



## West Lothian Strategic Flood Risk Assessment

West Lothian Local Development Plan: background paper

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*The purpose of the Strategic Flood Risk Assessment is to provide information on flood risk, taking into account climate change, that will enable the council to understand existing and potential flood risk to any developments that are to be allocated in the LDP.*



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Glossary of terms

Appendix 1 Assessment Process of Development Allocations for the LDP





## 1 Introduction

1.1 Flooding principally occurs from a combination of meteorological and hydrological extremes, such as extreme rainfall events, high tides and stormy conditions. It can also occur and be exacerbated as a result of human activity, such as development on floodplains, changes in land use practices, urban creep, structural failure and blockage of drains and culverts.

1.2 The impacts of flooding will vary at different locations. For example, flooding of agricultural land can be costly to the individual farmer, but is unlikely to involve a serious threat to human life, whilst the potential overtopping and possible failure of a flood bank defending a densely populated area presents a greater threat to life and property. Rapid flows due to flash flooding or following the failure of flood defences pose a greater risk to life than a steady rise in water level. The council is mindful of needing to ensure that existing developments/buildings that are perhaps subject to a change in use or lead to more intensive human use behind defences should also be assessed on sensitivity of use in terms of climate change scenarios.

1.3 The land use planning system has been identified as having a key role to play in ensuring the protection and improvement of the water environment in accordance with the *European Union Water Framework Directive (WFD) 2000* and underlying River Basin Management Plans which are (RBMPs) co-ordinated and produced by SEPA with a wide range of partner input including local authorities. Planning authorities are responsible authorities under the Water Environment and Water Services (Scotland) Act 2003 (WEWS Act) (Relevant Enactments and Designation of Responsible Authorities and Functions (Scotland) Order 2011 and must exercise their designated functions so as to secure compliance with the requirements of the WFD.

1.4 The council has assessed proposed developmental allocations to identify measures under planning control, should particular sites be progressed, that require to be considered to ensure compliance with the WFD and objectives set against individual water bodies in the underlying RBMPs.

1.5 This document contains information relating to flood risk. Sites that have been assessed originate from the adopted *West Lothian Local Plan 2009 (WLLP)* sites and may have the potential to be rolled forward to the *West Lothian Local Development Plan (LDP)* and emerging sites from the 'Expressions of Interest' call for sites exercise undertaken by the council in 2011, emerging council house building sites and urban capacity sites.

1.6 Approximately 440 sites have been assessed by the council's Flood Prevention team and the Scottish Environment Protection Agency (SEPA) in terms of individual flood risk to that site and cumulative impacts.

1.7 The primary aim is to avoid locating new development in areas of flood risk by giving appropriate and careful consideration to the implications of, in particular, fluvial flooding but also coastal and/tidal flooding, albeit this is rather limited in West Lothian. There are however emerging climate change issues including potential increases in pluvial and surface water flooding events that the council has to be mindful of when assessing flood risk to any potential site allocations. The main objectives of this West Lothian SFRA therefore are to:

- ensure development does not take place in locations at risk of flooding nor must it increase flood risk elsewhere;
- provide the baseline for the *Environmental Report* prepared as part of the Strategic Environmental Assessment of sites for the LDP;
- identify the flood risk areas based on the risk framework set out in *Scottish Planning Policy* (SPP); and
- provide an evidence-based report to inform the LDP.

1.8 The key role of the SFRA is to help determine whether the potential development sites identified within the *Main Issues Report* (MIR) for the LDP are suitable for allocation as part of the proposed local development plan. It should also mean that mitigation measures will not be necessary to overcome flood risk as those sites where flood risk has been identified should be 'screened' out as part of the site assessment process. Where sites are located adjacent to watercourses, it can be possible to integrate development by providing appropriate mitigatory interventions such as stand offs to watercourses. SEPA and the council may request a Flood Risk Assessment (FRA) for large allocation sites that have an element of flood risk e.g. a watercourse flowing through the middle, but only could be adequately mitigated through site layout. Where a FRA is requested by SEPA or the council's Flood Officer, this may not require that the site is removed from the local development plan as an allocation, but that a FRA would inform areas and type of development. In contrast, SEPA could potentially recommend that sites adjacent to watercourses are removed as they could be located within the floodplain. Careful assessment is required of any sites which are located within a floodplain. Such sites are unlikely to receive council and SEPA support.

## 2 Integrating flooding, water and drainage

2.1 An integrated approach to flood risk management is important in preparing the LDP. A combination of structural and non-structural flood risk management measures, when taken as a whole, can successfully reduce flood risk, improve water quality and enhance the quality of place and biodiversity. The planning system and planning decisions are identified in Scottish Government guidance on *Delivering Sustainable Flood Risk Management* as non-structural measures to manage flood risk.



2.2 There requires to be an integrated approach to cover the water environment, water supply and drainage supply. The SFRA is supported by a background paper to the MIR on the *Water Environment*. This approach can assist in identifying the right combination of measures to tackle particular problems, and minimise risks and impacts on the environment.

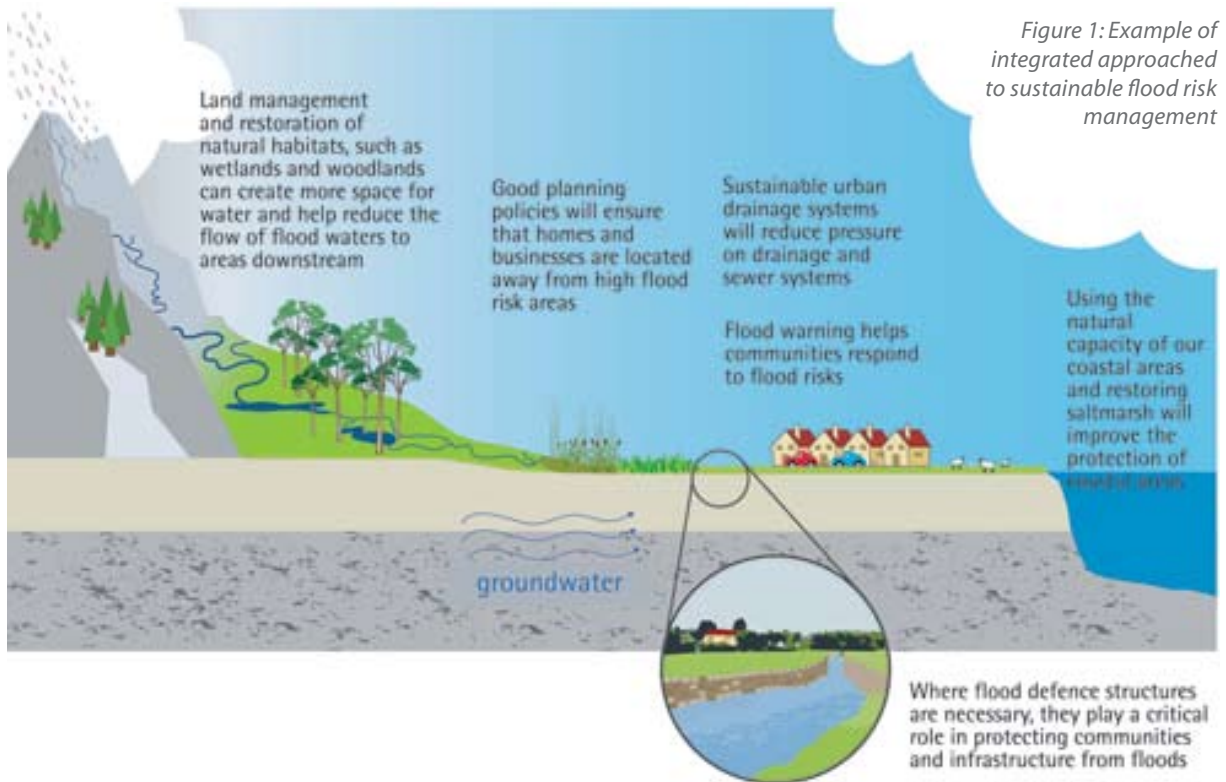


Figure 1: Example of integrated approach to sustainable flood risk management

2.3 The source-pathway-receptor-impact approach is a well-established framework in flood risk management. It provides a basis for understanding the causal links between the source of flooding, the route by which it is transmitted and the receptor which suffers some impact:

Source (weather events)	Pathway (routes)	Receptor (those impacted)
Rainfall	Floodplain inundation	People
Wind	Drainage systems	Built environment
Waves	Overtopping and failure of flood defences	Natural environment
Sea levels	Breaches of coastal flood defences	Infrastructure
	Groundwater	Economy
	Rivers	

Table 1 : Sources, pathways and receptors

2.4 A good understanding of the sources and impacts of flooding, and the links between them, can help identify the right combination of measures to tackle particular flooding problems. For example, catchment and floodplain restoration should be considered to reduce or manage flood risk in both rural and urban areas. Where high rates of run-off in rural upland areas are contributing to flooding problems, measures to store or slow run-off can be considered, including re-vegetating a hill slope to increase the interception of rainfall and increase the roughness of the land surface, thereby slowing runoff. In urban areas, an understanding of sources and pathways of flooding can help identify appropriate SUDS and influence the layout and design of new developments. In some circumstances flood protection schemes or managed retreat from areas at significant probability of flooding or sea-level rise may need to be considered.

### 3 Delivering sustainable flood risk management

3.1 Scottish Government guidance on Delivering Sustainable Flood Risk Management promotes a more sustainable approach to flood risk management and provides specific guidance on understanding flood risk, understanding catchments, integrated flood risk management and integrated drainage. In promoting a sustainable approach to flood risk management five overarching outcomes for Scotland are identified:

- a reduction in the number of people, homes and property at risk of flooding as a result of public funds being invested in actions that protect the most vulnerable and those areas at greatest risk of flooding.
- rural and urban landscapes with space to store water and slow down the progress of floods.
- integrated drainage that decreases burdens on our sewer systems while also delivering reduced flood risk and an improved water environment.
- a well informed public who understand flood risk and adopt actions to protect themselves, their property or their businesses.
- flood management actions undertaken that will stand the test of time and be adaptable to future changes in the climate.

3.2 Delivering sustainable flood risk management highlights that the planning system is one of the most powerful tools to manage flood risk and the council fully endorses this approach. Where possible, the guidance advocates the avoidance approach to flood risk and seeks a move away from the build and protect approach to development in flood risk areas. It identifies local and strategic development plans as being a key part of the integrated approach to land and water management through local flood risk management plans. The planning system therefore has a key role to play in delivering the above outcomes through development plan spatial strategies, land use allocations, policies, supplementary guidance and development management decisions. These should be based on robust and reliable information on the causes and consequences of flooding so that informed decisions can be made.

3.3 Local development plans can also be used to identify where the promotion of managed coastal realignment or other measures could contribute to a more sustainable approach to flood management. This encompasses the catchment approach to flood risk management by using land use planning to manage flood risk in rural and urban areas and the LDP will seek to achieve these aims.

3.4 With regards to surface water drainage the guidance seeks an integrated approach to drainage that reduces flood risk and burdens on sewer systems and supports/promotes improvements to the water environment.

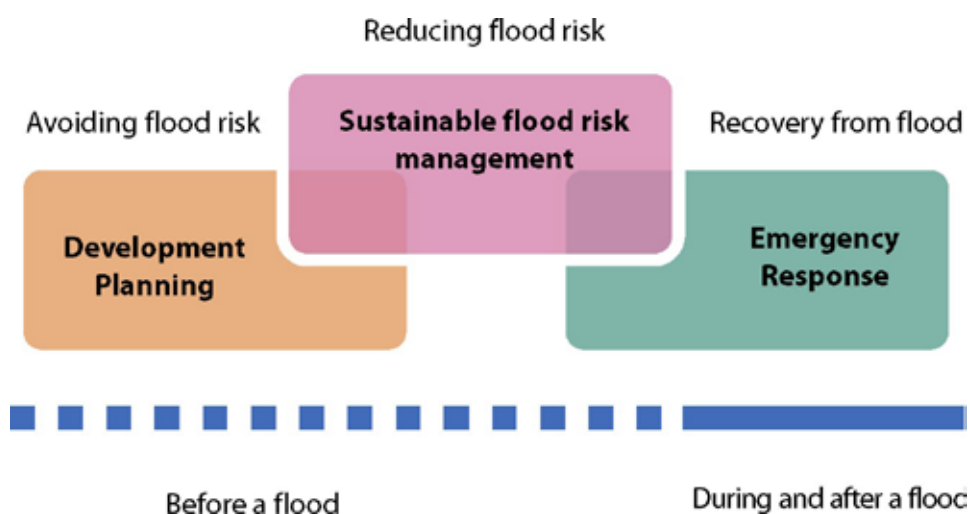


Figure 2: The three elements of flood risk management



## 4 Flood Risk Management (Scotland) Act 2009

4.1 The Flood Risk Management (Scotland) Act 2009 sets in place a statutory framework for delivering a sustainable and risk-based approach to managing flooding. This includes the preparation of assessments of the likelihood of flooding, and the impacts of flooding and catchment focused plans to address these impacts. By 2016 Flood Risk Management Strategies and Local Flood Risk Management Plans will be in place across Scotland. These will require to be taken into account when subsequent development plans are prepared. To provide a baseline to inform the West Lothian LDP the council has been preparing a SFRA to ensure that new development would be free from significant flood risk and would not increase the risk of flooding elsewhere.

4.2 In December 2011 SEPA published the National Flood Risk Assessment, which highlighted that 1:22 of all residential properties and 1:13 of non-residential properties are at risk of flood from rivers, the sea or heavy rain in urban areas. These are required to be taken into account by planning authorities when development plans are prepared.

4.3 The SFRA provides a strategic overview of flood risk in the LDP area and supports the identification of the areas most suitable for development in relation to avoiding potential flooding and general areas that should be safeguarded for sustainable flood management.

## 5 Scottish Planning Policy

5.1 Published in February 2010, SPP suggests that land allocated for development should in the first instance be located in areas with the lowest risk of flooding and lastly in areas of highest risk. The SPP contains a risk framework which shows the return period and probability associated with river and coastal flooding as show in Table 2.

Table 2: Risk framework

<b>Little or no risk</b>
Annual probability of watercourse, tidal or coastal flooding is less than 0.1% (1:1000)
No constraints due to watercourse, tidal or coastal flooding.
<b>Low to medium risk area</b>
Annual probability of watercourse, tidal or coastal flooding in the range 0.1% - 0.5% (1:1000 – 1:200)
These areas will be suitable for most development. A flood risk assessment may be required at the upper end of the probability range (i.e. close to 0.5%) or where the nature of the development or local circumstances indicates heightened risk. Resilient materials and construction may be required depending on the flood risk assessment. Subject to operational requirements, including response times, these areas are generally not suitable for essential civil infrastructure such as hospitals, fire stations, emergency depots etc. Where such infrastructure must be located in these areas or is being substantially extended it should be capable of remaining operational and safely accessible during extreme flooding events.

