HABITATS REGULATIONS ASSESSMENT

This is a record of the Habitats Regulations Assessment ('HRA') undertaken by the River Hamble Harbour Authority in its role as competent authority and in accordance with the provisions of the Conservation of Habitats and Species Regulations 2017 (as amended), known as the 'Habitats Regulations'.

A plan or project requires RHHA as a statutory regulator to decide whether to license, permit, assent or authorise the proposal. Where such a proposal might affect a European Site, the Habitats Regulations require a competent authority to make an assessment of the proposal. In undertaking this HRA, the RHHA (as the competent authority in this case) may only give consent, permission, assent or authorisation to the plan or project where it is able to ascertain either:

> *a) that the proposal will not have a likely significant effect on a European site (either alone or in combination with other plans and projects), or;*
>
> *b) that the proposal will have no adverse effect on the integrity of a European Site following an Appropriate Assessment.*

If such effects cannot be ruled out, the proposal cannot proceed unless the further tests given in the Habitats Regulations can be satisfied.

Contents:

1. Project Information:

Application Type	Harbour Works Consent Application to River Hamble Harbour Authority
Project Title	Rearrangement of marina berthing and additional berths at Universal Marina
Location	River Hamble: Universal Marina, Crableck Lane, Sarisbury Green, SO31 7ZN
Applicant	John Willment Marine Ltd
Agent	Lymington Technical Services Ltd.

2. Requirement for HRA:

European site(s) potentially impacted by proposed plan or project:	• Solent Maritime Special Area of Conservation (SAC) (UK0030059) • Solent & Southampton Water Special Protection Area (SPA) (UK9011061) and Ramsar (UK11063) • Solent and Dorset Coast SPA

Is the proposal directly connected with, or necessary to the management of a European site for the purpose of conserving the habitats or species for which the site is designated?	No
Is it necessary to carry out an HRA?	Yes. Proposal within or close to the above sites

3. Details of Sites:

Solent Maritime Special Area of Conservation (SAC) (UK0030059)	
Proximity of proposal	The proposal is within this SAC
Conservation advice package used:	NE Conservation Advice Package Solent Maritime SAC
Qualifying features:	• Annual vegetation of drift lines • Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) • Coastal lagoons • Desmoulin's whorl snail (*Vertigo moulinsiana*) • Estuaries • Mudflats and sandflats not covered by seawater at low tide • Perennial vegetation of stony banks • S*alicornia* and other annuals colonising mud and sand • Sandbanks which are slightly covered by sea water all the time • Shifting dunes along the shoreline with *Ammophila arenaria* ("White dunes") • Spartina swards (*Spartinion maritimae*)
Conservation objective(s):	The objectives are to ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the Favourable Conservation Status of its qualifying features, by maintaining or restoring: • the extent and distribution of qualifying natural habitats and habitats of the qualifying species • the structure and function (including typical species) of qualifying natural habitats • the structure and function of the habitats of the qualifying species • the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely • the populations of each of the qualifying species • the distribution of qualifying species within the site

Solent & Southampton Water SPA (UK9011061) and Solent and Southampton Water Ramsar (UK11063)	
Proximity of proposal	Approx. 50m from the closest boundary of this SPA
Conservation advice package used:	For both SPA & Ramsar Site https://designatedsites.naturalengland.org.uk/Marine/MarineSiteDetail.aspx?SiteCode=UK9011061&SiteName=Solent&SiteNameDisplay=Solent%20and%20Southampton%20Water%20SPA&countyCode=&responsiblePerson=&NumMarineSeasonality=9&HasCA=1 For Ramsar sites, Natural England considers the Conservation Advice packages for the overlapping European Marine Site designations sufficient to support the management of the Ramsar interests.
Qualifying features:	• Black-tailed godwit (Limosa limosa islandica), Non-breeding

	• Common tern (Sterna hirundo), Breeding • Dark-bellied brent goose (Branta bernicla bernicla), Non-breeding • Little tern (Sternula albifrons), Breeding • Mediterranean gull (Ichthyaetus melanocephalus), Breeding • Ringed plover (Charadrius hiaticula), Non-breeding • Roseate tern (Sterna dougallii), Breeding • Sandwich tern (Thalasseus sandvicensis), Breeding • Teal (Anas crecca), Non-breeding • Waterbird assemblage, Non-breeding
Conservation objective(s):	The objectives are to ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: • the extent and distribution of the habitats of the qualifying features • the structure and function of the habitats of the qualifying features • the supporting processes on which the habitats of the qualifying features rely • the populations of each of the qualifying features • the distribution of qualifying features within the site

