

Previously agreed mitigation measures for reducing potential for impact on harbour seals	Suggestions from Natural England (letter dated 13 th February 2023)	Additional mitigation measures proposed to increase mitigation	Natural England's DAS advice 6 th March 2023
Piling mitigation measures (as stated in Section 3.2 of the Outline MMMP)			
<p>Piling would be undertaken between June and September only, to reduce the potential for impact to ecological receptors such as overwintering birds.</p> <p>Piling is only to be undertaken between 7am and 7pm, or 8am and 8pm.</p> <p><u>Pre-piling watch</u> for marine mammals, following the standard JNCC 'Statutory nature conservation agency protocol for minimising the risk of injury to marine mammals from piling noise' (JNCC Protocol)¹;</p> <ul style="list-style-type: none"> - For a period of at least 30 minutes prior to piling - To be undertaken by fully qualified and experienced Marine Mammal Observer (MMOb) - Pre-piling monitoring zone of 500m adapted due to nature of the site; <ul style="list-style-type: none"> o It may not be possible to see the entire monitoring zone from all piling locations (due to the bend in the river to the north), however, the minimum viewable distance would be at least 150m at all times, and the full 500m monitoring zone would be used wherever possible to do so. As noted above, the maximum PTS range is 90m for cumulative exposure. 	<p>Commitment to pile at low water or if that is not possible undertake non-impact piling methods.</p>	<p><u>Piling at low water</u></p> <p>As stated within the <i>Applicants Response to the Marine Management Organisation and Natural England's queries regarding Marine Mammals and Fish</i>², restricting the piling to around low water (in addition to the existing restrictions around day-time working and sensitive species), would require the piling period to be extended from the currently defined period. This would potentially introduce impacts to ornithological and fish receptors that are currently being avoided and therefore, it is not possible to commit to only piling at low tide.</p> <p>It is considered that the mitigation measures in the Outline MMMP (and set out in column 1) would reduce the risk to marine mammals during piling to an acceptably low level. However, in light of the request from Natural England alternative options are being investigated as outlined below:</p>	<p><u>Natural England welcomes the piling being undertaken outside of the majority of the Annex I passage and overwintering period. However, we advise that to avoid disturbance to Annex 1 birds then installation work should occur between 15 May to 31 August to be consistent with Offshore windfarm conditions. However, we also note that the works are not directly within the Wash SPA. As the post breeding migratory period has greater number of birds we advise that the works undertaken between 1st May and 31st August.</u></p> <p><u>Natural England advises that the proposed 'piling watch' as set out remains unfit for purpose. To avoid and adverse effect on integrity and to be consistent with other sustainable development in other estuarine environments we advise that only none impact piling including (but not exclusively) vibration piling and or low tide piling as a condition of any permission as it has been</u></p>

¹ Statutory nature conservation agency protocol for minimising the risk of injury to marine mammals from piling noise, 2010 <https://data.jncc.gov.uk/data/31662b6a-19ed-4918-9fab-8fbcff752046/JNCC-CNCB-Piling-protocol-August2010-Web.pdf>

