



**Dorset Council**  
**L2 SFRA - Detailed Site Summary Tables**

	<b>Site details</b>
<b>Site Code</b>	<b>WEY2</b>
<b>Address</b>	Town Centre core and Commercial Road area, Weymouth
<b>Area</b>	11.9 hectares
<b>Current land use</b>	Retail, residential and parking.
<b>Proposed land use</b>	Retail, residential, leisure and parking.

**Sources of flood risk**

**Location of site within catchment**  
 The site is located to the east of Weymouth Harbour (the River Wey) within Weymouth, between Town Bridge and Swannery Bridge. The river flows southward through the Weymouth urban area.

**Existing drainage features**  
 The site is located adjacent to the River Wey, which runs through the town. The river forms the western boundary of the site. The northern section of the site is upstream of Westham Bridge which acts as a tidal barrier and significantly reduces tidal waters during typical tidal conditions. The southern section of the site, downstream of Westham Bridge, is adjacent to Weymouth Marina and Harbour which are both tidal. There are no additional watercourses within the site boundary or in close proximity to the site.  
 Two surface water sewers are located within the site boundary, both discharging into Weymouth harbour: one draining from north of the site boundary, into the site and discharging south of Westham Bridge; the other drains south west from the western section of the site. It is understood that the rest of the site is drained via the combined system to the Wessex Water owned Radipole pumping station on the west side of Radipole Lake.

**Joint probability assessment**  
 All hydraulic modelling undertaken as part of this assessment has used a joint probability approach based in the Environment Agency best practice FD2308 guidance. This avoids overestimating the amount of flood risk when multiple sources of flooding are being considered in conjunction. Rather than running all combinations of conditions for each event, the models were run for tidal dominated (TDT) event, fluvial dominated (FDT) event. For example, in a 0.5% AEP TDT event, the tidal boundary has 0.5% AEP conditions, whereas the fluvial boundary has 33% AEP conditions. The tables below detail the event combinations that were simulated for the TDT and FDT events.

<b>TDT Event AEP (%)</b>	<b>50</b>	<b>5</b>	<b>2.5</b>	<b>1.33</b>	<b>1</b>	<b>0.5</b>	<b>0.1</b>
<b>Tidal AEP (%)</b>	50	5	2.5	1.33	1	0.5	0.1
<b>Fluvial AEP (%)</b>	1000	500	100	100	50	33	6

<b>FDT Event AEP (%)</b>	<b>50</b>	<b>10</b>	<b>5</b>	<b>2</b>	<b>1</b>	<b>0.5</b>	<b>0.1</b>
<b>Tidal AEP (%)</b>	MHWS	MHWS	MHWS	100	50	33	6
<b>Fluvial AEP (%)</b>	50	10	5	2	1	0.5	0.1

For the surface water modelling a similar approach was taken when considering the downstream boundaries to avoid overestimating the extent of flood risk. As a result, for the 3.3% and 1% AEP events, the 50% AEP TDT and FDT boundary levels were applied



**Dorset Council**  
**L2 SFRA - Detailed Site Summary Tables**

**Site details**

**Site Code** WEY2

**Address** Town Centre core and Commercial Road area, Weymouth

**Area** 11.9 hectares

**Current land use** Retail, residential and parking.

**Proposed land use** Retail, residential, leisure and parking.

to the model while the 5% AEP TDT and FDT levels were applied to the surface water model for the 0.1% AEP event.

**Fluvial dominated**

**Available data and mapping:**  
 A detailed coastal and fluvial TUFLOW model of Weymouth, developed for the Environment Agency in 2019 and updated as part of this Level 2 SFRA study has been used to describe the risk of fluvial flooding to the site.

WEY2 – Fluvial defended 3.3% AEP (depth)  
 WEY2 – Fluvial defended 1% AEP (depth)  
 WEY2 – Fluvial defended 0.1% AEP (depth)

WEY2 – Fluvial defended 3.3% AEP (hazard)  
 WEY2 – Fluvial defended 1% AEP (hazard)  
 WEY2 – Fluvial defended 0.1% AEP (hazard)

WEY2 – Fluvial defended 3.3% AEP (velocity)  
 WEY2 – Fluvial defended 1% AEP (velocity)  
 WEY2 – Fluvial defended 0.1% AEP (velocity)

**Data analysis:**

**3.3% AEP (1 in 30-year) event:**

Proportion - <1%	
Max depth - 0m	Mean depth - 0m
Max velocity - 0m/s	Mean velocity - 0m/s
Max hazard - 0	Mean hazard - 0

**1% AEP (1 in 100-year) event:**

Proportion - <1%	
Max depth - 2.01m	Mean depth - 0.17m
Max velocity - 0.32m/s	Mean velocity - 0.03m/s
Max hazard - 2.02	Mean hazard - 0.66

**0.1% AEP (1 in 1,000-year) event:**

Proportion - 7%	
Max depth - 2.54m	Mean depth - 0.2m
Max velocity - 0.41m/s	Mean velocity - 0.04m/s
Max hazard - 2.29	Mean hazard - 0.76

**Flood characteristics:**  
 Significant depths, velocities and flood hazard ratings along the boundary with the harbour represent water levels within the harbour, rather than the site itself.

The site is shown not to be at risk of a 1 in 30-year (3.3% AEP) fluvially dominant flooding event.

During the 1 in 100-year (1% AEP) event only a very limited area in the north of the site on the upstream side of The Gurkha restaurant is shown to be at risk of flooding, with water depths of 0.05-0.4m extending for approximately 10m away from the River





**Dorset Council**

**L2 SFRA - Detailed Site Summary Tables**

**Site details**

<b>Site Code</b>	<b>WEY2</b>
<b>Address</b>	Town Centre core and Commercial Road area, Weymouth
<b>Area</b>	11.9 hectares
<b>Current land use</b>	Retail, residential and parking.
<b>Proposed land use</b>	Retail, residential, leisure and parking.

**1% AEP (1 in 100-year) event:**

Proportion - 86%	
Max depth - 3.86m	Mean depth - 0.77m
Max velocity - 2.52m/s	Mean velocity - 0.3m/s
Max hazard - 3.1	Mean hazard - 1.48

**0.1% AEP (1 in 1,000-year) event:**

Proportion - 90%	
Max depth - 4.48m	Mean depth - 1.06m
Max velocity - 2.66m/s	Mean velocity - 0.37m/s
Max hazard - 3.3	Mean hazard - 1.68

**Flood characteristics:**

The results described below are based on the defences proposed as part of the Weymouth Harbour and Esplanade Flood and Coastal Risk Management Strategy (2020). An Outline Business Case is currently being prepared to assess the level of protection offered by the scheme. Any Site-Specific Flood Risk Assessment should consider the OBC once this is completed.

Significant depths, velocities and flood hazard ratings along the boundary with the harbour represent water levels within the harbour, rather than the site itself.

During a 1 in 30-year (3.3% AEP) event plus climate change, much of the site is flooded except an area to the east of Great George Street in the north east and to the east of St Thomas Street in the south. Flood depths decrease to the east away from the river. Flood depths are greatest (1.2-1.6m) on Commercial Road from north of Mulberry Terrace to the southern boundary of the site and up to 1.5m in the Melcombe Regis car park area (up to 1.7m very close to the river). The water velocity across much of the site is less than 0.1m/s but increases to 0.2-0.4m/s along many of the roads, with velocities reaching approximately 0.8m/s along Commercial Road. The highest velocities (up to 2.4m/s) within the site are to the north of Westham Bridge: along the banks of the River Wey, around the edges of the bowling green and Commercial Road in this area. Much of the flooded area of the site has a 'Significant' (1.25 to 2.0) flood hazard rating. All Commercial Road from the southern edge of the site to Westham Road has an 'Extreme' (greater than 2.0) flood hazard rating. Hazard ratings increase to the west of the site.

During a 1 in 100-year (1% AEP) event plus climate change, extents, depths and velocities increase slightly from the 1 in 30-year (3.3% AEP) event plus climate change. Flood depths increase to 1.8m in the Melcombe Regis car park area and 1.3-1.7m on Commercial Road from Mulberry Terrace to the southern boundary of the site. The water velocity increases to 0.3-1.0m/s along many of the roads, with velocities reaching approximately 1m/s along Commercial Road. The highest velocities remain similar to the north of Westham Bridge. A large proportion of the site has a 'Significant' flood hazard rating, with Commercial Road south from Westham Bridge to the southern edge of the site having an 'Extreme' flood hazard rating. These hazard ratings increase to the west and south of the site, with lower ratings around the eastern margins.

During a 1 in 1,000-year (0.1% AEP) event plus climate change, the majority of the site is flooded except a small area to the east of Great George Street. Impacts are similar



**Dorset Council**  
**L2 SFRA - Detailed Site Summary Tables**

**Site details**

<b>Site Code</b>	<b>WEY2</b>
<b>Address</b>	Town Centre core and Commercial Road area, Weymouth
<b>Area</b>	11.9 hectares
<b>Current land use</b>	Retail, residential and parking.
<b>Proposed land use</b>	Retail, residential, leisure and parking.

to the 1% AEP event plus climate change. Flood depths increase to 2.4m in the Melcombe Regis car park area and 1.6-1.9m on Commercial Road from Mulberry Terrace to the southern boundary of the site. Water velocities increase only slightly, reaching a maximum of 2.4m/s to the north of Westham Bridge. Almost all flooded areas have a 'Significant (1.25 to 2.0) flood hazard rating, with Commercial Road south from Westham Bridge to the southern edge of the site and Melcombe Regis car park having an 'Extreme' (greater than 2.0) flood hazard rating. Hazard ratings increase to the west of the site.

