



A303 (Stonehenge) Improvement Scheme Team
The Planning Inspectorate
National Infrastructure Directorate
Temple Quay House
Temple Quay
Bristol
BS1 6PN

Your Ref: TR010025

Our Ref:
A303Stonehenge_RReps_110119

Date: 11 January 2019

Dear Sir or Madam,

A303 (Stonehenge) Amesbury to Berwick Down scheme

Please find enclosed our relevant representations for this Development Consent Order (DCO) on behalf of the Environment Agency.

The Role of the Environment Agency

The Environment Agency has a responsibility for protecting and improving the environment, as well as contributing to sustainable development.

We have three main roles:

We are an **environmental regulator** – we take a risk-based approach and target our effort to maintain and improve environmental standards and to minimise unnecessary burdens on business. We issue a range of permits and consents.

We are an **environmental operator** – we are a national organisation that operates locally. We work with people and communities across England to protect and improve the environment in an integrated way. We provide a vital incident response capability.

We are an **environmental advisor** – we compile and assess the best available evidence and use this to report on the state of the environment. We use our own monitoring information and that of others to inform this activity. We provide technical information and advice to national and local governments to support their roles in policy and decision-making.

One of our specific functions is as a Flood Risk Management Authority. We have a general supervisory duty relating to specific flood risk management matters in respect of flood risk arising from Main Rivers or the sea.

Outstanding information and issues of concern

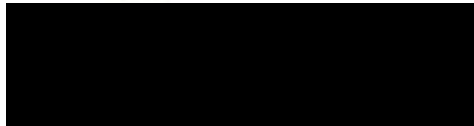
Our relevant representation outlines where further work, clarification or mitigation is required to ensure that the proposal has no detrimental impact on the environment. Our comments in particular cover “Groundwater Protection and land contamination”, “Flood Risk Management”, “Fisheries and Biodiversity”, and “Protective Provisions” and highlight concerns which we believe need to be addressed prior to a development consent order being granted. In other instances, it may be acceptable for additional information to be provided later, by requirement.

It is our opinion that the submission of evidence in relation to Groundwater Modelling and Flood Risk Assessment (FRA) issues should be required prior to the application for any Development Consent Order (DCO). This is in accordance within the National Policy Statement for National Networks, section 5.96 (December 2014). To date there is still outstanding work on these matters being undertaken on behalf of Highways England (the applicant). **It is imperative that these work streams are finalised prior to the examination, as they underpin the Technical Reports as well as the Environmental Statement.**

Please note that at the point of submission of the relevant representations we do not have any agreed deadlines for the submission of this work outstanding work to support the DCO submission. Therefore, you may wish to liaise with the applicant on this matter to discuss the proposed timetabling of this application.

Please do not hesitate to contact Michael Holm, Planning Specialist, if you require any further information. We look forward to continuing to work with the applicant to resolve the matters outlined above, and to ensure the best environmental outcome for this project.

Yours sincerely



Barry Smith
Team Leader - Sustainable Places
Environment Agency – Wessex Area

Contact details:

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Relevant Representations

On behalf of the Environment Agency

We have been involved in formal and informal pre-application discussions with the Highways Agency (the applicant) regarding the following matters.

1.0 Groundwater Protection and Land Contamination

The risks to groundwater levels and flows posed by the placement of the tunnel structure have been investigated. However, we are awaiting outcomes from further work/clarification (pump testing and updated risk assessments) as part of a peer review of the groundwater modelling work. It is essential for us to have agreed this evidence prior to the formal Development Consent Order (DCO) examination period, as this modelling underpins the groundwater position put forward in DCO. We currently do not have a finalised timescale for receipt of this outstanding information (provisionally indicate to be in January).

1.1 Construction

To date, no assessment of the likely impacts of any construction dewatering that may be required has been undertaken. In earlier discussions it was indicated that dewatering would not be required, however the DCO states that the requirement for dewatering will be minimised. We understand that such works are to be designed by the applicant who will also be responsible for obtaining the relevant abstraction licence and any associated environmental permit for discharge (if applicable). Any such dewatering will require further assessment of risks to controlled waters.

