

Report title: Avonmouth Severnside Enterprise Area Infrastructure Phase 1
Wards affected: Avonmouth and Kingsweston
Strategic Director: Barra Mac Ruairi
Report Author: Robin McDowell

RECOMMENDATION for the Mayor's approval:

a sum of £0.95 million over the two year period 2015-17 should be approved for Phase 1 design and development work for the Avonmouth Severnside Enterprise Area Infrastructure scheme as part of the Council's funding commitments under the Economic Development Fund of the West of England City Deal.

Key background / detail:

- a. Purpose:
to set out the joint proposals of Bristol City and South Gloucestershire Councils for a major infrastructure scheme, comprising improved flood defences and ecology conservation works, to enable the further development of the Avonmouth Severnside Enterprise Area (ASEA) in a sustainable fashion, and seeks approval for this Council's financial contribution to the scheme's design and development phase.
- b. Key details:
 1. The provision of a strategic cross-boundary infrastructure scheme, integrating flood defences and ecology conservation, to ensure the sustainable economic development of the cross-boundary ASEA over the next 25 years is a key priority for the West of England LEP and funding by the West of England City Deal.
 2. There are significant potential economic, environmental and community protection benefits arising from the infrastructure scheme in terms of a substantial additional greenfield land area being released for industrial development, accelerated development of existing sites, additional business rates income being retained by the Councils, large scale job creation, improved flood defences to protect people and property and new wetland bird conservation areas.
 3. £1.9 million funding is required over two years from the City Deal Economic Development Fund to progress the detailed design and development (Phase 1) of the preferred option for improvement of coastal and fluvial flood defences across the ASEA, and an ecology conservation scheme to mitigate the environmental impacts of further development of ASEA for industrial uses and provide new habitat areas.
 4. The Phase 1 costs are to be split equally between the two Councils, and a Full Business Case was approved by the West of England LEP in December 2014 and Strategic Leaders Board in January 2015 on this basis.
 5. South Gloucestershire Council, as the lead body for ASEA development, will oversee the procurement of consultancy and other services. However, as Bristol City and the Environment Agency are also contributing resources, it is proposed to use

the pre-tendered consultancy frameworks of all three organisations to achieve the best value for money and flexibility of delivery. The Environment Agency will provide project management and expert services as a value in kind contribution.

6. At this stage, prior to detailed design work, the combined capital cost of building out the flood defences and ecology mitigation areas (Phase 2) is estimated in the range of £30-76 million. This cost may be reduced by Environment Agency grant funding.

AGENDA ITEM 9

BRISTOL CITY COUNCIL CABINET 2nd June 2015

REPORT TITLE: Avonmouth Severnside Enterprise Area Infrastructure Phase 1

Ward(s) affected by this report: Avonmouth and Kingsweston

Strategic Director: Barra Mac Ruairi, Strategic Director - Place

Report author: Robin McDowell, Economic Development Team Manager

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Purpose of the report:

This report sets out the joint proposals of Bristol City and South Gloucestershire Councils for a major infrastructure scheme, comprising improved flood defences and ecology conservation works, which will enable the further development of the Avonmouth Severnside Enterprise Area in a sustainable fashion, and seeks approval for this Council's financial contribution to the design and development phase of the scheme.

RECOMMENDATION for the Mayor's approval:

- 1. a sum of £0.95 million over the two year period 2015-17 should be approved for Phase 1 design and development work for the Avonmouth Severnside Enterprise Area Infrastructure scheme as part of the Council's funding commitments under the Economic Development Fund of the West of England City Deal.**

The proposal:

1. The provision of strategic infrastructure to accelerate and ensure the sustainable economic development of the cross-boundary Avonmouth Severnside Enterprise Area (ASEA), adjacent to Bristol Port and the largest industrial zone in the city region, over the next 25 years is a key priority for both Bristol City and South Gloucestershire Councils and the West of England LEP. It has been identified since 2012 as a major scheme to be funded by the West of England City Deal.
2. The potential economic, environmental and community protection benefits arising from the overall ASEA flood defence and ecology infrastructure scheme would be:
 - more than 60 hectares of additional green field land released for development mainly in the Avonmouth (Bristol City) area.
 - continuing economic development of about 350 hectares of green field land within the extant 1957/58 planning permissions at Severnside (South Gloucestershire area).
 - more than 1.1 million square metres of floor space for industrial, warehousing and other uses on green field and previously developed land.

- an estimated £303 million business rates income over a 25 year period retained by the two Councils for investment via the City Deal Economic Development Fund.
 - around 18,000 jobs created over a 40 year period.
 - new flood defences extending from Bristol Port to the Severn Bridges giving enhanced protection to local communities and industry against a 1 in 200 year flood.
 - 81 hectares of new ecology conservation areas for wetland birds and other wildlife.
3. Following technical feasibility studies commissioned by the two Councils and the Environment Agency, £1.9 million funding is now required over two years from the City Deal Economic Development Fund to progress the detailed design and development (Phase 1) of the preferred option for improvement of coastal and fluvial flood defences across the ASEA. This will be integrated with an ecology conservation scheme which is needed to mitigate the environmental impacts of further development of ASEA for industrial and warehousing uses and will provide new habitat areas for protection of wetland birds. A summary of the two proposed schemes, the rationale for a strategic area-wide solution, and the Phase 1 activities and costs, which have been approved by the Corporate Capital Programme Board, are set out in Appendices 1 and 2.
 4. The Phase 1 design and development costs are to be split equally between the two Councils, and a Full Business Case was approved by the West of England LEP in December 2014 and Strategic Leaders Board in January 2015. Therefore the sum required from the Economic Development Fund to be funded by Bristol City Council is £0.95 million in total. All necessary approvals have been obtained from South Gloucestershire Council for its 50% contribution.
 5. As South Gloucestershire Council is the lead body for ASEA development, as agreed by the LEP, it will oversee the procurement of consultancy and other services. However, as Bristol City and the Environment Agency are also contributing resources, it is proposed to adopt an approach which uses the pre-tendered flood management and ecology consultancy frameworks of all three organisations to achieve the best value for money and flexibility of delivery. The Environment Agency will provide project management and expert services as a value in kind contribution, co-ordinating with the two Councils through the ASEA Flood Defence and Ecology technical working group, which reports to the ASEA Growth Board.
 6. At this stage, prior to detailed design work, the combined cost of the build out of flood defences and ecology mitigation areas (Phase 2) is estimated in the range of £30-76 million. In the case of the flood defences, the cost may be offset by circa £13 million Flood Coastal Risk Management Grant in Aid from the Environment Agency in relation to protection of adjacent residential areas. The component schemes are indicatively scheduled for 2018-21 (ecology) and from 2020 onwards (flood defences). Outline Business Cases for the flood defence and ecology schemes have been submitted to the West of England LEP, but will be reviewed and completed in the light of the Phase 1 outcomes. This will include assessment of the appropriate financing split of Phase 2 costs between the two Councils from the City Deal EDF.

Consultation and scrutiny input:

a. Internal consultation:

The following services have been directly involved in steering the initial feasibility study work via the ASEA Flood defence and ecology technical working group:

Place, Strategic City Planning - Flood Defence: Neighbourhoods, Environmental Improvement, Nature Conservation; Place, Economy, Economic Development. The Neighbourhood Partnership for Avonmouth and Kingsweston was also consulted.

The Place Scrutiny Officer was informed about the scheme, and the internal reports to the Place Leadership Team and Corporate Capital Programme Board circulated to Scrutiny Commission members. However, no meeting of the Scrutiny Commission has been able to review the Phase 1 scheme due to a lack of capacity within the annual programme. It is considered more important that Scrutiny makes an input once the scheme design and development is completed to inform Phase 2 delivery.

b. External consultation:

The following external partners have been involved in steering the initial feasibility study work via the ASEA flood defence and ecology technical working group: South Gloucestershire Council, West of England LEP Office, Environment Agency, DEFRA and Natural England.

A public consultation took place in relation to potential options for flood defence solutions in December 2013 – March 2014. Early engagement meetings have taken place with key organisations within the area including the LEP Infrastructure and Place Group, Planning Housing & Communities Board, Severn Estuary Partnership, SevernNet, Bristol Port, SITA, Network Rail, Scottish Power, URS, Wessex Water.

Options have also been tabled and discussed through the ASEA Area Land Owner Forum and circulated for comments to other 'Duty to Co-operate' Prescribed and Non-Prescribed bodies including English Heritage, Homes and Communities Agency, Civil Aviation Authority, Highways Agency, Marine Maritime Organisation, Office of the Rail Regulator, Lower Severn Internal Drainage Board, Severn Trent Water, West of England Local Nature Partnership, National Grid, Bristol Water, First Great Western, SSE / Seabank Power Station, Avon Fire and Rescue, Avon and Somerset Police, Business West, and Low Carbon SW.

Other options considered:

Flood defences: options were considered through the Avonmouth Severnside Flood Management Optioneering Technical Report undertaken by Atkins (further details in Appendix 1). This assessed various options to deal with the identified flood risks, including:

- wide-scale ground raising of potential development sites above tidal floodplain levels;
- improvements to the existing tidal defences;
- construction of landward tidal defences (as part of the local road system)
- localised banks around, or ground raising of potential development sites above the river and stream floodplain levels.