Flood water first enters the site from Custom House Quay with a significant flow north up Commercial Road, this then flows east to the Mulberry Terrace area and north to the bowling green and into Melcombe Regis car park. From here the flood water flows into the River Wey north of Westham bridge. Eventually, , water flows into the site from north of Westham bridge.

<b>Surface Water (no downstream boundary)</b>	<p><b>Available data and mapping:</b>          The detailed InfoWorks ICM surface water model, developed for this Level 2 SFRA study has been used to describe the risk of surface water flooding to the site.</p> <p>WEY2 – Surface water (no downstream boundary) 3.3% AEP (depth)          WEY2 – Surface water (no downstream boundary) 1% AEP (depth)          WEY2 – Surface water (no downstream boundary) 0.1% AEP (depth)</p> <p>WEY2 – Surface water (no downstream boundary) 3.3% AEP (hazard)          WEY2 – Surface water (no downstream boundary) 1% AEP (hazard)          WEY2 – Surface water (no downstream boundary) 0.1% AEP (hazard)</p> <p>WEY2 – Surface water (no downstream boundary) 3.3% AEP (velocity)          WEY2 – Surface water (no downstream boundary) 1% AEP (velocity)          WEY2 – Surface water (no downstream boundary) 0.1% AEP (velocity)</p> <p><b>Data analysis:</b></p> <p><b>3.3% AEP (1 in 30-year) event:</b>          Proportion - 13%          Max depth - 0.81m          Max velocity - 5.66m/s          Max hazard - 3.81</p> <p>Mean depth - 0.06m          Mean velocity - 0.04m/s          Mean hazard - 0.54</p> <p><b>1% AEP (1 in 100-year) event:</b>          Proportion - 20%          Max depth - 0.81m          Max velocity - 5.66m/s          Max hazard - 3.81</p> <p>Mean depth - 0.08m          Mean velocity - 0.06m/s          Mean hazard - 0.57</p> <p><b>0.1% AEP (1 in 1,000-year) event:</b>          Proportion - 31%          Max depth - 0.87m          Max velocity - 5.66m/s          Max hazard - 3.81</p> <p>Mean depth - 0.11m          Mean velocity - 0.09m/s          Mean hazard - 0.64</p>
---	---



**Dorset Council**

**L2 SFRA - Detailed Site Summary Tables**

**Site details**

<b>Site Code</b>	<b>WEY2</b>
<b>Address</b>	Town Centre core and Commercial Road area, Weymouth
<b>Area</b>	11.9 hectares
<b>Current land use</b>	Retail, residential and parking.
<b>Proposed land use</b>	Retail, residential, leisure and parking.

**Flood characteristics:**  
 Significant depths, velocities and flood hazard ratings along the boundary with the harbour represent water levels within the harbour, rather than the site itself.

In a 1 in 30-year (3.3% AEP) event, surface water flooding is concentrated along the roads and car parks. Maximum depths (0.3m) are found along Commercial Road in the vicinity of the Cosens Quay and multi-storey car parks. Generally, depths are less than 0.1m across the site, with depths of less than 0.05m in much of the western section of the site. Velocities are less than 0.05m/s across much of the site, reaching 0.05-0.1m/s in isolated locations. Along Commercial Road in the far south of Cosens Quay velocities are 0.1-0.2m/s and along the western end of Lower St Alban Street to its junction with Commercial Road velocities are 0.2-0.3m/s. The flooded areas have a flood hazard rating of 'Low' hazard (less than 0.75) except for a small area of Commercial Road at the northern end of Cosens Quay which has a 'Moderate' hazard (0.75 to 1.25) rating.

In a 1 in 100-year (1% AEP) event, surface water extents are similar to the 1 in 30-year (3.3% AEP) event with maximum depths still along Commercial Road in the vicinity of the Cosens Quay and multi-storey car parks and also in an isolated area at the bowling green (0.3-0.4m). Depths of up to 0.2m extend further north on Commercial Road, reaching the town council offices. Across much of the site depths are still generally less than 0.1m but there are more isolated locations with depths of 0.1-0.2m. Velocities increase slightly from the 3.3% AEP event. Along Commercial Road in the far south of Cosens Quay velocities are still 0.1-0.2m/s but along the western end of Lower St Alban Street to its junction with Commercial Road velocities increase to 0.4-0.5m/s. Areas around the bowling green, the northern section of Commercial Road and the junction of St Mary Street and Bond Street have velocities of 0.1-0.2m/s. Again, the flooded areas have a flood hazard rating of 'Low' hazard (less than 0.75) except for an area of Commercial Road along the northern half of Cosens Quay and a small area at the bowling green which have a 'Moderate' hazard (0.75 to 1.25) rating.

In a 1 in 1,000-year (0.1% AEP) event, surface water extents are significantly increased from the 1% AEP event, especially along St Mary Street and in the Melcombe Regis car park. Depths increase to a maximum of 0.4-0.5m in the same locations as the maximums in the 1% AEP event. Across much of the flooded areas of the site depths are 0.1-0.2m. Much of Commercial Road south from the town council offices has velocities of 0.2-0.5m/s, with maximum velocity within the site again along Lower St Alban Street, reaching 0.7m/s. In the areas around the bowling green, the northern section of Commercial Road and the junction of St Mary Street and Bond Street velocities increase to 0.2-0.5m/s. Velocities across the rest of the flooded areas of the site are less than 0.2m/s with many areas less than 0.1m/s. The areas away from Commercial Road still have a flood hazard rating of 'Low' (less than 0.75), Commercial Road has a 'Moderate' rating from the town council offices to Cosens Quay with two small areas of 'Significant' flood hazard rating (1.25 to 2.0) by the multi-storey car park and just south of the town council offices and a very small area of 'Significant' rating within a 'small area of 'Moderate' rating by the bowling green.

<b>Surface water (no downstream boundary) plus climate change</b>	<b>Available data and mapping:</b> The detailed InfoWorks ICM surface water model, developed for this Level 2 SFRA study has been used to describe the risk of surface water flooding to the site. For the climate change scenarios, future defences, based on the specifications outlined within Appendix A and C of the Weymouth Harbour and Esplanade Flood and Coastal Risk Management Strategy (2020) were applied to the model based on interventions undertaken across all
---	--



**Dorset Council**

**L2 SFRA - Detailed Site Summary Tables**

**Site details**

<b>Site Code</b>	<b>WEY2</b>
<b>Address</b>	Town Centre core and Commercial Road area, Weymouth
<b>Area</b>	11.9 hectares
<b>Current land use</b>	Retail, residential and parking.
<b>Proposed land use</b>	Retail, residential, leisure and parking.

three phases. An Outline Business Case is currently being produced to assess the future coastal defences for Weymouth. When undertaking a Site-Specific Flood Risk Assessment, this should be considered.

WEY2 – Surface water (no downstream boundary) 3.3% AEP + 40% CC (depth)  
 WEY2 – Surface water (no downstream boundary) 1% AEP + 45% CC (depth)  
 WEY2 – Surface water (no downstream boundary) 0.1% AEP + 45% CC (depth)

WEY2 – Surface water (no downstream boundary) 3.3% AEP + 40% CC (hazard)  
 WEY2 – Surface water (no downstream boundary) 1% AEP + 45% CC (hazard)  
 WEY2 – Surface water (no downstream boundary) 0.1% AEP + 45% CC (hazard)

WEY2 – Surface water (no downstream boundary) 3.3% AEP + 40% CC (velocity)  
 WEY2 – Surface water (no downstream boundary) 1% AEP + 45% CC (velocity)  
 WEY2 – Surface water (no downstream boundary) 0.1% AEP + 45% CC (velocity)

**Data analysis:**

**3.3% AEP (1 in 30-year) event:**

Proportion - 22%	
Max depth - 0.81m	Mean depth - 0.08m
Max velocity - 5.66m/s	Mean velocity - 0.06m/s
Max hazard - 3.81	Mean hazard - 0.58

**1% AEP (1 in 100-year) event:**

Proportion - 29%	
Max depth - 0.84m	Mean depth - 0.11m
Max velocity - 5.66m/s	Mean velocity - 0.08m/s
Max hazard - 3.81	Mean hazard - 0.63

**0.1% AEP (1 in 1,000-year) event:**

Proportion - 40%	
Max depth - 1.02m	Mean depth - 0.14m
Max velocity - 4.04m/s	Mean velocity - 0.1m/s
Max hazard - 3.32	Mean hazard - 0.67

**Flood characteristics:**

The results described below are based on the defences proposed as part of the Weymouth Harbour and Esplanade Flood and Coastal Risk Management Strategy (2020). An Outline Business Case is currently being prepared to assess the level of protection offered by the scheme. Any Site-Specific Flood Risk Assessment should consider the OBC once this is completed.

Significant depths, velocities and flood hazard ratings along the boundary with the harbour represent water levels within the harbour, rather than the site itself.

In a 1 in 30-year (3.3% AEP) event plus 40% climate change uplift, surface water extents are similar to the 1% AEP event with maximum depths still along Commercial Road in the vicinity of the Cosens Quay and multi-storey car parks and also in an isolated area at the bowling green (0.2-0.4m). Across much of the site depths are generally less than 0.1m. Along Commercial Road in the far south of Cosens Quay velocities are 0.1-



**Dorset Council**

**L2 SFRA - Detailed Site Summary Tables**

**Site details**

<b>Site Code</b>	<b>WEY2</b>
<b>Address</b>	Town Centre core and Commercial Road area, Weymouth
<b>Area</b>	11.9 hectares
<b>Current land use</b>	Retail, residential and parking.
<b>Proposed land use</b>	Retail, residential, leisure and parking.

