

# Avonmouth and Severnside Enterprise Area Ecology Mitigation and Flood Defence Scheme

## Community Involvement Statement (CIS) DRAFT FINAL

*Prepared for*

Bristol City Council, Environment Agency, South  
Gloucestershire Council

2018



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# Document History

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This document has been issued and amended as follows:

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# Acronyms and Abbreviations

ASEA	Avonmouth Severnside Enterprise Area
BCC	Bristol City Council
CIS	Community Involvement Statement (this document)
CEF	Community Engagement Forum
EA	Environment Agency
ES	Environmental Statement
FRA	Flood Risk Assessment
HRA	Habitats Regulation Assessment
LEP	Local Enterprise Partnership
LPA	Local Planning Authority
LS IDB	Lower Severn Internal Drainage Board
MHWS	Mean High Water Spring
MMO	Marine Management Organisation
NPPF	National Planning Policy Framework
PRoW	Public Right of Way
SCI	Statement of Community Involvement
SGC	South Gloucestershire Council



# 1. Introduction and background

## 1.1 Purpose of this document

This Community Involvement Statement (CIS) describes the variety of activities undertaken to involve, engage and share information with statutory consultees, stakeholders, businesses, community groups and local residents prior to submission of the two planning applications for flood defence and ecological mitigation works in the Avonmouth and Severnside area. Importantly it explains how the feedback received from these activities has been used to shape the proposals.

This statement supports two planning applications as follows:

- South Gloucestershire Council (SGC) for:
  - Flood defence works extending south from Aust along the coastline to the boundary with Bristol City Council (BCC) at Severn Road.
  - Ecological mitigation in the form of habitat creation works in the area around Northwick.
  - The Scheme is divided into a number of areas as shown in Figure 1.1. Works within SGC fall within Scheme Areas 1, 3A and 5.
- Bristol City Council (BCC) for:
  - Flood defence works extending south from BCC boundary with SGC at Severn Road south, along the coast to Avonmouth and upstream along the banks of the River Avon to under the M5 and into the rear of Lamplighters Marsh in front of the railway line.
  - Ecological mitigation in the form of habitat creation works in the area around Hallen Marsh.
  - Works within BCC fall within Scheme Areas 2, 3B and 4,

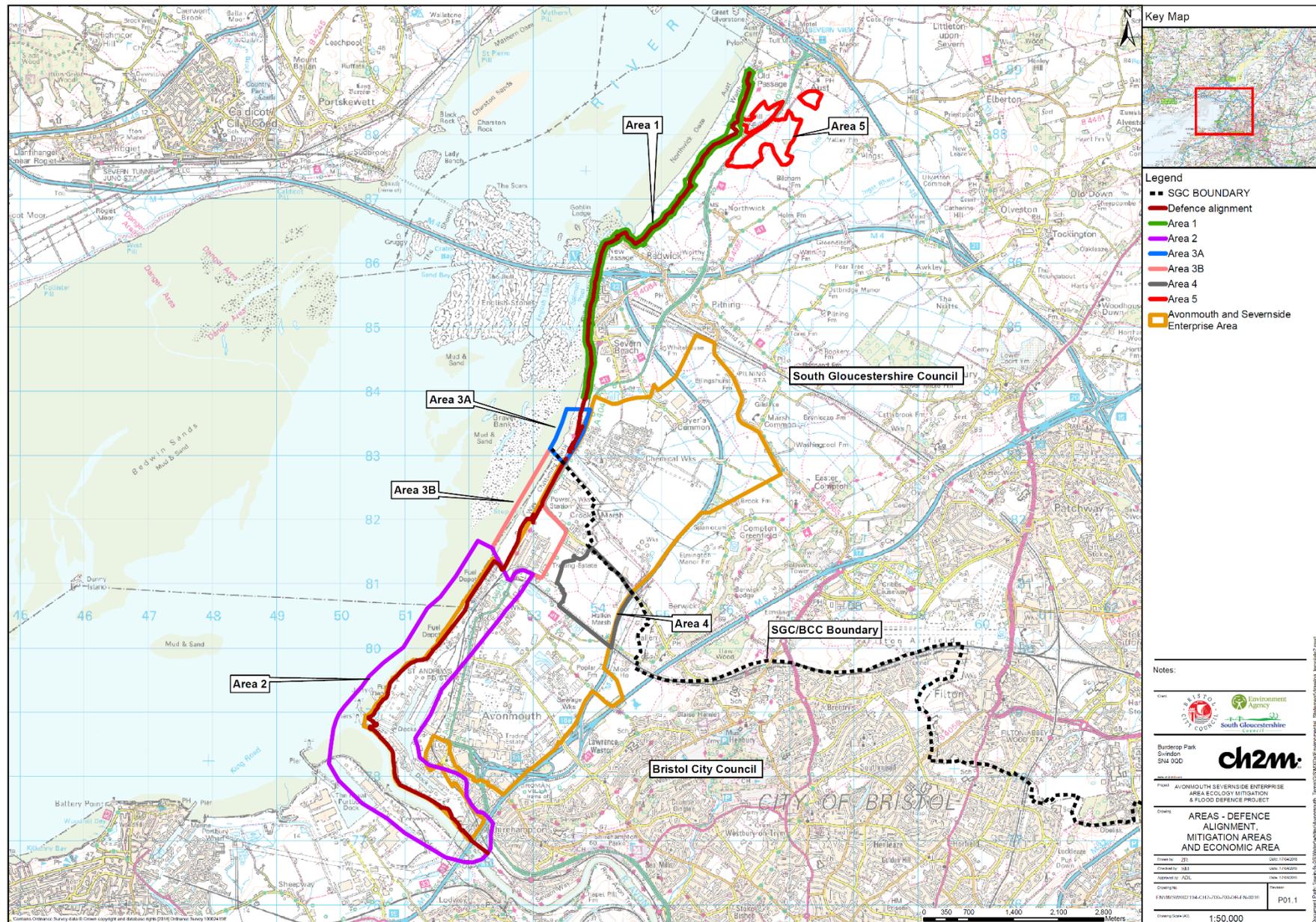
These applications have been prepared by CH2M on behalf of the Environment Agency, working in partnership with BCC and SGC.

The stakeholder and public engagement activities have considered the ecological mitigation and flood defences together as part of the same overall scheme. Similarly, the activities and information provided did not separate out the proposals within SGC or BCC specifically. As such, this document considers the whole scheme, but for ease of reading by each Local Planning Authority (LPA) this report, where possible, highlights whether engagement activities relate either to SGC or BCC.

Background information on the project and details of the engagement activities undertaken are available on the project webpage [www.insouthglos.co.uk/enterprise/avonmouth/flood-ecology/](http://www.insouthglos.co.uk/enterprise/avonmouth/flood-ecology/)

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Figure 1.1 – Scheme Location and Areas



## 1.2 Requirement to undertake consultation

The importance of stakeholder and community involvement in the preparation of proposals is detailed in national and local policy documents. Paragraph 66 of the National Planning Policy Framework (NPPF) advises that *“Applicants will be expected to work closely with those directly affected by their proposals to evolve designs that take account of the views of the community. Proposals that can demonstrate this in developing the design of the new development should be looked on more favorably”*. Further, paragraphs 188 to 191 of the NPPF discuss the importance of pre-application engagement.

Both SGC and BCC echo this requirement in their adopted Statements of Community Involvement (SCI).

SGC’s SCI requests that developers undertake pre-application consultation tailored to the nature of the proposals. They request that the issues raised and how these have been addressed are set out in the Design and Access Statement.

BCC’s SCI states *“The council would like all sections of the community to be able to shape new development proposals. To achieve this aim and meet Government guidance, prospective planning applicants are expected to carry out effective pre-application community involvement.”* BCC request that a CIS is submitted alongside the planning application to explain:

- The community involvement undertaken;
- The main issues raised by the community; and
- How the proposal has been revised to take account of the issues raised and, where the application has not been revised, the reasons why not.

The BCC SCI sets a series of ‘ground rules’ for engagement and this project has sought to adhere to these where possible. The project has engaged with groups within the Bristol Neighborhood Planning Network.

The Environment Agency recognises the benefits of early communication and engagement with the consultees, and has therefore adhered to this guidance throughout the pre-submission stages.

In order to meet the requirements of both Authorities, this CIS is presented as a freestanding document, which is cross referenced in the Design and Access Statement.

## 1.3 Project context

The overall aim of the project is to provide the ecological mitigation and improved flood defences which are required to enable continued economic growth in the West of England Local Enterprise Partnership’s (LEP) Avonmouth Severnside Enterprise Area (ASEA) and protect existing homes at risk of flooding.

The study area, shown in Figure 1.1, occupies an area of low lying land to the northwest of Bristol, adjacent to the Severn Estuary between the mouth of the River Avon and Aust cliffs. The area contains:

- A number of settlements, including Avonmouth and Severn Beach
- Highway and rail infrastructure
- A wide range of existing and new industries
- An extensive area of undeveloped land to the east of Chittening and Severn Beach that is intended for further industrial and commercial development.

Further development will ensure that the area expands its role as an internationally significant industrial location, able to attract business investment and provide increased employment for the local and wider

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population. While the area is currently protected from flooding by formal and informal flood defences as well as surface water drainage infrastructure, the ongoing development of the ASEA is dependent on the improvement of tidal flood defences along the Severn Estuary and effective drainage of surface water from the development area.

The influence of climate change, its effect on sea level rise and rainfall increases will reduce the standard of protection provided by flood defences over time, requiring additional works. The proposed works to the tidal flood defences will lower flood risk to people, property, existing infrastructure and development land within the ASEA.

In addition, a key planning requirement for allowing further development within the ASEA is the provision of mitigatory bird freshwater habitat, necessary to address the projected environmental impacts created by new industrial facilities that will be constructed in the coming years.

The project area has been divided into five separate study areas, as shown in Figure 1.1. The proposed flood defence works cover Areas 1, 2 and 3. The ecological mitigation works focus on Areas 4 and 5.

### 1.4 Communications and engagement context

The nature of these proposals means that, throughout the development of the Scheme, it has been necessary to undertake engagement within the context of a number of constraints. The results and recommendations from previous coastal defence strategy work, technical requirements for building defences, land constraints and environmental constraints have meant that the scope of engagement has had to be set within a context of decisions which have already been made and a series of immovable constraints.

Stakeholder engagement began with discussions around options for the flood defences, in order to verify the findings of previous strategy work which had recommended that the flood defences should 'hold the line' and be constructed on the current coastal alignment. Once these principles were confirmed as the preferred option (via workshops 1 and 2), subsequent stakeholder engagement has focused on agreeing the detail of how the defences should be delivered, ensuring that operational requirements are met and undertaking the assessments required to gain the various required consents and approvals. Similarly, stakeholder engagement on the ecological mitigation areas has recognised that the options for location of these areas are constrained by land availability and that the type of ecological mitigation required to be built is also pre-determined by previous study

Community engagement on both the flood defence and ecological mitigation proposals has been undertaken with a focus on explaining the wider context of the Scheme and the broader strategic benefits, but noting that the options for delivery are limited. Engagement has sought to allow community groups and local residents an opportunity to review the proposals and comment on how they would affect them as individuals. This feedback has then been used to refine and improve the designs.

## 1.5 Overview of engagement undertaken

### 1.5.1 Previous engagement

This CIS focusses on activities undertaken between 2016 and 2018 as part of the ASEA Ecology Mitigation and Flood Defence project (as this project has generated the detailed proposals that form the basis of this planning application). However, engagement on the wider context and the need for flood defence and ecological mitigation works to support the development of the ASEA was undertaken at various levels prior to 2016 via a number of previous studies and projects, some of which included consultation with stakeholders. This forms important context, in particular, the following previous projects:

- Avonmouth and Severnside Integrated Development, Infrastructure and Flood Risk Management Study, February 2012
- Avonmouth Severnside Flood Management Optioneering, November 2013 -
- Severnside/Avonmouth Wetland Habitat Project. Stage 1 – Distribution of Wetland Birds within the Study Area, October 2010
- Severnside & Avonmouth Wetland Habitat Project. Stage 2 – Review of Consent at Severnside and Avonmouth Impact Assessment, December 2011.
- Avonmouth Severnside Outline Development Strategy, April 2012.

### 1.5.2 2016 - 2018 engagement

Between 2016 and 2018, as part of the ASEA project, stakeholder and community engagement activities have been undertaken in four phases:

- **Phase 1** – Early design stage, June 2016 – December 2016. During this stage, the focus of engagement was on ensuring that key stakeholders were aware of the project, the issues being considered and the timescales. Many of the meetings held were introductory in style, seeking to establish working relationships and deal with practical issues, such as the sharing and verification of information. Early concepts and options were shared with technical stakeholders and their comments were used to help focus initial analysis and early conceptual design work.
- **Phase 2** – Design development stage, January 2017 – May 2017. During this stage, a range of potential approaches were discussed with professional stakeholders and statutory consultees and their views helped to feed into an options appraisal and to refine and identify preferred options. The project team also began briefing community groups about the project.
- **Phase 3** - Pre-application community engagement stage, during summer 2017. During this stage information about the proposed flood defence and ecological mitigation works was shared with a wide stakeholder group and also with the general public and community groups. A number of key changes were made to the design of the flood defences in response to feedback received.
- **Phase 4** – Pre-application stakeholder engagement, autumn 2017 to April 2018. During this period, additional work was undertaken to refine the modelling (which determines the required height of the flood defences), utilising the best available data. This resulted in some changes to the heights of the flood defences, compared to that which was described during the Phase 3 engagement work. The evolving design formed the basis of stakeholder discussions in Phase 4. During this stage a number of technical discussions and design iterations continued to ensure that the proposals are acceptable to stakeholders.

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Throughout the process information has been shared publicly on the project webpage <http://www.insouthglos.co.uk/enterprise/avonmouth/flood-ecology/> and via a series of newsletters which have been emailed to a growing contact list of stakeholders, interested parties and members of the public.

## 2 Early design stage engagement

### 2.1 Introduction

This Chapter provides an overview of the communication and engagement activities undertaken during the early stage of the project, between June 2016 and December 2016.

The purpose of the engagement at this stage of the project was:

- Ensure common understanding of purpose of project and objectives of the Scheme
- Establish working relationships
- Share information
- Facilitate discussion on broad options.

### 2.2 Workshop 1

Workshop 1, held in June 2016, brought together a range of technical and professional stakeholders with an interest in this project.