² Document reference 9.49, REP4-014

Previously agreed mitigation measures for reducing potential for impact on harbour seals	Suggestions from Natural England (letter dated 13 th February 2023)	Additional mitigation measures proposed to increase mitigation	Natural England's DAS advice 6 th March 2023
<p>- If marine mammals are detected within the monitoring zone, the commencement of piling would be delayed until the marine mammal is outside of the monitoring zone for 20 minutes, and the full 30 minute pre-piling watch has been completed.</p> <p><u>Soft-start protocol</u></p> <p>Each piling event will commence with a hammer energy at as low as is reasonably practical, followed by a gradual ramp-up to full hammer energy.</p> <p>- Due to the very short expected piling times of five minutes or 15 minutes per pile (dependent on pile type), the full soft-start procedure as stated within the JNCC Piling Protocol may not be possible. However, the piling, where possible, would commence with hammer energies as low as is reasonably practical, with a ramp-up to full hammer energy for as long a period as is possible.</p> <p>If a marine mammal enters the monitoring zone during the soft-start and ramp-up procedure, then, if possible, the piling energy will not increase until the marine mammal exits the monitoring zone. The soft-start procedure is only required where there has been no piling for the preceding 10 minutes (i.e. if piling continues at a new location within 10 minutes of a pile being installed, as is expected, then this soft-start and ramp-up protocol would not be required).</p> <p><u>Breaks in piling</u></p> <p>If piling activity is stopped for less than 10 minutes, the MMOb will check within the monitoring zone for any marine mammal presence before piling can recommence. If a marine mammal is present within</p>		<p><u>Alternative installation methods</u></p> <p>At present it is not possible to identify the pile installation methods, as further detailed design and site investigation is required. However, alternatives to impact piling will be seriously considered. Options that are currently being investigated include the following, although as noted above, it is currently not possible to identify which of these (if any) can be taken forward during construction;</p> <ul style="list-style-type: none"> - Sheet piles using <u>press piling</u> – often used for urban locations for minimal noise vibration - In detail design for column piles, such as <u>squeeze piling</u> - <u>Hydrohammers</u> <p>If alternative methods were used (i.e. non-impact piling) there may be a need for simultaneous piling to be undertaken in order to ensure that the other timing restrictions could be met to safeguard other sensitive receptors (bird, fish and people). As such condition 13(2)(e) would need to be amended as follows: “provision that no planned simultaneous <u>impact</u> piling will be carried out;”</p>	<p><u>demonstrated to be technically feasible for similar projects.</u></p> <p><u>If this were to be a condition, we have no have no objections from an ecological perspective for simultaneous piling being undertaken</u></p> <p><u>Soft Start</u></p> <p><u>Natural England's advice remains that soft start will not be effective due to maximum hammer energy being reached with the initial blow</u></p> <p><u>Break in piling</u></p> <p><u>As set out above this is not going to be effective mitigation measure.</u></p>

Previously agreed mitigation measures for reducing potential for impact on harbour seals	Suggestions from Natural England (letter dated 13 th February 2023)	Additional mitigation measures proposed to increase mitigation	Natural England's DAS advice 6 th March 2023
<p>the monitoring zone, the full mitigation procedure should be undertaken prior to piling recommencing.</p> <p>In the event that piling activity is stopped for more than 10 minutes, the pre-piling watch, soft-start and ramp-up procedure (if possible) is conducted prior to piling re-commencing.</p>			
Vessel management measures (as stated in Section 3.3 of the Outline MMMP)			
<p><u>Vessel speeds³</u></p> <ul style="list-style-type: none"> – Subject to the pilotage requirements for navigational safety and efficiency (vessel management) and the application of the principle of 'safe speed' (application of COLREGS), that when reasonably practicable to do so, it will require that all ships that are subject to compulsory pilotage when moving between the Port of Boston designated anchorage in the Wash and the Docks maintain a speed below 10 knots. <ul style="list-style-type: none"> ○ This will apply to all vessels that are subject to compulsory pilotage (both existing shipping and the additional shipping resulting from the Facility) meaning that all commercial vessels over 30m in length (i.e. all those being used to deliver waste to the Facility) will be subject to these new operating conditions. <p>The Applicant's vessels will also follow the same vessel collision speed restrictions while transiting through The Wash, to the anchorage area. All vessels travelling to the Facility will abide by a vessel speed limit of 10 knots, subject to the above same conditions regarding COLREGS and navigational safety, as far as is</p>	<p>Commitment for vessels to only use anchors within the Boston Anchorage area or if dynamic position is to be used then the propellers are ducted.</p> <p>Undertake 360 degree checks (including vertical aspects) before moving off from the anchorage area.</p> <p>All vessels including pilot vessels to follow a direct route into and out of the Haven avoiding seals hauls at the maximum distance possible.</p>	<p>As stated within the <i>Applicants Response to the Marine Management Organisation and Natural England's queries regarding Marine Mammals and Fish⁴</i>, Dynamic Positioning systems are not generally fitted to cargo vessels, and the harbour master for the Port of Boston has confirmed that no vessels calling at the port have these systems onboard. Therefore, vessels will only be using anchors within the Boston Anchorage area.</p> <p>If vessels using dynamic positioning are ever used in the future in relation to the Proposed Facility there will be a commitment to use propellor guards.</p> <p>A 360-degree visual check of the vessel will be undertaken (including vertically) prior to any vessel within the anchorage area transiting off. This will be included within the tool</p>	<p>Natural England welcomes the commitment of use propellor guards.</p> <p>Natural England previous advice to the SoS remains unchanged.</p>

