

Sequential Flood Test Report (2024)



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1.0 INTRODUCTION

- 1.1 This report sets out the Sequential Test and Exception Test for flood risk in South Tyneside to support the site allocations identified in the Draft Local Plan 2023-2040.
- 1.2 These tests draw upon the Level 1 Strategic Flood Risk Assessment (SFRA) and the on the Level 1 SFRA Addendum undertaken by specialist consultants on behalf of South Tyneside Council. It follows the procedural arrangements on flood risk set out in the National Planning Policy Framework (NPPF) and National Planning Practice Guidance (NPPG).

2.0 NATIONAL PLANNING POLICY CONTEXT

- 2.1 The National Planning Policy Framework (NPPF) (September 2023) sets out the flood risk requirements which need to be considered as part of the planning process. The NPPF requires strategic policies to be informed by a Strategic Flood Risk Assessment (SFRA) and advice from the Environment Agency (EA) and the Lead Local Flood Authority (LLFA) (South Tyneside Council).
- 2.2 The SFRA forms an important part of the evidence base of the Plan and takes account of all the potential sources of flood risk across the entirety of the Plan area. It also takes account of the potential impacts of climate change.
- 2.3 Local Plans should also apply a sequential test to inform the selection of sites for development (Para 161). The aim of the sequential test is to steer new development to areas with the lowest risk of flooding from any source (Para. 162).
- 2.4 If it is not possible for development to be located in zones with a lower risk of flooding an exception text should be applied (Para 163). The need for the exception test will depend on the potential vulnerability of the site and of the development proposed, in line with the Flood Risk Vulnerability Classification.
- 2.5 The Planning Practice Guidance (PPG) 'Flood Risk and Coastal Change' describes the application of the SFRA and sequential test for Local Plan preparation (Appendix 2) and details the requirements to be considered as part of the Plan.

The Sequential Test

- 2.6 The NPPF requires that when allocating land for development, the Sequential Test should be applied to demonstrate that there are no reasonable alternative sites with a lower probability of flooding for the type of development or land use proposed.
- 2.7 In applying the Sequential Test, preference should be given to land that is located in Flood Zone 1. Only when there are not sufficient reasonably available sites for the type of development proposed in flood zone 1, then consideration should be given to locating development within flood zone 2. If all development required cannot be accommodated in flood zone 1 and 2, only

then can sites in flood zone 3 be considered. The PPG definition of flood zone is provided in Table 1.

Table 1 PPG - Flood Risk Zones	
Flood Zone	Definition
Zone 1 Low Probability	Land having a less than 0.1% annual probability of river or sea flooding. (Shown as 'clear' on the Flood Map for Planning – all land outside Zones 2, 3a and 3b)
Zone 2 Medium Probability	Land having between a 1% and 0.1% annual probability of river flooding; or land having between a 0.5% and 0.1% annual probability of sea flooding. (Land shown in light blue on the Flood Map)
Zone 3a High Probability	Land having a 1% or greater annual probability of river flooding; or Land having a 0.5% or greater annual probability of sea flooding. (Land shown in dark blue on the Flood Map)
Zone 3b The Functional Floodplain	<p>This zone comprises land where water from rivers or the sea has to flow or be stored in times of flood. The identification of functional floodplain should take account of local circumstances and not be defined solely on rigid probability parameters. Functional floodplain will normally comprise of:</p> <ul style="list-style-type: none"> • land having a 3.3% or greater annual probability of flooding, with any existing flood risk management infrastructure operating effectively; or • land that is designed to flood (such as a flood attenuation scheme), even if it would only flood in more extreme events (such as 0.1% annual probability of flooding). <p>Local planning authorities should identify in their Strategic Flood Risk Assessments areas of functional floodplain and its boundaries accordingly, in agreement with the Environment Agency. (Not separately distinguished from Zone 3a on the Flood Map)</p>

- 2.1 The PPG states that the application of the sequential approach in the plan-making process will help to ensure that development is steered to the lowest risk areas, where it is compatible with sustainable development objectives to do so, and developers do not waste resources promoting proposals which would fail to satisfy the test. Other forms of flooding need to be treated consistently with river and tidal flooding in mapping probability and assessing vulnerability, so that the sequential approach can be applied across all areas of flood risk (Paragraph: 023 Reference ID: 7-023-2022-825).
- 2.2 If following the application of the Sequential Test it is not possible to allocate land for development on areas with a lower probability of flooding an Exception Test will be required.

The Exception Test

2.3 The Exception Test is set out in paragraph 164 of the NPPF. It aims to demonstrate and ensure that flood risk will be satisfactorily managed, while allowing development to go ahead in situations where sites at lower risk of flooding are not available. There are two parts to the Test.