The session considered each of the five study areas in turn and provided an opportunity to discuss potential alignments for the flood defences and the options for the creation of wet grassland habitat. Chapter 3 of the Environmental Statement (ES) provides an overview of the types of options that were discussed at this session. Participants were able to highlight issues of importance to them and state preferences and the discussions focused on key requirements and considerations relating to flood defence, ecology, infrastructure and planning.

Table 2.1 provides an overview of workshop 1.

Table 2.1 – Workshop 1, June 2016

Attendees	<ul style="list-style-type: none"> <li>- Environment Agency</li> <li>- SGC officers</li> <li>- BCC officers</li> <li>- Natural England</li> <li>- Lower Severn Internal Drainage Board (LS IDB)</li> <li>- West of England Local Enterprise Partnership (LEP)</li> <li>- Wessex Water</li> <li>- The Bristol Port Company</li> <li>- Network Rail</li> <li>- Highways England</li> </ul>
Purpose	<ul style="list-style-type: none"> <li>- Provided an overview of the project, to help ensure that all stakeholders benefitted from a common level of understanding (recognising that some had been previously involved and that for others this was their first introduction to the project).</li> <li>- Explained the high level optioneering work undertaken to date, within the context of the options recommended by previous studies.</li> <li>- Promoted discussion about the alignment of the flood defences. For each of the three coastal study areas a number of alignment options were tabled for discussion. Each included, a coastal ‘hold the line’ option and various potential set back options. The pros and cons of each were openly debated.</li> <li>- Promoted discussion on the technical options under consideration for the flood defence works, generating discussion on priorities and preferences.</li> <li>- Promoted discussion about the various ways in which wet grassland can be created to provide habitat for the species of the Severn Estuary.</li> </ul>
Outcome/design response	<ul style="list-style-type: none"> <li>- The advantages and disadvantages of various flood defence alignments were discussed (coastal, set back, hybrid). There was broad agreement on a ‘hold the line’ approach, in line with the recommendations of previous studies. Subsequent design work therefore focused on a coastal alignment.</li> <li>- Bank raising was supported as the preferred method for raising the defences in the rural parts of the Scheme. Subsequent design focused on raising banks, where space allows.</li> <li>- A preference to not obstruct the rhines was noted. Designs for Areas 4 and 5 were progressed using options that do not obstruct the rhines.</li> <li>- A number of other issues were highlighted including the importance of the need for sensitive considerations of issues affecting archaeology and Public Rights of Way (PRoW). This information was fed into the early preparation of the EIA.</li> </ul>

## 2.3 Project newsletters

Throughout the project a series of newsletters were published and shared with stakeholders and local communities, via email distribution and the project webpage. The first was issued in this first phase of engagement work. To date, the following newsletters have been issued:

- Newsletter 1 – September 2016. This gave an overview of the project and explained the process and timescales and provided contact details for further information.
- Newsletter 2 – March 2017. This provided a general update on the project and set out details of the range of flood defence solutions being considered (sheet pile walls, concrete walls and raised

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embankments) and explained how the ecological mitigation areas would comprise a combination of shallow water (scrapes) and ponds.

- Newsletter 3 – June 2017. This advertised the main phase of pre-application community engagement which took place over summer 2017. It gave an overview of the proposals and provided details of how to find out more and comment. It advertised the dates of the two public drop-in sessions.
- Newsletter 4 – December 2017. This provided an overview of the feedback received in to the main phase of pre-application community engagement and explained how the proposals had been amended and evolved in order to take account of these comments.
- Newsletter 5 – April 2018. This was issued to the community and stakeholders ahead of the submission of this planning application. It provided a recap on the strategic rationale for the works and an overview of the proposals for which planning permission is sought.

In each case the newsletters were sent, via email, to a long list of stakeholder contacts including the following. A full list is provided in Appendix A.

- SGC and BCC Elected Members, committees and officers
- Bristol Mayors office
- Local MPs
- Parish Councils
- SGC Community Engagement Forums (CEFs)
- BCC Neighbourhood Partnerships and Neighborhoods Forums, Action Forums and Planning Groups.
- Environmental groups
- Local businesses
- Developers/landowners
- Statutory consultees
- Relevant stakeholder groups
- Community representatives
- Members of the public who had previously contacted the project team.

Avonmouth Severnside Enterprise Area (ASEA)  
Ecology Mitigation and Flood Defence Project

Newsletter 1 – September 2016

### Welcome...

...to the first newsletter of the Avonmouth Severnside Enterprise Area (ASEA) Ecology Mitigation and Flood Defence project.

South Gloucestershire Council, Bristol City Council and the Environment Agency are working in partnership on this project to improve flood defences and create new habitats for important wildlife species. This will help to ensure that economic development can continue to take place within the designated Enterprise Area without harming the environment. Improving the flood defences and biodiversity will also have benefits for the local community.

The project is currently at an early stage. This first newsletter sets out the project background and provides an overview of the work that is planned. We will issue a series of newsletters during the project to keep you up to date and hope you will find them useful.

To be added to our mailing list and receive newsletters direct please email us at [ASEA@environment-agency.gov.uk](mailto:ASEA@environment-agency.gov.uk). For further information on the project please see [www.insouthglos.co.uk](http://www.insouthglos.co.uk). We are keen to hear from you!

### Strategic context

The Avonmouth Severnside Enterprise Area (ASEA) is recognised by the West of England Local Enterprise Partnership (LEP) as a strategically important employment location. South Gloucestershire Council and Bristol City Council are looking to facilitate up to 1.6 million square metres of new commercial floor space, which will potentially lead to the creation of 12,000 new jobs within the Enterprise Area by 2026. In order to ensure the Enterprise Area can reach its full economic potential there is a need to:

- Deliver new and improved **flood defences** to reduce the risk of flooding now and into the future.
- Provide **new wetland habitat** to off-set the impact of likely development on the nationally and internationally recognised wildlife of the River Severn.



Figure 1 – Study area

*By 2050, Avonmouth Severnside Enterprise Area will be an internationally significant industrial location and home to key sectors, driven by investment opportunities and a reputation for innovation, competitiveness and superb infrastructure.*

Joint Council Outline Development Strategy Statement

Logos for Bristol City Council, South Gloucestershire Council, and Environment Agency.

Each newsletter was shared informally with Council Members ahead of publication and, at around the same time, Members were offered an update and briefing on the project.

## 2.4 Workshop 2

Workshop 2, held in September 2016, provided an opportunity to update the technical stakeholders on early option development work. The session comprised a series of presentations setting out the issues and options for each of the Areas. Discussion was then encouraged and focused on a number of key questions, designed to draw out thoughts and preferences. Questions included:

- What are the key considerations in deciding between banks and walls?
- What should the scope of EIA include?
- How important is maintaining access to the flood defence line?
- What would the impacts of providing a flood defence inland of the railway be?
- How can we balance trade-offs between different solutions and how they impact inter tidal habitats?
- How can we future proof proposals?
- What are the pros and cons of various technical options (for habitat creation)?

Table 2.1 provides an overview of the content and outcome of workshop 2.

*Table 2.1 – Workshop 2, September 2016*

Attendees	<ul style="list-style-type: none"> <li>- SGC officers</li> <li>- BCC officers</li> <li>- Environment Agency</li> <li>- Network Rail</li> <li>- Wessex Water</li> <li>- LS IDB</li> </ul>
Purpose	<ul style="list-style-type: none"> <li>- Updated the group on the ongoing early design development work</li> <li>- Presented early stage, emerging preferred engineering and environmental solutions. Pros and cons of wall and bank solutions were discussed.</li> <li>- Sought advice on the preferred approach for each of the key geographical areas</li> <li>- Provided stakeholders with the information they need to discuss the project with wider colleagues and other groups.</li> </ul>
Outcome/design response	<ul style="list-style-type: none"> <li>- Potential scope of EIA was discussed and key issues noted.</li> <li>- Detailed comments were noted on the advantages and disadvantages of sheet piling/concrete flood wall solutions. These were used to help progress designs for those areas of the flood defences where space constraints mean that raising embankments is not a practical solution.</li> <li>- The importance of establishing a long-term management regime for the ecological mitigation areas was noted.</li> </ul>

## 2.5 2016 public exhibitions

In October 2016 two public exhibitions were held, as follows. The purpose of these sessions was to raise awareness of the project and to explain the overall ambition of the Scheme.

- SGC - The first, exhibition was held at Severn Beach Primary School on 25<sup>th</sup> October 2016 as part of a joint event on local flooding organised by the SGC flooding and drainage team (and also attended by the LS IDB). This event was advertised by SGC via a leaflet drop to local residents.
- BCC – On 17<sup>th</sup> November 2016 the ASEA project team gave a presentation to the Avonmouth Forum and the exhibition posters were also displayed.



Both events were advertised via Newsletter 1, social media and the project webpage, as well as through local networks. In addition, Newsletter 1, advertising the sessions was sent to all landowners in the vicinity of the flood defence works.

These events provided an opportunity for the ASEA project team to talk directly with local residents about the flood defence and ecological mitigation proposals. The display boards used at both events are reproduced in Appendix B. Table 2.2 highlights the issues discussed.

*Table 2.2 – October 2016 public exhibition*

Attendees	<ul style="list-style-type: none"> <li>- Severn Beach event - Approx 40 local residents</li> <li>- Avonmouth Forum – 25 residents, 12 Councillors, 12 officers/police</li> </ul>
Purpose	<ul style="list-style-type: none"> <li>- Raise awareness of the project</li> <li>- Explain the types of flood defence works being considered</li> <li>- Explain the vision of the ecological mitigation areas</li> <li>- Explain process for future engagement</li> </ul>
Outcome/design response	<ul style="list-style-type: none"> <li>- Overall profile of the project was raised. Residents were made aware of the project scope, timescales and future opportunities for comment.</li> <li>- The New Passage area was noted as a potential weak spot in the existing defences with residents having experienced water levels close to the top of the existing bank.</li> <li>- A number of people commented on the success of the Piling Wetland area and requested that, where possible, the ASEA project build on this.</li> <li>- Ground conditions – attendees commented on their local knowledge of ground conditions and potential suitability for sheet piling.</li> <li>- Some local concern noted around levels of development within the Enterprise Area.</li> <li>- Overall feedback from discussions at the events was that the community were supportive of the principles of improving the flood defences and creating areas of new habitat.</li> <li>- Verbal feedback was used to help refine plans for future engagement.</li> </ul>

## 2.6 Meetings and correspondence

During the early design stage, a range of technical meetings and email correspondence took place to involve and engage various technical and professional stakeholders. These included are summarised in Table 2.3.

*Table 2.3 – Early design stage, technical meetings*

Who	Date	Purpose	Comment	Design response
Natural England	April 2016	Initial meeting to share information relating to the ecological mitigation aspirations of the project.	Confirmed 80 hectare requirement for ecological mitigation.  Available information and key contacts noted.	Project moved forward on basis of issues noted.
Highways England	May 2016	To discuss synergies with the Highways England proposals for M49 (relevant to both SGC and BCC).	Common/interdependent opportunities/constraints identified between the Scheme and the Highways England proposals for M49.	Information fed into study process.
Network Rail	May 2016	To discuss issues around the Severn Beach rail line (across both SGC and BCC areas)	Information shared regarding the construction of the Severn Beach line.	Information used in design process to consider approach to provision of flood defences in vicinity of the railway.
LS IDB	Various meetings July 2016 to September 2016	To discuss modelling requirements, available data and monitoring requirements.  Discuss views on possible options for creation of wet grassland areas across both SGC and BCC.	Modelling requirements, available data and monitoring requirements established with the LS IDB.	Technical information used, where appropriate, to feed into modelling and design.
			The LS IDB confirmed the penning of the main 'viewed' or arterial rhines is not preferred.	Project team progressed with options that avoid penning.
			Maintenance requirements confirmed	Information used to inform design.
			The LS IDB confirmed that the small flood defence bank re-alignment next to Northwick to create intertidal habitat would be acceptable in principle, provided the outfall is not adversely impacted.	Project team took this alignment forward for further consideration and this forms part of the Scheme.

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<b>Who</b>	<b>Date</b>	<b>Purpose</b>	<b>Comment</b>	<b>Design response</b>
The Bristol Port Company	August 2016	To discuss alignment options and options for gates (BCC).	Requirements of the Port established.	These influenced the design of proposals for Area 2.
Member of public	October 2016	Commented that they were pleased this work is progressing, but concerned about extent of development permitted locally despite designations relating to the sensitive habitat of the River Severn. Encourage early discussions with SGC officers.	Concerns were noted.	Policy context and designations have been researched.

## 3 Design development stage engagement

### 3.1 Introduction

This Chapter describes the engagement activities undertaken during the design development stage of the project from January 2017 to May 2017. During this period, the broad proposals considered in the early stage of the project were developed to a more detailed level giving a clearer idea of the scope of works required, including detail of:

- The required height of the flood defence (and the height increase required, over and above the existing defence)
- The preferred alignment of the flood defence
- The preferred type of flood defence
- The broad location/area of search for the ecological mitigation areas
- The broad methods for wetting the land to create the ecological mitigation areas.

### 3.2 Meetings and correspondence

During this stage a series of meetings were held and other discussions took place via email correspondence. These are summarised in Table 3.1.



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Table 3.1 – Design development stage, technical meetings

Who	Date	Purpose	Comment	Design Response
Owner of Pining Wetland area	January 2017	Discuss proposals for flood defences adjacent to this established wetland reserve  Consider how good practice here could inform design of Hallen Marsh and Northwick wetland areas	Noted that the alignment of the flood embankment would may impact on the reserve with the width of bank encroaching onto land and ponds	Alignment of the flood banks and means of accommodating the Severn Way footpath revised to prevent impact on the existing wetland reserve.  A retaining wall is provided to prevent encroachment of defence banks into the wetland reserve area
LS IDB	January 2017	Presentation to the LS IDB to outline options being considered for creation of wetland areas.	The LS IDB confirmed that they would not support structures in the rhines.	Design focused on other means of wetting the land, working with the natural drainage system.
Bristol Port Company	March 2017	Update on emerging proposals and discussion on likely impact on/acceptability to the Port	Specific discussion on possible solutions for flood defences in the area near the wind turbines (the proposed location of the deep sea container terminal).	Initially an embankment was considered here, but taking account of feedback from the Port this was amended to a be a flood wall.
Wessex Water, LS IDB, Network Rail, Highways England	February 2017	Mini workshop to provide update and briefing on emerging proposals across both SGC and BCC areas  Establish ownership of assets.  Ensure approach acceptable to these key stakeholders.	Established ownership and responsibility of rhines  Discussed requirements and process for EIA scoping/screening  LS IDB were generally supportive of the approach proposed, but stressed that the wetland areas must not increase flood risk elsewhere (upstream).	Comments were fed into the preparatory work for the EIA.  Comments were used to help share the development of proposals for both the flood defence and wetland areas.

