This page has been left intentionally blank
DRAWING NUMBER
CS057949/Fig 3-1

Sefton Level 2
Strategic Flood Risk Assessment

Figure 3-1
EA Fluvial Flood Zones

Consultants
CAPITA SYMONDS

Scale at A3 1:40,000
Date 20/10/2012
Drawn by ER
Approved by PR

Legend
- Borough Administrative Boundary
- Main River
- Ordinary Watercourse
- Leeds and Liverpool Canal
- Defences
- Permanent Water Bodies
- Flood Zone 3 Fluvial
- Flood Zone 2 Fluvial

Notes
Fluvial Flood Zone 3 is equivalent to the undefended 1 in 100 annual probability flood event and fluvial Flood Zone 2 is equivalent to the undefended 1 in 1000 annual probability flood event.

Flood data provided by the Environment Agency 2012. All rights reserved (Ref: PRE4990).

Reproduced from Ordnance Survey mapping with the permission of the Controller of Her Majesty's Stationery Office. © Crown copyright. All rights reserved. Sefton OS Copyright (100018192) 2012. Unauthorised reproduction infringes copyright.
Figure 4-1
EA Tidal Flood Zones

Notes
TIDAL FLOOD ZONE 3 IS EQUIVALENT TO THE UNDEFENDED 1 IN 200 ANNUAL PROBABILITY FLOOD EVENT AND TIDAL FLOOD ZONE 2 IS EQUIVALENT TO THE UNDEFENDED 1 IN 1000 ANNUAL PROBABILITY FLOOD EVENT.

FLOOD DATA PROVIDED BY THE ENVIRONMENT AGENCY 2012. ALL RIGHTS RESERVED (REF: PRE4990).
REPRODUCED FROM ORDNANCE SURVEY MAPPING WITH THE PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONERY OFFICE. © CROWN COPYRIGHT. ALL RIGHTS RESERVED. SEFTON OS COPYRIGHT (100018192) 2012
UNAUTHORISED REPRODUCTION INFRINGES COPYRIGHT AND MAY LEAD TO PROSECUTION OR CIVIL PROCEEDINGS.

Consultants
CAPITA SYMONDS

Sefton Level 2
Strategic Flood Risk Assessment

Scale at A3 1:40,000
Date 25/10/2012
Drawn by ER
Approved by PR

DRAWING NUMBER REV CS057949/4-1 -
Figure 9-1
Fluvial Flood Depths with Defences
(1 in 100 annual probability plus climate change)
The information presented has been obtained from available hydraulic models that show the potential consequences of fluvial flooding within Sefton.

Flood data provided by the Environment Agency 2012. All rights reserved (REF: PRE4990).

Reproduced from Ordnance Survey mapping with the permission of the Controller of Her Majesty's Stationery Office, © Crown Copyright. All rights reserved. Sefton OS Copyright (1001 1962) 2012. Unauthorised reproduction infringes Copyright and may lead to prosecution or civil proceedings.

Consultants
CAPITA SYMONDS

Sefton Council

Sefton Level 2
Strategic Flood Risk Assessment

Figure 6-1
Fluvial Flood Risk Extents with Defences

Capita Symonds
Omnia One, Queen Street, Sheffield, S1 2DG.
The SWMP outputs are presented only where modelling was undertaken. The 1 in 5 and the 1 in 30 annual probability event outputs are based on modelling the predicted manhole flooding volumes at manholes as inflows that are discharged over a 1.5 hour period. This assumes therefore that the sewer system receives all rainfall in these events and that flooding is solely caused by inadequacy of the sewer hydraulic capacity. For the 1 in 100 annual probability event and the 1 in 100 annual probability event with an allowance for climate change, the outputs are based on modelling of direct rainfall with a 6.5mm allowance for the capacity of the sewer system plus manhole flooding from the 1 in 30 annual probability event. This assumes that the sewers are largely at capacity and that excess rainfall becomes surface water runoff.