Part One: It must be demonstrated that the development provides wider sustainability benefits to the community that outweigh flood risk, informed by a Strategic Flood Risk Assessment where one has been prepared (the first part of the Test); and;

Part Two: A site-specific flood risk assessment must demonstrate that the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall (the second part of the Test).

2.4 Both elements of the test will have to be passed for development to be allocated or permitted.

South Tyneside Local Plan 2023-2040

- 3.1 South Tyneside Council is preparing an emerging Local Plan for the borough. The Plan proposes a preferred strategy for growth and development up to 2040. The Plan follows the NPPF's standard methodology and seeks to provide a minimum of 5,253 homes over the Plan period.
- 3.2 The Plan also allocates land for employment growth including 25.38 ha of specialist port and marine land at the Port of Tyne and 24.03 ha of general employment land (including 0.69 ha at Holborn and 6.71 ha at a new allocation {Wardley Colliery}). These figures refer to land that is considered to be available and deliverable rather than the entire employment estate that is allocated as much of this is already committed.
- 3.3 A large number of sites have been considered as part of the preparation for the Plan. These sites have been considered through the Strategic Housing Land Availability Assessment ((SHLAA) (2023), and the Employment Land Review (ELR) (2023).
- 3.4 These documents form part of the evidence base for the Plan have informed the selection of sites carried forward as draft allocations in the Plan.

Sustainability Appraisal

- 3.5 The National Planning Practice Guidance is clear that the Sequential Test should link to the Sustainability Appraisal (SA). The SA assesses the environmental, social and economic effects of Local Plan policies and proposed development against sustainability objectives.
- 3.6 The SA for the Plan includes the following sustainability objective, 'Objective 1: Adapt to and mitigate the impacts of climate change in South Tyneside'. This objective is supported by the following sustainability questions:
 - Will it help to deliver energy efficient and low carbon developments?
 - Will it reduce energy consumption?
 - Will it increase renewable energy production?
 - Will it help to reduce greenhouse gas emissions?
 - Will it mitigate flood risk, the potential for surface water flooding or sea level rise?
- 3.7 Each policy within the draft Local Plan has been assessed against these criteria.
- 3.8 As part of the Plan preparation, each site considered to be a reasonable option for development, through the Strategic Land Availability Assessment and the Employment Land Review and has been subject to a Site-Specific Sustainability Appraisal. The Sustainability Appraisal framework for the Site-Specific Sustainability Appraisal was adapted to take into account quantitative criteria which could affect the sustainability effects should the site be developed.

3.9 For Sustainability Appraisal Objective 1, each site has been considered in relation to flood risk. The data used to undertake this assessment is informed by the Environment Agency flood zone layers. t. Figure 1 shows the Site-Specific Sustainability Appraisal framework for this objective.

3.10 This process provides an integrated approach to considering flood risk through the site selection process for the Plan.

Figure 1: Site-Specific Sustainability Appraisal Criteria – Objective 1

Sustainability Objective		Site Sustainability Assessment Criteria		
1	Adapt to and mitigate the impacts of climate change in South Tyneside	Does the site fall within a flood risk zone?		
		No flood risk	◆	
		Surface Water Flooding	+/-	
		Flood Risk Zone 2	-	
		Flood Risk Zone 3A or 3B	--	

Local Plan 2023-2040 Policies

3.11 Within the Plan there are a number of policies which are relevant to this report:

- Policy S2: Strategy for sustainable development to meet identified needs – identifies what the Plan will do to deliver sustainable development and to meet the needs of South Tyneside by 2040
- Policy SP3: Spatial Strategy for sustainable development– this policy sets out the spatial policy to help direct development to the most sustainable locations.
- Policy SP4: Housing Allocations in the Main Urban Area – identifies sites that are allocated for housing within the existing urban area
- Policy SP7: Urban and Village Sustainable Growth Areas – identifies sites that will be removed from the Green Belt and allocated for housing
- Policy SP8: Fellgate Sustainable Growth Area - this policy identifies land south of Fellgate as a key strategic site for the development of up to 1200 homes
- Policy SP9 Strategic vision for South Shields Town Centre Regeneration
- Policy SP10: South Shields Riverside Regeneration Area
- Policy SP11: South Shields Town Centre College Regeneration Site
- Policy SP12: Fowler Street Improvement Area
- Policy SP13: Foreshore Improvement Area
- Policy SP14: Wardley Colliery
- Policy SP17: Employment Land for General Economic Development

- Policy SP18: Provision of Land for Port and River-Related Development
- Policy 7: Flood Risk and Water Management

The Sequential Test evidence base

4.1 The following documents have informed the undertaking of the Sequential Test:

- South Tyneside Level 1 Strategic Flood Risk Assessment (2022);
- South Tyneside Level 1 Strategic Flood Risk Assessment Addendum (2023)
- South Tyneside Level 2 Scoping Report
- South Tyneside Flood and Coastal Management Strategy 2017 – 2022 (2017)

South Tyneside Level 1 Strategic Flood Risk Assessment (2022)

4.2 The South Tyneside Level 1 SFRA was undertaken by JBA Consulting and updated the 2018 Level 1 SFRA. The Level 1 Strategic Flood Risk Assessment focused on collecting readily available flood risk information from a number of key stakeholders.

