

The Planning Inspectorate
Temple Quay House
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Our ref: KT/2021/128077/01-L01
Registration ID: 20027842
Your ref: BC080001
Date: 31 March 2021

Dear Sir/Madam

Application for a Development Consent Order for London Resort

Please find enclosed our relevant representations for the application for a Development Consent Order (DCO) to construct, operate and maintain London Resort (LR).

The Role of the Environment Agency

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

Our work helps to support a greener economy through protecting and improving the natural environment for beneficial uses, working with businesses to reduce waste and save money, and helping to ensure that the UK economy is ready to cope with climate change. We will facilitate, as appropriate, the development of low carbon sources of energy ensuring people and the environment are properly protected.

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. We also operate flood risk management structures and equipment throughout England.

Defra 'Family'

Natural England, Marine Management Organisation, Environment Agency and Forestry Commission are all part of the Defra 'family' (non-governmental organisations sponsored by Defra). We each have different remits, however our comments and the matters we are addressing may overlap. We would therefore encourage participants in the examination of

the DCO application to address any issues that may cross over our different organisations to us as a group so that we can join up our responses.

Pre-application consultation

London Resort Company Holdings (LRCH), the Applicant, approached us in April 2020 to update us on their plans following previous iterations of the London Resort project and arrange further engagement to resolve environmental issues of the project site. We have since held initial meetings to discuss surface water management plans, biodiversity, groundwater and contaminated land and flood risk. We have had limited input to the Environmental Statement and a lot of the key documentation associated with the application, such as the Flood Risk Assessment has not been submitted to us for review prior to submission to PINS. Our pre-application discussions have been at very high level with no detailed information provided to support the items presented.

Since the submission of the application, we have been participating in relevant workshops arranged by the Local Planning Authorities. We have not had any direct conversations with the applicant or their consultants since December 2020. We have not been engaged in the development of a Statement of Common Ground.

Relevant Representations

Summary of comments

We have reviewed the London Resort DCO application submitted to PINS on 31 December 2020. There is a general lack of information which we recommend should be addressed prior to any preliminary meeting being scheduled. In particular, we require the following to be submitted:

- Comprehensive assessment, including evidence, of the biodiversity and geomorphology impacts of the project, including further details and evidence to support the possibility for offsite mitigation.
- Comprehensive assessment, including evidence, of the project with regards to existing and future flood risk.
- Comprehensive information, including evidence, on surface water management, including assessments of the impact of the project.
- Further assessments and modelling to understand the cumulative and local impacts of increased river traffic, including vessel wash, on the marine environment.
- Updates to the Environmental Statement to reflect the new Swanscombe Peninsula Site of Special Scientific Interest.
- A full assessment of the Tilbury site in terms of Water Framework Directive (WFD) assessment, ecological surveys and assessment of flood risk.
- Full assessment of impacts of scour on flood defence structures and intertidal habitats.
- Strategy for water quality and noise management within the Construction Environmental Management Plan (CEMP)
- Assessment of the cumulative effect of the project in operational phase across all the different environmental constraints that have been identified.
- Information on permissible activities and agreement of permitting regime

Our response does not include any comments on environmental permitting due to the lack of specific details related to existing permits, proposed permits and the reuse of waste. The applicant is recommended to seek further advice through our pre-application permitting advice service.

We are also concerned that there is unlikely to be adequate time within the Examination timeframe to address and resolve the issues we and other stakeholders have raised.

Draft DCO Application

Disapplication of Legislation

We have not discussed the Disapplication of Legislation with the applicant. We would require the inclusion of our standard Protective Provisions before we could consider the disapplication of Flood Risk Activity Permits (FRAPs). We do not normally agree to disapply waste permits.

Requirements

We have not discussed the requirements included in the draft DCO accompanying the application with the applicant to date. In addition to the comments below on the included requirements, we would also need to see further requirements related to in particular (but not exclusively):

- Mitigation measures for biodiversity
- Flood defence improvements strategy and detailed works plan
- Height allowance for future flood defence raising
- Limitations and timings on marine construction activities, such as dredging and piling
- Marine piling methodology
- Lighting strategy to minimise impact on sensitive habitats
- Methodology for fish rescue in cofferdams
- Surface water management assessment, monitoring and testing on both sites
- Implementation of Flood Risk Assessment (FRA)
- Implementation of CEMP

Requirement 3.

This requirement refers to the design code. This has not been discussed with us previously and we would wish to be consulted on this prior to DCO approval.

Requirement 5.

The CEMP should not only include pollution prevention but also include pollution incident response plans for the protection of surface water and groundwater. We would wish to be consulted on this prior to DCO approval.

