Works from Brighton Marina to River Adur Flood and Coastal Risk Erosion Management Strategy

Business Case Update Report

Version No: 1.1

Date: 11/2025

FINANCIAL SCHEME OF DELEGATION (FSoD) APPROVALS (Supplementary expenditure - request to increase previous approvals)

1.

Project name (Enter project name exactly as it appears on AIMS PD, if applicable)	**Brighton Marina to River Adur / FCERM**			
SOP Project Code	**SOS004C/011A/002A**		**Start date** (dd/mm/yyyy)	24/09/2020
Project ID (Example 2020/21-002152)	**2020/21-002989**			
Programme			**End date** (dd/mm/yyyy)	01/03/2028
Head Office dept. / team	**Coastal / Highways & Transport.**	For FSoD use only		
Area name	**Solent and South Downs**	**FSoD reference**		
Function	**Lead Authority**	**FSoD Date**		

Role	**Name**	**Post Title**	**% time on project**
Project Sponsor	Charles Field	Director City Infrastructure	5
Project Executive	Nick Bean	Principal Engineer	20
Project Manager	Steven Parker	Project Manager	50
NGSA Hub			

☐Note, this is a check box. If you double click on it, it will allow you to mark it 'checked' ☒.

3.

Risk Potential Assessment (RPA) Category	Low	☐	Medium	☒	High	☐

4.

Required level of Environmental Impact Assessment (EIA)	**N/A** ☐	**Low** ☒	**Medium** ☐	**High** ☐

5.

FSoD schedule		**Description**
C6	☒	Supplementary spend - An FCRM capital project
C7	☐	Supplementary spend – A non-FCRM project or FCRM revenue project

6.

Item approved under Section A	**Items approved under Sections C6/C7**	**FSoD Ref**	**Date** (dd/mm/yyyy)	**Amount Requested £k**	**Amount for Approval £k**	**Cumulative Approval £k**
SOC						
	BCUR (SOC1)					
	BCUR (SOC2)					
OBC		F/2021/0612	26/11/2020	12,085	12,085	12,085
	BCUR (OBC1)	F/2021/0612	04/01/2021	2,000	2,000	14,085
	BCUR (OBC2)		25/11/2025	11,836	11,836	25,921
FBC						
	BCUR (FBC1)					
	BCUR (FBC2)					

Total project cost (Estimated at SOC & OBC, actual at FBC) (£k)	43,202
Whole Life Cash Cost (£k)	56,787

7.

NPAS/LPRG chair name	**Post title**	Delivery Confidence Assessment			**Date**
		RED ☐	AMBER ☐	GREEN ☐	

8.

If the business case contains sensitive or commercial information or data that should be restricted (see Government Security Classifications) please tick the box.	**SENSITIVE:PROTECT** ☐

For FSoD Co-ordinator use only:

9.

FSoD approver(s) name	**Post title**	**Emailed approval**	**Date**

Business Case Update Report

1. Supplementary approval statement

An additional £11,836k of Grant in Aid (GiA) funding is being sought to undertake the approved works at the Open Coast section and Locked section of Shoreham Port (see Figure 1). These works aim to improve the standard of protection of the existing coastal defences to 0.5% AEP in accordance with the approved Brighton Marina to River Adur Flood and Coastal Erosion Risk Management (FCERM) Strategy. The scheme is led by Brighton and Hove City Council (BHCC) in partnership with Adur District Council (ADC).

The works for the OBC included Areas 1, 2, 4 and 5.

2. Background [Current approval is £14,085k; Expenditure to date of approved GiA is £7,941k; Expenditure to date of overall scheme is £7,000k]

The open coast frontage between Brighton Marina (east) and the River Adur (west) is at risk of coastal erosion and flooding due to limited natural sediment supply, ageing and deteriorating coastal defences, and inconsistent beach management.

The River Adur and its training walls obstruct sediment movement, intensifying erosion at Shoreham. Low significant variations in defence heights and beach widths along the frontage have resulted in a number of weak points susceptible to flooding. Without intervention, key defences could fail within 30 years, and some defences have a residual life of less than one year. This would increase the number of residential and commercial properties at risk of flooding.

