

**Summary of Partnership Funding Calculators**

Outcome Measures	Cowbar Cottages Phase 1 (PU 19.1)		Staites Village (PU 19.3)
	2030		2052
OM1 (Economic Benefit £k)	975		4,745
OM1b (People Related Impacts £k)	55		311
OM2 (Households better protected against flooding)	20% most deprived areas		
	21-40% deprived areas		15
	60% least deprived areas		
OM3 (Households better protected against coastal erosion)	20% most deprived areas	10	
	21-40% deprived areas		129
	60% least deprived areas		
OM4 (Environmental Improvements)			
Maximum FDGiA Contribution (£k)	233		1,824
Raw PF Score	32%		59%
Cost saving and/or external contribution required (£k)	497		1,252

# Flood and Coastal Erosion Risk Management (FCERM)

## Partnership Funding (PF) calculator 2020 for Flood and Coastal Erosion Risk Management Grant-in-Aid (FCERM GiA)

Version 1: March 2020 (for use by projects delivering FCERM outcomes after 1 April 2021)

Key	input	selection
	calculated cells	

### SECTION 1: Project details

Project Name	Staithes Coastal Strategy - Cowbar Cottages (PU 19.1)
National Project number	
Date of PF Calculator	09 July 2020
Lead RMA	Redcar & Cleveland Council
FCERM GiA applicant type	Local Authority

Project stage	SOC
Option reference	C-5b Phased Road Realignment

Benefit:Cost ratio	1.3 to 1
Effective return to taxpayer:	n/a to 1
Effective return on contributions:	n/a to 1

All values in £ (pound Sterling)

Figures in blue to be included in the national FCERM capital programme for the chosen option

**Caution. Low benefit to cost ratio. Cost increases may affect FCERM GiA eligibility**

### SECTION 2: Prospect of eligibility for FCERM GiA

Confirmed strategic approach?	Yes	See guidance. Evidence provided in the business case
Raw PF Score	32%	Adjusted PF Score: 32% <b>Insufficient contributions to secure FCERM GiA</b>
Minimum pv contribution/saving required	£ 497,293	pv FCERM GiA up-front costs: £ -
pv maximum eligible FCERM GiA	£ 232,940	pv FCERM GiA future costs: £ - <b>Other RMAs not eligible for FCERM GiA towards future costs</b>

### SECTION 3: Costs and contributions for the LEADING OPTION (over the duration of benefits period)

Estimated project costs	Towards qualifying outcomes	Contributions proposed to date	towards pv appraisal costs	towards pv qualifying outcomes up-front	towards pv qualifying outcomes future	Contributor(s) or Fund(s)
pv appraisal costs	£ 36,604	pv Local Levy				
pv design and construction costs	£ 419,791	pv other public sector				
pv risk contingency	£ 273,837	pv private and voluntary sector				
pv costs for approval	£ 730,232	pv other Environment Agency				
pv future costs	£ -	pv sub-total	£ -	£ -	£ -	
pv WLC (over duration of benefits)	£ 730,232	pv total contributions	£ -	£ -	£ -	

### SECTION 4: Outcome Measure 1 - economic benefits arising from FCERM

pv WLB (appraisal period)	£ 3,301,392	Economic summary sheet completed	Not required
Duration of benefits (DoB) period	15	Economic data included in business case?	Not required
pv WLB (DoB = OM1A)	£ 974,608		
People related impacts - due to measures proposed (DoB = OM1B)	£ 54,505		

### SECTION 5A: Outcome Measure 2A (today) - households at risk today that are better protected against flood risk by this project (over the duration of benefits period)

N° households in deprived areas	at risk today					change due to project					pv qual. benefits	
	low risk	moderate risk	intermediate risk	significant risk	very significant risk	low risk	moderate risk	intermediate risk	significant risk	very significant risk	£	
20% most deprived						0	0	0	0	0	£	-
21% to 40% most deprived						0	0	0	0	0	£	-
60% least deprived						0	0	0	0	0	£	-

  

N° households in deprived areas	at risk after duration of benefits					Annual damages avoided (£) compared with a household at low risk				
	low risk	moderate risk	intermediate risk	significant risk	very significant risk	low risk	moderate risk	intermediate risk	significant risk	very significant risk
20% most deprived						0	59	294	1000	1589
21% to 40% most deprived										
60% least deprived										