4.3 The SFRA uses the EA's Flood Map for Planning version issued in May 2021 to assess fluvial to the potential development sites. The Flood Map for Planning is updated at quarterly intervals by the EA, as and when new modelling data becomes available.

4.4 To assess the surface water risk to the potential development sites, the SFRA uses the EA's Risk of Flooding from Surface Water dataset, last updated March 2020 at the time the Level 1 SFRA was prepared.

4.5 The Level 1 SFRA determined the variations in risk from all sources of flooding and screened all potential development sites against flood risk data to enable application of the Sequential Test and, where necessary, through a Level 2 SFRA, when determining potential land use allocations.

4.6 A Development Site Assessment spreadsheet (Appendix B of the Level 1 SFRA) indicated the level of flood risk to each site following a strategic assessment of risk. The spreadsheet set out the following information for each site:

- Site Reference;
- Site Name and Location;
- Proposed use (Residential, Employment or Mixed Use);
- Site Area (hectares);
- Fluvial/ Tidal Flood Zone Coverage;
- Risk of flooding from Surface Water;
- Significance of Surface Water Risk;
- Risk of flooding from Climate Change;
- Flood Risk Vulnerability Classification (NPPF)
- Level 1 SFRA strategic recommendation;
- Development considerations; and
- Recommended Next Steps.

4.7 Each potential site is assigned a strategic recommendation. Strategic recommendations are based on Tables 1 and 2 of the flood risk and vulnerability tables of the Flood Risk and Coastal

Change Planning Practice Guidance (FRCC-PPG) (Paragraphs 065 - 067), and Annex 3 of the National Planning Policy Framework. This information has allowed the Council to identify the strategic development options that may be applicable to each site and to inform the application of the Sequential Test. Table 2 sets out the strategic recommendations in the Level 1 SFRA.

Strategic Recommendation A	Consider withdrawal based on significant level of fluvial / tidal flood risk (if development cannot be directed away from areas of risk).
Strategic Recommendation B	Exception Test required.
Strategic Recommendation C	Detailed consideration of site layout and design around flood risk will be required; or must consider surface water risk through a full drainage strategy.
Strategic Recommendation D	Development could be allocated subject to the findings of a site-specific Flood Risk Assessment.
Strategic Recommendation E	Development could be allocated on flood risk grounds subject to suitable consultation with the Local Planning Authority and Lead Local Flood Authority.

South Tyneside Level 1 Strategic Flood Risk Assessment Addendum (2023)

4.8 This report provides a strategic assessment of the suitability, relative to flood risk, of the sites at the Port of Tyne to be considered for allocation in the Local Plan for South Tyneside. The outcomes of the site assessments are presented in a Sites Assessment spreadsheet which includes strategic recommendations. Table 3 sets out the strategic recommendations in the Level 1 SFRA Addendum.

Strategic Recommendation A	Recommend for withdrawal.
Strategic Recommendation B	Level 2 SFRA required.
Strategic Recommendation C	Progress to developer-led flood risk assessment.
Strategic Recommendation D	Development could be allocated on flood risk grounds based on evidence of the Level 1 SFRA. LPA to make decision on allocation.

South Tyneside Flood and Coastal Risk Management Strategy (2017 -2022)

4.9 The South Tyneside Flood and Coastal Risk Management Strategy (2017 – 2022) sets out how South Tyneside Council as the Lead Local Flood Authority is managing flood risk issues. South Tyneside’s strategy reflects the content of the National Flood and Coastal Erosion Risk Management Strategy and includes a 5-year action plan that details the significant actions needed to reduce the risk to the borough.