Reproduced from Ordnance Survey mapping with the permission of the Controller of Her Majesty's Stationery Office. © Crown Copyright. All rights reserved. Sefton OS Copyright (100018192) 2012. Unauthorised reproduction infringes copyright and may lead to prosecution or civil proceedings.
Local Flood Risk Zones (LFRZs)

(1 in 100 annual probability event)

Local flood risk zones are discrete areas of flooding that affect at least one home, business or infrastructure asset. They represent the area of flooding caused by surface water and sewer flooding that is greater than 0.08m deep. Only LFRZs with an area greater than 5 square metres are shown.

Reproduced from Ordnance Survey mapping with the permission of the Controller of Her Majesty’s Stationery Office. © Crown Copyright. All rights reserved. Sefton OS copyright (100018192) 2012. Unauthorised reproduction infringes copyright and may lead to prosecution or civil proceedings.
Critical Drainage Areas (CDAs) have been defined by identifying the catchment areas that contribute to flooding in those local flood risk zones that could result in locally significant surface water flooding, i.e., those in which more than 8 properties or 20 people may be impacted.

Legend:
- Borough Administrative Boundary
- Main River
- Ordinary Watercourse
- Leeds and Liverpool Canal
- Permanent Water Bodies
- Critical Drainage Areas

Notes:
Sefton OS Copyright (100018192) 2012

Unauthorised reproduction infringes copyright and may lead to prosecution or civil proceedings.

Sefton Council
Strategic Flood Risk Assessment

Consultants
CAPITA SYMONDS

DRAWING NUMBER REV CS057949/Fig 14-1

Scale at A3 1:40,000
Date 25/10/2012
Drawn by ER
Approved by PR

Figure 14-1
Critical Drainage Areas
DRAWING NUMBER REV
CS057949/Fig 15-1 - SEFTON, ALONG WITH A NUMBER OF OTHER MERSEYSIDE AUTHORITIES, ADOPTED THE ASTSWF DATASET AS ITS LOCALLY AGREED SURFACE WATER INFORMATION WITHIN ITS PFRA. FOR THE PURPOSES OF THIS SFRA, HOWEVER, THE OUTPUTS OF THE SWMP ARE GIVEN GREATER PRIORITY THAN THE ASTSWF DATASET.

FLOOD DATA PROVIDED BY THE ENVIRONMENT AGENCY 2012; ALL RIGHTS RESERVED (REF: PRE4990).

REPRODUCED FROM ORDNANCE SURVEY MAPPING WITH THE PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONERY OFFICE. © CROWN COPYRIGHT. ALL RIGHTS RESERVED. SEFTON OS COPYRIGHT (100018192) 2012 UNAUTHORISED REPRODUCTION INFRINGES COPYRIGHT AND MAY LEAD TO PROSECUTION OR CIVIL PROCEEDINGS.

Consultants
CAPITA SYMONDS

Sefton Level 2
Strategic Flood Risk Assessment

Figure 15-1
Areas Susceptible to Surface Water Flooding

Scale at A3 1:40,000
Date 25/10/2012
Drawn by ER
Approved by PR

Sefton Council
Figure 16-1
Historical Surface Water and Sewer Flooding Incidents

Legend
- Borough Administrative Boundary
- Main River
- Ordinary Watercourse
- Leeds and Liverpool Canal
- Permanent Water Bodies
- Surface Water Flooding Incidents (data provided by United Utilities data)
- Surface Water Flooding Incidents (data provided by United Utilities data)

Notes
- Reproduced from Ordnance Survey mapping with the permission of the Controller of Her Majesty's Stationery Office. © Crown Copyright. All rights reserved. Sefton (c) Copyright (100018192) 2012 Unauthorised reproduction infringes copyright and may lead to prosecution or civil proceedings.