Construction of several new coastal defences and beach renourishment works along the Brighton Marina to River Adur frontage will reduce the risk of erosion and flooding, protecting the urbanised areas of Brighton and Shoreham.

The scheme is located along the open coast from the River Adur to Brighton Marina, within the boundaries of Unit 2 – Open Coast (as shown in Figure 1) of the approved Brighton Marina to River Adur Flood and Coastal Erosion Risk Management Strategy. The length of the coastal frontage is approximately 10km, consisting of 2.15km of ADC frontage and 7.85km of BHCC open coastal frontage.

The Outline Business Case (OBC) for the scheme, approved in 2020, builds on the Brighton Marina to River Adur Flood and Coastal Erosion Risk Management (FCERM) Strategy Review (“the 2014 Strategy”), which was approved and adopted in 2014. The Strategy is consistent with the Beachy Head to Selsey Bill Shoreline Management Plan (SMP2), which recommended that a capital improvement scheme should be undertaken for Units 1 – Shoreham Locked Section and Unit 2 – Open Coast to improve the coastal defences to a 0.5% AEP to reduce long term (100-year) flood and erosion risk, taking account of long-term climate change predictions to sea level rise.

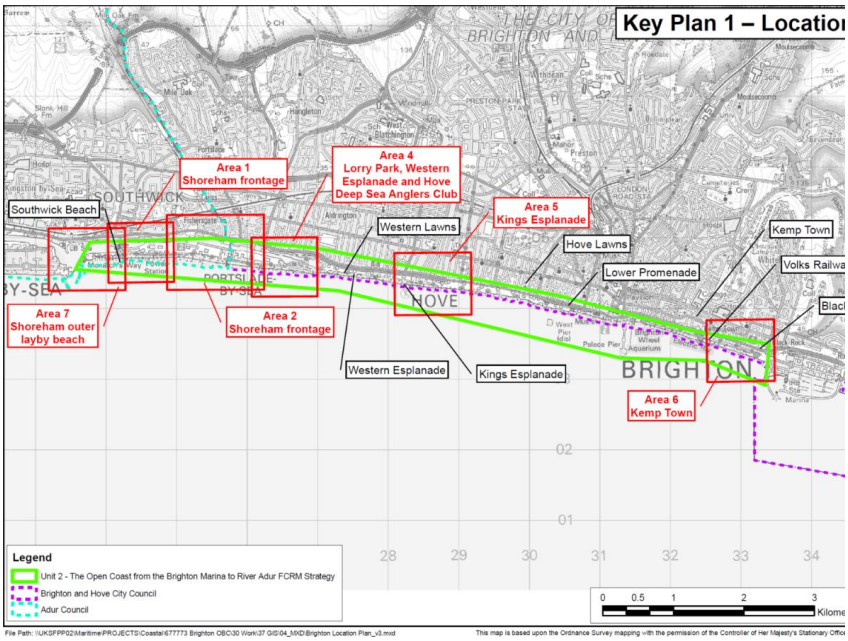


Figure 1: Location plan (Brighton Marina to River Adur OBC, 2020)

3. Reasons for change

	Reason for additional expenditure	Cost increase
1	**Incorrect Assumptions** - relating to physical conditions, stakeholder expectations. The increase in scheme costs is primarily due to two factors identified following the completion of the Outline Business Case (OBC): 1. The complexity and associated costs of the required engineering solutions was underestimated at the OBC stage. An underestimation of the consultancy costs for the design, environmental, planning, consents and level of surveys required for the works has resulted in additional works and expenditure. 2. The condition and residual life of the existing assets were found to be worse than originally assessed at the OBC, requiring more extensive engineering solutions to achieve the required standard of protection. One of the most significant cost increases stems from the deterioration of coastal defence assets, particularly the groynes, which were found to be in worse condition than originally assessed in the OBC. This has necessitated a significant increase in the shingle recharge scope, with approximately 170,000 tonnes of shingle now required. Between 2021 and 2024, accelerated shingle loss and groyne deterioration led to extensive shingle recycling efforts (Table 5) to prevent erosion and flooding near Basin Road in the west of the study frontage. In 2024, Environment Agency operations in Shoreham and Lancing further disrupted sediment balance downstream, increasing the need for replenishment and potentially increasing future recharge volumes. In Area 2B, a new sheet piled wall was required to be installed. The deteriorating groyne field in Area 2A resulted in a lower beach level than assessed at the OBC. This required a lower and larger toe for the rock revetment. In Area 5, the deteriorating groyne field results in an additional 80,000m^3 of beach material being required to achieve the design solution presented in the OBC.	