Solent and Dorset Coast SPA	
Proximity of proposal	The proposal is within this SPA
Conservation advice package used:	Natural England is currently in the process of developing a Conservation Advice package for this SPA. There are, however, published conservation objectives for the site available at http://publications.naturalengland.org.uk/publication/5294923917033472 This site extends the boundary of the Solent & Southampton Water SPA and so the advice on operations component of the Solent and Southampton Water SPA have been used as a reference, on the advice of NE, to help filter the relevant pressures for the 3 tern species.
Qualifying features:	• Common tern, *Sterna hirundo* • Little tern, *Sterna albifrons* • Sandwich tern, *Sterna sandvicensis* N.B. this SPA is classified for 'foraging terns' and therefore the relevant supporting habitat is the water column.
Conservation objective(s):	The objectives are to ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: • the extent and distribution of the habitats of the qualifying features • the structure and function of the habitats of the qualifying features • the supporting processes on which the habitats of the qualifying features rely • the populations of each of the qualifying features • the distribution of qualifying features within the site

4. Assessment of Likely Significant Effect (LSE):

Information to help inform this assessment of LSE has been taken from the following documents submitted by the applicant:

- Environmental information to inform any required Habitats Regulations Assessment by the Competent Authority, Document 10764/ES v1, Lymington Technical Services.
- Supporting Statement for Harbour Works Consent. Includes Method Statement, WaFD & WFD Assessments. Document 10764/MP v2, Lymington Technical Services.
- Lymington Technical Services drawing DRG No 10764/MP/5A tilted 'Proposed Berth Alterations, Universal Marina' dated 23.9.2020.

This LSE Assessment has been undertaken by RHHA using the Natural England Conservation Advice Package for each site, including reference to the Advice on Operations Matrix which identifies pressures associated with the marine activities relevant to the project, and provides a detailed assessment of the feature/sub feature or supporting habitat sensitivity to these pressures. Reference has also been made to Defra's Magic Map.

CATEGORIES ASSESSED:

Relevant to Construction:

- PORTS AND HARBOURS (construction)
    - *Piling.*
    - *Construction of port and harbour structures (*includes "expansion/redevelopment of existing marinas, plus associated work vessels"*).* Assessed for pontoon extension element only.

Relevant to Operations:

- PORTS AND HARBOURS (operation)
    - *Berths/moorings.*
- RECREATION
    - *Powerboating or sailing with an engine: launching and recovery, participation.*
    - *Powerboating or sailing with an engine: mooring and/or anchoring.*
    - *Sailing without an engine: launching and recovery, participation.*
    - *Sailing without an engine: mooring and/or anchoring.*

The following points have been applied in RHHA's assessment of LSE:

a. Medium and High-risk pressures - Features identified in the Advice on Operations Matrix as being sensitive to medium and high risk pressures for both direct and indirect pathways have been taken forward into the LSE assessment.
b. Low risk pressures - unless there is evidence or site-specific factors that increase the risk, or uncertainty on the level of pressure on a receptor, this pressure generally will not occur at a level of concern and has not required additional consideration as part of the assessment.
c. Individual pressure/ feature interactions - those categorised as 'Not Sensitive' at the benchmark have not been taken forward into the LSE assessment. RHHA considers that the impacts on these features, as a result of the activities, will be less than the benchmarks specified for these pressure/ feature interactions.
d. A significant effect should be considered likely if it cannot be excluded on the basis of objective information and it might undermine a site's conservation objectives. A risk or a possibility of such an effect is enough to warrant the need for an appropriate assessment.
e. The judgment of the European Court of Justice in the case of People Over Wind and Sweetman v Coillte Teoranta (C-323/17) clarified that competent authorities must not take into account any mitigation measures when determining whether or not a plan or project will have a LSE on a European site.

Solent Maritime Special Area of Conservation (SAC) (UK0030059)

Some SAC features have been screened out of the LSE assessment as there will be no interaction between these features and the identified pressures. These are: Annual vegetation of drift lines, Coastal lagoons, Perennial vegetation of stony banks, Shifting dunes along the shoreline with Ammophila arenaria, Sandbanks which are slightly covered by sea water all the time, Desmoulin's whorl snail (*Vertigo moulinsiana*).

