

Swansea Bay City Deal

Construction Impact Assessment

Summary Report



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Date	January 2025
Version	Final

1.0 Executive Summary

The Construction Impact Assessment (CIA) provides a combined assessment of construction costs, and associated risks and issues, to identify the potential effect across the SBCD Portfolio and any likely effect on Business Case delivery.

To date, the estimation of cost increases has been applied on a project-by-project basis for the primary elements of Business Case procurements and the risk and issue assessment has been undertaken on a broader Business Case level. Going forward, the cost inflation and risk/issue assessments will be undertaken at a project element level.

This version of the CIA includes the remaining high-cost construction elements that are part of project Business Case outputs and are planned for future phases of project and programme delivery. There remains a risk that increased costs may affect delivery and viability of future stages, which, in some cases, may subsequently affect achievability of programme and project deliverables and benefits.

The CIA covers 23 high-cost construction-related project elements that are included in the nine SBCD headline Programme and Project Business Cases. At the date of this report:

- 7 projects are/soon to be completed (known cost with no further risks or issues)
- 5 projects are either procured and subject to (pre)contractual arrangements or at a perceived fixed cost (unconfirmed costs with some elements of risk remaining)
- 11 project elements yet to be procured (estimated cost with more risks and issues remaining)

The seven completed project elements experienced cost inflation to a total of £31.89m which has been addressed following successful mitigating actions undertaken by the Lead Delivery Organisations, as detailed in Appendix 1.

Table 1 in the report details the estimated increase in cost for the 16 project elements yet to be delivered is circa £42.69m, noting that several projects are yet to be fully costed, so this figure is likely to increase as delivery progresses.

UPDATE

No change in construction costs since last report.

Changes in risk assessment:

Reduction in Red Risks and Amber Risks, with increases in Green Risks mainly attributable to PDM reviewing all their Risks. Increase in Green Risks across all 5 fields, Reduction in Amber Risks across all fields, Reduction in Red Risks relating to Time and Cost.

Impact Field	Scope	Targets	Time	Reputation	Stakeholder/ Partnerships	Costs	Procurement	Resources
Risk / Issue								
Red	1	0	5	0	0	3	0	0
Amber	8	15	15	16	9	20	14	4
Green	37	31	26	30	37	23	32	42

The Construction sector is more settled (December 2024) than when the original CIA was compiled in 2022 and the spike in prices and material supply issues were at a peak. Although prices remain high and inflationary pressures persist, they are more predictable, and supply and sector confidence are much improved.

However, the 5-year BCIS construction industry forecast for Q4 2024 to Q4 2029 predicts that building costs will increase by 17% over the next five years, while tender prices will rise by 19% over the same period, according to their latest construction forecast data.

The PoMO continues to monitor the impact of inflation, cost, risks and issues on project delivery on a quarterly basis. SROs and Project Managers are required to notify the PoMO and record change events via the change management process and submit appropriate paperwork via their local and SBCD regional governance arrangements.

2.0 Background

The Construction Impact Assessment was originally developed in 2022 as a response to several macro-economic factors affecting the construction industry. The PoMO forecasted the likely impact of increasing construction costs on the Business Case estimates across the SBCD Portfolio and assessed the initial risks/issues to project delivery.

SBCD Programme Board and Joint Committee subsequently requested that all Lead Delivery Organisations continued to assess and monitor the status of their SBCD Programmes and Projects and report the potential or actual impact of construction related challenges on successful delivery of their Programmes or Projects and business case delivery.

The Construction sector is more settled (December 2024) than when the original CIA was compiled in 2022 and when the spike in prices and material supply issues were at a peak. Although prices remain high and inflationary pressures persist, they are more predictable, and supply and sector confidence are much improved.

However, the 5-year BCIS construction industry forecast for Q4 2024 to Q4 2029 predicts that building costs will increase by 17% over the next five years, while tender prices will rise by 19% over the same period, according to their latest construction forecast data.

3.0 Definitions

For the purposes of this report the term Construction Costs is defined as those costs directly attributable to the building, refurbishing, or delivering items or services that are specified in the procurement tendering process and the construction contract awarded for each individual element of the SBCD projects or programmes.

The non-exhaustive list includes groundworks, site works, costs of materials, labour, consultancy, mechanical and electrical items, fuel, machinery and operation, PPE, and on-site staff facilities.

