (in bold below):

- Figures which show all areas of the Scheme that intersect SPZs 1-4 and that borehole logs acquired from the British Geological Survey have been used to overlay a comprehensive layer of all boreholes (production and observation) associated with our Beenhams Heath [Drawing Nos.: 514451-MUH-00-ZZ-DR-GE-400197 to 514451-MUH-00-ZZ-DR-GE-400199] and Bray Gravels Sites [Drawing Nos.: 514451-MUH-00-ZZ-DR-GE-400200 to 514451-MUH-00-ZZ-DR-GE-400201]. **For completeness, South East Water request that the figures are updated to include the adits present at Beenhams Heath Site which are shown on the geological logs within the Appendix of the HRA.**

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- A review of the geology and hydrogeology of the area of the Scheme in the vicinity of South East Water's public water supply sites and within associated SPZs has been carried out. **South East Water request that geological maps including groundwater level contours are prepared and included to support the conceptualisation of the area.**
- Technical drawings of components of the Scheme in the vicinity of South East Water's public water supply sites and within associated SPZs have been given. South East Water comment that the proposed changes to existing infrastructure associated with the Scheme have not been considered within the context of a hydrogeological model and therefore South East Water are not satisfied that the impact of the Scheme on the current hydrogeological setting and therefore on the water that South East Water abstract for public water supply has been fully considered. **South East Water request that plan view drawings and cross sections presenting infrastructure (including locations, depths and dimensions of South East Water's water supply boreholes and adits and the infrastructure (and proposed infrastructure changes) associated with the Scheme) overlaid on the geology and groundwater level contours are prepared and used to inform the assessment of the hydrogeological impact of the Scheme within the SPZs associated with both our Bray Gravels and Beenhams Heath sites.**

Furthermore, in addition **South East Water request that primary data including current groundwater levels and groundwater abstraction data is collected and ground investigation is carried out to support the conceptual modelling of the system.** The development of the hydrogeological conceptual model should be considered an iterative process to be improved and refined as additional hydrogeological data is acquired and **South East Water request that the hydrogeology section of the HRA (Section 2.3) is expanded and refined in line with this and as additional primary and secondary data is collected.**

Section 4.5.4 of the HRA states that there are 'high groundwater level within the Bray Gravels SPZ' but no quantitative values are provided to support this. **South East Water request that quantitative groundwater level data is used to support this statement and to inform the conceptualisation within the HRA.** South East Water note that groundwater level data (as provided to South East Water from the Environment Agency) has previously been provided to Highways England for an observation borehole (Borehole 1) at Bray Gravels Site, this data has not been included within the HRA. **South East Water suggest that the groundwater level data supplied can be used to support quantifying the groundwater system and developing the conceptual model within the HRA.**

South East Water appreciate that the conclusion of Highways England's HRA, Section 5.0.4, states that:

'Further ground investigations will be conducted within the Order limits to provide additional data for design purposes and to facilitate further verification impact assessments as the detailed design of the Scheme develops. The information obtained will be used to plan and design further appropriate mitigation measures.'

Prior to the onset of any intrusive ground investigation, for example the drilling of exploratory boreholes, **South East Water request that Highways England send through detailed method statements for the ground investigations along with a timetable for the work for review and comment.** On this point, South East Water take this opportunity to reiterate that Highways England should maintain consistent lines of communication with South East Water's Operations department before, during and after the construction phase, particularly during any intrusive work, to ensure that the flow and quality of water at our public water supply boreholes can be closely monitored and so that action can be taken in the event of any groundwater pollution or dewatering event.

Overall, South East Water support Highways England's intent to carry out further ground investigations and to collect additional data to inform and further develop a conceptual model within the current HRA. This will be helpful to verify the risk assessment and effectiveness of mitigation measures proposed.

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Following all correspondence between South East Water and Highways England to date South East Water still hold specific outstanding concerns with regard to the Scheme and the risk that the construction and operational activities pose to the quality of surface water and the quality, flow and yield of groundwater.