PRESSURE	**Qualifying Feature or Species (inc. sub features and supporting habitats).**	**Potential for LSE during construction and/or operation? (potential for an effect and a pathway for effect)** *Advice on Operations matrix identifies the pressures associated with the categories of marine activities assessed. Where 'construction' or 'operation' are not listed below, this is where the pressure associated with the construction or operational activity is not identified in the Advice on Operations matrix for the other activity.*	**Take forward to AA?**
Abrasion / disturbance of the substrate on the surface of the seabed	• Atlantic salt meadows (*Glauco- Puccinellietalia maritimae*) • Estuaries • Mudflats and sandflats not covered by seawater at low tide • Salicornia and other annuals colonising mud and sand • Spartina swards (*Spartinion maritimae*) Subfeatures of above: Spartina swards Salicornia & other annuals colonising mud & sand Atlantic salt meadows Spartina swards Intertidal seagrass beds Intertidal coarse sediment Intertidal mixed sediments Intertidal mud Intertidal sand and muddy sand Subtidal seagrass beds Subtidal coarse sediment Subtidal mixed sediments Subtidal sand.	Construction: Use of spud-legged piling barge is likely to disturb the seabed and the associated sub-tidal feature of subtidal mixed sediment, but the duration of the spud-leg barge use will be short and temporary and not alter the total extent (2,619 hectares) and spatial distribution of subtidal mixed sediment. NE Supplementary Advice refers to evidence from survey or monitoring that shows this feature to be in a good condition and/or currently un-impacted by anthropogenic activities which include similar piling works and approved maintenance dredging. **No LSE identified.** Operation: All berths to be subtidal, and are of pontoon/pile design i.e. no scour from mooring chains or anchoring activity. **No LSE identified.**	No No
Barrier to species movement		Construction: The installation of piles and pontoons within the SAC has potential to create a physical obstruction to the movement of species and seeds, including those that need access to saltmarshes. Species affected are mostly highly mobile birds, fish, and mammals. The scale of the proposed work falls below the pressure benchmark of '*Permanent or temporary barrier to species movement ≥50% of water body width or a 10% change in tidal excursion'*. The evidence base suggests the features are not sensitive to the pressure at the levels proposed by the project. **No LSE identified.**	No
Changes in suspended solids (water clarity)		Construction: Removal and installation of piles has potential to mobilise sediment and organic particulate matter into the water column during construction, but any occurrence will be localised, temporary and in the direct vicinity of the works within the tidal estuary. Benchmark of 'a change in one Water Framework Directive (WFD) ecological status class for one year within site'. **No LSE identified.**	No
Introduction or spread of invasive non-indigenous species (INIS)		Operation: Marina boats well maintained and therefore hull fouling not considered to be at a significant risk level. The risk of this pressure may increase if there is non-compliance to legislation, codes of conduct or best practice. **No LSE identified.**	No
Penetration and/or disturbance of the substratum below the surface of the seabed, including abrasion		Construction: No piling proposed in areas of intertidal mud or saltmarsh, however, the relocation of 85 piles, the replacement of 12 piles and the addition of 54 new piles (with retention of 24 piles) is proposed. The majority of the additional piles are within the SAC boundary. This installation and removal of piles will disturb substratum below the seabed i.e. the associated sub-tidal features. Permanent loss of 5.43m2 of subtidal habitat through the installation of 54 new piles. 42 of the new piles are within the SAC boundary equating to 4.23m2 permanent loss of subtidal mixed sediment habitat within the SAC. **POTENTIAL FOR LSE.** Operation: No LSE - proposed berths are subtidal and dry launch vessels are not launched so this removes risk of trampling and scour. **No LSE identified.**	**Yes** No
Litter		Operation: The Annex 1 saltmarsh habitats of the SAC are sensitive to ecological, chemical, or biological effects associated with material discarded from anthropogenic activities, in which powerboating and sailing participation	No