The Sequential Test Methodology

4.10 The application of the Sequential Test in this report has been undertaken to broadly conform to the approach in the NPPG, drawing principally on the evidence provided by the Level 1 Strategic Flood Risk Assessment. The NPPG states that the Sequential Test should steer development to areas of low flood risk (Flood Risk Zone 1). Where there are no reasonable sites within this area to accommodate development, Local Planning Authorities should take into account the flood risk vulnerability of land uses (See Appendix 3) and consider reasonable availability of sites in Flood Risk Zone 2, and then Flood Risk Zone 3, applying the Exception Test if required. Table 4 below is a summary of the flood risk vulnerability classification which is set out in the National Planning Practice Guidance:

Table 4 Flood Risk Vulnerability Classification.					
Flood Zones	Essential infrastructure e.g. Essential utility or transport infrastructure	Highly vulnerable e.g. Police & Ambulance Stations	More vulnerable e.g. hospitals, dwelling houses and nightclubs	Less vulnerable e.g. shops, service industries, restaurants.	Water compatible e.g. docks, marinas and wharves
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	Exception Test required	✓	✓	✓
Zone 3a	Exception Test required	×	Exception Test required	✓	✓
Zone 3b	Exception Test required	×	×	×	✓
<p>✓ Development is appropriate</p> <p>× Development should not be permitted</p>					

4.11 In determining which flood risk vulnerability classification is applicable to each site, the Council has utilised the local knowledge of the borough Council's Spatial Planning and Environmental Protection teams and has liaised with JBA Consulting.

4.12 Paragraph 100 of the NPPF states that local planning authorities should take advice from relevant flood risk management bodies such as lead local flood authorities and internal drainage boards. Northumbrian Water provided comments on the draft Level 1 Strategic Flood Risk Assessment.

How the search area has been defined

4.13 Guidance from the Environment Agency on the application of the Sequential Test states 'Identify the geographical area of search over which the test is to be applied - this will usually be over the whole of the Local Planning Authority (LPA) area but may be reduced where justified by the functional requirements of the development or relevant objectives in the Local Plan.' This section details how the search area has been identified for the sites in the Plan.

4.14 The search area for alternative sites to urban housing sites at risk from flooding is the main conurbation of South Tyneside and the villages. The search area for housing sites at risk from flooding located in the Green Belt is alternative locations in the Green Belt.

4.15 The borough's supply of employment land is constrained by the Green Belt. The search area for alternative sites to employment sites at risk from flooding is the main conurbation of South Tyneside and the villages.

Which sites have been subject to the Sequential Test

4.16 All of the available housing and employment development sites proposed for allocation in the Draft Local Plan have been included in the Sequential Test. Where areas have been identified for employment but are established employment areas and do not have any available sites they have not been included. For transparency, an exception has been made for Cleadon Industrial Estate as this area has been the subject of a successful flood zone challenge.

How climate change has been taken into account

4.17 The Sequential Test Tables at Appendix 1 for the Sustainable Urban Extension, Housing Allocations in the Main Urban Area, Urban and Village Sustainable Growth Areas and the Sites for General Economic Development includes a column 'At risk from fluvial / tidal climate change' with an assessment of very low, medium, or high risk. The Sequential Flood Test Table for the Port of Tyne sites has a number of columns grouped under 'risk of Flooding from Tidal Climate Change'.

5.0 SUMMARY OF RESULTS

- 5.1 The results of the Sequential Test are set out at Appendix 1. The Sequential Test results show there is no requirement to apply the Exceptions Test at this stage.

Proposed Fellgate sustainable Growth Area

- 5.2 100% of the proposed allocation is within Flood Zone 1. The site has no significant surface water flood risk. The risk from fluvial / tidal climate change is very low. The Sequential test is passed.

Proposed housing allocations in the main urban area

- 5.3 The majority of proposed residential allocations are wholly within Flood Zone 1. They have no significant surface water flood risk and the risk from fluvial / tidal climate change is very low. They therefore pass the Sequential Test. The exception is South Shields Riverside. This is discussed below.

South Shields Riverside

- 5.4 The Level 1 SFRA identifies that 16.7% of the site falls in Flood Zone 3b. The area has previously contained historic docks have been filled in as part of the redevelopment works. Therefore the flood risk on this site has been removed with these works. The Council has submitted a Flood Zone challenge to the Environment Agency to confirm the change in the status of the site in flood risk terms. The overall site is a residential-led mixed use regeneration site. The residential component (approximately 348 homes) was granted planning permission in November 2021. The Exception Test is not required.

Proposed Urban and Village Sustainable Growth Areas

- 5.5 The majority of proposed residential allocations are wholly within Flood Zone 1. They have no significant surface water flood risk and the risk from fluvial / tidal climate change is very low. They therefore pass the Sequential Test. The exception is Land at North Farm, East Boldon. This is discussed below.

Land at North Farm, East Boldon

- 5.6 2.68% of the proposed allocation is in Flood Zone 3b (functional floodplain). The flood risk is on the periphery of the site and does not affect its developability. Although the fluvial flood risk from climate change is medium, the extent of Flood Zone 2 is only 0.93%. The Exception Test is not required.