³ As stated within the Applicant's Response to Secretary of State's Letter of 14th October 2022 document (EN010095), Section 2.4

⁴ Document reference 9.49, REP4-014

Previously agreed mitigation measures for reducing potential for impact on harbour seals	Suggestions from Natural England (letter dated 13 th February 2023)	Additional mitigation measures proposed to increase mitigation	Natural England's DAS advice 6 th March 2023
<p>practicable. The Applicant will twice a year issue a tool box note (or similar) to request all shipping agents and vessel masters associated with the Applicant's vessels to issue guidance on this matter.</p> <p><u>Best practice measures</u></p> <ul style="list-style-type: none"> - Vessels will maintain a steady speed, and direction, at all times, to allow any marine mammal to predict where the vessel may be headed, and to move out of the way. Vessels should use the defined anchorage area and shipping channel at all times. - Within 300m of a marine mammal at sea, vessel should maintain speed and direction to ensure the individual can predict the vessel movements, and move out of the area if needed. - Vessels should not approach within 600m of known seal haul-out sites. - Keep a well-maintained engine and propellor to minimise underwater noise. - Vessels should turn off 'noisy' equipment when close to marine mammals (e.g. engines, propellers (within the anchorage area), and echo sounders) if possible. <p><u>Vessel monitoring</u></p> <p>There are two options for an adaptive monitoring plan to develop information on the interactions between harbour seals and vessel transits;</p>		<p>box talks and notes to all shipping agents and vessel masters associated with the Applicant's vessels (or similar).</p> <p>All vessels into and out of The Haven and The Wash, will follow existing shipping routes, where practicable. Within the jurisdiction of the Port of Boston, the vessels will be transiting from the Boston Anchorage Area up and down The Haven using well established transit routes but at this point vessel movements are at the discretion of the pilots. As discussed in the Habitats Regulations Assessment (Document Reference 6.4.18 (1)) the shipping channel is 840m away from the nearest haul-out site, which is greater than the distance that research (Jansen <i>et al</i>, 2010) has shown can cause any discernible effect from vessel disturbance, which is 600m. The outline MMMP already states that vessels should not approach within 600m of known seal haul-out sites. The locations of known seal haul-out sites can be provided within the tool box note to all shipping agents and vessel masters associated with the Applicant's vessels (or similar). In addition to being secured through the MMMP, where these measures relate to vessel movements within The Haven, these measures will be incorporated into the Navigation Management Plan which will be</p>	

Previously agreed mitigation measures for reducing potential for impact on harbour seals	Suggestions from Natural England (letter dated 13 th February 2023)	Additional mitigation measures proposed to increase mitigation	Natural England's DAS advice 6 th March 2023
<p>1. Observers on-board all Facility vessels for a specified period, or</p> <p>2. Observers at set land-based locations for defined monitoring periods. The below sections provide more detail on the potential options for monitoring, and outline the methodologies that may be used under each of the options.</p> <p>Option 1 would include the measure that, for vessels preparing to leave the anchorage area, the MMOB would be undertake a check of the area surrounding the vessel, to ensure there are no seals within close proximity to the vessel, particularly the propellers, prior to the vessel starting the engine for transit.</p> <p>In the post-consent phase of the Project, the preferred monitoring option would be defined and a full monitoring programme provided within the final MMMP. This will be designed in consultation with the MMO, Natural England and The Wildlife Trust.</p>		<p>agreed with Natural England. This requirement is covered by condition 14 of the Deemed Marine Licence (DML).</p>	

Compensation/Net Gain

Natural England welcomes the proposals presented by the Applicant and agrees that the measures proposed would offset any losses of Annex II Harbour Seals from the Wash and North Norfolk Coast SAC, thus removing an AEoI. However, we advise that if required as compensation there will need to be a draft in principle condition to be included in the DCO, naming a plan is insufficient in this instance. We would also advise that should the Secretary of State be minded to permit the application, the Applicant would become a statutory undertaker and a S28G body under the Wildlife and Countryside Act 1981 (as amended by CROW) and would therefore have a duty to not only maintain the features of designated sites, but to enhance them. Thus, even before Net Gain becomes a planning requirement later this year there is a duty to provide site enhancement.