With regard to surface water:

The HRA states that flood risk and runoff management are not considered as these are considered within Chapter 15 of the Environmental Statement (ES) [Application Document Ref: 6-1-APP-150]. South East Water's position with regard to surface water has not changed since it's letter to Highways England 22 October 2015:

'With regard to surface water drainage, South East Water are pleased to learn that method statements will be prepared including details of pollution protection measures and that discharge consents will be requested from all relevant water authorities before commencement of drainage works where required when drainage systems are to be relocated.'

Highways England have confirmed in their 11th November 2015 letter in Section 4.19.1 that:

'Draft drainage consent applications and method statements outlining proposed pollution prevention techniques will be submitted to South East Water and other relevant water authorities for their approval prior to commencement of any construction activities that could have the potential to impact water quality.'

South East Water would like to take this opportunity to reiterate the impact that pollution events, including fuel or oil spills could have both on our surface water sources; both Bray Gravels and Beenhams Heath sites are situated within Drinking Water Safeguard Zones for the River Thames, from which we abstract surface water for public supply purposes. Furthermore, such events have the potential to infiltrate to the aquifers below the site and cause a deterioration in groundwater. South East Water are pleased that Highways England have prepared a Construction Environmental Management Plan which includes a pollution control plan and standard best practices. **South East Water further take the opportunity to request that in the event of a pollution or fuel/oil spill event during or post construction that South East Water are notified by Highways England immediately and that this action is added to the emergency procedures within the CEMP.**

South East Water further request that pre-development condition 12 within the Development Consent Order is expanded as follows (the amendment is underlined below) to ensure that South East Water are notified in the event of a groundwater contamination event:

'Contaminated land and groundwater 12—

(1) In the event that contaminated land, including groundwater, is found at any time when carrying out the authorised development which was not previously identified in the environmental statement, the undertaker must cease construction of the authorised development in the vicinity of that contaminated land and must report it immediately to the Environment Agency, the relevant water company, and the relevant planning authority, and the undertaker must complete a risk assessment of the contamination.

(2) Where the relevant planning authority determines that remediation is necessary, a written scheme and programme for the remedial measures to be taken to render the land fit for its intended purpose, must be submitted to and approved by the relevant planning authority, following consultation with the the Environment Agency.

(3) No remedial work constituting a material operation (as defined in section 155 (when development begins) of the 2008 Act) in respect of contamination of any land, including groundwater, within the Order limits is to be carried out until the scheme for remediation has been approved under sub-paragraph (2).

(4) Remediation must be carried out in accordance with the approved scheme.'

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With regard to groundwater:

The HRA considers the potential impact of the Scheme in relation to deterioration of groundwater quality over the full extent of the Scheme within both the construction and operational phases; the potential for this impact was also addressed within Chapter 10 and Chapter 15 of the ES [Application Document Reference: 6-1-APP-150].

Beenhams Heath:

South East Water's abstraction at Beenhams Heath, abstracts from the Upper Chalk, a Principle Aquifer. The area is not classified by the Environment Agency as a groundwater vulnerable zone due to the confined nature of the aquifer (the London Clay provides a confining layer) however due to its location within an SPZ is a potential receptor for contaminants mobilised at anywhere within the SPZ.

Highways England state in their 11 November 2015 letter Section 4.15.6 that:

'Proposed works in the vicinity of the Beenham's Heath site comprise the installation of one new gantry which is very likely to be on piled foundations. It is thus considered that the risk of causing increased turbidity in the groundwater at this site is very low.'

South East Water understand from the HRA that work in the vicinity of Beenhams Heath includes the construction of new gantries and Emergency Refuge Areas (EFAs) with the associated risk assessed as Neutral. **South East Water request that the piling method and depth of the concrete bored piles proposed in Table 10 for the gantries and the depth and extent of the intrusive earthworks proposed in Table 10 are included within the HRA and the risk to the current hydrogeological situation posed verified as informed by this more detailed design specification.**

South East Water understand that widening, demolition, replacement of bridges and/or extension of underbridges/culverts is not required in this area of the Scheme and that risk associated with such activities at Beenhams Heath is therefore Null.

