# AVONMOUTH SEVERNSIDE ENTERPRISE AREA (ASEA) ECOLOGY MITIGATION AND FLOOD DEFENCE SCHEME

## Stockpile at Land off A403 at Northwick- Habitats Regulations Assessment

# Issue and Revision Record

| Revision | Date | Originator | Checker | Approver | Description |
|---|---|---|---|---|---|
| 01 | 10.10.19 | K Thorne | T Crabb<br>D Robinson<br>M Reid | M Secker | First issue |
| 02 | 04.12.19 | K Thorne | R Booley<br>D Robinson<br>C Postlethwaite | M Secker | Updated to amend EA comments |
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Document reference: ENVIMSW002194-BMM-XX-A10-RP-EY-0301017

# EA file naming and file metadata

| | |
|---|---|
| BS1192 file name | ENVIMSW002194-BMM-XX-A10-RP-EY-0301017 |
| BS1192 suitability | S8 – Shared for client review, comment and/or acceptance |
| Revision | P02 |
| EA deliverable reference | C0100_17 |
| EA work stage | EA4 |
| Level of Development | LOD4 |
| Title | Habitats Regulations Screening Assessment |

**Information class:** **Standard**

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**TABLE OF CONTENTS**


1. PERMISSION, PLAN OR PROJECT DETAILS ..... 4
2. DESCRIPTION OF PROPOSAL ..... 4
3. MAP(S) SHOWING PROPOSED STOCKPILE LOCATION AND EUROPEAN SITE(S) ..... 5
4. EUROPEAN SITES REQUIRING ASSESSMENT ..... 8
5. CONSERVATION OBJECTIVES ..... 10
6. RISKS (PRESSURES) RELEVANT TO THE PROPOSED STOCKPILE BEING ASSESSED ..... 11
7. ALONE ASSESSMENT (FURTHER DETAILS) ..... 24
8. IN COMBINATION ASSESSMENT (FURTHER DETAILS) ..... 24
9. INFORMATION/ADVICE ..... 25
10. DECISION ..... 25
11. REFERENCES ..... 26

# 1. Permission, plan or project details

Project Details: Proposed Stockpiling at Land off A403 at Northwick for Avonmouth Severnside Enterprise Area (ASEA) Ecological Mitigation and Flood Defence Scheme.

National grid reference: ST 55789 87584.

Site/project name or reference: Stockpiling at Land off A403 at Northwick.

# 2. Description of proposal

The ASEA Ecological Mitigation and Flood Defence Scheme (referred to as 'the ASEA scheme') will enable continued economic growth in Bristol and South Gloucestershire. The ASEA scheme was commissioned by South Gloucestershire Council (SGC), Bristol City Council (BCC) and the Environment Agency (EA). The ASEA scheme is located between Ordnance Survey Grid References ST 673 832 and ST 519 766 and involves the improvement of the flood defences along the Severn Estuary.

In order to construct the earth embankments that form part of the ASEA scheme, suitable material (soil) will be imported from an off-site location and stored for a minimum of 18 months and up to three years until the end of the ASEA scheme's construction, before being transported to the working area for incorporation within the earth embankments. An area off the A403 at Northwick has been proposed as the potential location for the construction stockpiling material (referred to as the 'proposed stockpile'). Approximately 150,000m³ will be stored within this area, at a maximum height of 2m.

The proposed stockpile site is located on a historical commercial landfill and the stockpiling will be undertaken to ensure no damage is caused to the landfill cap. The hedgerows around the proposed stockpile will remain in-situ during stockpiling activities to minimise visual disturbance.

The Severn Estuary Special Protection Area (SPA), Special Area of Conservation (SAC) and Ramsar are the closest European designated sites to the proposed stockpile, located approximately 50m from the eastern boundary of the proposed stockpile, on the opposite seaward side of the existing flood defence embankment.

The purpose of this HRA Screening is to support the planning application for the new stockpile located off the A403 at Northwick.

# 3. Map(s) showing proposed stockpile location and European site(s)

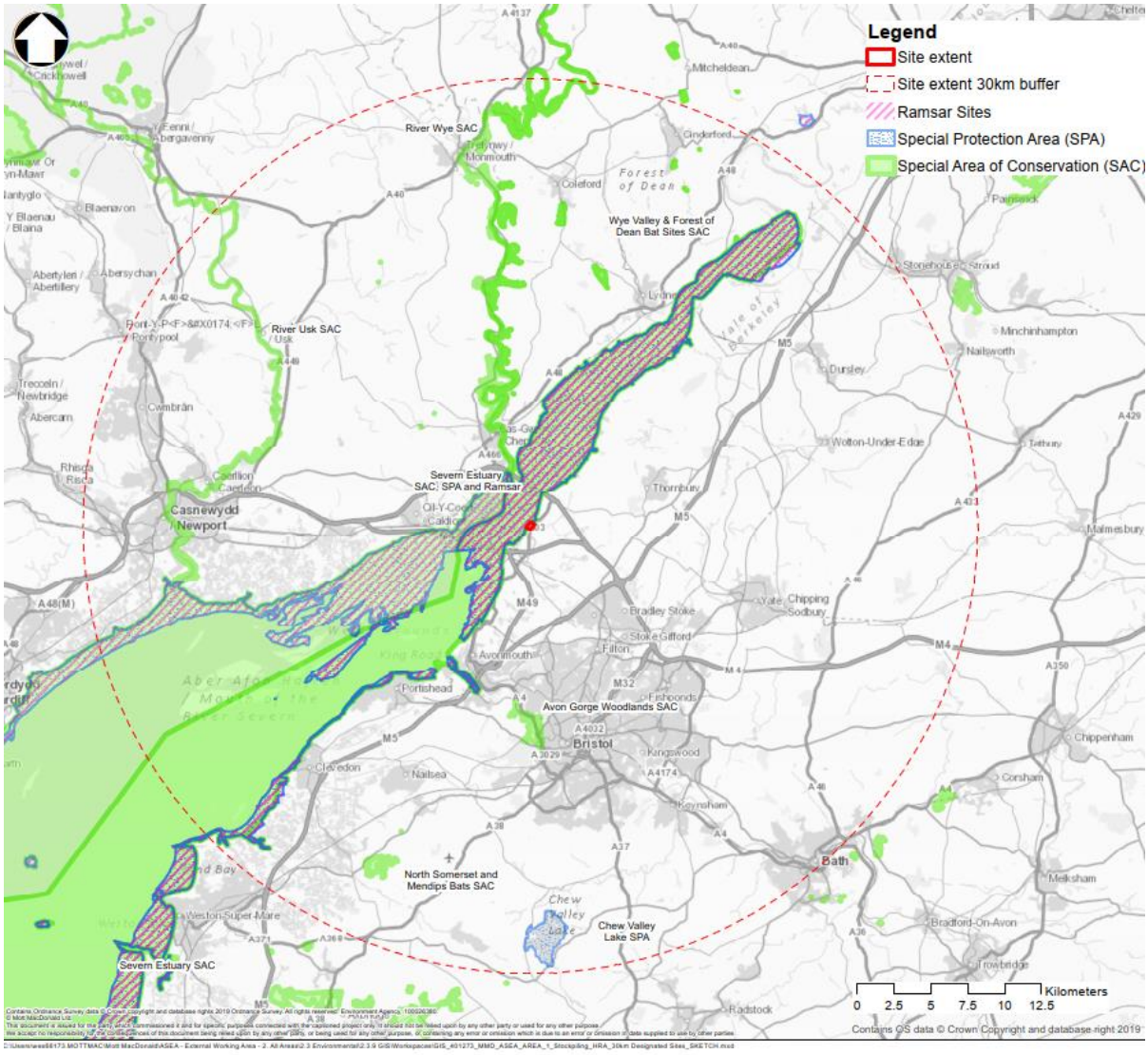
The location of the proposed stockpile is shown in Figure 1 below:

