

# Appendix E



## E Local Plan sites assessment

This Appendix E provides a strategic assessment of the suitability, relative to flood risk, of the sites to be considered for allocation in the CLA Local Plan.

The information and guidance provided in this chapter (also supported by the SFRA maps in Appendix B and the development site assessment spreadsheet in Appendix C) can be used by the LPAs to inform their Local Plan and provide the basis from which to apply the Sequential Test in the development allocation and development management process.

**The LPAs must use Appendix C to record their decisions on how to take each site forward or whether to remove a site from allocation, based on the evidence and strategic recommendations provided in this Level 1 SFRA. Recording their decisions in the Sites Assessment Spreadsheet demonstrates that a sequential, sustainable approach to development and flood risk has been adopted.**

The CLA provided a GIS layer of 878 possible Strategic Housing and Employment Land Availability Assessment (SHELAA) development sites with potential to be included as site allocations in the new Local Plan.

In order to inform the Sequential Test to the allocation of development through the Local Plan (as illustrated in Figure 6-2 of the main report), this assessment entails a high-level GIS screening exercise overlaying the potential development sites against Flood Zones 1, 2, 3a and 3b, calculating the area of each site at risk. Flood Zones 1, 2 and 3 are sourced from the EA's Flood Map for Planning (Rivers and Sea) and Flood Zone 3 is split into Flood Zone 3a and Flood Zone 3b (functional floodplain) as part of this Level 1 SFRA, as required by the National Planning Policy Framework (NPPF). The flood zones are displayed on the GeoPDF maps in Appendix B.

Surface water risk to assessed sites is analysed by way of the EA's Risk of Flooding from Surface Water (RoFSW) dataset. For this SFRA, surface water flood risk is afforded the equivalent level of importance as fluvial and tidal risk in terms of the strategic recommendations assigned to each potential development site.

It is important to consider that each individual site will require further investigation, following this assessment, as local circumstances may dictate the outcome of the strategic recommendation. Such local circumstances are discussed in Section E.1.

The outcomes of the site assessments are presented in the Sites Assessment spreadsheet in Appendix C.

### E.1 Screening of SHELAA sites

This section of the report draws together the results included in the assessment spreadsheet (Appendix C), produced from the GIS screening exercise. The LPAs should use the spreadsheet to identify which sites should be avoided during the Sequential Test. If sites cannot be directed to Flood Zone 1, or where wider strategic objectives require development in areas identified through this Level 1 SFRA to be at risk from flooding, then the LPAs should consider the compatibility of vulnerability classifications and Flood Zones and whether or not the Exception Test will be required before finalising sites for allocation in the Local Plan. Strategic recommendations are based on Tables

1, 2 and 3 of the flood risk and vulnerability tables<sup>1</sup> of the Flood Risk and Coastal Change Planning Practice Guidance (FRCC-PPG) (Paragraphs 065 - 067).

The decision-making process on site suitability should be transparent and information from this SFRA should be used to justify decisions to allocate land in areas at high risk of flooding.

The Sites Assessment spreadsheet provides a breakdown of each site and the area (in hectares) and percentage coverage of each fluvial and tidal flood zone and each surface water flood zone. Fluvial Flood Zones 3b, 3a, 2 and 1 are considered in isolation. Any area of a site within the higher risk Flood Zone 3b that is also within Flood Zone 3a is excluded from Flood Zone 3a and any within Flood Zone 3a is excluded from Flood Zone 2. This allows for the sequential assessment of risk at each site by addressing those sites at higher risk first. The same approach applies to the surface water flood zones. Maps showing the proposed sites categorised by strategic recommendation are located in Appendix G.

There were 734 residential, 42 employment, 73 mixed use and 29 sites categorised as other; the sites categorised as other were given the vulnerability classification of More Vulnerable to provide a worst-case scenario for an allocation. Table E.1-1 shows the number of sites within each fluvial and /or tidal flood zone, and Table E.1-2 shows the number of sites within each surface water flood zone.

Proposed use	Number of sites within...			
	Flood Zone 1	Flood Zone 2	Flood Zone 3a	Flood Zone 3b
Residential	598	132	113	52
Employment	33	7	7	6
Mixed use	53	20	16	7
Other	22	7	5	5
<b>TOTAL</b>	<b>706</b>	<b>166</b>	<b>141</b>	<b>70</b>

**\*Note:** Sites may be in more than one flood zone. In reality, a site in Flood Zone 3a will also be in Flood Zone 2

**Table E.1-1: Number of SHELAA sites at risk from fluvial flooding**

Proposed use	RoFSW flood zone		
	Low risk (1 in 1000)	Medium risk (1 in 100)	High risk (1 in 30)
Residential	620	519	469
Employment	41	37	34
Mixed Use	70	58	55
Other	25	20	18
<b>TOTAL</b>	<b>756</b>	<b>634</b>	<b>576</b>

**\*Note:** Sites may be in more than one flood zone. In reality, a site in the high risk zone will also be in the medium and low risk zones

**Table E.1-2: Number of SHELAA sites at risk from surface water flooding**

<sup>1</sup> <https://www.gov.uk/guidance/flood-risk-and-coastal-change#flood-zone-and-flood-risk-tables>

The strategic recommendations are intended to assist the LPAs in carrying out the Sequential Test and to highlight those sites at greatest flood risk.

Proposed use	Number of sites within...				
	A	B	C	D	E
Residential	65	23	76	477	93
Employment	3	0	7	31	1
Mixed use	2	2	14	52	3
Other	1	1	4	19	4
<b>TOTAL</b>	<b>71</b>	<b>26</b>	<b>101</b>	<b>579</b>	<b>101</b>

Table E.1-3 shows the number of sites each strategic recommendation applies to:

- Strategic Recommendation A – consider withdrawal based on significant level of fluvial, tidal or surface water flood risk; **(if development cannot be directed away from risk areas, the site may be unsuitable for development)**
- Strategic Recommendation B – Exception Test required, if site passes Sequential Test;
- Strategic Recommendation C – consider detailed site layout and design around the identified flood risk if site passes Sequential Test i.e. redrawing of development boundaries to remove risk or incorporation of risk through appropriate mitigation techniques;
- Strategic Recommendation D – site-specific FRA required as a minimum; and
- Strategic Recommendation E – subject to consultation with the LPAs and LLFA, the site could be allocated or permitted for development on flood risk grounds due to little perceived risk.