All options were assessed on engineering, economic and environmental grounds.

The report recommended the overall preferred option to 'improve existing tidal defences, with localised river and stream flood protection'. There are a series of sub-options within this general recommendation. The Phase 1 work seeks to consider the appropriate design and development of the sub-options within the identified preferred option.

Ecology mitigation: options were identified within the review of consents under Regulation 63 of the EU Habitat Regulations 2010 as detailed within the Cresswell Report (on ASEA ecology and conservation issues arising from the Severn Estuary Special Protection Area and RAMSAR sites designated by EU - see Appendix 1). Six potential areas were identified

within Cresswell covering a total of 229 hectares. Of this approximately 81 hectares will be required to adequately provide habitat mitigation measures and offset the identified impacts of ASEA development. The proposed Phase 1 work seeks to consider the mix of use across the six identified sites.

‘Do nothing: this is not an option for either Council. If flood defence interventions are not identified, then both Councils will need to consider alternative solutions to address the issues identified through the Strategic Flood Risk Assessment (2011) for Avonmouth Severnside. This will also have policy implications relating to the adopted Council Core Strategies. If ecology mitigation interventions are not identified, then Bristol City will need to identify further ecology mitigation options for development of sites within Avonmouth, and South Gloucestershire will need to identify an alternative mechanism to address the review of consent required under EU Habitat Regulation 63.

Risk management / assessment:

FIGURE 1							
The risks associated with implementation of the Phase 1 ASEA Infrastructure (design/ dev) decision							
No.	RISK	INHERENT RISK		RISK CONTROL MEASURES	CURRENT RISK		RISK OWNER
		(Before controls)			(After controls)		
	Threat to achievement of the key objectives of the report	Impact	Probability	Mitigation (ie controls) and Evaluation (ie effectiveness of	Impact	Probability	
1	Delay to approval of Phase 1 funding in June 15, following the LEP and SGC approvals in Dec 14 / Jan 15, would result in a further 6 months+ delay to start, as the ecology/bird surveys can only be done at specific seasons of year, ie. Oct 15 or April 16, and knock-on delays to complete Phase 1 and commence Phase 2 implementation.	High	Medium	A report would be brought back to the July cabinet, and Phase 1 procurement and set up timetable compressed, as far as possible, to enable ecological surveys still to go ahead in Oct / Nov. Evaluation would be carried out by the ASEA Flood defence and ecology technical working group, liaising with the ASEA Growth Board.	Medium	Medium	Alistair Reid
2	Uncertainties and unforeseen factors related to the technical issues and timescales required and thus exact costing for design of the preferred flood defence option, and sub-options within it, and appraisal of the six identified eco-mitigation sites may give rise to overspend of £1.9 m budget.	Medium	Medium	The Phase 1 costings have been drawn up by expert consultants and reviewed by the ASEA technical working group, and include sums to cover such contingencies. Environment Agency will undertake the project management, applying their local / national experience of developing flood defence schemes, managing the supply chain and control of costs. Natural England will advise directly on eco-mitigation issues. Evaluation to be carried out by the ASEA technical working group.	Low	Low	Alistair Reid
3	Procurement stage – especially if compressed (se Risk 1): the required expert consultants and suppliers may not bid due to a full pipeline of existing work, resulting in an insufficient number of bids and/or pressure to pay higher prices to attract/secure suppliers.	High	Medium	Project managers / technical working group members to engage early with consultants to gauge interest and capacity. Hold a tender testing day to liaise with potential tenderers, and/or use a Pre-Qualification Questionnaire process. Evaluation by ASEA technical working group in conjunction with Procurement advisers from BCC/SGC/EA	Medium	Low	Alistair Reid
4	Procurement stage: consultants / suppliers become aware of outline budget plans and price bids according to funds available.	Medium	High	Apply competitive tendering process with preferably at least 5 consultants invited (under South Gloucs procurement regulations).	Low	Medium	Alistair Reid

Quotes for work come in higher than anticipated.			Using PQQ or tender testing day, issue scope of works and request tenderers submit outline costings.			
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FIGURE 2

The risks associated with not implementing the *Phase 1 ASEA Infrastructure (design/ dev) decision*:

No.	RISK Threat to achievement of the key objectives of the report	INHERENT RISK (Before controls)		RISK CONTROL MEASURES Mitigation (ie controls) and Evaluation (ie effectiveness of	CURRENT RISK (After controls)		RISK OWNER
		Impact	Probability		Impact	Probability	
1	Non-approval of Phase 1 funding would trigger a 50% shortfall of funding for Phase 1, and either a withdrawal of partners' funding or restriction of the development work to the South Gloucestershire sector of ASEA only, potentially resulting in no strategic area wide flood defence & ecology scheme coming forward, or a fragmented, and less effective scheme, which, due to reduction in geographic scope and/or quality of solutions, may not achieve the goals of enabling / accelerating ASEA development and robustly protecting people, property and wildlife from long term flood & degradation risks.	High	Medium	Immediate efforts would be made by Place Directorate and ASEA Growth Board, advised by the ASEA Flood defence and ecology technical working group, to address the Council's reasons for non-approval, review proposals and re-submit the funding case and request to SLT / Cabinet at the earliest possible opportunity later in 2015. Evaluation would be made by the Place Strategic Director in conjunction with ASEA Growth Board, on which he sits.	Medium	Medium	Barra Mac Ruairi
2	Non-approval of Phase 1 funding to develop one of the major West of England City Deal schemes may also entail reputational and political risks for the Council, and could jeopardise delivery of other cross-boundary infrastructure schemes with South Gloucestershire and other public agencies in the future.	High	Medium	See above. Also dialogue and negotiation would be pursued regarding any specific issues or obstacles, from the Council's perspective, to cross-boundary co-operation through the West of England LEP Board and/or Strategic Board. The LEP Place and Infrastructure Group and Strategic Solutions Panel may be instrumental in such a process too	Medium	Low	Barra Mac Ruairi

Public sector equality duties:

Before making a decision, section 149 of the Equality Act 2010 requires that each decision-maker considers the need to promote equality for persons with the following "protected characteristics": age, disability, gender reassignment, pregnancy and maternity, race, religion or belief, sex, sexual orientation. Each decision-maker must, therefore, have due regard to the need to:

- i) eliminate discrimination, harassment, victimisation and any other conduct prohibited under the Equality Act 2010.*
- ii) advance equality of opportunity between persons who share a relevant protected characteristic and those do not share it. This involves having due regard, in particular, to the need to:*
 - remove or minimise disadvantage suffered by persons who share a relevant protected characteristic.*
 - take steps to meet the needs of persons who share a relevant protected characteristic that are different from the needs of people who do not share it (in relation to disabled people, this includes, in particular, steps to take account of disabled persons' disabilities);*
 - encourage persons who share a protected characteristic to participate in public life*

or in any other activity in which participation by such persons is disproportionately low.

iii) foster good relations between persons who share a relevant protected characteristic and those who do not share it. This involves having due regard, in particular, to the need to tackle prejudice and promote understanding.

As part of the initial feasibility studies, public consultation was carried out on the flood defence scheme options from December 2013 – March 2014, and, in terms the local communities adjacent to ASEA, engaged with the Councillors and Neighbourhood Partnership for Avonmouth and Kingsweston, as well as the Parish Councils in the South Gloucestershire area, and local business organisations. Whilst this exercise could have gone further to identify and engage specific equalities groups within those communities, it was limited by the available time and resources to working through the above channels. However, after detailed proposals for both flood defences and ecology conservation have been developed out of Phase 1 work, a more extensive and in-depth consultation of stakeholding communities and equalities groups, including Equality Impact Assessment, will be undertaken as part of the preparation of Phase 2 scheme implementation and the statutory pre-planning and planning application processes.

Eco impact assessment

This proposal concerns design and development, and will generate very minor impacts such as physical works from site investigations, associated travel and office-related impacts for a small number of staff. These impacts are very unlikely to be significant and no mitigation is proposed.

Any future works arising from the design stage would be likely to generate very significant environmental impacts. These will be subject to a future Cabinet report, Bristol Core Strategy Planning Policies and – depending on the scale of the works – a statutory Environmental Impact Assessment. The design is intended to improve resilience to flooding and will include an ecological mitigation programme to protect wetland birds.

There are no significant environmental impacts arising from this proposal.

Advice given by: Steve Ransom, Environmental Programme Manager, Energy Service: 5th May 2015

Resource and legal implications:

Finance

a. Financial (revenue) implications:

The funding for this scheme is provided from the Economic Development Fund (EDF), part of City Deal, which is based on retained revenue from business rates within the Enterprise Zones and Enterprise Areas across the four participating Unitary Authorities (UAs).

The design and development (Phase 1) revenue costs of the overall scheme are in effect being capitalised. An Outline Business Case for the Phase 2 capital scheme has been approved by LEP and SLB.

There may be some risks around whether all or some of these costs would qualify for capitalisation, depending on the way in which the project would proceed to Phase 2.

b. Financial (capital) implications:

EDF is created from a contribution from the Business Rates Growth Pool, which is intended to deliver an investment programme designed to maximize economic returns in the West of England. This project would unlock the development potential of the land and it underpins the future economic growth of the Avonmouth Severnside Enterprise Area (ASEA).