### **Medium to high risk**

Annual probability of watercourse, tidal or coastal flooding greater than 0.5% (1:200)

Generally not suitable for essential civil infrastructure such as hospitals, fire stations, emergency depots etc., schools, care homes, ground-based electrical and telecommunications equipment unless subject to an appropriate long term flood risk management strategy. The policy for development on functional flood plains applies. Land raising might be acceptable subject to the provision of appropriate compensation storage in an appropriate location.

If built development is permitted, appropriate measures to manage flood risk will be required and the loss of flood storage capacity mitigated to produce a neutral or better outcome.

Within built-up areas, medium to high-risk areas may be suitable for residential, institutional, commercial and industrial development provided flood prevention measures to the appropriate standard already exist, are under construction or are planned as part of a long term development strategy. In allocating sites, preference should be given to those areas already defended to required standards. Resilient materials and construction should be used where appropriate.

In undeveloped and sparsely developed areas, medium to high risk areas are generally not suitable for additional development. Exceptions may arise if a location is essential for operational reasons, e.g. for navigation and water based recreation uses, agriculture, transport or some utilities infrastructure and an alternative lower risk location is not achievable. Such infrastructure should be designed and constructed to remain operational during floods. These areas may also be suitable for some recreation, sport, amenity and nature conservation uses provided adequate evacuation procedures are in place. Job-related accommodation (e.g. caretakers and operational staff) may be acceptable. New caravan and camping sites should not be located in these areas. If built development is permitted, measures to manage flood risk are likely to be required and the loss of flood storage capacity minimised. Resilient materials and construction should be used where appropriate.

Source: SPP



5.2 It should be noted that in late 2012, the Scottish Government began work on revising SPP. The West Lothian LDP and supporting documents will require to have regard to this.

5.3 Policies IMP 7 and IMP 8 of the adopted *West Lothian Local Plan 2009* (WLLP) (and associated, water related, Planning Advice Notes) comply with national policy and discourage development from taking place in areas which are, or may become, subject to flood risk.

5.4 The LDP will also seek to ensure that there is minimal damage from the risks of flooding when allocating development sites. Development of sites on flood plains is normally resisted and development of other low lying land adjacent to rivers and watercourses will not normally be supported. Where the allocation of a site for development would create an unmanageable risk of flooding elsewhere, development will not be supported.



## 6 West Lothian flood risk and drainage supplementary planning guidance

6.1 In April 2008, the council approved SPG for developers to minimise flood risk both to their own sites and from other sites.

6.2 The council is likely to revise and update this SPG before the publication of the proposed plan stage of the LDP. Progress on this will be dependent upon the publication of an updated Planning Advice Note (PAN) on flooding by Scottish Government which will supersede the current PAN 79 *Water and Drainage*, PAN 61 *Planning and Sustainable Urban Drainage Systems* and PAN 69 *Planning and Building Standards Advice on Flooding*. It is anticipated that the updated PAN will be published in 2014.

## 7 Climate change impacts on flood risk

7.1 It is expected that flooding will become a greater problem in the future due to the impact of climate change. SEPA indicate a moderate predicted increase in rainfall with proportionate increase in flooding and consider that there are no significant risks to properties from the Estuarial River Forth.

7.2 However, SEPA does update its Flood Risk Maps in terms of 1:200 flood risk and the council assesses sites against this information. A new suite of maps have been available from March 2014 as part of SEPA's obligations under the Flood Risk Management (Scotland) Act 2009.

7.3 The Scottish Government's understanding of the future impacts of climate change upon economic performance, our natural environment, communities and individuals is developing. The *UK 2012 Climate Change Risk Assessment* for Scotland highlights that the main impacts of climate change are likely to result in:

- higher temperatures in summer and winter;
- increased winter rainfall, but a decrease in summer rainfall;
- more heavy rainfall days (extreme events) in summer and winter; and
- a rise in relative sea level.

*(Based on UKCP09, using central estimates for the medium emissions scenario).*

7.4 There are predictions for regional variations:

- by 2080 rainfall events will, on average, be unaffected in north-west Scotland, 25-75% more intense in east Scotland, up to 100% more intense in west Scotland and more than 150% more intense in parts of south-west Scotland.
- unlike changes in average temperature and rainfall, changes in rainfall intensity will be more dramatic in Scotland, increasing the likelihood of flash flooding of Scottish rivers.

*Source: SNIFFER*

7.5 In relation to flood risk and the water environment, climate change implications include:

- increases in flooding and an increase in the number of people at risk of flooding.
- an increase in coastal flooding resulting in changes to coastal evolution affecting people, property, infrastructure, landforms, habitats and species.
- increased flooding events from drainage systems being unable to cope with sudden and intense rainfall.
- increased erosion of river banks due to more intense flooding events.
- increased threats to the stability of estuary shores and lower lying intertidal zones from sea level rise and coastal flooding.
- greater impacts on water quality as potential pollutants are transported into watercourses from flood events. This may impact on *Water Framework Directive* targets for water quality.
- reduction in river flows and water availability during the summer, affecting water supplies and the natural environment.
- drier summers could impact upon water quality and quantity issues as pollutants may not be adequately diluted. There may be higher demand for water supplies in some areas.
- greater threat of odour and bacteria issues at waste water treatment and water treatment plants due to drier summers.



## 8 Climate change adaptation

8.1 Climate change adaptation requires us to take account of the consequences of climate change by altering our plans and designs to lower the risks and impacts. Flood risk adaptation can include measures such as altering the location and design of new development and introducing flood protection measures. The Adaptation Sub Committee of the Scottish Government has identified five priority themes for early adaptation action which will inform the Scottish Climate Change Adaptation Programme. Three of these relate to the planning system:

- **Land use planning** – determining where new housing and commercial premises should be located and overall urban form, including urban greenspace, so that places and their communities are resilient to a changing climate;
- **Designing and renovating buildings** – how new housing, commercial and public sector buildings are planned and built, and the methods and materials used to renovate the existing building stock, so that the health and well-being of their occupants is maintained; and

- **Providing national infrastructure** – how critical infrastructure in the energy, transport, communication (ICT) and water sectors are designed and where they are located, so that they are able to continue to deliver services critical to the well-being and the prosperity of communities and business.

*Source: 'How well is Scotland preparing for climate change?' November 2011*

8.2 The Scottish Government has produced climate change Sector Action Plans to provide guidance on adapting to climate change. Of particular importance to flood risk, the water environment and water supply are the action plans on:

- Spatial Planning and Land Use
- Built Environment
- Water

8.3 It should be noted that where existing buildings are renovated, the health and well-being of its occupants requires to continue to be maintained in terms of not being susceptible to flood risk, but where there is a possible risk this should be mitigated. It should be noted that SEPA may be unlikely to support an increase in the sensitivity of use e.g. commercial to residential to existing buildings or brownfield sites that are known to be at risk from flooding.

## 9 SEPA potentially vulnerable area (PVA)

9.1 The council is aware of the issues of PVAS and considers the issue of flood risk within these areas when allocating sites in the LDP or considering planning applications. SEPA has incorporated information and responses from the consultation into the *National Flood Risk Assessment* and has reviewed PVAs and Local Plan Districts. West Lothian has five such PVAs within Local Plan District 10 – The Forth Estuary. These areas include:

- the Forth Estuary (South) Coastal (three different defined areas);
- the River Avon; and
- the River Almond

9.2 Helpful datasheets have been provided which include high level information in each geographical area on:

- summary of main impacts from the river in question;
- estimated weighted annual average damages;
- known sources of flooding;
- groundwater flooding;
- impact of climate change;
- proportion of property type within the PVA;
- lists of any settlements at risk from flooding;
- total area and a breakdown of land area in terms of agriculture, forestry and urban;
- confirmation of any existing flood defences; and
- catchment hydrology and morphology.

9.3 Further information can be found on PVAs at the following link on the [SEPA website](#).

## 10 Other flooding issues

10.1 As well as having numerous rivers, burns and water bodies within West Lothian, there is also potential flood risk in certain areas through the flooding of abandoned underground mine workings. This has been an emerging issue the council has become aware of and will monitor and assess with regard to any relevant difficulties and also when considering allocations in the development plan and assessing planning applications.

10.2 Plans have recently been prepared by SEPA which show Potentially Vulnerable Areas, deemed by SEPA to be at an enhanced risk of flooding from one or more sources. The council has commented on draft pluvial flood hazard maps also prepared by SEPA. The plans show specific areas deemed, by modelling, to be at risk of flooding. The plans will be used to develop Local Flood Risk Management Plans as well as influencing decisions on planning applications. Where development may potentially afford the opportunity to reduce existing flood risk the council, as planning authority, may require developers to provide or enhance infrastructure or flood routes or restore the riparian environment as part of the development planning process. Doing so helps fulfil a legal obligation placed on the council, as a responsible authority, by the Flood Risk Management (Scotland) Act 2009.

10.3 Where there are particular issues of impaired water quality in or otherwise affecting a receiving water body, the council as planning authority may require developers to provide or enhance infrastructure or install additional measures or to provide land for the provision of retrofit measures to lessen the impact of development on the receptor. This helps fulfil legal requirements on the council to have regard to the requirements of the *European Water Framework Directive 2008* in the discharge of its statutory functions.



## 11 Historical flooding in West Lothian

11.1 The council maintains a record of significant flood events in West Lothian. This can help to provide information on where there is an existing flood risk and highlight where action may be needed to reduce the frequency and extent of the impact of such events.

11.2 The type of work the council has been involved in in the last few years to alleviate and deal with the issues of food risk and flooding events are shown in the table:

Commissioning a further study of the hydrology at East Burnside, Broxburn following the post-flood review and installation of debris traps across the burn.

Commissioning the design of a replacement bridge where Newhouses Road crosses the Brox Burn at East Burnside.

Working with members of the Dedridge Environment & Ecology Project (DEEP) and contributing to proposals to restore the ponds at Dedridge.

Building a new headwall and trash screen and upgrading the culverted watercourse leading from Bughtknowes Farm, Bathgate beneath Torphichen Road to Balbardie Park to reduce the risk of flooding to Torphichen Road.

Working with householders and replacing the trash screen located at The Glen, Bathgate with a new one to reduce the risk of flooding and enhance the safety of those inspecting and cleaning the structure.

Putting in place further measures in Fauldhouse to intercept and temporarily store surface water, storing it temporarily before releasing it at a more controlled rate into the receiving drainage systems and watercourses.

Investment in maintenance and works in the interests of safety at both Beecraigs and Eliburn Reservoirs.

Commissioning a study into flooding, seriously impaired drainage, damp and condensation affecting social housing at Mayfield, Armadale.

Undertaking further site work to reduce the incidence of flooding to properties at Bowyett, Torphichen.

Investing in two high-volume pumps to improve the support that the council can give to its customers affected by flooding, reduce the time that public roads are closed due to flooding and enabling the council to respond more quickly to pollution incidents.

Working with a house builder to help resolve flooding caused by an accumulation of surface water at Nelson Park, Armadale which was adversely affecting the nearby filling station premises.

*Source: West Lothian Council Flood Prevention team*

The measures which in the last few years the council undertook to prevent or mitigate the flooding of land in the council area are shown in the following table:

Continuing to inspect watercourses, including culverted watercourses, headwalls and trash screens and carry out maintenance to reduce the risk of flooding.
Constructing a floodwall and spillway at the lower end of the small pond at the Lanthorn Community Centre, Dedridge.
Carrying out essential repairs and upgrading to the Boghead Burn Flood Alleviation Scheme in Bathgate.
Taking forward recommendations arising from the study into flooding, seriously impaired drainage, damp and condensation affecting social housing in Mayfield, Armadale.
Working with adjacent landowners to realign boundaries and reform the ditch network to the rear of Ennis Park, Polbeth to reduce the risk of flooding and seriously impaired drainage.
Constructing an outfall to enable an effective drainage system to be installed at Bellsquarry Playing Field leading to the Dedridge Burn beneath the Old Calder Road.
Acquiring a number of steel containers in which to store sandbags to speed up mobilisation before and during flood events and help protect sandbag stocks from theft and vandalism.
Contributing to a project to restore the large ponds at Dedridge, take the burn off-line and create a new smaller pond and wetland to improve the landscape and habitat value of the area.
Carrying out essential repairs to the headwall of the Dedridge Burn at Burnvale Place, Almondvale, Livingston in the interests of safety.
Commissioning a study into flooding, seriously impaired drainage, condensation and damp affecting properties at Parkhead, East Calder.
Working together with SEPA, Scottish Water and other local authorities to develop Local Flood Risk Management Plans under the Flood Risk Management (Scotland) Act 2009.
Working with landowners to install new drainage schemes to reduce the risk of flooding and seriously impaired drainage at both Park View and Church Place, Fauldhouse.

Carrying out work to protect social housing stock from flooding at North Reeves Place, Whitburn.
Working cooperatively with other stakeholders to help reduce the risk of flooding to the Edinburgh to Bathgate railway at Tailend Moss Local Nature Reserve, Bathgate to prevent delays and cancellations to this vital public transport link.
Investigating the cause of flooding affecting the Fauldhouse Partnership Centre and put in place measures to help lessen the risk.
Working with our partners to rationalise the number council-owned structures on the River Almond whilst improving the accessibility of the upper reaches of the river to migrating fish.

*Source: West Lothian Council Flood Prevention team*

## Glossary of terms

<b>Climate change</b>	Both natural and human actions causing long term variations in global temperature and weather patterns.
<b>Culvert</b>	A channel or pipe that carries water below the level of the ground.
<b>Drainage assessment</b>	This is a site specific assessment that addresses foul and surface water drainage, and should consider flood risk where appropriate relative to a site and normally accompanies a planning application where drainage is seen as an issue.
<b>European Water Framework Directives 2000 &amp; 2008</b>	This establishes a legal framework for the protection, improvement and sustainable use of all water bodies in the environment across Europe. That is, all rivers, canals, lochs, estuaries, wetlands and coastal waters as well as water under the ground.  The main environmental objectives are to protect and improve Scotland's water environment. This will include preventing deterioration of aquatic ecosystems and, where possible, restoring surface waters and groundwater damaged by pollution, water abstraction, dams and engineering activities to 'good status' by 2015.
<b>Floodplain</b>	An area of land which borders a watercourse, estuary or sea which covers with water in times of flood.
<b>Flood defence</b>	Infrastructure used to protect an area against floods as floodwalls and embankments; they are designed to be of a specific standard of protection (design standard)
<b>Flood map</b>	A map that delineates the areas that have been predicted to be at risk of being flooded during an event of specified probability.
<b>Flood risk</b>	The combination of the probability of a flood and of the potential adverse consequences associated with a flood for communities, the environment, cultural heritage and economic activity.
<b>Flood Risk Management Strategy</b>	Sets out a long-term vision for the overall reduction of flood risk. They will contain a summary of flood risk in each local plan district, together with information on catchment characteristics and a summary of objectives and measures for Potentially Vulnerable Areas. Taken together, the Strategies will satisfy the requirement for National Flood Risk Management Plans, set out in Section 27 of the FRM Act.
<b>Flood storage</b>	A temporary area that stores excess runoff or river flow, often ponds or reservoirs.
<b>Fluvial flooding</b>	Flooding by a river or other watercourse.
<b>Functional floodplain</b>	This comprises land where water has to flow or be stored in times of flood. SFRA's should identify the functional floodplain, i.e. land which would flood with an annual probability of 1 in 200 (5%) or greater in any year or is designed to flood in an extreme (0.1%) flood.
<b>Groundwater</b>	Water that is in the ground, this is usually referring to water in the saturated zone below the water table.
<b>Inundation</b>	Flooding.
<b>Local Flood Risk Management Plans</b>	Contain details on the funding, timing and responsibility for actions to reduce flood risk and set out how the Flood Risk Management Strategies will be implemented in each local plan district and any other locally relevant information. They satisfy the requirements set out in Section 34 of the Flood Act 2009.
<b>Local plan district</b>	Geographical areas for which local flood risk management plans will be produced.
<b>Mitigation measure</b>	An element of development design which may be used to manage flood risk or avoid an increase in flood risk elsewhere.
<b>National Flood Risk Assessment</b>	A national assessment of the impacts of flooding on communities, the economy and the environment. Taking into account catchment characteristics, climate change and long term developments.