Table 1: Root causes of requests for additional financial approval

Since the OBC in 2020, further development and refinement of the scheme solutions have enabled a better understanding of the associated risks and constraints. More details on risk are provided in Section 7 for the commercial case.

4. Cost changes

Cost heading	Last Authorised Cost £k	*Cost increase £k	**New costs to be approved £k	Inflation increase £k	New total cost £k
Internal staff costs	192	69	-	-	261
External Consultant fees					
JBA Consulting / Mott MacDonald (up to OBC / detailed design)	146	1,770	-	-	1,916
Consultants, cost consultants and contractor fees	285	570	-	-	855
Project implementation					
Construction costs	20,486	8,827	-	-	29,313
Environmental/technical					
Site investigation and	115	255	-	-	370
Consents and licenses	55	95	-	-	150
Environmental mitigation and enhancement	10	258	-	-	267
Other costs					
Risk/compensation	9,476	31	-	-	9,507
Inflation	4,761	-4,200	-	-	561
Total project cost	35,526	7,676	-	-	43,202

* changes to costs that are previously approved
** costs that are being brought forward from a future stage (applies to Opportunistic change category only)

Table 2: Updated financial summary

Contracts affected	Previous cost £k	Increase in costs £k
JBA/Mott MacDonald (inclusive of Environmental/technical)	326	2,378
Contractor – design ESE	285	570
Contractor - construction	20,486	4,627
Total	**21,096**	7,576

Table 3: Cost increases by contract

Please note that Table 3 does not include a cost increase of £100k attributed to BHCC. If this is included then the total increase costs are £7,676k

Cost heading	Reason given for additional cost First reason cost £k	Total increase £k
Internal staff costs	69	69
External Consultant fees		
JBA Consulting / Mott MacDonald (up to OBC / detailed design)	1,770	1,770
Consultants, cost consultants and contractor fees	570	570
Project implementation costs		
Construction costs	8,827	8,827
Environmental/technical		
Site investigation and survey	255	255
Consents and licenses	95	95
Environmental mitigation and enhancement	258	258
Other costs		0
Risk/compensation	31	31
Inflation	-4,200	-4,200
Total project cost	**7,676**	**7,676**

Table 4: Cost Increases by reason (where is an increase v previously approved budget, not bringing forward budget from a later approval stage)

5. Strategic case update

The additional financial approval requested does not have a material impact on the previously approved strategic case. However, additional data has become available to influence the project's justification and decision-making since the OBC was submitted for approval in 2020, and this is summarised below.

Historic storm events

The OBC mentioned storm events during Winter 2013/14 which caused significant damage to the coastal defences, flooding of properties and disruption. Since then, there have been multiple storm events in 2016 (Storm Imogen), 2017, 2019 and 2022 (Storm Eunice) which resulted in overtopping, flooding of the promenade and closure of public areas.

Historic shingle recycling

The OBC stated that during the 1992 to 2017 period, approximately 17,600 m^3 was moved annually, with the occasional movement of shingle from Black Rock to Southwick on behalf of BHCC. Table 5 below sets out the total annual volumes of shingle that have been been recycled since 2017.