The funding of £950k for the Bristol City Council (BCC) sponsored contribution of the scheme will be provided from EDF, either as a one off payment or at half-yearly intervals for the remaining period of the City Deal Agreement. The precise method of repayment is still to be finally agreed as it will depend on decisions in respect of the management of EDF funds.

Although there is expected to be no net cost impact for the council, as the project is facilitated by BCC's own borrowing before practical or staged completion, this presents a level of borrowing risk to the council. It is in BCC's interest to align its treasury management strategy with the principles of EDF payments.

The current forecast for City Deal suggests that income to EDF is slightly ahead of predicted. Whilst the value of the 25 year programme of EDF supported projects is oversubscribed by 5% (£25m), this is to allow for slippage and project abandonment. However, the current view is that the risk that the Council does not receive the funds for this project is low.

The current EDF model suggests that for a short period from around 2018 to 2024 the funds would not be sufficient for all calls. This is expected to peak at a 10% deficit in 2020. The payment mechanism for the EDF allows for such deficits to be reclaimed by Councils in future years. Generally speaking, the expected cost of a PWLB loan for £950k is at £55k per year, therefore the council might have to provide cash flow up to £6k in any given year, assuming current EDF forecasts.

In addition, risks below should also be considered:

- 1) Short falls within EDF. i.e. The actual delivery of business rate growth falls short against the forecast either in year or over the projected 25 year period, this presents a level of investment risk to the council.
- 2) Under the circumstance where Phase 2 of the project should not progress for any reason, the full cost for Phase 1 will be de-capitalised and written off as revenue costs.

Advice given by: Tian Ze Hao, Finance Business Partner (Place)

Date: 7th May 2015

Comments from the Corporate Capital Programme Board:

No specific issues raised additional to those outlined above.

c. Legal implications:

Arrangements should be put in place to ensure the Council's contribution is used for the reasons stated, and that any procurement procedures comply with the relevant procurement Regulations.

Advice given by: Eric Andrews, Senior Solicitor (Place)

Date: 8th May 2015

d. Land / property implications

Property Service is aware that the procurement of flood protection and ecology conservation works are critical to the longer term redevelopment of Avonmouth. These works are economically desirable and will enhance Bristol City Council's property holdings within Avonmouth.

Advice given by: Pete Webb, Senior Portfolio Management Officer, Property
Date 8th May 2015

e. Human resources implications:

At this Phase 1 scheme design and development phase, there are no direct human resources implications for the Council, as no additional BCC staff will be recruited or seconded for this project, with the procurement of consultants being led by South Gloucestershire Council and making use of in kind project management resources from the Environment Agency.

Advice given by: Mark Williams, HR Business Partner (Place)
Date: 7th May 2015

Appendices:

Appendix 1 – Avonmouth Severnside Enterprise Area Phase 1 – Full Business Case submission to West of England Investment Board and Strategic Leaders Board

Appendix 2 – Avonmouth Severnside Enterprise Area Phase 1 – submission to Bristol City Council Corporate Capital Programme Board

Access to information (background papers):

1. Avonmouth Severnside Outline Development Strategy (Amion consultants & Whyte Young Green, 2011)
2. Flood Management Optioneering Technical Report (Atkins, 2012)
3. Integrated Development, Infrastructure and Flood Risk Management Study (Atkins, 2011)
4. ASEA Flood Defence and Ecology – Phase 2 (Full Scheme) – Outline Business Case submission to West of England Investment Board and Strategic Leaders Board
5. Severnside / Avonmouth Wetland Habitat Project Stage2: Review of Consent at Severnside and Avonmouth Impact Assessment (Cresswell Associates, 2011)
6. Minutes of West of England Strategic Leaders Board meeting – 9 Jan 2015 – giving approval of ASEA Phase 1 Full Business Case
<http://www.westofenglandlep.co.uk/assets/files/Strategic%20Leaders%20board/SLB%2009%20January%202015.zip>

West of England Investment Board

Full Business Case

Scheme: Avonmouth Severnside Enterprise Area Phase1

1	Version 1.0				
2					
3					
4					
5					
		Originated	Reviewed	Authorised	Date

Executive Summary

The Avonmouth & Severnside Integrated Development, Infrastructure and Flood Risk Management Study sought to identify the challenges to the Avonmouth Severnside Enterprise Area's development and identify a viable way forward to ensure that existing infrastructure and development in the area remained sustainable.

In particular the Study explores the key challenges for and the opportunities to address the identified issues in relation to flood risk and ecology mitigation. The Study also considers the planning history and policy background in the Area as well as other challenges including the presence of hazardous installations, heritage, archaeology and landscape. The Study concludes that the Areas development potential is:

- The continuing economic development of about 350 ha of green field land within the extant 1957/58 planning permissions could generate significant employment opportunities in the area.
- The development of a further 60ha of green field land within the study area could be feasible.

However, in order to realise such potential the Study identifies that it will be necessary to:

- Reduce the increasing risk of flooding within the area and to better protect both existing and future (re)development and infrastructure.
- To mitigate the impacts of development on the area's important ecology by setting land in the area side for habitat enhancement.
- Take an integrated approach to dealing with the area's challenges so as to avoid piecemeal development that increases the risk of flooding elsewhere, harms the area's ecology and has an adverse impact on the area's transport infrastructure.
- Undertake further detailed studies to confirm details and costs of the flood defence, and ecology options, including, if appropriate, proposals for the phasing of those options.

If the challenges are addressed in the period to 2050, there is the potential to bring forward sustainable economic development that could provide:

- More than 60 ha of additional green field land for economic development.
- More than 1.1 million square metres of floor space for B1 (excluding offices), B2, B8 and sui generis uses on green field and previously developed land.
- Associated new employment opportunities that are assessed in the separate Avonmouth Severnside Outline Development Strategy report.

Given that future private sector investment would be more limited and existing investment would be placed at increasing risk unless the issues identified above were addressed, the Avonmouth Severnside Outline Development Strategy (see appendix 1) detailed the clear rationale for public sector involvement and proposed:

Flood Defences: that a 'do nothing' approach would limit development and lead to individual owners raising site levels and thereby increasing flood risks to other sites. Therefore, new defences to a height of 10.74 metres above Ordnance Datum were required. The assessment also acknowledged that a residual risk of tidal flooding and fluvial flooding would remain, even with the provision of new defences. The solution would require measures including the raising

of land levels in certain parts of the area, the use of flood-resilient designs, appropriate emergency plans, as well as robust management and maintenance of the new defences.

Ecology Mitigation: that approximately 133 hectares (ha) of land is required to provide mitigation for the existing and planned development within the area in order to meet the requirements of Habitat Regulations. Six sites within or adjacent to the area totalling some 229 ha were identified. Taking into account the suitability of each site or, parts of each site, for mitigation, ownerships and development potential the number of identified sites are likely to be sufficient to accommodate all of the ecological mitigation that will be required (including the development of additional greenfield land).

This Business Case seeks approval for EDF funds totalling £1.9m to complete Phase 1 (design and development works) of the Avonmouth Severnside Flooding and Ecology works.

Strategic Case

1.0 Promoter and Delivery Arrangements

South Gloucestershire Council is promoting the scheme in partnership with Bristol City Council. The precise delivery arrangements for the final delivery of the proposed interventions (phase2) will be determined as a result of the proposed design & development forming this submission (phase1).

2.0 Project Description

To carry out the appropriate survey and design/development work (phase1) in order to be able to take forward the necessary flood defence and ecology mitigation interventions (phase2) identified for the Avonmouth Severnside Enterprise Area:

Flood Defences: In line with the recommendations within the Avonmouth-Severnside Flood Management Optioneering Technical Report (see appendix 2) design and development for the:

- Construction of a landward perimeter wall, or seaward concrete or earth embankments, along Avonmouth Docks. This will address the source of greatest tidal flood risk in line with planning policy requirements, particularly to the general potential Avonmouth development area and Avonmouth village. Non-structural measures could be acceptable to address fluvial flood risks.
- Addition of a concrete wave wall to the Aust to New Passage earth embankment if required. This will address the next greatest source of tidal flood risk in line with planning policy requirements, particularly to the potential Severnside development area and the communities of Northwick, Redwick and Pilning. Construction of embankments around, or raising of, potential development sites at unacceptable river and stream flood hazard during the periods of 2012-2016, 2017-2021, 2022-2026, and 2027-2030, as they occur. This should address the river and stream flood risks in line with planning policy and environmental compensation/mitigation requirements. In addition to this, re-engineering of the railway embankment along Chittening Warth to withstand coastal storms could be considered.

Ecology Mitigation: In line with the recommendations within the Cresswell Report (see appendix) design and development to create a series of wetland reserves to provide high tide roosts for European waterfowl associated with the Natura 2000 - Severn Estuary Special Protection Area (SPA) and Ramsar site.

The reserves will be located within the industrial landscape of Avonmouth and Severnside surrounding the villages of Severn Beach and Pilning and situated within the coastal floodplain of the estuary to the north of Bristol close to Chittening Warth and Northwick Warth and two lengths of foreshore (saltmarsh/mudflats) used by significant numbers of wildfowl/waders for which the Severn Estuary is designated as a European Site.