Sefton Council
Sefton Level 2
Strategic Flood Risk Assessment

Scale at A3: 1:40,000
Date: 25/10/2012
Drawn by: ER
Approved by: PR

Consultants
CAPITA SYMONDS
THE SUDS SUITABILITY IS BASED ON A COMBINATION OF THE PERMEABILITY OF THE OVERLYING DRIFT AND THE UNDERLYING GEOLOGY. AREAS IDENTIFIED AS BEING SUSCEPTIBLE TO GROUNDWATER EMERGENCE HAVE BEEN IDENTIFIED AS VERY LOW REGARDLESS OF THE UNDERLYING DRIFT OR SOLID GEOLOGY. IT SHOULD ALSO BE NOTED THAT IN AREAS WITH A BETTER SUDS SUITABILITY CLASSIFICATION THERE MAY ALSO BE SHALLOW GROUNDWATER OR POTENTIALLY CONTAMINATION THAT COULD RESTRICT OR ENTIRELY PREVENT THE USE OF INFILTRATION SUDS. WHERE INFILTRATION SUDS ARE PROPOSED, IT IS STRONGLY RECOMMENDED THAT LOCATION-SPECIFIC SOAKAWAY TESTS IN LINE WITH BRE365 OR SIMILAR ARE USED TO CONFIRM THE SUITABILITY OF THE GROUND CONDITIONS. THIS SHOULD BE COMPLETED AT THE CONCEPTUAL DESIGN STAGE TO AVOID POST-PLANNING CONSENT ISSUES ARISING.

FLOOD DATA PROVIDED BY THE ENVIRONMENT AGENCY 2012. ALL RIGHTS RESERVED (REF: PRE4990).

REPRODUCED FROM ORDNANCE SURVEY MAPPING WITH THE PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONERY OFFICE. © CROWN COPYRIGHT. ALL RIGHTS RESERVED. SEFTON OS COPYRIGHT (100018192) 2012. UNAUTHORISED REPRODUCTION INFRINGES COPYRIGHT AND MAY LEAD TO PROSECUTION OR CIVIL PROCEEDINGS.

Consultants
CAPITA SYMONDS
Omnia One, Queen Street, Sheffield, S1 2DG.
SEFTON LOCAL PLAN: SITE ASSESSMENT FORM

<table>
<thead>
<tr>
<th>Site Reference</th>
<th>Settlement Area</th>
<th>Policy ref (if applicable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SR4.03</td>
<td>Southport</td>
<td>MN2.4</td>
</tr>
</tbody>
</table>

**SiteAddress**: Land at Moss Lane, Churchtown

**SiteType**: Potential Housing Allocation

**SiteArea(Ha)**: 19.7

### Proximity of the site to key services

<table>
<thead>
<tr>
<th>Service</th>
<th>Proportion of Site (%) with:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High accessibility</td>
</tr>
<tr>
<td>Train Stations</td>
<td>0 % (&lt;800m)</td>
</tr>
<tr>
<td>Frequent Bus Stops</td>
<td>0 % (&lt;400m)</td>
</tr>
<tr>
<td>Primary School</td>
<td>99.2 % (&lt;800m)</td>
</tr>
<tr>
<td>District Local Centres</td>
<td>52.1 % (&lt;800m)</td>
</tr>
<tr>
<td>Neighbourhood Park</td>
<td>83.9 % (&lt;600m)</td>
</tr>
<tr>
<td>GPs/Health Centres</td>
<td>0 % (&lt;800m)</td>
</tr>
</tbody>
</table>