<b>Natural flood management</b>	A set of flood management techniques that aim to work with natural processes (or nature) to manage flood risk.
<b>1: 200 year flood</b>	A flood that has a probability of being exceeded once every 200 years. Also expressed as a flood, which has a 0.5% probability of being exceeded in the space of one year.
<b>Planning Advice Note (PAN)</b>	Advice published by The Scottish Government in the form of a policy document that includes best practice and other relevant information.
<b>Pluvial</b>	Relating to or caused by rainfall.
<b>Potentially Vulnerable Areas (PVAs)</b>	Catchment units in which the National Flood Risk Assessment has identified significant impacts from flooding either now, or in the future as a result of climate change. They will be used as the basis for producing Flood Risk Management Strategies.
<b>River Basin Management Plan (RBMP)</b>	Most of Scotland is within the Scotland river basin district, which is covered by the <i>Scotland river basin management plan</i> (the Scotland RBMP). Following its approval by the Scottish Ministers, SEPA adopted and published the Scotland RBMP on 22 December 2009.
<b>Risk</b>	The probability or likelihood of an event occurring.
<b>River catchments</b>	Upstream areas of land which drain into a river.
<b>Scottish Planning Policy</b>	This document, published by the Scottish Government in 2010, is the statement of the Scottish Government's policy on nationally important land use planning matters.
<b>Sewer flooding</b>	Flooding caused by a blockage or overflowing in a sewer or urban drainage system.
<b>Strategic Flood Risk Assessment (SFRA)</b>	An assessment developed to inform and guide the location for new development and minimise the risk of flooding.
<b>Tributary</b>	A small stream or body of water that flows into a larger body of water.
<b>Water Environment and Water Services (WEWS) Act (Scotland) Act (WEWS) 2003.</b>	This transposes the EU Water Framework Directive 2003 into Scots Law.
<b>1: 100 Year event</b>	Event that on average will occur once every 100 years. Also expressed as an event, which has a 1% probability of occurring in any one year.
<b>1: 200 Year event</b>	Event that on average will occur once every 200 years. Also expressed as an event, which has a 0.5% probability of occurring in any one year.
<b>1: 1000 Year event</b>	Event that on average will occur once every 1000 years. Also expressed as an event, which has a 0.3% probability of occurring in any one year.

## APPENDIX 1 Assessment Process of Development Allocations for the LDP

### STRATEGIC FLOOD RISK ASSESSMENT – WEST LOTHIAN LOCAL DEVELOPMENT PLAN (includes ref to all expression of interest sites and WLLP sites being rolled forward)

#### SEPA - full headings for table

SEPA - Allocation potentially at medium to high risk of flooding (within or adjacent to indicative 1 in 200 flood outline) or at flood risk from another source

SEPA - Watercourse catchment less than 3km<sup>2</sup> hence not modelled in Indicative Flood Map

SEPA - Potential development of allocation could increase the probability of flooding elsewhere

SEPA - Additional Information SEPA holds e.g. historic record of flooding from any source / post flood survey / Approved Local Authority or SEPA Flood Studies

SEPA - Formal flood defences present and current standard of protection

SEPA - Detailed comments including aspects for consideration in site specific FRA e.g. Structures complicate Flood Risk at site e.g. bridges, culverts etc

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0001	Residential-Heartland development area, Whitburn	Flood risk issues and land/water quality issues, river diversion issues but these have been or are being addressed.	Fluvial - part	multiple watercourses through site	Yes	No additional information	None known	Numerous watercourse flow through site with majority subjected to some degree of culverting. Vast majority of site developable.	Yes	No
EOI-0002	Mixed use-Kirkton Business Centre, Kirk Lane, Livingston	No apparent issues.	No	No	No	No additional information	None known	N/A	No	No
EOI-0003	Residential–Hoghill, Oakbank, East Calder	No significant issues.	Fluvial - small part	going through site	Yes	Surface water issues recorded in 2004 downstream of site	None known	We require a FRA which assesses flood risk from the Linhouse Water and the small watercourse which appears to flow culverted beneath the site. We would recommend investigation into any potential culverts on-site and highlight PAN 69 which states that “buildings must not be constructed over an existing drain (including a field drain) that is to remain active.”	Yes	No



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EOI-0004	Mixed use– Windyknowe, Phase 2, Bathgate	Site could be subject to flood risk	No	going through site	Yes	Surface water flooding of nearby property in August 2008	None known	We require a FRA which assesses the flood risk from the culverted watercourse which flows through the site. Consideration should be given to PAN 69 which states that “buildings must not be constructed over an existing drain (including a field drain) that is to remain active’	Yes	No
EOI-0005	Residential – Site to south of Logiebrae Nursery, Westfield	No significant issues.	No	on boundary	Yes	No additional information	None known	Supporting information for this allocation shows that there is a significant rise in levels up, away from the small watercourse. This information shows that it is only proposed to develop the area to the north of the site. If this is correct (and allocation is revised) then the request for a FRA is not required	Yes	No
EOI-0006	Residential – East Mains of Ballencrieff Farm, Bathgate	No apparent issues	No	No	No	No additional information	None known	There are two small watercourses located near the development. Should the allocation be larger than indicated in the Location Plan ((AP1)0001) as provided in the supporting documentation we may require an assessment of flood risk from the small watercourses.	No	No

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EOI-0007	Office use – Site 1, Sibbald Training Centre, Blackridge	No insurmountable issues, provided setback is provided.	No	No	No	No additional information	None known	N/A	No	No
EOI-0008	Mixed use - Site 2, Sibbald Training Centre, Blackridge	No insurmountable issues, provided setback is provided.	No	No	No	No additional information	None known	N/A	No	No
EOI-0009	Residential – site west of Seafield	Watercourse near northern boundary running east-west through site. Water levels rising also at Easter Inch Moss to north of site. Set back required from both. FRA and DIA required.	No	going through site	Yes	No additional information	None known	Small watercourse flows through middle of the development site as well as a smaller watercourse locate along northern boundary.	Yes	No
EOI-0010	Residential – site adjacent to Bridgend Golf Club, Golf Course Road, Bridgend	Riccarton Burn nearby – be aware but no apparent issues. Riccarton Burn is the flood route for Beecraigs Reservoir.	No	on boundary	Yes	No additional information	None known	We require a FRA which assesses the flood risk from the small watercourse which flows along the southern and western boundary.	Yes	No
EOI-0011	Residential – land adjacent to Willowdean, Bridgend	Riccarton Burn nearby – be aware but no apparent issues. Riccarton Burn is the flood route for Beecraigs Reservoir.	No	No	No	No additional information	None known	N/A	No	No
EOI-0012	Residential – Land at Cousland Farm, north of A705, Livingston	Watercourse to southern end of site, to be considered.	No	No	No	No additional information	None known	N/A	No	No

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EOI-0013	Mixed use – Land at Cousland Farm, south of A705, Livingston	Watercourse to southern end of site, to be considered.	No	on boundary	No	No additional information	None known	We require a FRA which assesses the flood risk from the small watercourse to the south east of the allocation site.	Yes	No
EOI-0014	Employment use (removal of single user status site ELI8) – Springfield North, Linlithgow	Drain site to Linlithgow Loch.	No	No	No	No additional information	Formal scheme present in Linlithgow but not relevant to allocation	There is a pond and a spring shown on the OS Map which may require consideration	No	No
EOI-0015	Mixed use (on existing employment site ELI 2 allocation) – Springfield South/Boghall East, Linlithgow	No particular issue.	No	No	No	No additional information	Formal scheme present in Linlithgow but not relevant to allocation	N/A	No	No
EOI-0016	Residential - Springfield West, Linlithgow	No particular issues. Conts to Loch required. Development would drain to this. Flood risk is not an apparent issue.	No	No	No	No additional information	Formal scheme present in Linlithgow but not relevant to allocation	N/A	No	No
EOI-0017	Residential – Forkneuk, North Uphall	Mining issues causing problems of water quality and flooding in Uphall generally. A study for the north end of Uphall is being considered. This site – stability issues, ground investigation, acid minewater and flood risk.	Fluvial - small part	multiple watercourses through site	Yes	No additional information	None known	Various small watercourse within development site which are also culverted. Also Brox Burn flows through the south western corner of the site which would also have to be assessed. Majority of the development site is developable	Yes	No

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EOI-0018	Residential – Oakbank Farm, East Calder	No significant flood risk issues. No FRA required. May be some run off from higher ground to south that would need to be addressed and intercepted.	No	on boundary	Yes	No additional information	None known	We require a FRA which assesses the flood risk from the small watercourse which flows along the eastern boundary. Site may be constrained due to flood risk	Yes	No
EOI-0019	Residential – Oakbank Farm, East Calder	Adjacent school ground quality impaired by water issues, This should not preclude development however. Longridge Road has a pinch point, and backing up of culvert could lead to potential problems. development should set back to address backing up of Cultrig Burn.	No	going through site	Yes	No additional information	None known	Cultrig Burn flows through part of site and along southern boundary. Watercourse is culverted beneath Longridge Road.	Yes	No
EOI-0020	Retail - (on existing employment site ELI2 allocation), Springfield, Linlithgow	No particular issue.	No	No	No	No additional information	Formal scheme present in Linlithgow but not relevant to allocation	N/A	No	No
EOI-0021	Residential – North East Field, Uphall Station	Site is some risk of pluvial flooding from the north east corner, this could however be engineered out. A Flood Risk Assessment would therefore be required for this site.	No	No	No	No additional information	None known	N/A	No	No

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EOI-0022	Employment – land at Station Road, Uphall	No apparent issues.	Fluvial - majority	No	Yes	No additional information	None known	Vast majority of the site is shown to be at risk of flooding and therefore developable area will be constrained due to flood risk and could be as little as only half of the development site. The watercourse is culverted at the downstream end of the development site.	Yes	No
EOI-0023	Residential led mixed use – land south or Armadale	No specific issues, drainage difficulties, but these are being addressed. Requirements for SUDS and FRA.	No	going through site	Yes	No additional information	None known	Require a FRA to assess the flood risk from the multiple watercourses. Armadale has extensive historical mining/works so additional studies may be required to assess modifications to the landscape and associated flood risk. We have been consulted regarding an adjacent application (PCS107089, 1044/P/08) and would recommend conversation between developments to ensure flood risk measures are consistent	Yes	No
EOI-0024	Mixed use – (on existing employment site ELv28 site) Eliburn Park, Livingston	No significant issues – Suds pond to west of site.	No	No	No	No additional information	None known	N/A	No	No

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EOI-0025	Wind energy – general issue	District Wide – no issue.						General comments applicable as no site allocation provided. Consideration should be given to the flood risk and associated mitigation measures with regards to the construction of wind farms, including access tracks, culverting, land-raising within the floodplain unlikely to be supported, and deforestation (if appropriate).		Yes
EOI-0026	Residential – Station House, Addiewell	Groundwater issues, Road to west of the site floods, any development on the site should be resisted until a scaleable development can fix the problem, any development on the site should be resisted.	No	No	No	No additional information	None known	N/A	No	No
EOI-0027	Mixed use – Crofthead Farm, Fauldhouse	Drainage issues – issues on Longridge Road, where properties are flooding.	No	multiple watercourses through site	Yes	Surface water issues recorded nearby in 2007	None known	We require a FRA which assesses the flood risk from the small watercourses which transect the site. Consideration should be given to any culverted structures within or nearby the site which may exacerbate flood risk. There will likely be development constraints due to flood risk.	Yes	No

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EOI-0028	Residential – Back O Moss Farm, Longridge (site A)	Drainage problems.	No	No	No	No additional information	None known	N/A	No	No
EOI-0029	Residential – Back O Moss Farm, Longridge (site B)	No specific issues.	No	on boundary	Yes	Record of surface water flooding by West Lothian Council to north of the development site at Northfield Crescent. We hold no additional information and recommend contact with flood prevention officer at the council	None known	Small watercourse located to the west of the development site as shown on OS Maps. This small watercourse flows behind the existing developments on Northfield Meadows. The watercourse is culverted beneath Main Street and may be culverted beneath the development site. It is recommended that it is investigated as to whether it is possible to open this watercourse on the condition that it does not increase the risk of flooding to neighbouring areas. No development should occur on top of the culvert in line with SPP and PAN 69 guidance. Should consider the risk of surface water flooding.	Yes	Yes
EOI-0030	Residential- (existing housing site HLv59 in WLLP) Murieston Road, Livingston	No significant issues– but flood risk assessment is required.	No	on boundary	No	No additional information	None known	We require a FRA which assesses the flood risk from the small watercourse which flows along the southern boundary. Consideration should also be given to any culverted watercourses within/ nearby the site.	Yes	No