0.2m/s but along the western end of Lower St Alban Street to its junction with Commercial Road velocities increase to 0.4-0.5m/s. Areas around the bowling green, the northern section of Commercial Road and the junction of St Mary Street and Bond Street have velocities of 0.1-0.2m/s. The flooded areas have a flood hazard rating of 'Low' hazard (less than 0.75) except for an area of Commercial Road along the northern half of Cosens Quay and a small area at the bowling green which have a 'Moderate' hazard (0.75 to 1.25) rating.

In the 1 in 100-year (1% AEP) event plus 45% climate change uplift, surface water extents are similar to the 1 in 1,000-year (0.1% AEP) event with maximum depths along Commercial Road (0.5m) south of Westham Road and near the bowling green. Along Commercial Road south from the town council offices to Cosens Quay velocities are 0.1-0.4m/s but along the western end of Lower St Alban Street to its junction with Commercial Road velocities increase to 0.4-0.7m/s. Areas around the bowling green, the northern section of Commercial Road and the junction of St Mary Street and Bond Street have velocities of up to 0.4m/s. The flooded areas have a flood hazard rating of 'Low' hazard (less than 0.75) except for Commercial Road south from the town council offices to Cosens Quay and a small area at the bowling green which have a 'Moderate' hazard (0.75 to 1.25) rating. A very small area at the junction of Commercial Road and Lower St Alban Street has a 'Significant' flood hazard rating (1.25 to 2.0).

In the 1 in 1,000-year (0.1% AEP) event plus 45% climate change uplift, depths increase to 0.5-0.7m along Commercial Road in the vicinity of the multi-storey car park and Cousens Quay. Velocities increase to 0.6m/s south from the library along Commercial Road and to 0.8m/s at the junction of Lower St Alban Street with Commercial Road. Flood hazard ratings are similar to the 1% AEP event plus 45% uplift with climate change but increase to a 'Significant' hazard rating (1.25 to 2.0) along Commercial Road south of the council offices and in a small area by the bowling green.

**Surface water (tidal dominated downstream boundary)**

- Available data and mapping:**  
 The detailed InfoWorks ICM surface water model, developed for this Level 2 SFRA study has been used to describe the risk of surface water flooding to the site.
- WEY2 – Surface water (tidal downstream boundary) 3.3% AEP (depth)
  - WEY2 – Surface water (tidal downstream boundary) 1% AEP (depth)
  - WEY2 – Surface water (tidal downstream boundary) 0.1% AEP (depth)
  - WEY2 – Surface water (tidal downstream boundary) 3.3% AEP (hazard)
  - WEY2 – Surface water (tidal downstream boundary) 1% AEP (hazard)
  - WEY2 – Surface water (tidal downstream boundary) 0.1% AEP (hazard)
  - WEY2 – Surface water (tidal downstream boundary) 3.3% AEP (velocity)
  - WEY2 – Surface water (tidal downstream boundary) 1% AEP (velocity)
  - WEY2 – Surface water (tidal downstream boundary) 0.1% AEP (velocity)



**Site details**

<b>Site Code</b>	<b>WEY2</b>
<b>Address</b>	Town Centre core and Commercial Road area, Weymouth
<b>Area</b>	11.9 hectares
<b>Current land use</b>	Retail, residential and parking.
<b>Proposed land use</b>	Retail, residential, leisure and parking.

**Data analysis:**

**3.3% AEP (1 in 30-year) event:**

Proportion - 14%	
Max depth - 2.08m	Mean depth - 0.07m
Max velocity - 0.83m/s	Mean velocity - 0.04m/s
Max hazard - 2.29	Mean hazard - 0.55

**1% AEP (1 in 100-year) event:**

Proportion - 20%	
Max depth - 2.08m	Mean depth - 0.09m
Max velocity - 0.5m/s	Mean velocity - 0.06m/s
Max hazard - 2.29	Mean hazard - 0.57

**0.1% AEP (1 in 1,000-year) event:**

Proportion - 32%	
Max depth - 2.26m	Mean depth - 0.12m
Max velocity - 1.82m/s	Mean velocity - 0.09m/s
Max hazard - 2.38	Mean hazard - 0.65

**Flood characteristics:**

Significant depths, velocities and flood hazard ratings along the boundary with the harbour represent water levels within the harbour, rather than the site itself.

In a 1 in 30-year (3.3% AEP) event, most flooding occurs along Commercial Road south of the town council offices (depths of 0.1-0.3m) and in Cosens Quay car park. Elsewhere ponding occurs mainly in the car parks in the west of the site and in limited extents on the roads in the east with depths <0.2m. The only locations in which velocities exceed 0.1m/s are in the Bond Street / St Mary Street junction area (0.1-0.2m/s) and from Lower St Alban Street south along Commercial Road to the edge of the site (0.2-0.3m/s). The flooded areas have a flood hazard rating of 'Low' hazard (less than 0.75) except for a small area of Commercial Road at the northern end of Cosens Quay which has a 'Moderate' hazard (0.75 to 1.25) rating.

In a 1 in 100-year (1% AEP) event, the areas of flooding increase slightly with the flooding on Commercial Road extending north nearly to Westham Road. The areas of ponding form more continuous areas on some of the eastern streets. Depths increase to 0.4m on Commercial Road near the multi-storey car park and at the bowling green, however across much of the site depths are less than 0.1m. Velocities remain less than 0.1m/s across much of the site except the far northern section of Commercial Road (0.1-0.2m/s), the bowling green (0.1-0.3m/s), Bond Street, St Thomas Street and St Mary Street (0.1-0.3m/s) and the flow path south from the town council offices to the southern edge of the site (0.1-0.4m/s). Again, the flooded areas have a flood hazard rating of 'Low' hazard (less than 0.75) except for an area of Commercial Road along the northern half of Cosens Quay and a small area at the bowling green which have a 'Moderate' hazard (0.75 to 1.25) rating.

In a 1 in 1,000-year (0.1% AEP) event, the extent of flooding increases significantly in Melcombe Regis car park and along St Mary Street and St Thomas Street with depths generally 0.1-0.2m. Commercial Road is flooded from King Street to the southern edge of the site with depths of 0.3-0.6m from the town council offices southwards.



**Dorset Council**

**L2 SFRA - Detailed Site Summary Tables**

**Site details**

<b>Site Code</b>	<b>WEY2</b>
<b>Address</b>	Town Centre core and Commercial Road area, Weymouth
<b>Area</b>	11.9 hectares
<b>Current land use</b>	Retail, residential and parking.
<b>Proposed land use</b>	Retail, residential, leisure and parking.

Depths reach 0.2m along many of the other streets. Velocities reach 0.1m/s on many of the streets but exceed this in several locations: in the north along Commercial Road, Melcombe Regis car park and the bowling green (0.1-0.5m/s), Commercial Road south from King Street to the town council offices (0.1-0.2m/s), Great George Street and Mulberry Terrace to Commercial Road (0.1-0.3m/s), St Thomas Street, St Mary Street and Bond Street (0.1-0.4m/s). Commercial Road between the town council offices and the southern edge of the site has velocities from 0.3-0.5m/s with a localised maximum of 0.7m/s at the junction of Lower St Alban Street with Commercial Road. The areas away from Commercial Road still have a flood hazard rating of 'Low' (less than 0.75), Commercial Road has a 'Moderate' rating from the town council offices to Cosens Quay with two small areas of 'Significant' flood hazard rating (1.25 to 2.0) by the multi-storey car park and just south of the town council offices.

**Surface water (tidal dominated downstream boundary) plus climate change**

**Available data and mapping:**  
 The detailed InfoWorks ICM surface water model, developed for this Level 2 SFRA study has been used to describe the risk of surface water flooding to the site. For the climate change scenarios, future defences, based on the specifications outlined within Appendix A and C of the Weymouth Harbour and Esplanade Flood and Coastal Risk Management Strategy (2020) were applied to the model based on interventions undertaken across all three phases. An Outline Business Case is currently being produced to assess the future coastal defences for Weymouth. When undertaking a Site-Specific Flood Risk Assessment, this should be considered.

WEY2 – Surface water (tidal downstream boundary) 3.3% AEP + 40% CC (depth)  
 WEY2 – Surface water (tidal downstream boundary) 1% AEP + 45% CC (depth)  
 WEY2 – Surface water (tidal downstream boundary) 0.1% AEP + 45% CC (depth)

WEY2 – Surface water (tidal downstream boundary) 3.3% AEP + 40% CC (hazard)  
 WEY2 – Surface water (tidal downstream boundary) 1% AEP + 45% CC (hazard)  
 WEY2 – Surface water (tidal downstream boundary) 0.1% AEP + 45% CC (hazard)

WEY2 – Surface water (tidal downstream boundary) 3.3% AEP + 40% CC (velocity)  
 WEY2 – Surface water (tidal downstream boundary) 1% AEP + 45% CC (velocity)  
 WEY2 – Surface water (tidal downstream boundary) 0.1% AEP + 45% CC (velocity)

**Data analysis:**

**3.3% AEP (1 in 30-year) event:**

Proportion - 61%	
Max depth - 2.63m	Mean depth - 0.31m
Max velocity - 1.06m/s	Mean velocity - 0.17m/s
Max hazard - 2.31	Mean hazard - 0.94

**1% AEP (1 in 100-year) event:**

Proportion - 64%	
Max depth - 2.63m	Mean depth - 0.31m
Max velocity - 2.49m/s	Mean velocity - 0.18m/s
Max hazard - 2.71	Mean hazard - 0.94



**Dorset Council**

**L2 SFRA - Detailed Site Summary Tables**

**Site details**

<b>Site Code</b>	<b>WEY2</b>
<b>Address</b>	Town Centre core and Commercial Road area, Weymouth
<b>Area</b>	11.9 hectares
<b>Current land use</b>	Retail, residential and parking.
<b>Proposed land use</b>	Retail, residential, leisure and parking.