		are included. The River Hamble's compliance with the Hamble Port Waste Management Plan including the marina's provision of waste facilities for customers using the proposed walk-ashore berths reduces the risk. **No LSE identified.**	
Physical loss (to land or freshwater habitat)		Construction: Proposal will not result in land reclamation or a change to a freshwater habitat. **No LSE identified.**	No
Smothering and siltation rate changes (Light)		Construction: Piling work has potential to cause increases in siltation levels in the direct vicinity of the works due to the deposition of suspended sediments created as a result of seabed disturbance but any occurrence at the scale of this proposal will be highly localised and temporary. **No LSE identified.**	No
Water flow (tidal current) changes, including sediment transport considerations		(Included for clarity, although this pressure is not at risk level medium nor high). Construction: The pressure is associated with activities that will change the form/profile of an area of seabed or an estuary resulting in changes to flow rates and tidal regime due to changes in speed and direction in flow round, past, or across new structures. Examples are leeward of tidal energy generation devices, capital dredging, canalisation &/or structures that may alter flow speed and direction. The pressure benchmark is '*a change in peak mean spring bed flow velocity of between 0.1m/s to 0.2m/s for more than 1 year*'. The piling and new pontoons associated with the proposed marina expansion are not considered to be at a level that would modify hydrological energy flows in the tidal Hamble to impact the SAC habitats. **No LSE identified**.	No

Solent & Southampton Water SPA (UK9011061) and Ramsar (UK11063)			
PRESSURE	**Qualifying Feature or Species (inc. sub features and supporting habitats**	**Potential for LSE during construction and/or operation? (potential for an effect and a pathway for effect)** *N.B. Advice on Operations matrix identifies the pressures associated with the categories of marine activities assessed. Where 'construction' or 'operation' are not listed below, this is where the pressure associated with the construction or operational activity is either not identified in the Advice on Operations matrix for the other activity or is of a sufficiently low risk not to warrant further consideration.*	**Take forward to AA?**
Above water noise	• Black-tailed godwit (*Limosa limosa islandica*), Non-breeding. • Common tern (*Sterna hirundo*), Breeding • Dark-bellied brent goose (*Branta bernicla bernicla*), Non-breeding • Little tern (*Sternula albifrons*), Breeding • Mediterranean gull (*Ichthyaetus melanocephalus*), Breeding • Ringed plover (*Charadrius hiaticula*), Non-breeding • Roseate tern (*Sterna dougallii*), Breeding • Sandwich tern (*Thalasseus sandvicensis*), Breeding • Teal (*Anas crecca*), Non-breeding	Construction: Loud noise that might be made by construction vessels and/or some piling techniques may have potential to disturb birds and reduce time spent in feeding or breeding areas. However, in considering this pressure for this specific proposal, the location is around a working marina with background levels of operational plant working landside and vessel movements occurring on the water throughout the day. Vessels not associated with the marina itself also transit in close proximity to it. Piling will be conducted at a distance of at least 50 metres outside the nearest boundary of this SPA. All piling will be undertaken using vibro-piling as standard with percussion piling (with soft-start procedures) only being used to attain design level if necessary. The use of percussion piling is considered highly unlikely on the basis that all similar piling in the area has only required vibro-piling. The piling operation for singular tubular steel piles is not continuous. This piling process is well established as best practice for the Hamble Estuary. **No LSE identified.** Operation: Categorised as a low-risk pressure for operational activity (berthing/recreation). The proposed location, scale and intensity of the activity proposed does not increase the magnitude of this pressure and there would be no relative increase in noise above the existing background noise levels or the type of noise generated. **No LSE identified.**	No No
Barrier to species movement		Construction: Proposed additional marina pontoons and piles create an extension of the existing physical obstruction within the estuary but the scale of work, the location and the available surrounding water space means this will not form a complete barrier nor significant diversion of travel distance to species' local or migratory movements. (Benchmark is a permanent or temporary barrier to species movement ≥50% of water body width or a 10% change in tidal excursion). **No LSE identified.**	No