Bray Gravels:

South East Water's abstraction at Bray Gravels, abstracts from the River Terrace Deposits, a Principle Aquifer, and in addition to being located within an SPZ this area is also classified by the Environment Agency as a vulnerable zone (a Major Aquifer with Intermediate Vulnerability) due to the shallow nature of the water table in this area (the maximum borehole depth is 15m). Section 10 of the Environmental Statement (ES) [Application Document Reference: 6-1-APP-150] notes the specific importance of the SPZ 1 between Junction 8/9 to 7 and particularly around Monkey Island Lane, the region of our Bray Gravels Site due to the vulnerability of the aquifer in this location. In addition, the close proximity of our production boreholes to the proposed construction sites (around 100m from Monkey Island Lane) increases the sensitivity of this area.

Highways England in their 11 November 2015 letter, Section 4.15.6, state that:

'In the area of Bray Gravels / Monkey Island however, the proposed construction activities are much more extensive comprising several new gantries, two Emergency Refuge Areas, embankment widening and the construction of a new overbridge...With the exception of the new bridge foundations at Bray Gravels / Monkey Island, the construction of the new side road and other earthworks will be above existing ground level thus minimising the extent of excavation and the consequential impact of disturbing the ground leading to increased turbidity of the groundwater...Excavation depths (other than for the bridge foundations) are expected to be less than 2m deep and contained within the cohesive alluvium which is believed to cap the gravels in this location. Excavations will be kept to as shallow a depth as possible, and above the

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groundwater table, in order to mitigate the risk of causing turbidity within the groundwater. With such mitigation measures in place the risk of causing increased turbidity of the groundwater is considered to be very low'

South East Water understand from the HRA that work in the vicinity of Bray Gravels includes:

- The construction of new gantries with the risk to the aquifer assessed as Slight to Large **South East Water request that the piling method and depth of the concrete piles proposed in Table 11 are included within the HRA and the risk to the current hydrogeological situation posed is verified as informed by this more detailed design specification.**
- Areas of widening and the construction of EFAs involving minor cutting 'not likely to exceed 1m in depth' with the risk to the aquifer assessed as Neutral. **South East Water request confirmation of the maximum depth associated with excavation work required within areas of widening and during construction of ERAs (as proposed within Table 11) and the risk to the current hydrogeological situation posed is verified as informed by this more detailed design specification.**
- Construction of overbridges at Monkey Island and Marsh Lane with the risk to the aquifer assessed as Moderate to Very Large (Large to Very Large for the overbridge at Monkey Island Lane due to the close proximity (~100m to the NE) of South East Water's public water supply abstraction borehole). **South East Water request that the piling method and depth of the concrete piles proposed in Table 11 on which bridge abutments will sit are included within the HRA and the risk to the current hydrogeological situation posed is verified as informed by this more detailed design specification.**
- Construction of an underbridge at Thames Bray with the risk to the aquifer assessed as Large to Very Large. **South East Water request that the piling method and depth of the concrete piles proposed in Table 11 on which the new bridge abutments will sit are included within the HRA and the risk to the current hydrogeological situation posed is verified as informed by this more detailed design specification.**

South East Water's main primary outstanding concerns with regard to the Scheme are the concrete piles associated with new gantries, overbridges and underbridge.

Highways England state in their 11 November 2015 letter in Section 4.15.7 that:

'As groundwater within the area is anticipated to be high, piled foundations are proposed for the bridge. Piled foundations will cause least disturbance to the ground below the bridge and will negate the need for dewatering. Appropriate measures such as the use of full permanent casings during piling works will reduce/mitigate any effect where such operations are not able to be eliminated. Careful management of construction site drainage (e.g. sediment traps) will also mitigate against the attendant risks.'