**0.1% AEP (1 in 1000-year) event:**

Proportion - 96%	
Max depth - 4.6m	Mean depth - 1.26m
Max velocity - 4.67m/s	Mean velocity - 0.5m/s
Max hazard - 8.87	Mean hazard - 2.14

**Flood characteristics:**

The results described below are based on the defences proposed as part of the Weymouth Harbour and Esplanade Flood and Coastal Risk Management Strategy (2020). An Outline Business Case is currently being prepared to assess the level of protection offered by the scheme. Any Site-Specific Flood Risk Assessment should consider the OBC once this is completed.

Significant depths, velocities and flood hazard ratings along the boundary with the harbour represent water levels within the harbour, rather than the site itself.

In a 1 in 30-year (3.3% AEP) event plus 40% climate change uplift, surface water flooding is significantly greater than the 1 in 1,000-year (0.1% AEP) surface water and tidal dominated event. Flooding inundates all the western section of the site, including the area west of Great George Street and the far south of the site. Flooding occurs along the roadways of Bond Street and most of St Mary Street and St Thomas Street. Depths along the length of Commercial Road reach 0.7-1.3m and 0.6m in Melcombe Regis car park. In the eastern section of the site flooding is not continuous but is deepest around Great George Street (and to its west) and Bond Street reaching a maximum of 0.6m. Velocities are typically 0.2-0.4m/s along most roads but reach 1.0m/s on Commercial Road. Commercial Road south of Westham Road, the western half of Westham Road, sections of Great George Street and Melcombe Regis car park and the far south west of the site have a 'Significant' flood hazard rating (1.25 to 2.0), with an area of Commercial Road south of the library having an 'Extreme' flood hazard (greater than 2.0) rating. Flood hazard ratings are generally higher along the roads within the site.

In the 1 in 100-year (1% AEP) event plus 45% climate change uplift, surface water extents and depths are very similar to the 3.3% AEP event plus 40% climate change uplift. Velocities and flood hazard ratings are the same as the 3.3% AEP event plus 40% uplift with climate change.

In the 1 in 1,000-year (0.1% AEP) event plus 45% climate change uplift, surface water extents greatly increase on the 1% AEP event plus 45% climate change uplift, with only a small proportion of the site remaining flood free. Depths increase to 2.0-2.7m along all of Commercial Road south from the council offices and exceed 1.0m in virtually all the site south of Westham Road, except the far north east corner. To the north of Westham Road, depths generally exceed 0.5m. Velocities exceed 0.5m/s on many of the roads, with the highest values on the north - south leading roads especially near Westham Road. Here, velocities on Great George Street and Park Street reach 1.7m/s and 3.0m/s on Commercial Road. Much of Melcombe Regis car park has velocities of 1.3-2.0m/s. Roads elsewhere have velocities of 0.3-1.3m/s. Flood hazard ratings have increased to 'Extreme' along all the roads and covering almost all the western half of the site. The rest of the site is covered by a 'Significant' flood hazard rating.



**Dorset Council**

**L2 SFRA - Detailed Site Summary Tables**

**Site details**

<b>Site Code</b>	<b>WEY2</b>
<b>Address</b>	Town Centre core and Commercial Road area, Weymouth
<b>Area</b>	11.9 hectares
<b>Current land use</b>	Retail, residential and parking.
<b>Proposed land use</b>	Retail, residential, leisure and parking.

<b>Surface water (fluvial dominated downstream boundary)</b>	<p><b>Available data and mapping:</b> The detailed InfoWorks ICM surface water model, developed for this Level 2 SFRA study has been used to describe the risk of surface water flooding to the site.</p> <p>WEY2 – Surface water (fluvial downstream boundary) 3.3% AEP (depth)          WEY2 – Surface water (fluvial downstream boundary) 1% AEP (depth)          WEY2 – Surface water (fluvial downstream boundary) 0.1% AEP (depth)</p> <p>WEY2 – Surface water (fluvial downstream boundary) 3.3% AEP (hazard)          WEY2 – Surface water (fluvial downstream boundary) 1% AEP (hazard)          WEY2 – Surface water (fluvial downstream boundary) 0.1% AEP (hazard)</p> <p>WEY2 – Surface water (fluvial downstream boundary) 3.3% AEP (velocity)          WEY2 – Surface water (fluvial downstream boundary) 1% AEP (velocity)          WEY2 – Surface water (fluvial downstream boundary) 0.1% AEP (velocity)</p> <p><b>Data analysis:</b></p> <p><b>3.3% AEP (1 in 30-year) event:</b></p> <table border="0"> <tr> <td>Proportion - 14%</td> <td></td> </tr> <tr> <td>Max depth - 1.43m</td> <td>Mean depth - 0.06m</td> </tr> <tr> <td>Max velocity - 0.33m/s</td> <td>Mean velocity - 0.03m/s</td> </tr> <tr> <td>Max hazard - 1.83</td> <td>Mean hazard - 0.54</td> </tr> </table> <p><b>1% AEP (1 in 100-year) event:</b></p> <table border="0"> <tr> <td>Proportion - 20%</td> <td></td> </tr> <tr> <td>Max depth - 1.43m</td> <td>Mean depth - 0.08m</td> </tr> <tr> <td>Max velocity - 0.49m/s</td> <td>Mean velocity - 0.05m/s</td> </tr> <tr> <td>Max hazard - 1.83</td> <td>Mean hazard - 0.57</td> </tr> </table> <p><b>0.1% AEP (1 in 1,000-year) event:</b></p> <table border="0"> <tr> <td>Proportion - 31%</td> <td></td> </tr> <tr> <td>Max depth - 1.43m</td> <td>Mean depth - 0.11m</td> </tr> <tr> <td>Max velocity - 0.7m/s</td> <td>Mean velocity - 0.09m/s</td> </tr> <tr> <td>Max hazard - 1.81</td> <td>Mean hazard - 0.64</td> </tr> </table> <p><b>Flood characteristics:</b> Significant depths, velocities and flood hazard ratings along the boundary with the harbour represent water levels within the harbour, rather than the site itself.</p> <p>In a 1 in 30-year (3.3% AEP) event, surface water flooding is concentrated along the roads and car parks. Maximum depths (0.3m) are found along Commercial Road in the vicinity of the Cosens Quay and multi-storey car parks. Generally, depths are less than 0.1m across the site, with depths of less than 0.05m in much of the western section of the site. Velocities are less than 0.05m/s across much of the site, reaching 0.05-0.1m/s in isolated locations. Along Commercial Road in the far south of Cosens Quay velocities are 0.1-0.2m/s and along the western end of Lower St Alban Street to its junction with Commercial Road velocities are 0.2-0.3m/s. The flooded areas have a flood hazard rating of 'Low' hazard (less than 0.75) except for a small area of</p>	Proportion - 14%		Max depth - 1.43m	Mean depth - 0.06m	Max velocity - 0.33m/s	Mean velocity - 0.03m/s	Max hazard - 1.83	Mean hazard - 0.54	Proportion - 20%		Max depth - 1.43m	Mean depth - 0.08m	Max velocity - 0.49m/s	Mean velocity - 0.05m/s	Max hazard - 1.83	Mean hazard - 0.57	Proportion - 31%		Max depth - 1.43m	Mean depth - 0.11m	Max velocity - 0.7m/s	Mean velocity - 0.09m/s	Max hazard - 1.81	Mean hazard - 0.64
	Proportion - 14%																								
Max depth - 1.43m	Mean depth - 0.06m																								
Max velocity - 0.33m/s	Mean velocity - 0.03m/s																								
Max hazard - 1.83	Mean hazard - 0.54																								
Proportion - 20%																									
Max depth - 1.43m	Mean depth - 0.08m																								
Max velocity - 0.49m/s	Mean velocity - 0.05m/s																								
Max hazard - 1.83	Mean hazard - 0.57																								
Proportion - 31%																									
Max depth - 1.43m	Mean depth - 0.11m																								
Max velocity - 0.7m/s	Mean velocity - 0.09m/s																								
Max hazard - 1.81	Mean hazard - 0.64																								



**Dorset Council**

**L2 SFRA - Detailed Site Summary Tables**

**Site details**

<b>Site Code</b>	<b>WEY2</b>
<b>Address</b>	Town Centre core and Commercial Road area, Weymouth
<b>Area</b>	11.9 hectares
<b>Current land use</b>	Retail, residential and parking.
<b>Proposed land use</b>	Retail, residential, leisure and parking.

Commercial Road at the northern end of Cosens Quay which has a 'Moderate' hazard (0.75 to 1.25) rating.

In a 1 in 100-year (1% AEP) event, surface water extents are similar to the 3.3% AEP event with maximum depths still along Commercial Road in the vicinity of the Cosens Quay and multi-storey car parks and also in an isolated area at the bowling green (0.3-0.4m). The extent of depths up to 0.2m extends further north on Commercial Road as far as the town council offices. Across much of the site depths are still generally less than 0.1m but there are more isolated locations with depths of 0.1-0.2m. Velocities increase slightly from the 3.3% AEP event. Along Commercial Road from Cosens Quay to the town council offices velocities reach up to 0.3m/s, along the western end of Lower St Alban Street to its junction with Commercial Road velocities increase to 0.4-0.5m/s. Areas around the bowling green, the northern section of Commercial Road and the junction of St Mary Street and Bond Street have velocities of 0.1-0.2m/s. Again, the flooded areas have a flood hazard rating of 'Low' hazard (less than 0.75) except for an area of Commercial Road along the northern half of Cosens Quay and a small area at the bowling green which have a 'Moderate' hazard (0.75 to 1.25) rating.