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EOI-0031	Residential – site west of West Calder cemetery, West Calder	Not aware of any issues. Site at risk of pluvial flooding to the south, site could however integrate some development.	No	on boundary	Yes	No additional information	None known	Watercourse along southern boundary which will have to be assessed. Likely vast majority of site is developable	Yes	No
EOI-0032	Residential – site west of Curling Pond Lane, Longridge	Critical drainage problems in existing development of Curling Pond Land so have to be mindful of this. May be need for some consideration of Flood Risk Management.	No	on boundary	Yes	No additional information	None known	Small watercourse located along western boundary which would have to be assessed. Vast majority, if not all, of the development site is free from the risk of flooding.	Yes	No
EOI-0033	Mixed use – Houston Farm riding School, Uphall	TBC	Fluvial - part	No	Yes	No additional information	None known	The Brox Burn flows along the northern boundary and is culverted adjacent to the development site. The culvert should be incorporated within any assessment	Yes	No
EOI-0034	Mixed use – Bangour Village Hospital, Dechmont	Comments made previously in relation to the masterplan would apply. Fluvial and Pluvial Flood risk, Development feasible with mitigation, site within the Brox Burn catchment. Cumulative impact of development of this site combined with other sites in the Brox Burn catchment would require careful assessment in terms of flood risk.	Fluvial - part	No	Yes	No additional information	None known	We require a FRA which assesses the flood risk from the Brox Burn, and tributaries. Consideration should also be given to any culverted watercourses within/nearby the site. Likely to be development constraints to part of the site. There is uncertainty on the location of a Brox Burn tributary and whether it is culverted which would require investigation.	Yes	No



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EOI-0035	Mixed use – Pumpherston Farm , east of Pumpherston	No significant flood risk issues. Water flows generally west to east. Culverts through site would need checked. Agricultural drainage run off would also need to be addressed.	No	multiple watercourses through site	Yes	No additional information	None known	Complex hydrology with a number of watercourses within site, with the possibility of some of these watercourses being culverted beneath the site. No development should take place on top of the culverted and it should be investigated as to whether the culvert(s) can be opened up on the condition that it does not increase the risk of flooding to neighbouring areas. No development should occur on top of the culvert in line with SPP and PAN 69 guidance. No risk of flooding from the River Almond as there is a significant height difference between the development site and the Almond.	Yes	No
EOI-0036	Employment – extend range of uses on employment allocation ELv44 in the WLLP), McIntosh Road, Kirkton Campus, Livingston	No significant flood risk issues.	No	No	No	No additional information	None known	N/A	No	No

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EOI-0037	Residential – site at Harwood Farm, by West Calder	All West Calder sites drain into culvert; particular problems at the southern end of the town, no natural watercourses in that area. Catchment study also done in West Calder.	Fluvial - part	multiple watercourses through site	Yes	No additional information	None known	Small watercourse flows through middle of development site and is also culverted. Should assess whether it is feasible to open watercourse up. No development on top of culvert in line with SPP and PAN 69 guidance. Another small watercourse flows along south western boundary. Some of the development site is shown to be at risk of flooding from Harwood Water	Yes	No
EOI-0038	Residential – Seafield Fram, south of Seafield	FRA and DIA required. Significant stand off also to River Almond south of the site. Agricultural drainage would also need to be addressed.	Fluvial - part	on boundary	Yes	No additional information	None known	River Almond flows along southern boundary and flood map shows that there is a degree of flood risk. A footbridge is located on the River Almond. Site rises reasonably sharply and therefore the majority of the site will be developable. A smaller watercourse, Dean Burn, flows along north eastern boundary and this should be incorporated within any assessment. Review of OS Maps shows that there are two small watercourses and these watercourse should be assessed for flood risk	Yes	No

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EOI-0039	Residential– Langside Farm, north of Polbeth	FRA and DIA required. West Calder Burn to west of site and Harwood Burn to east of site, therefore significant stand off would be required also. Could also be issues of agricultural drainage run off..	Fluvial - part	No	Yes	No additional information	None known	Site located at the confluence of West Calder Burn and Harwood Water and both pose a degree of flood risk to the development. When modelling the hydraulic model will have to extent a sufficient distance downstream of the confluence. Number of crossings and what appears to be weirs on the watercourses which will have to be incorporated within the model. Vast majority of the development site is developable.	Yes	No
EOI-0040	Residential– Easter Breich Farm, south of Seafeld	There is a little pluvial flooding to this site, set back from the river is required from the river the east so no issues.	Fluvial - small part	going through site	Yes	No additional information	None known	Small portion of the development site shown to be at risk of flooding from the Breich Water on the Indicative River and Coastal Flood Map (Scotland). Also a smaller watercourse is culverted within the development site and it should be investigated as to whether the culvert can be opened up on the condition that it does not increase the risk of flooding to neighbouring areas. No development should occur on top of the culvert in line with SPP and PAN 69 guidance.	Yes	No

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EOI-0041	Residential – Hermand Farm, south east of West Calder	TBC	Fluvial - part	multiple watercourses through site	yes	No additional information	None known	Small watercourse flows through middle of development site and is also culverted. Should assess whether it is feasible to open watercourse up. No development on top of culvert in line with SPP and PAN 69 guidance. Another small watercourse flows along south western boundary. Some of the development site is shown to be at risk of flooding from Harwood Water	Yes	No
EOI-0042	Residential – Hartwood Farm, south west of West Calder	All West Calder sites drain into culvert; particular problems at the southern end of the town, no natural watercourses in that area. Catchment study also done in West Calder.	No	on boundary	Yes	No additional information	None known	Small watercourse in very western tip of development site which may pose a risk of flooding. Vast majority of site developable	Yes	No
EOI-0043	Mixed use – Kirkton Business Centre, Kirk Lane, Livingston	No significant flood risk issues.	No	No	No	No additional information	None known	N/A	No	No

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EOI-0044	Mixed use – Ecclesmachan Glebe, Ecclesmachan	Watercourse to south of site.FRA and DIA required, site would be at significant flood risk. Agricultural drainage issues would also need to be addressed. If developed, run off from this site would cause significant complications off site downstream.	Fluvial - part	No	Yes	Surface water issues recorded in Ecclesmachan in 2005	None known	We require a FRA which assesses the flood risk from the Ecclesmachan Burn. Due to steep topography located to the north of the allocation, consideration should be given to surface runoff issues to ensure adequate mitigation is implemented.	Yes	Yes
EOI-0045	Residential – Land east of Manse Road, Linlithgow	Potentially vulnerable area, compounding problems downstream. Concern over pluvial flood risk, steep catchment area, also issues of cumulative impact to the wider catchment. Site subject to steep catchment leading to flood run off and potential cumulative impacts for the wider catchment.	No	No	No	No additional information	Formal scheme present in Linlithgow but not relevant to allocation	N/A	No	No
EOI-0046	Residential/ leisure use – Land to north east of Bridgycastle Road, Armadale	Pull boundaries back from the watercourse, no particular problems. Flood Risk Assessment required as a precaution.	Fluvial - small part	multiple watercourses through site	Yes	Surface water flooding of nearby property in August 2008.	None known	We require a FRA which assesses the flood risk from the Barbauchlaw Burn and small watercourses.	Yes	No

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EOI-0047	Residential – Land at Middlerigg, east of Armadale	FRA would be required.	No	on boundary	No	No additional information	None known	We were previously consulted on this allocation (site boundary slightly larger than existing allocation) and objected due to a lack of information. A FRA which considers the small watercourses and culvert capacities is required in the first instance.	Yes	No
EOI-0048	Residential – Land at Standhill Farm, west of Armadale	No specific issues, drainage difficulties, but these are being addressed. Requirements for SUDS and FRA.	No	multiple watercourses through site	Yes	No additional information	None known	We require a FRA which assesses the flood risk from the small watercourses. There is uncertainty regarding the location of the watercourses and the extent of associated culverting. Consideration should be given to PAN 69 which states that “buildings must not be constructed over an existing drain (including a field drain) that is to remain active”.	Yes	No
EOI-0049	Residential – Cathlaw Lane, Torphichen	FRA would be required. There would be issues and concerns and run off would be a significant issue also.	No	multiple watercourses through site	Yes	No additional information	None known	Complex hydrology with watercourses culverted within development site. Should investigate the possibility of opening these culverts to natural channel on the condition that it does not increase the risk of flooding to neighbouring areas. No development should occur on top of the culvert in line with SPP and PAN 69 guidance.	Yes	No

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EOI-0050	Mixed use – Riccarton Fam, Porterside, south east of Linlithgow	FRA required. Sewer needed, major water quality problems, steep hillsides and major issues of interception and mitigation could be overcome. Biggest barrier to site being developed could be impact on water quality of Linlithgow Loch needing improved as the site is within the catchment. Septic tanks within the site would also need to be removed.	No	on boundary	Yes	Surface water issues recorded downstream in 2008	Formal scheme present in Linlithgow but not relevant to allocation	We require a FRA which assesses the flood risk from the small watercourse which flows along the western boundary. Consideration should be given to any culverted structures within or nearby the site which may exacerbate flood risk. Consideration should also be given to the steep topography of the site to ensure adequate drainage mitigation is implemented.	Yes	Yes
EOI-0051	Residential– site south of housing allocation HLv59 in the adopted WLLP, Wellhead Farm, Murieston Road, Livingston	No issues, Flood Risk Assessment is required.	No	going through site	No	No additional information	None known	We require a FRA which assesses the flood risk from the small watercourse that flows through the site. Due to steep topography, consideration should be given to surface runoff issues to ensure adequate mitigation is implemented.	Yes	Yes
EOI-0052	Care Home and Community Facilities – west of Hartwood Road, West Calder	All West Calder sites drain into culvert; particular problems at the southern end of the town, no natural watercourses in that area. Catchment study also done in West Calder.	No	on boundary	Yes	No additional information	None known	Small watercourse in very western tip of development site which may pose a risk of flooding. Vast majority of site developable	Yes	No

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EOI-0053	Employment and ancillary hotel – continued use of site employment site EBg7in the adopted WLLP for employment use.	Issues addressed through SUDs, some flooding issues. Culvert to the north, with limited capacity. To the south, there is a culvert below the M8 and into the River Almond. The Aldi Development is at risk as it is built at too low a level. Culvert at the Wester Inch site would need to be increased to address problems. A FRA would be required for the remainder of the site.	No	going through site	Yes	No additional information	None known	There are multiple small drains within the allocation and a potential culverted watercourse flows through the site which requires consideration. Consideration should be given to PAN 69 which states that “buildings must not be constructed over an existing drain (including a field drain) that is to remain active.”	Yes	No
EOI-0054	Residential – Kettlestoun Mains, west of Linlithgow	Flood risk given presence of water body in the site. More info required. FRA required.	Fluvial - part	on boundary	Yes	Union Canal flows adjacent to development site and we would recommend contact is made with British Waterways to establish whether there is a risk of flooding.	Formal scheme present in Linlithgow but not relevant to allocation	A FRA is required which assesses the flood risk from the River Avon which flows along the northern boundary and the Cauld Burn which flows along the western boundary. The development site will likely be constrained due to flood risk. Consideration should be given to the potential flood risk from the Union Canal and the incorporation of flood mitigation measures.	Yes	Yes



Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0055	Residential – site south of housing allocation HLv59 in the adopted WLLP, Wellhead Farm, Murieston Road, Livingston	No issues, Flood Risk Assessment is required.	No	going through site	No	No additional information	None known	We require a FRA which assesses the flood risk from the small watercourse that flows through the site. Due to steep topography, consideration should be given to surface runoff issues to ensure adequate mitigation is implemented.	Yes	Yes
EOI-0056	Residential – Mid Street, Bathgate	No apparent issues.	No	No	No	No additional information	None known	N/A	No	No
EOI-0057	Hotel – Deer Park Avenue, Livingston	No apparent issues.	No	No	No	No additional information	None known	N/A	No	No
EOI-0058	Residential – The Stables, Deer Park, Livingston	No apparent issues.	No	No	No	No additional information	None known	N/A	No	No
EOI-0059	Residential – Central Park, Deer Park, Livingston	Issues relating to drains on the site, a FRA is required.	No	adjacent to site	Yes	No additional information	None known	We require a FRA which assesses the flood risk from the Beugh Burn which flows to the south of the allocation site. Consideration should be given to any culverted structures within or nearby the site which may exacerbate flood risk	Yes	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0060	Residential – by Dechmont Law, Livingston	SW facility to west of site needs checked. Pond in woodland on the site. Set back from watercourse required. Scottish Water facility on western end of boundary (check SW consultation response) (site is covered reservoir). Possible development of this site in theory - site wont flood if developed in its own right, development could however generate run off from the site to effect other land out with the site, unless appropriately mitigated.	No	going through site	Yes	Surface water issues recorded nearby in 2008	None known	We require a FRA which assesses the flood risk from the small watercourse that flows through the site. Due to steep topography, consideration should be given to surface runoff issues to ensure adequate mitigation is implemented. Consideration should also be given to the covered reservoir and overflow pond identified on the OS map	Yes	Yes
EOI-0061	Community Garden – Polbeth Market Garden, Parkhead Farm, Polbeth	Not aware of any issues	No	No	No	No additional information	None known	N/A	No	No
EOI-0062	Residential – Edinburgh Road, Linlithgow	of Bells Burn and issues in Edinburgh Road in general. Linlithgow Loch Trust – Funding source for mitigation of flood risk ? (possible SPG ?) Significant issues on this site. Site would flood east of the site if developed into the cricket ground if developed and flood run off from the site would be a key issue. Significant mitigation would be required, but development of the site would be potentially feasible.	No	No	No	Numerous records of nearby surface water flooding in 2001, 2005, and 2008. Union Canal flows adjacent to development site and we would recommend contact is made with British Waterways to establish whether there is a risk of flooding.	Formal scheme present in Linlithgow but not relevant to allocation	N/A	No	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0063	Mixed use – South of Craiginn Terrace, Blackridge	No Flood risk.	No	No	No	No additional information	None known	The allocation is adjacent to Barbauchlaw Burn flood envelope therefore we recommend consideration of flood mitigation measures	No	Yes
EOI-0064	Residential/ retail – Greendykes House, Greendykes Road, Broxburn	No apparent issues	No	No	No	Union Canal flows adjacent to development site and we would recommend contact is made with British Waterways to establish whether there is a risk of flooding.	Formal scheme present in Broxburn but not relevant to allocation	Consideration should be given to the potential flood risk from the Union Canal and the incorporation of flood mitigation measures	No	Yes
EOI-0065	Residential – Bridgend Farm, Bridgend	We require a FRA which assesses the flood risk from the small watercourse which flows along the southern boundary. Consideration should also be given to any culverted watercourses within/nearby the site. There is also the potential that this site could lead to increased flood risk potential out with this site.	No	on boundary	Yes	No additional information	None known	We require a FRA which assesses the flood risk from the small watercourse which flows along the southern boundary. Consideration should also be given to any culverted watercourses within/ nearby the site.	Yes	No
EOI-0066	Residential – 50 Hartwood Road, West Calder	All West Calder sites drain into culvert; particular problems at the southern end of the town, no natural watercourses in that area. Catchment study also done in West Calder.	No	No	No	No additional information	None known	N/A	No	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0067	Leisure use – Binns Mill, by east Philpstoun	FRA and DIA required. Land levels lower than road and run off would occur.	No	No	No	No additional information	None known	N/A	No	No
EOI-0068	Residential – Land to east of Woodside Place, Bridgend.	FRA and DIA required. Could be significant agricultural run off to the site from surrounding fields. Site remote enough from Haugh Burn not to flood. FRA required which assesses the flood risk from the small watercourse which flows along the eastern boundary. Consideration should also be given to any culverted watercourses within/ nearby the site. We would recommend investigation into any potential culverts on-site and highlight PAN 69 which states that “buildings must not be constructed over an existing drain (including a field drain) that is to remain active”.	No	on boundary	Yes	No additional information	None known	We require a FRA which assesses the flood risk from the small watercourse which flows along the eastern boundary. Consideration should also be given to any culverted watercourses within/nearby the site. We would recommend investigation into any potential culverts on-site and highlight PAN 69 which states that “buildings must not be constructed over an existing drain (including a field drain) that is to remain active”.	Yes	No
EOI-0069	Rural leisure/ holiday accommodation – Land to south east of East Philpstoun at Craigton Quarry and Fawns Park East Philpstoun	A Flood Risk Assessment requires to be submitted for this development which assesses the flood risk from the small watercourse along the southern boundary. The majority of site appears developable.	No	on boundary	No	No additional information	None known	We require a FRA which assesses the flood risk from the small watercourse along the southern boundary. Majority of site developable.	Yes	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0070	Residential – land east of B8046, Ecclesmachan	FRA required. Could be significant flood and run off issues from B8046 to the west. Development would not be insurmountable, but not a preferred site for development. Due to steep topography located to the north of the allocation, consideration should be given to surface runoff issues to ensure adequate mitigation is implemented.	No	No	Yes	Surface water issues recorded in Ecclesmachan in 2005	None known	Due to steep topography located to the north of the allocation, consideration should be given to surface runoff issues to ensure adequate mitigation is implemented.	No	Yes
EOI-0071	Mixed use – west of Whitequarries, west of Newton	The usual attenuation and treatment of runoff criteria would apply. Precautionary FRA required as SEPA suggest one may be necessary.	No	on boundary	Yes	No additional information	None known	Review of OS Maps shows that there is a small watercourse located in the south western corner of the development site. The watercourse could be culverted beneath the site and we would recommend that it is investigated into the feasibility of opening up the watercourse on the condition that it does not increase the risk of flooding to neighbouring areas. No development should take place on top of the culvert to comply with SPP and PAN 69 guidance. It may be found that vast majority of the development site is developable	Yes	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0072	Residential/ mixed use – Land at Gallow Hill, south of Newton	No apparent issues. No evidence of particular flood susceptibility. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No additional information	None known	N/A	No	No
EOI-0073	Quarry use than leisure after use – Philpstoun North Bing, south east of Philpstoun	No evidence of particular flood susceptibility. Usual attenuation and treatment of runoff criteria would apply. Site is probably contaminated. Development provides the potential opportunity to rehabilitate the land and treat the runoff from the whole site and not just any developed part. Precautionary FRA required as SEPA require this.	No	No	No	Union Canal flows along southern boundary of the development site. May wish to consider contacting British Waterways to establish whether there is a risk of flooding	None known	N/A	No	Yes
EOI-0074	Residential / mixed use/ leisure – land to south of B8028, Westfield Farm, Philpstoun	Although the site is not shown on SEPA's maps as being susceptible flooding from out of bank flows in the adjacent watercourse, a Flood Risk Assessment may be required to demonstrate the extent of any risk. The usual attenuation and treatment of runoff criteria would apply.	No	on boundary	Yes	No additional information	None known	Review of OS Maps shows that the site rises sharply away from the watercourse. Small watercourse on the very southern point of site may pose a risk of flooding. If allocation was changed slightly with development set a sufficient distance away from the small watercourse we would not request a FRA as site rises sharply	Yes	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0075	Residential/ mixed use – Land by Redhouse Cottages, Threemiletown	Drainage from roads goes into mineshafts – need to be aware of this. Precautionary FRA required as SEPA require this. The usual attenuation and treatment of run-off would apply.	No	multiple watercourses through site	Yes	No additional information	None known	Watercourse flows through the middle of the site and is also culverted within the site. No development should take place above a culverted and where possible there should be investigations into the possibility of opening these culverts up to a more natural channel on the condition that it does not increase the risk of flooding to neighbouring areas. No development should occur on top of the culvert in line with SPP and PAN 69 guidance.	Yes	No
EOI-0076	Residential – Site allocated for residential use as site HWk1 in the adopted WLLP, War Blinded site, Wilkieston	Some flood risk from burn so set back required for sites in the south. Set back from Gogar Burn required. (All Wilkieston Sites may be linked to East Calder sewage work, which may have pumping issues ?) The south-west section of the site is close to an area of potential risk from fluvial flooding. A Flood Risk Assessment may be required to demonstrate the extent of any risk. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No additional information	None known	Pre-planning advice provided (PCS/113261) however this included allocation to the south as well hence our objection	No	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0077	Residential – Land at Site 1, Scottish War Blinded, Wilkieston	Some flood risk from burn so set back required for sites in the south. Set back from Gogar Burn required. (All Wilkieston Sites may be linked to East Calder sewage work, which may have pumping issues ?) The south boundary of the site is close to an area of potential risk from fluvial flooding. A Flood Risk Assessment may be required to demonstrate the extent of any risk. The usual attenuation and treatment of runoff criteria would apply.	Fluvial - small part	No	Yes	No additional information	None known	Gogar Burn flows along southern boundary of development site and a FRA is required to establish developable area, Vast majority of site is developable. Pre-planning consultation PCS/113261	Yes	No
EOI-0078	Residential/ mixed use – Land at Site 2, Scottish War Blinded, Wilkieston	Some flood risk from burn so set back required for sites in the south. Set back from Gogar Burn required. (All Wilkieston Sites may be linked to East Calder sewage work, which may have pumping issues ?) The south boundary of the site is close to an area of potential risk from fluvial flooding. A Flood Risk Assessment may be required to demonstrate the extent of any risk. The usual attenuation and treatment of runoff criteria would apply.	Fluvial - small part	No	Yes	No additional information	None known	Gogar Burn flows along southern boundary of development site and a FRA is required to establish developable area, Vast majority of site is developable.	Yes	No



Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0079	Residential / mixed use – Land at Site 3, Scottish War Blinded, Wilkieston	Some flood risk from burn so set back required for sites in the south. Set back from Gogar Burn required. (All Wilkieston Sites may be linked to East Calder sewage work, which may have pumping issues ?) The south boundary of the site is susceptible to risk from fluvial flooding. A Flood Risk Assessment may be required to demonstrate the extent of any risk. The usual attenuation and treatment of runoff criteria would apply.	Fluvial - part	No	Yes	No additional information	None known	Gogar Burn flows along southern boundary of development site and a FRA is required to establish developable area, Vast majority of site is developable.	Yes	No
EOI-0080	Residential – Land extending north from Drumcross Road to Bughtknowes Farm, Bathgate	FRA and DIA required. Could be issues of agricultural run off to site. Small watercourse north of the site Consideration should be given to any culverted structures within or nearby the site which may exacerbate flood risk. There is also some pluvial flood risk evident on the site. It is probable that development could either be integrated with the risk or that it could potentially be engineered to avoid surface water accumulating. The usual attenuation and treatment of runoff criteria would apply.	No	on boundary	Yes	Surface water flooding of nearby property in July 2007.	None known	We require a FRA which assesses the flood risk from the small watercourse to the north of the site allocation. Consideration should be given to any culverted structures within or nearby the site which may exacerbate flood risk.	Yes	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0081	Residential – Land extending east from Torphichen Road to the south of Ballencrieff Toll, Bughtknowes Farm, Bathgate	We require a FRA which assesses the flood risk from the small watercourse to the south of the site allocation. Consideration should be given to any culverted structures within or nearby the site which may exacerbate flood risk. There is also some pluvial flood risk evident on the site. It is probable that development could either be integrated with the risk or that it could potentially be engineered to avoid surface water accumulating. The usual attenuation and treatment of runoff criteria would apply.	No	on boundary	Yes	Surface water flooding of nearby property in 2001 and 2007.	None known	We require a FRA which assesses the flood risk from the small watercourse to the south of the site allocation. Consideration should be given to any culverted structures within or nearby the site which may exacerbate flood risk.	Yes	No
EOI-0082	Residential – Barnes Green, Knightsridge, Livingston	FRA required. Flooding from rail embankment to west issue. You can also not allow water to drain to the railway line. Issues could however be overcome if the site is to be developed.	No	going through site	No	Surface water issues recorded nearby in 2008	None known	We require a FRA which assesses the flood risk from the small drain located within the allocation site.	Yes	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0083	Residential – Blaeberryhill Road, Whitburn	FRA required. Could be water draining to the site from agricultural run off from within the site and also out with the site. This site is particularly wet. Although this is very heavy ground with a history of issues associated with runoff there is no evidence of particular flood susceptibility. The usual attenuation and treatment of runoff criteria would apply.	No	adjacent to site	No	No additional information	None known	Small drain located to east of the development site. This is not envisaged to cause any flood risk concerns	No	No
EOI-0084	Residential– Foulshiels Road north of Beechwood Park Football Ground, Stoneyburn	FRA required. Flood issues could be overcome. Could be issues of agricultural drainage to the site. This is a very wet site. It is particularly susceptible to risk from pluvial flooding. The developer would be expected to commission a Flood Risk Assessment. The ability to develop the site would depend on the developer demonstrating how the identified risk could be alleviated.	No	on boundary	Yes	No additional information	None known	Drain runs along northern boundary of site. Also enters a culvert at the north eastern corner.	Yes	No
EOI-0085	Residential– Hillview Avenue, Broxburn	No apparent issues. Cumulative effect on steep/short catchment area which is 25% urban. No evidence of particular flood susceptibility. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No additional information	Formal scheme present in Broxburn but not relevant to allocation	N/A	No	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0086	Residential – Kirkhill North 1 (North of Primary School), Broxburn	Mining issues causing problems of water quality and flooding in Uphall generally. A study for the north end of Uphall is being considered. This site – swales, picking up drainage ditches north/ south throughout the site, but careful consideration of SUDS/ floods required. FRA required	No	No	Yes	Surface water issues recorded in allocation in 2003	Formal scheme present in Broxburn but not relevant to allocation	Consideration should be given to surface runoff issues to ensure adequate mitigation is implemented.	No	No
EOI-0087	Residential – Kirkhill North 2 (North of Primary School), Broxburn	Mining issues causing problems of water quality and flooding in Uphall generally. A study for the north end of Uphall is being considered. This site – swales, picking up drainage ditches north/ south throughout the site, but careful consideration of SUDS/ floods required. FRA required	No	No	Yes	Surface water issues recorded in allocation in 2003	Formal scheme present in Broxburn but not relevant to allocation	Consideration should be given to surface runoff issues to ensure adequate mitigation is implemented.	No	No
EOI-0088	Residential – Sutherland Way, Knightsridge, Livingston	No significant issues but a wet site.	No	No	No	No additional information	None known	N/A	No	No

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EOI-0089	Mixed use – on existing employment allocations ELv66 and 67 in the adopted WLLP, Almondvale Business Park, Livingston	FRA required. Wet site, sites lower than surrounding land. Office to west of site flooded from road to south about two years ago. Small drain located within site also. Site could be developed. Parts of this site are currently at risk from pluvial flooding. The developer will be expected to demonstrate how the risk that is identified can be overcome as part of the development of the site. The usual attenuation and treatment of runoff criteria would apply.	No	going through site	Yes	No additional information	None known	We require a FRA which assesses the flood risk from the small drain located within the allocation site.	Yes	No
EOI-0090	Residential – continued use of housing allocation HKn10, Station Road, Kirknewton	A very small part of this site are currently at risk from pluvial flooding. The developer will be expected to demonstrate how the risk that is identified can be overcome as part of the development of the site. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No additional information	None known	Consideration should be given to surface runoff issues to ensure adequate mitigation is implemented.	No	Yes

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EOI-0091	Residential – land at Belvedere Wood, (north of Hillhouse Avenue), Bathgate	FRA required. Issue of run off from surrounding agricultural fields would require to be addressed.	No	No	No	No additional information	None known	N/A	No	No
EOI-0092	Residential – Crosshill Drive (east) (north of Marchwood Crescent), Bathgate	Culverts, may need off site works. This site is a concern. It is steep. There is a history of flooding as a result of runoff from the site. Drainage of surface water from the site depends on a culverted watercourse with potentially serious structural defects that the developer can expect to have to make good as part of the development proposal. The cumulative impact of additional development in this part of Bathgate is a concern given the extent of flooding in the centre of the town. A high level of attenuation and treatment of runoff criteria would need to apply if development of this site were forced through. A	No	on boundary	Yes	Surface water flooding of nearby property in June 1999 and 2007.	None known	We require a FRA which assesses the flood risk from the small watercourse to the east of the site allocation. Consideration should be given to any culverted structures within or nearby the site which may exacerbate flood risk.	Yes	No

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EOI-0093	Residential– Veteran's Cottage (Off Wallace Road, Bathgate	Culverting issue – How much more development could be accommodated is questionable. This site is a concern. It is steep. There is a history of flooding as a result of runoff from the site. Drainage of surface water from the site depends on a culverted watercourse with potentially serious structural defects that the developer can expect to have to make good as part of the development proposal. The cumulative impact of additional development in this part of Bathgate is a concern given the extent of flooding in the centre of the town. A high level of attenuation and treatment of runoff criteria would need to apply if development of this site were forced through.	No	No	No	No additional information	None known	N/A	No	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0094	Residential – WLC Grounds Maintenance Depot, Waverley Street, Bathgate	Part of this site is currently susceptible to pluvial flooding. The developer will be expected to demonstrate how the risk that is identified can be overcome as part of the development of the site. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No additional information	None known	N/A	No	No
EOI-0095	Residential– existing housing allocation HBb5, Redhouse West, Blackburn	No significant issues- allocated site. The southern boundary of the site is susceptible to fluvial flooding. A Flood Risk Assessment will be required to demonstrate the extent of any risk. Development will only be permitted in that part of the site deemed to be out with the fluvial flood zone. The usual attenuation and treatment of runoff criteria would also apply.	No	No	No	No additional information	None known	N/A	Yes	No