Proposed allocations for general economic development

- 5.7 The majority of proposed allocations for general economic development are wholly within Flood Zone 1. They have no significant surface water flood risk and the risk from fluvial / tidal climate change is very low. They therefore pass the Sequential Test. The Exception is the Former Dow Chemical. This is discussed below.

Former Dow Chemicals

- 5.8 The Former Dow Chemicals site is a key part of the borough's employment land offer. There are no reasonable alternative locations for the provision of employment land on this scale. The area of flood zone 3b comprises approximately 7% of the site along the river frontage. Any development proposal will need to avoid this area. A Level 2 SFRA is not required.

Proposed Port of Tyne allocations

- 5.9 The Employment Land Review identified a total of nine available sites within the Port of Tyne. The Level 1 SFRA Addendum identified that 5 of these sites have land within Flood Zone 3b and three have land within Flood Zone 3b plus climate change. The study recommended that withdrawal is considered for these sites and that a Level 2 SFRA is undertaken to inform the process of consideration. An SFRA Level 2 Scoping Report was subsequently undertaken. The Scoping Report identified main barriers to development for all nine available sites and informed by this, the Council has commissioned a detailed SFRA Level 2 for all nine available sites.

Conclusion

- 5.10 Application of the Sequential Test for the proposed Fellgate Sustainable Growth Area, proposed housing allocations in the main urban area, proposed village urban and village sustainable growth areas and proposed allocations for general economic development has demonstrated that they pass the Sequential Test.
- 5.11 Application of the Sequential Test for the proposed Port of Tyne allocations has demonstrated that an SFRA Level 2 needs to be undertaken to demonstrate that these sites can be developed safely and without increasing flood risk elsewhere.

Appendix 1: Tables showing site-by-site application of sequential flood test

Sustainable urban extension

Local Plan	SHLAA	Site Name	Area	% in Flood Zone 1	% in Flood Zone 2	% in Flood Zone 3a	% in Flood Zone 3b	Significant Surface Water Risk	At Risk from Fluvial / Tidal Climate Change	Flood Risk Vulnerability Classification	SFRA Recommendation	Officer Comments
SP8	SFG072	Fellgate Sustainable Growth Area	192	100	0	0	0	No	Very low risk	More Vulnerable	D	The site is completely within FZ1. The Sequential Test is passed.

Housing Allocations in the main urban area

Local Plan	SHLAA	Site Name	Area	% in Flood Zone 1	% in Flood Zone 2	% in Flood Zone 3a	% in Flood Zone 3b	Significant Surface Water Risk	At Risk from Fluvial / Tidal Climate Change	Flood Risk Vulnerability Classification	SFRA Recommendation	Officer Comments
SP5	SOS009	Former Brinkburn Comprehensive School	7.82	100	0	0	0	No	Very low risk	More Vulnerable	D	The site is completely within FZ1. The Sequential Test is passed.

SP6	SOS040	Land at former Chuter Ede Education Centre	7.8	100	0	0	0	No	Very low risk	More Vulnerable	D	The site is completely within FZ1. The Sequential Test is passed.
SP10	SOS014	South Shields Riverside Regeneration Area	4.44	65.15	8.02	10.64	16.17	No	High risk	More Vulnerable	A	16.7% of the site is in FZ3b. The docks have been filled in. The risk has been removed with these works. The Council has submitted a Flood Zone challenge to the Environment Agency to confirm change in the status of the site in flood risk terms. The overall site is a residential-led mixed use regeneration site. The residential component (approximately 348 homes) was granted planning permission on 22.11.2021. The Exception Test is not required.

SP11	SIS005	South Shields Town Centre College Regeneration Site	1.15	100	100	0	0	0	No	Very low risk	D	The site is completely within FZ1. The Sequential Test is passed.
H.1	SIS018	Land at Chatsworth Court	0.08	100	0	0	0	No	Very low risk	More Vulnerable	E	The site is completely within FZ1. The Sequential Test is passed.
H.2	SIS062	Salem Street housing-led regeneration site	0.3	100	0	0	0	No	Very low risk	More Vulnerable	E	The site is completely within FZ1. The Sequential Test is passed.
H.3	SIS063	Queen Street housing-led regeneration site	0.33	100	0	0	0	No	Very low risk	More Vulnerable	E	The site is completely within FZ1. The Sequential Test is passed.
H.4	SIS062	Winchester Street housing-led regeneration site	0.8	100	0	0	0	No	Very low risk	More Vulnerable	E	The site is completely within FZ1. The Sequential Test is passed.
H.5	SIS009	Land to the rear of Fowler Street	0.29	100	0	0	0	No	Very low risk	More Vulnerable	E	The site is completely within FZ1. The Sequential Test is passed.