Year	Total volume of shingle recycled annually (m^3)
2017	14,850
2018	23,925
2019	0
2020	3,850
2021	23,100
2022	15,347
2023	22,000
2024	23,000

Table 5: Annual Shingle Recycling undertaken by BHCC since 2017

Condition of sheet pile wall in Areas 1 and 2

A 2023 condition inspection of the sheet piled wall in Areas 1 and 2 identified that the structures are no longer capable of supporting any crest raising works and are at imminent risk of failure, which would accelerate coastal erosion (JBA, October 2023). This assessment updates the condition reported in the 2016 CH2M asset condition report.

6. Economic case update

Changes to the previously approved option are summarised below.

Completed works

The programme of works has been reviewed in light of updated information since the OBC submission in 2020. While the programme of works remains unchanged, at the time of writing, several works have been completed along the frontage including:

- Detailed design and required approval and consents
- Construction of a new flood wall outside the Hove Deep Sea Anglers buildings (Area 4)
- Construction of a new rock revetment along Basin Road (Area 4)
- Ongoing annual shingle recycling works
- New sheet piling and capped sea wall defence at the Black Rock frontage (Area 6) – these £3m works were funded by BHCC independently of FCERM GiA
- Repairs to two timber groynes at Hove

Benefits and costs

Updates to the benefit and cost assessments since the approved OBC are detailed in Appendix A and summarised in Table 6. The changes are a result of:

- Updates to the damages/benefits in the 2020 OBC, to account for new information about the erosion year and valuation of the non-residential assets, most notably the damages associated with the Shoreham power station and sewage treatment works.
- Revisions to the costs and associated risk from contractors and early supplier engagement.

OBC version	PV whole life benefits	PV whole life costs	PV FCERM GiA	PV external funding contributions for 100% Partnership Funding score
2020 OBC	£181,973,988	£26,663,267	£9,781,633	£15,654,448
2025 BCUR	£483,285,637	£44,636,407	£21,746,104	£14,213,760

Table 6: Summary of benefit and cost assessment updates

Environmental assessment

Since the submission of the OBC in 2020, an Outline Construction Environmental Management Plan (CEMP) has been developed to support the construction of two rock revetments along the Shoreham beach frontage, as part of the Brighton Marina to River Adur FCERM Strategy. The Outline CEMP, included as Appendix B, sets out the environmental constraints and outlines the mitigation measures required to manage the impacts of the construction works.

7. Commercial case update

Contracting approach, procurement route and timescales

The preferred contracting approach to deliver the scheme remains individual design and construction commissions.

The original procurement strategy was produced in May 2020 and covered design and construction. The preferred contracting approach was to use existing framework agreements, especially:

- Detailed design – Environment Agency Next Generation Supplier Arrangements (NGSA) Collaborative Delivery Framework – Lot 1
- Construction – Environment Agency Marine and Coastal Framework (MCF)

Since then, the procurement approach for major construction works has changed to an open tender process to achieve delivery of best value. For example, the procurement strategy to use an open tender for Areas 2C, 2D and 5A in Phase 2 provided savings in excess of £1.7 million in comparison to prices provided at ESE stage under the CDF and value engineering. Given the works are now being procured through open tender, they are subject to the provisions of the Procurement Act 2023. Procurement of design services remains via the Collaborative Delivery Framework (CDF). The updated procurement strategy is provided in Appendix C.

The timetable for the agreement, procurement and award of contracts has also been updated since the OBC. Delays in planning and marine licensing decisions have impacted the schedule, resulting in a revised timeline. An updated summary programme is provided in Table 9 (Section 9 for management case). It remains the case that all scheme partners, in particular BHCC and ADC as local government authorities, are anticipated to require formal approval through their governance process prior to the award of any contract. The timeframe to achieve this has been included within the scheme programme.

Risk allocation

Since the OBC in 2020, further development and refinement of the scheme solutions have enabled a better understanding of the associated risks and constraints. In several cases, this has allowed risks to be mitigated or closed. Financial risk is distributed across all parties based on the cost of works within each area and its specific profile, as outlined in the current risk register (Appendix E). As the scheme progresses through the construction phase, risks associated with completed activities have been closed, and live risks are reweighted towards future activities using Monte Carlo analysis. The risk register is reviewed regularly to ensure it reflects the current project status. Additionally, the main works have been pre-costed and tested ahead of the tender process, with financial allocations formalised to cover costs, contingency, and the associated risk profile.