In a 1 in 1,000-year (0.1% AEP) event, surface water extents are significantly increased from the 1% AEP event, especially along St Mary Street and in the Melcombe Regis car park. Depths increase to a maximum of 0.4-0.5m in the same locations as the 1% AEP event. Across much of the flooded areas of the site depths are 0.1-0.2m. Much of Commercial Road south from the town council offices has velocities of 0.2-0.5m/s, with maximum velocity within the site again along Lower St Alban Street, reaching 0.7m/s. In the areas around the bowling green, the northern section of Commercial Road and the junction of St Mary Street and Bond Street velocities increase to 0.2-0.5m/s. Velocities across the rest of the flooded areas of the site are less than 0.2m/s with many areas less than 0.1m/s. The areas away from Commercial Road still have a flood hazard rating of 'Low' (less than 0.75), except for small areas with 'Moderate' hazard rating at the bowling green and very small areas to the east of Commercial Road. Commercial Road has a 'Moderate' rating from the town council offices to the southern site boundary with two small areas of 'Significant' flood hazard rating (1.25 to 2.0) by the multi-storey car park and just south of the town council offices.

**Surface water (fluvial dominated downstream boundary) plus climate change**

**Available data and mapping:**  
 The detailed InfoWorks ICM surface water model, developed for this Level 2 SFRA study has been used to describe the risk of surface water flooding to the site. For the climate change scenarios, future defences, based on the specifications outlined within Appendix A and C of the Weymouth Harbour and Esplanade Flood and Coastal Risk Management Strategy (2020) were applied to the model based on interventions undertaken across all three phases. An Outline Business Case is currently being produced to assess the future coastal defences for Weymouth. When undertaking a Site-Specific Flood Risk Assessment, this should be considered.

WEY2 – Surface water (fluvial downstream boundary) 3.3% AEP + 40% CC (depth)  
 WEY2 – Surface water (fluvial downstream boundary) 1% AEP + 45% CC (depth)  
 WEY2 – Surface water (fluvial downstream boundary) 0.1% AEP + 45% CC (depth)

WEY2 – Surface water (fluvial downstream boundary) 3.3% AEP + 40% CC (hazard)  
 WEY2 – Surface water (fluvial downstream boundary) 1% AEP + 45% CC (hazard)  
 WEY2 – Surface water (fluvial downstream boundary) 0.1% AEP + 45% CC (hazard)

**Site details**

<b>Site Code</b>	<b>WEY2</b>
<b>Address</b>	Town Centre core and Commercial Road area, Weymouth
<b>Area</b>	11.9 hectares
<b>Current land use</b>	Retail, residential and parking.
<b>Proposed land use</b>	Retail, residential, leisure and parking.

WEY2 – Surface water (fluvial downstream boundary) 3.3% AEP + 40% CC (velocity)  
 WEY2 – Surface water (fluvial downstream boundary) 1% AEP + 45% CC (velocity)  
 WEY2 – Surface water (fluvial downstream boundary) 0.1% AEP + 45% CC (velocity)

**Data analysis:**

**3.3% AEP (1 in 30-year) event:**

Proportion - 25%	
Max depth - 1.05m	Mean depth - 0.14m
Max velocity - 0.44m/s	Mean velocity - 0.06m/s
Max hazard - 1.53	Mean hazard - 0.69

**1% AEP (1 in 100-year) event:**

Proportion - 32%	
Max depth - 1.06m	Mean depth - 0.15m
Max velocity - 0.48m/s	Mean velocity - 0.08m/s
Max hazard - 1.54	Mean hazard - 0.69

**0.1% AEP (1 in 1000-year) event:**

Proportion - 43%	
Max depth - 1.44m	Mean depth - 0.2m
Max velocity - 2.14m/s	Mean velocity - 0.15m/s
Max hazard - 2.63	Mean hazard - 0.78

**Flood characteristics:**

The results described below are based on the defences proposed as part of the Weymouth Harbour and Esplanade Flood and Coastal Risk Management Strategy (2020). An Outline Business Case is currently being prepared to assess the level of protection offered by the scheme. Any Site-Specific Flood Risk Assessment should consider the OBC once this is completed.

Significant depths, velocities and flood hazard ratings along the boundary with the harbour represent water levels within the harbour, rather than the site itself.

In a 1 in 30-year (3.3% AEP) event plus 40% climate change uplift, surface water extents are slightly greater than the 0.1% AEP event but with a significant increase in depth and extent in Melcombe Regis car park. Flooding is still concentrated in the western section of the site. Depths are 0.3-0.6m along Commercial Road south from the town council offices to the southern site boundary and up to 0.5m near the Gurkha restaurant. Across the eastern flooded areas of the site depths do not exceed 0.1m. Velocities are lower than in the 1 in 1,000-year (0.1% AEP) event. Highest velocities occur along Commercial Road south from the town council offices, reaching 0.2m/s with a localised maximum of 0.4m/s at the junction of Lower St Alban Street. In the Melcombe Regis car park and bowling green area velocities are less than 0.2m/s. Velocities across the flooded areas of the east section of the site reach up to 0.2m/s (on Bond Street) with most areas less than 0.1m/s. The flooded areas away from Melcombe Regis car park and Commercial Road have a flood hazard rating of 'Low' (less than 0.75). Commercial Road has a 'Moderate' flood hazard rating (0.75 to 1.25) from the town council offices to the southern site boundary and an area of 'Significant' (1.25 to 2.0) rating in the multi-storey car park / Lower St Alban Street junction area.



**Dorset Council**

**L2 SFRA - Detailed Site Summary Tables**

**Site details**

<b>Site Code</b>	<b>WEY2</b>
<b>Address</b>	Town Centre core and Commercial Road area, Weymouth
<b>Area</b>	11.9 hectares
<b>Current land use</b>	Retail, residential and parking.
<b>Proposed land use</b>	Retail, residential, leisure and parking.

Small areas near the Gurkha restaurant and the bowling green have a 'Moderate' flood hazard rating and there is a narrow area along the riverbank near the Gurkha restaurant with a 'Significant' hazard rating.

In the 1 in 100-year (1% AEP) event plus 45% climate change uplift surface water extents show a slight increase on the 3.3% event plus 40% climate change uplift. Flooding is still concentrated in the western section of the site but increases along the roads in the eastern section and in Melcombe Regis car park. Depths increase to 0.4-0.7m along Commercial Road south from the town council offices to the southern site boundary and remain similar in the Melcombe Regis car park area. Across the eastern flooded areas of the site depths increase slightly to 0.1-0.2m more widely. Velocities increase slightly: velocities along Commercial Road south from the town council offices increase to 0.3m/s. In the Melcombe Regis car park and bowling green area velocities remain mostly less than 0.2m/s, very locally 0.4m/s by the bowling green. Velocities across the flooded areas of the east section of the site increase, reaching up to 0.2-0.4m/s on parts of Bond Street, St Thomas Street, St Mary Street and Great George Street. Flood hazard ratings increase slightly on the 3.3% event plus 40% climate change uplift, the area of 'Significant' rating on Commercial Road extending further south along much of Cosens Quay carpark.

In the 1 in 1,000-year (0.1% AEP) event plus 45% climate change uplift, surface water extents increase, especially in the Melcombe Regis car park area. Depths increase slightly on the 1% AEP event, remaining greatest in the west of the site with greatest depths of 0.5-0.8m on Commercial Road south from the council offices to the southern boundary of the site, and in Melcombe Regis car park in the vicinity of the Gurkha restaurant. On other roads in the site depths increase slightly to 0.3m or less. Velocities increase more significantly, reaching 0.5m/s on Commercial Road, New Bond Street and Lower St Alban Street with a maximum of 1.9m/s near the river in the vicinity of the Gurkha restaurant, reducing to 0.5m/s approximately 50m from the river. Areas of 'Significant' flood hazard rating increase on the southern section of Commercial Road and in the Gurkha restaurant area. A very narrow strip of 'Extreme' (greater than 2.0) flood hazard rating is present along the edge of the river near the Gurkha restaurant. Some areas on the edges of the 'Significant' flood hazard areas and small sections of New Bond Street, Great George Street and Park Street have a 'Moderate' flood hazard but most roads still have a 'Low' flood hazard rating.

<b>Tidal dominated</b>	<b>Available data and mapping:</b> A detailed coastal and fluvial TUFLOW model of Weymouth, developed for the Environment Agency in 2019 and updated as part of this Level 2 SFRA study has been used to describe the risk of fluvial flooding to the site.
	WEY2 – Tidal defended 3.3% AEP (depth) WEY2 – Tidal defended 0.5% AEP (depth) WEY2 – Tidal defended 0.1% AEP (depth)
	WEY2 – Tidal defended 3.3% AEP (hazard) WEY2 – Tidal defended 0.5% AEP (hazard) WEY2 – Tidal defended 0.1% AEP (hazard)
	WEY2 – Tidal defended 3.3% AEP (velocity) WEY2 – Tidal defended 0.5% AEP (velocity) WEY2 – Tidal defended 0.1% AEP (velocity)



**Dorset Council**

**L2 SFRA - Detailed Site Summary Tables**

**Site details**

<b>Site Code</b>	<b>WEY2</b>
<b>Address</b>	Town Centre core and Commercial Road area, Weymouth
<b>Area</b>	11.9 hectares
<b>Current land use</b>	Retail, residential and parking.
<b>Proposed land use</b>	Retail, residential, leisure and parking.

**Data analysis:**

**3.3% AEP (1 in 30-year) event:**

Proportion - 15%	
Max depth - 4.23m	Mean depth - 0.28m
Max velocity - 1.21m/s	Mean velocity - 0.2m/s
Max hazard - 3.6	Mean hazard - 0.95

**0.5% AEP (1 in 200-year) event:**

Proportion - 30%	
Max depth - 4.41m	Mean depth - 0.28m
Max velocity - 1.2m/s	Mean velocity - 0.2m/s
Max hazard - 3.75	Mean hazard - 0.88

**0.1% AEP (1 in 1,000-year) event:**

Proportion - 47%	
Max depth - 4.56m	Mean depth - 0.29m
Max velocity - 1.31m/s	Mean velocity - 0.2m/s
Max hazard - 3.79	Mean hazard - 0.9

**Flood characteristics:**

Significant depths, velocities and flood hazard ratings along the boundary with the harbour represent water levels within the harbour, rather than the site itself.