It is possible that consumptive abstraction, which result in a net loss of water to the environment (e.g. during concrete batching), may also be sought to support the construction of the scheme. We have previously advised that resources are already restricted in the catchment and changes to the licensing strategy are underway that will likely lead to greater restriction in the future. We advised that groundwater abstraction should not be relied upon and other sources should be secured. We offered to provide further comments if the applicant could provide details of what abstraction may be required (volumes, durations, etc.). To date, no further information or correspondence has been received on this matter.

Due to the sensitivity of groundwater resources in the area and lack of detail on any proposed abstraction, we cannot at this stage agree to the disapplication of abstraction licensing as proposed in the draft DCO and Consents and Agreements Position Statement. We currently looking to agree protective provisions with the applicant, so we can update Examining Authority in due course.

1.2 Drainage Strategy

The documents submitted with the DCO application (Environmental Statement, Drainage Strategy, Outline Environmental Management Plan, etc.) contain insufficient detail regarding the drainage strategy and in particular the likely effectiveness of the treatment systems (infiltration basin lining) in dealing with contaminants prior to discharge of runoff to ground (or surface waters). We therefore require confirmation that treatment will adequately deal with contaminants and sufficient capacity and flow control procedures will ensure that potentially contaminated runoff will be adequately contained under normal operations and as a result of accidents/spillages.

Infiltration area invert levels are stated to be 1m above high groundwater level. Whilst this value may be linked to the SUDS Manual guidance (CIRIA C753 2015), it is unclear from the information submitted that this is sufficient to allow adequate attenuation of contaminants in these sensitive locations.

1.3 Contaminated Land

From a contaminated land perspective, several sites have been identified that have had potentially contaminative historical uses (namely former military installations). There has been

no site specific ground investigation in these areas to determine the presence or absence of contamination that may be disturbed during the proposed works and pose a risk to groundwater in the underlying principal aquifer.

Spatial coverage of geo-environmental testing is limited considering the extent of the scheme and does not cover potential source areas identified in Table 10.7 of the Environmental Statement. Therefore, targeted investigation of potential sources of contamination is required to allow adequate assessment of risks to controlled waters. We note that further ground investigation is proposed in paragraph 10.8.2 of the Environmental Statement, and potentially remediation of sites if contamination found. However, the DCO lacks the specific requirement for further site investigation, risk assessment, remediation and verification of areas identified as having potentially contaminative past uses.

We will require the DCO to include a requirement that prior to works commencing that the applicant undertakes a strategy for dealing with risk from contaminated land from the historic uses. This strategy will need to include the following components:

1. A preliminary risk assessment which has identified:
 - all previous uses;
 - potential contaminants associated with those uses;
 - a conceptual model of the site indicating sources, pathways and receptors; and
 - potentially unacceptable risks arising from contamination at the site.
2. A site investigation scheme, based on (1) to provide information for a detailed assessment of the risk to all receptors that may be affected, including those off site.
3. The results of the site investigation and the detailed risk assessment referred to in (2) and, based on these, an options appraisal and remediation strategy giving full details of the remediation measures required and how they are to be undertaken.
4. A verification plan providing details of the data that will be collected in order to demonstrate that the works set out in the remediation strategy in (3) are complete and identifying any requirements for longer-term monitoring of pollutant linkages, maintenance and arrangements for contingency action.

In addition to the above, prior to operation of any part of the permitted development or sub-section as agreed with the Planning Authority, a verification report demonstrating the completion of works set out in the approved remediation strategy and the effectiveness of the remediation shall be submitted to, and approved in writing. The report shall include results of sampling and monitoring carried out in accordance with the approved verification plan to demonstrate that the site remediation criteria have been met.

1.4 Outline Environmental Management Plan (OEMP), October 2018

The OEMP lacks specific measures to mitigate risks posed by the drainage strategy. There is just a general requirement for the surface water drainage system to include mitigation identified in the Environmental Statement. This links to the DCO Requirement 10 which requires the scheme to be approved prior to construction.

There are specific areas that we request to be updated prior to the examination:

MW-WAT1 - General statement requiring works undertaken using methods that protect controlled waters from pollution. Could be applied to secure a number of identified control measures (e.g. – drainage scheme) but we would request more explicit measures to be stated in this document.