8. Financial Case update

Updates to the scheme costs and the Partnership Funding score since the approved OBC are detailed in Appendix A. The original approved scheme had a raw Partnership Funding score of 38% with PV maximum eligible GiA funding of £9,781,633. The updated costs and benefits since the approved OBC result in an overall increase of the raw Partnership Funding score to 60%, with a PV FCERM GiA funding towards the up-front costs of the scheme of £21,746,104. Furthermore, it remains an economically justifiable scheme with a positive benefit-cost ratio of 11.0.

The Project is supported by the RFCC and the new Cabinet of BHCC.

Tables 7 and 8 provide the updated expenditure and income statements to support this BCUR. Note:

- All values are cash costs (£k) and include risk, optimism bias and inflation.
- For the purposes of the Partnership Funding calculator, a 15-year benefit period is adopted as this is the time period between delivery of the benefits (year 3) and the next major investment (year 18), in accordance with the Partnership Funding guidance (EA, 2014).

Annualised spend profile (£k)	Pre-Yr 0	Yr 0 (this financial year)	Yr 1	Yr 2	Yr 3	Yr 4+	Total
Staff costs	101	48	28	28	28	28	261
Supplier costs to OBC and detailed design	1,829	237	-	-	-	-	2,066
Supplier costs during construction	-	-	180	180	180	75	615
Contractor costs	240	-	-	-	-	-	240
Site investigation	370	-	-	-	-	-	370
Environmental	-	-	-	267	-	-	267
Construction costs	2,529	1,976	11,815	4,246	5,518	3,229	29,313
Risk contingency on supplies and staff costs (20%)	-	57	42	42	42	21	202
Risk contingency on construction costs (20%)	-	395	2,363	903	1,104	646	5,410
Monte carlo (95%ile)		201	1,068	419	508	296	2,492
Optimism Bias (5%)	-	113	601	236	286	167	1,403
Inflation (2%)	-	45	240	94	115	67	561
Initial Project costs	5,070	3,072	16,337	6,415	7,780	4,527	43,202
Future costs:	-	-	-	-	-	-	-
- resource and capital	2,986	1,214	269	1,275	282	7,559	13,585
- future risk/optimism bias	-	-	-	-	-	-	-
Project whole life costs	8,056	4,286	16,606	7,691	8,062	12,087	56,787

Table 7: Updated expenditure statement

Annualised funding profile (£k)	Pre-Yr 0	Yr 0	Yr 1	Yr 2	Yr 3	Yr 4+	Total
Grant in Aid	5,070	3,072	8,000	1,949	3,500	4,330	25,921
Private contribution (Shoreham Port)			1,400	3,000	3,000		7,400
Partnership funding (BHCC)			6,937	1,466	1,280	198	9,881
Maintenance (BHCC)	2,986	1,214	269	1,275	282	7,559	13,585
Total	8,056	4,286	16,606	7,691	8,062	12,087	56,787

Table 8: Updated funding statement

9. Management case update

Project structure and governance

Figure 2 shows the current project governance structure. The following changes have been made since the approved OBC:

- Updated names of individuals
- Governance level updated from BHCC Committee to Cabinet at Level 5
- Confirmation of senior supplier as Van Oord UK Ltd
- Confirmation of delivery team as BHCC, JBA Consulting and Mott MacDonald