Proposed use	Number of sites within...				
	A	B	C	D	E
Residential	65	23	76	477	93
Employment	3	0	7	31	1
Mixed use	2	2	14	52	3
Other	1	1	4	19	4
<b>TOTAL</b>	<b>71</b>	<b>26</b>	<b>101</b>	<b>579</b>	<b>101</b>

**Table E.1-3: Number of SHELAA sites per strategic recommendation**

The EA has made specific recommendations for two locations within the Central Lancashire area:

- *there is a growing number of unpermitted activity / development in relation to Environmental Permitting along Longton Brook and we would discourage developments to be proposed in close proximity to the main river. We would recommend that any proposed development is set back away from Longton Brook. This relates to 12 sites (19S025, 19S046, 19S068, 19S078, 19S112, 19S138, 19S139, 19S150, 19S218, 19S273, 19S306, and 19S310). **These sites have all been identified as Strategic Recommendation C.***
- *any proposed development within the Higher Walton area must focus on the management of surface water to ensure there is no increase in flow to the River Darwen. This relates to 21 sites (19S004, 19S031, 19S036, 19S047, 19S073, 19S114, 19S117, 19S142, 19S148, 19S161, 19S187, 19S233, 19S234, 19S262, 19S271, 19S294, 19S295, 19S315, 19S320, 19S321, and 19S323)*

It is important to note that each individual site will require further investigation before development is allocated, as local circumstances may dictate the outcome of the strategic recommendation. Such local circumstances may include the following:

- Flood depths and hazards will differ locally to each at risk site therefore modelled depth, hazard and velocity data should be assessed for the relevant flood event outlines, including climate change (using the EA's February 2016 allowances at the time of writing), as part of a site-specific FRA or Level 2 SFRA.
- The RoFSW map is national scale and is not considered suitable for robustly identifying risk at the property level. For sites identified to be at significant risk from surface water based on the RoFSW, more detailed surface water modelling may therefore reveal increased risk or less risk to the site. The LLFA should be consulted when considering development viability at such sites.
- Current surface water drainage infrastructure and applicability of SuDS techniques are likely to differ at each site considered to be at risk from surface water flooding. Further investigation would therefore be required for any site at surface water flood risk. The LLFA requires that all planning applications must be accompanied by an appropriate drainage strategy, independent of the requirement for a site-specific FRA.
- If sites have planning permission but construction has not started, the SFRA will only be able to influence the design of the development e.g. finished floor levels. New, more extensive flood extents (from new or updated models) cannot be used to reject development where planning permission has already been granted.
- It may be possible at some sites to develop around the flood risk. Planners are best placed to make this judgement i.e. will the site still be deliverable if part of it needs to be retained to make space for flood water?
- Surrounding infrastructure may influence scope for layout redesign/removal of site footprints from risk.
- Safe access and egress must exist at all times during a flood event for emergency response and evacuation.
- Current land use. A number of sites included in the assessment are likely to be brownfield, thus the existing development structure could be taken into account as further development may not lead to increased flood risk.
- Existing planning permissions may exist on some sites where the EA may have already passed comment and/or agreed to appropriate remedial works

concerning flood risk. Previous flood risk investigations/FRAs may already have been carried out at some sites.

- Cumulative impacts. New development may result in increased risk to other potential or existing sites. This should be assessed through a Level 2 SFRA/site specific FRA or drainage strategy, if required.

### **E.1.1 Strategic Recommendation A – consider withdrawal based on significant level of fluvial, tidal or surface water flood risk (if development cannot be directed away from areas at risk)**

This strategic recommendation DOES NOT take into account local circumstances, only that part of a site area falls within a flood zone.

Strategic Recommendation A applies to any site where one or more of the following criteria is true:

- A significant proportion of the site area is within the functional floodplain. The FRCC-PPG flood risk vulnerability classification states that only water-compatible uses and essential infrastructure should be permitted in the functional floodplain, though any essential infrastructure must pass the Exception Test and water-compatible uses must be designed and constructed to remain operational and safe for users in times of flood; must result in no net loss of floodplain storage; and not impede water flows and not increase flood risk elsewhere. Development should not be allocated or permitted for sites within the highly, more or less vulnerable categories that fall within the functional floodplain. If the developer can avoid 3b however, then part of the site could still be delivered.
- A significant proportion of the site area of any site type is within the high risk or medium risk surface water flood outline, and therefore at significant surface water flood risk.

It is important to state that it may still be possible to deliver a site that has been recommended for withdrawal from allocation upon more detailed investigation through a Level 2 SFRA.

Depending on local circumstances, if it is not possible to adjust the site boundary to remove the developable area from Flood Zone 3b to a lower risk zone then development should not be allocated or permitted.

For the sites at surface water risk, the LLFA must be consulted when considering the viability of future development at such sites.

Strategic Recommendation A applies to 71 sites, of which 14 are located in the functional floodplain and 50 are subject to significant surface water flood risk. Two of these sites (19S047 and 19S198) at significant surface water risk have also been recommended for withdrawal by the EA; 19S047 due to avoiding development in the functioning floodplain to allow natural river processes to occur and retain existing riparian corridors of ecological importance, and 19S198 as the site would benefit from the proposed Preston and South Ribble flood scheme where flood risk would not be entirely removed and residual risk may still be present. The EA made recommendations for a further 6 sites (19C056, 19C103, 19S105, 19C106, 19C272x, and 19C279x) to avoid development due to maintaining environmental habitats. The 61 sites recommended for removal due to their location in the functional floodplain or are at significant surface water risk are displayed below in Table E.1-4.

**Any area within Flood Zone 3b must be left as open green space or the site boundary amended to remove the developable area from the risk area. For the smaller sites, this approach is unlikely to be achievable compared to larger**

**sites where there may be enough space to limit the impact through effective SuDS. If this is not possible, the site should be withdrawn.**

Site Reference	Proposed Use	Site area (ha)	% area in FZ3b	% area in medium surface water risk zone	% area in high surface water risk zone
19C007	Land at Corner of Pompian Brow and South Road, Bretherton, PR26 9AQ	0.02	0.00	<b>51.94</b>	0.00
19C024	Land on the East side of Chapel Lane, Coppull	2.13	0.00	<b>31.46</b>	<b>26.01</b>
19C042	Land South of Springfield Road, Coppull, Chorley, PR7 5EJ	13.85	0.00	<b>10.92</b>	7.87
19C075	Land South of Dunrobin Drive, Euxton, PR7 6LP	2.01	<b>43.10</b>	4.36	2.97
19C076	Land East of Tincklers Lane, Eccleston, PR7 5QW	0.95	0.00	<b>10.79</b>	1.40
19C081	Land between Carr House Lane and Pompian Brow, Bretherton, PR26 9AQ	0.93	0.00	<b>12.71</b>	9.32
19C090	Land between Carr House Lane and Pompian Brow, Bretherton, PR26 9AQ	0.95	0.00	<b>12.25</b>	9.12
19C094	Land South of Springfield Road, Coppull, Chorley, PR7 5EJ	13.99	0.00	<b>10.86</b>	7.83
19C100	Land at Bagganley Lane, Chorley, PR6 0EA	19.57	<b>11.26</b>	3.79	1.74
19C157	Land off Moulden Brow, Blackburn, BB2 5JA	1.45	0.00	<b>16.00</b>	<b>12.77</b>
19C158	Land South of Moulden Brow, Blackburn, BB2 5JA	9.23	0.00	<b>14.50</b>	<b>13.25</b>
19C164	Euxton Lane, Chorley, PR7 1BF	2.97	0.00	<b>15.22</b>	9.74
19C185	Land off Bolton Road, Abbey Village, PR6 8DP	1.49	0.00	<b>25.29</b>	<b>21.03</b>
19C233x	Land south of South Road	1.14	0.00	<b>12.15</b>	3.25
19C287	Land East of Rawlinson Lane, Heath Chamock, Chorley, PR7 4DE	1.84	0.00	<b>10.64</b>	6.33
19C299	Land to North of Moor Road, Croston, Leyland, PR26 9HN	4.54	<b>60.58</b>	5.86	2.16
19C307	Land to the South of the A581 Euxton PR76DD	33.38	<b>10.62</b>	5.45	4.21
19C327	Lower Bank Street, Withnell, Chorley, PR6 8SE	0.52	0.00	<b>11.57</b>	<b>10.72</b>