Requirement 9.

This requirement has not been discussed with us prior to DCO submission. We are considering the contents within this requirement and will seek to engage with the applicant to discuss this further.

Requirement 10.

We suggest that the title of the requirement is altered to **Contamination affecting land and groundwater** (*Contaminated Land* has a specific legal definition).

This requirement should also include a verification reporting mechanism in accordance with best practice:

*“There should be no occupation of any premises or facility until a **verification report** has been submitted and approved by the relevant planning authority in consultation with the Environment Agency to show remediation carried out has been completed in accordance with the strategy agreed under 2) above.”*

In part (3) of the requirement, the final line should read ...”**contamination in groundwater**”

Requirement 11.

We suggest that this requirement should also include any activities that may interfere with existing waste permits. The development must not compromise the permit holder’s ability to manage and monitor their site in accordance with their permit. Any activities that may interfere with the existing permit are subject to approval from the Environment Agency.

Requirement 13.

This requirement is only addressed to be signed off by Natural England. Some permits will also affect our remit and we should be consulted.

We reserve the right to seek further requirements in the course of the examination of the DCO application.

Environmental Statement

The Environmental Statement (ES) has been produced with a number of assumptions. It is not clear how potential impacts and their significance have been determined, or how the proposed mitigation measures effectiveness is established. There are many statements of ‘no significant effect’, but how this determination has been made is not well evidenced within the ES.

In addition, the ES needs to be updated to reflect the implications of the new Swanscombe Peninsula Site of Special Scientific Interest designation.

Biodiversity and Geomorphology

We seek further information and evidence in support of the plans related to marine and freshwater biodiversity. The following information will need to be addressed in order for us to make an informed response.

General

1. We query most assessments of impacts on species, due to a lack of clearly demonstrated reasoning for what has been determined. Stating, ‘no significant effect’ needs to be backed up with evidence.
2. There have been little to no surveys undertaken on the Tilbury site. We would request further ecological assessment of the Tilbury site of the project.
3. We need further evidence to demonstrate that the Ecological Mitigation Hierarchy has been applied. The project has not always attempted to avoid or reduce impacts within the site, for example the intrusion on Black Duck Marsh.
4. There is a lack of plans for how detailed design matters will be determined to ensure that the mitigation and enhancement measures are sufficient and will add value.

5. No information on offsite compensatory measures is included. This leads to a complete lack of understanding whether offsite compensatory measures are achievable and work for the species and habitats that will be lost from the site.
6. Plans for offsite compensation may conflict with our own Flood Risk Management requirements of the estuary. In our Flood Risk Management Strategies (Thames Estuary 2100 Plan, TE2100, and Medway Estuary and Swale Flood and Coastal Erosion Risk Management Strategy, MEASS) we have outlined our proposed approach to estuary management. Assessments to date have not shown how the proposal will accord or conflict with these strategies.
7. The quantity of offsite habitat creation stated in the ES is unlikely to be enough to offset the construction and operation of the Swanscombe Peninsula site. We seek clarity on how this quantity has been determined.
8. We would like to understand how the area to the west of Swanscombe Peninsula, assigned for managed realignment, has been considered as a mitigation measure (e.g. delivered, part delivered, not precluded from future delivery, precluded from future delivery).
9. We seek further detail on how the cumulative impact of future development, such as the Lower Thames Crossing scheme and the Thurrock Flexible Generation Plant, will be assessed.
10. The site lies largely within what has now been designated as Swanscombe Peninsula Site of Special Scientific Interest. The ES will need to be updated to reflect the designation currently subject to consultation and assess the habitats and species in the context of this designation and the national value of the site.
11. We need further information on the lighting strategy, with strategies that seek to avoid impacts on surrounding habitats.
12. We recommend that the Ecological Mitigation and Management Framework is finalised prior to DCO approval.
13. The ES interchanges mitigation, enhancement and compensation quite liberally throughout the documents. We seek clarification on these terms as they will be central in determining suitability for biodiversity compensation plans and Biodiversity Net Gain (BNG) assessments.
14. It is not clear how the figures for the BNG assessment have been arrived at. The report will need to clearly set out how this has been determined. There needs to be a clear distinction between mitigation/compensation for impacts, and where these are taking place, and therefore what the BNG will achieve in addition to this.