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			The approach to providing flood defences adjacent to the rail line was discussed. The rationale of providing defences on the landward side (therefore leaving the railway undefended) was explained. This was understood by Network Rail but the requirement for further work was noted.	
Natural England	February 2017	Ensure proposals can be supported by Natural England as a key statutory consultee  Discuss proposals across both SGC and BCC areas	Importance of considering the view from the Severn Way footpath noted.	Proposals seek, where practical, to retain the view from the footpath.
			Highlighted overlap between this project and Natural England's aspirations for the England Coast Path.	In response to this feedback further engagement was undertaken with Natural England's Coast Path lead officer who confirmed that the proposals are compatible with the overall vision for the coast path.
			Noted that key high tide roosts of birds should be taken into account to keep people hidden from view in certain locations	In order to minimise potential disturbance of roosting birds, a lower terrace to the bank is included and people will be encouraged to walk here. In the location where NE identified a valuable high tide roost, the designs has dropped the path lower on the landward side to improve screening and reduce disturbance. But, by allowing the path to rise again at key viewing points away from roost sites, the design can meet the public's

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				natural desire to walk along the top of the defence embankments.
SGC and BCC planning officers	March 2017	<p>Begin the formal pre-application consultation.</p> <p>Provide an update on the nature of emerging proposals (following workshops 1 and 2)</p> <p>Share early scheme drawings by way of explaining the nature of the emerging proposals</p> <p>Provide an update on envisaged project tasks and timescales.</p> <p>Clarify consenting process (taking account of the fact that the project spans the local authority boundary)</p>	<p>Discussion focused on:</p> <ul style="list-style-type: none"> <li>- The format of application was agreed (two applications, with one shared EIA).</li> <li>- The envisaged process and timeline for stakeholder and community engagement was outlined and officers indicated that this was acceptable.</li> <li>- Process, format and content for EIA scoping and screening.</li> </ul>	Preparation of the planning application was progressed based on the agreed single document format. Plans for stakeholder and community engagement and EIA preparation were progressed, as discussed.
Environment Agency Bristol Avon Asset Performance Team.	June 2017	Ensure that designs reflect current best practice for routine and emergency access provision and protection of Environment Agency assets across both SGC and BCC areas. The proposals cover both existing EA assets and assets that the EA are being asked to take on responsibility for.	Specific requirements for maintenance discussed.	The emerging designs were reviewed to ensure that they reflect current best practice for routine and emergency access provision and protection of EA assets and a number of changes were made. For example, the width of access routes was revised to meet the that required by the Environment Agency.
National Grid	May 2017	<p>Establish links between ASEA project and National Grid proposals.</p> <p>Primary focus on Hallen Marsh,</p>	The consented corridor for the proposed Hinckley Point C Connection project proposed by National Grid crosses the east and north boundaries	In response to this feedback, parts of the area crossed has been excluded from the wet grassland creation and is used for other mitigation e.g. for replacement scrub planting and bat

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		within BCC	of Area 4 (Hallen Marsh)  The timing of their works is unclear, but potentially after the implementation of the ecological mitigation.	habitat.
SGC/BCC archaeology	June 2017	Provide overview of proposals  Seek early opinion on likely archaeological issues	SGC Archaeologists expressed concern over the potential loss of ridge and furrow and other historic landscape features as a result of the vegetation removal and creation of scrapes required for the ecological mitigation of Area 5.	In response to this feedback a tiered design approach has been developed. In areas where ridge and furrow is in existence, the vegetation will be removed to open up the views but retains ridge and furrow and field boundaries by limiting the extent of excavation works.
BCC, Landscape officer	June 2017	To discuss potential materials/finishes for proposed flood walls	Importance of aggregate selection noted for both walls and footpaths. Decorative aggregate for footpaths and a natural concrete finish for flood walls preferred. Importance of ensuring that the colour of the aggregate reflects the colour of the shoreline noted.	Importance of material choice was acknowledged. The photomontages later produced to support the public engagement exercise reflected the range of colours and materials preferred.  The final proposals are for a concrete for the flood walls.

## 3.3 Community presentations

During February and March 2017, the ASEA team gave presentations to a range of community groups across both the SGC and BCC areas to introduce them to and update them on the project and confirm the next steps and process for wider engagement.

At this stage the designs were still emerging, therefore drawings and plans were not shared at these sessions. Instead, the presentations gave an overview of the likely scale and nature of the proposals – for example referring to the likely methods to be used to raise the flood defences and indicating that the height increase required may be up to 2m (at this stage modelling to confirm the heights was still in progress).

Overall the project was well received. Groups all appreciated the update and were positive about the general nature of the proposals. A general desire to be kept informed was noted. The proposed engagement process was reviewed to include additional opportunities to meet these groups again.

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Table 3.4 – Community meetings

Group	Date	Comment	Design response
<b>SGC</b>			
Sevenside CEF	25 <sup>th</sup> January 2017	General update given. Group interested and keen to learn more as project progresses.  Potential 2m height increase reported as part of the briefing given and no comments noted.	None required.  Engagement plans evolved to ensure group could be briefed again later in the project.
Thornbury, Alveston, Aust and Severn CEF	8 <sup>th</sup> March 2017	Concern that flood modelling may not represent the ditches and the rhines in detail, and this may affect flood mapping and insurance.	Reassurance given that flood mapping takes a precautionary approach
		Question asked about proposals for the coast further north.	Explanation given to group to note that there will come a time (in line with the strategy) that the Environment Agency will need to address these defences to keep pace with sea level rise, but that this is not part of the current project.
		Comment noted that the high tide comes close to the top of the defences at Severn Beach with spray overtopping.	Noted. The Environment Agency monitor high tides and work with the local flood warden.
		Question asked in relation to whether housing would, in future, be allowed around Sevenside.	Reassurance given to the group that planning policy does not show strategic residential sites in Avonmouth Sevenside and that any site would have to pass a sequential test. The Environment Agency would object to new housing in the area due to the residual risk of flooding even once new defences have been built.
<b>BCC</b>			
Avonmouth Forum	9 <sup>th</sup> Feb 2017	Session was a brief update as follow on to longer presentation given in November 2016. No issues raised.	None required.

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<b>Group</b>	<b>Date</b>	<b>Comment</b>	<b>Design response</b>
Shirehampton CAF	22 <sup>nd</sup> Feb 2017	Group generally supportive with some questions.	None required.
		Wider Environment Agency schemes further upstream (outside of boundary of this project) discussed. Project team reassured the group that the Environment Agency are separately looking at flooding issues upstream.	None required.
		Questions asked about how climate change is being taken into account.	Explained at the meeting that climate change predictions are built into the flood modelling work which has underpinned the design of the Scheme.
		Some concern about how the Scheme will prevent water going around the Binn Wall.	Explained at the meeting that the continuous nature of the defences proposed will prevent water going around the Binn Wall
<b>Cross boundary groups</b>			
Gloucestershire Severn Estuary Stakeholders Group	20 <sup>th</sup> Feb 2017	Discussion around the measures being utilised to ensure the ecology mitigation areas are wet without detrimentally affecting other landowners.	Discussions reinforced the importance of working with the LS IDB. The project team has maintained an ongoing dialogue with the LS IDB throughout the design stages, right up to the submission of this planning application.

## 3.4 EIA Scoping

An EIA Scoping Report was issued to both Councils in July 2017. The format and scope of the EIA was influenced by comments received.

SGC provided their EIA Scoping Opinion response on 4<sup>th</sup> September 2017. SGC confirmed that the scope of the EIA should include:

- Human beings and health (including noise and vibration);
- Biodiversity
- Landscape character and visual amenity
- Water and water framework directive
- Archaeology and cultural heritage (including a desk based archaeological assessment of the whole site, geophysical survey and/or trial trenching of the wetland habitat creation and borehole sampling of the flood defences areas. The baseline conditions should include HER information and a review of aerial photographs, LiDAR data and site surveys. The assessment should also consider the historic landscape and the setting of heritage assets within the landscape).
- Geology, soils and waste;
- Air quality (considered within human beings and health); and
- Cumulative impacts.

BCC provided their EIA Scoping Opinion response on 8<sup>th</sup> September 2017. BCC confirmed that the scope of the EIA should include:

- Population and human health (including noise and vibration);
- Biodiversity;
- Landscape character and visual amenity;
- Water and water framework directive;
- Archaeology and cultural heritage;
- Geology, soils and waste (including contaminated land); and
- Air quality (considered within population and human health).

# 4 Pre-application community engagement

## 4.1 Introduction

During June, July and August 2017 engagement activities focused on sharing details of the proposed works (based on the appraisal stage drawings) with a wide audience. This stage of work has been particularly important in the development of the Scheme, resulting in a number of notable alterations to the proposals in response to feedback received.

The purpose of this stage of engagement was to:

- Ensure that as many people as possible were aware of the proposals
- Ensure that the wider context and wider benefits of the proposals were well understood
- Flush out any issues or concerns prior to the submission of the planning application, so that these could be discussed and considered and the proposals altered, where practical, to address issues raised.

This Chapter provides an overview of the comments raised during the engagement period and the actions taken in the following months to address these.

## 4.2 Information shared

During an eight week period between 20<sup>th</sup> June and 8<sup>th</sup> August 2017 information outlining the proposals for both flood defence works and the creation of the ecological mitigation areas was published on the project website [www.insouthglos.co.uk/enterprise/avonmouth/flood-ecology/](http://www.insouthglos.co.uk/enterprise/avonmouth/flood-ecology/). This explained the required height of the flood defences and the proposed method of construction and, for the ecological mitigation areas, details of the current area or search and works required. This information, included:

- A set of display boards (provided in Appendix C) giving details of the background to the project and providing an overview of the proposals.
- Artist's impressions showing how the flood defences could look.
- Cross sections providing technical details, including information about the heights of the current and proposed flood defences.
- Three dimensional animations showing, for key areas, how the defences would relate to the existing landscape.
- An interactive mapper, bringing together all of the above information.

## 4.3 Scope of engagement

The nature of the project and current stage of work meant that this phase of engagement was focussed on specific issues. The project team was keen to clearly explain which elements of the proposals could, at this stage, genuinely be influenced by feedback, with those items listed below generally considered as accepted.

The feedback requested focussed on detailed issues, and the project team was particularly keen to understand how the proposed works would impact on individuals.

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- The position/alignment of the flood defences as a 'hold the line' approach has been decided through previous work. This position seems to be well understood by residents and stakeholders.
- The required height of the flood defences as this has been established using detailed computer modelling, taking account of calculated sea level rise. A number of questions were nevertheless raised on this topic and the project team has sought to further explain the technical work underpinning these predictions.
- The type of flood defence (wall, bank etc) as technical constraints have dictated the required form, and as a general rule flood banks have been proposed unless precluded by space/habitat constraints.

However, during the engagement period it became clear that some residents had concerns over the proposals at specific locations and, as a result, some elements of the proposals have been reviewed, to take account of feedback (see below).

### 4.4 Events

Two public exhibitions were held during this period:

- **SGC** – Severn Beach Primary School, 18<sup>th</sup> July 2017
- **BCC** – Avonmouth Community Centre, 4<sup>th</sup> July 2017

At each session members of the project team were on hand to explain the proposals and answer questions. Attendees were encouraged to submit comments using the feedback form included in Appendix C.

In addition, the project team attended a variety of community, parish and forum meetings to explain the project and answer questions, as set out in Table 4.1.

*Table 4.1 – Community presentations as part of summer 2017 engagement*

Area	Group
SGC	Sevenside CEF (17 <sup>th</sup> June) Severn Beach Parish Council (3 <sup>rd</sup> July 2017) Severn Beach Parish Council (follow up meeting - 2 <sup>nd</sup> October 2017) Aust Parish Council (11 <sup>th</sup> July 2017) Thornbury, Alveston and Severn CEF (12 <sup>th</sup> July 2017) SevernNet (20 <sup>th</sup> July 2017)
BCC	Avonmouth Planning Group (28 <sup>th</sup> June 2017) Shirehampton CAF (19 <sup>th</sup> July 2017)
Cross boundary groups	Gloucestershire Severn Estuary Stakeholder Group (23 <sup>rd</sup> June)

Two meetings were also held with residents at New Passage (within SGC). These were requested by residents, and attended by the project team, to discuss the proposals for a sheet pile wall at this location.

## 4.5 Publicity

Stakeholders, landowners and members of the public were directed to the website and invited to attend the public exhibitions via emails, newsletters, direct mailouts, local media, social media and posters.

Newsletter 3 specifically advertised the engagement period and encouraged people to view the information about the proposals. Copies of the project newsletter, exhibition materials and feedback forms were also placed for reference in Avonmouth Library.

A press release was issued by SGC's press team on 20<sup>th</sup> June 2017 to all local media. The press release was picked up by numerous media outlets including:

- BBC Bristol website – 20<sup>th</sup> June. <http://www.bbc.co.uk/news/uk-england-bristol-40344837>
- Gazette series – 20<sup>th</sup> June. [http://www.gazetteseries.co.uk/news/yateandsodburynews/15359531.Public\\_opinion\\_sought\\_on\\_80million\\_scheme\\_that\\_will\\_protect\\_2\\_500\\_homes\\_in\\_South\\_Gloucestershire\\_from\\_flooding/](http://www.gazetteseries.co.uk/news/yateandsodburynews/15359531.Public_opinion_sought_on_80million_scheme_that_will_protect_2_500_homes_in_South_Gloucestershire_from_flooding/)
- Bristol Post – 23<sup>rd</sup> June. <http://www.bristolpost.co.uk/news/bristol-news/flooding-avonmouth-could-combated-new-132024>
- The Shire (Community newspaper) – July 2017 edition.
- In View (Community Magazine for the Severn Beach area) – July 2017 edition.

During the engagement period the project web page was viewed 1,533 times.