Site Reference	Proposed Use	Site area (ha)	% area in FZ3b	% area in medium surface water risk zone	% area in high surface water risk zone
19C334	Land off Smithy Lane Brindle PR6 8NN	1.67	0.00	<b>11.47</b>	7.14
19C370	Land immediately South of 182 Preston Road, Coppull, PR7 5ED	0.24	0.00	<b>15.52</b>	<b>13.21</b>
19P003	Land at Willowfield Barn, Cottam Lane, Preston, PR2 1JS	1.63	<b>87.18</b>	<b>39.73</b>	7.01
19P009	Ingol Lodge, Cottam Avenue, Preston, PR2 3XH	5.99	<b>40.15</b>	5.31	4.10
19P019	Land on North Side of Eastway (B6241) and West of 421 Garstang Road, PR3 5JD	1.52	0.00	<b>11.93</b>	6.69
19P036	Land opposite Swainson House Farm, Goosnargh Lane, Goosnargh, Preston, PR3 2JU	1.32	0.00	<b>14.36</b>	8.22
19P041	Land off Cumeragh Lane, Longridge, Preston, PR3 2AJ	1.10	0.00	<b>16.96</b>	<b>13.77</b>
19P053	Land at Anderton Fold Farm, Bilsborrow, Preston, PR3 5AD	6.86	0.00	<b>20.24</b>	<b>13.24</b>
19P055	Preston Technology Centre, Marsh Lane, Lancashire, PR1 8UQ	1.08	0.00	<b>25.43</b>	<b>15.38</b>
19P067	Land off Tudor Avenue, Lea, PR2 1YB	3.55	0.00	<b>12.99</b>	4.76
19P116	Land North and West of School Lane, Catforth, PR4 0HL	1.99	<b>14.35</b>	3.90	2.94
19P138	Land North of Eastway (formerly Broughton Business Park), Eastway, Fulwood, PR2 9ZB	2.97	<b>16.18</b>	0.44	0.00
19P150	Deepdale Mill, Deepdale Mill Street, PR1 5BY	0.71	0.00	<b>18.16</b>	<b>12.04</b>
19P162	Avenham Street Car Park, PR1 3BN	0.57	0.00	<b>27.30</b>	9.95
19P164	North of Shepherd Street, PR1 3YH	0.37	0.00	<b>59.56</b>	<b>35.15</b>
19P215	Lower House Farm, Lewth Lane, Woodplumpton, Preston, PR4 0TE	0.30	5.66	<b>15.13</b>	<b>13.33</b>
19P254	Savick House, Whittingham Lane, Grimsargh, Preston, PR2 5RP	0.31	0.00	<b>23.49</b>	<b>11.14</b>
19P255	Land opposite Gleafield, Cumeragh Lane, Preston, PR3 2AJ	0.53	0.00	<b>29.74</b>	<b>24.04</b>
19P282	Dobsons Farm, Sandygate Lane, Broughton, Preston, PR3 5LA	1.85	0.00	<b>13.22</b>	6.22
19P293	PR4 0RX	2.23	0.00	<b>10.86</b>	4.47
19S016	Land opposite Aurora Bambles School, 159 Longmeanygate, Leyland, PR26 7TB	1.52	<b>75.10</b>	<b>10.61</b>	3.45



Site Reference	Proposed Use	Site area (ha)	% area in FZ3b	% area in medium surface water risk zone	% area in high surface water risk zone
19S029	St Catherine's Park, Lostock Lane, Lostock Hall, Preston, PR5 5XU	4.76	<b>40.12</b>	8.17	3.55
19S033	Land at Pope Lane (opposite Merlewood), Abutted by Wham Lane and Pope Lane, PR4 4JR	1.78	0.00	<b>13.78</b>	4.21
19S044	Land adjacent to Wam Cottage, 153 Longmeanygate, Leyland, PR26 7TB	1.55	0.00	<b>14.08</b>	2.63
19S047	Land West of Shuttling Fields Lane, Hoghton, Preston, PR5 0LH	1.10	0.00	<b>13.95</b>	9.55
19S058	Land West of Liverpool New Road, PR4 5JJ	5.23	0.00	<b>18.15</b>	<b>11.82</b>
19S060	Land West of Liverpool New Road, PR4 5JJ	8.80	0.00	<b>10.89</b>	7.11
19S076	Land between Marsh Lane and Hall Carr Lane, Longton, PR4 5YL	32.82	<b>12.41</b>	4.48	0.53
19S096	Land adjacent 120 Longmeanygate, Midge Hall, Leyland, PR26 6TE	1.32	0.00	<b>21.65</b>	0.09
19S128	Land off Chapel Meadow, Chapel Lane, Longton, PR4 5DG	5.23	0.00	<b>15.67</b>	4.76
19S129	Walton Hall Farm, Walton Green, Higher Walton, PR5 4JL	4.07	0.00	<b>10.39</b>	4.57
19S140	Land South of Marsh Lane, Longton, Preston, PR4 5ZL	0.48	<b>16.74</b>	9.58	3.32
19S147	Land adjoining 153 and 155 Longmeanygate, Midge Hall, Leyland, PR26 7TB	1.87	0.00	<b>11.52</b>	2.13
19S154	Turbary House Nursery, Chain House Lane, Whitestake, PR4 4LB	2.16	0.00	<b>23.35</b>	7.59
19S157	Near Old School Drive, Longton, PR4 5DL	0.32	1.14	<b>11.38</b>	8.38
19S161	Coupe's Foundry, PR26 7UN	2.31	0.00	<b>11.82</b>	9.14
19S182	Land Rear of Church and 249-251 Leyland Lane, Leyland, PR25 1XL	0.61	<b>42.59</b>	<b>48.70</b>	<b>18.56</b>
19S198	HPH Mayfield House Haulage Yard (Formerly Pickfords), Chorley Road, PR5 4JN	0.55	0.00	<b>22.98</b>	<b>10.61</b>
19S203	Land adjacent to 20 Ladyacre, PR5 6XN	0.23	0.00	<b>13.70</b>	0.19
19S235	Hoghton Cottage, Preston New Road, PR5 0UP	1.29	0.00	<b>11.39</b>	<b>10.15</b>
19S265	Two parcels of land extending to 1.4 ha, immediately to the west of West	1.44	0.00	<b>16.44</b>	<b>11.32</b>