Tidal environment

1. The Eels (England and Wales) Regulations 2009 and the Salmon and Freshwater Fisheries Act 1975 should apply for works that involve any modifications to water courses. Such works include the proposed cofferdams in the tidal Thames. It is not clear how these have been incorporated into the plans.
2. We are concerned that very little habitat is being enhanced on the Essex side of the proposed development, and could worsen the issue of boat scour on intertidal areas. This needs to be justified.
3. We need further information on the location, dimensions and method for using booms to limit erosion caused by boat wash.
4. The ferry options A, B and C fail to discuss the operational impacts of 50+ clipper boats per day coming into the shallow sub-tidal habitat of the Marine Conservation

- Zone (MCZ). Propeller wash affects the sub-tidal features as well as intertidal and this has not been clearly assessed.
5. The hydrodynamic modelling must specifically consider vessel wake.
 6. Erosion of saltmarsh from boat wash is unlikely to be negligible and any loss of saltmarsh must be accounted for as a quantified loss.
 7. We seek confirmation on if the impact of installing booms to the saltmarsh has been assessed.
 8. We need further information about the wastewater treatment plant outfall into the tidal Thames. We need to understand if this outfall, along with the other five surface water outfalls, will be subtidal and what habitat will be lost under the footprint of the outfall and pipeline.
 9. We need further details about what compensation for habitat lost has been offered for the impact and physical footprint of surface water outfalls, and whether this loss has been included in habitat loss calculations.
 10. We need to clarify if the surface water outfalls require scour protection and what form will this take. It is also unclear if these outfalls are permanent and whether or not they are to be excavated to bury pipes.
 11. The use of temporary cofferdams should be hydrodynamically assessed to understand the impact of increased scour and erosion that could occur.
 12. We need further information and assessments to determine the measures taken to limit the effects of cofferdams on the intertidal areas affected by these. If intertidal mud can be re-established, the effect can be considered temporary. If not, then it is a permanent change and may require mitigation or offsetting by the project.
 13. Further details are required to understand how the cofferdams will be removed when no longer needed. If piles are to be cut off below the current bed level, there is a future erosion risk of them becoming exposed.
 14. Cofferdams will require fish rescues when dewatered. Experience on the Thames Tideway Tunnel cofferdams has shown that these are often utilised by very large numbers of fish when open to the marine environment, which can lead to large numbers being trapped when the cofferdam is closed off. The CEMP should address the risk of fish being trapped within the cofferdam and have a method for their safe removal and release. Use of nets or electrofishing equipment will require authorisation by the Environment Agency.
 15. We need to understand the requirement of maintenance dredging, which areas will be affected and what the likely frequency of dredging will be. Frequent and regular dredging will imply a long term, chronic degradation of subtidal habitat.
 16. The timings for percussive marine piling needs to be assessed and justified. If performed at the same time as that proposed for London Gateway Port Berth extension, it may have a cumulative impact upon migratory and marine fish species and marine mammals.
 17. We require further information on the worst case piling scenario given, e.g. will the predicted peak piling noise exceed that expected to induce a behavioural reaction in salmon, smelt, eels, shad or lamprey, (eg. avoidance) at the mid-point of the river channel?
 18. The mitigation hierarchy also applies to timings of the construction works, in particular related to piling works. The mitigation hierarchy is expected to be used to avoid all but essential access to the foreshore. This consideration should be included in the CEMP and should form a DCO requirement.

19. We seek further justification of the need to build over existing inter-tidal habitats, rather than avoiding impacts altogether.

Marshes

1. We need to understand the ecological benefits and water levels within retained and constructed marshes, and what value they will have for the target species.
2. The Drainage Strategy doesn't provide details on retained water levels within Botany marshes (east) or Black Duck Marsh. This needs to be included to demonstrate that the proposed mitigation/enhancements within the marshes are possible.
3. Further information on proposed new culverts will be required to understand at what level in Black Duck Marsh these would be positioned and therefore where exactly the headwall would be positioned within the inter-tidal area.
4. The ES states that there is no significant impact on the West Thurrock Lagoon and Marshes SSSI from the ferry movements associated with the development. We seek information on how this has been assessed.
5. We expect further assessment of the impacts of the helipad use on the retained areas of open water habitat at Black Duck Marsh.
6. We need information to clarify if the existing mudflats and saltmarsh are erosional or depositional and how that links to the development impacts.