South East Water require additional information on the pile type and depths and an assessment of the resultant impact on the groundwater system before a comment can be made on the appropriateness of the methods selected. Specifically, close proximity boreholes may be impacted by turbidity during drilling of the piles if suspended sediment is mobilised at depth within the high porosity and high permeability River Terrace Deposits; a sand and gravel aquifer. The use of sediment traps will only act to minimise turbidity within runoff at the surface. Furthermore, post construction if groundwater flow is obstructed by the piles yield at our abstraction boreholes may reduce despite dewatering being negated; without knowing the specific depths of the piles, Table 12 of the HRA only states that piles lengths will be minimised, this risk cannot be fully assessed.

South East Water are satisfied that the use of full permanent pile casing as stated in Table 12 of the HRA, in areas where piling is unavoidable in close proximity to South East Water's boreholes, will reduce the risk

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of the loss of concrete injected into the aquifer under pressure and mitigate the chance that chemicals may be injected into the shallow aquifer and drawn into groundwater abstracted at public supply boreholes.

South East Water agree that the effects of the Scheme are likely to be temporary and during the construction phase and are pleased that a surface and groundwater monitoring plan in and around the bridge sites, where the most disturbance is expected, will be prepared and implemented as detailed within the CEMP. **South East Water request details of the monitoring plan before any construction commences and copies of the monitoring results during and after the construction phase.**

Overall, the risk posed to South East Water's public supply boreholes during the construction phase as assessed within the HRA, with mitigation measures considered, is Neutral, although Slight Adverse effects may occur. Post construction the risk is assessed as Neutral. However, South East Water at this point in time are not satisfied that an appropriate Hydrogeological Risk Assessment has been undertaken of the risk to our sites located within SPZs associated with the Scheme and await the outcome of this additional work and revisions to the HRA as requested (in bold) within this letter. **Overall, South East Water request that the HRA is expanded to include a quantitative hydrogeological conceptual model that is used to inform an assessment of the impacts of the Scheme on the current groundwater system and South East Water's ability to supply water for public supply purposes at both their Beenhams Heath and Bray Gravels Sites. This approach will enable a robust risk assessment and selection of appropriate mitigation measures to ensure risks to groundwater quality, flow and yield are minimised.**

South East Water request that they are given another opportunity to comment on the revised HRA once prepared by Highways England within this Examination phase of the Development Consent Order ('DCO') application.

South East Water support the comments of the Environment Agency with regard to this Scheme and in relation to their review of this HRA and understand that the Environment Agency act to protect and enhance the environment including water resources. In line with this, South East Water must be satisfied that the water that we abstract, treat and distribute for public supply purposes from aquifers underlying the Scheme will continue to satisfy the required stringent drinking water quality standards set by our regulator the Drinking Water Inspectorate (DWI) during both the construction and operational phases.

South East Water support the comments of the Environment Agency with regard to this Scheme and in relation to the review of this HRA who have a statutory duty to protect and enhance the environment including water resources. In line with and further to this, South East Water must be satisfied that the Scheme will not impact the water resources that we abstract, treat and distribute for public supply purposes from aquifers underlying the Scheme, and that our Beenhams Heath and Bray Gravels Sites continue to meet the stringent drinking water quality standards set by our regulator the Drinking Water Inspectorate (DWI).

To date, protective provisions for the benefit of South East Water (and all other) statutory undertakers to be included within the Development Consent Order have been provided by Highways England and reviewed and amended by South East Water's legal team. Highways England have since agreed to these amendments and proposed a side agreement between Highways England and South East Water to govern these protective provisions. **Please be advised that the side agreement is currently under review by South East Water's legal team and that a separate response will be submitted including any required amendments.**

Whilst South East Water is supportive of the overall objectives of the Scheme to relieve congestion and improve journey times between junctions 3 to 12 of the M4 we remain concerned about the impacts the proposals could have on water resources which we rely on in order to supply public drinking water.

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South East Water reiterate that our primary concern is the protection of surface and groundwater resources that we abstract and subsequently treat for public water supply and ensuring that we are able to meet the standards set by our drinking water regulators, the Drinking Water Inspectorate.