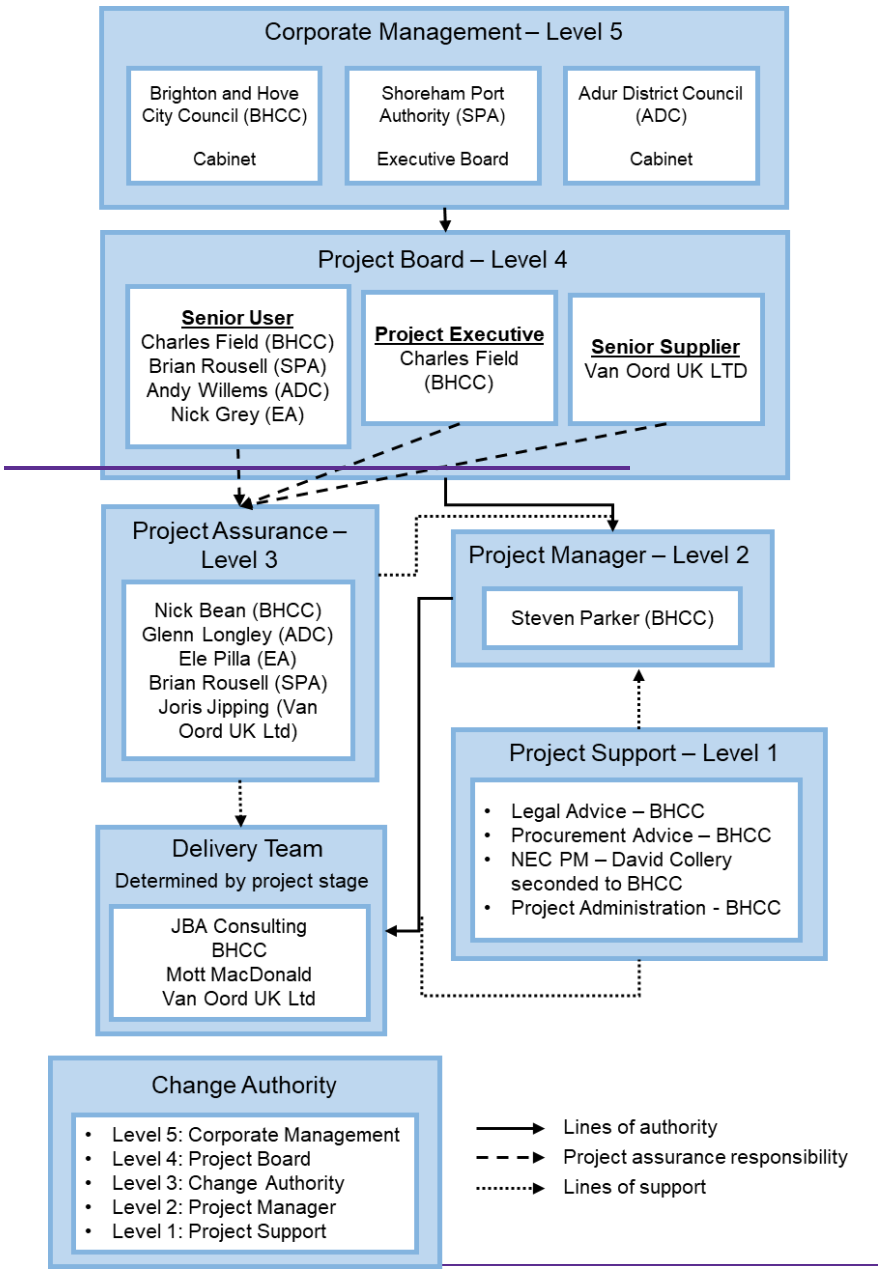


Figure 2: Updated project governance structure

Project roles and responsibilities

Corporate management and oversight of the scheme remains consistent with the approved OBC, with governance provided through Committee and Cabinet approvals

from BHCC and ADC, respectively. Shoreham Port Authority will continue to seek approval from its executive board.

However, there have been changes in the delivery team. The Senior Supplier role previously held by Jacobs during the outline design and appraisal stage is no longer active. Design services are now being provided by JBA Consulting and Mott MacDonald Limited.

Project plan

Some planned activities have now been completed since the approved OBC. Table 9 shows an updated summary programme.