It should not include any ancillary consultancy fees, or similar activities, that are associated with the wider delivery of projects or programmes.

4.0 Project and Programme Construction Impact Assessment December 2024

4.1 Overview

The Construction Impact Assessment provides a combined assessment of construction costs, risks, and issues and their effect on Business Case delivery across the SBCD Portfolio. To date, the estimation of cost increases has been applied on a project-by-project basis for the headline Business Case procurements and the risk and issue assessment has been undertaken on a broader Business Case level. Going forward, the cost inflation and risk/issue assessments will be undertaken at a project element level.

This version of the CIA includes the construction elements that are part of project Business Case outputs and are planned for future phases of project and programme delivery. There remains a risk that increased costs may affect delivery and viability of future stages, which, in some cases, may subsequently affect achievability of programme and project deliverables and benefits.

The CIA now covers the 23 high-cost construction-related project elements that are included in the 9 SBCD programme and project Business Cases. The status of the 23 project elements is as follows:

a) Completed /soon to be completed.

7 construction project elements (known cost with no further risks or issues) **See Appendix 1**

- Yr Egin Phase 1
- Swansea Arena
- Bay Technology Centre
- 71/72 Kingsway
- Innovation Matrix
- Pentre Awel Zone 1
- Pembroke Dock Infrastructure (PDI) element of PDM

b) Procured and subject to (pre)contractual arrangements or at a perceived fixed cost.

5 construction project elements (unconfirmed costs with some elements of risk remaining)

- Campuses Phase 1 - Sketty Lane Innovation Centre
- SWITCH element of SILCG
- Digital Infrastructure
- Campuses Phase 1 - Morryston Planning
- Campuses Phase 1 – Morryston refurbishment

c) Yet to be procured

11 construction project elements (estimated cost with more risks and issues remaining):

- AMPF element of SILCG
- NNZCoE element of SILCG
- Yr Egin Phase 2
- Innovation Precinct element of Swansea Waterfront
- Swansea Waterfront Hotel
- Campuses – Morryston Phase 2, Life Science Park
- Campuses – Sketty Lane Phase, 2 Swansea Bay Sports Park
- Pentre Awel zone 2
- Pentre Awel zone 3, Expansion of Life Science Business centre
- Pentre Awel zone 3, Assisted living
- Pentre Awel Zone 4, Hotel

The SBCD Portfolio has numerous non-construction procurements that are excluded from the scope of the CIA, for example, purchasing of equipment, funding schemes, or incentivisation activities. These procurements do not directly fund any construction activity. However, increased costs and inflationary pressures could have an indirect effect on the realisation of project and programme outcomes and impact. This will be monitored separately via the benefits and risk reporting processes.

The CIA is reviewed quarterly to align costs with current risks and circumstances. Reported costs will change as and when contracts are awarded, or during delivery.

4.1 Project and Programme Cost Assessment Summary

Seven completed project elements experienced cost inflation to a total of £31.89m which has already been addressed by mitigating actions undertaken by the Lead Delivery Organisations. See Appendix 1.

Update: There has been no change in estimated construction costs for the projects covered in the previous report.

The CIA now includes an initial assessment of those projects that are yet to be designed and costed. A conservative estimate of increased construction costs is likely to increase as delivery progresses. The current funding gap has been estimated at circa £42.69m, as detailed in Table 1.