Site Reference	Proposed Use	Site area (ha)	% area in FZ3b	% area in medium surface water risk zone	% area in high surface water risk zone
	View (PR4 4SJ), Brownhill Lane and extending to the Longton Bypass. Bordered by Bridge End Farm to the north and Ranch House to the south				
19S295	Land East of Bannister Hall Drive PR5 4DB	7.77	0.00	<b>13.77</b>	9.13
19S309	Land off Emnie Lane, Leyland	1.10	<b>68.09</b>	0.67	0.33

**Table E.1-4: Sites potentially unsuitable for development based on fluvial or significant surface water flood risk (if development cannot be directed away from risk areas, the site will be unsuitable for development)**

Of the 71 sites recommended as being potentially unsuitable for development, 65 are proposed for residential use, 3 for employment, 2 for mixed use and 1 for other use. There are 14 sites that have been recommended as potentially unsuitable (if development cannot be directed away from flood risk areas, the site will be unsuitable for development) based on being located within the functional floodplain; any area within the functional floodplain must be either be removed from the site boundary (i.e. redrawn site boundaries) or the risk area incorporated into the site design as open space / amenity areas free from development and allowed to flood. For Sites 19P003 and 19S016, it will prove difficult to exclude the functional floodplain area as it covers over 75% of the site areas. Sites with relatively small areas within Flood Zone 3b will require a more detailed assessment to gauge the viability of development going forwards. Site 19S047 lies within the functional floodplain and the EA recommended that no development should take place, in order to allow natural river processes to occur and retain existing riparian corridors of ecological importance. Four of the sites within the functional floodplain (Site IDs 19P003, 19P215, 19S016, and 19S182) are also at significant surface water risk.

There are 50 sites that have been recommended as potentially unsuitable based on significant surface water risk (listed in Table E.1-4). The LLFA must be consulted for each of these sites. Site 19P164 is at particularly significant risk from surface water with just over 35% of its area within the 1 in 30 AEP event high risk outline and almost 60% within the 1 in 100 AEP event medium risk outline. At 0.37 ha in size, this site may struggle to accommodate surface water on site. Another two sites, 19C007 and 19S182, have approximately 50% of their site areas within the 1 in 100 AEP event outline and as the site areas are less than 1 ha, they may also struggle to accommodate this risk on site. The EA recommended that site 19S198, that have a significant level of surface water risk, would benefit from the proposed Preston and South Ribble Flood Scheme where there is potential for developers to contribute to the scheme in order to sustainably develop the local area. However, flood risk would not be entirely removed, and residual risk may still exist.

Site 19C279x, which is a Chorley preferred site, corresponds to allocation site 19C056 where the EA recommended that development should be avoided. This is due to the fact that this site is an existing large wetland with associated mature woodlands, paths and open space. The EA recommends the site be retained as a valuable habitat. Another Chorley preferred site 19C272x, corresponds to an allocation site 19C103

which the EA recommended for development avoidance and the site retained as the existing priority habitat which is providing flood storage and carbon storage benefits.

### E.1.2 Strategic Recommendation B – Exception Test required

This strategic recommendation DOES NOT take account of local circumstances, only that part of a site area falls within a flood zone.

Strategic Recommendation B applies to sites where it is likely the Exception Test would be required, assuming the Sequential Test has been passed in the first instance. This does not include any recommendation on the likelihood of a site passing the Exception Test. A more in-depth investigation such as a Level 2 SFRA would be required to assess this. The developer / LPAs should always attempt to avoid the risk area where possible.

Strategic Recommendation B applies to sites where the following criteria is true:

- A significant proportion of a more vulnerable site (residential, mixed use and other) is within Flood Zone 3a. Less vulnerable (employment) uses of land do not require the Exception Test.

NOTE: All development proposals in Flood Zone 3a must be accompanied by a flood risk assessment.

Strategic Recommendation B applies to 26 assessed sites shown in Table E.1-5. All sites must pass both parts of the Exception Test in order to proceed. It is up to the LPAs to prove whether the first part of the Exception Test can be satisfied, before moving on to the second part. See Section E.3.2 for information on the Exception Test. Out of the 26 sites to which Strategic Recommendation B applies, five sites (19C341, 19P066, 19P213, 19S070 and 19S323) have a significant area (over 80%) within Flood Zone 3a, which will consequently be more difficult to pass the second part of the Exception Test.

Site Reference	Proposed Use	Site area (ha)	% area in FZ3a
19C021	Land off Hall Lane, Mawdesley, L40 2QY	1.46	24.37
19C073	Former Ministry of Defence Land, Cocker Bar Road, Ulnes Walton, PR26 9AZ	61.88	31.46
19C083	Westhead Road, Croston, Leyland, PR26 9RR	3.13	12.13
19C171	East of M61, Chorley, PR6 9AR	10.36	29.41
19C259x	Westhead Road	3.12	12.16
19C340	Land North of Drink House Road, PR26 9JE	0.35	42.32
19C341	Land North of Drink House Road, PR26 9JE	1.54	95.29
19C343	Latvian Consulate, Pemberton House Farm, Park Hall Road, Charnock Richard, Chorley, PR7 5LP	7.50	20.16
19C367	Land to the east of station road, Croston	6.78	51.10

<b>Site Reference</b>	<b>Proposed Use</b>	<b>Site area (ha)</b>	<b>% area in FZ3a</b>
19C371	Land on East Side of Bretherton Road, Croston, PR26 9RF	4.11	79.42
19P066	Springfield Training Ground, Dodney Drive, Lea, Preston, PR2 1XR	5.72	87.47
19P213	3 and 5 Tyne Street, Preston, PR1 8ED	0.01	100.00
19P280	Land west of Ashton and Lea Golf Club	15.96	44.65
19P281	Land east of Ashton and Lea Golf Club and north of Savick Brook	5.88	16.41
19P302	Land to the west of Garstang Road, Broughton	25.61	15.67
19S043	Land surrounding Smith's Farm, Farington, PR26 6RB	7.76	15.64
19S050	Land South of Higher Walton Road, Walton-le-Dale, PR5 4AU	0.28	11.88
19S054	Land off Fowler Lane, Farington, PR26 6RH	5.01	22.81
19S070	Land off Victoria Road, Walton-le-Dale, PR5 4AU	6.91	99.92
19S134	Lands either side of 172 Higher Walton Road, PR5 4HR	0.66	17.55
19S207	Land to Rear of Pine Direct, Station Road, PR5 6LA	0.22	10.27
19S234	Darwenside Nursery, PR5 4HT	0.59	73.16
19S257	Land at the End of Fowler Lane, Farington Moss, Leyland, PR26 6PR	5.03	22.74
19S289	Land off Hollins Lane, PR26 8LJ	12.80	10.72
19S320	Higher Walton Mill, Cann Bridge St, Higher Walton, Preston, PR5 4DJ	4.02	12.77
19S323	Darwenside, Nurseries, Higher Walton Rd, PR5 4HT	1.35	84.13

**Table E.1-5: Sites to which Strategic Recommendation B applies**

### E.1.3 Strategic Recommendation C – consider site layout and design

This strategic recommendation DOES NOT take account of local circumstances, only that part of a site area falls within a Flood Zone.