MW-WAT2 – Requires Water Management Plan to list receptors however, doesn't require any further risk assessment or mention specifics. Therefore, there is a lack of detail on what must be included in the Water Management Plan? (More detail is included for requirements of Groundwater Management Plan – MW-WAT10)

MW-WAT7 – 50m default Source Protection Zone 1 should be applied to any (unlicensed) private potable abstractions, not just licensed sources.

MW-WAT9 – This includes a requirement for Environment Agency approval of ground treatment materials, this should include drilling fluids used in tunnel boring.

1.5 Water Quality Risk Assessments, October 2018

The Water Quality Risk Assessment suggests 60% probability that a serious spill will lead to serious pollution incident. Given the sensitivity of the local water environment the drainage strategy should provide better protection.

There has been no assessment of effectiveness of infiltration basin lining treatment material, and no consideration of down-gradient receptors (abstractions). The indicative method put forward may be an acceptable engineered solution, but it only covers a limited range of contaminants and it also requires maintenance / replacement over its life and after any incidents. It is therefore essential that within the DCO and supporting documentation that the detailed design of the drainage infrastructure is agreed with us, to ensure all potential contaminants are included, and details of how it will be monitored and maintained over its lifetime. This is critical in ensuring that the scheme does not adversely impact on the local water environment.

1.6 Groundwater Risk Assessment, October 2018

Groundwater Risk Assessment October 2018 have been updated since previous comments made on the July 2018 version in August 2018. A number of minor text amendments have been made to clarify points.

Annex 1 to the GRA (Numerical Model Report) has also been updated with minor text changes in October 2018 following previous comments on the July 2018 version. However, not all comments have been addressed and we understand that further work is being carried out by AECOM following review of pump test data and receipt of peer review of modelling work and this further information will be shared prior to the examination. As indicated previously we must ensure that this information is received by us in a timely manner to ensure that we can review it prior to the examination stage.

1.7 Environmental Permit - Abstractions

Due to existing pressures on water resources in the area, proximity to surface waters reliant on baseflow from groundwater and protected water rights of existing abstractors, any abstraction sought to support the proposed development will require risk assessment to ensure the requirements of the environment and existing protected rights are adequately safeguarded. The abstraction licensing process would ensure this is carried out, and we therefore at currently do not agree to the disapplication of permits that requires the licensing of abstractions.

It is understood that the contractor appointed to construct the scheme will be responsible for the detailed design, including dewatering and any other abstraction that may be required and that this design will come after any Development Consent is granted. We therefore do not consider it appropriate for the applicant to request the potential authorisation of as yet unspecified abstractions to be included in the Development Consent Order.

As highlighted above, to date, no assessment has been made of likely impacts from dewatering abstractions or any other abstractions that may provide water for the construction of the scheme. Without details of such abstractions we cannot comment on the likelihood that an application for a licence will be successful.

During our pre-application discussions, with the applicant, they indicated that the preferred method would result in no de-watering during construction. We note that within the DCO information submitted it now indicates that de-watering it is now to be minimised. Further understanding of the likely de-watering position is expected to be refined within the outstanding groundwater information, from the pump testing and the updated groundwater risk assessment. This information should be used to demonstrate the understanding of the groundwater conditions during construction and refine the potential for groundwater de-watering during construction.

We have advised the applicant that any proposed consumptive abstraction (e.g. for concrete batching during construction) may have time limitations or volumetric restrictions based on the local environmental conditions. There is a very high chance that due to the sensitivities of the area a consumptive licence would not be issued. Especially due to the local water interests and

their linkages to the water based conservation designations. Therefore, further details are required to be agreed with regards to the construction techniques to ensure that there are no impacts on the water environment.

1.9 Summary of requirements / further information required

At the detailed design stage we will require further information, which could be secured through requirements on the order. This will include:

- Further historic contamination mitigation measures required during the construction phase, including any necessary remediation works.
- The dewatering impact assessment and mitigation measures.
- The groundwater monitoring programme.
- Updated groundwater risk assessment based on detailed design to include impacts on levels and flows.
- Confirmation of adequate provision for the containment of contaminated runoff from the scheme.
- Confirmation that treatment of runoff will be sufficient to ensure discharges to the environment are acceptable.