**Figure 1: Location of the proposed stockpile**

Source: Esri, Intermap, NASA, NGA, USGS | Esri UK, Esri, HERE, Garmin, INCREMENT P, METI/NASA, USGS | DigitalGlobe, Microsoft, Earthstar Geographics

Figure 2 below shows the European designated sites surrounding and to the north of the proposed stockpile which require assessment.

**Figure 2: Location of European designated sites within 30km of the proposed stockpile**




Source: OS Data Mott MacDonald Licence Number 100026791

Northwick Warth and Flash and the Cake Pill, Aust Warth high tide roosts are the closest high tide roosts to the proposed stockpile location. However, these are located over 303m south west and 417m north of the proposed stockpile respectively, as shown in Figure 3.

**Figure 3: Location of High Tide Roosts with 200m buffer – the proposed stockpile location is shown in red**

Source: OS Data Mott MacDonald Licence Number 100026791

# 4. European sites requiring assessment

The sites shown in Table 1 are European Designated Sites within 30km of the proposed stockpile.

**Table 1: European Designated Sites Within 30km**

| European Site | Complete list of qualifying features and potential supporting habitat |
|---|---|
| Severn Estuary SAC (UK0013030)^ | **Annex I habitats** that are a primary reason for selection of this site:<br>1130 – Estuaries<br>1140 – Mudflats and sandflats not covered by seawater at low tide<br>1330 – Atlantic salt meadows (*Glauco-Puccinellietalia* maritimae).<br>**Annex I habitats** present as a qualifying feature, but not a primary reason for selection of this site:<br>1110 – Sandbanks which are slightly covered by sea water all the time<br>1170 – reefs.<br>**Annex II species** that are a primary reason for selection of this site:<br>1095 – Sea lamprey *Petromyzon marinus*<br>1099 – River lamprey *Lampetra fluviatilis*<br>1103 – Twaite shad *Alosa fallax*. |
| Severn Estuary SPA (UK9015022)^ | Species that are a primary reason for selection of this site:<br>A037 – Bewick's swan *Cygnus columbianus bewickii* (non-breeding)<br>A048 – Common shelduck *Tadorna tadorna* (non-breeding)<br>A051 – Gadwall *Anas Strepera* (non-breeding)<br>A149 – Dunlin *Calidris alpine* (non-breeding)<br>A162 – Common redshank *Tringa tetanus* (non-breeding)<br>A394 – Greater white-fronted goose *Anser albifrons albifrons* (non-breeding). |
| Severn Estuary Ramsar (UK11081) | Species & supporting habitats that are a primary reason for selection of this site:<br>**Atlantic Salt meadows** (Glauco-Puccinellietalia maritimae)<br>Dunlin (wintering)<br>**Estuaries**<br>Greater white-fronted goose (wintering)<br>**Mudflats and sandflats not covered by seawater at low tide**<br>Common redshank (wintering)<br>Ringed plover *Charadrius hiaticula* (passage)<br>Assemblage of migratory fish species<br>**Sandbanks which are slightly covered by water all the time**<br>Common shelduck (wintering)<br>Waterbird assemblage (wintering)<br>Whimbrel *Numenius phaeopus* (passage) |
| Avon Gorge Woodlands SAC (UK0012734) | Tilio-Acerion forests of slopes, screes and ravines * Priority feature<br>Semi-natural dry grasslands and scrubland facies on calcareous substrates *(Festuco-Brometalia)* (* important orchid sites) |
| Bristol Channel Approaches SAC (UK0030396) | **Annex II species** that are a primary reason for selection of this site:<br>Harbour porpoise *Phocoena phocoena* |
| River Usk SAC (UK0013007) | **Annex I habitats** present as a qualifying feature, but not a primary reason for selection of this site:<br>Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation<br>**Annex II species** that are a primary reason for selection of this site:<br>Sea lamprey<br>Brook lamprey *Lampetra planeri*<br>River lamprey<br>Twaite shad |