Strategic Recommendation C applies to sites where one or more of the following criteria is true:

- A manageable proportion of any site type is within Flood Zone 3b.
- A manageable proportion of any residential, mixed use or other (more vulnerable) site is within Flood Zone 3a.
- A manageable proportion of any more vulnerable site is within the high or medium risk surface water flood zone.

Overall there are 101 sites to which Strategic Recommendation C applies; of these sites, 42 have over 97% within Flood Zone 1, meaning surface water risk is what chiefly needs to be mitigated at these sites; though fluvial/tidal risk should still be assessed. For these sites, the developer should consider the site layout with a view to removing the developable area from the flood zone that is obstructing development i.e. the high and medium risk surface water flood risk zones. If this is not possible then the alternative would be to investigate the incorporation of on-site storage of water into the site design through appropriate SuDS. Site 19S188 has over 16% of its area located within Flood Zone 3a but as the proposed use is employment and therefore is classified as less vulnerable, the Exception Test is not required. The EA provided specific recommendations for some of these sites which are located on the site assessment spreadsheet in Appendix C.

Site Reference	Proposed Use	Site area (ha)	% area in FZ3a	% area in high surface water risk zone	% area in medium surface water risk zone
<b>19C001</b>	Residential	13.01	0.14	0.13	0.20
<b>19C004</b>	Residential	4.04	7.36	1.23	2.46
<b>19C035</b>	Residential	0.53	3.00	0.00	0.00
<b>19C058</b>	Residential	6.02	0.05	0.18	0.33
<b>19C074</b>	Residential	5.87	0.14	2.25	2.87
<b>19C079</b>	Residential	0.83	9.23	1.89	2.77
<b>19C089</b>	Residential	10.15	0.15	1.63	2.27
<b>19C097</b>	Mixed Use	41.61	0.11	2.00	2.90
<b>19C122</b>	Mixed Use	52.15	0.66	2.95	4.78
<b>19C123</b>	Residential	4.37	0.04	0.21	0.30
<b>19C126</b>	Residential	4.59	0.44	0.53	0.76
<b>19C133</b>	Residential	17.61	7.12	1.15	1.82
<b>19C156</b>	Residential	4.05	0.00	2.94	3.42
<b>19C160</b>	Mixed Use	8.37	0.22	1.25	1.55
<b>19C172</b>	Residential	52.59	0.49	2.44	3.53
<b>19C186</b>	Residential	2.71	0.00	4.34	6.60

Site Reference	Proposed Use	Site area (ha)	% area in FZ3a	% area in high surface water risk zone	% area in medium surface water risk zone
<b>19C260x</b>	Residential	10.08	0.16	1.49	2.10
<b>19C281x</b>	Residential	18.58	0.10	0.20	0.30
<b>19C318</b>	Residential	5.83	0.05	0.18	0.32
<b>19C330</b>	Residential	16.04	6.65	0.31	0.49
<b>19C335</b>	Residential	8.27	2.36	2.61	5.66
<b>19C344</b>	Mixed Use	52.17	0.63	1.61	2.97
<b>19C374</b>	Residential	1.68	0.03	0.05	0.08
<b>19C385</b>	Residential	0.53	2.99	0.00	0.00
<b>19C386</b>	Residential	0.56	2.91	0.00	0.00
<b>19P022</b>	Residential	15.46	0.14	0.81	1.23
<b>19P026</b>	Residential	20.32	8.37	0.42	0.66
<b>19P027</b>	Residential	2.96	0.00	0.14	1.85
<b>19P031</b>	Mixed Use	142.18	1.66	1.99	3.61
<b>19P042</b>	Residential	20.20	4.92	1.76	3.30
<b>19P048</b>	Residential	52.77	0.06	1.53	2.50
<b>19P057</b>	Residential	16.84	2.83	1.60	2.70
<b>19P058</b>	Residential	44.41	1.60	1.88	3.52
<b>19P059</b>	Residential	9.17	0.00	0.48	1.22
<b>19P062</b>	Residential	8.55	0.00	3.85	6.26
<b>19P064</b>	Residential	7.23	2.63	1.17	1.55
<b>19P082</b>	Employment	61.85	1.31	1.50	2.40
<b>19P084</b>	Residential	0.27	8.32	0.10	5.16
<b>19P089</b>	Residential	6.40	0.04	0.19	0.22
<b>19P121</b>	Residential	20.16	9.69	2.27	3.35
<b>19P122</b>	Residential	26.41	3.28	1.96	3.71
<b>19P125</b>	Other	10.33	0.00	3.26	5.10
<b>19P130</b>	Residential	62.30	0.00	2.75	4.88
<b>19P131</b>	Residential	317.81	0.00	2.65	4.58
<b>19P134</b>	Employment	37.45	0.00	1.95	2.82
<b>19P135</b>	Employment	19.84	0.00	1.86	3.03
<b>19P136</b>	Employment	4.58	0.11	1.59	3.11
<b>19P154</b>	Residential	1.31	0.01	0.00	0.00
<b>19P174</b>	Residential	5.90	0.02	3.58	6.56
<b>19P178</b>	Mixed Use	21.53	0.00	1.76	3.76
<b>19P227</b>	Residential	1.04	0.00	1.88	3.25
<b>19P236</b>	Residential	0.31	3.67	2.38	7.35