In a 1 in 30-year (3.3% AEP) event, flood depths reach a maximum of up to 0.7m in Cosens Quay car park and north along Commercial Road (including the multi-storey car park), reducing to 0.2m approximately 100m south of Westham Road. Flooding extends north along Commercial Road as far as Westham Road. Velocities reach a maximum of 0.9m/s along Commercial Road north of Cosens Quay. Velocities are less than 0.1m/s across much of the rest of the flooded area but exceed 0.3m/s on much of Commercial Road. Commercial Road from Cosens Quay to the Council Offices has a 'Significant (1.25 to 2.0) flood hazard rating. The multi-storey car has a 'Moderate' (0.75 to 1.25) flood hazard rating, with the section of Commercial Road just south of Westham Road having a 'Low' (less than 0.75) flood hazard rating.

In a 1 in 200-year (0.5% AEP) event, the area flooded extends beyond the 30-year event's margins in the Melcombe Regis car park and Bowling Green area and between Mulberry Terrace and Westham Road. Flood depths increase to a maximum of 0.9m on Commercial Road by Cosens Quay car park. Velocities reach a maximum of 1.0m/s along Commercial Road and Lower St Alban Street (0.7m/s) but are still less than 0.1m/s across much of the flooded area. Flood hazard ratings increase slightly: Cosens Quay, the multi-storey car park and Commercial Road south of Westham Road all have a 'Significant (1.25 to 2.0) flood hazard rating, there are small areas of 'Moderate' (0.75 to 1.25) flood hazard rating and areas around the bowling green and Park Street have a 'Low' (less than 0.75) flood hazard rating.

In a 1 in 1,000-year (0.1% AEP) event, flood extents and depths increase on the 0.5% AEP event. Depths decrease east from the river with a line from Nicholas Street to Great George Street marking the approximate eastern extent of the flood. Commercial Road from Cosens Quay north to the council offices, including the multi-storey car







**Dorset Council**

**L2 SFRA - Detailed Site Summary Tables**

**Site details**

<b>Site Code</b>	<b>WEY2</b>
<b>Address</b>	Town Centre core and Commercial Road area, Weymouth
<b>Area</b>	11.9 hectares
<b>Current land use</b>	Retail, residential and parking.
<b>Proposed land use</b>	Retail, residential, leisure and parking.

**0.1% AEP (1 in 1,000-year) event:**

Proportion - 98%	
Max depth - 4.91m	Mean depth - 1.54m
Max velocity - 3.61m/s	Mean velocity - 0.56m/s
Max hazard - 5.46	Mean hazard - 2.19

**Flood characteristics:**


The results described below are based on the defences proposed as part of the Weymouth Harbour and Esplanade Flood and Coastal Risk Management Strategy (2020). An Outline Business Case is currently being prepared to assess the level of protection offered by the scheme. Any Site-Specific Flood Risk Assessment should consider the OBC once this is completed.

Significant depths, velocities and flood hazard ratings along the boundary with the harbour represent water levels within the harbour, rather than the site itself.

The majority of the site would be inundated in a 1 in 30-year (3.3% AEP) event plus climate change. The only sections not flooded are a small area east of Great George Street in the north east of the site and a very small area in the far south east of the site. Flood depths generally decrease to the east away from the river. Maximum depths (1.7-2.2m) occur on Commercial Road north from Cosens Quay to the council offices, including the multi-storey car park, and in Melcombe Regis car park (up to 1.5m, increasing to 1.7m close to the river). Roads in much of the rest of the site have flood depths exceeding 1.0m. Velocities across much of the site away from roads are less than 0.2m/s, along the roads they are generally 0.3-1.4m/s, however Commercial Road north of Westham Bridge has velocities of up to 2.9m/s and an area of Melcombe Regis car park by the river has a maximum velocity of 2.7m/s. Much of the site has a 'Significant (1.25 to 2.0) flood hazard rating, with most of the western side of the site having an 'Extreme' (greater than 2.0) flood hazard rating except the northern section of Melcombe Regis car park. Areas of 'Extreme' hazard are also found on Park Street, Great George Street and St Thomas Street.

Almost the entirety of the site would be inundated in a 1 in 200-year (0.5% AEP) event plus climate change. Flood depths increase with maximum depths (2.0-2.4m) occurring in Cosens Quay car park, the multi-storey car park, Commercial Road north from Cosens Quay to the council offices and Melcombe Regis car park. Much of the rest of the site has flood depths in excess of 0.9m. Velocities only increase very slightly with the maximum increasing to up to 3.3m/s in the area north of Westham Bridge. Flood hazard ratings increase: much of the western side of the site has an 'Extreme' (greater than 2.0) flood hazard rating (with a significant expansion in the area around Park Street and School Street), the rest of the flooded area of the site has a 'Significant (1.25 to 2.0) flood hazard rating.

As with the 0.5% AEP event plus climate change, almost the entirety of the site would be inundated in a 1 in 1,000-year (0.1% AEP) event plus climate change. Flood depths increase with maximum depths reaching 2.9m in the same areas as in the 0.5% AEP event plus climate change and exceed 1.5m across much of the rest of the site except the far south and east. Velocities increase slightly to a maximum of 3.4m/s in the Commercial Road / Melcombe Regis car park area north of Westham Bridge. Flood hazard ratings increase but the pattern remains similar to the 0.5% AEP event plus climate change.

	<p><b>Dorset Council</b></p> <p><b>L2 SFRA - Detailed Site Summary Tables</b></p>
	<p><b>Site details</b></p>
<p><b>Site Code</b></p>	<p><b>WEY2</b></p>
<p><b>Address</b></p>	<p>Town Centre core and Commercial Road area, Weymouth</p>
<p><b>Area</b></p>	<p>11.9 hectares</p>
<p><b>Current land use</b></p>	<p>Retail, residential and parking.</p>
<p><b>Proposed land use</b></p>	<p>Retail, residential, leisure and parking.</p>
	<p>The flooding starts from a major flow west along Customs House Quay from the sea overtopping the promenade east of Alexandra Gardens. This enters the site at Cosens Quay and continues to penetrate the site through a major flow north along Commercial Road. Flood water then enters the south of the site north from Custom House Quay. The flow north along Commercial Road floods Melcombe Regis car park and extends east from the council offices. The flooding in the south east of the site extends north eastwards through the site. The water in Melcombe Regis car park then enters the River Wey north of Westham bridge through the major flow along Commercial Road.</p>
<p><b>Reservoir</b></p>	<p>No risk of flooding from reservoir breaches has been identified within or around the vicinity of this site.</p>
<p><b>Groundwater</b></p>	<p>The JBA Groundwater Flood Map, at 5m resolution, shows that the entirety of this site is within the 'No risk' zone, deeming it as having a negligible risk from groundwater flooding during a 1% AEP groundwater flood event due to the nature of the local geology deposits.</p> <p>This assessment does not negate the requirement that an appropriate assessment of the groundwater regime should be carried out at the site-specific FRA stage.</p>
<p><b>Flood history</b></p>	<p>Recorded Flood Outlines – Environment Agency: There are no recorded incidences of tidal or fluvial flooding occurring in or around the surrounding area of the site.</p> <p>Historic Flood Risk – Dorset Council (LLFA): recorded flooding of the multi-story carpark, and area adjacent to the west of this (on Commercial Road).</p>
	<p><b>Flood risk management infrastructure</b></p>
<p><b>Defences – present day</b></p>	<p>Along the west edge of the site (section to the north of and including Westham Bridge).</p> <p>ID: 254, 255, 256. Type: Natural high ground providing fluvial protection. Design Standard of Protection: 1 in 5-year (20% AEP), Condition: Not provided, Asset owner: Unknown, Asset maintainer: Private individual, Company or Charity.</p> <p>ID: 130. Type: Natural high ground providing fluvial/tidal protection. Design Standard of Protection: 1 in 200-year (0.5% AEP), Condition: Not provided, Asset owner: Unknown, Asset maintainer: Private individual, Company or Charity.</p> <p>Along the west edge of the site (section to the south of Westham Bridge).</p> <p>ID: 39122, 176105, 129. Type: Wall providing fluvial/tidal protection, Design Standard of Protection: 1 in 200-year (0.5% AEP), Condition: Not provided, Asset owner: Unknown, Asset maintainer: Private individual, Company or Charity.</p> <p>ID: 98207. Type: Wall providing tidal protection, Design Standard of Protection: 1 in 200-year (0.5% AEP), Condition 3 (Fair), Asset owner: Environment Agency, Asset maintainer: Environment Agency.</p> <p>ID: 39121. Type: Natural high ground providing fluvial/tidal protection, Design Standard of Protection: 1 in 200-year (0.5% AEP), Condition: Not provided, Asset owner: Unknown, Asset maintainer: Private individual, Company or Charity.</p> <p>ID: 98206. Type: Embankment providing tidal protection, Design Standard of Protection: 1 in 200-year (0.5% AEP), Condition: 2 (Good), Asset owner: Environment Agency, Asset maintainer: Environment Agency.</p> <p>ID: 85152. Type: Wall providing tidal protection, Design Standard of Protection: 1 in 200-year (0.5% AEP), Condition: 3 (Fair), Asset owner: Local Authority, Asset maintainer: Environment Agency. Parallel with this: ID: 128. Type: Wall providing</p>



**Dorset Council**

**L2 SFRA - Detailed Site Summary Tables**

**Site details**

<b>Site Code</b>	<b>WEY2</b>
<b>Address</b>	Town Centre core and Commercial Road area, Weymouth
<b>Area</b>	11.9 hectares
<b>Current land use</b>	Retail, residential and parking.
<b>Proposed land use</b>	Retail, residential, leisure and parking.

fluvial/tidal protection, Design Standard of Protection: 1 in 200-year (0.5% AEP), Condition: Not provided, Asset owner: Unknown, Asset maintainer: Local Authority.