| European Site | Complete list of qualifying features and potential supporting habitat |
|---|---|
| | Atlantic salmon *Salmo salar*<br>Bullhead *Cottus gobio*<br>Otter *Lutra lutra*<br>**Annex II species** present as a qualifying feature, but not a primary reason for site selection:<br>Allis shad *Alosa alosa* |
| River Wye SAC (UK0012642) | **Annex I habitats** that are a primary reason for selection of this site:<br>Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation<br>**Annex I habitats** present as a qualifying feature, but not a primary reason for selection of this site:<br>Transition mires and quaking bogs<br>**Annex II species** that are a primary reason for selection of this site:<br>White-clawed crayfish *Austropotamobius pallipes*<br>Sea lamprey<br>Brook lamprey<br>River lamprey<br>Twaite shad<br>Atlantic salmon<br>Bullhead<br>Otter<br>**Annex II species** present as a qualifying feature, but not a primary reason for site selection:<br>Allis shad |
| Bath and Bradford-on-Avon Bats SAC (UK0012584) | **Annex II species** that are a primary reason for selection of this site:<br>Greater horseshoe bat *Rhinolophus ferrumequinum*<br>Bechstein's bat *Myotis bechsteinii*<br>**Annex II species** present as a qualifying feature, but not a primary reason for site selection:<br>Lesser horseshoe bat *Rhinolophus hipposideros* |
| North Somerset and Mendip Bats SAC (UK0030052) | **Annex I habitats** that are a primary reason for selection of this site:<br>Semi-natural dry grasslands and scrubland facies on calcareous substrates *(Festuco-Brometalia)* (* important orchid sites)<br>Tilio-Acerion forests of slopes, screes and ravines * Priority feature<br>**Annex I habitats** present as a qualifying feature, but not a primary reason for selection of this site:<br>Caves not open to the public<br>**Annex II species** that are a primary reason for selection of this site:<br>Lesser horseshoe bat<br>Greater horseshoe bat |
| Wye Valley and Forest of Dean Bat Sites SAC (UK0014794) | **Annex II species** that are a primary reason for selection of this site:<br>Lesser horseshoe bat<br>Greater horseshoe bat |
| Wye Valley Woodlands SAC (UK0012727) | **Annex I habitats** that are a primary reason for selection of this site:<br>*Asperulo-Fagetum* beech forests<br>*Tilio-Acerion* forests of slopes, screes and ravines * Priority feature<br>*Taxus baccata* woods of the British Isles * Priority feature<br>**Annex II species** present as a qualifying feature, but not a primary reason for site selection:<br>Lesser horseshoe bat |

Source: ^Protected area under the Water Environment (Water Framework Directive) (England and Wales) Regulations 2017

# 5. Conservation Objectives

The screening for likely significant effects (and Appropriate Assessment, if required) will consider the implications of the proposal in view of the Conservation Objectives for the following sites:

| |
|---|
| **Severn Estuary SAC (UK0013030)** |
| http://publications.naturalengland.org.uk/publication/6081105098702848?category=5374002071601152 |
| **Severn Estuary SPA (UK9015022)** |
| http://publications.naturalengland.org.uk/publication/5601088380076032?category=5374002071601152 |
| **Severn Estuary Ramsar (UK11081)** |
| There are currently no conservation objectives for Ramsar sites. The SAC/SPA conservation objectives will be used when the qualifying features are the same, and advice sought from Natural England in other cases if necessary. |
| **Avon Gorge Woodlands SAC (UK0012734)** |
| http://publications.naturalengland.org.uk/publication/6740736611450880?category=5374002071601152 |
| **Bristol Channel Approaches SAC (UK0030396)** |
| https://cdn.naturalresources.wales/media/679449/bristolchannelapproachesconservationobjectivesandadviceonactivities.pdf?mode=pad&rnd=131625760740000000 |
| **River Usk SAC (UK0013007)** |
| https://naturalresources.wales/media/673384/River_Usk%20SAC%20core%20plan.pdf |
| **River Wye SAC (UK0012642)** |
| http://publications.naturalengland.org.uk/publication/6096799802589184 |
| **Bath and Bradford-on-Avon Bats SAC (UK0012584)** |
| http://publications.naturalengland.org.uk/publication/6279810384920576 |
| **North Somerset and Mendip Bats SAC (UK0030052)** |
| http://publications.naturalengland.org.uk/publication/6252034999189504 |
| **Wye Valley and Forest of Dean Bat Sites SAC (UK0014794)** |
| http://publications.naturalengland.org.uk/publication/4907653293670400 |
| **Wye Valley Woodlands SAC (UK0012727)** |
| http://publications.naturalengland.org.uk/publication/6331090281168896 |

# 6. Risks (pressures) relevant to the proposed stockpile being assessed

The following risks (pressures) are relevant to the proposed stockpile:

- Disturbance;
- Habitat loss;
- Physical damage; and
- Migration barrier.

**Table 2: HRA stage one screening table**

| Qualifying feature | Risk (Pressure) | Likely significant effect alone | Yes or No | Likely significant effect in combination | Yes or No |
|---|---|---|---|---|---|
| **Severn Estuary SAC (UK0013030)^** | | | | | |
| Estuaries<br><br>Mudflats and sandflats not covered by seawater at low tide<br><br>Atlantic salt meadows *(Glauco-Puccinellietalia* maritimae)<br><br>Sandbanks which are slightly covered by sea water all the time<br><br>Reefs | Change in flow or velocity regime<br><br>Changes in water chemistry<br><br>Changes in physical regime<br><br>Changes in surface water flooding<br><br>Competition from non-native species<br><br>Disturbance<br><br>Habitat loss<br><br>Habitat/community simplification<br>Physical damage<br><br>Turbidity | The proposed stockpile is located 200m from the estuary in semi-improved grassland habitat. Habitats within the works area do not include qualifying features such as estuary, mudflats and sandbanks, Atlantic salt marsh meadow or reefs.<br>The proposed stockpile area is protected from the Severn Estuary by the existing flood defence bund and no watercourses are linked to the SAC from the proposed location. There will be no loss of SAC habitat.<br>There is a pond located in a neighbouring field to the south of the proposed site which is where run-off is likely to accumulate. | No | The main construction phase for the ASEA flood defence will be within 200m of the estuary and disturbance is likely. During construction of the flood defence, thereg/ will be an increase in noise and vibration however this is unlikely to disturb the species using the SAC and the new defence will be constructed on the landward side of the existing defences. The stockpile will be constructed before the main flood defence works, however it will be in use during construction of the ASEA scheme. There will be an increase in vehicle movements and associated noise and vibration from the use of the stockpile for flood defence construction, however this is unlikely to impact the marine environments and it will be screened from the SAC by the hedgerows bordering the proposed stockpile. Although it is unlikely due to the distance of the stockpile from the SAC, there is a very low risk that dust will enter the marine environment from the stockpile location at high tide.<br>. | No |