The engagement period was also publicised by social media via the Environment Agency Wessex Facebook page and the Environment Agency Twitter account. Table 4.2 provides an overview of the number of people reached by the social media advertising.

*Table 4.2 – Social media publicity for summer 2017 engagement*

Item	Reach
Facebook event notification for Avonmouth and Severn public exhibition	Total reach - 1,822
Facebook post about project, including details of both public exhibitions	Total reach - 307
Facebook post reminder (day before) about Severn Beach public exhibition (including video animation of Cake Pill area)	Total reach – 728 Video views - 238
Facebook post reminder (day before) about Avonmouth public exhibition	Total reach - 210
13 Twitter posts	Impressions – Over 1,000 in each case, up to 3,800 Engagements – Varied, up to 330 Retweets – Varied, up to 14

## 4.6 Attendance

During the engagement period:

- Around 25 people attended the Avonmouth event
- Around 60 people attended the Severn Beach event
- 43 emails and feedback forms were submitted with comments and feedback
- The presentations given by team members at the various community meetings were well attended by Councillors, residents and stakeholders
- Meetings held to discuss the issues at New Passage were well attended by residents directly affected by the proposals.

## 4.7 Feedback from landowners

Landowners likely to be affected by the Scheme have received various correspondence from the Environment Agency at stage in the project, including during the summer 2017 engagement phase. The following communications have taken place:

- Landowners directly affected by the flood defence works have received letters, sent by the Environment Agency explaining the project and notifying the landowner that their land is affected. A variety of meetings have taken place to discuss implications. Many of the meetings were with landowners in Area 1. The first mailout was sent in October 2016.
- Landowners affected by the ecological mitigation proposals have been directly contacted by the project team, via letters and face to face discussions.
- Project newsletters were sent to landowners affected by the flood defence proposals (Areas 1, 2 and 3), as identified through a land registry search. Prior to the summer 2017 engagement period and the publication of scheme details on the project website, letters were sent to all landowners to notify them of the engagement period and provide information on the proposals, including a copy of Newsletter 3.

During the summer 2017 engagement period the project team made arrangements to visit landowners where key impacts were noted to talk through the proposals. Table 4.3 provides a summary. Note that other discussions with landowners have taken place at other stages in the project, these are documented in other sections of the CIS, where they have raised issues that are related to the design process.

*Table 4.3 – Feedback from landowner meetings*

<b>Who</b>	<b>Date</b>	<b>Purpose</b>	<b>Comment</b>	<b>Design response</b>
Residents and landowners at Old Passage	June 2017	Face to face meeting held to share information on the project ahead of the Summer 2017 engagement period and understand residents' views on proposed design height for flood defences adjacent to their property	Residents expressed concern about the proposed target height of the flood defences as this would impact on their views out to the estuary.	A lower standard of defence has been adopted. The final design is based on a 1:75 standard at Old Passage, reducing the required height of the wall.
Residents and landowners at New Passage	June/July 2017	Individual face to face meetings held with landowners directly affected to explain proposals.	Concern about the proposed sheet pile wall.	Residents engaged positively in the design process, via the residents' meetings described above. A revised proposal, incorporating glass panels, is discussed later in this section.

## 4.8 Feedback from community group meetings

At each of the community group meetings the project team gave a presentation outlining the background to the project, giving details of the proposals and signposting to the public exhibition and information shared via the project website. A discussion and question and answer session followed.

The comments raised at these sessions are summarised in Table 4.4.

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Table 4.4 – Comments raised at community group meetings

Group	Comment	Response
<b>SGC groups</b>		
Aust Parish Council	Query raised regarding possible use of Northwick habitat land as a kind of sustainable urban drainage system (SUDS) for excess water in the main rhine to alleviate flooding in Aust.	In principle wetland habitat areas could be used in this way. The project team’s view is that this would not be likely to be effective as the habitat area is downstream of the perceived flooding problem at Aust. SUDS typically help reduce flood risk to property downstream of the SUDS facility.
	Quite a lot of concern that by raising banks south of M48, the Scheme will increase flood risk north of M48.	The length of coastline between Avonmouth and Aust, as well as the coastline north of the M48, has been identified with a policy of “Hold the Line” within the Shoreline Management Plan approved by Defra and Welsh Government. Part of the assessment covered the geomorphological change to the estuary caused by holding the line in key areas. In practice the cross sectional shape of the estuary will change to accommodate those reaches which hold the line and keep floodwater out. Furthermore areas of managed realignment of defences over time will provide more room for tidal floodwater than is kept out of hold-the-line areas. The Environment Agency has already provided more flood storage than might be lost in the medium term with the creation of managed realignment sites at Steart, Congresbury Yeo and Plusterwine (opposite Avonmouth). Further realignment sites will be delivered in the future to keep pace with actual sea level rise. So overall there is high confidence that the floodwater kept out by the improvements to defences in the Avonmouth-Sevenside project will not increase flood risk elsewhere.
Sevenside CEF	Questions asked around location of the Northwick ecological mitigation site relative to the existing Pilning Wetland area.	Location was explained to meeting. See Figure 1.1 for details.
	Asked whether there would be third party review of the modelling data.	The coastal inundation modelling has been reviewed by the Environment Agency and the baseline fluvial modelling has been reviewed by an independent consultant on behalf of the LS IDB. The LS IDB will review the final modelling during the planning application determination period.
	Queries around proposals for the Binn Wall and concern that the wall needs to be raised.	The modelling shows that the existing defences at Severn Beach are already at the required defence level therefore the Scheme does not propose any change to the Binn Wall between New Passage Road and Station Road, with the exception of a short section adjacent to Salthouse Farm, which will be raised to bring it to the same standard as the rest of the Binn Wall.
	Queries around funding for project.	Explanation of LEP funding given to meeting. See below for further details.
	Concern that flood defence walls would be subject to graffiti/vandalism	Concerns were noted.
	Concern about the proposed flood wall at New	Concerns were noted. In response to this feedback, and similar feedback received from others,

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Group	Comment	Response
	Passage/Chestle Pill. Calls to consider a bank or wave return wall/a less imposing solution.	the design for New Passage was revised, to incorporate glass panels above a low wall. See next table for details on consideration of a banks and wave return walls.
	Overall some concern about the proposals and a keenness to see correct protocol followed.	Concerns noted. All appropriate procedures have been followed. See comment below for detail of how the dual function of the local authority as scheme promoter and consenting authority has been handled.
Severn Beach Parish Council	Some serious concerns over the reasoning for the new flood defence scheme to enable extensive commercial development. Concern over extent of development and proximity to communities. Some saw the Scheme as unlocking ‘unbridled development’.	The objective of the Scheme is to help realise the potential development within the Enterprise Area – the extent of which is already defined and agreed through various planning policy. The majority of landholdings to be developed are in private developer ownership and benefit from the extant 1957/58 consent. As such, sites will come forward for development as and when the developer either completes a commercial deal with an occupier or, takes forward a development on a speculative basis. Those that are not covered by the extant consent, would need to apply for planning permission in the normal way.
	Query over funding for the Scheme. Concern that LEP funding could be used on other public services of greater benefit to the community.	The LEP funding, agreed via the city growth deal, is associated with new business rates only (i.e. new businesses brought online in the defined boundary for ASEA). These developments cannot go ahead unless this project delivers the necessary mitigations. There will be no new money to use on other things (raised via business rates) unless the development is first unlocked by this Scheme.
	Concern over how landraising for sites in the Enterprise Area is managed.	Due to the provisions of the extant 57/58 area, the only way to sustainably and strategically put a halt to the land raising is by providing better flood defences.
	Concern over limitations of proper consultation. Noted that communities want to have proper influence over design.	Concerns were noted. Where significant concerns have been raised the project team has listened to feedback and revisited designs and held focused community meetings.
	Concern that SGC are not appropriate to determine the planning application because they have a vested interest.	Across both BCC and SGC there are different roles. Some officers are involved in progressing the project and promoting the Scheme. Others are involved in the consenting process. The team has been mindful of the need to ensure that these two functions remain separate to enable the applications to be considered in the appropriate way. All contact with the consenting function of the planning authority has been made through normal pre-application planning processes.
	Divided opinion over the Binn Wall. Some felt that the Binn Wall required raising, others felt satisfied that it provides adequate protection.	Concerns are noted. However, the modelling shows that the existing defences at Severn Beach are already at the required defence level, with the exception of a short section adjacent to Salthouse Farm, which will be raised to bring it to the same standard as the rest of the Binn Wall.
	General positive consensus over artist’s impression of proposals for south of Severn Beach.	Positive feedback is appreciated.

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Group	Comment	Response
	Request to EA for advice on how to go about gaining permission (Flood Risk Activity Permit) for a new bench at New Passage.	Information passed to Parish Council by Environment Agency and follow-up meeting set up with respective member of the Parish Council.
Severn Beach Parish Council (follow up meeting, October 2017)	Update given on revised design for New Passage given. Generally understanding/support for revised design proposal, but some questions.	Positive feedback on the design revisions is noted.
	One attendee questioned why the earth embankment at New Passage cannot be raised instead of constructing a wall.	An earth bank of the height required would mean widening the base by up to 10 metres. The project cannot construct any works on the seaward side of the current footprint of the defences, as it would encroach on the Severn Estuary area, which has multiple national and international protective designations. Therefore, in this area an embankment would encroach significantly into resident's gardens. This option was therefore discounted.
	Parish Council keen to ensure that maintenance implications of the proposed glass panels are considered.	It is noted that ongoing maintenance is an issue of local concern. The solution proposed is intended to require low maintenance. The Environment Agency has agreed in principle to take on responsibility for maintenance of the new tidal defences.
	One attendee questioned why a revetment option cannot be used at New Passage instead of a wall or a raised earth embankment. Attendee noted that this is a change from previous work undertaken by Atkins in 2013. Attendee noted that a revetment would have an impact on the Severn Estuary designated area, but felt that a wall would have a significant impact on the Severn Estuary area anyway.	A rock armour and revetment option was identified in previous studies as an option for the area between Aust and New Passage. However, this work did not go down to the geographic scale of considering what was required specifically for the New Passage to Chestle Pill section of bank. This project is now looking at the design in much more detail both geographically and using new hydraulic modelling than previous more broader scale studies. Based on this, a rock-armour and revetments solution would not be appropriate.  Rock armour and revetments are typically used in locations where there is known to be significant wave action. As the New Passage and Chestle Pill area is relatively sheltered and protected by a long, shallow-sloped salt-marsh run-up, rock-armour and revetment have been ruled out due to reduced wave action applying to this section. In addition, the hard finish of rock armour and revetment may be considered to have an adverse impact by encroaching into the Severn Estuary designated area. Furthermore, the impact of a revetment on the SPA saltmarsh would be much bigger than a wall as it has a much bigger footprint.  Further details are provided in Chapter 3 of the ES.
	Parish Council keen to see suitable diversions need to be put in place for the Severn Way footpath during construction.	Temporary diversions of footpaths will be required during construction. These have been discussed with the PRow officers at both SGC and BCC. Further detail of the temporary diversions proposed is included within Chapter 8 of the ES and shown on the Drawings.
	Concern expressed about the proposed removal of the poplar trees. Comment raised that the	Mitigation measures and re-planting are proposed at this location. Landscaping proposal plans are submitted with this application. Details of the proposed mitigation are outlined in Chapter 10

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Group	Comment	Response
	project must submit full landscaping plans showing tree re-planting. Noted that advance planting must be done where possible.	of the ES and on drawings CH2-Z00-A10-DR-C-1251 and CH2-Z00-A10-DR-C-1252 – contained within Appendix E of the ES.
Thornbury Alveston and Severn CEF	Question about whether the project has considered what impact the Scheme will have on the coastline further north of the M48 – will flood water be displaced and cause more flooding further north?	This issue is addressed above.
	Query over Northwick wetland area – concern that this will lead to loss of available farming land.	The project aim is for the land, except that used for permanent ponds, to remain in active farming use as grazing land over the summer months. Impact on farming is covered in Chapter 7 of the ES.
	Some positive comments that the new wetland areas will be welcome to provide valuable habitat for the birds.	Positive feedback is appreciated.
	Comment that the walkway behind the proposed new wall between New Passage and Chestle Pill should be high enough that pedestrians can still see over it.	Noted, the adjustment for this section incorporates glass panels, allowing views to be maintained.
SevernNet	Query raised over the impact the Scheme will have on surrounding land.	The Flood Risk Assessment submitted to support the planning application, with associated hydraulic modelling, shows the Scheme will not increase flood risk elsewhere.
	Query over whether local companies will be used for surveying etc	This would be handled via the Environment Agency’s procurement team and would require suppliers to be on the Framework, or to be subcontracted through the Framework.
<b>BCC groups</b>		
Shirehampton CAF	Query raised over impact proposed ASEA flood defence scheme will have on surrounding land, e.g. Lamplighters Marsh Local Nature Reserve and Shirehampton Tidal Defence Scheme.	At Lamplighters Marsh we have aligned the defences along the boundary next to the railway, so that we are protecting the railway, the dockyard, and other residential property in Avonmouth. This alignment also helps to minimise impact on the Lamplighters Marsh Nature Reserve and protect views across the River Avon. The Flood Risk Assessment concludes the schemes has an insignificant impact on Shirehampton.
	Query over what the lifetime of the Scheme is (sheet pile components)	Confirmed at the meeting that the lifetime is at least 60 years.
	Question on how the sheet piles at the Lamplighters Marsh will look	The sheet piles would vary in height, depending on the ground levels, but would be up to 1.5m high. They would be positioned close to the railway line and not obscure the view from the paths. The sheet piles would be unclad, but the retained vegetation would screen views to the sheet

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Group	Comment	Response
		piles. There is potentially an opportunity to plant more vegetation to screen the sheet piles from the public footpath at Lamplighters Marsh.
	Query over whether view over the River Avon will be obstructed	Whilst there are very few publicly accessible viewpoints affected by the proposed flood defences in Area 2, the project will seek to retain views, for example from the Lamplighters Marsh path over the River Avon.
Avonmouth Planning Group	Overall welcome the Scheme and supportive of the approach. Understood that they can only comment on certain aspects of the proposals. Undertook to advertise the Avonmouth event to their networks, including the Lawrence Weston Planning Group	Positive feedback is appreciated.
	<p>Main comments were on the appearance of the walls around Avonmouth and the group requested the following:</p> <ul style="list-style-type: none"> <li>• Investigate the possibility of making the wall a darker/less obvious colour</li> <li>• Use anti-graffiti paint/coating</li> <li>• Investigate the use of planting to make the wall less obvious and less likely to discourage wildlife</li> <li>• These are important points for the group as the wall would be visible from the M5 as well as cruise ships from the Port</li> </ul>	The project team acknowledges that the images shared were very indicative. Comments about the colour and materials of the wall at Avonmouth are noted. Whilst there are very few publicly accessible viewpoints affected by the wall the project will seek to use appropriate materials to make the wall blend into its surroundings. Concrete render is proposed.
	Comment regarding groundwater risk. Already a problem in the area and likely to get worse.	Groundwater issues are largely outside the scope of this project. The BCC Local Flood Risk Management Strategy has an action to undertake a citywide groundwater flood risk assessment and will include the above in such assessment
	Query regarding whether the Scheme will allow development of residential in the area.	The area will remain in the flood zone as defined on the flood map for planning. For brand new development, the planning process requires a Sequential Test to first be passed whereby alternative sites outside of the floodplain must be considered. This involves the LPA agreeing there is a genuine need for new residential development within the floodplain. and both Local Authorities have confirmed there is no strategic policy for residential development in Avonmouth and Severnside. In addition, the flood defence proposals will provide protection from 60 years' worth of climate change based on the latest planning guidance, which is sufficient for commercial development but residential development would require a 100 year climate change scheme.