Changes in suspended solids (water clarity)	• Waterbird assemblage, Non-breeding Supporting habitats: Coastal lagoons Coastal reedbeds Freshwater and coastal grazing marsh Salicornia and other annuals colonising mud and sand Atlantic salt meadows Spartina swards Intertidal seagrass beds Intertidal rock Intertidal coarse sediment Intertidal mixed sediments Intertidal mud Intertidal sand and muddy sand Infralittoral rock Subtidal seagrass beds Circalittoral rock Water column	Construction: Piling work has potential to disturb sediment which could cause a change in water clarity and affect species that rely on underwater vision for hunting. The proposed piling will be short lived and within a small spatial area so will not reach the benchmark of a change in one Water Framework Directive (WFD) ecological status class for one year within site. **No LSE identified.**	No
Litter		(Included for clarity, although this pressure is not at the risk level medium nor high). Operation: The uptake of microplastics, entanglement or accumulation of chemicals from litter is categorised as a low-risk pressure from recreational boating. The River Hamble's compliance with the Hamble Port Waste Management Plan including the marina's existing provision of waste facilities for customers further reduces risk. **No LSE identified.**	No
Underwater noise changes		Construction: Changes in underwater noise made by piling works and construction vessels can have potential to directly affect birds through disturbance and/or reducing time spent in a feeding area. In considering this specific proposal, however, the location is around a working marina with background levels of vessel movements occurring on the water throughout the day. Also, vessels not associated with the marina also transit in close proximity to it. Piling will be conducted at a distance of at least 50 metres from the nearest boundary of this SPA. All piling will be undertaken using vibro-piling as standard with percussion piling (with soft-start procedures) only being used to attain design level if necessary. The use of percussion piling is considered highly unlikely on the basis that all similar piling in the area has only required vibro-piling. As these are singular tubular steel piles the piling operation is not continuous. This piling process is well established as best practice for the Hamble Estuary. **No LSE identified.** Operation: Categorised as a low-risk pressure for operational activity (berthing/recreational boating). The proposed location, scale and intensity of the activity proposed does not increase the magnitude of this pressure and there would be no relative increase in operational noise above the existing background noise levels or the type of noise generated. **No LSE identified.**	No No
Visual Disturbance		Construction: Vessel movements associated with piling and pontoon works have potential to evoke a visual disturbance response in SPA bird species, however the scale and type of the proposed works, the location within an area of background levels of vessel movement and distance from the potential supporting habitats used at lower states of tide reduce this pressure. **No LSE identified.** Operational: Categorised as a low-risk pressure for operational activity (berthing/recreational boating). The location, scale, intensity of the activity proposed within an area of background levels of vessel movement, and its distance from the supporting habitats will not cause a relative increase in visual disturbance above the existing background. **No LSE identified.**	No No
Water flow (tidal current) changes, including sediment transport considerations		Construction: The pressure is associated with activities that will change the form/profile of an area of seabed or an estuary resulting in changes to flow rates and tidal regime due to changes in speed and direction in flow round, past, or across new structures. Examples are leeward of tidal energy generation devices, capital dredging, canalisation &/or structures that may alter flow speed and direction. The pressure benchmark is '*a change in peak mean spring bed flow velocity of between 0.1m/s to 0.2m/s for more than 1 year*'. The piling and new pontoons associated with the proposed marina expansion are not considered to be at a level that would modify hydrological energy flows in the tidal Hamble to impact the SPA birds or supporting habitats. **No LSE identified.**	No
Vibration		Construction: Relevant supporting feature is 'water column'. Most vibration transmitted into the water column will radiate as underwater noise (see 'Underwater Noise' above). Advice on Operations matrix justification states that vibrations, as particle motion, do not travel well under water and thus this pressure can be assessed as underwater sound given that sound is a combination of particle motion and pressure. **No LSE identified.**	No
Abrasion/disturbance of substrate		Construction: These pressures are relevant to supporting habitats only (not the bird species themselves) and no piling is to take place within in the SPA	No

on surface of seabed Penetration and/or disturbance of substratum below surface of seabed. Physical loss (to land or fresh water habitat)		boundary or within these habitats. The listed pressures will not have a pathway to these habitats. **No LSE identified.** Operation: All berths to be subtidal and of a pontoon/pile design i.e. no scour/abrasion from operational activity as there will be no mooring chains or anchoring activity. **No LSE identified.**	No
Collision ABOVE water with static or moving objects not naturally found in the marine environment		(Included for clarity, although this pressure is not at risk level medium nor high). Construction: A low risk category associated primarily with seabird mortality at wind turbines, offshore platforms, large vessels, or attraction to artificial light sources within marine environment. The scale and location of the additional mooring piles or vessel type proposed at the existing marina does not increase this risk. **No LSE identified.**	No
Collision BELOW water with static or moving objects not naturally found in the marine environment		(Included for clarity, although this pressure is not at risk level medium nor high). Construction: Categorised as low risk. Although a lack of information exists regarding collision risk of birds with underwater structures, the risk to diving terns is likely be increased if the structure alters the characteristics of the current, affecting underwater manoeuvrability of birds. The scale and location of the additional mooring piles proposed at the existing marina does not increase this risk. **No LSE identified.** Operation: Categorised as a low-risk pressure from recreational boating, with little evidence relating to underwater bird collisions with recreational vessels. The proposal will not alter the nature of vessel use in this location. **No LSE identified.**	No No

Solent and Dorset Coast SPA

Natural England is currently in the process of developing a Conservation Advice package, to include Advice on Operations Matrix, for this SPA. This site extends the boundary of the Solent & Southampton Water SPA and so the advice on operations component of the Solent and Southampton Water SPA have been used as a reference, on the advice of NE, to help filter the relevant pressures for the 3 tern species.