| Qualifying feature | Risk (Pressure) | Likely significant effect alone | Yes or No | Likely significant effect in combination | Yes or No |
|---|---|---|---|---|---|
| Sea lamprey<br><br>River lamprey<br><br>Twaite shad | Disturbance<br><br>Habitat Loss<br><br>Change in flow or velocity regime<br>Migration barrier | The proposed stockpile location is 200m from the estuarine habitat and there is no hydraulic connectivity between the proposed stockpile location and the SAC, therefore these species will not be affected by the proposed works. | No | None | No |
| **Severn Estuary SPA (UK9015022)^** | | | | | |
| Bewick's swan (4.1% of Great Britain's population) | Disturbance<br>Habitat Loss | The proposed stockpile area is adjacent to the SPA which is designated for overwintering birds. The stockpile will be located more than 300m from the Northwick Warth and Flash high tide roost. The fields which will contain the stockpile do not provide suitable habitat for overwintering birds, the elevation of the land and surrounding hedgerows limit sight lines and no pools of water are present within the fields. An ornithological check of these fields completed on 22.11.19 did not identify the presence of overwintering birds. In addition, ornithological surveys at high tide of the surrounding estuarine habitat have not identified any Bewick's swan. | No | The flood defence being constructed as part of the main ASEA scheme will be built to the east of the existing flood defence, to lessen disturbance of the SPA. During construction of the flood defence, an increase in noise and vibration may disturb the species using the SPA, however the stockpile will be constructed before the main flood defence works and therefore there will be no in-combination effects. The 2m high stockpile will be screened from the SPA by the hedgerows surrounding the proposed stockpile. | No |
| Common shelduck (1.2% of NW Europe's population) | Disturbance<br>Habitat Loss | The proposed stockpile area is adjacent to the SPA which is designated for overwintering birds. However, the stockpile location is more than 300m from a high tide roost. The fields which will contain the stockpile do not provide suitable habitat for overwintering birds, the elevation of the land and surrounding hedgerows limit sight lines and no pools of water are present within the fields. An ornithological check of these fields completed on 22.11.19 did not identify the presence of overwintering birds. | No | The flood defence being constructed as part of the main ASEA scheme will be built to the east of the existing flood defence, to lessen disturbance of the SPA. During construction of the flood defence, an increase in noise and vibration may disturb the species using the SPA, the stockpile will be constructed separate to the main flood defence works. The use of the stockpile and construction of the flood defence will be at the same time and may cause an increase of noise and vibration, however restricted noise limits within 2 hours of high tide within 200m of a high tide roost between September and March will ensure birds are not displaced from the High Tide Roosts. The proposed stockpile site will be designed to keep lorries away from the western boundary of the stockpile and vehicle movements will be along the purpose built track towards the eastern boundary of the | No |

| Qualifying feature | Risk (Pressure) | Likely significant effect alone | Yes or No | Likely significant effect in combination | Yes or No |
|---|---|---|---|---|---|
| | | | | stockpile site. The nearest High Tide Roost is more than 300m from the proposed stockpile location and therefore noise and vibration impacts are likely to be minimal. The 2m high stockpile will be screened from the SPA by the hedgerows bordering the proposed stockpile. | |
| Gadwall (2.8% of NW Europe's population) | Disturbance<br>Habitat Loss | The proposed stockpile area is adjacent to the SPA which is designated for overwintering birds. However, the stockpile location is more than 300m from a high tide roost. The fields which will contain the stockpile do not provide suitable habitat for overwintering birds, the elevation of the land and surrounding hedgerows limit sight lines and no pools of water are present within the fields. An ornithological check of these fields completed on 22.11.19 did not identify the presence of overwintering birds. | No | The flood defence being constructed as part of the main ASEA scheme will be built to the east of the existing flood defence, to lessen disturbance of the SPA. The 2m high stockpile will be screened from the SPA by the hedgerows bordering the proposed stockpile.The use of the stockpile and construction of the flood defence will be at the same time and may cause an increase of noise and vibration, however restricted noise limits within 2 hours of high tide within 200m of a high tide roost between September and Marchwill ensure birds are not displaced from the High Tide Roosts. The proposed stockpile site will be designed to keep lorries away from the western boundary of the stockpile and vehicle movements will be along the purpose built track towards the eastern boundary of the stockpile site. The nearest High Tide Roost is more than 300m from the proposed stockpile location and therefore noise and vibration impacts are likely to be minimal. | No |
| Dunlin (2.9% of the East Atlantic Flyway's Dunlin population were recorded at the Severn Estuary) | Disturbance<br>Habitat Loss | The proposed stockpile area is adjacent to the SPA which is designated for overwintering birds. However, the stockpile location is more than 300m from a high tide roost. The fields which will contain the stockpile do not provide suitable habitat for overwintering birds, the elevation of the land and surrounding hedgerows limit sight lines and no pools of water are present within the fields. An ornithological check of these fields completed on 22.11.19 did not identify the presence of overwintering birds. | No | The flood defence being constructed as part of the main ASEA scheme will be built to the east of the existing flood defence, to lessen disturbance of the SPA. During construction of the flood defence, an increase in noise and vibration may disturb the species using the SPA, however the stockpile will be constructed separate to the main flood defence works. The 2m high stockpile will be screened from the SPA by the hedgerows bordering the proposed stockpile, therefore operation of the stockpile will not impact the designated feature. The use of the stockpile and construction of the flood defence will be at the same time and may cause an increase of noise and vibration, however restricted noise limits within 2 hours of high tide within 200m of a high tide roost between September and March will ensure birds are not displaced from the High Tide Roosts. The stockpile site | No |