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Group	Comment	Response
	Comment to ensure the project co-ordinates with the Port, particularly the Deep Sea Container Terminal.	The project team is in liaison with the Port over the Deep Sea Container Terminal.
<b>Cross boundary groups</b>		
Gloucestershire Severn Estuary Stakeholder Group	General update given and group welcomed information and opportunity to input via wider engagement process.	n/a

## 4.9 Feedback from wider community

### 4.9.1 Feedback on flood defence proposals

43 letters, emails and feedback forms were submitted. Table 4.5 provides an overview of all the comments in relation to the proposed flood defence works. It seeks to provide a general feel for the type, nature and strength of comment received therefore, responses are grouped and presented in summary format. Table 4.5 also explains how each comment has been considered by the project team and the extent to which design changes have been made to address the issues raised.

Generally, there was a good degree of acceptance that improved flood defences are required, and a number of respondents were grateful that the proposals would offer both property and land a greater degree of protection into the future. However, there were some concerns and questions around some aspects of the proposals.

The proposals to install a sheet pile flood wall in the New Passage area were the subject of the greatest number of comments. Here, residents expressed serious concern that the proposal outlined in the engagement materials and depicted in the artists impressions would be unacceptably visually intrusive, significantly impact on views out to the estuary, have a negative impact on wildlife/habitats and prevent access to the coastline. A meeting was held with residents to address these issues and a revised proposal has been worked up, taking account of their feedback. This issue is discussed further in Section 4.9.2 below.

A further key concern was raised in relation to the impact of the flood defence works on trees and hedgerows in the area north of Cake Pill. In response to these concerns additional technical work was undertaken to consider alternative approaches and additional mitigation and this is described further in Section 4.9.3 below.

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Table 4.5 – Comments and responses: flood defence issues

Location/Topic	Comment	Response
Northwick (SGC)	Query whether managed realignment has been considered for the Northwick area.	The Scheme is aligned with the ‘hold the line’ approach set out in the Severn Estuary Shoreline Management Strategy. The project team did consider managed realignment for this section. However, there are relatively few opportunities for realignment in the majority of the Scheme due to existing infrastructure, commercial and residential development and legacy land use issues. The Scheme is proposing around 1ha of additional coast habitat via realignment of the bank near Cake Pill.
	Concern regarding the impact of the flood defence proposals on the land fill at Northwick	The proposals will protect the landfill site at Northwick from flooding. While the defences are lower than existing high ground, provision of raised flood embankments will protect the material contained within the landfill site.
	Strong concern from several residents about the proposed removal of poplar trees adjacent to the landfill site at Cake Pill. These are felt to be an important feature of the local landscape and a valuable habitat for wildlife.	In response to concerns about the removal of the poplar trees the project team has undertaken further work to review and explore flood defence options and re-assess the constraints in this location. A range of alternative options were considered and these issues are considered in more detail in Section 4.9.3 below.  The conclusion of this additional work has been to confirm that the solution proposed in the public engagement materials, requiring the removal of the poplar trees, remains the preferred option in this location for a range of technical and environmental reasons. To mitigate the loss of the poplars a replanting strategy of native species is proposed.  For further details see Chapter 3 of the ES and drawings CH2-Z00-A10-DR-C-1251 and CH2-Z00-A10-DR-C-1252 contained within Appendix E of the ES.
	Concern that the flood defence proposals require the loss of ancient hedgerow.	The proposed flood defence embankment between New Passage and Aust will require the removal and replacement of existing hedgerow. Mitigation is included to address this issue and is detailed in Chapters 3, 9 and 10 of the ES.
	Recognition that the Pilning wetland area has been really successful. Concern that the flood defence works will affect the existing Pilning wetlands area by bringing more people beyond the settlement boundary of New Passage and within closer proximity/increasing disturbance to wildlife. Concern that proposals affect lines of sight, breeding and roosting sites.	The success of the Pilning wetland area is recognised and this project seeks to complement that. The project team will continue to work with the landowner to ensure the proposals are compatible with the existing success of the wetland area.
North of New Passage (SGC)	Concern that footpaths are to be set back on a lower level (rather than along the top of the embankment) and that this will impact on	The aim of the lower level is to help minimise the disturbance to birds on the estuary caused by moving people. People will still be able to see over the crest to the estuary. People walking will be encouraged to use the lower level through the use of information signs.

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Location/Topic	Comment	Response
	enjoyment of walks and views.	
New Passage (SGC)	Query about why the height increase required at New Passage is so high. Whilst improved flood defences are generally welcome there is a concern that the proposals are very high.	The height proposed at New Passage takes account of forecast increases in sea level due to climate change and also includes other factors relating to coastal environments including wave action, storm surges and foreshore surface conditions. Contingency is built into the Scheme to ensure the defence can withstand a 1:200 year scale event for decades into the future.
	Concern that the height proposed at New Passage is based on uncertain predictions of sea level rise and that there is no economic need for 60 years of protection.	The sea level rise calculations are based on national guidance for the impacts of climate change. This guidance is based on the results of significant scientific research. The aim is to provide tidal flood protection for at least 60 years is in line with current guidance.
	Concern that there are existing drainage issues at New Passage which require attention to prevent water diverting off the existing ramp and pooling in adjacent gardens.	The Environment Agency and SGC is aware of this issue and is investigating possibilities for addressing this either as part of the ASEA project, or separately through joint working with the SGC highways and drainage team.
	Query about why the solution for New Passage is proposed to be a wall rather than an embankment. General feeling that an embankment would be more appropriate or that this section should be seen as a transition section between the wall at Severn Beach and the embankment at Northwick.	<p>A flood wall is proposed at New Passage because there is limited space in this location. An earth bank of the height required would mean widening the base. The project cannot construct any works on the seaward side of the current footprint of the defences, as it would encroach on the Severn Estuary area, which has multiple national and international protective designations. Therefore, in this area an embankment would encroach significantly into resident's gardens. This option was therefore discounted.</p> <p>A wall provides a slimmer foundation and potentially less disturbance during construction. The published proposals showed a sheet pile flood wall. However, following discussions with residents a revised proposal has been drawn up and this includes a dwarf wall with a reinforced concrete foundation, with glass panels above (see below).</p>
	Preference for a rock armour/revetment option coupled with raising of the embankment between New Passage and Chestle Pill as identified by previous studies.	<p>A rock armour and revetment option was identified in previous studies as an option for the area between Aust and New Passage. However, this work did not go down to the geographic scale of considering what was required specifically for the New Passage to Chestle Pill area.</p> <p>This project is now looking at the design in much more detail both geographically and using new hydraulic modelling than previous more broader scale studies. Based on this a rock-armour and revetments solution would not be appropriate.</p> <p>Rock armour and revetments are typically used in locations where there is known to be significant wave action. As the New Passage and Chestle Pill area is relatively sheltered and protected by a long, shallow-sloped salt-marsh run-up, rock-armour and revetment have been ruled out due to reduced wave action applying to this section.</p> <p>In addition, the hard finish of rock armour and revetment may be considered to have an adverse</p>

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Location/Topic	Comment	Response
		<p>impact by encroaching into the Severn Estuary designated area. Furthermore, the impact of a revetment on the SPA saltmarsh would be much bigger than a wall as it has a much bigger footprint.</p>
	<p>Significant concern was raised by multiple residents around the proposal for a sheet piled flood wall at New Passage.</p> <p>Detailed comments were submitted regarding the impact to individual properties.</p> <p>Concerns were also raised by Severnside CEF and Severn Beach Parish Council.</p> <p>The detailed concerns raised in relation to the initial proposal shown in the public engagement materials are set out individually below</p>	<p>Two meetings were held with residents to discuss issues and options. Details are provided in Section 4.9.2 below.</p> <p>In response to the comments made, and the discussion at the meetings, an alternative design proposal was drawn up and forms the basis of this planning application. This includes a dwarf wall, with glass panelling above. Chapter 3 of the ES provides further details. The ways in which this solution addresses specific concerns are explained below.</p>
	<p>Visual impact – a sheet pile solution was considered too imposing. The design of the wall, as shown in the artists impressions, was felt to not be in keeping with the local landscape. A softer, greener solution would be preferred.</p> <p>A number of suggestions for alternative designs and mitigation were submitted including a curved wall, various terraced structures, soil banks to conceal the wall, and use of planting or green paint to reduce visual impact.</p> <p>It was suggested that the sheet pile solution was not appropriate within the Green Belt (in terms of openness and visual amenity), AONB and SSSI.</p>	<p>These issues were discussed in detail at the residents meeting.</p> <p>In order to reduce the overall impact of the defence on the landscape a revised design incorporating glass paneling has been agreed with residents. The importance of keeping the framing of the glass to a minimum in order to further reduce visual impact, is noted.</p> <p>Overall this revised design will have a lesser visual impact.</p> <p>The extent to which the proposals are acceptable within the Green Belt is considered as part of the Planning Statement that supports this Planning Application.</p>
	<p>Impact on views out to the estuary and into the Pill – there was concern that the concrete wall would prevent people (particularly those in wheelchairs) enjoying the view from the PRow).</p>	<p>This glass panel solution will ensure that users of the footpath can still enjoy views out to the estuary.</p>

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Location/Topic	Comment	Response
	Impact on access to the coast - in terms of provision of gates/gaps in the defence, and potential difficulty of access for people with mobility impairments.	<p>The importance of retaining access to the coastline is recognised.</p> <p>There will be a flood gate included at the top of the current access ramp to the foreshore at New Passage. This will only be closed during periods of high tide.</p> <p>Wherever practical and where they do not conflict with other geometric and environmental constraints, the project will ensure that where changes are made to PRow the proposals are fully accessible and meet the requirements of the PRow officers at both Councils and the Equalities Act 2010.</p>
	Impact on habitat and wildlife - including meadow grass, bee orchids and bats.	<p>Where not directly in the footprint of a new hard flood defence structure, all grassland areas disturbed by construction activities will be reinstated to their original condition. It is proposed to delay cutting grass in this area until September each year in order to protect the wildlife. In order to preserve the bee orchid species in this area, it is proposed to retain the top soil, store it separately and put it back post-construction. These mitigation measures are detailed in Chapter 9 of the ES covering biodiversity issues.</p> <p>The EIA considers the impact of The Scheme on other habitats and species, including bats.</p>
	Impact on access for ongoing maintenance – for example, to service the tidal outfalls at Chestle Pill and Cotterall Pill.	<p>With the Environment Agency’s operations staff, the project team has assessed existing access routes and incorporated improvements into the design to enable ongoing maintenance of the new flood defence scheme. For the section between New Passage to Aust, the project aims to improve access from both ends; at New Passage and Cake Pill. The project also needs to improve access to the flood gates at the Pills.</p>
	<p>Concern around volume and routeing of traffic during construction. Suggestion that access should be via farmland.</p> <p>Concern particularly about impact to New Passage Road.</p>	<p>The project has obtained advice from a construction company to identify likely access routes. There are a number of routes, including access from the A403, southwards from Cake Pill and a route off New Passage Road. The final routing will depend on the construction equipment used by the selected contractor, and the load limits of the existing Chestle Pill. The project is sensitive to the impact access may have on residents and will require the selected contractor to mitigate these impacts. Further information about construction traffic is provided in the Transport Impact Assessment which accompanies the planning application.</p> <p>To minimise the impact of construction traffic generally across the study area the Scheme will re-use materials where we can. The project will use a supply chain well known for membership of considerate contractors.</p>
	<p>In respect of the revised designs discussed at the New Passage residents meeting the following comments were subsequently received:</p> <ul style="list-style-type: none"> <li>- Preference for wall and glazed panel</li> </ul>	<p>These comments have been considered in detail and are, where possible, reflected in the re-worked designs for New Passage. This design incorporates glass panels. A concrete render finish is proposed to match the adjacent houses.</p> <p>The re-worked design includes a 5m access width (as opposed to the 3m requested) as this is the width required by the Environment Agency for maintenance works and access.</p>