H.6	SIS042	Site of Former St Aidans Church*	0.17	100	0	0	0	No	n/a	More vulnerable	n/a	The site is completely within FZ1. The Sequential Test is passed.
H.7	SOS007	Site of former South Tyneside College – South Shields Campus	6.72	100	0	0	0	No	Very low risk	More Vulnerable	D	The site is completely within FZ1. The Sequential Test is passed.
H.8	SOS021	Land at Associated Creameries**	0.70	100	0	0	0	No	n/a	More vulnerable	n/a	The site is completely within FZ1. The Sequential Test is passed.
H.9	SOS043	Former Temple Park Infant School	0.7	100	0	0	0	No	Very low risk	More Vulnerable	D	The site is completely within FZ1. The Sequential Test is passed.
H.10	SOS044	Connolly House, Reynolds Avenue	0.4	100	0	0	0	No	Very low risk	More Vulnerable	E	The site is completely within FZ1. The Sequential Test is passed.
H.11	SOS080	Tyne Dock housing-led Regeneration Site	1.4	100	0	0	0	No	Very low risk	More Vulnerable	D	The site is completely within FZ1. The Sequential Test is passed.

H.12	SOS083	Land at Biddick Hall Drive	0.12	100	0	0	0	0	Very low risk	More Vulnerable	E	The site is completely within FZ1. The Sequential Test is passed.
H.13	SOS087	Land behind Ryedale Court	0.48	100	0	0	0	No	Very low risk	More Vulnerable	D	The site is completely within FZ1. The Sequential Test is passed.
H.14	SOS093	Land at Horton Avenue	0.13	100	0	0	0	No	Very low risk	More Vulnerable	E	The site is completely within FZ1. The Sequential Test is passed.
H.15	SOS119	Land at Cheviot Road	0.08	100	0	0	0	No	Very low risk	More Vulnerable	E	The site is completely within FZ1. The Sequential Test is passed.
H.16	SOS151	Land at Bonsall Court	0.04	100	0	0	0	No	Very low risk	More Vulnerable	D	The site is completely within FZ1. The Sequential Test is passed.
H.17	SOS221	Land at Lizard Lane	0.35	100	0	0	0	No	Very low risk	More Vulnerable	E	The site is completely within FZ1. The Sequential Test is passed.

H.18	SOS222	Land at Dean Road	0.42	100	0	0	0	No	Very low risk	More Vulnerable	E	The site is completely within FZ1. The Sequential Test is passed.
H.19	SFG043	Land at Trent Drive	0.23	100	0	0	0	No	Very low risk	More Vulnerable	E	The site is completely within FZ1. The Sequential Test is passed.
H.20	SJA013	Perth Green Youth Centre, Perth Avenue	1.2	100	0	0	0	No	Very low risk	More Vulnerable	D	The site is completely within FZ1. The Sequential Test is passed.
H.21	SJA019	Land at previously Martin Hall, Prince Consort Road	0.4	100	0	0	0	No	Very low risk	More Vulnerable	D	The site is completely within FZ1. The Sequential Test is passed.
H.22	SJA049	Land at Falmouth Drive	1.3	100	0	0	0	No	Very low risk	More Vulnerable	D	The site is completely within FZ1. The Sequential Test is passed.
H.23	SJA103	Land at Kirkstone Avenue	0.1	100	0	0	0	No	Very low risk	More Vulnerable	D	The site is completely within FZ1. The Sequential Test is passed.

H.24	SIS009	Hebburn New Town housing-led regeneration Site	2.2	100	0	0	0	No	Very low risk	More Vulnerable	D	The site is completely within FZ1. The Sequential Test is passed.
H.25	SHB045	Land south-west of Prince Consort Road	1.13	100	0	0	0	No	Very low risk	More Vulnerable	D	The site is completely within FZ1. The Sequential Test is passed.

*Site of Former St Aidans Church. For transparency it should be noted that this sites was not included in the SFRA assessment. This was because at the time of the assessment it had planning permission for residential development but this subsequently lapsed. The Council has conducted its own high-level GIS-based assessment. This found that the site is 100% in Flood Zone 1 and has no identified surface water flood risk.

Land at Associated Creameries** For transparency it should be noted that this sites was not included in the SFRA assessment. This was because at the time of the assessment it had planning permission for residential development but this subsequently lapsed. The Council has conducted its own high-level GIS-based assessment. This found that the site is 100% in Flood Zone 1 and the only identified surface water flood risk is limited to a very small area at the edge of the site.