Activity	Start	End
Detailed Design including surveys	2020	March 2026
EIA	2023	March 2028
Planning Consent, Marine Licence & Consents	2023	March 2027 to be extended until March 2029
Construction Contract Award	2023	March 2029
Construction – Area 4 (accelerated works)	2023	2024
Construction – Area 5	2025	2027
Construction – Area 2d & 2c	2025	2027
Construction – Area 2a & 2b	2027	2029
Construction – Area 1	2029	2030

Table 9 Updated summary project programme

Main Risks

The key risks with 'high' or 'significant' priority associated with the delivery of the scheme are outlined in Table 10 and forms part of the scheme's risk register in Appendix E. This was last reviewed in May 2025 and supersedes the risk register in the OBC.

Key Risk	Potential Consequences	Mitigating Actions
Partnership funding distribution.	Additional time to agree contributions with acceleration funding. Potential delays.	Continuous liaison with partners and contributors and sign legal partnership agreements / loan.
Increase in construction costs (management and design only).	Additional costs, impact on cost:benefit ratio of the scheme.	Early Contractor Involvement. Regular communication to understand required changes to the design.

Additional work and compensation events.	Additional design and construction costs. Delays.	Limit additional works to those required in consideration of risks and budgets. Track impacts on budget. Avoid prolongation and other impacts on project due to partner action/inaction. Transfer to consultant/contractor where possible.
Uncertainty in existing asset conditions requiring change of structural form.	Additional design and construction costs and delays to programme due to need for extensive designs and increased works.	Undertake structural investigations. Consultant to review information and maintain open communication to manage risk. Optimise budget. Transfer risk to the future by designing semi-temporary solutions. This risk has been realised and is reduced for future works as the majority of surveys have now been undertaken.
Extent of Area 2c repairs increasing during construction due to poorer than expected wall condition.	Additional design and construction costs and delays to programme due to need for increased works.	Practical measures on site. Supervisor / design support to be on site to review repairs during construction.
Damage to existing structures/assets.	Additional costs and delays to programme.	Transfer to Contractor. Complete pre-construction surveys of local housing, pier, seawall and highways.
Southern Water requires modification to outfall.	Additional costs and delays.	Engage Southern Water to understand asset..

Table 10: High Priority Risks

10. Recommendation

The BCUR seeks to release an additional £11,836k of FCERM GiA for the scheme.

Names of key consultees e.g. Finance Business Partner, PAD, NEAS, NE, Commercial, Legal etc.		
Name and job title	Date	Key outcomes from consultation
Nick Bean	24/11/2025	Approved
Steven Parker	24/11/2025	Approved
David Collery	24/11/2025	Approved
BHCC cabinet	24/11/2025	Approved
Project Board BHCC – ADW & SPA	24/11/2025	Approved

I confirm that the documentation is ready for submission to NPAS/LPRG/IT TAB/Budget Holder (delete as appropriate).

I, as Project Executive, have ensured that relevant parties have been consulted in the development of this project and the production of this update in particular the Project Sponsor and Senior User.

Name	Steven Parker
Job Title	Project Manager
Emailed approval	Steven.parker@brighton-hove.gov.uk
Date	25/11/2025

Attach email here.

Document List	File name
Business Case Update (Including FSOD Coversheet)	LIT 14175 – Business Case Update Report for Brighton Marina to River Adur FCERM Scheme
Appendix A: Brighton OBC – Economic Appraisal Update (Mott MacDonald, 2025)	OBC Economic Appraisal Update
Appendix B: Outline Construction Environmental Management Plan (CEMP)	Brighton Marina to River Adur FCERM Outline CEMP Final Report
Appendix C: Updated Procurement Strategy	Brighton Marina to River Adur FCERM Scheme Procurement Strategy 2020
Appendix D: Updated Risk Register	Scheme Risk Register_v4_15_May_2025

Appendix E – Briefing Note For FSoD Approver

Project Name: Brighton Marina to River Adur Flood and Coastal Risk Erosion Management Strategy
Date: 25/11/2025

	Current (k)	New (k)
FSoD Approval	**£14,085k**	**£25,921**
BCR (from PF calculator)	**5.3**	**11.0**
PF Score	**38% Raw PF score** **100% Adjusted PF score**	**60% Raw PF score** **100% Adjusted PF score**

Approval is sought for an additional £11,836k

1.0 Background

The open coast frontage between Brighton Marina (east) and the River Adur (west) is at risk of coastal erosion and flooding due to limited natural sediment supply, ageing and deteriorating coastal defences, and inconsistent beach management.