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EOI-0096	Residential– Land at Harrysmuir Gardens (east) Pumpherston	FRA required. Flood risk north and west possible. This site includes some ditches which convey runoff. The housing development to the west of this site disrupted natural drainage patterns when it was constructed. This impacted negatively on council properties on the south side of Letham Avenue, Pumpherston. Care will need to be taken to ensure that issues of ground water and surface water drainage were taken into account as part of the drainage design. No other issues of flood risk are known to impact on this site. The usual attenuation and treatment of runoff criteria would also apply.	No	No	No	No additional information	None known	N/A	No	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0097	Employment – Former Polbeth Market Garden, Polbeth	FRA would be required. The west side of this site abuts a small watercourse. There is a risk of flooding from out of bank flows in the watercourse and from potential obstruction of the culvert. A Flood Risk Assessment is required to determine the potential extents of both these phenomena on the site. It is more than likely that development of the majority of the site will be possible. The usual attenuation and treatment of runoff criteria would also apply.	No	No	No	No additional information	None known	N/A	No	No
EOI-0098	Residential/Local Neighbourhood Centre uses – land north of Teviot Drive, Murieston Valley, Livingston	No historic issues, however FRA required which assesses the flood risk from the tributary of the Murieston Water that flows to the west of the site. Consideration should be given to any culverted structures within or nearby the site which may exacerbate flood risk.	No	adjacent to site	Yes	No additional information	None known	We require a FRA which assesses the flood risk from the tributary of the Murieston Water that flows to the west of the site. Consideration should be given to any culverted structures within or nearby the site which may exacerbate flood risk.	Yes	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0099	Mixed use – Linhouse on existing employment allocation ELv54, in the adopted WLLP, Livingston	This site was prepared for development a number of years ago. Draft flood hazard maps indicate limited susceptibility to pluvial flooding though it is anticipated that there are engineered solutions to these. There is also a culverted watercourse on site which requires to be daylighted and a natural watercourse which has been heavily modified which requires to be restored to a more natural channel. The watercourse has a history of flooding due to obstruction of the culvert inlet though the impact of the flooding has been off site at Murieston Gardens. Restoration of the channel and daylighting of the culverted section along with setback from the watercourse should allow development to proceed.	No	multiple watercourses through site	Yes	No additional information	None known	We require a FRA which assesses the flood risk from the small watercourses that flow through the site. Consideration should be given to any culverted structures within or nearby the site which may exacerbate flood risk. There may be some development constraints due to flood risk.	Yes	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0100	Residential – on existing adopted housing allocation HLv94 in the adopted WLLP, Murieston Valley, Livingston	Mineshaft present .There is a small section of potential susceptibility to flooding associated with the watercourse at the north boundary of the site which will be subject to out of bank flows and potential obstruction at the culvert inlet. A Flood Risk Assessment is required to determine the potential extents of both these phenomena on the site. It is more than likely that development of all or the majority of the site will be possible. The usual attenuation and treatment of runoff criteria would also apply.	No	No	No	No additional information	None known	N/A	No	No
EOI-0101	Local Neighbourhood Centre uses – on existing local neighbourhood centre sites allocation in the adopted WLLP, Livingston South Station Local Centre, Livingston	Watercourse through site, culvert also to south and through , can however be mitigated. FRA required.	No	going through site	Yes	No additional information	None known	We require a FRA which assesses the flood risk from the tributary of the Murieston Water that flows through the site. Consideration should be given to any culverted structures within or nearby the site which may exacerbate flood risk. Site likely to be constrained due to flood risk.	Yes	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0102	Residential – West Calder Workspace, Society Place, West Calder	Combined sewer, but unlikely to be any issues	No	No	No	No additional information	None known	N/A	No	No
EOI-0103	Mixed use – Burghmuir, Linlithgow	<b>Flood risk / Drainage impact assessment / Sensitivity analysis - flood risk</b> (see below)	No	No	No	No additional information	None known	FRA required. site as Med to High Flood Risk 1 in 200: No / Watercourse Catchment less than 3km <sup>2</sup> : No / Development will increase flood potential : No / Additional SEPA Information : No additional information / Formal Flood Defences Present : None known / Comments : N/A / Flood Assessment Recommended : No : / Water Resilient Measures Recommended : No	No	No

**Flood risk**

FRA required. Although SEPA's indicative flood map doesn't suggest that the site is at risk from flooding the developer is expected to commission consultants to undertake a Flood Risk Assessment to demonstrate any localised risk that may exist during events up to and 1:200-year event plus freeboard and climate change in the context of an accurate topographic survey data, cross sections of the watercourses and local meteorological data. The assessment shall comply with Annex B of the Scottish Environment Protection Agency Policy No.4, "A SEPA Planning Authority Protocol" and CIRIA Report C624 'Development and Flood Risk: Guidance for the Construction Industry' (ISBN:086017624x). A suitably qualified and experienced Hydrologist or Chartered Civil Engineer must carry out the study. The study must include at least a 1D hydrodynamic model of open watercourses complete with a plan showing the extents of inundation using topographic data from a recent survey. The developer is also expected to identify any culverted watercourses that may pass beneath any part of the proposed development area.

**Drainage impact assessment**

A Drainage Impact Assessment (DIA) will be required. It must be comprehensive and must address the issues of foul, surface and ground water, including land drainage. It must identify the issues affecting the site pre-development and should outline the strategy post-development. The DIA shall generally comply with the document Drainage Impact Assessment - A Guide for Scotland published by SEPA et al. There are local variations to the document and early consultation with SEPA and the council's Flood Risk Management Officer is recommended.

No works shall start on site until the DIA has been submitted to and approved in writing by the planning authority. The DIA shall include the sensitivity analysis and detail all elements of the surface water drainage system, risk assessment, details of any temporary abatement proposed until the permanent drainage system is in place, evidence that the drainage system meets the treatment requirements of SEPA and evidence that the drainage system will be adopted by Scottish Water.

**Sensitivity analysis - flood risk**

A sensitivity analysis shall be carried out in respect of the proposed layout to demonstrate that the critical storm up to and including the 1:200 year events will have no adverse effect on property forming part of the development or elsewhere.

Available information suggests that the proposed site partially drains to Linlithgow Loch. The loch, an SSSI. Water quality in the loch is deteriorating. It suffers from elevated levels of phosphate and nitrogen. Sediment transport has been shown to be partially responsible for this phenomenon. The developer is expected to demonstrate how the risks of sediment transport both during and post-development process will be eliminated.

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0104	Mixed use- land at Oakbank Village, East Calder	Septic tank issues and sewerage issues. No specific historic issues. FRA required which assesses the flood risk from the Linhouse Water along the western boundary of the northern site allocation. Consideration should also be given to the small area located adjacent to a small watercourse in the southern allocation. Majority of site developable.	Fluvial - part	adjacent to site	No	No additional information	None known	We require a FRA which assesses the flood risk from the Linhouse Water along the western boundary of the northern site allocation. Consideration should also be given to the small area located adjacent to a small watercourse in the southern allocation. Majority of site developable.	Yes	No
EOI-0105	Residential-land at Falkirk Road, Linlithgow	No apparent issues, but perhaps some sewer flooding in the area. Site could be on combined sewer at present. Retail park provides for flooding.	No	No	No	Flooding along the Mains Burn recorded in 1998	Formal scheme present upstream of development site. Designed to a 1:200 year event. It is unclear what protection (if any) is provided to the downstream allocation site.	N/A	No	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0106	Retail – Car Park 2, Almondvale Road, Livingston	FRA required	No	going through site	Yes	No additional information	None known	We require a FRA which assesses the flood risk from the tributary of the Murieston Water that flows through the site. Consideration should be given to any culverted structures within or nearby the site which may exacerbate flood risk. Site likely to be constrained due to flood risk.	Yes	No
EOI-0107	Retail/ employment/ leisure – The Centre, Livingston	FRA required	No	going through site	Yes	Surface water issues recorded nearby in 2003	None known	We require a FRA which assesses the potential culverted watercourse beneath the site. We would recommend investigation into any potential culverts on-site and highlight PAN 69 which states that “buildings must not be constructed over an existing drain (including a field drain) that is to remain active”.	Yes	Yes
EOI-0108	Residential - Polkemmet Business Centre, Dixon Terrace, Whitburn	Some flooding/drainage issues, but shouldn't prevent development. There are some culverts in the area. FRA required.	No	on boundary	Yes	No additional information	None known	Watercourse along southern boundary which derives from the Colliery Ponds has to be assessed. Watercourse is also culverted adjacent to the site and may be culverted beneath the development site. Development should not take place on top of culverted watercourses in line with SPP and PAN 69.	Yes	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0109	Town Centre uses – Land at former West Lothian House, Almondvale Boulevard, Livingston	No apparent issues	No	No	No	No additional information	None known	N/A	No	No
EOI-0110	Residential/ Mixed use– Murieston Castle Farm	Watercourse through the site, two catchments, but part of site may be able to be developed. FRA required.	Fluvial - small part	going through site	Yes	No additional information	None known	We require a FRA which assesses the flood risk from the Murieston Water and the small watercourses that flow through the site. Consideration should be given to any culverted structures within or nearby the site which may exacerbate flood risk. There is a small pond which also requires consideration.	Yes	No
EOI-0111	Residential/ mixed use – Balgreen Farm, Livingston	Minor drainage issues, nothing significant. FRA required due to some potential pluvial flood risk.	No	on boundary	Yes	No additional information	None known	We require a FRA which assesses the flood risk from the small watercourse identified as flowing along the north west boundary of the site. We would recommend investigation into any potential culverts on-site and highlight PAN 69 which states that “buildings must not be constructed over an existing drain (including a field drain) that is to remain active”.	Yes	No



Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0112	Residential use- Land adjacent to Roman Camp Cottages, Uphall Station	Watercourse through the site. FRA required.	No	on boundary	Yes	No additional information	None known	Two small watercourse, one located to the northern boundary and other to southern boundary. Northern boundary may be culverted and this has to be included within any future assessment	Yes	No
EOI-0113	Residential – Land adjacent to Langton Road, East Calder	This site is dissected by two separate watercourses potentially compromising development in the context of the assumption against culverting of watercourses. Part of the site is also at risk of flooding from out of bank flows in the watercourses and from potential obstruction of the outfall. The usual attenuation and treatment of runoff criteria would apply to all redevelopment of this site. A Flood Risk Assessment is required for this site.	No	multiple watercourses through site	Yes	Surface water issues recorded in 2007 to the west of site	None known	We require a FRA which assesses the flood risk from the small watercourses which transect the site. Consideration should be given to any culverted structures within or nearby the site which may exacerbate flood risk. There may be development constraints due to flood risk.	Yes	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0114	Residential/ mixed use – Wilcoxholm Farm, Edinburgh Road, Linlithgow	FRA required. Flood risk mentioned in the allocation supporting statement. Consideration should be given to the potential flood risk from the Union Canal and the incorporation of flood mitigation measures	No	No	No	Surface water issues recorded nearby in 2005 and 2008. Union Canal flows through development site and we would recommend contact is made with British Waterways to establish whether there is a risk of flooding.	Formal scheme present in Linlithgow but not relevant to allocation	Flood risk mentioned in the allocation supporting statement. Consideration should be given to the potential flood risk from the Union Canal and the incorporation of flood mitigation measures	No	Yes
EOI-0115	Mixed use – Cadzow Estate, Land at Kilpunt, Broxburn	FRA required. Broxburn Flood Prevention Scheme is north of the site and a set back to be agreed from the burn at Burnside which has a history of flooding.	Fluvial - part	going through site	Yes	Extensive flooding of Broxburn (especially Burnside) in 2008. The adjacent builders merchant was flooded to an approximate depth of 400mm	Formal flood scheme present at Burnside (larger scheme still at the proposal stage). Not believed to protect this allocation	We require a FRA which assesses the flood risk from the Brox Burn, River Almond, and small watercourses. Consideration should also be given to any culverted watercourses within/nearby the site. Likely to be development constraints to part of the site.	Yes	No
EOI-0116	Residential / tourism/leisure/ employment - Cadzow Estate, land at Muirend, Broxburn	Flooding/drainage issue at Muirend Cottage.	No	No	No	Union Canal flows adjacent to development site and we would recommend contact is made with British Waterways to establish whether there is a risk of flooding.	None known	Consideration should be given to the potential flood risk from the Union Canal and the incorporation of flood mitigation measures	No	Yes
EOI-0117	Residential – Kirkton Business Centre, Kirkton North Road, Livingston	No apparent issues.	No	No	No	No additional information	None known	N/A	No	No

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EOI-0118	Residential – Land north of Bentswood Inn, Bents, Stoneyburn	Possibly broken into two catchments, also culverts, possible issues to rear of the site, mitigation is required, but shouldn't overall preclude development.	No	going through site	Yes	No additional information	None known	Watercourse located in the northern part of the development site as well as the southern part. The southern watercourse appears to enter a culvert and this should be investigate as to whether it is feasible to open up the culvert on the condition that it does not increase the risk of flooding to neighbouring areas. No development should occur on top of the culvert in line with SPP and PAN 69 guidance.	Yes	No
EOI-0119	Residential – Land south of Lighton Terrace, Stoneyburn	FRA required enhancement of SSSI might be achievable with SUDS scheme.	No	on boundary	Yes	No additional information	None known	Commented on outline planning application and offered no objection but recommended consideration is given to small watercourse. Would require a FRA to determine the risk of flooding from the small watercourse. The site does lie adjacent to indicative flood outline however there is a 5m height difference and as a result there is no risk of flooding from the Breich Water	Yes	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0120	Residential use– land at Back O Moss/ Main Street, Longridge	No evidence of particular flood susceptibility. The usual attenuation and treatment of runoff criteria would apply. It is noted that SEPA require a Flood Risk Assessment to be undertaken on this site.	No	on boundary	Yes	Record of surface water flooding by West Lothian council to north of the development site at Northfield Crescent. We hold no additional information and recommend contact with flood prevention officer at the council	None known	Small watercourse located to the west of the development site as shown on OS Maps. This small watercourse flows behind the existing developments on Northfield Meadows. The watercourse is culverted beneath Main Street and may be culverted beneath the development site. It is recommended that it is investigated as to whether it is possible to open this watercourse on the condition that it does not increase the risk of flooding to neighbouring areas. No development should occur on top of the culvert in line with SPP and PAN 69 guidance. Should consider the risk of surface water flooding.	Yes	Yes

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EOI-0121	Mixed use – Former Golf course, Bridgecastle Road, Armadale	This site is subject to out of bank flows in the Barbauchlaw Burn and to some pluvial flooding. The latter will be capable of being eliminated through engineering but setback will be required from those areas at risk of inundation from the burn. A Flood Risk Assessment will be required to determine the extent of the site capable of being developed. The usual attenuation and treatment of runoff criteria would apply to all redevelopment of this site.	Fluvial - small part	multiple watercourses through site	Yes	Surface water flooding of nearby property in August 2008.	None known	We require a FRA which assesses the flood risk from the Barbauchlaw Burn and small watercourses.	Yes	No
EOI-0122	Residential – Site adjacent to Fir Park/ Craigs Court, Westfield Road, Torphichen, Bathgate	FRA required.	No	No	No	No additional information	None known	N/A	No	No
EOI-0123	Residential – site south of Blaeberryhill Road, Whitburn	FRA required. Some works to east of new housing site at Glenisla Court. Agricultural drainage run off issues likely also.	No	multiple watercourses through site	Yes	No additional information	None known	Complex hydrology with a number of watercourse crossings particularly on the Bickerton Burn.	Yes	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0124	Residential/ neighbourhood centre uses/ allotments – Land to north eastern boundary of Fauldhouse.	FRA and DIA required. Potential significant flood risk issues from agricultural land, very wet site also, drainage ditches throughout the site.	No	multiple watercourses through site	Yes	Surface water issues recorded nearby in 2007	None known	We require a FRA which assesses the flood risk from the small watercourses which transect the site. Consideration should be given to any culverted structures within or nearby the site which may exacerbate flood risk. There will likely be development constraints due to flood risk.	Yes	No
EOI-0125	Residential – Land to north east of Sunnyside Cottage, Ballencrieff Toll, Bathgate	There are two areas of potential pluvial flood risk on this site. It is probable that these can be eliminated through effective engineering but the developer will be expected to undertake a Flood Risk Assessment to determine the latter and the extent of land potentially available for development without compromise to the risk of flooding. The usual attenuation and treatment of runoff criteria would apply to all redevelopment of this site.	No	on boundary	Yes	Surface water flooding of nearby property in 2001.	None known	We require a FRA which assesses the flood risk from the small watercourse to the north of the site allocation. Consideration should be given to any culverted structures within or nearby the site which may exacerbate flood risk.	Yes	No