Outside of the site’s boundaries but reducing flood risk to the site are the following defences:

To the north of the site boundary, providing protection from the River Wey, defences are natural high ground providing fluvial protection with a Design Standard of Protection of 1 in 2-year (50% AEP).

To the south and east of the site boundary, along the Custom House Quay to the end of the ferry terminal peninsular are defences with a Design Standard of Protection of 1 in 200-year (0.5% AEP).

To the east of the site boundary is the promenade providing coastal protection along the back of Weymouth beach.

**Defences – proposed**

Along the west edge of the site, between 2020 – 2030, it is proposed to raise nine sections of the harbour wall and replace seven sections. All harbour walls are to be raised to the height of 3.74m AOD.

To the east of the site, between 2065 - 2067, the Esplanade sea defence section from the Pavilion to Brunswick Terrace will be replaced and will have associated promenade works and set back walls that will raise the level to 4.65m AOD.

The Outline Business Case and Weymouth Harbour and Esplanade Flood and Coastal Risk Management Strategy (2020) should be consulted to provide an understanding of the land which will need to be safeguarded against future development to enable the construction of these defences.

**Residual risk**

Baseline in this context refers to the equivalent percentage AEP present day or climate change tidal flooding event without a breach.

The modelled breach is located at Commercial Alban (Cousens Quay).

In a 1 in 30-year (3.3% AEP) event, there are very minor increases on baseline flooding depth, extent and hazard rating around the breach location.

In a 1 in 200-year (0.5% AEP) event, there are very minor increases on baseline flooding depth, extent and hazard rating around the breach location.

In a 1 in 30-year (3.3% AEP) event with climate change and future defences, almost the entirety of the site is inundated, except for some small areas in the east of the site. Extents increase slightly on the baseline event and depths increase to a maximum of 2.2m in Cousens Quay car park and exceed 1.0m along Commercial Road between the breach and Westham Road. Velocities increase significantly along Commercial Road, exceeding 0.8m/s north from Cousens Quay and reaching a maximum of 2.8m/s near the bowling green. The area of ‘Extreme’ flood hazard rating is slightly reduced from the baseline to the east of Westham Bridge.

In a 1 in 200-year (0.5% AEP) event with climate change and future defences, extents are the same as and depths are slightly reduced from the baseline event. However, at the breach, velocities increase to 2.4m/s in the vicinity of Cousens Quay and range between 0.9m/s and 2.3m/s from Cousens Quay north to Westham Road. Flood hazard ratings are the same as the baseline with much of the western part of the site having an ‘Extreme’ (greater than 2.0) rating.



**Dorset Council**

**L2 SFRA - Detailed Site Summary Tables**

**Site details**

<b>Site Code</b>	<b>WEY2</b>
<b>Address</b>	Town Centre core and Commercial Road area, Weymouth
<b>Area</b>	11.9 hectares
<b>Current land use</b>	Retail, residential and parking.
<b>Proposed land use</b>	Retail, residential, leisure and parking.

The modelled breach is located at Westham Bridge.

In a 1 in 30-year (3.3%) event, there are significant increases on baseline flooding depth and extent in the Melcombe Regis car park which is not flooded in the baseline but floods to 0.6-1.4m across much of its area, over half of Park Street car park is now flooded up to depths of 0.3m. Velocities are generally low, with a maximum of 0.9m/s on Commercial Road south of the council offices. With the breach, much of Melcombe Regis car park has a 'Significant' (1.25 to 2.0) flood hazard rating, the remainder and the bowling green has a 'Moderate' (0.75 to 1.25) hazard rating. Commercial Road north of Westham Road and Park Street car park now have a 'Low' (less than 0.75) flood hazard rating. Flood hazard ratings remain the same as the baseline to the south of Westham Road.

In a 1 in 200-year (0.5% AEP) event, there are significant increases on baseline flooding depth and extent in the site to the north of Westham Road which is flooded entirely except for small areas in the vicinity of Park Street car park. Melcombe Regis car park, approximately half of which is flooded in the baseline (up to 0.2m) is now flooded entirely with depths of up to 0.6-1.5m across much of its area and hazard rating increasing to 'Significant'. In the baseline, just over half of Park Street car park is flooded with depths of up to 0.2m, but with a breach at Westham Bridge the car park is almost entirely flooded with depths of up to 0.5m. Commercial Road north of Westham Bridge and over half of Park Street car park increase in flood hazard rating to 'Moderate'.

In a 1 in 30-year (3.3% AEP) event with climate change and future defences, there are small increases in flood extents on the baseline in the east of the site. Depths decrease in Melcombe Regis car park area (maximum 1.5m) but increase along Commercial Road from Cousens Quay to the council offices (1.7-2.0m). Along Commercial Road velocities increase to 2.8m/s north of Westham Road and to the south exceed 0.7m/s along much of its length. The area of 'Extreme' flood hazard rating increases along the western side of the site to include all of Commercial Road and the multi-storey car park, the area of 'Extreme' rating in the Melcombe Regis car park area decreases slightly. Most of the remaining flooded area has a 'Significant' hazard rating.

In a 1 in 200-year (0.5% AEP) event with climate change and future defences, there are minor increases on the baseline flooding extent in the north east of the site to flood almost the entire site. However depth increases more significantly to 2.0-3.0m in the Melcombe Regis car park area and to 1.5m on Westham Road. Along Commercial Road south of Westham Road, depths decrease slightly from the baseline. Velocities decrease compared to the baseline with the maximum of 1.8m/s occurring on Commercial Road just north of Westham Road. Flood hazard ratings generally decrease compared to the baseline, however all of Melcombe Regis car park now has an 'Extreme' rating.

**Emergency planning**

<b>Flood warning</b>	<p>The site is located in the Environment Agency Flood Warning Areas 111FWTWEYH002 "Weymouth Harbour at Weymouth Harbourside" and 111FWTWEYH003 "Weymouth Harbour at Weymouth Town". Environment Agency Flood Warning Area 111FWTWEYH001 "Weymouth Harbour at Lakeside Walk, Hope Street and Nothe Parade" covers the northern part of the site (north of Westham Road) and parts of the west of the site (west of Commercial Road). These provide flood warnings for the English Channel.</p> <p>The site is located in three Environment Agency Flood Alert Areas: 111WAFWEYR "Weymouth Rivers and Streams" covers a small proportion of the western edge of the site, north of Westham Road and provides flood alerts for the River Wey, 111WATWEYH</p>
----------------------	--



**Dorset Council**

**L2 SFRA - Detailed Site Summary Tables**

**Site details**

<b>Site Code</b>	<b>WEY2</b>
<b>Address</b>	Town Centre core and Commercial Road area, Weymouth
<b>Area</b>	11.9 hectares
<b>Current land use</b>	Retail, residential and parking.
<b>Proposed land use</b>	Retail, residential, leisure and parking.

"Weymouth Harbour" and 111WACECD "East coast of Dorset" cover the whole site and provide flood alerts for the English Channel.

<b>Access and egress</b>	<p>The main access and egress to the western section of site is via Commercial Road linking north to the to the B3155 and Swannery Bridge. The eastern section's main access and egress is via The Esplanade to the north and east of the site, the southern part of this section can also egress via Town Bridge to North Quay. Access east / west across the site is difficult due to narrow, one-way and pedestrianised roads and alleyways.</p> <p>In most events access and egress will need to be via the east and The Esplanade, due to Commercial Road being flooded. This will make access and egress difficult for the western section of the site.</p> <p>Access and egress are likely to be affected significantly by fluvial flooding with climate change in all return periods. In these events, Commercial Road south from Westham Bridge has an 'Extreme' (greater than 2.0) flood hazard rating.</p> <p>Surface water flooding events are likely to impact on vehicular access and egress in all return periods with depths reaching 0.3m on Commercial Road in the 3.3% AEP event and 0.4-0.5m in the 0.1% AEP event. In a surface water and tidally dominated event plus climate change (all return periods), there is significant impact on access and egress with Commercial Road having an 'Extreme' flood hazard rating. In the 0.1% AEP surface water tidally dominated event, flood hazard ratings have increased to 'Extreme' along all the roads and covering almost all the western half of the site. In a surface water fluviially dominated event, access is affected with depths of 0.3m or greater in all return periods on Commercial Road.</p> <p>Tidal flood water enters the site from the south and west, inundating the western section of the site including Commercial Road in the 3.3% AEP event, but not restricting access to the north. Access to the east and north may still be possible in the 0.1% AEP event, despite much of the west of the site being flooded. Access is restricted in a 3.3% AEP tidal flooding plus climate change event which results in an 'Extreme' (greater than 2.0) flood hazard rating on Commercial Road with the rest of the flooded area of the site having a 'Significant' (1.25 to 2.0) flood hazard rating. Depths reach 1.0-2.2m along Commercial Road.</p> <p>For detailed information on safe access and egress, please see the hazard maps.</p>
--------------------------	---

**Requirements for drainage control and impact mitigation**

<b>Broadscale assessment of possible SuDS</b>	<p>Geology at the site (from BGS 625K mapping) consists of:</p> <ul style="list-style-type: none"> <li>• Superficial deposits: alluvium (clay, silt and sand) underlies the east half of the eastern section of the site.</li> <li>• Bedrock: Kellaways formation and Oxford Clay formation (undifferentiated) (mudstone, siltstone and sandstone) underlie the whole of the site.</li> </ul> <p>Topography – there are no steep slopes within the site.</p> <p>Surface water flood risk – nearly all of the roads are shown to be at risk of surface water flooding in a 1 in 100-year (1% AEP) event.</p> <p>The site is not located within a Groundwater Source Protection Zone and there are no restrictions over the use of infiltration techniques with regard to groundwater quality.</p> <p>Historic landfill – the site is not located within a historic landfill site.</p>
---	--



**Dorset Council**

**L2 SFRA - Detailed Site Summary Tables**

**Site details**

<b>Site Code</b>	<b>WEY2</b>
<b>Address</b>	Town Centre core and Commercial Road area, Weymouth
<b>Area</b>	11.9 hectares
<b>Current land use</b>	Retail, residential and parking.
<b>Proposed land use</b>	Retail, residential, leisure and parking.