South East Water looks forward to an ongoing dialogue with both Highways England and the Planning Inspectorate through this Examination phase of the application and working together with yourselves and the Environment Agency to protect water resources, both groundwater and surface water, to ensure that the public water supply is safe-guarded in the future.

Yours sincerely,



Katie Woollard
Water Resource Planner, South East Water

cc: Helen Chapman, Supply Demand Manager, South East Water
Nick Honeyball, Hydrogeologist, South East Water
Jonathon Flemming, Planning Specialist, Sustainable Places, Environment Agency
Travis Kelly, Technical Specialist, Hydrogeology and Groundwater Modelling, Environment Agency

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Annex:

Date Form of Contact Summary	Date Form of Contact Summary	Date Form of Contact Summary
11 March 2013	Letter from Highways England to South East Water	Request for information on Buried Services and apparatus.
10 March 2014	Invitation to attend a Public Information Exhibition, to be held on 18 March 2014	Public Information Exhibition as part of initial stakeholder engagement and information exercise. Did not attend.
02 May 2014	Letter from Highways England requesting completion of land ownership questionnaire	Requesting land interest details for identified areas of land which may be affected by the Scheme. No response received.
17 October 2014	Letter from Highways England requesting completion of land ownership confirmation questionnaire	Questionnaire to obtain confirmation that the details previously provided regarding the Scheme are still valid and to offer the opportunity to provide any updates.
30 October 2014	Response from South East Water regarding land ownership confirmation questionnaire	Completed questionnaire for land ownership details for South East Water.
10 November 2014	Planning Act 2008 Section 42: Notice of statutory pre-application consultation period	Notification of the formal preapplication consultation between 10 November and 21 December 2014 about the Scheme in accordance with Section 42 of the Planning Act 2008.
10 November 2014	Planning Act 2008 Section 47 Notification Letter	Details of the pre-application consultation to be held between 10 November and 21 December 2014.
24 November 2014	Phone call from Highways England Land Referencing team to South East Water	Follow up enquiries regarding South East Water's land ownership confirmation response.
24 November 2014	Phone call from South East Water to Highways England.	Phone call requesting a copy of the land ownership confirmation questionnaire as there was no record of who completed the original.
24 November 2014	Phone call from South East Water to Highways England.	Phone call requesting a copy of the land ownership confirmation questionnaire as there was no record of who completed the original.
24 November 2014	Email from Highways England attaching a copy of land ownership confirmation questionnaire	Copy of land ownership confirmation questionnaire sent as requested.
24 November 2014	Phone call from South East Water to Highways England Land Referencing team	Conversation regarding follow up enquiry questions.
25 November 2014	Phone call to South East Water from Highways England's Land Referencing team	Voice mail left requesting a call back to discuss further follow up enquires for the confirmation questionnaire.
18 December 2014	Letter from South East Water to Highways England commenting on the scoping consultation and outlining outstanding concerns.	South East Water sent a letter commenting on the scoping consultation and outlining outstanding concerns with regard to the impact the proposals could have on some of our water resources that we rely upon in order to supply drinking water.
19 February 2015	Letter from Highways England requesting completion of land ownership confirmation questionnaire	Questionnaire to obtain confirmation that the details previously provided regarding the Scheme are still valid and to offer the opportunity to provide any updates.
25 February 2015	Letter from Highways England requesting completion of land ownership confirmation questionnaire sent to Major Land Owners	Questionnaire to obtain confirmation that the details previously provided regarding the Scheme are still valid and to offer the opportunity to provide any updates.
25 February 2015	Copy letter from Highways England requesting completion of land ownership confirmation questionnaire sent to contact at South East Water that had provided information previously	Questionnaire to obtain confirmation that the details previously provided regarding the Scheme are still valid and to offer the opportunity to provide any updates.
27 February 2015	Response to request for land ownership confirmation questionnaire	Completed questionnaire for land ownership details for South East Water
27 February 2015	Email to South East	Email following up confirmation