All interventions will be within the boundary of the Avonmouth/Severnside Enterprise Area (see Appendix 1 - figure 1.1 within the Avonmouth/Severnside Outline Development Strategy).

3.0 Project Objectives and Case for Change

This Business Case proposes the release of funds in order to complete the necessary design and development works (phase1) so that the Study and Strategy proposals may then be realised (phase2). Phase1 works will consist of:

Flood Defences:

1. Topographic Surveys - the areas affected by the fluvial flood protection works (ground raising, ring banks and/or flood storage) are not known to have any topographic survey. This would be required to inform the detailed design of any fluvial flood protection works. Considering the extent of the area required to be surveyed, a potential alternative to conventional ground-based survey could be high resolution LiDAR methods.

2. Services Searches - it is apparent that the recommended option works would at least partly be in heavily urbanised or industrial areas. A detailed services search would need to be undertaken to provide information on existing underground, surface and over ground services.

3. Geotechnical & Contamination Investigations - geotechnical investigations were undertaken in 2006, along the existing tidal defences (excluding the railway line) and possible landward perimeter wall area. These investigations highlighted that improvements in these areas would be viable, but would need to particularly account for settlement over time. However, similar to the topographic survey requirements, the areas affected by the fluvial flood protection works are not known to have any geotechnical investigations. It would be efficient to integrate geotechnical investigations with contaminant sampling and testing at the same time.

4. Unexploded Ordnance and Bomb Investigations - previous studies have identified that the area, particularly around Avonmouth Docks, could be affected by unexploded ordnance or bombs (UXO/UXB). In light of this, an initial desk-study and then detailed UXO/UXB on the ground survey, would be required.

5. Environmental Assessment – to include:

- An Extended Phase 1 Ecology Survey and any further Phase 2 surveys that may be identified.
- A Habitat Regulations Assessment taking into account potential construction impacts associated with all works and potential permanent impacts that may arise from loss of supporting bird habitat due the fluvial flood protection works.
- A contaminated land desk study that focuses on the development areas which are likely to be subject to ground raising/ring banks and areas identified for borrow pits/flood storage/habitat creation.
- A historic environment desk study that focuses on the development areas which are likely to be subject to ground raising/ring banks and areas identified for borrow pits/flood storage/habitat creation.
- Consultation with environmental consultees, for example; local planning authorities, English Heritage, Natural England and the Environment Agency.

6. Licensing Requirements - in addition to planning, the following consents are likely to be required:

- For works below mean high water, a marine licence is expected to be required under the Marine and Coastal Access Act (2009) (MCAA) from the Marine Management Organisation (MMO).
- Permanent Flood Defence Consent is expected to be required from the Environment Agency.

Ecology Mitigation:

The Cresswell Study considered the quantum of land required in order to provide appropriate mitigation. The Cresswell Study (and therefore the Outline Development Strategy) do not assess the suitability of the identified land for mitigation purposes. Nor do the Studies address potential issues associated with earth works to create these wetlands, such as other ecological or archaeology issues.

All six of the sites identified within the Cresswell Study (and therefore the Outline Development Strategy) have yet to be considered in terms of:

- Existing or future land use/management practices
- Land ownership
- Soil suitability/existing hydrological conditions for wetland creation
- Other ecology/protected species issues (site lines; existing levels of bird usage and existing policy designations)
- Potential disturbance effects from surrounding land use
- Hedgerow Survey (to assess whether or not they constitute an 'Important' hedgerow under the Hedgerow Regulations)
- The wider implications of a mitigation strategy for existing habitats and protected species, specifically hedgerows, badgers, dormice, water voles, great crested newts, reptiles, bats, otters and breeding/nesting birds

In order to comply with Natural England's Standing Advice with respect to legally protected species, an Extended Phase One Ecological Survey incorporating ecological mitigation proposals (to include legally protected and priority species) is required. The Survey should be accompanied by the results of a data search from the Bristol Regional Environmental Records

Centre. Ecology Phase Two site surveys may then be required for specific species (to be determined as an outcome of the Extended Phase One Ecological work).

In addition to the Extended Phase One Ecological Survey, there is the need for Hydrological Surveys to assess which parcels of land are most suitable to receive scrapes and ponds and also Hedgerow Surveys in order to ensure compliance with the Hedgerow Regulations.

Detailed design activities will be undertaken in compliance with the Construction, Design and Management Regulations (2007). Detailed design of the proposed tidal defence and ecology works could proceed once the above investigation findings are known. In addition to this, hydraulic and structural detailed design of the proposed tidal defence works would require application of the latest extreme wave, tide and JPA guidance. To confirm the detailed designs some physical modelling maybe required. Detailed design of the fluvial flood protection works could proceed once the outline modelling and design is confirmed. The design process would not require physical modelling, but may require focussed, supporting numerical modelling as the design proceeds.

In addition, early contractor involvement could be considered to inform the detailed design process, improving the design quality in relation to appropriateness for construction, and costing.

4.0 Strategic Fit

Avonmouth Severnside is one of the West of England Local Enterprise Partnership (LEP's) most important economic development opportunities, which could contribute significantly to achieving employment and economic growth over the next 30-40 years. It has been identified by the LEP as an Enterprise Area. However, if the existing constraints are not addressed, development activity in the area is likely to be more limited and its full economic potential may not be realised. By intervening to remove these constraints, the public sector would:

- Support the Government's priority to promote sustainable economic growth and jobs.
- Protect existing businesses and investment.
- Bring forward development opportunities that are attractive to the market.
- Support the development of key growth sectors.
- Help to promote international trade.
- Contribute to the maintenance of an internationally recognised ecological asset.

LEP Strategic Economic Plan 2015-30: The Enterprise Area is identified as a means to contribution towards the Plan's identified Spatial Focus; job creation (Fig 1: 6,000 – 14,000 jobs) and through the Growth Deal to contribute to the Economic Development Fund: *"We have also worked with key delivery agencies to align our programme to bring forward our shared priorities including schemes which are large in scale and require a collaborative approach to funding. These include scheme which do not currently have sufficient funding identified such as.....flood mitigation in.....Avonmouth/Severnside."* (P9).

The specific contribution is articulated within section 3.4 of the Strategic Economic Plan - The Role of Our Enterprise Zone and Areas i.e. *"Central to delivering our economic strategy is the*

successful delivery of our Enterprise Zone and Enterprise Area (Figure 12). They provide a major role in creating the right conditions for business to thrive”.

Both the South Gloucestershire Core Strategy 2013 and Bristol City Council Core Strategy 2011 set out strategic visions for Avonmouth Severnside as an economically strategically important but, recognise the need to develop the area in step with internationally important ecological designations in the Severn Estuary.

South Gloucestershire Council Core Strategy, Policy CS5: The economic potential of Severnside will be realised as a strategic location for a range of employment uses, subject to the resolution of flood risk, environmental and infrastructure issues and taking into account the most recent government legislation and guidance.

Land at Severnside will be safeguarded and developed for distribution and other extensive employment uses, including energy generation, broadly in line with the extant planning permissions dating from 1957 and 1958. Notwithstanding the differing planning status of individual land parcels, the Council will continue to work with landowners, Bristol City Council, the Local Enterprise Partnership and statutory agencies to provide a strategic development approach which will help to deliver development while mitigating site constraints, including flood risk, coastal protection, biodiversity, archaeology and transportation.

The Council, jointly with Bristol City Council and other bodies, has commissioned several studies to understand the development constraints affecting the Avonmouth-Severnside area and to understand how the economic potential of the area could be unlocked to realise the ambition for substantial economic development over the next 30-40 years. In mid-2011 the West of England LEP acknowledged the economic development opportunity offered by the area by identifying it as an Enterprise Area. The Councils have produced their vision for the area to 2050, together with an emerging strategy that identifies the key infrastructure and other supporting interventions that are needed to realise this vision.

Under Regulation 63 of the Conservation of Habitats and Species Regulations 2010 the Council has a duty to review all unimplemented or partially implemented planning permissions likely to have a significant effect on the international nature conservation designations covering the Severn Estuary. This review of consent (Habitats Regulations Assessment) has been carried out as part of a wider coastal floodplain wetland habitat project (including land gifted under the scheme) in partnership with Bristol City Council and Natural England. This review predicts that the impacts of future development-related habitat losses and associated disturbance events at Severnside could give rise to potentially significant effects upon the integrity of the SPA and Ramsar site.

In order to address these potentially significant effects, the review includes a mitigation strategy which has been developed to identify land for habitat creation/enhancement. A number of sites have been identified within Severnside and Avonmouth, and in the general vicinity, for future wetland habitat creation to off-set the habitat losses that have been predicted.

Bristol City Council Core Strategy, Policy BCS4: Avonmouth is identified as a priority area for industrial and warehousing development and renewal. Its economic strengths will be

supported whilst protecting its environmental assets and acknowledging its development constraints.

Principal Industrial and Warehousing Areas will be identified and retained for industrial and warehousing uses. Development in these areas for those uses will be supported in principle. Proposals for port-related activities, manufacturing industry, logistics/distribution, waste management and other environmental technology related industries will be particularly encouraged. There may be opportunities for the development of energy from waste facilities, biomass energy and further large scale wind turbines.