2.0 Flood risk management

Although we generally agree with the principles on the submitted flood risk assessment (FRA), the hydraulic modelling for understanding the baseline condition for the River Avon is still being developed by AECOM. We have met with AECOM (20th December) where we discussed the work needed to complete the baseline condition modelling and we understand AECOM will seek agreement with the applicant to carry out this work required for the DCO submission. This approach is fundamental to agreeing the principle of the flood risk conditions in relation to the proposed works, and the acceptability of the scheme. Without agreeing the baseline we cannot agree to any of the submitted FRA and Environmental Statement, as it has not been demonstrated that the applicant understands the likely flood risk conditions and impacts adequately.

We shared our preliminary comments about the FRA with AECOM / the applicant (November 2018) and these were discussed further at our recent meeting. We agreed the final FRA, to include the final baseline condition modelling, will need to demonstrate:

- No increase in flood risk to third parties as a result of the permanent works and temporary works associated with the construction of the scheme;
- Any loss of floodplain storage as a result of the proposed scheme will be fully compensated for, and where possible some betterment will be offered

We are aware that applicant has committed to conclude the flood risk modelling to support the FRA prior to the examination. It is essential that this is agreed prior to the examination as the FRA provides the commitment to act on the findings of this information. However, we have concerns regarding the timeliness of us receiving this information, as we currently anticipate that it will be a minimum of 4 weeks work, once it commences. Plus it maybe several weeks of resource for us to review and agree the modelling, resulting in the potential for it to be up to 8 weeks before this position can be agreed. Therefore, it is critical that the applicant ensures that the flood modelling is completed as soon as possible, and the FRA updated to reflect any findings to prior to the examination.

2.1 Outline Environmental Management Plan

The OEMP states “*The main works contractor shall ensure that hoarding and fencing in areas at risk of flooding, most notably within the River Till floodplain, will be permeable to floodwater, unless otherwise agreed with the Environment Agency, to ensure that the fluvial floodplain and areas liable to other sources of flooding continue to function effectively for storage and conveyance of floodwater.*”

Whilst we support with this commitment; it should also apply to the River Avon floodplain.

2.2 Flood Risk Activity – Environmental Permitting

The OEMP states “*Protection of watercourses: The contractor shall incorporate protection measures for works in or adjacent to watercourses in accordance with requirements set out by*

the Environment Agency. Insofar as it is not dealt with in the DCO, approval will be obtained in advance for all crossings of, diversions to, and work affecting watercourses from the Environment Agency. Sufficient allowance will be made for the Environment Agency to issue a flood risk activity environmental permit. Insofar as it is not dealt with in the DCO, appropriate protective provisions will be agreed with the Environment Agency for works under, over or within a river channel and within 8m of a non-tidal river.” We currently have not agreed protective provisions with the applicant, in relation to this matter, but we will update the Examining Authority in due course.

3.0 Fisheries and biodiversity

The National Planning Policy Framework is clear that pursuing sustainable development includes moving from a net loss of biodiversity to achieving net gains for nature, and that a core principle for planning is that it should contribute to conserving and enhancing the natural environment and reducing pollution.

Similarly the Governments 25 Year Environment Plan (February 2018) has policy for embedding an ‘environmental net gain’ principle for development, including housing and infrastructure. Therefore, we expect that all developers, both public and private, to demonstrate how they can deliver this. In regards to this scheme we consider that this would be through river restoration which links to public open space. These enhancement opportunity offer the ability to provide a multi-functional space that deliver multiple benefits to the environment and the community.

The DCO submission confirms that there will be no adverse impacts on the water environment, but it does not commit to delivering a comprehensive scheme for enhancement of this specific environment. Enhancement of the water environment should be linked to proposed land use and habitat changes, footpath design and fencing, compaction, maintenance regime, etc. In this location we have highlighted a key location that we consider the applicant should enhance as part of this scheme, as a minimum. As it links to the historic installation of the highway and modification to River Avon. The applicant should also be looking to enhance the environment River Till.

There are opportunities to enhance habitats for species, such as the Desmoulin's Whorl snail which is acknowledged to be in decline and is a feature of the Special Area of Conservation designation.

There remains a risk of impact on the River Till and Avon during construction, which will be minimised through appropriate construction methodology (including pollution control measures and invasive species. This will need to be adequately detailed in the DCO submission and OEMP.

3.1 Protected Species

There is a requirement for the scheme to deliver mitigation and enhancements for Otters, as a protected species. Requirement 6 of the DCO confirms protection and mitigation from the scheme, we would highlight that this should be for both the permanent and temporary works.