BGS data indicates that the underlying geology is likely to have highly variable permeability. Therefore, permeability should be confirmed through infiltration testing. Off-site discharge in accordance with the SuDS hierarchy may be required to discharge surface water runoff from the site.

The site is not considered to be susceptible to groundwater flooding, due to the nature of the local geological conditions. This should be confirmed through additional site investigation work. Below ground development such as basements may still be susceptible to groundwater flooding and due to the proximity of the site to the coast, groundwater may be impacted by sea water ingress.

Proposed attenuation features such as basins, ponds and tanks should be located outside of Flood Zone 2 or 3 to avoid the potential risks to the hydraulic capacity or structural integrity of these features. Surface water outfalls that discharge into Weymouth Harbour may be susceptible to surcharging/tide locking due to water levels in Weymouth Harbour. The impacts of tide locking/flood flows will need to be considered in terms of the attenuation storage requirements of the site and placement of the outfalls.

Development at this site should not increase flood risk either on or off site. The design of the surface water management proposals should take into account the impacts of future climate change over the projected lifetime of the development.

Opportunities to incorporate filtration techniques such as filter strips, filter drains and bioretention areas must be considered. Consideration should be made to the existing condition of receiving waterbodies and their Water Framework Directive objectives for water quality. The use of multistage SuDS treatment will clean improve water quality of surface water runoff discharged from the site and reduce the impact on receiving water bodies.

Opportunities to incorporate source control techniques such as green roofs, permeable surfaces and rainwater harvesting must be considered in the design of the site.

The potential to utilise conveyance features such as swales to intercept and convey surface water runoff should be considered. Conveyance features should be located on common land or public open space to facilitate ease of access.

Developers should seek to discharge surface water at greenfield rates. Where this is not possible, a significant reduction in current brownfield runoff rates should be achieved in consultation with the LLFA. It may be possible to reduce site runoff by maximising the permeable surfaces on site using a combination of permeable surfacing and soft landscaping techniques.

Surface water flood mapping indicates the presence of surface water flow paths during the 1% AEP event. Existing flow paths should be retained and integrated with blue-green infrastructure and public open space.

If it is proposed to discharge runoff to a watercourse or sewer system, the condition and capacity of the receiving watercourse or asset should be confirmed through surveys and the discharge rate agreed with the asset owner.

<b>Opportunities for wider sustainability benefits and integrated flood risk management</b>	<ul style="list-style-type: none"> <li>Implementation of SuDS at the site could provide opportunities to deliver multiple benefits including volume control, amenity and biodiversity. This could provide wider sustainability benefits to the site. Proposals to use SuDS techniques should be discussed with relevant stakeholders (LPA, LLFA and EA) at an early stage to understand possible constraints.</li> </ul>
---	--



**Dorset Council**

**L2 SFRA - Detailed Site Summary Tables**

**Site details**

<b>Site Code</b>	<b>WEY2</b>
<b>Address</b>	Town Centre core and Commercial Road area, Weymouth
<b>Area</b>	11.9 hectares
<b>Current land use</b>	Retail, residential and parking.
<b>Proposed land use</b>	Retail, residential, leisure and parking.

**NPPF and planning implications**

<p><b>Exception Test requirements (LA considerations)</b></p>	<p>The Local Authority will need to confirm that the sequential test has been carried out in line with national guidelines. The Sequential Test will need to be passed before the Exception Test is applied.</p> <p>Much of the western side of the site lies within Flood Zones 3a and 3b, therefore, dependent on the proposed land use, the Exception Test is required for the site (see <a href="#">table 2</a> of the Planning Practice Guidance for further details).</p> <p>The Exception Test is needed if:</p> <ul style="list-style-type: none"> <li>• 'More Vulnerable' and 'Essential Infrastructure' development is located within Flood Zone 3a and 'Highly Vulnerable' development is located within Flood Zone 2.</li> <li>• 'Highly Vulnerable' infrastructure should not be permitted within Flood Zone 3a and Flood Zone 3b.</li> <li>• 'More Vulnerable' and 'Less Vulnerable' infrastructure should not be permitted within Flood Zone 3b.</li> <li>• The site is located in an area at high risk of surface water flooding.</li> </ul> <p>The development of a Local Adaptation and Resilience plan for Weymouth is recommended, considering the updated PPG, development of Nature Recovery Networks, requirements for Biodiversity net gain in development and to demonstrate that the development and use of land in the local planning authority's area contribute to the mitigation of, and adaptation to, climate change.</p> <p>To satisfy the exception test, development of this site would need to be compliant with the findings of the Local Adaptation and Resilience Plan.</p> <p>Land that needs to be safeguarded against future development to enable the construction of the proposed flood defences will be identified within the Outline Business Case.</p>
---	---

<p><b>Requirements and guidance for site-specific Flood Risk Assessment (Developer considerations)</b></p>	<p><b>Flood Risk Assessment:</b></p> <ul style="list-style-type: none"> <li>• At the planning application stage, a site-specific Flood Risk Assessment will be required for this site as it exceeds one hectare in size and significant areas of it lie within Flood Zones 3a and 3b, it is also at increased flood risk in future.</li> <li>• All sources of flooding, particularly the risk of tidal, fluvial and surface water flooding should be considered as part of a site-specific flood risk assessment.</li> <li>• Development type and design should be carefully considered, residential development should be avoided on this site as it is considered 'More Vulnerable' infrastructure, unless appropriate arrangements can be put in place to secure safe access and egress, or emergency plan provisions address matters affecting vulnerability of residents.</li> <li>• The western part of the site should be considered for 'Less Vulnerable' or 'Water Compatible Development' as this lies within Flood Zone 3. If appropriate arrangements are made, 'More Vulnerable' development should be steered to areas of lower risk in the east of the site.</li> <li>• The site-specific FRA should be carried out in line with the National Planning Policy Framework; Flood Risk and Coastal Change Planning Practice Guidance.</li> <li>• Consultation with the Local Authority and the Lead Local Flood Authority (both being Dorset Council) should be undertaken at an early stage.</li> <li>• An Outline Business Case is currently being prepared to assess the level of protection offered by the scheme. Any Site-Specific Flood Risk Assessment should consider the OBC once this is completed.</li> </ul>
--	---





**Dorset Council**

**L2 SFRA - Detailed Site Summary Tables**

**Site details**

<b>Site Code</b>	<b>WEY2</b>
<b>Address</b>	Town Centre core and Commercial Road area, Weymouth
<b>Area</b>	11.9 hectares
<b>Current land use</b>	Retail, residential and parking.
<b>Proposed land use</b>	Retail, residential, leisure and parking.

- The Outline Business Case for the future flood defences should be consulted to understand what land is safeguarded against future development to support the construction of the defences.

**Guidance for site design and making development safe:**

- The developer will need to show, through an FRA, that future users of the development will not be placed in danger from flood hazards throughout its lifetime. It is for the applicant to show that the development meets the objectives of the NPPF's policy on flood risk. For example, how the operation of any mitigation measures can be safeguarded and maintained effectively through the lifetime of the development. (Para 048 Flood Risk and Coastal Change PPG).
- Arrangements for safe access and egress will need to be provided during the design flood event (defined as river or surface water flooding likely to occur with a 1% annual flood probability plus an appropriate allowance for climate change or tidal flooding with a 0.5% annual flood probability plus an appropriate allowance for climate change). The depth, velocity and hazard outputs can be used to support this. Designs and access and egress arrangements will need to incorporate measures so development and occupants are safe.
- Provisions for safe access and egress must not impact on surface water flow routes or contribute to loss of floodplain storage. Consideration should be given to the siting of access points with respect to areas of surface water flood risk. Due to the significant flood risk posed to the site, a site-specific flood risk assessment may need to show that appropriate evacuation procedures and flood response infrastructure are in place to manage the residual risk associated with an extreme flood event.
- Flood resilience and resistance measures should be implemented wherever appropriate during the construction phase, e.g. use of boundary walls and raising of floor levels to a minimum of whichever is higher of 300mm above the:
  - average ground level of the site;
  - adjacent road level to the building;
  - estimated design flood level.
- Flood resilience measures should be tested to ensure they do not increase flood risk elsewhere.
- The risk from surface water flow routes should be quantified as part of a site-specific FRA, including a drainage strategy, so runoff magnitudes from the development are not increased by development across any ephemeral surface water flow routes. A drainage strategy should help inform site layout and design to ensure there is no increase in runoff beyond current greenfield rates.
- Any surface water ponding should be incorporated into SuDS features and managed using blue/green infrastructure, wherever possible.
- As the site is brownfield, developers should seek to discharge surface water at greenfield rates. Where this is not possible, a significant reduction in current brownfield runoff rates should be achieved in consultation with the LLFA. Developers should refer to: Dorset Level 1 SFRA, Dorset Level 2 SFRA, Dorset Council's National and Local List of Requirements for Planning Applications.