### Site specific / wider benefits

**Comments**

1. Would site involve redevelopment of Brownfield land? **No**
2. Would the development provide new or improved Road / Rail infrastructure? **No**
3. Would the site offer any other specific benefit? **No**
4. Would the site contribute to the wider regeneration of a deprived area? **No**
5. Would the site create jobs in an area of high unemployment? **No**
6. Would the site provide affordable housing in an area of high need? **Yes**
   Would contribute to the high affordable housing need in Southport.
7. Would the site meet any other wider need or provide other benefits? **No**
<table>
<thead>
<tr>
<th>Constraint</th>
<th>Constraint severity</th>
<th>Constraint description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Ecology</td>
<td>Minor Constraint</td>
<td>Potential for water voles adjacent to Three Pools Waterway.</td>
</tr>
<tr>
<td>2. HRA</td>
<td>Screened In</td>
<td></td>
</tr>
<tr>
<td>3. Flood Risk</td>
<td>Moderate Constraint</td>
<td>Approximately 10% of the site is within Flood Zone 2, with a further 2% in Flood Zone 3 (in the north east corner of the site). However, once existing flood defences are taken into account the site would not be at risk from a 1:1000 year event. There is a risk of surface water flooding on various parts of the site. A number of ordinary water courses run through the site. Approximately one third of the site is identified as having susceptibility to ground water flooding.</td>
</tr>
<tr>
<td>4. Sequential Test</td>
<td>Pass</td>
<td>Entire site is in Flood Zone 1 once existing flood defences are taken into account, as confirmed by the SFRA.</td>
</tr>
<tr>
<td>5. Heritage</td>
<td>Minor Constraint</td>
<td>Minor impact on the North Meols Conservation Area and the listed buildings therein, by virtue of a limited increase in the sense of suburbanisation, especially in the north-eastern part of the site.</td>
</tr>
<tr>
<td>6. Pollution</td>
<td>No Constraint</td>
<td>No known issues</td>
</tr>
<tr>
<td>7. Site Access</td>
<td>Moderate Constraint</td>
<td>Satisfactory access to this site can be achieved, but will require major highways improvements to Moss Lane. There is scope to widen Moss Lane within the existing highway boundary. There is currently a poor level of accessibility for pedestrians. Footways on Moss Lane are narrow and the presence of the golf course restricts opportunities to provide any additional direct pedestrian links to the surrounding area.</td>
</tr>
<tr>
<td>8. Network Capacity</td>
<td>Moderate Constraint</td>
<td>The cumulative effect of the developments proposed would require an assessment including any proposals in West Lancashire. It is likely that substantial mitigation in the form of significant infrastructure improvements would be required.</td>
</tr>
<tr>
<td>9. Accessibility Improvements</td>
<td>N/A</td>
<td>There are limited opportunities to make the development permeable for pedestrians and cyclists. A substantial scheme of off-site improvements to enhance the accessibility of the site by sustainable travel modes is likely to be required.</td>
</tr>
<tr>
<td>10. BMV Agricultural Land</td>
<td>Minor Constraint</td>
<td>Approximately 90% of the site comprises grade 2 and 3a agricultural land and is therefore classified as 'best and most versatile agricultural land', according to the Sefton Agricultural Land Study 2012.</td>
</tr>
<tr>
<td>11. Landscape</td>
<td>Moderate Constraint</td>
<td>Mitigation in the form of provision of open space is recommended to ensure the site is integrated well into the surrounding landscape character.</td>
</tr>
<tr>
<td>12. Ground Conditions</td>
<td>Moderate Constraint</td>
<td>Sub-strata is generally sand overlying peat layers, and new developments in this vicinity are on raft or piled foundations.</td>
</tr>
<tr>
<td>13. Utility Infrastructure</td>
<td>Minor Constraint</td>
<td>Waste water network upgrade might be required</td>
</tr>
<tr>
<td>14. Other Constraint</td>
<td>No Constraint</td>
<td>No known other issues</td>
</tr>
</tbody>
</table>
1. To check the unrestricted sprawl of large built-up areas

**Impact**: Moderate

**Comments**: Approximately 10% of the site adjoins the existing built up area. The existing Green Belt boundary is weak (largely defined by the rear of existing housing and open space). The proposed boundaries would be strong in part, being defined by Moss Lane and Three Pools Waterway. The release of this land would undermine the Green Belt function of land immediately to the west (the golf course).