| Qualifying feature | Risk (Pressure) | Likely significant effect alone | Yes or No | Likely significant effect in combination | Yes or No |
|---|---|---|---|---|---|
| | | | | will be designed to keep lorries away from the western boundary of the stockpile and vehicle movements will be along the purpose built track towards the eastern boundary of the stockpile site. The nearest High Tide Roost is more than 300m from the proposed stockpile location and therefore noise and vibration impacts on these roosts are likely to be minimal. | |
| Common redshank (The Severn Estuary supports 1.3% of the East Atlantic Flyway's redshank population consisting of 2013 individuals (between 1998 to 1993, five-year peak mean) | Disturbance<br>Habitat Loss | The proposed stockpile area is adjacent to the SPA which is designated for overwintering birds. However, the stockpile location is more than 300m from a high tide roost. The fields which will contain the stockpile do not provide suitable habitat for overwintering birds, the elevation of the land and surrounding hedgerows limit sight lines and no pools of water are present within the fields. An ornithological check of these fields completed on 22.11.19 did not identify the presence of overwintering birds. | No | The flood defence being constructed as part of the main ASEA scheme will be built to the east of the existing flood defence, to lessen disturbance of the SPA. During construction of the flood defence, an increase in noise and vibration may disturb the species using the SPA, however the stockpile will be constructed separate to the main flood defence works.The 2m high stockpile will be screened from the SPA by the hedgerows bordering the proposed stockpile, therefore operation of the stockpile will not impact the designated feature. The use of the stockpile and construction of the flood defence will be at the same time and may cause an increase of noise and vibration, however restricted noise limits within 2 hours of high tide within 200m of a high tide roost between September and March will ensure birds are not displaced from the High Tide Roosts. The stockpile site will be designed to keep lorries away from the western boundary of the stockpile and vehicle movements will be along the purpose built track towards the eastern boundary of the stockpile site. The nearest High Tide Roost is more than 300m from the proposed stockpile location and therefore noise and vibration impacts on these roosts are likely to be minimal. | No |
| Greater white-fronted goose (50% of the British population of this species and 1% of North West Europe's population occur at the Severn Estuary) | Disturbance<br>Habitat Loss | The proposed stockpile area is adjacent to the SPA which is designated for overwintering birds. However, the stockpile location is more than 300m from a high tide roost. The fields which will contain the stockpile do not provide suitable habitat for overwintering birds, the elevation of the land and surrounding hedgerows limit sight lines and no pools of water are present within the fields. An ornithological check of these fields completed | No | Greater white-fronted geese have not been recorded at Northwick and due to their absence, they will not be affected by the stockpile or flood defence construction. Additionally, the flood defence being constructed as part of the main ASEA scheme will be built to the east of the existing flood defence, to lessen disturbance of the SPA. During construction of the flood defence, an increase in noise and vibration may disturb the species using the SPA. The stockpile will be constructed separate to the | No |

| Qualifying feature | Risk (Pressure) | Likely significant effect alone | Yes or No | Likely significant effect in combination | Yes or No |
|---|---|---|---|---|---|
| | | on 22.11.19 did not identify the presence of overwintering birds. | | main flood defence works.. The 2m high stockpile will be screened from the SPA by the hedgerows bordering the proposed stockpile, therefore operation of the stockpile will not impact the designated feature. The use of the stockpile and construction of the flood defence will be at the same time and may cause an increase of noise and vibration, however restricted noise limits within 2 hours of high tide within 200m of a high tide roost between September and March will be implemented to ensure birds are not displaced from the High Tide Roosts. The stockpile site will be designed to keep lorries away from the western boundary of the stockpile and vehicle movements will be along the purpose built track towards the eastern boundary of the stockpile site. The nearest High Tide Roost is more than 300m from the proposed stockpile location and therefore noise and vibration impacts on these roosts are likely to be minimal. | |
| **Severn Estuary Ramsar (UK11081)** | | | | | |
| Atlantic salt meadows | Competition from non-native species<br>Disturbance<br>Habitat loss<br>Habitat/community simplification<br>Physical damage | The proposed stockpile location is adjacent to, but not within, the Ramsar. Works will not be within the salt meadows.<br>The Severn Estuary Atlantic salt meadows are protected by the existing flood defence bund and no watercourses are linked to the SAC from the proposed location.<br>There is a pond located in a neighbouring field to the south of the proposed site which is where run-off is likely to accumulate. | No | Due to the lack of hydrological connectivity between the stockpile location and the Ramsar site, it is unlikely that these features will be impacted.<br>Whilst run off may accumulate within the pond to the south of the stockpile location, this is not hydrologically connected to the estuary and therefore very unlikely to impact the Ramsar. | No |
| Dunlin | Disturbance<br>Habitat Loss | The proposed stockpile area is adjacent to the Ramsar. The proposed stockpile area is adjacent to the Ramsar. However, the stockpile location is more than 300m from a high tide roost. The fields which will contain the stockpile do not provide suitable habitat for overwintering birds, the elevation of the land and surrounding hedgerows limit sight lines and no pools of water are present within the fields. An ornithological | No | The flood defence being constructed as part of the main ASEA scheme will be built to the east of the existing flood defence, to lessen disturbance of the Ramsar.<br>During construction of the flood defence, an increase in noise and vibration may disturb the species using the Ramsar, however the stockpile will be constructed separate to the main flood defence works and therefore | No |