Development will be expected to respect the area's environmental assets and take account of its physical constraints. Proposals will be expected to contribute to both the strategic and local infrastructure necessary to mitigate any adverse impacts that would result from the development. Freight and passenger rail infrastructure sites will be safeguarded.

Bristol City Council Core Strategy, Policy BCS11: Development and infrastructure provision will be coordinated to ensure that growth in the city is supported by the provision of infrastructure, services and facilities needed to maintain and improve quality of life and respond to the needs of the local economy.

Development will provide, or contribute towards the provision of:

- Measures to directly mitigate its impact, either geographically or functionally which will be secured through the use of planning obligations.
- Infrastructure, facilities and services required to support growth, which will be secured through a Community Infrastructure Levy (CIL) for Bristol.
- Planning obligations may be sought from any development, irrespective of size, that has an impact requiring mitigation. Contributions through CIL will be required in accordance with the appropriate regulations.

5.0 Rationale for Public Intervention

The Avonmouth & Severnside Integrated Development, Infrastructure and Flood Risk Management Study (see appendix 3) sought to identify and explore the challenges to the Enterprise Area's development and to identify a viable way forward to ensure that existing infrastructure and development in the area remains sustainable and that the area achieves its full potential. The subsequent Avonmouth Severnside Outline Development Strategy (see appendix 1) detailed the clear rationale for public sector investment within the Enterprise Area:

Flood Defences: The Strategy drew upon the preceding Bristol City Council Employment Land Review and Strategic Flood Risk Assessment 2 (SFRA2). The Employment Land Review highlighted the need to ensure that flood risk in the area is managed to avoid a "dramatic detrimental impact on" Bristol and South Gloucestershire's "industrial land provision."

Current defences along the estuary provide a variety of standards of protection ranging from between a 1 in 10 year event to a 1 in 200 year event. Even though the area is protected by a combination of Environment Agency and privately maintained defences, these vary in terms of design and materials.

The draft Severn Estuary Shoreline Management Plan 2 (SMP2) states that the short term (0-20 years) policy adopted in relation to the flood defences in the area is “hold the line”. The “hold the line” position will however change with time as sea levels are predicted to rise as a result of climate change to 2050 and beyond.

The Environment Agency’s recommended standard of protection for new development to be safe from tidal flooding is 1 in 200 years plus, an allowance for climate change. The current defences along the sea frontage within Avonmouth Severnside do not provide this level of protection.

Current climate change predictions indicate a sea level rise that would lead to significant overtopping of the existing defences within the area. In the event of a tidal flood, this would lead (using the DEFRA “Flood Risks to People” flood hazard category system) to “danger for most”/“danger for all” across the area.

The Environment Agency, Bristol City and South Gloucestershire Councils recognise that (in the context of the SFRA2 (published March 2011)) that it is not desirable to continue to deal with development proposals in the area on a case by case basis. Rather, a long-term, comprehensive, strategic solution is required to reduce the risk of tidal flooding in the area. Without a solution existing development and infrastructure within the area would become increasingly at risk of tidal flooding. New development is also precluded since it will become subject to an increasing risk of flooding.

Development, including proposals for new infrastructure and improvement to the area’s flood defences also need to consider the detailed implications on surface water drainage from the area. In addition to coastal flooding, significant parts of the area are also at risk from fluvial flooding. Further modelling is required to assess the implications of climate change and sea level rise on surface water drainage in the area in the context of the full development of the extant 1957/58 planning permissions.

The Strategy identified flood intervention options and recommended that the option of improving defences to a height of 10.74 metres above Ordnance Datum should be investigated further.

Ecology Mitigation: The Strategy drew upon the preceding Cresswell Associates Study and Bristol Citywide Sustainable Energy Strategy. The Cresswell Study comprised a Review of Consent (Appropriate Assessment) of the extant 1957/58 planning permission within Severnside as legally required under the Habitat Regulations 2010. The Cresswell Study also assessed the effect of the extant permission on the Severn Estuary Special Protection Area/Ramsar site cumulatively with an impact assessment of likely development within the Avonmouth area together with other schemes such as wind farm sites.

The Cresswell Study concluded that in order to avoid a likely significant in-combination impact of the cumulative effects of development on the qualifying interest feature (wading birds and wildfowl) that ecological avoidance (‘mitigation’) measures would be required.

The resultant mitigation requirements cannot be delivered through any planning obligation or other legal requirement due to the unique status of the historic planning permission governing Severnside.

The Cresswell Study presented a 'key' to unlocking the Enterprise Area's full economic potential while safeguarding the conservation objectives of the European Site. Without a new wetland habitat to mitigate for the impacts of developments within the Enterprise Area, the review of consent under Regulation 63 of the Habitat Regulations 2010 cannot be legally 'signed off'. In turn, this presents a potential impediment to future development. Regulation 63 allows for the modification or revocation of planning permissions or consents where they are likely to have a significant effect on the conservation objectives of a European Site.

6.0 Options Appraisal

Flood Defences: This aspect has been considered through the Avonmouth-Severnside Flood Management Optioneering Technical Report (see appendix 2). The purpose of the Technical Report was to:

- Review existing datasets and identify gaps in knowledge to be filled in subsequent phases.
- Examine existing flood risks in Avonmouth/Severnside, both from tidal flood events and from river and stream flood events.
- Consider the impact of climate change on flood risk in the area.
- Develop and assess flood risk management options for existing and projected flood risk.
- Feed these options into a 'Growth Development Model' for the Enterprise Area.
- Ensure that projected growth in the area is in compliance with guidance and legislation relating to flood risk management and environmental protection.

The Technical Report assessed a number of options to deal with the identified flood risks. These include wide-scale ground raising of potential development sites above the tidal floodplain levels; improvements to the existing tidal defences; construction of landward tidal defences (as part of the local road system) and localised banks around or, ground raising of, potential development sites above the river and stream floodplain levels. All options were assessed on engineering, economic and environmental grounds.

The Technical Report made the overall preferred option recommendation to *"Improve existing tidal defences, with localised river and stream flood protection"*. There are a series of sub-options within this general recommendation. The proposed Phase1 work within this Business Case submission seeks to consider the appropriate design and development of the sub-options within the identified preferred option.

Ecology Mitigation: This aspect is driven by the identified options from within the review of consent under Regulation 63 of the Habitat Regulations 2010 (as detailed within the Cresswell Report).

Six potential areas were identified within Cresswell that cover a total of 229HA. Of this approximately 81HA will be required to adequately provide habitat mitigation measures and offset the identified impacts of development within the Enterprise Area. The proposed Phase1

work within this Business Case submission seeks to consider the mix of use (the design and development) across the six identified sites.

A “do nothing” approach is not an option for either South Gloucestershire or Bristol City Councils. If flood defence interventions are not identified, then both Councils will need to consider alternative solutions to address the issues identified through the Strategic Flood Risk Assessment for Avonmouth/Sevenside. This will also have policy implications relating to the adopted Council Core Strategies. If ecology mitigation interventions are not identified, then South Gloucestershire Council will need to identify an alternative mechanism to “sign-off” the review of consent under Regulation 63 of the Habitat Regulations 2010. Bristol City Council will need to identify further ecology mitigation options for development of sites within Avonmouth.

7.0 State Aid Considerations

State Aid is not considered to be an issue for Phase1. However, advice will be sought from the appropriate legal specialist in South Gloucestershire Council prior to tendering work. Phase1 is concerned with local infrastructure surveys and design & development proposals:

- Funding would be granted by the state.
- Phase1 will not compete unfairly with the private sector since service provision will all be put out to competitive tender.
- Funding will not affect trade between EU member states.

8.0 Equality and Diversity Impact Assessment

There are no equality and diversity impacts through Phase1 works. However, the outcomes of the Phase1 works and delivered through Phase2 would help to contribute to the Place & Infrastructure Lever of Growth as outlined within the “Equality and Diversity Impacts for the West of England Strategic Economic Plan 2013-30”.

9.0 Environmental Sustainability Considerations

Flood Defences: The survey work identified includes provision for an Environmental Assessment to include:

- An Extended Phase 1 Ecology Survey and any further Phase 2 surveys that may be identified.
- A Habitat Regulations Assessment taking into account potential construction impacts associated with all works and potential permanent impacts that may arise from loss of supporting bird habitat due the fluvial flood protection works.
- A contaminated land desk study that focuses on the development areas which are likely to be subject to ground raising/ring banks and areas identified for borrow pits/flood storage/habitat creation.
- A historic environment desk study that focuses on the development areas which are likely to be subject to ground raising/ring banks and areas identified for borrow pits/flood storage/habitat creation.
- Consultation with environmental consultees, for example; local planning authorities, English Heritage, Natural England and the Environment Agency.

Ecology Mitigation: The key driver behind the design and development proposals for the six identified sites specifically seeks to address regulation 63 of the Conservation of Habitats and Species Regulations 2010 i.e. the duty to review all unimplemented or partially implemented planning permissions likely to have a significant effect on the international nature conservation designations covering the Severn Estuary. This review of consent (Habitats Regulations Assessment) has been carried out as part of a wider coastal floodplain wetland habitat project (including land gifted under the scheme) in partnership with Bristol City Council and Natural England.