The deprivation categories are taken from the **Index of Multiple Deprivation**, available through gov.uk (see guidance and version sheet for links)

### SECTION 5B: Outcome Measure 2B (2040) - households at risk in 2040 that are better protected against flood risk by this project (over the remaining duration of benefits period)

Year when measures are ready for service - Gateway 4	OM2 (2040) FCERM GiA eligibility is not applicable
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N° households in deprived areas	at risk from 2040					change due to project					pv qual. benefits	
	low risk	moderate risk	intermediate risk	significant risk	very significant risk	low risk	moderate risk	intermediate risk	significant risk	very significant risk	Ltd by DoB	
20% most deprived						0	0	0	0	0	Ltd by DoB	
21% to 40% most deprived						0	0	0	0	0	Ltd by DoB	
60% least deprived						0	0	0	0	0	Ltd by DoB	

  

N° households in deprived areas	at risk after duration of benefits					Annual damages avoided (£) compared with a household at low risk				
	low risk	moderate risk	intermediate risk	significant risk	very significant risk	low risk	moderate risk	intermediate risk	significant risk	very significant risk
20% most deprived						0	59	294	1000	1589
21% to 40% most deprived										
60% least deprived										

The deprivation categories are taken from the **Index of Multiple Deprivation**, available through gov.uk (see guidance and version sheet for links)

### SECTION 6: Outcome Measure 3 - households better protected against coastal erosion

N° households in deprived areas	at risk today		Damages per household avoided:				pv qual. benefits	
	long-term loss	medium-term loss	Annual damages avoided	Loss expected in	Present value of Year 1 loss (i.e. first year damages, discounted based on when loss is expected)	Long-term loss	Medium-term loss	£
20% most deprived		10	£ 6,800	£ 6,800	£ 1,341	£ 3,417	£	427,776
21% to 40% most deprived			50	20			£	-
60% least deprived							£	-

### SECTION 7: Outcome Measure 4 - environmental improvements

Type of habitat (OM4A)	'before' condition (Ha)			'after' condition at end of DoB (Ha)			pv qual. benefits	Length of river habitat enhanced (OM4B)	pv qual. benefits
	Poor	Moderate	Good	Poor	Moderate	Good			
Intertidal habitat							£ -	Comprehensive restoration	£ -
Woodland							£ -		Partial restoration
Wet woodland							£ -	A single, major physical improvement	
Wetlands/wet grassland							£ -		
Grassland							£ -		
Heathland							£ -		
Ponds/lakes							£ -		
Arable land							£ -		

### SECTION 8: Qualifying benefits and eligible FCERM GiA arising from project

OM	deprivation	Qualifying benefits	%age benefits	Payment rate	Eligible FCERM GiA	%age
OM1a	overall	£ 492,327	50.5%	6	£ 29,540	12.7%
OM1b	people related	£ 54,505	5.6%	20	£ 10,901	4.7%
OM2	20% most	£ -	0.0%	45	£ -	0.0%
	21% to 40%	£ -	0.0%	30	£ -	0.0%
	60% least	£ -	0.0%	20	£ -	0.0%
OM3	20% most	£ 427,776	43.9%	45	£ 192,499	82.6%
	21% to 40%	£ -	0.0%	30	£ -	0.0%
	60% least	£ -	0.0%	20	£ -	0.0%
OM4	habitat	£ -	0.0%	20	£ -	0.0%
	rivers	£ -	0.0%	20	£ -	0.0%
<b>Total</b>		<b>£ 974,608</b>		<b>pv max. eligible GiA</b>	<b>£ 232,940</b>	

### Example sensitivity analyses

Test	Raw score	Contributions required	%age of whole life costs
PF Calculator (above)	32%	£ 497,293	68%
SA1: pv WLC - Affordability	26%	£ 679,850	74%
SA2: OM2 - Flood risks lower than assumptions made	N/A	No OM2 contribution	n/a
SA3: OM3 - Erosion risks lower than assumptions made	25%	£ 547,967	75%
SA4: Duration of benefits - Option choice is conservative	35%	£ 475,004	65%
SA5: Duration of benefits - Option choice is optimistic	27%	£ 530,824	73%
SA6: Strategic considerations not demonstrated	14%	£ 625,409	86%
SA7: Change in environmental habitat is optimistic	N/A	No OM4 contribution	n/a