Urban and Village Sustainable Growth Areas

Local Plan ref	SHLAA ref	Site Name	Area	% in Flood Zone 1	% in Flood Zone 2	% in Flood Zone 3a	% in Flood Zone 3b	Significant Surface Water Flood Risk	At risk from Fluvial / Tidal Climate Change	Flood Risk Vulnerability Classification	SFRA Strategic Recommendation	Officer Comments
GA1	SHB034	Land at South Tyneside College, Hebburn Campus	5.7	100	0	0	0	No	Very low risk	More Vulnerable	D	The site is completely within FZ1. The Sequential Test is passed.

GA2	SBC003	Land at North Farm	9.52	95.98	0.93	0.39	2.68	No	Medium risk	More Vulnerable	C	2.68% of the site is in FZ3b. The flood risk is on the periphery of the site and does not affect its developability. Although the fluvial flood risk from climate change is medium, the extent of FZ2 is only 0.93%. The Exception Test is not required.
GA3	SBC102	Land to North of Town End Farm	22.4	100	0	0	0	No	Very low risk	More Vulnerable	D	The site is completely within FZ1. The Sequential Test is passed.
GA4	SBC051	Land at West Hall Farm	10.27	100	0	0	0	No	Very low risk	More Vulnerable	D	The site is completely within FZ1. The Sequential Test is passed.
GA5	SWH025	Land at Whitburn Lodge	1.0	100	0	0	0	No	Very low risk	More Vulnerable	D	The site is completely within FZ1. The Sequential Test is passed.
GA6	SWH026	Land to North of Shearwater	1.65	100	0	0	0	No	Very low risk	More Vulnerable	D	The site is completely within FZ1. The Sequential Test is passed.

Sites for general economic development

Local Plan ref	Site Name	Area	% in Flood Zone 1	% in Flood Zone 2	% in Flood Zone 3a	% in Flood Zone 3b	Significant Surface Water Flood Risk	At risk from Fluvial / Tidal Climate Change	Flood Risk Vulnerability Classification	SFRA Strategic Recommendation	Officer Comments
ED1	Land East of Pilgrims Way, Bedesway	0.43	100	0	0	0	No	Very low risk	Less vulnerable	E	The site is completely within FZ1. The Sequential Test is passed.
ED1	West of Pilgrims Way (east of Mitsumi), Bede Ind Est	1.41	100	0	0	0	No	Very low risk	Less vulnerable	D	The site is completely within FZ1. The Sequential Test is passed.
ED2	North of Tesco, Towers Place, Simonside Ind Est	1.45	100	0	0	0	No	Very low risk	Less vulnerable	D	The site is completely within FZ1. The Sequential Test is passed.
ED3	South of Heddon Way, Middlefields Ind Est	0.68	100	0	0	0	No	Very low risk	Less vulnerable	D	The site is completely within FZ1. The Sequential Test is passed.
ED6	Land bounded by Chaytor Street, Ellison Place, the	12.15	89.44	2.09	1.03	7.43	No	High risk	Less vulnerable	C	The Former Dow Chemicals site is a key part of the Borough's employment land offer. There are no reasonable alternative locations for the provision of

	Metro Line and Berkley Way											employment land on this scale. The area of flood zone 3b comprises approximately 7% of the site along the river frontage. Any development proposal will need to avoid this area. An SFRA Level 2 is not required.
ED9	Wardley Colliery	12.7	100	0	0	0	No	Very low risk	Less vulnerable	D		The site is completely within FZ1. The Sequential Test is passed.
ED10	0.6	100	0	0	0	No	Very low risk	Less vulnerable	D	0.6		The site is completely within FZ1. The Sequential Test is passed.
ED11	Cleadon Lane Industrial Estate	2.3	79.68	8.18	0.01	12.1	No	Medium risk as at existing risk	More vulnerable	A		A Flood Zone challenge has been submitted by Envireau Water on behalf of the applicant. This challenge has been accepted by the Environment Agency. The site is therefore now completely within Flood Zone 1. The Sequential Test is passed.