| Qualifying feature | Risk (Pressure) | Likely significant effect alone | Yes or No | Likely significant effect in combination | Yes or No |
|---|---|---|---|---|---|
| | | check of these fields completed on 22.11.19 did not identify the presence of overwintering birds. | | there will be no in-combination effects. The 2m high stockpile will be screened from the Ramsar by the hedgerows bordering the proposed stockpile, therefore operation of the stockpile will not impact the designated feature. | |
| Estuaries | Competition from non-native species<br>Disturbance<br>Habitat loss<br>Habitat/community simplification<br>Physical damage | The proposed stockpile location is adjacent to, but not within, the Ramsar. Works will not be within the estuary.<br>The Severn Estuary is protected by the existing flood defence bund and no watercourses are linked to the Ramsar from the proposed location.<br>There is a pond located in a neighbouring field to the south of the proposed site which is where run-off is likely to accumulate. | No | None The use of the stockpile and construction of the flood defence will be at the same time and may cause an increase of noise and vibration, however restricted noise limits within 2 hours of high tide within 200m of a high tide roost between September and March will minimise this. The stockpile site will be designed to keep lorries away from the western boundary of the stockpile and vehicle movements will be along the purpose built track towards the eastern boundary of the stockpile site. Due to the lack of hydrological connectivity between the stockpile location and the Ramsar site, it is unlikely that there will be an impact. | No |
| Greater white-fronted goose (wintering) | Disturbance<br>Habitat Loss | The proposed stockpile area is adjacent to the Ramsar. However, the stockpile location is more than 300m from a high tide roost and fields which will contain the stockpile do not provide suitable habitat for overwintering birds. The elevation of the land and surrounding hedgerows limit sight lines and no pools of water are present within the fields. An ornithological check of these fields completed on 22.11.19 did not identify the presence of overwintering birds. | No | Greater white-fronted geese have not been recorded at Northwick and due to their absence, they will not be affected by the stockpile or flood defence construction. Additionally, the flood defence being constructed as part of the main ASEA scheme will be built to the east of the existing flood defence, to lessen disturbance to the Ramsar site. During construction of the flood defence, an increase in noise and vibration may disturb the species using the Ramsar, however the stockpile will be constructed separate to the main flood defence works and will be screened from the Ramsar by the hedgerows bordering the proposed stockpile location. The use of the stockpile and construction of the flood defence will be at the same time and may cause an increase of noise and vibration, however restricted noise limits within 2 hours of high tide within 200m of a high tide roost between September and Marchwill ensure birds are not displaced from the High Tide Roosts. The stockpile site will be designed to keep lorries away from the western boundary of the stockpile and vehicle movements will be along the purpose built track towards the eastern boundary of the stockpile site. The nearest High Tide | No |

| Qualifying feature | Risk (Pressure) | Likely significant effect alone | Yes or No | Likely significant effect in combination | Yes or No |
|---|---|---|---|---|---|
| | | | | Roost is more than 300m from the proposed stockpile location and therefore noise and vibration impacts on these roosts are likely to be minimal. | |
| Mudflats and sandflats not covered by seawater at low tide | Competition from non-native species<br>Disturbance<br>Habitat loss<br>Habitat/community simplification<br>Physical damage | The proposed stockpile location is adjacent to, but not within, the Ramsar. Works will not be within or near the mudflats and sandflats.<br>The Severn Estuary mudflats and sandflats are protected from the stockpile works by the existing flood defence bund and no watercourses are linked to the Ramsar from the proposed location.<br>There is a pond located in a neighbouring field to the south of the proposed site which is where run-off is likely to accumulate. | No | The use of the stockpile and construction of the flood defence will be at the same time and may cause an increase of noise and vibration, however restricted noise limits within 2 hours of high tide within 200m of a high tide roost between September and Marchwill minimise this. The stockpile site will be designed to keep lorries away from the western boundary of the stockpile and vehicle movements will be along the purpose built track towards the eastern boundary of the stockpile site. Due to the lack of hydrological connectivity of the stockpile location to the Ramsar, it is unlikely that these features will be impacted. | No |
| Common redshank (wintering) | Disturbance<br>Habitat Loss | The proposed stockpile area is adjacent to the Ramsar. However, the stockpile location is more than 300m from a high tide roost and the fields which will contain the stockpile do not provide suitable habitat for overwintering birds. The elevation of the land and surrounding hedgerows limit sight lines and no pools of water are present within the fields. An ornithological check of these fields completed on 22.11.19 did not identify the presence of overwintering birds. | No | The flood defence being constructed as part of the main ASEA scheme will be built to the east of the existing flood defence, to lessen disturbance of the Ramsar. During construction of the flood defence, an increase in noise and vibration may disturb this Ramsar feature, however the stockpile will be constructed separate to the main flood defence works and will be screened from the Ramsar by the hedgerows bordering the proposed stockpile location. The use of the stockpile and construction of the flood defence will be at the same time and may cause an increase of noise and vibration, however restricted noise limits within 2 hours of high tide within 200m of a high tide roost between September and Marchwill ensure birds are not displaced from the High Tide Roosts. The stockpile site will be designed to keeplorries away from the western boundary of the stockpile and vehicle movements will be along the purpose built track towards the eastern boundary of the stockpile site. The nearest High Tide Roost is more than 300m from the proposed stockpile location and therefore noise and vibration impacts on these roosts are likely to be minimal. | No |
| Ringed plover (passage) | Disturbance | The proposed stockpile area is adjacent to the Ramsar. However, the stockpile location is more than 300m from | No | The flood defence being constructed as part of the main ASEA scheme will be built to the east of the existing | No |

| Qualifying feature | Risk (Pressure) | Likely significant effect alone | Yes or No | Likely significant effect in combination | Yes or No |
|---|---|---|---|---|---|
| | Habitat Loss | a high tide roost. The fields which will contain the stockpile do not provide suitable habitat for overwintering birds, the elevation of the land and surrounding hedgerows limit sight lines and no pools of water are present within the fields. An ornithological check of these fields completed on 22.11.19 did not identify the presence of overwintering birds. | | flood defence, to lessen disturbance of the Ramsar. During construction of the flood defence, an increase in noise and vibration may disturb this Ramsar feature, however the stockpile will be constructed separate to the main flood defence works and will be screened from the Ramsar by the hedgerows bordering the proposed stockpile location. The use of the stockpile and construction of the flood defence will be at the same time and may cause an increase of noise and vibration, however restricted noise limits within 2 hours of high tide within 200m of a high tide roost between September and Marchwill ensure birds are not displaced from the High Tide Roosts. The stockpile site will be designed to keep lorries away from the western boundary of the stockpile and vehicle movements will be along the purpose built track towards the eastern boundary of the stockpile site. The nearest High Tide Roost is more than 300m from the proposed stockpile location and therefore noise and vibration impacts on these roosts are likely to be minimal. | |
| Run of migratory fish | Migration barrier | The proposed stockpile location is adjacent to, but not within, the Ramsar. Works will not be within the estuary. | No | None | No |
| Sandbanks which are slightly covered by water all the time | Disturbance<br><br>Habitat Loss | The proposed stockpile location is adjacent to, but not within, the Ramsar. Works will not impact the sandbanks.<br>The proposed stockpile area is protected from the Severn Estuary by the existing flood defence bund and no watercourses are linked to the SAC from the proposed location.<br>There is a pond located in a neighbouring field to the south of the proposed site which is where run-off is likely to accumulate. | No | None | No |
| Common shelduck (wintering) | Disturbance<br><br>Habitat Loss | The proposed stockpile area is adjacent to the Ramsar. However, the stockpile location is more than 300m from a high tide roost. The fields which will contain the stockpile do not provide suitable habitat for overwintering birds, the elevation of the land and surrounding hedgerows limit sight lines and no pools of | No | The flood defence being constructed as part of the main ASEA scheme will be built to the east of the existing flood defence, to lessen disturbance of the Ramsar. During construction of the flood defence, an increase in noise and vibration may disturb the species using the Ramsar, however the stockpile will be constructed | No |