# Flood and Coastal Erosion Risk Management (FCERM)

## Partnership Funding (PF) calculator 2020 for Flood and Coastal Erosion Risk Management Grant-in-Aid (FCERM GiA)

Version 1: March 2020 (for use by projects delivering FCERM outcomes after 1 April 2021)

Key	input	selection
	calculated cells	

### SECTION 1: Project details

Project Name	Staithes Coastal Strategy - Staithes Village (PU19.3)
National Project number	
Date of PF Calculator	09 July 2020
Lead RMA	Scarborough Borough Council
FCERM GiA applicant type	Local Authority

Project stage	SOC
Option reference	S-3a + S-4a

Benefit:Cost ratio	1.5 to 1
Effective return to taxpayer:	n/a to 1
Effective return on contributions:	n/a to 1

All values in £ (pound Sterling)

Figures in blue to be included in the national FCERM capital programme for the chosen option

**Caution. Low benefit to cost ratio. Cost increases may affect FCERM GiA eligibility**

### SECTION 2: Prospect of eligibility for FCERM GiA

Confirmed strategic approach?	Yes	See guidance. Evidence provided in the business case
Raw PF Score	59%	Adjusted PF Score: 59% <b>Insufficient contributions to secure FCERM GiA</b>
Minimum pv contribution/saving required	£ 1,251,759	pv FCERM GiA up-front costs: £ -
pv maximum eligible FCERM GiA	£ 1,823,506	pv FCERM GiA future costs: £ - <b>Other RMAs not eligible for FCERM GiA towards future costs</b>

### SECTION 3: Costs and contributions for the LEADING OPTION (over the duration of benefits period)

Estimated project costs	Towards qualifying outcomes	Contributions proposed to date	Towards pv appraisal costs			Towards pv qualifying outcomes up-front			Towards pv qualifying outcomes future			Contributor(s) or Fund(s)
pv appraisal costs	£ 273,932	pv Local Levy										
pv design and construction costs	£ 1,624,543	pv other public sector										
pv risk contingency	£ 1,139,085	pv private and voluntary sector										
pv costs for approval	£ 3,037,560	pv other Environment Agency										
pv future costs	£ 64,132	<b>pv sub-total</b>	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -		
pv WLC (over duration of benefits)	£ 3,101,692	pv total contributions	£ -	£ -	£ -	<b>Contributions to future costs are not included in GiA calculation. Other RMAs are encouraged to secure contributions towards future costs, separately</b>						

### SECTION 4: Outcome Measure 1 - economic benefits arising from FCERM

pv WLB (appraisal period)	£ 4,745,155	Economic summary sheet completed	Not required
Duration of benefits (DoB) period	100	Economic data included in business case?	Not required
pv WLB (DoB = OM1A)	£ 4,745,155		
People related impacts - due to measures proposed (DoB = OM1B)	£ 310,554		

### SECTION 5A: Outcome Measure 2A (today) - households at risk today that are better protected against flood risk by this project (over the duration of benefits period)

N° households in deprived areas	at risk today					change due to project					pv qual. benefits	
	low risk	moderate risk	intermediate risk	significant risk	very significant risk	low risk	moderate risk	intermediate risk	significant risk	very significant risk	£	£
20% most deprived						0	0	0	0	0		
21% to 40% most deprived					15	0	0	15	0	-15		579,797
60% least deprived						0	0	0	0	0		

  

N° households in deprived areas	at risk after duration of benefits					Annual damages avoided (£) compared with a household at low risk				
	low risk	moderate risk	intermediate risk	significant risk	very significant risk	low risk	moderate risk	intermediate risk	significant risk	very significant risk
20% most deprived						0	59	294	1000	1589
21% to 40% most deprived				15						
60% least deprived										

The deprivation categories are taken from the **Index of Multiple Deprivation**, available through gov.uk (see guidance and version sheet for links)