2. To prevent towns merging into one-another

**Impact**: None

**Comments**: There would no impact on an existing narrow gap between settlements.

3. To safeguard the countryside from encroachment

**Impact**: Moderate

**Comments**: The site is in agricultural use.

4. To preserve the setting and special character of historic towns

**Impact**: None

**Comments**: The site is adjacent to modern development.

5. To assist urban regeneration

**Impact**: Unable to assess impact

### Green Belt Purposes

<table>
<thead>
<tr>
<th>Constraint type</th>
<th>Impact</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. To check the unrestricted sprawl of large built-up areas</td>
<td>Moderate</td>
<td>Approximately 10% of the site adjoins the existing built up area. The existing Green Belt boundary is weak (largely defined by the rear of existing housing and open space). The proposed boundaries would be strong in part, being defined by Moss Lane and Three Pools Waterway. The release of this land would undermine the Green Belt function of land immediately to the west (the golf course).</td>
</tr>
<tr>
<td>2. To prevent towns merging into one-another</td>
<td>None</td>
<td>There would no impact on an existing narrow gap between settlements.</td>
</tr>
<tr>
<td>3. To safeguard the countryside from encroachment</td>
<td>Moderate</td>
<td>The site is in agricultural use.</td>
</tr>
<tr>
<td>4. To preserve the setting and special character of historic towns</td>
<td>None</td>
<td>The site is adjacent to modern development.</td>
</tr>
<tr>
<td>5. To assist urban regeneration</td>
<td>Unable to assess impact</td>
<td></td>
</tr>
</tbody>
</table>

### Delivery Considerations

<table>
<thead>
<tr>
<th>Constraint type</th>
<th>Yes/No</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Does the owner wish to promote the site for development?</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>2. Are there any known viability issues?</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>3. Are there any known issues that would delay development?</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>

### Conclusion

Land currently in the Green Belt. However, the site is relatively contained and its release would not significantly impact on any Green Belt purpose, albeit it would likely necessitate the removal of the adjacent golf course from the Green Belt. There are highways and accessibility constraints to this site that would require substantial mitigation. However, there is scope to widen Moss Lane within the existing highway boundary to achieve satisfactory access. The site would contribute to meeting Southport’s high affordable housing need, and is appropriate for allocation for housing development in the Local Plan.
Flood Risk Technical Paper

Sefton Local Plan

September 2015
Proposed housing allocations in Northern Southport (MN2.1 – MN2.4)

3.22 Large areas of northern Southport are in Flood Zones 2 and 3 for tidal flood risk. This reflects the fact that in the absence of defences, the northern part of the town would be flooded by the sea in a 1:200 year flood risk event.

3.23 The submitted Local Plan was based on the EA flood maps available at the time of Publication. However, on 4th August 2015 the EA published revised flood maps for northern Southport. The effect of these revisions on proposed Local Plan allocations is set out below:

Proportion of allocated sites (northern Southport) in Flood Zones 2 and 3

<table>
<thead>
<tr>
<th>Proposed Allocation</th>
<th>EA Flood Maps at Publication stage</th>
<th>EA Flood Maps 04/08/15 revisions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FZ 1</td>
<td>FZ 2</td>
</tr>
<tr>
<td>MN2.1 Bartons Close, Southport</td>
<td>99%</td>
<td>0%</td>
</tr>
<tr>
<td>MN2.2 Land at Bankfield Lane, Southport</td>
<td>44%</td>
<td>56%</td>
</tr>
<tr>
<td>MN2.3 Fmr Phillips Factory, Balmoral Drive, Southport</td>
<td>9%</td>
<td>63%</td>
</tr>
<tr>
<td>MN2.4 Land at Moss Lane, Churchtown, Southport</td>
<td>89%</td>
<td>10%</td>
</tr>
</tbody>
</table>

3.24 As set out at para 2.4 above, the EA Flood Zones take no account of existing flood defences, which in this location are very strong. Northern Southport is protected by a double embankment sea defence and the Crossens Pumping Station. Sefton’s SFRA modelled the extent of flood risk in northern Southport taking account of these defences and found that most of this area would be in Flood Zone 1 if these defences were taken into account.