PRESSURE	**Qualifying Feature or Species (inc. sub features and supporting habitats**	**Potential for LSE?** **(i.e. potential for an effect and a pathway for effect)** *N.B. Advice on Operations matrix identifies the pressures associated with the categories of marine activities assessed. Where 'construction' or 'operation' are not listed below, this is where the pressure associated with the construction or operational activity is either not identified in the Advice on Operations matrix for the other activity or is of a sufficiently low risk not to warrant further consideration.*	**Take forward to AA?**
Above water noise	• Common tern, *Sterna hirundo* • Little tern, *Sterna albifrons* • Sandwich tern, *Sterna sandvicensis* This SPA is classified for 'foraging terns' and therefore the relevant supporting habitat is the water column	Construction: Loud noise that might be made by construction vessels and/or some piling techniques may have potential to reduce time spent foraging i.e. performing shallow plunge dives. However, in considering this pressure for this specific proposal, the location is not a key foraging area for terns within this large SPA, and is around a working marina with background levels of vessel movements occurring on the water throughout the day. Vessels not associated with the marina itself also transit in close proximity to it. All piling will be undertaken using vibro-piling as standard with percussion piling (with soft-start procedures) only being used to attain design level if necessary. The use of percussion piling is considered highly unlikely on the basis that all similar piling in the area has only required vibro-piling. The piling operation for singular tubular steel piles is not continuous. This piling process is well established as best practice for the Hamble Estuary. **No LSE identified.** Operation: Categorised as a low-risk pressure for operational activity (berthing/recreation). The proposed location, scale and intensity of the activity proposed does not increase the magnitude of this pressure and	No No

		there would be no relative increase in noise above the existing background noise levels or the type of noise generated. No LSE identified.	
Barrier to species movement		Construction: Proposed additional marina pontoons and piles create an extension of the existing physical obstruction within the water column but the scale of work, the location and the available surrounding water space means this will not form a complete barrier nor significant diversion of travel distance to species' local or migratory movements. (Benchmark is a permanent or temporary barrier to species movement ≥50% of water body width or a 10% change in tidal excursion). This location is not a key foraging area for terns in the SPA. **No LSE identified.**	No
Changes in suspended solids (water clarity)		Construction: Piling work has potential to disturb sediment which could cause a change in water clarity and affect terns that rely on underwater vision for hunting. The proposed piling will be short lived and within a small spatial area so will not reach the benchmark of a *change in one Water Framework Directive (WFD) ecological status class for one year within site*. This location is not a key foraging area for terns in the SPA. No LSE identified. **No LSE identified**	No
Litter		(Included for clarity, although this pressure is not at the risk level medium nor high). Operation: The uptake by terns of microplastics, entanglement or accumulation of chemicals from litter is categorised as a low-risk pressure from recreational boating. The River Hamble's compliance with the Hamble Port Waste Management Plan including the marina's existing provision of waste facilities for customers further reduces risk. **No LSE identified.**	No
Underwater noise changes		Construction: The location of the proposed piling area is not a key foraging site for terns within this large SPA, and is around a working marina with background underwater noise levels from vessel movements occurring throughout the day. All piling will be undertaken using vibro-piling as standard with percussion piling (with soft-start procedures) only being used to attain design level if necessary. The use of percussion piling is considered highly unlikely on the basis that all similar piling in the area has only required vibro-piling. The piling operation for singular tubular steel piles is not continuous. This piling process is well established as best practice for the Hamble Estuary. **No LSE identified.** Operation: Categorised as a low-risk pressure for operational activity (berthing/recreational boating). The proposed location, scale and intensity of the activity proposed does not increase the magnitude of this pressure and there would be no relative increase in operational noise above the existing background noise levels or the type of noise generated. **No LSE identified.**	No No
Visual Disturbance		Construction: Vessel movements associated with piling and pontoon works have potential to evoke a visual disturbance response in SPA bird species, however the scale and type of the proposed works, the location within an area of background levels of vessel movement and that this is not a key foraging area for terns in the SPA reduce the risk of this pressure. **No LSE identified**. Operation: Categorised as a low-risk pressure for operational activity (berthing/recreational boating). The location, scale, intensity of the activity proposed within an area of background levels of vessel movement, and its distance from the supporting habitats will not cause a relative increase in visual disturbance above the existing background. **No LSE identified.**	No No
Collision ABOVE water with static or moving objects not naturally found in the marine environment		(Included for clarity, although this pressure is not at the risk level medium nor high). Construction: A low-risk category associated primarily with seabird mortality at wind turbines, offshore platforms, large vessels, or attraction to artificial light sources within marine environment. The scale and location of the additional mooring piles or vessel type proposed at the existing marina does not increase this risk. In addition, this location is not a key foraging area for terns in the SPA. **No LSE identified.**	No
Collision BELOW water with static or		(Included for clarity, although this pressure is not at the risk level medium nor high).	