Port of Tyne sites

Site Name	Area	% in Flood Zone 1	% in Flood Zone 2	% in Flood Zone 3a	% in Flood Zone 3b	% Surface Water High Risk	% T200 + Higher Central Climate Change	Flood Risk Vulnerability Classification	Level 1 SFRA Addendum Strategic Recommendation	SFRA Level 2 Scoping Report assessment of main barriers to development	Officer Comments
Tyne Dock Enterprise Park (Dock infill)	3.5	6.5	6.5	6.4	80	0.01	13	Less vulnerable	A	80% of the site is located in tidal Flood Zone 3b	A Level 2 SFRA is required
Hill 60	0.5	100	0	0	0	0	0	Less vulnerable	C	None based on the Level 1 screening assessment. However, site to be reviewed using the latest allowance change.	Include within the Level 2 SFRA of available Port of Tyne sites for completeness
Tyne Dock Enterprise Park (former McNulty)	4.3	82	11	1.2	4.4	0.3	66	Less vulnerable	A	Site is partially within tidal Flood Zone 3b, Flood Zone 3a, and Flood Zone 2. Significant additional risk from sea level rise due to climate change.	A Level 2 SFRA is required
Compound beside Jarrow Road	0.2	100	0	0	0	0	47	Less vulnerable	A	Significant additional risk from sea level rise due to climate change	A Level 2 SFRA is required
Tyne Dock Enterprise Park (SE),	0.58	69	12	5.9	12.7	0	39	Less vulnerable	A	Site I partially within Flood Zone 3b, Flood Zone 3a, and Flood Zone 2. Significant	A Level 2 SFRA is required

Commercial Road											additional risk from sea level rise due to climate change.	
East of wood pellet silos	1.9	0	0	98	1.8	0	0	Less vulnerable	A		98% of site located in tidal Flood Zone 3a	A Level 2 SFRA is required
Tyne Renewables Quay	9.8	86	1.3	12	0	0	0.6	Less vulnerable	A		Site partially within tidal Flood Zone 3a and additional risk from sea level rise due to climate change	A Level 2 SFRA is required
North of Warehouse 21	1.7	100	0	0	0	0	24	Less vulnerable	A		Significant additional risk from sea level rise due to climate change	A Level 2 SFRA is required
Former MH Southern	2.8	95	0.3	0.7	2.9	1.9	5	Less vulnerable	A		Site is partially within tidal Flood Zone 3b, Flood Zone 3a, and Flood Zone 2. Significant additional risk from sea level rise due to climate change.	A Level 2 SFRA is required

Appendix 2: Flood risk vulnerability classification (National Planning Practice Guidance - Paragraph 066 Reference ID-7-066-20140306)

Essential infrastructure

- Essential transport infrastructure (including mass evacuation routes) which has to cross the area at risk.
- Essential utility infrastructure which has to be located in a flood risk area for operational reasons, including electricity generating power stations and grid and primary substations; and water treatment works that need to remain operational in times of flood.
- Wind turbines.

Highly vulnerable

- Police and ambulance stations; fire stations and command centres; telecommunications installations required to be operational during flooding.
- Emergency dispersal points.
- Basement dwellings.
- Caravans, mobile homes and park homes intended for permanent residential use.
- Installations requiring hazardous substances consent. (Where there is a demonstrable need to locate such installations for bulk storage of materials with port or other similar facilities, or such installations with energy infrastructure or carbon capture and storage installations, that require coastal or water-side locations, or need to be located in other high flood risk areas, in these instances the facilities should be classified as ‘Essential Infrastructure’).

More vulnerable

- Hospitals
- Residential institutions such as residential care homes, children’s homes, social services homes, prisons and hostels.
- Buildings used for dwelling houses, student halls of residence, drinking establishments, nightclubs and hotels.
- Non-residential uses for health services, nurseries and educational establishments.
- Landfill* and sites used for waste management facilities for hazardous waste.
- Sites used for holiday or short-let caravans and camping, subject to a specific warning and evacuation plan.

Less vulnerable

- Police, ambulance and fire stations which are not required to be operational during flooding.
- Buildings used for shops; financial, professional and other services; restaurants, cafes and hot food takeaways; offices; general industry, storage and distribution; non-residential institutions not included in the ‘more vulnerable’ class; and assembly and leisure.
- Land and buildings used for agriculture and forestry.
- Waste treatment (except landfill* and hazardous waste facilities).
- Minerals working and processing (except for sand and gravel working).
- Water treatment works which do not need to remain operational during times of flood.

- Sewage treatment works, if adequate measures to control pollution and manage sewage during flooding events are in place.
- Car parks.

Water-compatible development

- Flood control infrastructure.
- Water transmission infrastructure and pumping stations.
- Sewage transmission infrastructure and pumping stations.
- Sand and gravel working.
- Docks, marinas and wharves.
- Navigation facilities.
- Ministry of Defence installations.
- Ship building, repairing and dismantling, dockside fish processing and refrigeration and compatible activities requiring a waterside location.
- Water-based recreation (excluding sleeping accommodation).
- Lifeguard and coastguard stations.
- Amenity open space, nature conservation and biodiversity, outdoor sports and recreation and essential facilities such as changing rooms.
- Essential ancillary sleeping or residential accommodation for staff required by uses in this category, subject to a specific warning and evacuation plan

contact

 | (0191) 424 7666

 | local.plan@southtyneside.gov.uk

 | www.southtyneside.gov.uk

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