<b>Site Reference</b>	<b>Proposed Use</b>	<b>Site area (ha)</b>	<b>% area in FZ3a</b>	<b>% area in high surface water risk zone</b>	<b>% area in medium surface water risk zone</b>
<b>19P246</b>	Other	32.85	1.93	3.75	5.50
<b>19P290</b>	Residential	3.76	0.08	2.68	4.19
<b>19P291</b>	Other	37.46	9.89	0.67	1.56
<b>19S025</b>	Residential	4.38	0.00	0.48	1.12
<b>19S031</b>	Residential	6.78	4.04	1.70	4.14
<b>19S036</b>	Residential	5.47	2.31	1.28	1.65
<b>19S037</b>	Employment	21.20	0.93	3.19	6.95
<b>19S046</b>	Mixed Use	82.27	0.26	0.80	2.75
<b>19S052</b>	Mixed Use	66.56	0.00	2.59	3.59
<b>19S068</b>	Residential	1.12	0.00	0.00	1.37
<b>19S075</b>	Residential	13.67	1.11	1.66	2.49
<b>19S078</b>	Residential	4.15	3.72	1.74	3.59
<b>19S081</b>	Residential	10.32	0.01	1.24	3.01
<b>19S095</b>	Residential	24.93	3.12	3.18	5.38
<b>19S100</b>	Other	14.73	2.81	3.71	5.30
<b>19S104</b>	Employment	14.73	2.81	3.71	5.30
<b>19S107</b>	Mixed Use	128.16	0.14	0.98	1.86
<b>19S112</b>	Residential	3.83	0.02	0.46	5.86
<b>19S115</b>	Residential	8.95	0.00	0.61	1.39
<b>19S120</b>	Mixed Use	42.58	0.92	4.91	8.17
<b>19S125</b>	Residential	0.68	0.42	0.00	0.00
<b>19S138</b>	Residential	0.19	2.24	0.00	0.00
<b>19S139</b>	Residential	1.62	0.87	0.00	0.00
<b>19S142</b>	Residential	8.46	1.56	3.92	5.64
<b>19S143</b>	Residential	25.02	0.36	1.94	2.57
<b>19S145</b>	Residential	13.65	0.00	1.32	1.98
<b>19S148</b>	Residential	38.63	1.61	1.87	3.20
<b>19S150</b>	Residential	1.42	0.33	0.12	0.50
<b>19S162</b>	Mixed Use	13.14	0.24	0.89	1.82
<b>19S169</b>	Residential	3.73	0.21	2.39	3.76
<b>19S188</b>	Employment	9.23	16.82	4.21	6.51
<b>19S199</b>	Residential	0.18	2.26	0.00	3.35
<b>19S218</b>	Residential	16.91	0.00	0.95	1.98
<b>19S226</b>	Residential	10.56	0.30	0.74	1.65
<b>19S227</b>	Residential	1.91	0.57	3.41	9.82
<b>19S233</b>	Residential	2.18	0.35	0.55	1.34

Site Reference	Proposed Use	Site area (ha)	% area in FZ3a	% area in high surface water risk zone	% area in medium surface water risk zone
<b>19S241</b>	Residential	0.21	0.00	1.27	2.92
<b>19S247</b>	Residential	0.80	1.24	0.00	0.01
<b>19S250</b>	Mixed Use	20.20	0.47	3.43	5.99
<b>19S273</b>	Residential	8.61	0.03	0.71	1.60
<b>19S292</b>	Mixed Use	11.93	3.39	2.74	3.41
<b>19S294</b>	Residential	6.17	2.68	1.43	2.21
<b>19S302</b>	Residential	32.51	1.96	2.74	4.59
<b>19S305</b>	Employment	1.15	100.00	0.12	0.37
<b>19S306</b>	Residential	1.41	0.60	0.01	0.09
<b>19S307</b>	Residential	0.27	1.05	0.00	0.00
<b>19S308</b>	Residential	1.18	0.71	0.01	1.84
<b>19S310</b>	Residential	2.98	0.00	0.64	4.60
<b>19S318</b>	Residential	11.93	3.37	2.73	3.40
<b>19S322</b>	Mixed Use	179.93	0.23	0.98	1.93

**Table E.1-6: Sites to which Strategic Recommendation C applies**

Strategic Recommendation C applies in instances where, from a high-level strategic viewpoint, there is a greater possibility that risk may be manageable on site, following a detailed review of site layout and design around the flood risk, as part of a detailed FRA at the development planning stage.. Or it may be possible to incorporate suitable SuDS into the site layout to mitigate surface water risk on-site, following a detailed FRA or drainage strategy. Similarly, in line with the daylighting policy and where there may be opportunities to do so, there could be potential to remove culverts and restore watercourses to a more natural condition. In many cases, opening culverts can reduce flood risk when combined with SuDS. A Level 2 SFRA and/or detailed site-specific FRA would be required to help inform on site layout and design.

Where Strategic Recommendation C applies to a potential site, the developer should consider the site layout with a view to excluding the developable area from the flood extent that is obstructing development. If this is not possible then the alternative would be to investigate the incorporation of on-site storage of water into the site design. Depending on local circumstances, if it is not possible to adjust the site boundary to confine the developable area to a lower risk zone then this part of the development should not be permitted (for any site in Flood Zone 3b), or the Exception Test should be undertaken and passed as part of a site-specific FRA for the more vulnerable sites within Flood Zone 3a.

Development planning should always be aware of the requirement to not develop within 8 metres of any watercourse, flood defence structure or culvert, or within 16 metres on a tidal river, i.e. the Ribble Estuary, which is likely to be a regulated flood risk activity under Schedule 25 of the Environmental Permitting (England and Wales) Regulations 2016. Site layout and design will have to take this into consideration for development proposals. The 8 metre no development buffer zone of watercourses, shown on the SFRA maps in Appendix B, is recommended by the EA to allow ease of access to watercourses for maintenance works. Any site redesign, where Flood Zones



3b and 3a, are included within the site footprint, should allow water to flow naturally or be stored in times of flood through application of suitable SuDS.

The EA provided a recommendation that relates to 12 sites (19S025, 19S046, 19S068, 19S078, 19S112, 19S138, 19S139, 19S150, 19S218, 19S273, 19S306, and 19S310):

- *there is a growing number of unpermitted activity / development in relation to Environmental Permitting along Longton Brook and we would discourage developments to be proposed in close proximity to the main river. We would recommend that any proposed development is set back away from Longton Brook.*

#### **E.1.4 Strategic Recommendation D – development could be allocated subject to FRA**

This strategic recommendation DOES NOT take account of local circumstances, only that part of a site area falls within a flood zone.

This recommends that development could be allocated due to low flood risk perceived from the EA flood zones, assuming a site-specific FRA shows the site can be safe for its lifetime and it is demonstrated that the site is sequentially preferable. A site within Flood Zone 2 could still be rejected if the conclusions of the FRA decide development is unsafe or inappropriate.

Strategic Recommendation D applies to sites where one or more of the following criteria is true:

- Any site within Flood Zone 2 that does not have any part of its footprint within Flood Zone 3a, with the exception of highly vulnerable development which would be subject to, and have to pass, the Exception Test.
- Less vulnerable and water compatible sites within Flood Zone 3a. No part of the site can be within Flood Zone 3b.
- Less vulnerable sites which are 100% within Flood Zone 1 where surface water flood risk is apparent but not considered significant.
- Any site which is 100% within Flood Zone 1 that is greater than or equal to 1 hectare in area.

Strategic Recommendation D applies to 579 assessed sites. Of which, 557 sites are 100% within Flood Zone 1 with a further 8 sites having over 90% within Flood Zone 1. The surface water risk at these sites will be nominal although will still require appropriate assessment through an FRA. Each site-specific FRA should investigate the risk and mitigate accordingly, including consideration of plans for safe site access and egress during a possible flood event.