| Qualifying feature | Risk (Pressure) | Likely significant effect alone | Yes or No | Likely significant effect in combination | Yes or No |
|---|---|---|---|---|---|
| | | water are present within the fields. An ornithological check of these fields completed on 22.11.19 did not identify the presence of overwintering birds. | | separate to the main flood defence works and will be screened from the Ramsar by the hedgerows bordering the proposed stockpile location. The use of the stockpile and construction of the flood defence will be at the same time and may cause an increase of noise and vibration, however restricted noise limits within 2 hours of high tide within 200m of a high tide roost between September and Marchwill ensure birds are not displaced from the High Tide Roosts. The stockpile site will be designed to keep lorries away from the western boundary of the stockpile and vehicle movements will be along the purpose built track towards the eastern boundary of the stockpile site. The nearest High Tide Roost is more than 300m from the proposed stockpile location and therefore noise and vibration impacts on these roosts are likely to be minimal. Due to the lack of hydrological connectivity of the stockpile location to the Ramsar, it is unlikely that these features will be impacted. | |
| Waterbird assemblage (wintering) | Disturbance<br><br>Habitat loss | The proposed stockpile area is adjacent to the Ramsar. However, the stockpile location is more than 300m from a high tide roost and therefore disturbance is unlikely. Additionally, the fields which will contain the stockpile do not provide suitable habitat for overwintering birds, the elevation of the land and surrounding hedgerows limit sight lines and no pools of water are present within the fields. An ornithological check of these fields completed on 22.11.19 did not identify the presence of overwintering birds. | No | The flood defence being constructed as part of the main ASEA scheme will be built to the east of the existing flood defence, to lessen disturbance of the Ramsar. During construction of the flood defence, an increase in noise and vibration may disturb the species using the Ramsar, however the stockpile will be constructed separate to the main flood defence works and will be screened from the Ramsar by the hedgerows bordering the proposed stockpile location. The use of the stockpile and construction of the flood defence will be at the same time and may cause an increase of noise and vibration, however restricted noise limits within 2 hours of high tide within 200m of a high tide roost between September and March will ensure birds are not displaced from the High Tide Roosts. The stockpile site will be designed to keep lorries away from the western boundary of the stockpile and vehicle movements will be along the purpose built track towards the eastern boundary of the stockpile site. The nearest High Tide Roost is more than 300m from the proposed stockpile location and therefore noise and vibration impacts on these roosts are likely to be | No |

| Qualifying feature | Risk (Pressure) | Likely significant effect alone | Yes or No | Likely significant effect in combination | Yes or No |
|---|---|---|---|---|---|
| | | | | minimal. Due to the lack of hydrological connectivity of the stockpile location to the Ramsar, it is unlikely that these features will be impacted. | |
| **Avon Gorge Woodlands SAC (UK0012734)** | | | | | |
| *Tilio-Acerion* forests of slopes, screes and ravines * Priority feature<br><br>Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (* important orchid sites) | No impacts expected | Due to the nature of the works and the distance from the SAC (more than 2km) this SAC will not be impacted by the works. There are no clear ecological or hydrological impact pathways. | No | Due to the lack of hydrological connectivity of the stockpile location to this designation, it is unlikely that these features will be impacted. | No |
| **Bristol Channel Approaches SAC** | | | | | |
| Harbour porpoise | Disturbance | Due to the nature of the works, this SAC will not be impacted. | No | The ASEA main construction phase will include piling works, however this will not be within the estuary and this designation is approximately 100km from the proposed stockpile site, therefore there will not be any like significant effects.. | No |
| **River Usk SAC (UK0013007)** | | | | | |
| Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation<br>Sea lamprey<br>Brook lamprey<br>River lamprey<br>Twaite shad<br>Atlantic salmon<br>Bullhead<br>Otter | No impacts expected | Due to the nature of the works, this SAC will not be impacted.<br>There are no clear ecological or hydrological impact pathways and the SAC is located more than 10km from the proposed site. | No | The ASEA main construction works are more than 5km from this SAC and therefore are unlikely to have an impact on these features. | No |
| **River Wye SAC (UK0012642)** | | | | | |