Economic Case

10.0 Economic Appraisal

This Business Case proposes the release of funds in order to complete the necessary design and development works (phase1). The ultimate benefits will be derived through the implementation of the design proposals agreed (phase2). These are summarised as follows:

Within the Outline Development Strategy, a range of use scenarios were tested to provide an indication of the likely range of benefits that could be expected to arise from development of sites across Avonmouth Severnside. All scenarios assumed that 5% of total floor space will be developed for Sui Generis uses, principally associated with utilities and energy. The split between other uses across the remaining floor space was assumed to be as follows:

- Scenario 1 – 100% of remainder for B8 logistics and distribution;
- Scenario 2 – 75% of remainder for B8 logistics and distribution, 25% for B2 manufacturing; and
- Scenario 3 – 50% of remainder for B8 logistics and distribution, 50% for B2 manufacturing.

For each of these scenarios the potential scale of the benefits was estimated, focusing on employment and Gross Value Added (GVA), over a 40 year period.

Gross employment:

The assessment of gross employment - the number of gross direct permanent jobs - generated under each scenario was based on the expected quantum of future employment floor space delivered across the whole of the Avonmouth Severnside area. The profile set out in Table 1 highlights the amount of new floor space by use class for each scenario, excluding floor space that is currently under development or committed.

Table 1: Employment floorspace (sq m)			
	Scenario 1	Scenario 2	Scenario 3
B2 Manufacturing	0	275,000	550,000
B8 Logistics and distribution	1,099,000	825,000	550,000
Sui Generis	58,000	58,000	58,000
Total	1,157,000	1,157,000	1,157,000

Employment density ratios consistent with those set out within the guidance produced for the Homes and Communities Agency (HCA)¹ were used to calculate the gross direct employment impact associated with the new floor space provided under each scenario.

Table 2: Gross direct employment accommodated across Avonmouth Severnside			
	Scenario 1	Scenario 2	Scenario 3
B2 Manufacturing	0	7,640	15,270
B8 Logistics and distribution	13,740	10,310	6,870
Sui Generis	230	230	230
Total	13,970	18,180	22,370

¹ HCA (2010), *Employment Densities Guide, 2nd Edition*.

Net additional employment:

In assessing the additionality of future development activity – the extent to which activity takes place at all, on a larger scale, earlier or within a specific designated area or target group as a result of implementing the development strategy for the area, the following factors have been considered:

- leakage – the proportion of outputs that benefit those outside of the project’s target area or group;
- displacement – the proportion of project outputs accounted for by reduced outputs elsewhere in the target area;
- multiplier effects – further economic activity associated with additional local income and local supplier purchases; and
- deadweight – outputs which would have occurred without the project. This is assessed through the reference case (i.e. the do minimum option).

Table 3 summarises the estimated net additional permanent employment impact of each scenario after allowing for leakage, displacement, multiplier effects and deadweight.

Table 3: Net additional employment			
	Scenario 1	Scenario 2	Scenario 3
To 2020	1,820	2,370	2,920
To 2030	2,850	3,710	4,560
To 2040	4,090	5,320	6,550
To 2050	5,550	7,220	8,890

Net additional GVA:

An assessment was undertaken of the net additional GVA generated, based on the employment impact outlined above. A profile of the net additional discounted cumulative GVA for each scenario is set out in Table 4.

Table 4: Net additional discounted cumulative GVA (£ million)				
	Year 5	Year 10	Year 20	Total
Scenario 1	192	528	964	1,416
Scenario 2	256	706	1,288	1,960
Scenario 3	321	884	1,613	2,505

Financial Case

11.0 Scheme Cost

Please see the funding profiles included within the Appendix 4 and 5.

Revenue Spend (£000s)

	<i>15/16</i>	<i>16/17</i>
<i>EDF</i>	<i>610,000</i>	<i>1,290,000</i>

Total Spend (£000s)

	<i>15/16</i>	<i>16/17</i>
<i>EDF</i>	<i>610,000</i>	<i>1,290,000</i>

Commercial Case

13.0 Procurement Strategy

Procurement will be in line with the South Gloucestershire Council Commissioning and Procurement Strategy (see appendix 6).

14.0 Operation and Financial Viability

The design and development work (phase1) will be operated within the context of the governance structure for the Avonmouth/Sevenside Enterprise Area. Day-to-day project

management will be provided by the Avonmouth/Sevenside Enterprise Area Project Manager (a South Gloucestershire Council employee).

A further full business case will be developed (phase2) at the conclusion of the design and deliver works (phase1).

Management Case

15.0 Project Governance and Delivery

The Avonmouth Sevenside Enterprise Area Growth Board will take responsibility for coordinating the strategic implementation of projects and programmes within the Enterprise Area. The Board includes representatives from local authorities, public sector partners, public and private sector land ownership interests and the West of England LEP. The Board will form decisions in relation to aspects of projects and programmes as required and based on officer recommendations. Any decisions formed may be subject to external ratification through council democratic process and/or private sector verification depending on the extent of the decision.

The Sub-Group structure formed as part of the overall governance arrangements for the Enterprise Area (reporting to the Growth Board) will continue to oversee procurement and management of any further works (phase2).

16.0 Programme Plan

Please see appendix 7.

17.0 Land Acquisition, Planning and Other Consents

There are no land acquisition requirements for phase1 design and development. Land acquisition will be a considerable factor as part of the phase2 submission.

18.0 Service Diversions

There are no services diversion requirements for phase1 design and development (although services surveys do form a part of the phase1 works). The outcomes of the phase1 work will influence the final intervention designs within phase2.

19.0 Engagement and Consultation

A public consultation took place in relation to potential options for flood defence solutions in December 2013 – March 2014. Early engagement meetings have taken place with key organisations within the area to include SITA, National Rail, Scottish Power, URS, Wessex Water and Bristol Port. Options have also been tabled and discussed through the Avonmouth Sevenside Enterprise Area Land Owner Forum.

20.0 Risks, Constraints and Dependencies

A Risk Register is included within the Appendix 8. Additional key issues and dependencies include:

- There are likely to be inextricable links between the flood defence and ecology work stream objectives. These will need to be managed in a coordinated fashion. Failure to do this could lead to abortive works or, at worst, one scheme preventing another from progressing through land requirements etc.
- Progression of development within the Area, particularly in the consented Severnside area that may impact on land requirements.
- If flood defences interventions are not identified, then both South Gloucestershire and Bristol City Councils will need to consider an alternatives solution to address the issues identified through the Strategic Flood Risk Assessment for Avonmouth/Severnside. This will also have policy implications relating to the adopted Council Core Strategies.
- If ecology mitigation interventions are not identified, then South Gloucestershire Council will need to identify an alternative mechanism to “sign-off” the review of consent under Regulation 63 of the Habitat Regulations 2010 (Cresswell Report recommendations). Bristol City Council will need to identify further ecology mitigation options for development of sites within Avonmouth.
- Failure to ultimately deliver flood defence and ecology mitigation solutions may reduce the rate of development as modelled by Amion. From 2017 onwards, this could have a negative impact upon business rate collection within the area that feeds into the Economic Development Fund.

21.0 Project Assurance

Project Assurance is provided through the membership of the Flood Defence and Ecology Sub-Groups as part of the governance structure for the Enterprise Area Project. This includes representatives from the Planning, Ecology, Flooding and Economic Development teams within both Bristol City and South Gloucestershire Councils; Area and Coastal representatives from within the Environment Agency; Area representatives from Natural England and representation from within the West of England Local Enterprise Partnership.

22.0 Monitoring and Evaluation

This Business Case submission seeks to achieve the design and development stage funding only. As such there is no evaluation plan requirement for this initial phase. The evaluation function is effectively achieved through the Flood Defence and Ecology Sub Group structure as outlined within the Project Assurance section above.

Appendices/ Background Documents

- Appendix 1: Avonmouth Severnside Outline Development Strategy
- Appendix 2: Avonmouth-Severnside Flood Management Optioneering Technical Report

- Appendix 3: Avonmouth and Severnside Integrated Development, Infrastructure and Flood Risk Management Study
- Appendix 4: Outline Costs & Profile Ecology
- Appendix 5: Outline Costs & Profile Flooding
- Appendix 6: South Gloucestershire Council Commissioning & Procurement Strategy
- Appendix 7: Flood Defence & Ecology Mitigation Project Plan
- Appendix 8: Avonmouth/Severnside Flood Defence/Ecology Mitigation Phase1 Risk Log

Background papers

- Severnside/Avonmouth Wetland Habitat Project Stage2: Review of Consent at Severnside and Avonmouth Impact Assessment (Cresswell Report)

Corporate Capital Programme Board

Application for Capital Funding

Project Title:	Avonmouth Severnside Enterprise Area (ASEA) – Infrastructure Phase 1 (Design & Development)	Date of Application:	16 th March 2015
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Service Directorate:	Place	Supporting Strategic Director:	Barra Mac Ruairi
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Project SRO:	Alistair Reid	Project Manager:	Ian Steele
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Brief Description of the project:

The Avonmouth & Severnside Integrated Development, Infrastructure and Flood Risk Management Study identified the opportunities to address the identified issues in relation to flood risk and ecology mitigation. The continuing economic development of about 350 ha of green field land within the extant 1957/58 planning permissions could generate significant employment opportunities in the area. The development of a further 60ha of green field land within the study area could be feasible. Please see Figure 1 for the potential benefit in Business rates income over the next 25 years.