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Location/Topic	Comment	Response
	<p>solution</p> <ul style="list-style-type: none"> <li>- Preference for lower footpath</li> <li>- Preference not to have handrails</li> <li>- Preference for narrower 3m access road, with passing places to reduce impact</li> <li>- Consolidated gravel finish to the path is preferred over tarmac</li> <li>- Preference for a rubble to stone façade to the wall would be better than solid concrete</li> </ul>	<p>Stone facing to the wall is expensive, time consuming to build and not as resilient in a tidal environment. The proposal is to render-finished the concrete below the glass panels</p>
	<p>Concern that meeting with New Passage residents was not advertised to all.</p>	<p>The two residents' meetings held have been planned and organised by the local community and the Environment Agency. Details about the proposals were sent by direct mailout to all residents of New Passage.</p>
<p>Severn Beach (SGC)</p>	<p>Concern that the Binn Wall at Severn Beach is not proposed to be raised. Concerned that with no height increase Severn Beach will become the area most likely to flood in the future.</p>	<p>Hydraulic modelling and design has been undertaken to latest national standards, accounting for 60 years of predicted sea level rise to account for the life of the enterprise area. The modelling shows that the existing defences at Severn Beach are already at the required defence level with the exception of an area adjacent to Salthouse Farm which required raising to the same standard as the rest of the Binn Wall.</p>
	<p>Request for the ramp at New Passage to remain due to life boat usage.</p>	<p>This ramp will be retained and the Scheme will not affect access to or down the ramp. A flood gate will be constructed across the top of the existing ramp and whilst these construction works are being undertaken this will require a temporary closure of the ramp. When installed the gate will remain open and will be closed only during a potential flooding event.</p>
	<p>Generally positive comments about the proposals to raise the defence and improve the footpath to the south of Severn Beach (as shown in the artist impression).</p>	<p>Positive feedback here is appreciated.</p>
	<p>Concern that a small section of the Binn Wall near to the Severn Tunnel and Salthouse Farm has not previously been raised or improved. Query whether works will be undertaken at this location to prevent this becoming a weak spot.</p>	<p>This section will be raised to bring it to the same standard as the rest of the Binn Wall.</p>
<p>Severn Beach rail line</p>	<p>Concern that the proposals do not defend the full length of the existing railway line. Preference for the proposed flood defences to</p>	<p>The alignment of the proposed Scheme defends as much of the existing infrastructure, including the railway, as possible. However, there is a 1.8km section whether the proposed flood defence is on the landward of the railway line. This is an important part of the Scheme to ensure that a full</p>

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Location/Topic	Comment	Response
(SGC and BCC)	be located to the seaward side of the railway line, so as to provide protection to the existing infrastructure.	flood defence can be provided and is important to secure funding for the whole scheme. The project team has discussed this proposal with Network Rail and they have confirmed that they accept the proposal. However, the project team will continue to work with Network Rail to determine whether, in the future, a defence which is combined with the railway line could be achieved.
	Improvements to the footpath alongside the railway would be appreciated.	The Scheme includes for improvements to this footpath where possible. The footpath will be resurfaced and raised up, to ensure that users can see over the proposed flood wall which will run between the railway and the road.
Avonmouth (BCC)	Concern that land at Lamplighters Marsh adjacent to the Park and Ride site is not protected by the proposed works.	At Lamplighters Marsh the design aligns the defences along the boundary next to the railway, so that the defences are protecting the railway, the dockyard, and other residential property in Avonmouth. This alignment also helps to minimise impact on the Lamplighters Marsh Local Nature Reserve and retains views across the River Avon. The area in question is not developed and this Scheme, like many flood defence projects aims to defend existing buildings and infrastructure from flooding and allow other areas to flood.
	Concern that parts of Shirehampton (Station Road and Wellington Mews) are not protected by the proposed works.	Whilst an upgrade or alteration to the Shirehampton Tidal Defences Scheme in this location is not part of this project the Environment Agency and BCC will be investigating their performance and requirement for future improvement works as part of a separate project and will update the community as plans progress.
Ecology (SGC and BCC)	Concern that the proposals will impact on the saltmarsh and that coastal squeeze will reduce the area of saltmarsh. Notes that the wider impact on the saltmarsh should be considered.	The project is seeking to do no works on the protected areas and as such works will be on the landward side and not on the salt marsh. The project team is working with Natural England to develop and implement the Scheme. Coastal squeeze is being addressed elsewhere in the Estuary at strategy level by the Environment Agency.
	Concern over ability of ground dwelling wildlife to pass over large vertical structures.	These issues, and potential mitigation measures, is considered in Chapter 9 of the EIA on biodiversity.
PRoW (SGC and BCC)	Query around extent to which the proposed flood defence works are consistent with ambitions to for the proposed English Coast Path National Trail.	The project team is aware of Natural England's project to establish the England Coast Path on the Severn Estuary and has received detailed feedback from Natural England as part of this engagement process. Natural England's Coastal Path Officer has commented that there is good synergy between the project and the aspirations for a Coast Path.
	The proposals must meet the requirement of the Equalities Act 2010, the Marine and Coastal Access Act and good practice guidance such as the Fieldfare standards for all. Detailed comments received about the requirements for gates/structures, gradients and need to retain	The project will ensure that where changes are made to PRoW suitable access for all will be provided wherever practical and where other geometric and environmental constraints allow. The project team is working with Natural England to ensure the project is aligned with their vision for an England Coast Path. The Scheme will ensure that accessibility is not adversely affected by the proposals.

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Location/Topic	Comment	Response
	views for people in wheelchairs.	
	Various comments about the extent to which improvements to the PRowS should cater for multi user groups – wheelchair access, cyclists and horse riders.	The project does not seek to implement a change to the status of the PRow which is currently a public footpath, not a bridleway
	Suggestion that interpretation information should be included along the coastal PRow.	The value of interpretation panels, in helping to provide information about local wildlife and heritage is acknowledged and appropriate information will be provided where possible. The Environment Agency is working with the 'A Forgotten Landscape' project, who will deliver these.
Access (SGC and BCC)	Concern around likely disturbance caused by site working. In particular, concern that transportation of materials to create the raised embankments will be difficult – large volumes of materials, narrow roads etc.	It is inevitable that such a large construction project will introduce additional traffic to the network. Issues relating to construction traffic and the mitigation of impacts are discussed in Chapter 8 of the ES and in the Traffic Impact Assessment.
	Concern to ensure that future access for maintenance is not across private property.	The project team is aware of individual concerns about previous access for maintenance over private land and have passed these to the appropriate maintenance teams. The proposals for future access will not rely on access over private land.
Flood risk/drainage (SGC and BCC)	Query whether the flood defence works will increase flood risk outside of the Enterprise Area.	The length of coastline between Avonmouth and Aust, as well as the coastline north of the M48, has been identified with a policy of “Hold the Line” within the Shoreline Management Plan approved by Defra and Welsh Government. Part of the assessment covered the geomorphological change to the estuary caused by holding the line in key areas. In practice the cross sectional shape of the estuary will change to accommodate those reaches which hold the line and keep floodwater out. Furthermore areas of managed realignment of defences over time will provide more room for tidal floodwater than is kept out of hold-the-line areas. The Environment Agency has already provided more flood storage than might be lost in the medium term with the creation of managed realignment sites at Steart, Congresbury Yeo and Plusterwine (opposite Avonmouth). Further realignment sites will be delivered in the future to keep pace with actual sea level rise. So overall there is high confidence that the floodwater kept out by the improvements to defences in the Avonmouth-Sevenside project will not increase flood risk elsewhere.
	Concern that proposals will adversely affect flood risk and lead to increased risk of flooding from the rhines, due to blocking of internal drainage.	The project team has worked closely with the LS IDB to ensure that the proposals are acceptable to them. The proposals for the creation of the ecological mitigation areas have been modelled to ensure that they do not increase flood risk outside Areas 4 and 5. Within the ecology mitigation areas themselves, flood depths/extents will be impacted as Areas 4 and 5 are designed to retain more water. Further information is provided in the Flood Risk Assessment which accompanies

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Location/Topic	Comment	Response
		this planning application.
	Keen to ensure drainage ditches along the sea walls are reinstated.	The proposals incorporate appropriate drainage.
General/other (SGC and BCC)	Query raised about if/how the ASEA flood models would be subject to third party review.	The coastal inundation modelling has been reviewed by the Environment Agency and the baseline fluvial modelling has been reviewed by an independent consultant on behalf of the LS IDB. The LS IDB will review the final modelling during the planning application determination period.
	Concern that flood walls would be subject to graffiti/damage	Concerns are noted.
	Important to ensure that access to the coastline is retained for fishing.	The proposals will not restrict access for fishing. The embankments will still allow access, albeit that there will be a need to cross a higher bank.
	Have long term maintenance/management costs been taken into account?	Yes, long term maintenance/management costs are included within the cost estimates as sums that support the funding bid.
	Request that the Environment Agency engages with local businesses when allocating works as this will have a positive impact on the local economy.	A supplier will be procured for the construction phase of this project through the Environment Agency's Water and Environment Management Framework. The Environment Agency is committed to supporting the government target of 33% of central government buying to go to small businesses by 2020 and will encourage larger suppliers to consider small and medium sized enterprises (SMEs) in their sub-contracting opportunities.

## 4.9.2 Feedback on proposals at New Passage (SGC)

The proposals published as part of the Summer 2017 engagement period showed a sheet pile wall at New Passage, within South Gloucestershire. An artist's impression was used to show what this might look like.

This proposal generated the most feedback during the engagement period. Residents expressed serious concern that the proposal would be unacceptably visually intrusive, significantly impact on views out to the estuary, have a negative impact on wildlife/habitats and prevent access to the coastline.

### 4.9.2.1 Action taken to address concerns

In response to the feedback received about the proposals at New Passage two meetings were held with residents. Both meetings were organised by the residents themselves and the Environment Agency and attended by members of the ASEA project team.

The first meeting, held on 7<sup>th</sup> August 2017 was an opportunity for residents to explain their concerns and for the project team to provide additional information about the design process and design decisions made to date. The meeting was very positive. It was a constructive discussion that helped the project team to understand local concerns and provided an opportunity to work with residents to identify practical solutions to overcome these concerns.

At the meeting design options were openly explored. A number of design iterations were suggested by the project team that could help to address local concerns and the pros and cons of these were debated. The outcome was a general consensus that, given the practical constraints, a glass panel flood defence parapet above a dwarf wall for a section of the wall would be a preferred solution.

In response to these comments an alternative design proposal was drawn up and forms the basis of this planning application and is shown on the Drawings. This includes a dwarf wall, with glass panels above. This would be 1.6 metres high. The ways in which this solution addresses specific concerns are explained below.

The revised design was discussed with New Passage residents at a second meeting on 27<sup>th</sup> September 2017. The response was very positive and residents felt that this was much preferable to the original proposal.

This revised design is incorporated into the proposals, and the Scheme for which planning permission is now sought incorporates this change.

### 4.9.3 Feedback on proposed removal of poplar trees (SGC)

During the engagement period, as highlighted in Table 4.5, residents expressed concern about the proposed removal of hedgerows and poplar trees at Cake Pill (within South Gloucestershire). One member of the public took a particular interest in this issue and submitted numerous enquiries to the project team via the Environment Agency email address both during, and in the period following, the engagement period.

A number of conversations and face to face meetings were held with this individual to explain the context of the project, the overall aims and the reasons why the proposals shared for public comment required the removal of the trees. The project team listened to the concerns expressed and noted that these related both to the perceived ecological value of the trees, as well as their contribution to the local landscape.

#### 4.9.3.1 Action taken to address concerns

In order to address the concerns expressed in relation to the poplar trees, additional work was undertaken to review and further consider alternative options and to ensure that all strategies for positioning the flood defences in this area in a way that minimised impact on the trees had been considered. A technical note was prepared to:

- Explain the rationale for the original proposal (as shared during the Summer 2017 engagement period)
- Set out the pros and cons of a range of alternative options
- Draw conclusions for the preferred approach, taking account of all current information.

This note is available on the project webpage:

<http://www.insouthglos.co.uk/enterprise/avonmouth/flood-ecology/>

In summary, the options considered included:

- Realigning the flood defences seaward of the trees. This would cause the flood defence embankment to encroach onto the intertidal marsh of the Severn Estuary, which has multiple national and international protective designations including being designated a Special Protection Area. As such, planning permission would be unlikely to be achieved
- Realign flood defences landward of the trees. This would encroach into the landfill site. It is highly likely that working in this area will disturb contaminants and therefore significant mitigation measures will need to be included in the design to avoid causing pollution.
- Change flood defence type. Using a sheet piled or concrete flood wall as an alternative to an embankment has been considered. A wall could have a potentially negative visual impact on the area and the foundations required could damage the existing poplar tree roots.
- Current alignment, but with localised encroachment into the intertidal marsh. A variation which would allow the embankment to encroach into a triangle of drier intertidal marsh at the northern end has been considered. This area of land had previously been designated to provide an enhanced habitat for wading birds and is the only area of land within the Scheme area that is available for this type of improvement.

The Technical Note outlining these options was shared in draft form with Natural England and their position on the ecological value of the trees, the implication of their removal and the acceptability of the various alternative options was sought. In addition, feedback was sought from officers at SGC. The feedback received is summarised in Table 4.1.

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Table 4.1 – Feedback sought on proposed removal of poplar trees

Stakeholder	Feedback
Natural England	<p>Consider the poplar trees to be of low ecological value</p> <p>Consider that the habitat value of the poplar trees could be greatly enhanced by replacement with a grass embankment and native hedge.</p> <p>Notes that, in terms of visual and landscape value, whilst subjective, the poplar trees are not representative of the Somerset landscape.</p> <p>Notes that the poplars are now a little under halfway through their life expectancy (of 60 years).</p> <p>They concluded that the grass embankment proposed in the public engagement material would be the preferred option in both ecological and landscape grounds.</p> <p>It was noted that the defences cannot encroach into the SAC/SSSI. It was noted that setting the defences behind the poplars would mean salt water inundation in the future due to sea level rise would impact the tress.</p>
SGC arboricultural officer	<p>Considers the loss of 500 trees would be regrettable.</p> <p>Note that in this location, branch failure would be anticipated with around 50 years.</p> <p>It was noted that mitigation of mixed native species to include oak may be a good compromise and that a variety of tree species would provide greater biodiversity and longevity than the existing trees.</p>
SGC planning officer	<p>Considers there to be a need to strike a balance between the loss of the trees and the impact of alternative designs which allow their retention.</p> <p>Notes that there may be some resistance to a flood wall due visual impact in the rural location.</p> <p>Considers trees to be of value from a landscape perspective.</p> <p>Notes that if the trees were to be removed, mitigation would be expected.</p>
SGC ecology officer	<p>Notes that whilst poplars have some ecology value this is not to the same extent as native species. Loss would be primarily an arboricultural/ landscape character issue.</p>

Having assessed all the alternative options relating to the poplar trees, and considered the feedback provided, the Technical Note concluded that the original proposal (as shared during the Summer 2017 engagement period) remained the most practical solution because it is acceptable under the Habitats Directive, minimises risk of erosion to the landfill site, minimises land take, avoids slow die off of the poplar trees, provides for new native planting and retains the use of visually softer earthwork embankments. As such it is the only option that would allow the overall objective of raising the flood defences in order to protect the Enterprise Area and surrounding communities from the risk of a severe flood to be achieved. This position was explained to the concerned member of the public via various email exchanges.