The other 22 sites are at some risk from Flood Zone 2 and must therefore be subject to an FRA at planning application stage by the applicant. Each site-specific FRA should investigate the risk and mitigate accordingly, including consideration of plans for site access and egress during a possible flood event. Each FRA should include its own emergency plan.

#### **E.1.5 Strategic Recommendation E – development could be allocated on flood risk grounds subject to consultation with the LPA / LLFA**

This strategic recommendation DOES NOT take account of local circumstances, only that part of a site area falls within a flood zone.

This recommends that development could be allocated on flood risk grounds, based on the evidence provided within this SFRA. Further investigation (i.e. FRA) may be required by the developer at the planning application stage if any further or new information becomes available since the publication of this SFRA. Strategic Recommendation E applies to 101 sites.

Strategic Recommendation E applies to any site with 100% of its area within Flood Zone 1 and not within any surface water flood zone, and therefore considered to be at very low risk.

## E.2 Assessment of climate change

At the strategic level, it could be said that any site currently at risk, will likely be at increased risk in the long term, due to climate change. This does not account for any existing or planned flood defence works or mitigation solutions. However, for this SFRA, it should be assumed that all potential development sites identified to be at existing risk from fluvial and/or tidal flooding, are at risk from the effects of climate change. This accounts for 172 (20%) of the 878 potential development sites assessed.

The absence of appropriate modelling means it cannot be gauged as to what extent a site may be at increased risk. However, for this SFRA, Flood Zone 2 is used as a proxy for Flood Zone 3 + 70% peak flow uplift for climate change. Based on climate change modelling elsewhere in England, Flood Zone 2 is generally larger in extent than the +70% upper end allowance for the 2080s. It can therefore be considered to be a worst-case scenario.

There may also be sites that are currently wholly located in Flood Zone 1 that may be at risk from climate change. Again, without appropriate modelling it is not possible to robustly identify such sites. In the absence of modelling we have therefore identified any site within Flood Zone 1 that is within 20 metres of Flood Zone 2 to be at some level of fluvial and/or tidal risk in the future. Again, this is a precautionary approach that is somewhat arbitrary in that there are a number of localised factors, such as topography; existing and future flood risk management practices; existing and future flood defence infrastructure, that would dictate whether any such sites would be at increased in the future. Using this approach, there are 29 sites that are currently shown to be in Flood Zone 1 that may be at risk in the long term. Together with the 172 sites at increased risk, this adds up to 201 (23%) of the 878 sites assessed.

It should be noted that changes in flood zone extents in well-defined floodplains will be more negligible compared to very flat floodplains. However, changes in flood depth within the more well-defined floodplains will be greater. The expected increase in flood extents and depths as a result of climate change will have implications for the type of development that is considered appropriate according to its vulnerability.

Using the above approach, all sites identified to be at increased risk from climate change are indicated in the Sites Assessment Spreadsheet in Appendix C. It is recommended that each of these sites are subject to climate change modelling as part of, either, an addendum to this Level 1 SFRA, at the Level 2 SFRA stage, or the site-specific FRA stage.

The EA's 2020 SFRA guidance states that the LPA...

*...may need to commission new or updated modelling if:*

- *models are not available*
- *climate change allowances (predicted effects of climate) in the model are not in line with current climate change allowances.*

*You may be able to commission modelling with other planning authorities, the Environment Agency or relevant developers to share the benefits and costs. Any new modelling will need to go through a transparent quality assurance process to make sure it is fit for purpose. Contact your local Environment Agency office for the available data and to discuss joint working and quality assurance.*

Time and budget constraints has not allowed for new modelling to be carried out as part of this Level 1 SFRA.

### **E.3 Summary of sites assessment outcomes**

There are several consequential development considerations which could come out of the site assessment sequential testing process. Each outcome is discussed below. The LPAs should refer to Section E.1 and Appendix C for details on the site assessments carried out for this SFRA.

#### **E.3.1 Rejection of site**

A site which fails to pass the Sequential Test and / or the Exception Test should be rejected, and development should not be permitted or allocated. Rejection would also apply to any more (residential, mixed use inclusive of residential, and other) or less vulnerable (employment) sites within the functional floodplain where development should not be permitted or allocated. If the developer is able to avoid the functional floodplain, part of the site could still be delivered. However, depending on local circumstances, if it is not possible to adjust the site boundary to remove the site footprint from the functional floodplain to a lower risk zone then development should not be permitted.

In terms of surface water flood risk, if risk is considered significant, based on AEP or development vulnerability, or where the size of the site does not allow for on-site storage or application or appropriate SuDS then such sites could be rejected. The LLFA will be best placed to advise on site-specific surface water flood risk and whether sites can be taken forward or not.

#### **E.3.2 Exception Test required**

Applies to those sites that, according to the FRCC-PPG vulnerability tables, would require the Exception Test. Only water-compatible and less vulnerable land uses would not require the Exception Test in Flood Zone 3a. More vulnerable uses and essential infrastructure are only permitted if the Exception Test is passed and all development proposals in Flood Zone 3a must be accompanied by a Flood Risk Assessment at the planning application stage.

#### **E.3.3 Consideration of site layout and design**

Applies to sites where, based on the strategic assessment of risk, it may be possible to alter the site boundary to remove the risk from the site or to incorporate the risk within the site layout through careful design. Site layout and site design is important at the site planning stage where flood risk exists. The site area would have to be large enough to enable any alteration of the developable area of the site to remove development from the functional floodplain, or to leave space for on-site storage of flood water. Careful layout and design at the site planning stage may apply to such sites where it is considered viable based on the level of risk. Surface water risk and opportunities for SuDS should also be assessed during the planning stage.

Depending on local circumstances, if it is not possible to adjust the site boundary to remove the site footprint from the functional floodplain to a lower risk zone then development should not be allocated or permitted. If it is not possible to adjust the developable area from Flood Zone 3a to a lower risk zone or to incorporate the on-site storage of water within site design, then the Exception Test would have to be passed. Highly vulnerable sites should be rejected.

Any development within 8 metres of any flood defence structure or culvert on a Main River is likely to be regulated flood risk activity under Schedule 25 of the Environment Permitting (England and Wales) Regulations 2016. Any site redesign, where Flood Zone 3a is included within the site footprint, should allow water to flow naturally or be

stored in times of flood through application of appropriate SuDS techniques (see Section 6.7 of the main report). Similarly, any change or alteration to an ordinary watercourse within the site would need consent from the LLFA under the Land Drainage Act 1991<sup>2</sup>.

### E.3.4 Site-specific Flood Risk Assessment

A site-specific Flood Risk Assessment should assess whether a potential development is likely to be affected by current or future flooding (including effects of climate change) from any source. This should include referencing this SFRA to establish sources of flooding. Further analysis should be performed to improve the understanding of flood risk including agreement with the LPAs and the EA on areas of functional floodplain that have not been specified within this SFRA. The LLFA should be consulted on risk from surface water and from ordinary watercourses.