		Construction Cost Assessment Live elements			
Programme/Project	Construction Estimate (Per BC) (£)	Current Estimation (December 2024)(£)	Variance (£)	Development Position	
SILCG					
SWITCH	15,000,000	23,000,000	8,000,000	Estimated	
Advanced Manufacturing	17,200,000	21,595,189	4,395,189	Estimated	
NNZSCoE	5,300,000	5,300,000	-		
	37,500,000	49,895,189	12,395,189		
Pentre Awel					
Zone 2 Nursing Care and Residential Rehab Unit	19,000,000	22,487,662	3,487,662	Estimated	
Zone 3 Expansion Life Science Business Centre	25,600,000	30,299,166	4,699,166	Estimated	
Zone 3 Assisted Living	27,500,000	32,547,932	5,047,932	Estimated	
Zone 4 Wellness Hotel	16,900,000	20,002,184	3,102,184	Estimated	
	89,000,000	105,336,944	16,336,944		
Yr Egin					
Phase 2	10,301,653	12,956,872	2,655,219	Estimated	
	10,301,653	12,956,872	2,655,219		
Swansea Waterfront					
Hotel	19,000,000	22,487,662	3,487,662	Estimated	
Innovation Precinct	17,424,458	21,092,933	3,668,475	Estimated	
	36,424,458	43,580,595	7,156,137		
Campuses					
Singleton Phase 1 Sketty Lane Innovation Centre	12,790,000	16,945,955	4,155,955	Estimated	
Morryston Phase 1 Road Planning	960,000	960,000	-	Estimated	
Morryston Phase 1 Refurbishment	1,250,000	1,250,000	-	Estimated	
Morryston Phase 2, Life Science Park					
Sketty Lane Phase, 2 Swansea Bay Sports Park					
	15,000,000	19,155,955	4,155,955		
Digital Infrastructure					
	20,500,000	20,500,000	-	Estimated	
Total	208,726,111	251,425,555	42,699,444		

Table 1: Construction Cost assessment - outstanding project elements

Due to their status a full funding gap estimate is not available at present, however a risk/issue/confidence assessment can be made based on estimated costs. These projects are part of the project Business Case outputs and there remains a risk that increased costs may affect delivery of future stages which, in some cases, may affect achievability of programme and project benefits and deliverables.

The current estimate, as of December 2024, has been derived using a combination of actual costs, current tender pricing, and cost estimation. These are based on actual and anticipated delivery timelines i.e. build of infrastructure. The funding gap is caused by inflationary pressures and rising construction costs between business case development, sign off, and now. See Appendix 2 for methodology.

Costs that are outside of the original budget allocations will be managed by Local Authorities and Lead delivery partners. An explanation of mitigating actions and the consequences of mitigation are given in Table 2.

The following table will be populated as part of the CIA on a quarterly basis to detail key status updates and mitigations/resolutions to funding gaps for forthcoming projects. This iteration provides the cost, description, estimated cost increase and any preliminary notes per project element:

Element	Cost	Description	Increase	Comments
Supporting Innovation and Low Carbon Growth LDO Neath Port Talbot Council				
SWITCH	£23m	SWITCH element, the overall budget for the project is £28m split into £23m build (construction) and £5M for specialist equipment	£8M	SWITCH: on-going review and value engineering. Seeking other funding opportunities.
AMPF	£21.6m	AMPF element not yet procured	£4.4m	
NNZSCoE	£5.3m	Combines with AMPF		
Pentre Awel LDO Carmarthenshire County Council				
Zone 2 Nursing Care and Residential Rehab Unit	£19m		£3.5m	
Zone 3 Expansion Life Science Business Centre	£25.6m		£4.7m	
Zone 3 Assisted Living	£27m		£5m	
Zone 4 Wellness Hotel	£16.9m		£3.1m	
Yr Egin LDO University of Wales Trinity Saint David				
Phase 2	£2.65M	Change Request being developed for Phase 2, which aligns to current regional demand.	£2.65M	The Egin 2 delivery solution is currently under review by the University's new senior management team..
Swansea Waterfront LDO Swansea Council/UWTSD				
Hotel	£19m		£3.5m	
Innovation Precinct	£17.4m		£3.7m	
Campuses LDO Swansea University				
Singleton Phase 1, Sketty Lane Innovation Centre	£12.79m		£4.17m	
Morrison Phase 1, Road Planning	£0.96m		0	
Morrison Phase 1, Refurbishment	£1.25m		0	
Morrison Phase 2, Life Science Park				
Sketty Lane Phase 2, Swansea Bay Sports Park				

Digital Infrastructure LDO Carmarthenshire County Council				
All elements	£20.5m		0	

Table 2. Pipeline project delivery status

4.2 Summary of Risks and issues

The Construction Impact Assessment assesses risks through 10 questions that represent broader issues being experienced in the construction industry that may affect project delivery. These questions are mapped across 8 fields to score potential impact and probability of occurrence leading to a high, medium, low (Red, Amber, Green RAG) rating and can be summarised at Portfolio level as follows (See Appendix 2 for methodology):

Update:

This period shows a reduction in Red Risks and Amber Risks, increase in Green Risks mainly attributable to PDM reviewing all their Risks. Increase in Green Risks across all 5 fields, Reduction in Amber Risks across all fields, Reduction in Red Risks relating to Time and Cost.