Freshwater

1. The project needs to justify why improvement of the River Ebbsfleet to support increased fish population and biodiversity has been overlooked.
2. Information on mitigation for the CTRL wetlands is missing. The wetlands do not appear to receive any pollution at present and assessments should demonstrate that water quality is safeguarded to preserve existing habitats.
3. We need further information on the waterbodies that have not been assessed due to lack of access. If left unassessed, these waterbodies will need to be assumed that fish is present within and the project should plan the necessary site mitigation measures/construction and other work accordingly.
4. The ES suggests mitigation for pollutants may have adverse effect on fish population, but no mitigation measures have been submitted. Further details should be provided.
5. The access road positioning is not justified in terms of its proximity to the River Ebbsfleet. We need further evidence that alternative routes have been considered and justification of why this is the preferred option.
6. The Swanscombe site needs to demonstrate how water levels will be managed to provide sufficient habitat to maintain a water vole population. This hasn't been clearly demonstrated.
7. We would expect to see proposed cross sections and guarantees about the design clearly demonstrating that it will be beneficial for water voles, and broad freshwater ditch wildlife.

Flood Risk

We seek further information and evidence in support of the plans related to flood risk and flood defences. The information below will need to be addressed in order for us to make an informed response.

Flood Risk Assessment (FRA)

1. The new modelled in-channel water levels will be available by April 2021. We recommend the applicant submits a specific request for the new level data in advance of its release. This should be incorporated into the FRA.
2. We request that the applicant re-run the model to breach at Flood Alert/Flood Warning water level to understand the consequence of an un-warned breach of the defences.
3. The FRA does not discuss or explain breach flood depths and hazard in enough detail. The breach analysis seems to concentrate on off-site impacts rather than the mitigation that would be required for flooding in a breach event.
4. We need further details of the risk to the site should a new Thames barrier be constructed at Long Reach, and further assessment of how the site can be adapted to manage this risk. Until we have seen this information, the flood mitigation measures for the lifetime of the project are not possible to assess.
5. The FRA should reconsider how flood levels and flood depths are presented. Some levels are contradictory and there is no sign posting as to where they have come from.
6. We seek further clarity on flooding characteristics i.e. rate of onset, duration, depths and hazard, and welcome further dialogue to resolve these.
7. We request better explanation of how the proposed flood depths in each scenario relate to the required mitigation. For example depths within buildings, depths within car park and depths along evacuation routes.
8. The FRA should demonstrate how the H++ flood level can to be incorporated into the design of any mitigation proposals.
9. The FRA should consider where there could be a safe refuge (above 0.1% (1 in 1000) annual probability flood event for the Upper End 2125 event) in Tilbury for those on-site in an emergency un-warned breach.
10. The flood risk to the Crisis Centre at the Swanscombe site should be explicitly addressed in the FRA, as according to National Planning Policy Framework (NPPF) this should be classified as Highly Vulnerable use.
11. The FRA should detail flood depths during a breach.
12. We need to see further information and calculations to ascertain that the proposed buildings are structurally resilient to withstand the pressures and forces (hydrostatic and hydrodynamic pressures) associated with flood water.
13. The FRA should include the phasing of the construction works and the flood defence works.
14. The FRA should include details of exclusion zones for equipment and material stockpiles relative to flood defences, including their maximum height and load.
15. The FRA should include the condition and use of the existing flood gates including whether they need to be improved prior to their use during construction.
16. The proposals for dealing with redundant culverts should be confirmed. We would expect them to be filled and stopped up.
17. We seek further information for the upgrade of culverts, including daylighting strategies.
18. We need clarification that the proposed 250m long ecological channel between the wetland and the River Thames is an open channel.
19. Alternative alignments of the access road should be assessed to explore options to move the road away from the floodplain and river corridor of the River Ebbsfleet. The encroaching into the floodplain with the need for level for level floodplain

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compensation should only be considered if that is unavoidable. The FRA does not sufficiently explain why there appears to be a preference for developing within the modelled flood extents of the River Ebbsfleet. As such the proposed access road does not meet the requirements of the NPPF.

20. We require further information to verify if the proposed level-for-level approach for floodplain compensation of the access road is sufficient.
21. The FRA should include higher quality images in support of any level-for-level floodplain compensation in order for the information to be readable.
22. We would like to see further justification for the chosen lifetime of the development. Given the scale of the development, it is appropriate to assume a design lifetime of 100-years for flood risk management purposes.