| Qualifying feature | Risk (Pressure) | Likely significant effect alone | Yes or No | Likely significant effect in combination | Yes or No |
|---|---|---|---|---|---|
| Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation<br>Transition mires and quaking bogs<br>White-clawed crayfish<br>Sea lamprey<br>Brook lamprey<br>River lamprey<br>Twaite shad<br>Atlantic salmon<br>Bullhead<br>Otter<br>Allis shad | No impacts predicted | Due to the nature of the works, this SAC will not be impacted.<br>There are no clear ecological or hydrological impact pathways. The SAC is more than 2km from the proposed stock pile location. | No | The main ASEA works will not be within or hydrologically connected to the River Wye SAC and is unlikely to affect these features. | No |
| **Bath and Bradford-on-Avon Bats SAC (UK0012584)** | | | | | |
| Greater horseshoe bat<br>Bechstein's bat<br>Lesser horseshoe bat | No | This SAC is 30km from the proposed stockpile location and due to the nature of the works, will not be impacted. | No | The main ASEA works are also located 30km from this SAC and therefore this SAC will not be impacted. | No |
| **North Somerset and Mendip Bats SAC (UK0030052)** | | | | | |
| Semi-natural dry grasslands and scrubland facies on calcareous substrates *(Festuco-Brometalia)* (* important orchid sites)<br>*Tilio-Acerion* forests of slopes, screes and ravines * Priority feature<br>Caves not open to the public<br>Lesser horseshoe bat<br>Greater horseshoe bat | No | The SAC is more than 25km from the proposed stockpile location and the designated features will not be impacted by this small-scale work. | No | The main ASEA works are in excess of 25km from the proposed stockpile location and therefore this SAC will not be impacted. | No |
| **Wye Valley and Forest of Dean Bat Sites SAC (UK0014794)** | | | | | |

| Qualifying feature | Risk (Pressure) | Likely significant effect alone | Yes or No | Likely significant effect in combination | Yes or No |
|---|---|---|---|---|---|
| Lesser horseshoe bat<br>Greater horseshoe bat | No | The SAC is approximately 20km from the proposed stockpile location and due to the small scale of the works, this SAC will not be impacted by the proposed stockpile works. | No | The main ASEA works are in excess of 20km from the proposed stockpile location and therefore this SAC will not be impacted. | No |
| **Wye Valley Woodlands SAC (UK0012727)** | | | | | |
| *Asperulo-Fagetum* beech forests<br>*Tilio-Acerion* forests of slopes, screes and ravines * Priority feature<br>*Taxus baccata* woods of the British Isles * Priority feature<br>Lesser horseshoe bat | No | The SAC is approximately 14km of the proposed works, on the opposite side of the Severn Estuary. | No | The main ASEA works are 14km from the proposed stockpile location and therefore this SAC will not be impacted. | No |

# 7. Alone Assessment (further details)

The proposed stockpile location is more than 303m from the Northwick Warth and Flash High Tide Roost and more than 417m from the Cake Pill, Aust Warth High Tide Roost. These High Tide Roost are a designated feature of the SPA. SPAs are protected areas for birds and are classified under the Wildlife & Countryside Act 1981 (as amended) and the Conservation (Natural Habitats, & c.) Regulations 2018 (as amended) in England, Scotland and Wales and the Conservation of Offshore Marine Habitats and Species Regulations 2017 in the UK offshore area.

The proposed stockpile location is more than 300m from a High Tide Roost and the fields are bordered by hedgerows which combined with the elevation of the existing flood defence, limits sight lines. No pools of water have been observed within these fields and an ornithological check undertaken on 22nd November 2019 and ornithological survey on 27 and 28th November 2019 at high tide did not identify any overwintering birds within the fields.. Additionally, as there is suitable habitat along the Severn Estuary, it is unlikely that overwintering birds will use this suboptimal habitat.

Measures will be in place to minimise the risk of disturbance on the designations and their features which will include designing the stockpile site to load lorries away from the western boundary of the stockpile and keeping vehicle movements along the purpose built track towards the eastern boundary of the stockpile site. Due to the lack of hydrological connectivity between the stockpile location and the designated sites, it is unlikely that these features will be impacted. In order to prevent noise effects on the birds using the designated sites within the Severn Estuary, no work that exceeds 55dBA working hours will be carried out between September and March within 200m of a high tide roost within 2 hours either side of high tide.

# 8. In Combination Assessment (further details)

The ASEA scheme will include ground investigation and construction of a flood defence wall. This will fall within 200m of the Northwick Warth and Flash and Cake Pill, Aust Warth high tide roosts. The main ASEA scheme will include the movement of vehicles and noise and vibration, however restricted noise limits within 2 hours of high tide within 200m of a high tide roost between September and March will be in place to ensure these works are not undertaken unless a suitably qualified ornithologist has confirmed that the threshold of designated bird species has not been reached. The proposed stockpile location is located more than 300m from the Northwick Warth and Flash high tide roost to the south and the Cake Pill, Aust Warth high tide roost to the north. Works will also be undertaken directly adjacent to the Severn Estuary SAC, SPA and Ramsar and the following risks and pressures have therefore been identified:

- Disturbance to habitat;
- Habitat loss; and
- Physical damage.

Working hours will be limited between September and March within 200m of a high tide roost and no works will be carried out that exceed 55dBA within 2 hours either side of high tide to minimise disturbance to the above designated features.

Measures will be in place to minimise the risk of disturbance on the designations and their features which will include designing the stockpile site to keep loadlorries away from the western boundary of the stockpile and keeping vehicle movements along the purpose built track towards the eastern boundary of the stockpile site. The flood defence being constructed as part of the main ASEA scheme will be built to the east of the existing flood defence, to lessen disturbance of the designated habitats. During construction of the flood defence, an increase in noise and vibration may disturb the species using the designated sites, however the stockpile will be constructed separate to the main flood defence works. The use of the stockpile and construction of the flood defence will be at the same time and may cause an increase of noise and vibration, however restricted noise limits within 2 hours of high tide within 200m of a high tide roost between September and March will ensure birds are not displaced from the High Tide Roosts.

# 9. Information/Advice

The screening for likely significant effects has considered the implications of the proposal in view of the site's conservation objectives. From the above screening, there are no likely significant effects due to the proposed stockpile location from any designated features and the small scale of works involved.

# 10. Decision

It is considered that the  proposed stockpiling will not result in a Likely Significant Effect alone or in combination, this is due to the lack of hydrological connectivity between the stockpile fields and the designated features and noise and working hour restrictions. The movements of vehicles will not be on the eastern side of the stockpile fields and the flood defence will be constructed from the landward side to minimise disturbance to designated habitats. Ornithological surveys and checks of the proposed stockpile fields have not identified any use by overwintering birds and due to the distance between the stockpile fields and High Tide Roosts it is considered unlikely that these species will be impacted. The in combination effects from the flood defence construction and stockpiling will be restricted between September and March by noise and working hour restrictions.

# 11. References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