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	Water from Highways England regarding confirmation questionnaire	questionnaire response requesting additional information.
03 March 2015	Email to South East Water from Highways England regarding confirmation questionnaire	Follow up email regarding request for additional information.
03 March 2015	Email from South East Water to Highways England regarding confirmation questionnaire	Email stating that the information they sent is believed to be correct, but they will look into the queries listed in email dated 27 February 2015.
03 March 2015	Email to South East Water from Highways England regarding confirmation questionnaire	Follow up email regarding request for additional information.
09 March 2015	Email to South East Water from Highways England regarding confirmation questionnaire	Voice mail left requesting a call back to discuss follow up enquires for the confirmation questionnaire.
10 March 2015	Incoming email from South East Water regarding confirmation questionnaire	Response to the follow up enquiry sent in email dated 3 March 2015.
10 March 2015	Email to South East Water from Highways England regarding confirmation Questionnaire.	Email sent acknowledging receipt of details provided and a request for additional information.
01 May 2015	Email to South East Water from Highways England	Survey Access request for the ecology team to carry out non-invasive surveys.
11 May 2015	Email to South East Water from Highways England	Follow up request for ecology survey access.
11 May 2015	Phone call to South East Water from Highways England	Follow up request for ecology survey access.
12 May 2015	Email from South East Water to Highways England	An email response agreeing to survey access for the ecology team.
12 May 2015	Email to South East Water from Highways England	Requesting contact details for the ecology team in order to carry our surveys.
12 May 2015	Email from South East Water to Highways England	Email providing point of contact details for access in order to carry out surveys.
12 May 2015	Email from South East Water to Highways England	Additional contact details for the ecology team.
28 May 2015	Planning Act 2008 Section 56: Notice of acceptance of an application for a development consent order	Notification of acceptance of application together with details of land which South Bucks District Council have an interest. Highways England sent Section 56 Notice of acceptance of a planning application for a development consent order for the M4 Junctions 3 to 12 Smart Motorway (notification that the application for M4 Smart Motorway development consent order submitted to the Secretary of State 27th April 2015 had been accepted for examination by the Planning Inspectorate) and included with the notification letter a map showing a location of the proposed development and a copy of the Environmental Statement.
08 June 2015	Letter from Highways England to South East Water	Letter from District Valuer: Property Negotiation.
16 June 2015	Letter from Highways England to South East Water	Letter from DLA Piper: Protective Provisions Letter. DLA Piper representing Highways England wrote to South East Water in order to request that the two parties enter into a dialogue to discuss "particular matters in respect of the Scheme, which may affect in its capacity as a statutory undertaker in relation to water and sewerage pipelines and the provision of related utility services, and which may or will require agreement in advance of the close of the examination of the Application" and proposed to "enter into an interface agreement/protective provisions for the benefit of South East Water Limited within the development consent order ("DCO") for the Scheme to ensure the protection of South East Water Limited's undertaking during the construction and operation of

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South East Water Ltd
Registered in England No. 2679874