The applicant will need to ensure that fencing in the river valleys (required for temporary and permanent works) do not hinder safe and preferred passage and allow access to both existing and new woodland habitat.

3.2 Fisheries impacts from Piling

Silent or vibrational piling methods should be used as agreed in the OEMP. If impact piling is found to be required for the piers required following vibrational piling, then the gradual ramping up of sound to scare fish away before sound levels reach lethal limits should deter those fish able to swim away before the full power of the pile driver is felt through the river. A non-metallic pad between the hammer and the head of the pile can also reduce the impact. The piling method statement should also include details of timings. Percussive techniques would be limited to November-March inclusive in order to avoid key fish spawning and migration periods. If percussive piling techniques are required, then the piling work should be carried out over as short a period as is practical.

We currently have not agreed protective provisions with the applicant, in relation to this matter but we update Examining Authority in due course if this is to be included.

3.3 Environmental Enhancements and Opportunities

We have requested that the applicant contribute towards the River Avon Restoration Plan (RARP) as part of the schemes requirements to provide net gain / environmental improvements. There are ongoing discussions on the delivery of the relevant RARP actions as part of the legacy for the scheme, but currently there is no final commitment to how this could be delivered within the DCO. There is only commitment to continue discussion through an Environmental Forum.

We consider that there should be a greater commitment through the DCO for the development of enhancements of the scheme to deliver wetland habitats and improved river conditions.

As indicated above the National Planning Policy Framework core principle for planning is that it should contribute to conserving and enhancing the natural environment, in this regards we consider that the current scheme is only meeting the first part of this statement.

3.4 Invasive species

Section 6.1 Chapter 8.8.25 (k) states that invasive and non-native species will be identified prior to works and removed, or otherwise managed to prevent their spread; and the OEMP does have a line committing to minimising the risk. However, this feels too broad and unprepared given the extent of the other data gathering exercises. We know that records exist which should have been reviewed, ground truthed, assessed and the controls outlined. Therefore, we will require the applicant to:

- Undertake full survey and control plan prior to preliminary works commencement needs to be assured and reviewed by the relevant bodies (Environment Agency / Natural England).
- Ensure species survey and control/removal measures need to be in accordance with best practice and as per UK strategy <http://www.nonnativespecies.org/home/index.cfm>
- That the appropriate commitment to testing and biosecurity are not just through work operations, but in through ensuring soil movements do not cause invasive species to be spread.
- It is essential this needs to be clarified that the management to prevent their spread is applicable during operation (and not just construction), and therefore measures should aim for complete removal and included in maintenance plan until this is achieved.
- Maintenance plans need to include survey of site once operational and periodically thereafter, and commitment to any residual treatment required, both for known areas/species but also any new areas/species which may have unknowingly arrived in soil transfer.

4.0 Waste and materials management

We support the overall approach to waste and materials that is proposed in the application documents. The level of detail that has been provided on waste types and quantities is acceptable, bearing in mind the uncertainties that exist at this stage of the design process.

We also support the scheme's construction and excavated materials commitments through the production of Materials Management Plan. This confirms that the tunnel arisings will be looking to comply with the CL:AIRE code of practice, and therefore not be considered a waste.

The Materials Management Plan is a commitment within the OEMP, and therefore forms part of requirement 4 of the DCO.

5.0 Protective Provisions

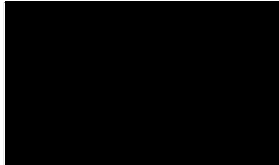
The applicant seeks to disapply various pieces of legislation (Schedule 11, Part 3), of the draft Development Consent Order submitted with the application).

S150 Planning Act 2008 provides that such disapplication can only take place with the consent with Environment Agency.

We are currently considering our position in relation to the legislation which is relevant to the Environment Agency. The draft protective provisions included in the draft DCO are similar to those accepted by the Environment Agency in the past, but we are currently reviewing our preferred form of protective provisions.

We will be liaising with the applicant on these issues and will provide the Examining Authority with an update in due course. As indicated in our above representations there are critical areas of works that have the potential to effect the local environment that need to be appropriately controlled.

We would re-iterate that we are not currently looking to agree disapply Section 24 Water Resources Act abstraction licence, due to the sensitivities in this area.



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