moving objects not naturally found in the marine environment		Construction: Categorised as low risk. Although a lack of information exists regarding collision risk of birds with underwater structures, the risk to diving terns is likely be increased if the structure alters the characteristics of the current, affecting underwater manoeuvrability of birds. The scale and location of the additional mooring piles proposed at the existing marina does not increase this risk, and this location is not a key foraging area for terns in the SPA. **No LSE identified.** Operation: Categorised as a low-risk pressure from recreational boating, with little evidence relating to underwater bird collisions with recreational vessels. The proposal will not alter the nature of vessel use in this location. This location is not a key foraging area for terns in the SPA. **No LSE identified.**	No No

In-Combination Effects

The potential effects of the project must also be considered in terms of how these may interact in combination with any other plans or projects known to be approved for development or undergoing licencing determination and which may have a pathway, in terms of time and location, to interact with the effects of the proposal being assessed.

Licenced routine maintenance dredging projects occur in the Hamble Estuary every winter at one or more marina locations, few of which are within the Solent Maritime SAC boundary and all are within or close to the 2 SPA sites). The River Hamble Maintenance Dredging Baseline Document is used to support all Marine Licence applications and has been signed off by Natural England (Habitat Regulations) and by the Environment Agency (Water Framework Directive). Examples of pressures exerted by maintenance dredging include changes in suspended solids (water clarity) and changes in siltation rates. Whilst maintenance dredging alters the physical level below chart datum of subtidal sediment it does not permanently remove this habitat sub-feature from the SAC. Whilst there is potential for maintenance dredging to occur at the same time as the proposed project at Universal Marina, the pressures generated by both activities at the same time are unlikely to combine to have a significant effect on the interest features or the integrity of the sites. **No in-combination likely significant effect identified.**

Other projects that may yet come forward for licence/consent approval will be subject to their own HRA which will include an assessment of in-combination effects with this proposed project at Universal Marina if the timescales or locations are relevant.

5. Conclusion of Likely Significant Effect:

RHHA's assessment, as qualified in section 4 a-e and summarised in the tables above, concludes that the proposed project alone will have a Likely Significant Effect in relation to the following pressure on the site listed below. No in-combination likely significant effects have been identified:

LSE of the following pressure:	**Justification**	**Site (feature affected):**
"*Penetration and/or disturbance of the substratum below the surface of the seabed, including abrasion*".	Permanent loss of subtidal habitat.	Solent Maritime SAC: Estuaries - subtidal mixed sediment

Any plan or project which will result in the lasting and/or irreparable loss of habitat (regardless how small), will mean that the project is likely to have a significant effect on a European site and as such must be subject to an Appropriate Assessment.

6. Appropriate Assessment

This proposed project is considered likely to have a likely significant effect on a European Site and therefore an Appropriate Assessment of the implications for the site, in view of the site's conservation objectives, has been undertaken.

The Appropriate Assessment determines whether an adverse effect on the integrity of the site (AEOI) can be ruled out. The integrity of a site is the coherence of its ecological structure and function, across its whole area that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified.