According to the FRCC-PPG (Para 030), a site-specific FRA is:

*"...carried out by (or on behalf of) a developer to assess the flood risk to and from a development site. Where necessary (see footnote 50 in the National Planning Policy Framework), the assessment should accompany a planning application submitted to the local planning authority. The assessment should demonstrate to the decision-maker how flood risk will be managed now and over the development's lifetime, taking climate change into account, and with regard to the vulnerability of its users (see Table 2 – Flood Risk Vulnerability of FRCC-PPG)."*

**The objectives of a site-specific FRA are to establish:**

- Whether the development will increase flood risk elsewhere;
- Whether the measures proposed to deal with these effects and risks are appropriate;
- The evidence for the local planning authority to apply (if necessary) the Sequential Test;
- Whether the development will be safe for its lifetime and pass the Exception Test, if applicable; and
- That an appropriate Emergency Plan is in place that accounts for the possibility of a flood event and shows the availability of safe access and egress points accessible during times of flood. (Para 030)

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<sup>2</sup> <https://www.legislation.gov.uk/ukpga/1991/59/contents>

### **When is a Site-Specific FRA Required?**

According to the NPPF (2019) footnote 50, a site-specific FRA should be prepared when the application site is:

- Situated in Flood Zone 2 and 3; for all proposals for new development (including minor development and change of use);
- 1 hectare or greater in size and located in Flood Zone 1;
- Located in Flood Zone 1 on land which has been identified by the EA as having critical drainage problems (i.e. within an ACDP);
- Land identified in the SFRA as being at increased flood risk in future (i.e. based on RoFSW mapping; sites within Flood Zone 2 that may be within Flood Zone 3 in the longer term (in the absence of modelled climate change outputs));
- At risk of flooding from other sources of flooding, such as those identified in this SFRA; or
- Subject to a change of use to a higher vulnerability classification which may be subject to other sources of flooding.

Optionally, the LPAs may also like to consider further options for stipulating FRA requirements, such as:

- Situated in an area currently benefitting from defences;
- At residual risk from reservoirs or canals;
- Within a council designated CDA; or
- Situated over a culverted watercourse or where development will require controlling the flow of any watercourse, drain or ditch or the development could potentially change structures known to influence flood flow.

These further options should be considered during the preparation and development of the Local Plan.

Paragraph 031 of the FRCC-PPG contains information regarding the level of detail required in the FRAs and indicates that it should always be proportionate to the degree of flood risk whilst making use of existing information, including this SFRA. Paragraph 068 of the FRCC-PPG contains an easy to follow FRA checklist for developers to follow.

Together with the information in the FRCC-PPG, there is further detail and support provided for the LPAs and developers via:

advice for developers:

<https://www.gov.uk/guidance/flood-risk-assessment-standing-advice>

advice for LPAs:

<https://www.gov.uk/guidance/flood-risk-assessment-local-planning-authorities>

also, EA guidance for Flood Risk Assessments for planning applications:

<https://www.gov.uk/guidance/flood-risk-assessment-for-planning-applications>

Section 6.5 of the main report provides further guidance for developers.

#### **E.3.5 Sites passing the Sequential and Exception Tests**

Development sites can be allocated or granted planning permission where the Sequential Test and the Exception Test (if required) are passed and agreement is reached between the LPA, the EA, the LLFA, UU and any ancillary stakeholders. In addition, a site is likely to be allocated without the need to assess flood risk where the

indicative use is for open space. Assuming the site is not to include any development and is to be left open then the allocation is likely to be acceptable from a flood risk point of view. However, for sites where there is potential for flood storage, options should be explored as part of a FRA.

In terms of opportunities for reducing flood risk overall as a requirement of the Exception Test, the FRCC-PPG states:

*"Local authorities and developers should seek opportunities to reduce the overall level of flood risk in the area and beyond. This can be achieved, for instance, through the layout and form of development, including green infrastructure and the appropriate application of sustainable drainage systems, through safeguarding land for flood risk management, or where appropriate, through designing off-site works required to protect and support development in ways that benefit the area more generally."* (Paragraph 50).

### **E.3.6 Surface water risk to assessed sites**

For sites at surface water flood risk the following should be considered:

- Possible withdrawal, redesign or relocation for those sites considered to be at significant risk. More detailed surface water modelling may reveal increased risk or less risk to a site. The LLFA should be consulted when considering development viability at such sites;
- Outline drainage strategy to ascertain natural flow paths and topographic depressions, particularly for the larger sites which may influence sites elsewhere;
- A detailed site-specific FRA incorporating surface water flood risk management;
- Full drainage strategy encompassing detailed surface water modelling of proposed site layouts, attenuation areas, diversion of flow routes;
- Ensuring future maintenance of surface water and SuDS assets through s106 agreements;
- The size of development and the possibility of increased surface water flood risk caused by development on current greenfield land (where applicable), and cumulative impacts of this within specific areas;
- Management and re-use of surface water on-site, assuming the site is large enough to facilitate this and achieve effective mitigation. Effective surface water management should ensure risks on and off site are controlled;
- Larger sites could leave surface water flood-prone areas as open greenspace, incorporating social and environmental benefits;
- SuDS should be used where possible. Appropriate SuDS may offer opportunities to control runoff to greenfield rates or better. Restrictions on surface water runoff from new development should be incorporated into the development planning stage. For brownfield sites, where current infrastructure may be staying in place, then runoff should attempt to mimic that of greenfield rates, unless it can be demonstrated that this is unachievable or hydraulically impractical. Developers should refer to the national 'non-statutory technical standards for sustainable drainage systems' and other guidance documents cited in Section 6.8 of the main report;
- Runoff up to and including the 1 in 100 AEP event (1%) should be managed on-site where possible;
- Measures of source control should be required for development sites;

- Developers should be required to set part of their site aside for surface water management, to contribute to flood risk management in the wider area and supplement green infrastructure networks;
- Developers should be required to maximise permeable surfaces;
- Flow routes on new development where the sewerage system surcharges as a consequence of exceedance of the 1 in 30 AEP design event should be retained; and
- Whether the delineation of CDAs may be appropriate for areas particularly prone to surface water flooding. Detailed analysis and consultation with the LLFA and UU would be required. It may then be beneficial to carry out a local SWMP or drainage strategy for targeted locations with any such critical drainage problems. Investigation into the capacity of existing sewer systems would be required in order to identify critical parts of the system i.e. pinch points. Drainage model outputs could be obtained from UU to confirm the critical parts of the drainage network and subsequent recommendations could then be made for future development i.e. strategic SuDS sites, parts of the drainage system where any new connections should be avoided, and parts of the system that may have any additional capacity and recommended runoff rates.