In addition, further work has been undertaken subsequently to ensure that suitable mitigation can be delivered. This has included discussion with the landowner to secure the land required to deliver the required re-planting. The mitigation proposed is described in Chapters 3, 9 and 10 of the ES and shown on the Drawings. These Chapters of the ES also contain details of proposals to mitigate the impact of works on hedgerows.

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Whilst in this case it was not possible to amend the proposals to address the comments raised, the project team has considered all alternative options and the Scheme now includes mitigation to reduce the overall impact of this intervention.

### 4.9.4 Feedback on ecological mitigation proposals

The proposals for the creation of ecological mitigation areas attracted fewer comments compared to the flood defence works. Table 4.6 provides an overview of the comments received and sets out how these have been considered within the evolving design and planning.

There was clear support for the principle of creating the ecological mitigation areas and supporting the species of the Severn Estuary. Some respondents raised questions about the proposed location of the ecological mitigation areas and a number of residents were concerned about the volume of construction traffic, the movement of materials and the impact on current farming practices.

Table 4.6 – Comments and responses: habitat creation issues

Location/Topic	Comment	Design response
Northwick (SGC)	Queries about why land adjacent to the existing Pilning Wetland Area is not being utilised for the habitat areas. Suggests that using this area would create habitat areas that are better connected (avoiding the A403 acting as a barrier for birds) and would also provide a source of materials for the creation of embankments (and reduce the need to bring in material).	The project cannot force landowners to give up their land or make them re-use it as habitat. Land is being acquired through negotiation and to incorporate this land into the Scheme and any planning application without consent from the owners would carry an unacceptable risk.
Farming (SGC and BCC)	Concern that proposals will lead to a loss of farming land or will impact on current farming practices. Request that scrapes have shallow slopes to allow for the movement of farm machinery and to reduce the chance of poaching by cattle.	The project aim is for the land, except that used for permanent ponds, to remain in active farming use as grazing land. The designs include for shallow side slopes to the scrapes. Impact on farming is covered in Chapter 7 of the ES.
Drainage (SGC and BCC)	Concern that proposals for ecological mitigation will affect flood risk due to the blocking of internal drainage. Suggests additional pumping stations and sumps should be provided to mitigate extra risk.	The Scheme is designed to increase wetness in only the fields we have acquired for ecological mitigation habitat, without affecting the main drainage rhines. We have worked closely with the LS IDB to ensure that the proposals are acceptable. The proposals have been modelled to ensure that they do not increase flood risk outside areas 4 and 5. Further information is included in the Flood Risk Assessment which accompanies the Planning Application.
Management (SGC and BCC)	Comment that there needs to be some commitment to the management of the habitats	Part of the project is to establish a management regime for the habitats and, in due course, the project team will be talking to organisations that may take on a management role.
General (SGC and BCC)	Keen that ecological mitigation areas are seen as assets. For example they can help attract businesses and improve the environment for local employees. Feeling that positive use of the ecological mitigation areas should be encouraged – e.g. health walks.	Agree the Scheme should create spaces and infrastructure that everyone can be proud of. Details of access will need to be agreed with the organisation that eventually take on responsibility for maintenance of the wetland areas. At this stage, it is envisaged that public access is unlikely to be encouraged. However, access along the Severn Way and all other PRoW will remain public so users of the PRoW will benefit from improved local habitat.
	Concern that the proposals are not ambitious enough and that extra effort should be made to compensate for wildlife lost to industry.	80 hectares is the minimum required amount of ecological mitigation, as specified by previous studies. The final proposals will exceed this amount.

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Location/Topic	Comment	Design response
	Query about whether the wildlife areas will have buffers, to prevent future uses up to the boundary and causing a disturbance.	The project does not have the ability to prevent future uses on adjacent land causing disturbance.
	Suggests that proposals should allow for visual access to new wetland areas – to allow recording etc of species.	The existing PRoW are being retained and therefore it will still be possible to look out across the ecological mitigation areas.
	Concern that proposals represent an expedient answer not the best answer (e.g. focus on land owned by the Council rather than other sites)	The proposals for ecological mitigation creation focus on land where the project team can be most certain to reach an agreement with landowners to acquire the land in a reasonable time scale.
	Comment that replacement of hedges should not just be at the discretion of landowners.	The ownership of the land for the ecological mitigation areas will be with SGC and BCC and this project has identified areas for replacement scrub planting within the project proposals for all areas. Proposals for replanting of hedgerows are discussed in Chapters 3, 9 and 10 of the ES.
	Comment that proposed lakes should be dug deep with graduated sides to ensure they do not dry out and to provide plenty of margins for foraging.	The proposed ponds will incorporate a deeper area which will permanently hold water, as well as shallow margins.

# 5 Pre-application stakeholder engagement

## 5.1 Meetings and correspondence

Following the community engagement, and up until the submission of this application, a number of technical discussions continued with stakeholders and these have helped to shape the final detail of the proposals for both the flood defence and ecological mitigation elements.

During this phase of the project, additional work was undertaken to refine the modelling (which determines the required height of the flood defences), utilising the best available data. This resulted in some changes to the proposed heights of the flood defences, compared to that which was described during the Phase 3 engagement work. The evolving design formed the basis of stakeholder discussions during the latter stages of Scheme development.

Table 5.1 summarises the meetings and discussions held with stakeholders during the latter stages of Scheme development.

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Table 4.6 – Meetings/correspondence

Who	Date	Topic/purpose	Comment	Design response
Natural England	August 2017	Written feedback provided on the interaction of the proposals with Natural England’s aspirations for a Coast Path across both SGC and BCC	Natural England confirmed that their aspirations for a Coast Path were compatible with the flood defence proposals for Area 1 and 3 Schemes, with the proposals offering some notable benefits and helping to improve users’ enjoyment of the route.	Nothing further required
			Natural England highlighted the importance of signage.	Noted. This will be provided by the Design and Build contractor.
Natural England	September/ October 2017	Site visit and follow up correspondence to assess the likely impact of the flood defence proposals on the coastal habitats of the Severn Estuary across both SGC and BCC.	Detailed comments provided, with the overall conclusion that Natural England have no objection to the positioning of the flood defence works in terms of impact on the habitats of the Severn Estuary.	None further required.
	October 2017	Detailed comments on habitat value of Northwick and Hallen Marsh areas	Suggest option of pumps considered to ensure the areas remain wet and note the important of ensuring that water levels can be controlled.	Provision for pumps is included within the design for areas 4 and 5.
			Notes that long term success would require successful management.	The importance of long term management is noted and is a key consideration.
			Support retention of ridge and furrow features. Support also pulling out ditches to give wider profiles.	No action required.
	November 2017	Written feedback provided on proposed removal of poplar trees with SGC area.	Natural England noted that: <ul style="list-style-type: none"> <li>• They consider the poplar trees to be of low ecological value</li> <li>• They consider that the habitat value of the poplar trees could be greatly enhanced by</li> </ul>	Mitigation for the loss of the poplar trees has been proposed, taking account of these comments, and is reported in Chapter 3, 9 and 10 of the ES and on the Drawings.

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			<p>replacement with a grass embankment and native hedge.</p> <ul style="list-style-type: none"> <li>• In terms of visual and landscape value, whilst subjective, the poplar trees are not representative of the Somerset landscape.</li> <li>• The poplar trees are now a little under halfway through their life expectancy (of 60 years).</li> <li>• Based on a review of the flood defence options at this location, they concluded that the grass embankment proposed in the public engagement material (which requires the removal of the poplar trees) would be the preferred option in both ecological and landscape grounds.</li> </ul> <p>Also see Table 4.1 above.</p>	
November 2017	Site visit with NE protected species specialist and ASEA project ecologist to assess impact on various species	<p>Orientation visit to for officers to understand site during the application process.</p> <p>No significant concerns were raised regarding assessment process being completed.</p>	Further discussions to be carried on post-planning to obtain licenses.	
January 2018	Discussion around the HRA	<p>Further consideration of how the project should deal with coastal squeeze and how this should be dealt with in the HRA.</p> <p>Consideration of how the HRA should deal with issue of migratory fish using the outfalls.</p> <p>Discussion on how rare plants should be considered in the HRA/ES.</p>	<p>Coastal squeeze – no design changes required – compensatory habitat is being provided at Steart</p> <p>Migratory fish – no data exists on migratory fish usage of outfalls in the ASEA. No changes proposed to outfalls.</p> <p>Defences are being designed to encourage the growth of rare plant species – see below</p>	
February	Advice sought on citing for	Correspondence relating to the status of species on	No design changes – construction stage	

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	2017	HRA	<p>the 2001 SPA review list and which bird species are include in the assemblage.</p> <p>NE advised on methodology for assessing importance of an individual species within the waterbird assemblage.</p>	mitigation is required for all SPA bird species
	February 2017	Advice sought on rare plant species	Detailed advice provided on issues around rare plants and the design of plant friendly seawalls and coastal defences.	<p>The design has been evolved to incorporate horizontal recessed shelves into the seaward faces of the sea walls where these are rendered. Where concrete walls are specified, these will include for projecting shelves on the seaward faces of the structures. These could act as microhabitat for some rare plants. The design provides some stone revetment slopes at the outfalls, constructed from rip-rap stone. This will also act as habitat.</p> <p>This mitigation is discussed further in Chapter 9 of the ES.</p>
LS IDB	January 2018	<p>Review fluvial modelling</p> <p>Discuss issues relating to outfalls</p> <p>Update on planning application and programme</p>	IDB stated that they would require further info on managing water regime in habitat areas. Discussion around modelling of outfall capacity and flood risk upstream.	<p>The project team has worked closely with the LS IDB to ensure that the proposals are acceptable.</p> <p>Further to this meeting the project team has reviewed/updated the outfall capacity assessment with available structure data and shared final scheme plans with the LS IDB. The results of this work are included in the Flood Risk Assessment.</p>
SGC	July 2017	Confirm requirements for arboricultural survey from Arboricultural officer	Proposed scope and method for survey was reviewed by the arboricultural officer.	<p>Subsequent surveys refined to take account of these comments.</p> <p>Importance of ensuring that retained</p>

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			Most important aspects of surveys noted.	trees are suitably protected noted.
August 2017	Comments on PRoW were provided as part of Summer 2017 engagement exercise and followed up in additional correspondence.		Noted that the English National Coast Path National Trail will run along the flood banks.	Noted – and discussions with Natural England have confirmed that the Scheme is compatible with the Coast Path.
			Outlined expectations in terms of accessibility including for gates and gradients. Notes requirement for design to comply with the Equalities Act 2010 and Fieldfare Standards. Notes that any walls proposed must ensure they view across the estuary is clear and open for those in wheelchairs.	Wherever practical and where they do not conflict with other geometric and environmental constraints, the project will ensure that where changes are made to PRoW the proposals are fully accessible and meet the requirements of the PRoW officers at both Councils and the Equalities Act 2010.
			Note that any diversion to PRoW would require a legal order.	Noted.  In the habitat areas (Areas 4 and 5) no diversions are proposed. The PRoW are retained in their current location and the proposals are designed around these to maintain their use.  A permanent diversion of the Severn Way will be sought through Area 1 to establish the footpath on a berm on the landward side of the raised embankment.
			Suggests no structures are used unless for livestock control	Noted.
			Notes that previous works to the flood defences left a PRoW in the wrong place and this should be addressed.	As above. A new alignment will be established via a diversion application.
November 2017	Feedback was sought from arboricultural officer on		Considers the loss of 500 trees would be regrettable.  Note that in this location, branch failure would be	These comments were used to specify the mitigation outlined in Chapter 3 of the ES

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		proposed removal of poplar trees	<p>anticipated with around 50 years.</p> <p>It was noted that mitigation of mixed native species to include oak may be a good compromise and that a variety of tree species would provide greater biodiversity and longevity than the existing trees.</p> <p>Also see Table 4.1 above.</p>	and shown on drawing CH2-Z00-A10-DR-C-1251 and CH2-Z00-A10-DR-C-1252 – contained within Appendix E to the ES.
	November 2017	Feedback was sought from planning officer on proposed removal of poplar trees	<p>Considers trees to be of value from a landscape perspective.</p> <p>It was noted that if the trees were to be removed mitigation would be expected.</p> <p>Also see Table 4.1 above.</p>	As above.
	November 2017	Feedback was sought from ecology officer on proposed removal of poplar trees	Noted that whilst poplars have some ecology value this is not to the same extent as native species. Loss would be primarily an arboricultural/landscape issue.	As above.
	March 2018	Pre-application meeting held with planners and PRoW officers to discuss proposals and confirm planning application requirements	<p>Discussions were held regarding an update on the project and timescales, impacts during construction including on PRoWs, traffic management and access/construction compounds, and the planning application process.</p> <p>Need for a Traffic Impact Assessment was noted.</p> <p>Impacts of the Scheme on PRoW were considered.</p>	<p>A Traffic Impact Assessment has been prepared</p> <p>A permanent diversion is being sought for the Severn Way through Area 1.</p>
BCC	December 2017	Detailed comments received on the implications of the proposals for Hallen Marsh on PRoW were	Detailed comments provided to correctly identify PRoW within BCC. A number of locations were identified where the proposals for ecological habitat at Hallen Marsh interact with PRoW.	A small number of amendments were made to the design to ensure PRoWs are maintained.

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		provided by BCC PRow officer	Questions asked around extent to which the Scheme may affect future ability to dedicate Washingpool Lane as a bridleway or restricted byway or extend the route.	Reassurance give that the Scheme will not compromise any future arrangement or extension here.
			A number of issues relating to ease of pedestrian access raised however these areas are beyond the scope of the project and the final boundary of the application site.	None required.
			Noted responsibility to ensure that all modifications to PRow increase accessibility and do not discriminate again people with additional accessibility requirements. Noted aspiration for no steps and a preference for self-closing gates over stiles.	Wherever practical and where they do not conflict with other geometric and environmental constraints, the project will ensure that where changes are made to PRow the proposals are fully accessible and meet the requirements of the PRow officers at both Councils and the Equalities Act 2010.
			Noted that works to sluices may create an accessible right of way and responsibility for these needs to be clarified.	This will be consider at the detailed design stage of the project.
	March 2018	Pre-application meeting held with planners and PRow officers to discuss proposals and confirm planning application requirements	Discussions were held regarding an update on the project and timescales, impacts during construction including on PRow, traffic management and access/construction compounds, and the planning application process.	None required
The Bristol Port Company	Sept 2017	Clarification sought (by email) on the proposals and timescale for the proposed Bristol Deep Sea Container Terminal	The Port confirmed that construction of the Deep Sea Container Terminal is unlikely to start within next three years.	This information has been taken into account in the EIA in terms of consideration of cumulative assessment.