### SECTION 5B: Outcome Measure 2B (2040) - households at risk in 2040 that are better protected against flood risk by this project (over the remaining duration of benefits period)

Year when measures are ready for service - Gateway 4: **OM2 (2040) FCERM GiA eligibility is not applicable**

N° households in deprived areas	at risk from 2040					change due to project					pv qual. benefits	
	low risk	moderate risk	intermediate risk	significant risk	very significant risk	low risk	moderate risk	intermediate risk	significant risk	very significant risk	Ltd by DoB	Ltd by DoB
20% most deprived						0	0	0	0	0		
21% to 40% most deprived						0	0	0	0	0		
60% least deprived						0	0	0	0	0		

  

N° households in deprived areas	at risk after duration of benefits					Annual damages avoided (£) compared with a household at low risk				
	low risk	moderate risk	intermediate risk	significant risk	very significant risk	low risk	moderate risk	intermediate risk	significant risk	very significant risk
20% most deprived						0	59	294	1000	1589
21% to 40% most deprived										
60% least deprived										

The deprivation categories are taken from the **Index of Multiple Deprivation**, available through gov.uk (see guidance and version sheet for links)

### SECTION 6: Outcome Measure 3 - households better protected against coastal erosion

N° households in deprived areas	at risk today		Damages per household avoided:		pv qual. benefits	
	long-term loss	medium-term loss	Annual damages avoided	Loss expected in	£	£
20% most deprived			£ 6,800	years	£ 6,800	
21% to 40% most deprived	127	2	50		20	£ 5,291,519
60% least deprived			£ 1,341		£ 3,417	

Present value of Year 1 loss (i.e. first year damages, discounted based on when loss is expected)

### SECTION 7: Outcome Measure 4 - environmental improvements

Type of habitat (OM4A)	'before' condition (Ha)			'after' condition at end of DoB (Ha)			pv qual. benefits	Length of river habitat enhanced (OM4B)	
	Poor	Moderate	Good	Poor	Moderate	Good		Comprehensive restoration	Partial restoration
Intertidal habitat							£ -		
Woodland							£ -		
Wet woodland							£ -		
Wetlands/wet grassland							£ -		
Grassland							£ -		
Heathland							£ -		
Ponds/lakes							£ -		
Arable land							£ -		

A single, major physical improvement

### SECTION 8: Qualifying benefits and eligible FCERM GiA arising from project

OM	deprivation	Qualifying benefits	%age benefits	Payment rate	Eligible FCERM GiA	%age
OM1a	overall	Ltd by high OM1b,2,3,4 values	0.0%	6	£ -	0.0%
OM1b	people related	£ 310,554	5.0%	20	£ 62,111	3.4%
OM2	20% most	£ -	0.0%	45	£ -	0.0%
	21% to 40%	£ 579,797	9.4%	30	£ 173,939	9.5%
	60% least	£ -	0.0%	20	£ -	0.0%
OM3	20% most	£ -	0.0%	45	£ -	0.0%
	21% to 40%	£ 5,291,519	85.6%	30	£ 1,587,456	87.1%
	60% least	£ -	0.0%	20	£ -	0.0%
OM4	habitat	£ -	0.0%	20	£ -	0.0%
	rivers	£ -	0.0%	20	£ -	0.0%
<b>Total</b>		<b>£ 6,181,870</b>		<b>pv max. eligible GiA</b>	<b>£ 1,823,506</b>	

### Example sensitivity analyses

Test	Raw score	Contributions required	%age of whole life costs
PF Calculator (above)	59%	£ 1,251,759	41%
SA1: pv WLC - Affordability	47%	£ 2,011,148	52%
SA2: OM2 - Flood risks lower than assumptions made	58%	£ 1,290,472	42%
SA3: OM3 - Erosion risks lower than assumptions made	58%	£ 1,269,973	41%
SA4: Duration of benefits - Option choice is conservative	59%	£ 1,251,758	40%
SA5: Duration of benefits - Option choice is optimistic	55%	£ 1,352,024	44%
SA6: Strategic considerations not demonstrated	26%	£ 2,233,949	72%
SA7: Change in environmental habitat is optimistic	N/A	No OM4 contribution	n/a