Impact Field	Scope	Targets	Time	Reputation	Stakeholder/ Partnerships	Costs	Procurement	Resources
Risk / Issue								
Red	1	0	5	0	0	3	0	0
Amber	8	15	15	16	9	20	14	4
Green	37	31	26	30	37	23	32	42

Table 3: Portfolio construction impact risk assessment summary

A full summary broken down by project is available in Appendix 3.

Areas of concern will continue to be monitored, and as any issues arise, along with associated change requirements, Project Managers will submit change notifications or requests to the PoMO for reporting and escalation, as per the SBCD Change Procedure. This will ensure that:

- All change is reported, recorded, escalated, and approved appropriately.
- Any mitigations required are implemented.
- The overall success of outcomes, outputs and impacts are not affected.

An explanation of methodology is given in Appendix 2.

7.0 Conclusion

The completion of seven projects has demonstrated the significant effect that inflation and increased construction costs are having on the cost of project delivery when compared to the approved Outline Business Case estimates. This raises concerns for those projects yet to be delivered, especially for those projects that are experiencing slippage in delivery, as delays will inevitably lead to higher costs when going through procurement.

The enhanced CIA will provide a better indication of how the Lead Delivery Organisations view the future stages according to the Business Cases and any mitigating actions they will undertake to ensure successful project delivery.

Although there are several recommended mitigating actions available to Project Managers, the common approaches to address the funding shortfall are to:

- Secure additional funding
- Revisit the construction brief
- Open dialogue with contractors.

Inflationary uncertainties aside, the Construction sector seems more settled than in 2022 when the original CIA was compiled and the spike in prices and material supply issues were at a peak. Although prices remain high, they are more consistent, and supply and sector confidence are much improved. Contract terms and recruitment/labour costs remain big issues across the sector.

Inflation rates, although high, seem to be falling against predictions which will help future procurements.

While value management is always important, it is particularly so at a time when budgets are under pressure. Regular reviews should be undertaken to look for opportunities and to ensure the best use of available resources.

Altering the specification and reducing floorspace needs caution as it may affect the projects' ability to achieve its intended targets; this could be attracting tenants and thus achieving rental income, being able to deliver jobs or being fit for original intended purpose.

Those projects that are in early procurement stages are assessing the procurement pathways available. Entering dialogue with contractors to manage any cost issues is recommended as best practice by industry bodies.

Mitigating actions by Lead Delivery Organisations reduce the headline shortfall figure but significant residual shortfall remains.

Appendix 1 – Completed Projects

Completed Projects

Note: cost increases have been covered by mitigations undertaken by the Lead Delivery Organisations.


 Construction Cost Assessment Completed Elements				
<u>Programme/Project</u>	<u>Construction Estimate (Per BC) (£)</u>	<u>Current Estimation (December 2024)(£)</u>	<u>Variance (£)</u>	<u>Development Position</u>
<u>SILCG</u>				
Bay Technology Centre	8,500,000	8,883,000	383,000	Actual
<u>Pentre Awel</u>				
Canolfan (Zone 1)	79,000,000	96,478,000	17,478,000	Actual
<u>Yr Egin</u>				
Phase 1	14,868,348	14,868,348	-	Actual
<u>Swansea Waterfront</u>				
Arena and Public Realm	68,975,842	73,398,769	4,422,927	Actual
71/72 Kingsway	48,540,125	48,540,125	-	Actual
Innovation Matrix/DLF	9,000,000	12,500,000	3,500,000	Actual
	126,515,967	134,438,894	7,922,927	
<u>PDM</u>				
Pembroke Dock Infrastructure	41,593,611	47,700,000	6,106,389	Actual
Total	270,477,926	302,368,242	31,890,316	

Table 4 Completed Projects

Table 5 Completed Projects - Cost Variance from Business Case and Residual Variance after Mitigating Actions