Pressure : Penetration and/or disturbance of the substratum below the surface of the seabed, including abrasion (resulting in permanent loss of subtidal habitat).
Site: Solent Maritime SAC
Qualifying feature or species affected: Estuaries (Subtidal mixed sediments) - Permanent loss of subtidal habitat.
Can RHHA conclude there will be no adverse effect on site integrity? (This includes taking any mitigation measures into account). The piling works associated with the proposal to reconfigure and expand Universal Marina will require 85 tubular steel piles to be relocated, 12 piles to be replaced in-situ, and 54 new piles to be added. 24 existing piles will be retained in place. The lifting and redriving to relocate 85 existing piles will disturb the subtidal mixed sediment but this will not result in a net loss of the extent or distribution of the SAC subtidal mixed sediment nor have an adverse impact on the integrity of the Solent Maritime SAC site i.e. on the coherence of its ecological structure and function. The 54 additional piles proposed are estimated to result in the direct and unavoidable permanent loss of an area of 5.43m2 of seabed habitat. 12 of these additional piles will be driven outside the SAC boundary. The boundary of the SAC passes through part of the current berthing area of Universal Marina, following a line associated with the edge of a previous layout of berths at the time of the SAC designation. 42 new piles will be driven within the SAC boundary and result in an estimated unavoidable loss of 4.23m2 with the SAC. The feature of the Solent Maritime SAC impacted is Estuaries - subtidal mixed sediment. The current extent of subtidal mixed sediment within the Solent Maritime site is 2,619.08 hectares (26,190,000 m2). The proposed loss of 4.2m2 equates to 0.000423 hectares which is 0.000016%. The Conservation Objectives for the site (summarised in Section 3 above) are to ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the Favourable Conservation Status of its qualifying features. Evidence from survey and monitoring shows the Solent Maritime SAC estuary feature of subtidal mixed sediment to be "in a good condition and/or currently un-impacted by anthropogenic activities" (ref. Natural England, designatedsites.naturalengland.org.uk *'Supplementary Advice on Conservation Objectives for Solent Maritime SAC - Subtidal mixed sediment'*). It is considered that the proposed loss of 0.000016% will not significantly or adversely affect the total extent and spatial distribution of subtidal mixed sediment. Extent is the presence and total area of the habitat across the site as a whole. The distribution relates to the more detailed locations and pattern of habitat across the site. Also, there will be no reduction to an extent that would alter the biological and physical functioning of the subtidal mixed sediment.

Taking into consideration the conservation objectives of the protected site and the significance of the effect (the habitat loss) on the characteristics of the qualifying feature effected (Estuaries – subtidal mixed sediment) in terms of its rarity, sensitivity and vulnerability to potential change, location, distribution, ecological function, the RHHA concludes that the proposal will have no adverse effect on the integrity of the Solent Maritime SAC.

7. Conclusions

An assessment of likely significant effect (LSE) concluded that there will be no LSE on the Solent & Southampton Water SPA and Ramsar Site, or on the Solent and Dorset Coat SPA. A LSE was, however, found in relation to the proposed loss of habitat within the SAC and so an Appropriate Assessment was then undertaken. The subsequent AA concluded that there would be no adverse effect on the integrity of the Solent Maritime SAC.

This HRA of the proposed rearrangement and addition of marina berths at Universal Marina concludes that the proposal will have no adverse effect on the integrity of a European Site, either individually or in combination with other plans or projects.

8. NE comments

RHHA, as the competent authority undertaking the HRA, is required to consult Natural England on the information above and have regard to its view of the consequent conclusion of the Appropriate Assessment. This has been undertaken and NE's comments are below.

Letter to RHHA dated 15.02.2021 from James McClelland, NE Marine & Coastal Lead Adviser.

"The following constitutes Natural England's formal statutory response.

<u>The Conservation of Habitats and Species Regulations 2017 (as amended) and The Conservation of Offshore Marine Habitats and Species Regulations 2017 (as amended)</u>

We can confirm that the proposed works are located within Solent Maritime Special Area of Conservation (SAC) and Solent and Dorset Coast Special Protection Area (SPA) and adjacent to Solent and Southampton Water SPA and Ramsar site.

<u>Appropriate assessment</u>
We note that your authority, as competent authority under the provisions of the Habitats Regulations, has undertaken an Appropriate Assessment of the proposal in accordance with Regulation 63 of the Regulations.

Natural England is a statutory consultee on the Appropriate Assessment stage of the Habitats Regulations Assessment process.

Your appropriate assessment concludes that your authority is able to ascertain that the proposal will not result in adverse effects on the integrity of any of the sites in question. Having considered the assessment, and the measures proposed to mitigate for all identified adverse effects that could potentially occur as a result of the proposal, Natural England advises that we concur with the assessment conclusions, providing that all mitigation measures are appropriately secured in any permission given."