The River Adur and its training walls obstruct sediment movement, intensifying erosion at Shoreham. Low significant variations in defence heights and beach widths along the frontage have resulted in a number of weak points susceptible to flooding. Without intervention, key defences could fail within 30 years, and some defences have a residual life of less than one year. This would increase the number of residential and commercial properties at risk of flooding.

Construction of several new coastal defences and beach renourishment works along the Brighton Marina to River Adur frontage will reduce the risk of erosion and flooding, protecting the urbanised areas of Brighton and Shoreham.

The scheme is located along the open coast from the River Adur to Brighton Marina, within the boundaries of Unit 2 – Open Coast (as shown in Figure 1) of the approved Brighton Marina to River Adur Flood and Coastal Erosion Risk Management Strategy. The length of the coastal frontage is approximately 10km, consisting of 2.15km of ADC frontage and 7.85km of BHCC open coastal frontage.

The Outline Business Case (OBC) for the scheme, approved in 2020, builds on the Brighton Marina to River Adur Flood and Coastal Erosion Risk Management (FCERM) Strategy Review ("the 2014 Strategy"), which was approved and adopted in 2014. The Strategy is consistent with the Beachy Head to Selsey Bill Shoreline Management Plan (SMP2), which recommended that a capital improvement scheme should be undertaken for Units 1 – Shoreham Locked Section and Unit 2 – Open Coast to improve the coastal defences to a 0.5% AEP to reduce long term (100-year) flood and erosion risk, taking account of long-term climate change predictions to sea level rise.

The BCUR seeks to release an additional £11,836k of FCERM GiA for the scheme to cover increases in scheme costs since the OBC approval in 2020.

2.0 Reasons for change

The increase in scheme costs is primarily due to two factors identified following the completion of the Outline Business Case (OBC):

1. The complexity and associated costs of the required engineering solutions was underestimated at the OBC stage. An underestimation of the consultancy costs for the design, environmental, planning, consents and level of surveys required for the works has resulted in additional works and expenditure.
2. The condition and residual life of the existing assets were found to be worse than originally assessed at the OBC, requiring more extensive engineering solutions to achieve the required standard of protection.

3.0 Funding and Affordability

The original approved scheme had a raw Partnership Funding score of 38% with PV maximum eligible GiA funding of £9,781,633. The updated costs and benefits since the approved OBC result in an overall increase of the raw Partnership Funding score to 60%, with a PV FCERM GiA funding towards the up-front costs of the scheme of £21,746,104. Furthermore, it remains an economically justifiable scheme with a positive benefit-cost ratio of 11.0.

The funding continues to be a combination of BHCC, FDGiA and third party contributions from Shoreham Port Authority, with £23,466k from BHCC and £7,400k from Shoreham Port.

4.0 Risks

- Partnership funding distribution.
- Increase in construction costs (management and design only).
- Additional work and compensation events.
- Uncertainty in existing asset conditions requiring change of structural form.
- Extent of Area 2c repairs increasing during construction due to poorer than expected wall condition.
- Damage to existing structures/assets.
- Southern Water requires modification to outfall.

5.0 Timeline

Activity	Start	End
OBC Approved	2020	2020
Detailed Design including surveys	2020	March 2026
BCUR Update 1	2021	2021
EIA	2023	March 2028
Planning Consent, Marine Licence & Consents	2023	March 2027 to be extended until March 2029
Construction Contract Award	2023	March 2029
Construction – Area 4 (accelerated works)	2023	2024
Construction – Area 5	2025	2027
Construction – Area 2d & 2c	2025	2027

Construction – Area 2a & 2b	2027	2029
Construction – Area 1	2029	2030

6.0 Endorsement

BHCC TO INPUT ONCE VERIFIED