Registered Office: Rocfort Road, Snodland,
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		the scheme" and attached draft protective provisions for review and comment.
28 July 2015	Letter from Highways England to South East Water	Letter from DLA Piper: Protective Provisions letter: follow up. DLA Piper representing Highways England wrote to South East Water again 'to progress negotiations and resolve any objections in relation to the proposed protective provisions'.
29 July 2015	Letter from Highways England to South East Water	Letter from District Valuer: Property Negotiation: Follow Up
9 September 2015	Phone call to South East Water from Highways England	Call from South East Water to DLA Piper: requested Protective Provisions letter of 16 June 2015 to be resent (DLA resent on the same day).
16 September 2015	Meeting between South East Water and DLA Piper on behalf of Highways England	Meeting with DLA Piper to discuss South East Water's concerns and to discuss protective provisions. South East Water met with Emma Harling-Phillips from DLA Piper representing Highways England to request a direct response to the letter sent to Lynne Stinson 18th December 2014, to discuss the M4 Junctions 3 to 12 Smart Motorway Development Consent Order Application and the potential impacts/risks of the application to water resources and South East Water's adjacent sites in addition to the draft protective provisions and any outstanding areas of concern.
16 September 2015	Email from South East Water to Highways England	Follow up email to DLA Piper from meeting 16 September regarding meeting actions.
17 September 2015	Email from South East Water to Highways England	Email to DLA Piper providing groundwater data requested by Highways England South East Water emailed through to Emma Harling-Phillips at DLA Piper plans detailing the location of South East Water's abstraction boreholes in the vicinity of the Scheme, noting that our Bray Gravels Site and Beenhams Heath Site correspond to Map 19 and Map 14 in the Environmental Statement respectively, and groundwater level data from Borehole 1 at our Bray Gravels site (the only long term groundwater level data set held by South East Water in the vicinity of Monkey Island Lane as specifically requested by DLA Piper's environmental team to support their response to our 18th December 2014 letter).
28 September 2015	Highways England email response to South East Water letter dated 12 September 2014 to Karen Jones	Regarding the potential impact of the scheme on Groundwater Protection Zones in the Bray area. South East Water received a direct response to their letter sent to Karen Jones (EIA and Land Rights Advisor on behalf of the Secretary of State) 12th September 2014 from Lynne Stinson at Highways England. This letter responded to South East Water's concerns via reference to the Environmental Statement for the scheme, by providing additional information with regard to the progress of the design phase of the Scheme and ongoing investigations supporting the application for the Scheme as well as providing direct responses to South East Water's specific concerns.
15 October 2015	South East Water email to Highways England	Emma Harling-Phillips at DLA Piper was notified by South East Water by email that South East Water had further submitted their written representation to the Planning Inspectorate 8th October 2015 in light of the letter dated 28th September 2015 from Highways England. South East Water also stated that that the draft protective provisions are currently under review by our legal team and that a formal response to their letter would be sent through to Highways England.

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22 October 2015	South East Water email response to Highways England letter dated 28 September 2015	Regarding the potential impact of the scheme on Groundwater Protection Zones in the Bray area. 'South East Water are pleased to learn that this risk is planned to be quantitatively assessed within a formal Hydrogeological Risk Assessment (HRA)'
11 November 2015	Highways England response to South East Water letter dated 22 October 2015	Notification that South East Water letter of the 22 October had been responded to as part of Highways England's responses to the Planning Inspectorate for Deadline III
11 November 2015	Email to South East Water from Highways England	Email from DLA Piper: Protective Provisions review request follow up.
11 December 2015	Email to Highways England from South East Water	Email with attachment containing South East Water's amendments to the Protective Provisions
2 January 2016	Email to South East Water from Highways England	Notification that South East Water's amendments to the Protective Provisions had been agreed with Highways England and that these may be included either as amendments within the protective provisions or as an accompanying side agreement.
7 January 2016	Email to South East Water from Highways England	HRA (without supporting figures) received from CH2M Hill on behalf of Highways England for South East Water to review
14 January 2016	Letter delivered to South East Water from Highways England	HRA (with supporting figures) received from CH2M Hill on behalf of Highways England for South East Water to review
19 January 2016	Email to South East Water from Highways England	The proposed side agreement between Highways England and South East Water to govern the protective provisions for review by South East Water's legal team
26 January 2016	Email from Highways England to South East Water	Requesting South East Water's appraisal of the HRA 27 January 2016
26 January 2016	Call to Highways England to South East Water	South East Water requesting a meeting between themselves, Highways England and the Environment Agency
27 January 2016	Email to Highways England to South East Water	South East Water confirmed that they would work to deliver South East Water's response to the HRA by 27 January 2016
27 January 2016	Call to South East Water from Highways England	Highways England confirmed that the Environment Agency had no further comments on the HRA and that a meeting between Highways England, the Environment Agency and South East Water would therefore not be required. South East Water confirmed that the proposed side agreement between Highways England and South East Water to govern the protective provisions were still under review by South East Water's legal team
27 January 2016	Letter received by South East Water from Highways England	Submission in relation to section 127 and section 138 of the Planning Act 2008 – currently under review by South East Water

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