Project/Programme	Lead deliverer	Cost variance	Key mitigation(s)	Residual variance	Mitigations to address Residual/Notes
Swansea Waterfront - Arena and Public realm	Swansea Council	£4.4m	Shortfall to be met by Swansea Council.	£0	n/a Hotel yet to be procured.
Swansea Waterfront - 71/72 Kingsway		between £2m-3m	71/72 Kingsway shortfall estimated. Fixed price contracts with tier 1 contractor, however cost inflation is having a negative impact which is being monitored closely.	£0	
Swansea Waterfront - Innovation Matrix and Precinct	University of Wales Trinity Saint David	£3.5m	Innovation Matrix shortfall met by UWTSD. Value engineering on design and build.	£0	Innovation Precinct yet to be assessed for cost variance and will be subject to a change request.
Pentre Awel Zone 1 Canolfan	Carmarthenshire County Council (CCC)	£17.5m	Shortfall to be met by CCC. Value engineering exercise undertaken. Changes to materiality and some omissions undertaken. Reduction of building area by 750m ² . Increased use of digital and remote delivery for education and training, health and research/innovation.	£0	NB The £84,056,756 is the total value of the current construction contract, but the total costs incurred in relation to Zone 1 of Pentre Awel are projected as £96.47m. This includes an additional sum of £2.6m for fit out costs which sits outside of the current construction contract, which will be procured once further tenants are confirmed. Change Identification Notice to be submitted.
SILCG	Neath Port Talbot Council	£0.38m	Bay Technology Centre		Settled from NPTC Budget
Pembroke Dock Marine – Pembroke Dock Infrastructure	Pembroke Port	£6.1m	<ul style="list-style-type: none"> Competitive tenders and further review of Best and Final with additional scrutiny. Value Engineering. Innovative re-phasing within overall programme to deliver the individual phased outputs and outcomes as per BC/Outputs. Additional WEFO funding secured brings costs down from circa £55m to £45m. Additional WEFO funding secured.	£0	MHPA's 4 mitigations will deliver the Outputs as defined within the OBC and associated Outcomes. New estimate is £47.7M (with final Lot 3 works to be completed). Total WEFO funding is £12.66M. MHPA contribution is £13.5M.
	TOTAL	£31.88	•	£0	

Appendix 2 - Methodology

1. Cost Estimates

Current estimated costs have been provided by the SBCD Programmes and Projects; these can be based on either:

- Actual cost- where current tender prices have been provided or
- Estimated cost - where projects are pre-tender

UK inflation rates at 1.25% have been applied to financial years 2017/18 – 2022/23 to demonstrate projected estimation figures. This was the rate when the original Construction Cost report was created.

It should be noted that from September 2022 the rate of inflation rose to 5.25% (October 2023), fell to 3.9% (Jan 2024) and currently sits at 2.07% (Jan 2025).

Building Cost Information Service All-in Tender Price Index (TPI) ([bcis.co.uk](https://www.bcis.co.uk)) indices were used to calculate projected estimations for future years (2023/24 – 3.2%, 2024/25 – 3.9%). These indices are industry specific and were deemed most appropriate to apply. The actual BCIS Q4 2024 TPI figure now shows a decrease to 2.3% down from 3.5%.

The 5-year BCIS construction industry forecast for Q4 2024 to Q4 2029 predicts that building costs will increase by 17% over the next five years, while tender prices will rise by 19% over the same period, according to their latest construction forecast data.

Inflationary rates are estimated and where Building Cost Information Service indices have been used these by their nature do not account for volatile or unexpected adjustments.

2. Construction impact risk assessment (CIA) Requirements

The CIA has been developed with 9 key questions listed below, whilst providing projects the opportunity to highlight specific risks or issues under question 10:

		Risk or Issue
	<u>People</u>	
1	Decreased available labour and/or suitable subcontractors and suppliers	
2	main contractor delivery/management team - skills and capacity issues in terms of project delivery	
	<u>Materials</u>	
3	Lack of availability of construction materials	
4	Quality of materials (due to lack of stock of preferred option)	
	<u>Finance</u>	
5	Rising construction costs results in exceeding/increasing programme / project budget	
6	Contractor / subcontractor / supplier going bankrupt/experiencing financial difficulty	
	<u>Timelines</u>	
7	Delays in project programme due to traditional infrastructure project factors such as ground/weather/construction site issues etc.	
8	delay in obtaining relevant construction related / operational approvals	
	<u>Policy/political</u>	