3.25 The EA has also modelled a breach scenario for the weakest part of the sea defences. This shows the area of Southport that would be inundated if the sea wall breached in this location. Importantly, this would not affect allocations MN2.1, MN2.2 or MN2.4, and would only partly affect allocation MN2.3. Therefore these sites (with the partial exception of MN2.3) would not be affected if the flood defences were to fail in this location.

3.26 The extent of flooding modelled in the breach scenario is illustrated below:
3.27 Following the publication of the revised EA flood maps, sites MN2.1 - MN2.4 are now partly in Flood Zone 3 and are therefore required to meet the Exception Test.
As set out above, the presence of strong flood defences significantly reduces the residual flood risk in this area. In addition, only site MN2.3 would be affected under the breach scenario produced by the EA, and then only in part. The actual flood risk to the proposed Local Plan allocations in this area (taking account of defences) is therefore very low.

In addition, Southport has a high affordable housing need that is specific to the town. This accounts for 47% of net affordable housing need in Sefton, as set out in the table below:

Affordable Housing Need by Settlement – Sefton Strategic Housing Market Assessment (2014)

<table>
<thead>
<tr>
<th>Area</th>
<th>Current need</th>
<th>Newly forming households</th>
<th>Existing households falling into need</th>
<th>Total Need</th>
<th>Supply</th>
<th>Net Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southport</td>
<td>40</td>
<td>273</td>
<td>97</td>
<td>410</td>
<td>207</td>
<td>203</td>
</tr>
<tr>
<td>Formby</td>
<td>4</td>
<td>71</td>
<td>11</td>
<td>86</td>
<td>22</td>
<td>64</td>
</tr>
<tr>
<td>Maghull/Aintree</td>
<td>8</td>
<td>135</td>
<td>11</td>
<td>171</td>
<td>53</td>
<td>118</td>
</tr>
<tr>
<td>Crosby</td>
<td>16</td>
<td>168</td>
<td>99</td>
<td>282</td>
<td>192</td>
<td>91</td>
</tr>
<tr>
<td>Bootle</td>
<td>16</td>
<td>152</td>
<td>216</td>
<td>384</td>
<td>416</td>
<td>-32</td>
</tr>
<tr>
<td>Netherton</td>
<td>9</td>
<td>149</td>
<td>189</td>
<td>347</td>
<td>356</td>
<td>-9</td>
</tr>
<tr>
<td>Sefton</td>
<td>93</td>
<td>948</td>
<td>639</td>
<td>1,680</td>
<td>1,246</td>
<td>434</td>
</tr>
</tbody>
</table>

Source: 2011 Census/CoRe/Projection Modelling and affordability analysis

Importantly, there are no alternative sites available in Southport to meet this need. No such sites have been promoted to the Local Plan by landowners or developers. In addition, no large alternative sites adjacent to Southport were promoted to the West Lancashire Local Plan Examination in 2013 (apart from those that are now allocated for development). Furthermore, no such sites have been promoted to the West Lancashire SHLAA that are not also in Flood Zone 3.

Sites MN2.1, MN2.2, MN2.3, and MN2.4 are therefore required to address Southport’s high affordable housing need. In combination with the presence of strong flood defences, these factors are considered to meet part 1 of the ‘Exception Test’.

In addition to these considerations, site MN2.3 is a large brownfield site in poor condition. Its redevelopment for housing would have a significantly beneficial effect on the surrounding area. Site MN2.1 is only partially (10%) in Flood Zone 3 and this could easily be excluded from any development area.

Flood Risk Assessments for sites MN2.2 and MN2.3 have been submitted, to address the second part of the Exception Test. An FRA for site MN2.4 is currently being prepared following the recent revisions to the EA flood maps.