Figure 1: Avonmouth Severnside EA – Business rates income growth (Amion Consultancy)

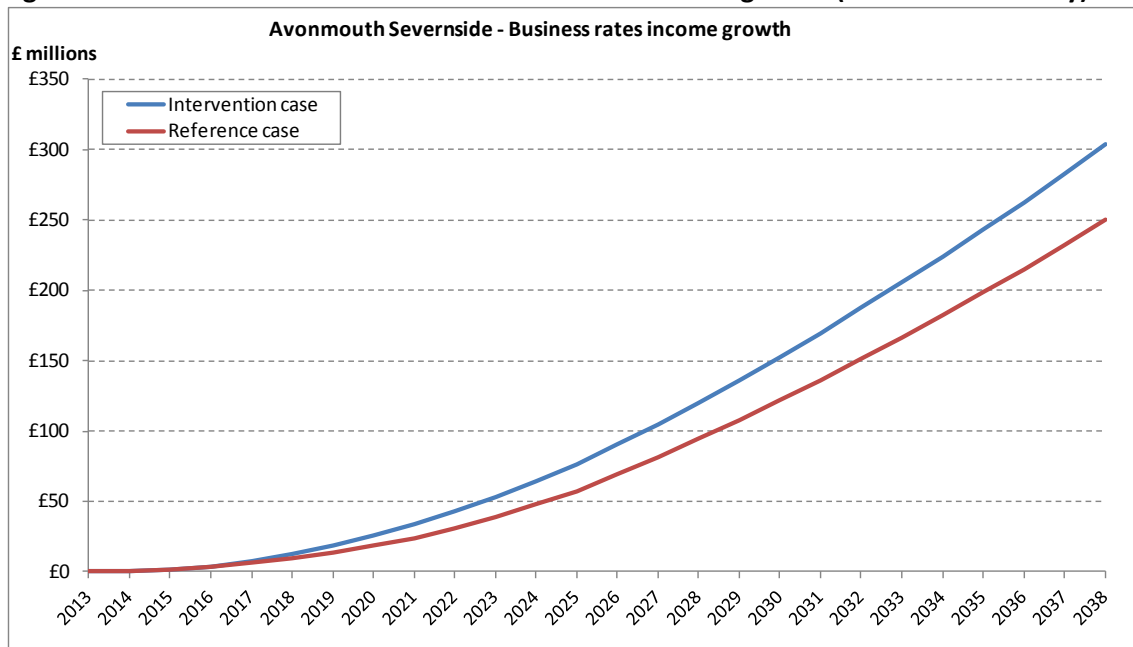


Table 1: Avonmouth Severnside: Cumulative business rate income growth (£ million)

	Year 5	Year 10	Year 15	Year 20	Year 25
Intervention case – with EDF	12.81	52.77	120.01	205.56	303.61
Reference case – without EDF	9.68	38.82	94.13	166.30	250.09

However, in order to realise such potentials that it will be necessary to carry out the appropriate survey and design/development work (phase 1 – detailed cost £1.9m) to be able to take forward the necessary flood defence and ecology mitigation interventions (phase2 – estimated cost £63.9m) identified for the Avonmouth Severnside Enterprise Area:

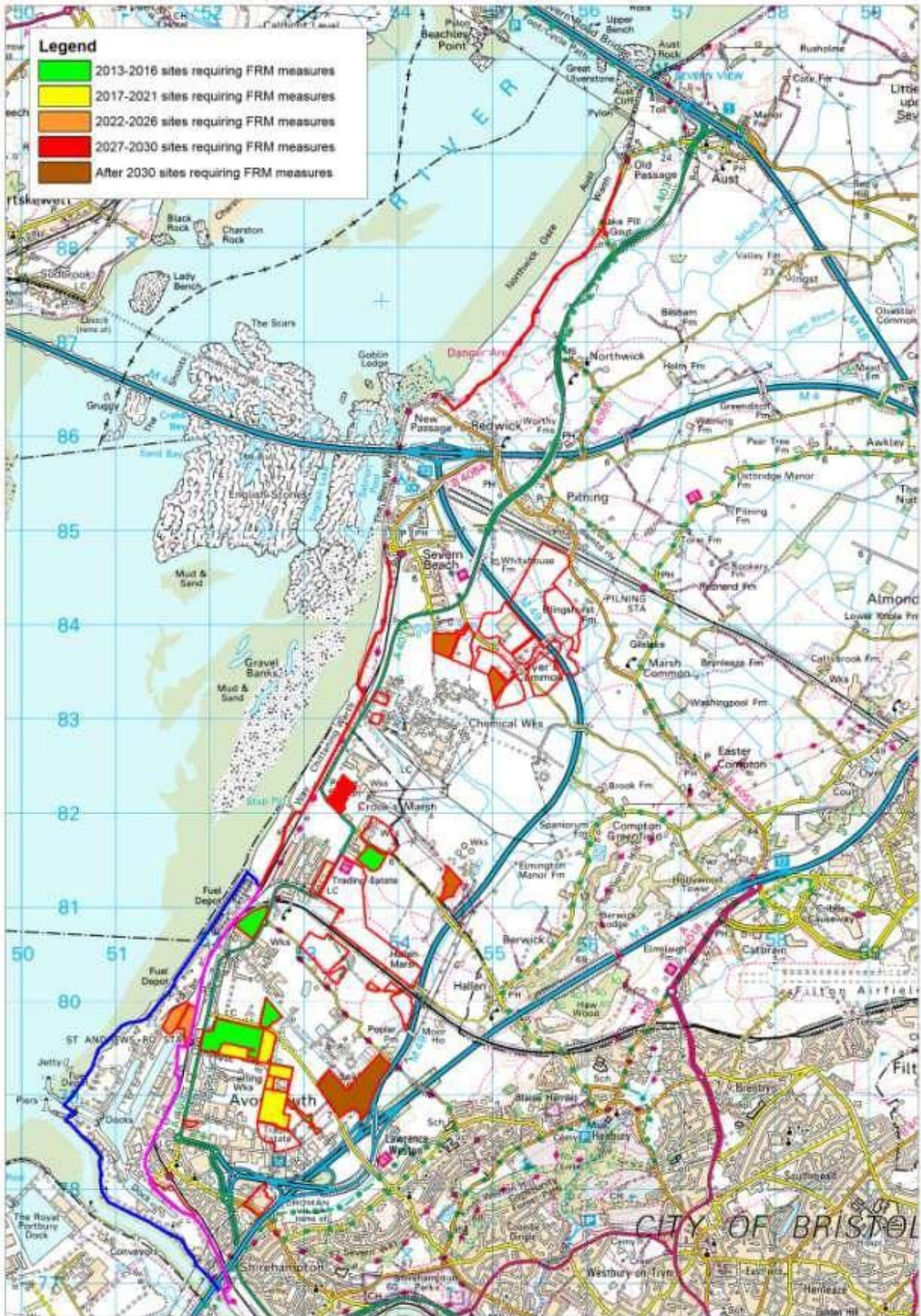
Flood Defences: In line with the recommendations within the Avonmouth-Severnside Flood Management Optioneering Technical Report (see appendix 1) design and development for the:

- Construction of a landward perimeter wall, or seaward concrete or earth embankments, along Avonmouth Docks. This will address the source of greatest tidal flood risk in line with planning policy requirements, particularly to the general potential Avonmouth development area and Avonmouth village. Non-structural measures could be acceptable to address fluvial flood risks.
- Addition of a concrete wave wall to the Aust to New Passage earth embankment if required. This will address the next greatest source of tidal flood risk in line with planning policy requirements, particularly to the potential Severnside development area and the communities of Northwick, Redwick and Pilning. Construction of embankments around, or raising of, potential development sites at unacceptable river and stream flood hazard during the periods of 2012-2016, 2017-2021, 2022-2026, and 2027-2030, as they occur. This should address the river and stream flood risks in line with planning policy and environmental compensation/mitigation requirements. In addition to this, re-engineering of the railway embankment along Chittening Warth to withstand coastal storms could be considered.

Ecology Mitigation: In line with the recommendations within the Cresswell Report, design and development to create a series of wetland reserves to provide high tide roosts for European waterfowl associated with the Natura 2000 - Severn Estuary Special Protection Area (SPA) and Ramsar site.

The reserves will be located within the industrial landscape of Avonmouth and Severnside surrounding the villages of Severn Beach and Pilning and situated within the coastal floodplain of the estuary to the north of Bristol close to Chittening Warth and Northwick Warth and two lengths of foreshore (saltmarsh/mudflats) used by significant numbers of wildfowl/waders for which the Severn Estuary is designated as a European Site.

All interventions will be within the boundary of the Avonmouth/Severnside Enterprise Area, please see the map Below:



Project Objectives:	
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This Business Case proposes the release of funds in order to complete the necessary design and development works (phase1) so that the Study and Strategy proposals may then be realised (phase2). Phase1 works will consist of:

Flood Defences:

1. Topographic Surveys - the areas affected by the fluvial flood protection works (ground raising, ring banks and/or flood storage) are not known to have any topographic survey. This would be required to inform the detailed design of any fluvial flood protection works. Considering the extent of the area required to be surveyed, a potential alternative to conventional ground-based survey could be high resolution LiDAR methods.