Flood defences

1. Insufficient information has been provided to allow us to determine the adequacy of the proposed flood defence works and the space allowed for them. The funding mechanism and cost for the flood defence raising is yet to be determined.
2. We need further details to determine the space required for the flood defence crest to be raised to 7.0 m AOD and increased to 8.0 m AOD in future. This space should include an undeveloped buffer margin surrounding the defence.
3. The existing lifetime and design life of new work to the flood defences needs to be addressed in addition to future crest level raising.
4. The applicant should allow for, rather than consider, any future raising of the proposed realigned defences to 8m AOD.
5. We request further drawings in plan and section with plenty of dimensions for all flood defence works showing a reference line and the proximity to the closest allowable built development line, and the river. These drawings should include areas that are to be retained, reasonable worst case outline designs and services close to defences.
6. We need further details for the reasonable worst case outline designs for the flood defence works, including both space and cost.
7. We require an initial gap analysis that will inform future ground investigation and testing works for the reasonable worst case outline designs.
8. We need further details of services close to the defences.
9. The project should demonstrate that the TE2100 Plan has been used to determine lifespan of flood defences.
10. The applicant will need to complete ground investigation and intrusive testing to demonstrate the appropriate stability and structural integrity of the flood defences for the lifetime of the development.
11. The applicant needs to consider the poor state of the flood defences at Tilbury and how to manage the flood risk the site beyond the 60 year design life, up to 2125.
12. Full consideration needs to be taken of the potential impact of scour from changes to length of landing stage at the Essex Site and the increased operation of fast craft. Increased scour has potential to cause destabilisation of existing flood defences immediately downstream of the Essex Site.
13. We need further details regarding additional linkspans to shore at the Essex ferry terminal as these would likely require localised reconstruction or complete replacement of tidal defences. These would potentially fall outside of the order limits.
14. We need further details on the asset inspection plans. The applicant cannot rely on the Environment Agency basic only twice yearly asset inspections.

Surface Water Quality

We seek further information and evidence in support of the plans related to surface water quality and pollution prevention. The information below will need to be addressed in order for us to make an informed response.

1. We need further clarification of the waste water plan from the water park. Are there plans to dechlorinate the water prior to treatment?
2. We need to understand the timeline for the proposed permitting process for wastewater treatment and whether the timeline for the permitting process has been accounted for in the general timeframes for the project.
3. Water quality sampling points need to be re-evaluated to ensure proposed sampling sites are either made accessible/suitable or replaced.
4. We need confirmation of water quality monitoring and analysis plans that cover the entire construction phase.
5. We need to see further plans for the management of soils and sediments at each detailed stage of construction.
6. We need further details about the Remediation Processing Compound (RPC) management plant to ensure appropriate pollution prevention measures have been undertaken.
7. We require a risk assessment for the proposed concrete batching plant in relation to pollution prevention.
8. Further details are required for the assessment of the main rivers at the Tilbury site. Pincocks Trough has been assessed as low sensitivity, East Tilbury Dock Sewer has been assessed as high sensitivity, and Chadwell Cross Sewer has not been considered despite being a main river. A full assessment with evidence should be provided.
9. Further details is needed to understand the existing and proposed drainage strategy at the Tilbury site, including further details around pollution prevention.

Environmental Permitting

Our response does not include any comments on environmental permitting due to the lack of specific details related to existing permits, proposed permits and the reuse of waste. The applicant is recommended to seek further advice through our pre-application permitting advice service.

We welcome the upgrade of the Broadness Leachate Treatment Plants (LTP) as it has the potential to improve water quality in the area. The applicant needs to be aware that any major changes to LTPs may require an installation permit, and the time required for that needs to be factored into the project plan.

Areas of agreement

Groundwater and Contaminated Land

The issues around groundwater and contaminated land that concerns us have been agreed in principle and we are satisfied that the issues can be addressed by way of requirements.

It is however possible that contamination findings will have an impact on the wider environmental constraints, in particular with regards to the conservation of Swanscombe Peninsula Site of Special Scientific Interest. Further information on contamination may therefore be required for this purpose. We will provide further comments when more information is available.

We are satisfied that no abstraction of groundwater is planned at this stage. We encourage proposals for greywater harvesting in order to meet future demands.

Marine Water Quality – Water Framework Directive Assessment of the Thames

We are satisfied with the Water Framework Directive (WFD) assessment. The document demonstrates a good understanding of the baseline water quality issues and has brought this knowledge into its assessment using the most recent classification data from the 2019 classification.

We also acknowledge the precautionary use of our Sedichem tool in analysis of the local scale water quality effects which are then placed in the wider context of the waterbody scale of predicted impacts upon the WFD classification, which necessarily has to include the longer term consideration.

We fundamentally agree with the assessments carried out and therefore we consider the conclusion of WFD compliance for the water quality elements are justified.

We will be involved in permitting surface water discharges in order to maintain WFD compliance, and these permits have yet to be agreed.

We reserve the right to add to or amend the matters set out in this Relevant Representation as further information becomes available throughout the examination.

I hope that these comments are useful in setting out the details to be considered prior and during examination.

Yours faithfully,

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Planning Specialist

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