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	December 2017	Meeting to provide update on evolving proposal. Check that proposals meet the needs of the Port operation	The Port expressed some concern that no works are proposed to the Dock Gates. Port asked for additional info on how flood walls interact with jetties. Interaction with pipelines discussed. Discussion around programme for works.	A further meeting was arranged to discuss.
	January 2018	Meeting to update Port on level of protection to be provided to the Port and to share information on pipelines and access routes	The Bristol Port Company expressed concern that the proposed Scheme, could significantly disrupt the port operations, particularly during construction.	The construction contract will provide limitations on working methods and timing of works to minimize potential impacts.
Bristol Port Authority expressed concern that without the addition of new lock gates the Port and parts of Avonmouth village will not be as well protected as some other parts of the Enterprise Area. Bristol Port Company felt this might favour local industrial competitors. The Bristol Port Company may object to a planning application on this basis.  The Bristol Port Company asked to see information to explain the rationale for an option without new lock gates.			Further information was provided on the rationale for the Scheme.  The project team explained that the Port will be better protected than currently and that modelling shows that new lock gates will not be required until a further 60 years of sea level rise occurs, when the 1:200 AEP still water level will overtop the dock edge.  It was noted that partnership approach to replace lock gates has been taken on at least one other scheme in another port.	
Network Rail	February 2018	Meeting to discuss interaction with railway and present the current Scheme	Very positive meeting. Network Rail indicated that they were comfortable with the approach to position flood defences landward of the rail line. Network Rail will undertake a risk assessment, but the only issue raised at this stage was the need for piling close to the railway.	None required.
MMO	June 2017	Email to provide overview of nature of works  Seek initial view on likely requirement for a Marine	Advice provided by MMO on criteria for a Marine License.	Subsequent correspondence to check whether works below Mean High Water Spring level (MHWS) at the outfalls would require a license. See below – this

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		License		concluded that a license would be required
	September 2017	Further discussion on potential need for a Marine License.	Confirmed that mean High Water Spring Tide levels assumed by the project team appear similar to the MMO's own records  Confirmed that the project would not require a marine license if works fall within the footprint of an existing structure and habitat creation work falls above MHWS.	Further work subsequently undertaken to check that all works are above MHWS level. This showed that temporary works required at the outfalls are below MHWS. Further advice sought from MMO – see below.
	February 2018	Email to clarify potential need for a Marine License for temporary works at the outfalls.	Further details provided to indicate that works at 6 of the 8 outfalls require working below MHWS.	MMO advised that any aspect of works falling below MHWS will require a marine license.  Clarified that the Marine and Coastal Access Act 2009 does not differentiate between 'sea bed' and foreshore' therefore a marine license is required when works are carried out in the 'sea' (defined as below MHWS).  The project will seek a marine license during the next phase of the project.
Local Councillor (BCC)	October 2017	Query from Councillor	Query over suitability of flood banks as a location for wind turbines within BCC	Response sent by email to explain that the proposals will not include wind turbines and that the delivery of turbines would be difficult without affecting the structural integrity and maintenance of the defences
Member of public	December 2017	Follow up query to comments submitted during Summer 2017 consultation period.	Concern that that the flood defences at Severn Beach are too low and not proposed to be raised  Concern that the modelling work for this project needs to take account of the restriction on estuary flows posed by the structures/concrete piers placed	Response provided directly to this member of the public to explain that the tidal inundation modelling for this project has used a very precautionary approach.

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			in the channel as part of the Second Severn Crossing works.	
Environment Agency	December 2017	Meeting to discuss access arrangements at the Pills (SGC and BCC)	EA need vehicular access to each outfall structure for heavy plant and vehicles.  Access must be provided to the top of the structures to enable excavation or suction of silt from both the upstream and downstream aprons	There is no as-built information available to assist with the design of retro-fitted or raised parapet walls or design of additional loading to culverts. Therefore, the designs must be self-supporting and avoid increasing loads on the existing structures  New and modified structures must incorporate safety railings and adequate circulation space around vehicles and plant
	February 2018	Meeting held to update Environment Agency Sustainable Places team on modelling results and FRA issues	Some concern raised about extent of residual flood risk.	To reduce the risk of defence breaching, the Scheme was evolved to raise the defence levels slightly (by 100mm) in the ASEA area for the defences that would fail first.
Gloucestershire Severn Estuary Stakeholders Group	February 2018	Presentation to update group on project	Group remain interested in project  Some detailed questions asked around cost benefit ration. Project team explained basis of LEP funding.  Question asked about use of spring retarders/dampeners on the outfall flaps. Project team explained that the Environment Agency has already fitted these on the outfall flaps it maintains.  Group queried whether 'with scheme' flood maps will be made available. Project team explained that these will form part of the planning application.	The Environment Agency have noted the need to consider use of retarders on the other outfall flaps that they will take on.
Severnside Emergency	March 2018	Presentation to update group (including SGC, BCC,	Group received presentation with interest, no specific comments noted.	None required.

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Planning Forum		The Bristol Port, Police, Highways England and Councillors) on the Scheme,		
Landowner	March 2018	Meeting held with land owner of Cote Farm to discuss proposed Scheme design.	Discussed plans regarding the removal of the Poplar trees. Landowner very supportive toward approach as this will allow continued grazing of the warth, as well as protecting the landfill from flooding.	Final Scheme drawings to be shared with landowner
Esso – Fisher German	March 2018	Meeting held to review impact of proposed scheme on pipelines within Area 3.	Review of proposed alignment and possible construction impacts considered. Areas where there are potential clashes to be considered within the final design.	Final Scheme drawings to be shared with Fisher German.  Fisher German to provide costs of diversion.
Friends of Lamplighters Marsh	March 2018	Email enquiry to project team regarding Lichen.	Notes that previous surveys have noted the presence of scarce lichen on the former sidings. Request that botanical survey is undertaken in advance of the proposed sheet piling works.	The team was already aware of this issue but requested further recent information from this group to help supplement existing knowledge.

## 6. Summary and conclusions

### 6.1 Summary of stakeholder views

Table 6.1 summarises the project teams understanding of the view held by each of the key stakeholders on the project proposals.

*Table 6.1 – Stakeholder views*

<b>Stakeholder</b>	<b>Understanding of view</b>
EA	Throughout the project there have been ongoing discussions with appropriate teams within the EA. For example, to seek feedback on maintenance and access requirements. Feedback has informed the Scheme proposals.
SGC	Pre-applications discussions have taken place with SGC and specific advice has been sought on key issues, for example in relation to PRoW, trees and hedgerows. These discussions have helped to define mitigation measures.
BCC	Pre-applications discussions have taken place with BCC and specific advice has been sought on key issues, for example in relation to PRoW. These discussions have helped to define mitigation measures.
Natural England	At various stages Natural England have indicated their support for the approach taken to both the flood defences and ecological mitigation areas. The Scheme contains a range of design solutions and mitigation measures in response to comments received from Natural England.
Network Rail	There have been ongoing discussions on the positioning of flood defences in the vicinity of the rail line. The Scheme includes for a flood wall to be constructed on the landward side of the railway, which results in the railway being undefended for a length. Network Rail has indicated that it is comfortable for this proposal, although over the longer term the Environment Agency aims to work with Network Rail to explore wider opportunities to determine whether a defence that combines with the railway, to protect the railway line, could be achieved.
LS IDB	The Scheme takes account of the key requirements of the LS IDB and the design of Areas 4 and 5 is fundamentally based on an understanding of their requirements. The design of the wetland area does not penn or block the rhines and instead works within the natural drainage system and field boundary drains. Engagement with the LS IDB will remain ongoing through the detailed design stage.
MMO	Various correspondence has taken place with the MMO to establish whether a marine license is required. This has concluded that a Marine License will be required as works to a number of the outfalls fall below Mean High Water Spring (MHWS). This will be sought during the next stage of the project.
Highways England	Highways England were involved in early discussions to ensure that any issues relating to their proposals for the M49 were taken into account. No issues have been noted.
Wessex Water	The proposals were discussed with Wessex Water at an early stage. No issues have been noted.

Stakeholder	Understanding of view
National Grid	An early meeting was held with National Grid to understand the implications of proposals for future overhead power cables across area 4 (Hallen Marsh – BCC). In response, the area crossed was excluded from the area considered for wet grassland creation, in order to avoid any impact.
Bristol Port Company	A significant section of the flood defence Scheme, Area 2, falls on land within the ownership of the Port. The Bristol Port Company has been engaged throughout the design stage of the Scheme to ensure that flood defences take account of Port operations. The position and type of some lengths of defences have been changed to minimize potential impacts. Also, the construction contract will provide limitations on working methods and timing to minimize short-term impacts. At the time of application, the Port expressed concern that the Scheme does not include for replacement lock gates that could close off the rising tide from the inner dock. However, it is the view of the project team that new lock gates will not be required until a further 60 years of sea level rise occurs, when the 1:200 AEP still water level will overtop the dock edge.
Residents at New Passage	Residents expressed significant concern when the summer 2017 public engagement materials showed a proposed sheet pile wall at New Passage. Following meetings with residents the proposal has been amended to incorporate a glass panel solution above a low level stub wall which helps to retain views out to the estuary and reduce impact on the landscape. Residents have indicated that this solution is much preferable.
Landowners	<p>Every effort has been made to contact landowners affected by the proposed Scheme for example via letters, sharing of newsletters and face to face meetings.</p> <p>Where face to face meetings with landowners have been possible, details of the proposed Scheme have been shared and openly discussed. Where possible, feedback from landowners has been taken on board and designs evolved accordingly. The project team will continue to liaise closely with affected landowners.</p>

## 6.2 Design changes made

In response to the feedback received throughout the project, both from key stakeholders, community groups and members of the public, a number of amendments have been made to the proposals to help ensure that they address aspirations, issues and concerns. These include:

- An adjustment of the flood defence proposals at Old Passage to adopt a lower standard of defence, requiring a lower wall, to reduce the impact on adjacent properties.
- An adjustment of flood defence proposals for the New Passage area, introducing glass panels above a dwarf wall to help reduce the visual/landscape impact and ensure that views out to the estuary are retained.
- Mitigation measures to compensate for the loss of the poplar trees and hedgerows.
- A lower height of flood wall at Old Passage, to minimise impact on property and views.
- Various measures to ensure that the proposals are acceptable to Natural England, including to ensure views from the footpath, integration with aspirations for an England Coastal Path and to ensure no encroachment into the protected areas of the Severn Estuary.
- Wherever practical, construction routes will be designed to avoid local residential roads.

- Proposals for the ecological mitigation areas are based on an approach which does not penn the rhines, reflecting the preferences expressed at an early stage of the project by the LS IDB.
- Proposals for the ecological mitigation areas at Area 4 (BCC) take account of the future plans of the National Grid.
- Proposals for the Bristol Port have taken account of feedback from the Bristol Port Company, to ensure that the Scheme meets their operational needs.
- Proposals take account of the requirements of the Environment Agency’s asset management team, in terms of allowing for viable ongoing maintenance of the structures.
- Wherever practical and where they do not conflict with other geometric and environmental constraints, the project will ensure that where changes are made to PRoW the proposals are fully accessible and meet the requirements of the PRoW officers at both Councils and the Equalities Act 2010.

## 6.3 Future engagement

Communities, particularly those at Severn Beach and New Passage, have expressed a desire for the project team to maintain good communications through future stages of the project.

Going forward local communities and stakeholders will be kept up to date via:

- Additional newsletters from the project team
- The project webpage, which will be regularly updated
- Additional meetings with residents’ groups, Parish Councils and forums, at key points in the project programme.

In addition, there will be ongoing meetings between landowners and the project team, throughout the lifetime of the project.

# Appendix A

## Stakeholder list for Newsletters

Note that this list includes all those who were sent Newsletter 3, which outlined the proposals advertised the June – August 2017 engagement period and the two public exhibitions. The list has grown during the life of the project.

Advance the Line Group
Almondsbury Parish Council
Assistant Mayor (Bristol)
Association of Drainage Authorities
Aust Parish Council
Avon & Somerset Police
Avon Fire and Rescue Services
Avon Wildlife and Wetland Trust
Avona
Avonmouth Planning Group
Avonmouth/Lawrence Weston/Sea Mills/Shirehampton Neighborhood Forum
Avonmouth and Kingsweston Neighbourhood Partnership
Bristol Bowling Club
Bristol Mayor
Bristol Port
Bristol Water
British Association for Shooting and Conservation
British Natural History Consortium
Business West
Campaign to Protect Rural England
Civil Aviation Authority
Clinical Commissioning Groups
Coastguard (Sharpness)
Country Land and Business Association (CLA)
Elected Members for Bristol and South Gloucestershire (local to scheme)
Environment Agency
Federation of small businesses
Forgotten Landscapes
Friends of suburban Bristol railways (FOSBRA)
Great Western Railways
Highways England
Historic England
Homes and Communities Agency
Invest in Bristol & Bath
Landowners
Landowners, developers and agents (via Landowner Forum)
West of England Local Enterprise Partnership
Low Carbon South West

LS IDB
Natural England
Network Rail
NFU
MPs for local area
Office of the Rail Regulator
Oldbury on Severn Parish Council
Over 50s forum
Pilning and Severn Beach Parish Council
Planning, Housing & Communities Board
Members of the public who had previously expressed an interest in the project
Rail Future Severnside
Ramblers Association – Bristol
RSPB
Scottish Power
Severn Beach Flood Warden
Severn Estuary Partnership
Severn Rivers Trust
Severn Tunnel Action Group
Severn Vision (partnership WWT, RSPB, Wildlife Trust)
Severnside CEF
Severnside Community Rail Partnership
SevernNet
Shirehampton Community Action Forum
SITA
South Gloucestershire race equality network
SSE/Seabank Power Ltd
Strategic Flood Risk Steering Group
Sustrans
Thornbury, Alveston, Aust and Severn CEF
Wessex Water
West of England Combined Authority Mayor
West of England Interim Chief Executive
West of England Local Nature Partnership
Western Power
Wildfowl and Wetlands Trust

Appendix B  
October 2016 engagement material

Appendix C  
Summer 2017 engagement material