2. Services Searches - it is apparent that the recommended option works would at least partly be in heavily urbanised or industrial areas. A detailed services search would need to be undertaken to provide information on existing underground, surface and over ground services.

3. Geotechnical & Contamination Investigations - geotechnical investigations were undertaken in 2006, along the existing tidal defences (excluding the railway line) and possible landward perimeter wall area. These investigations highlighted that improvements in these areas would be viable, but would need to particularly account for settlement over time. However, similar to the topographic survey requirements, the areas affected by the fluvial flood protection works are not known to have any geotechnical investigations. It would be efficient to integrate geotechnical investigations with contaminant sampling and testing at the same time.

4. Unexploded Ordnance and Bomb Investigations - previous studies have identified that the area, particularly around Avonmouth Docks, could be affected by unexploded ordnance or bombs (UXO/UXB). In light of this, an initial desk-study and then detailed UXO/UXB on the ground survey, would be required.

5. Environmental Assessment – to include:

- An Extended Phase 1 Ecology Survey and any further Phase 2 surveys that may be identified.
- A Habitat Regulations Assessment taking into account potential construction impacts associated with all works and potential permanent impacts that may arise from loss of supporting bird habitat due the fluvial flood protection works.
- A contaminated land desk study that focuses on the development areas which are likely to be subject to ground raising/ring banks and areas identified for borrow pits/flood storage/habitat creation.
- A historic environment desk study that focuses on the development areas which are likely to be subject to ground raising/ring banks and areas identified for borrow pits/flood storage/habitat creation.
- Consultation with environmental consultees, for example; local planning authorities, English Heritage, Natural England and the Environment Agency.

6. Licensing Requirements - in addition to planning, the following consents are likely to be required:

- For works below mean high water, a marine licence is expected to be required under the Marine and Coastal Access Act (2009) (MCAA) from the Marine Management Organisation (MMO).
- Permanent Flood Defence Consent is expected to be required from the Environment Agency.

Ecology Mitigation:

The Cresswell Study considered the quantum of land required in order to provide appropriate mitigation. The Cresswell Study (and therefore the Outline Development Strategy) do not assess the suitability of the identified land for mitigation purposes. Nor do the Studies address potential issues associated with earth works to create these wetlands, such as other ecological or archaeology issues. All six of the sites identified within the Cresswell Study (and therefore the Outline

Development Strategy) have yet to be considered in terms of:

- Existing or future land use/management practices
- Land ownership
- Soil suitability/existing hydrological conditions for wetland creation
- Other ecology/protected species issues (site lines; existing levels of bird usage and existing policy designations)
- Potential disturbance effects from surrounding land use
- Hedgerow Survey (to assess whether or not they constitute an 'Important' hedgerow under the Hedgerow Regulations)
- The wider implications of a mitigation strategy for existing habitats and protected species, specifically hedgerows, badgers, dormice, water voles, great crested newts, reptiles, bats, otters and breeding/nesting birds

In order to comply with Natural England's Standing Advice with respect to legally protected species, an Extended Phase One Ecological Survey incorporating ecological mitigation proposals (to include legally protected and priority species) is required. The Survey should be accompanied by the results of a data search from the Bristol Regional Environmental Records Centre. Ecology Phase Two site surveys may then be required for specific species (to be determined as an outcome of the Extended Phase One Ecological work).

In addition, there is the need for Hydrological Surveys to assess which parcels of land are most suitable to receive scrapes and ponds and also Hedgerow Surveys in order to ensure compliance with the Hedgerow Regulations.

Detailed design activities will be undertaken in compliance with the Construction, Design and Management Regulations (2007). Detailed design of the proposed tidal defence and ecology works could proceed once the above investigation findings are known. In addition to this, hydraulic and structural detailed design of the proposed tidal defence works would require application of the latest extreme wave, tide and JPA guidance. To confirm the detailed designs some physical modelling maybe required. Detailed design of the fluvial flood protection works could proceed once the outline modelling and design is confirmed. The design process would not require physical modelling, but may require focussed, supporting numerical modelling as the design proceeds. In addition, early contractor involvement could be considered to inform the detailed design process, improving the design quality in relation to appropriateness for construction, and costing.

Contribution to the Corporate Plan/Mayor's Vision:

Under the Global Green Capital and Prosperity themes is the objective to work with the West of England LEP to support the delivery of a strategic economic plan focused on creating jobs, and driving investment, trade and innovation in the city.

Avonmouth Severnside is one of Bristol's and the West of England's most important economic development opportunities, which could contribute significantly to achieving employment and economic growth over the next 30-40 years. It has been identified by the LEP as an Enterprise Area. However, if the existing constraints are not addressed, development activity in the area is likely to be more limited and its full economic potential may not be realised. By intervening to remove these constraints, the public sector would:

- Support the Government's priority to promote sustainable economic growth and jobs.
- Protect existing businesses and investment.
- Bring forward development opportunities that are attractive to the market.

- Support the development of key growth sectors.
- Help to promote international trade.
- Contribute to the maintenance of an internationally recognised ecological asset.

Both the Bristol City Council Core Strategy (2011) and South Gloucestershire Council Core Strategy (2013) and set out strategic visions for Avonmouth Severnside as an economically and strategically important area, but, recognise the need to develop the area in step with internationally important ecological designations in the Severn Estuary.

	Estimated profile of capital spend and funding by year £m				
	2014/15	2015/16	2016/17	2017/18	2018/19
Capital spend (EDF funds)					
Proposed funding source					
- Capital grant					
- Borrowing		305,000	645,000		
- Revenue contribution					
- Capital receipts					

Further funding information (source of grant, Revenue, Capital receipts, Prudential Borrowing repayment source) :

Borrowing from the West of England City Deal Economic Development Fund (EDF) – 50% of total cost of Phase 1 design and development (£1.9 m) and co-financed by South Gloucestershire Council.

Please see Appendix 2: Outline costs profile AS Flooding and Appendix 3: Outline costs Profile AS Ecology for detailed cost breakdown.

Financial risks:

Economic Development Fund (EDF) is created from a contribution from the Business Rates growth Pool, which is intended to deliver an investment programme designed to maximize economic returns in the West of England. There are some risks associated with funding projects through EDF:

- 1) Short falls within EDF. i.e. The actual delivery of business rate growth fall short against the forecast either in year or over the projected 25 year period, this presents a level of investment risk to the council.
- 2) Under the circumstance where phase 2 of the project should not progress for any reason, the full cost for phase 1 will be de-capitalised and written off as revenue costs.
- 3) As the project is facilitated by BCC's own borrowing before practical or staged completion, this presents a level of borrowing risk to the council. However, we are currently under discussion with the 4 UAs and proposing a funding mechanism for smaller EDF schemes, whereby funding in-year would be distributed in full to the sponsor UA (BCC), this will mitigate the borrowing risk.
- 4) Under the circumstance where the funding mechanism should be in-line with the general principles applicable to larger schemes, the Standard Supported Cost of Borrowing Sum (SSCBS) which will be paid by the Accountable Body (Bath & North East Somerset Council) to a Sponsor UA, will be fixed for the Period at the PWLB Projects rate in the form of either a Fixed Equal

<p>Instalment of Principal (EIP) or Annuity type of loan repayment once practical completion of the Scheme is achieved. Thus it will be in BCC's interest to align its treasury management strategy with the principles of EDF payments. However the impact of this risk may be immaterial.</p>					
Estimated profile of revenue cost/saving by year £m					
	2014/15	2015/16	2016/17	2017/18	2018/19
Revenue cost					
Revenue savings					
<p>Any other revenue comments:</p> <p>The design and development (Phase 1) revenue costs of the overall scheme (£65.8 m) are in effect being capitalised. An Outline Business Case for the Phase 2 capital scheme has been approved by LEP and SLB.</p> <p>There may be some risks around whether all or some of these costs would qualify for capitalisation, depending on the way in which the project proceed to phase 2.</p>					
Documents Attached	Tick	Document Ref Number			
Pid Document:	x				
Feasibility Study:		<ul style="list-style-type: none"> - Avonmouth Severnside Outline Development Strategy (Appendix 1 of ASEA Full Business Case) - Flood Management Optioneering Technical Report (Appendix 2 of ASEA Full Business Case) - Integrated Development, Infrastructure and Flood Risk Management Study (Appendix 3) 			
Business Case:	✓	<ul style="list-style-type: none"> - Appendix 4: Avonmouth Severnside Enterprise Area (ASEA) Infrastructure – Phase 1 - Full Business Case - Appendix 5: ASEA Flood Defence and Ecology – Full Scheme Outline Business Case (Phase 2) 			
Project Plan:	✓	Appendix 7 of ASEA Full Business Case (above)			
Risk Register:	✓	Appendix 8 of ASEA Full Business Case (above)			
Other Supporting Documents	✓	<ul style="list-style-type: none"> - Severnside/Avonmouth Wetland Habitat Project Stage2: Review of Consent at Severnside and Avonmouth Impact Assessment (Cresswell Report) - Minutes of West of England Strategic Leaders Board meeting – 9 Jan – giving approval of ASEA FBC <p>http://www.westofenglandlep.co.uk/assets/files/Strategic%20Leaders%20board/SLB%209%20January%202015.zip</p>			
Signed Project Manager			Signed Service Director		