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9	revised industry/governmental statutory & mandatory requirements - including technological/policy/political advancements since initial planning phases	
10	Other Please highlight any other risks/issues in relation to construction not highlighted above	

Table 6 CIA Criteria

These questions are scored across 8 fields of potential impact of low/medium/high (Probability x Impact). The result is shown in the following example return from a Project or Programme:

Ref No.	Risk		Scope and key objectives	Targets	Timescales	Reputation if project fails to deliver	Stakeholders/ partnerships commitment	Project costs	Procurement	Staff resourcing
		Risk or Issue								
	People									
1	labour and/or suitable subcontractors and suppliers	Risk	Low	Low	Low	Low	Low	Medium	Medium	Low
2	main contractor delivery/management team -	Issue	Low	Low	Low	Low	Low	Medium	Medium	Low
	Materials									
3	Lack of availability of construction materials	Risk	Low	Medium	Medium	Low	Low	Medium	Medium	Low
4	Quality of materials	Issue	Low	Low	Low	Low	Low	Medium	Low	Low
	Finance									
5	Rising construction costs	Risk	High	Medium	Low	Medium	Medium	High	Medium	Low
6	Contractor / subcontractor / experiencing financial difficulty	Risk	Medium	Medium	High	Medium	Medium	Medium	Low	Low
	Timelines									
7	Delays in due to traditional infrastructure project factors	Risk	Low	Medium	High	Low	Low	Medium	Low	Low
8	delay in obtaining relevant construction related / operational approvals	Risk	Medium	Medium	High	Medium	Medium	Medium	Low	Low
	Policy/political									
9	industry/governmental statutory & mandatory requirements	Issue	medium	medium	low	low	low	Medium	low	low
	Other									
10	other risks/issues in relation to construction not highlighted above									

Table 7 sample risk assessment

The programme and projects returns are summarised at Portfolio level in Table 8.

Impact Field	Scope	Targets	Time	Reputation	Stakeholder/ Partnerships	Costs	Procurement	Resources
Risk / Issue								
Red								
Amber								
Green								

Table 8 risk summary table

Once completed, the author must then identify mitigations that are/will be put in place along with any resource requirements in enacting these mitigations. The PoMO collate the returns and total the number of red/amber/green occurrences and report in Table 3, Section 4 above.

3. Quantification of impact

Once known the impact of these risks becoming issues will likely result in a change, the CIA has been developed so that all quantification links to the 5 categories of change derived in the SBCD change procedures, namely:

- Financial/costs
- Timescales
- Quality
- Programme and/or project benefits are impacted.
- Portfolio benefits are impacted.

Appendix 3

Programme and Project Construction Risk Assessment Summary

Project/Programme	Notes	Impact Criteria							
		Scope and key objectives	Targets	Timescales	Reputation if project fails to deliver	Stakeholders/partnerships commitment	Project costs	Procurement	Staff resourcing
Swansea Waterfront		All Green	Amber x 2 Green x 7	Amber x 5 Green x 4	Amber x 6 Green x 3	Amber x 1 Green x 8	Amber x 2 Green x 7	Amber x 2 Green x 7	Amber x 2 Green x 7
Campuses		Red x 1 - Amber x 3 Green x 1	Amber x 5	Red x 3 Green x 2	Amber x 3 Green x 2	Amber x3 Green x 2	Red x 1 Finances Amber x 4	Amber x 1 Green x 4	All Green
PDM		Amber x 8 Green x 8	Amber x 10 Green x 6	Red x 4 Amber x 6 Green x 6	Amber x 8 Green x 8	Amber x 7 Green x 9	Red x 2 Amber x 9 Green x 5	Amber x 7 Green x 9	Amber x 1 Green x 15
Pentre Awel		All Green	All Green	Amber x 1 Green x 2	Amber x 3	All Green	All Amber	All Amber	All Green
SILCG		All Green	Amber x 2 Green x 7	Amber x 5 Green x 4	Amber x 6 Green x 3	Amber x 1 Green x 8	Red x 1 Amber x 1 Green x 7	Amber x 2 Green x 7	Amber x 2 Green x 7
Yr Egin	stage 2 stc								
Digital	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Skills	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
HAPS	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Table 9 Summary of risks by programme/project