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EOI-0126	Residential/ mixed use – Dykeside Farm, Bathgate	FRA required.	Fluvial - small part	going through site	Yes	Surface water flooding of nearby property in 2001 and 2003.	None known	We require a FRA which assesses the flood risk from the Couston Water and the Crinkle Burn tributary. Consideration should be given to any culverted structures within or nearby the site which may exacerbate flood risk.	Yes	No
EOI-0127	Residential/ mixed use – land to east and west of A801, west of Bathgate	A Flood Risk Assessment is required for this site. In terms of the East site to the A801 - Issues at Windyknowe Primary School of flood risk, despite mitigation measures being in place, Site drained by culverts. Development on this site could adversely impact on adjoining sites. West site - Uncomplicated from a flood risk point of view. This site appears to be affected by both pluvial and fluvial flooding. A Flood Risk Assessment will be required to determine the extent of the site capable of being developed and to determine whether pluvial flood risk is capable of being eliminated through effective engineering. The usual attenuation and treatment of runoff criteria would apply to all redevelopment of this site.	No	multiple watercourses through site	Yes	No additional information	None known	We require a FRA which assesses the flood risk from the numerous small watercourses that transect the site. Consideration should be given to any culverted structures within or nearby the site which may exacerbate flood risk. Majority of site likely developable but there will be some constraints as a result of flood risk.	Yes	No

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EOI-0128	Mixed use– Braehead, Linlithgow	No apparent issues.	No	No	No	No additional information	Formal scheme present in Linlithgow but not relevant to allocation	N/A	No	No
EOI-0129	Residential – Doomsdale, Linlithgow Bridge Primary School, Linlithgow	Site to west susceptible to flooding (excluding school). Should be possible to develop however.	No	No	No	No additional information	Formal scheme present in Linlithgow but not relevant to allocation	N/A	No	No
EOI-0130	Residential – Greendykes North, Broxburn	Scottish Water system to the south. Mining issues causing problems of water quality and flooding in Uphall generally. A study for the north end of Uphall is being considered. This site – drains to Liggatsyke where there is a pinch point at the canal. Heavy attenuation is required. West Lothian Council basin (incised watercourse) to east part of the site, north of Cunningham Crescent. Culvert would need to be replaced. Forestry Commission grant/ woodland planted area. FRA required.	No	going through site	Yes	Flooding issues downstream on the Liggat Syke due to culvert surcharge.	Formal flood scheme proposed for the Liggat Syke (still at proposal stage)	We would require a FRA which assesses the flood risk from the Liggat Syke and tributaries. Consideration should be given to any culverted structures within or nearby the site which may exacerbate flood risk. There may be information available from the council regarding the Liggat Syke flood protection scheme. Likely constraints to the allocation due to flood risk	Yes	No



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EOI-0131	Residential – Mill Road, Linlithgow	No apparent issues, but development requires to be set back from the burn. Some concern to the south of the site. A Flood Risk Assessment is required.	Fluvial - part	adjacent to site	Yes	Flooding along the Mains Burn recorded in 1998 and surface water issues recorded nearby in 2007	Formal scheme present upstream of development site. Designed to a 1:200 year event. It is unclear what protection (if any) is provided to the downstream allocation site.	We require a FRA which assesses the flood risk from the Mains Burn. Consideration should be given to culverted structures within/ nearby the site which may exacerbate flood risk to the site. The development site may be heavily constrained due to flood risk.	Yes	No
EOI-0132	Residential – Stankards Road, Uphall	FRA required., but development would be feasible. Site is within the Brox Burn catchment.	No	No	No	No additional information	None known	N/A	No	No
EOI-0133	Residential – Greendykes West, Broxburn	Scottish Water system to the south. Mining issues causing problems of water quality and flooding in Uphall generally. A study for the north end of Uphall is being considered. This site – drains to Liggatsyke where there is a pinch point at the canal. Heavy attenuation is required. West Lothian Council basin (incised watercourse) to east part of the site, north of Cunningham Crescent. Culvert would need to be replaced. Forestry Commission grant/ woodland planted area. FRA required.	No	multiple watercourses through site	Yes	Flooding issues downstream on the Liggat Syke due to culvert surcharge.	Formal flood scheme proposed for the Liggat Syke (still at proposal stage)	We would require a FRA which assesses the flood risk from the Liggat Syke and tributaries. Consideration should be given to any culverted structures within or nearby the site which may exacerbate flood risk. There may be information available from the council regarding the Liggat Syke flood protection scheme. Likely constraints to the allocation due to flood risk	Yes	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0134	Residential – Land at Drumshoreland, Uphall Station	It is noted that SEPA require a Flood Risk Assessment for the site. There is a small area of this site deemed susceptible to the risk of pluvial flooding. There is no doubt that this can probably be alleviated through engineering design. The usual attenuation and treatment of runoff criteria would apply to all development of this site. This site is also understood to be providing habitat to support large numbers of amphibian species which are subject to statutory protection. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No additional information	None known	N/A	No	No
EOI-0135	Residential – Land at Hens Nest Road, East Whitburn	FRA required. Serious flood risk issues to the site. Watercourse east west through southern part of site. There has been flooding issues to properties at Hamilton Way to the north of the site. There would be issues of agricultural drainage throughout the site also.	Fluvial - small part	multiple watercourses through site	Yes	Numerous surface water issues recorded in general area in 2001, 2007, 2008 and 2009	None known	We require a FRA which assesses the flood risk from White Burn and the small watercourses which transect the site. Consideration should be given to any culverted structures within or nearby the site which may exacerbate flood risk.	Yes	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0136	Residential-land at Redhouse, Blackburn	We require a FRA which assesses the flood risk from the River Almond, and the small watercourses within the site allocation. Consideration should be given to any culverted structures within or nearby the site which may exacerbate flood risk. There is flooding to the south of the northern part of the site.	Fluvial - small part	going through site	Yes	Surface water issues in nearby area in 2008 and 2009	None known	We require a FRA which assesses the flood risk from the River Almond, and the small watercourses within the site allocation. Consideration should be given to any culverted structures within or nearby the site which may exacerbate flood risk.	Yes	No
EOI-0137	Residential – Land at Sheephousehill, Fauldhouse	There are a few areas of pluvial flood risk affecting this site. It is possible that these can be eliminated through effective engineering and or adjustments to the layout but the developer will be expected to undertake a Flood Risk Assessment to determine the latter and the extent of land potentially available for development without compromise to the risk of flooding. The usual attenuation and treatment of runoff criteria would apply to all redevelopment of this site.	Fluvial - small part	multiple watercourses through site	Yes	Surface water issues recorded nearby in 2007	None known	We require a FRA which assesses the flood risk from the Breich Water/Bank Head Burn confluence and small watercourses that transect the site. Consideration should be given to any culverted structures within or nearby the site which may exacerbate flood risk. There may be development constraints due to flood risk.	Yes	No

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EOI-0138	Residential/ mixed use – Land at Strathbrock Estate, East Broxburn	Scottish Water system to the south. Mining issues causing problems of water quality and flooding in Uphall generally. A study for the north end of Uphall is being considered. Ponds are proposed at Pythall. Discussion with Ashdale and Boland required to resolve flooding issues. FRA required.	No	multiple watercourses through site	Yes	Flooding issues downstream on the Liggat Syke due to culvert surcharge. Union Canal flows through development site and we would recommend contact is made with British Waterways to establish whether there is a risk of flooding.	Formal flood scheme proposed for the Liggat Syke (still at proposal stage)	We would require a FRA which assesses the flood risk from the Liggat Syke and tributaries. Consideration should be given to any culverted structures within or nearby the site which may exacerbate flood risk. There may be information available from the council regarding the Liggat Syke flood protection scheme.	Yes	No
EOI-0139	Residential – Drove Road, Armadale	A Flood Risk Assessment requires to be submitted for this site. Flooding issues in housing scheme to the south, wouldn't expect flood risk problems. Suggest retention of trees, some ground water issues.  This site appears to be susceptible to both pluvial and fluvial flood risk which will compromise the development potential of the site. A flood risk assessment will be required to determine the extent of land capable of being developed without compromise to the functional flood plain associated with the Barbauchlaw Burn. The developer may also be required to provide a sacrificial area and associated drainage infrastructure to alleviate flood risk to social housing in Drove Road.	Fluvial - part	going through site	Yes	Surface water flooding of nearby property in August 2008.	None known	We require a FRA which assesses the flood risk from the Barbauchlaw Burn and the Colin Burn. Consideration should be given to any culverted structures nearby/within the site.	Yes	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0140	Residential – Beechwood Road, Blackburn	A Flood Risk Assessment requires to be submitted for this site as per SEPA request, although no evidence of particular flood susceptibility. The usual attenuation and treatment of runoff criteria would apply.	No	adjacent to site	Yes	Numerous surface water issues recorded in 2008 and 2009	None known	We would require a FRA which assesses the flood risk from the small watercourse to the east of the site allocation. Consideration should be given to any culverted structures within or nearby the site which may exacerbate flood risk.	Yes	No
EOI-0141	Residential – Crosshill Drive, (southern section), Bathgate	A Flood Risk Assessment is required for this site. As there are drainage run-off issues. Draining to culverts (20 inch culvert in Bathgate) and water issuing from steep ground. This site is a concern. It is steep. There is a history of flooding as a result of runoff from the site. Drainage of surface water from the site depends on a culverted watercourse with potentially serious structural defects that the developer can expect to have to make good as part of the development proposal. The cumulative impact of additional development in this part of Bathgate is a concern given the extent of flooding in the centre of the town. A high level of attenuation and treatment of runoff criteria would need to apply if development of this site were forced through. The site appears to include Kirkton Quarry, site of special geological interest and a pond which may support threatened species.	No	on boundary	Yes	No additional information	None known	We require a FRA which assesses the flood risk to the south east corner from the small watercourse. Consideration should also be given to the steep allocation site to ensure the site and nearby areas are not at risk from surface runoff	Yes	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0142	Residential – Crosshill Drive, Bathgate Entire Site (A & B on attached plan)	<p>A Flood Risk Assessment is required for this site. As there are drainage run-off issues. Draining to culverts (20 inch culvert in Bathgate) and water issuing from steep ground.</p> <p>This site is a concern. It is steep. There is a history of flooding as a result of runoff from the site. Drainage of surface water from the site depends on a culverted watercourse with potentially serious structural defects that the developer can expect to have to make good as part of the development proposal. The cumulative impact of additional development in this part of Bathgate is a concern given the extent of flooding in the centre of the town. A high level of attenuation and treatment of runoff criteria would need to apply if development of this site were forced through. The site appears to include Kirkton Quarry, site of special geological interest and a pond which may support threatened species.</p>	No	on boundary	Yes	Surface water flooding of nearby property in 2001.	None known	This site incorporates the EOI-0141 site as well. If this is the case, we require a FRA which assesses the flood risk to the south east corner from the small watercourse. Consideration should also be given to the steep allocation site to ensure the site and nearby areas are not an risk from surface runoff	Yes	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0143	Residential – Kirkhill North, Broxburn	Mining issues causing problems of water quality and flooding in Uphall generally. A study for the north end of Uphall is being considered. This site - swales, picking up drainage ditches north/south through the site but careful consideration of SUDs/ flooding is required. FRA and DIA required.	No	No	Yes	Surface water issues recorded in allocation in 2003 and nearby in 2007	Formal scheme present in Broxburn but not relevant to allocation	Consideration should be given to surface runoff issues to ensure adequate mitigation is implemented. FRA required	Yes	No
EOI-0144	Residential – Kirkhill North Sites 1 and 2, Broxburn	Mining issues causing problems of water quality and flooding in Uphall generally. A study for the north end of Uphall is being considered. This site - swales, picking up drainage ditches north/south through the site but careful consideration of SUDs/ flooding is required. FRA required.	No	on boundary	Yes	Flooding issues downstream on the Liggat Syke due to culvert surcharge.	Formal flood scheme proposed for the Liggat Syke (still at proposal stage)	We would require a FRA which assesses the flood risk from the Liggat Syke. Consideration should be given to any culverted structures within or nearby the site which may exacerbate flood risk. There may be information available from the council regarding the Liggat Syke flood protection scheme.	Yes	No
EOI-0145	Residential – Stankards Road, Uphall	FRA required.	No	No	No	No additional information	None known	FRA required	No	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0146	Residential – Former Travelling Peoples Site, Hardhill Road, Bathgate	No particular problems. No apparent issues, site at Med to High Flood Risk 1 in 200: No / Watercourse Catchment less than 3km <sup>2</sup> : No / Development will increase flood potential : No / Additional SEPA Information : No additional information / Formal Flood Defences Present : None known / Comments : N/A / Flood Assessment Recommended : No : / Water Resilient Measures Recommended : No	No	No	No	No additional information	None known	Site at Med to High Flood Risk 1 in 200: No / Watercourse Catchment less than 3km <sup>2</sup> : No / Development will increase flood potential : No / Additional SEPA Information : No additional information / Formal Flood Defences Present : None known / Comments : N/A / Flood Assessment Recommended : No : / Water Resilient Measures Recommended : No	No	No



Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0147	Residential – North of Hermand, West Calder	<p>here is watercourse culverted beneath development site within garden ground of property on Parkhead Crescent and appears as an open watercourse to the east of the development site. There should be no development on top of culvert to comply with Scottish Planning Policy and Planning Advice Note 69 'Planning and Building Standards Advice on Flooding' guidance. There may also be opportunities to open up watercourse. Also assessment on Harwood Water is required. It is noted that SEPA require a Flood Risk Assessment for this site.</p> <p>Parts of this site are currently at risk from pluvial flooding. The developer will be expected to demonstrate how the risk that is identified can be overcome as part of the development of the site. The developer may also be required to provide sacrificial ground and drainage infrastructure to alleviate risk to adjacent built infrastructure. The usual attenuation and treatment of runoff criteria would apply</p>	Fluvial - part	going through site	Yes	No additional information	None known	SEPA require a Flood Risk Assessment for this site. Development of this will increase flood risk out with the site. Development on this site. There is a watercourse culverted beneath the site culverted within garden ground of property on Parkhead Crescent and appears as an open watercourse to the east of the development site. There should be no development on top of culvert to comply with Scottish Planning Policy and Planning Advice Note 69 'Planning and Building Standards advice on Flooding' guidance. There may be opportunities to open up this watercourse. An assessment on Harwood Water is also required. Part of the site would be at medium to high risk from fluvial flooding.	Yes	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0148	Residential – Land to south of Blaeberryhill Road, Whitburn	Small drain located to east of the development site. This is not envisaged to cause any flood risk concerns. No evidence of particular flood susceptibility. The usual attenuation and treatment of runoff criteria would apply.	No	adjacent to site	No	No additional information	None known	Small drain located to east of the development site. This is not envisaged to cause any flood risk concerns	No	No
EOI-0149	Residential – Dunn Place, Winchburgh (part of existing WLLP housing allocation HWh5)	A Flood Risk Assessment is required for this site. No evidence of particular flood susceptibility historically. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	Record of surface water flooding to property 50m to the west of the development site. We hold no additional information and recommend contact with flood prevention officer at the council	None known	Incorporation of mitigation measures to eliminate the risk of flooding from surface water flooding. These should not increase the risk of flooding to neighbouring areas.	Yes	Yes
EOI-0150	Residential– Former Travelling Peoples site and adjacent council owned land, Hardhill Road, Bathgate	As per SEPA comments, a Flood Risk Assessment which assesses the flood risk from the small watercourse which flows along the southern boundary of the site. Consideration should be given to any culverted structures within or nearby the site which may exacerbate flood risk. Development will increase flood potential out with the site of developed.	No	adjacent to site	Yes	No additional information	None known	We require a FRA which assesses the flood risk from the small watercourse which flows along the southern boundary of the site. Consideration should be given to any culverted structures within or nearby the site which may exacerbate flood risk.	Yes	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0151	Residential – Hunter Grove, Whitburn	<p>A Flood Risk Assessment is required for this site. The adjacent school ground quality is impaired by water issues, This should not preclude development however. Longridge Road has a pinch point, and backing up of culvert could lead to potential problems. development should set back to address backing up of Cultrig Burn. May include SUDS scheme that would need to be relocated.</p> <p>This is a very wet site which is understood to include an open and culverted watercourse. The site also includes a SUDS pond and drainage infrastructure serving an adjacent residential development which has also been adopted by the staff and pupils of the adjacent St Joseph's Primary School under their Eco Schools programme. In addition to accommodating all the foregoing the usual attenuation and treatment of runoff criteria would apply.</p>	No	on boundary	Yes	Record of surface water flooding to Hunter Grove to north of development site. We hold no additional information and recommend contact with flood prevention officer at the council	None known	Small watercourse enters culvert adjacent to development site and should be assessed in FRA. Vast majority of development site is developable. Incorporation of mitigation measures to eliminate the risk of flooding from surface water. There should be no increase in the risk of flooding to neighbouring areas.	Yes	Yes

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EOI-0152	Residential – Lister Road/ Kirkton South, Livingston	FRA required, watercourse to north of site.	No	No	No	No additional information	None known	Med to High Flood Risk 1 in 200: No / Watercourse Catchment less than 3km <sup>2</sup> : No / Development will increase flood potential : No / Additional SEPA Information : No additional information / Formal Flood Defences Present : None known / Comments : N/A / Flood Assessment Recommended : No : / Water Resilient Measures Recommended : No	No	No
EOI-0153	Mixed use – Guildiehaugh Depot, Bathgate	Parts of this site are susceptible to pluvial flooding. A Flood Risk Assessment would be required to show existing pluvial flood risk could be eliminated through effective engineering. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No additional information	None known	Med to High Flood Risk 1 in 200: No / Watercourse Catchment less than 3km <sup>2</sup> : No / Development will increase flood potential : No / Additional SEPA Information : No additional information / Formal Flood Defences Present : None known / Comments : N/A / Flood Assessment Recommended : No : / Water Resilient Measures Recommended : No	No	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0154	Advertisement Hoarding – land at entrance to Guildiehaugh Depot (opposite Tesco), Edinburgh Road, Bathgate	Contamination – no flood risk likely. Area to the south, no problems.	No	No	No	No additional information	None known	Med to High Flood Risk 1 in 200: No / Watercourse Catchment less than 3km <sup>2</sup> : No / Development will increase flood potential : No / Additional SEPA Information : No additional information / Formal Flood Defences Present : None known / Comments : N/A / Flood Assessment Recommended : No : / Water Resilient Measures Recommended : No	No	No
EOI-0155	Residential – Crofthead Centre, Dedridge, Livingston	No apparent issues.	No	No	No	No additional information	None known	There is a potential culverted watercourse near to the site. Investigation into the location of any culverts within the site is recommended.	No	No
EOI-0156	Residential – Craigsfarm, Craigshill (Site A), Livingston	No apparent issues	No	No	No	No additional information	None known	There is no requirement for a Flood Risk Assessment or Drainage Assessment for this site.	No	No
EOI-0157	Residential – Woodland Car Park, west of Civic Centre, Livingston	FRA required. Set back required to River Almond. and account taken of biodiversity and flood risk management.	Fluvial - majority	No	Yes	No additional information	None known	We require a FRA which assesses the flood risk from River Almond. There are upstream and downstream bridges which may exacerbate flood risk to the site. Development to the site is likely to be heavily constrained as majority of site within the Flood Map. We support the removal of this allocation.	Yes	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0158	Residential – Junction site, east Howden South Road, Livingston	FRA required. Set back required to River Almond. and account taken of biodiversity and flood risk management. Account should be taken of insitu SUDS system to east of the road bridge.	Fluvial - majority	No	No	No additional information	None known	We require a FRA which assesses the flood risk from River Almond. There are upstream and downstream bridges and a weir which may exacerbate flood risk to the site. Development to the site is likely to be heavily constrained. We support the removal of this allocation.	Yes	No
EOI-0159	Residential – Site west of Manitoba Avenue and Nelson Avenue, Howden South Road, Livingston	FRA required. Major flood risk issues drainage from north to south to road. There are also unchartered culverts throughout the site.	No	No	No	No additional information	None known	Med to High Flood Risk 1 in 200: No / Watercourse Catchment less than 3km <sup>2</sup> : No / Development will increase flood potential : No / Additional SEPA Information : No additional information / Formal Flood Defences Present : None known / Comments : N/A / Flood Assessment Recommended : No : / Water Resilient Measures Recommended : No	No	No
EOI-0160	Residential – Craigsfarm, Craigshill (Site B), Livingston	No significant issues. Med to High Flood Risk 1 in 200: No / Watercourse Catchment less than 3km <sup>2</sup> : No / Development will increase flood potential : No / Additional SEPA Information : No additional information / Formal Flood Defences Present : None known / Comments : N/A / Flood Assessment Recommended : No : / Water Resilient Measures Recommended : No	No	No	No	No additional information	None known	There is no requirement for either a Flood Risk Assessment or Drainage Assessment for this site.	No	No

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EOI-0161	Residential/ mixed use – Freeport Outlet Centre, Westwood, West Calder	A Flood Risk Assessment is required for this site. Parts of this site are susceptible to pluvial flooding. A Flood Risk Assessment would be required to how existing pluvial flood risk could be eliminated through effective engineering. The usual attenuation and treatment of runoff criteria would apply.	No	going through site	Yes	No additional information	None known	A Flood Risk Assessment is required for this site. There are various small watercourse within development site which are also culverted. Development will increase the risk of flood risk out with this site.	Yes	No
EOI-0162	Residential – Meadowpark, 13-15 Glasgow Road, Bathgate	A Flood Risk Assessment is required for this site. Meadow Place/Park has been previously under threat. This site is considered to be at serious risk from fluvial flooding. A Flood Risk Assessment would be required to determine whether there is any land capable of being developed without compromise to the functional flood plain. The usual attenuation and treatment of runoff criteria would apply. A FRA is required.	Fluvial - all	going through site	Yes	We conditioned that ground levels should not be raised below 134.94mAOD	None known	Should the application differ from what has been previously agreed we would object and require a FRA which assesses the flood risk from the Bathgate Water and the small watercourse which flows beneath the site.	Yes	Yes

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EOI-0163	Residential – Land at Napier Avenue, (housing allocation HBg24 in the adopted WLLP), Bathgate	Depending on culverting for drainage. This site is a concern. It is steep. There is a history of flooding as a result of runoff from the site. Drainage of surface water from the site depends on a culverted watercourse with potentially serious structural defects that the developer can expect to have to make good as part of the development proposal. The cumulative impact of additional development in this part of Bathgate is a concern given the extent of flooding in the centre of the town. A high level of attenuation and treatment of runoff criteria would need to apply if development of this site were forced through. A Flood Risk Assessment is required.	No	on boundary	Yes	Surface water flooding of nearby property in 1999.	None known	We were previously consulted on this allocation and highlighted the flood risk from the small watercourse. We require a FRA which considers the small watercourses and any culverts, within/ nearby the site.	Yes	No
EOI-0164	Employment/ hotel/leisure etc – Five Sisters Business Park, Westwood, West Calder	A Flood Risk Assessment is likely to be required but the council is not aware of any significant historical issues. No evidence of particular flood susceptibility. The usual attenuation and treatment of runoff criteria would apply.	No	on boundary	Yes	No additional information	None known	Complex hydrology due to being. Vast majority of development site developable	Yes	No



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EOI-0165	Residential/mixed use – Land at Kingsfield, Linlithgow	<p>Possible issues: Sherriff's Park development impacted on by farming developments. Caution required.</p> <p>Parts of this site are susceptible to pluvial flooding. A Flood Risk Assessment would be required to how existing pluvial flood risk could be eliminated through effective engineering. The usual attenuation and treatment of runoff criteria would apply.</p>	No	adjacent to site	No	No additional information	Formal scheme present in Linlithgow but not relevant to allocation	There is a small watercourse to the east of the site. Consideration should be given to whether any culverted watercourses are located on-site	No	No

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EOI-0166	Residential/mixed use – Land at Main Street, Dechmont	<p>Here is a culvert below the roundabout adjacent to this site and a former curling pond at roundabout junction. A stand off is required. A Flood Risk Assessment will therefore be required for this site.</p> <p>Parts of this site are also subject to pluvial flood risk. The site also depends on a culverted watercourse to drain surface water effectively. A Flood Risk Assessment would be required to demonstrate how existing pluvial flood risk could be eliminated through effective engineering and how any flooding associated with backing up at the culvert inlet might be accommodated without risk to the proposed development. The developer would also be required to assess the condition of the receiving culverted watercourse and may be required to invest in its upgrading if it is considered necessary by the council. The usual attenuation and treatment of runoff criteria would apply.</p>	No	going through site	Yes	Surface water issues recorded in 2001	None known	We require a FRA which assesses the flood risk from the Beugh Burn tributary. Consideration should be given to any culverted structures within or nearby the site which may exacerbate flood risk	Yes	No

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EOI-0167	Residential/ mixed use - Land at Clapperton, east of Pumpherston	FRA and DIA required. Historic and difficult issues of flooding from road to the north with run off north to south. Complex drainage area, flooding also occurs west to east towards Almondell. Agricultural land drainage issues also – particularly conveyancing to out with the site.	No	going through site	Yes	No additional information	None known	Number of small watercourses located within the development site and the main source of flooding likely to be from the Bank Burn which flows along the western boundary of the development site. Number of the watercourses are also culverted and it should be investigated as to whether the culvert can be opened up on the condition that it does not increase the risk of flooding to neighbouring areas. No development should occur on top of the culvert in line with SPP and PAN 69 guidance.	Yes	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0168	Residential - Land at Preston Farm Linlithgow	<p>A Flood Risk Assessment for this site is required.. There are issues of flooding associated with Donaldson's and would drain to the canal (involves cost).</p> <p>This site is particularly steep. Runoff from the site currently drains to the Preston Burn and Mains Burn where defences have been constructed. The site doesn't drain to the loch but the issue of wastewater and available sewer capacity still has the potential to cause an increase in the number of spills from the loch CSO so considerable caution is urged about bringing forward this site. There is scope for surface water to be directed to the Union Canal which would be ideal. From recollection of this site there is a small reservoir structure on the site. Consideration would need to be given as to how this would be dealt with. The usual attenuation and treatment of runoff criteria would apply.</p>	No	adjacent to site	Yes	Flooding along the Mains Burn recorded in 1998 and surface water issues recorded nearby in 2001 and 2008. Union Canal flows adjacent to development site and we would recommend contact is made with British Waterways to establish whether there is a risk of flooding.	Formal scheme present upstream of development site. Designed to a 1:200 year event. It is unclear what protection (if any) is provided to the allocation site.	We require a FRA which assesses the flood risk from the Preston Burn/ Mains Burn and the reservoir on site. Due to steep topography located to the north of the allocation, consideration should be given to surface runoff issues to ensure adequate mitigation is implemented.	Yes	Yes

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0169	Residential – Land adjacent to Pumpherston Road, Mid Calder	This site cannot be supported from the flood risk management perspective. Both the flood hazard maps and a previous detailed flood risk assessment commissioned by the landowner underline this.	Fluvial - majority	No	Yes	No additional information	None known	Review of the available topographic information, the site rises sharply along the eastern boundary of the development site hence why this areas is shown to be outwith the risk of flooding as shown on the Indicative River and Coastal Flood Map (Scotland). There is also a footbridge located at the downstream extent of the development site which would impact flood levels (the Indicative River and Coastal Flood Map (Scotland) has not taken structures into account when estimating flood risk). We have recommended removal of this allocation from the plan. A detailed flood risk assessment would have to be completed prior to the completion of the plan to show that this site is developable to enable SEPA to review its position. Completion of such a report may only serve to show that this site is undevelopable.	Yes	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0170	Residential – East Coxydene Farm, Wilkieston	A Flood Risk Assessment is required. No apparent significant issues however; but drainage issues expected with land although these should not be significant.  The flood hazard maps suggest a risk of flooding from out of bank flows in the burn at the north boundary of the site requiring a flood risk assessment and considerable set back to protect the inundation zone.	No	on boundary	Yes	No additional information	None known	Topographic survey has been provided alongside supporting documents which shows that the site rises up away from small watercourse. Have requested a FRA however provision of a legible topographic survey may suffice to understand the risk of flooding. Details of downstream culvert would also have to be provided	Yes	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0170A	Residential– Coxydene, Wilkieston	<p>A Flood Risk Assessment is required for this site as there area drainage issues and pumping of sewage septic tanks at north side of the village. There is a set back development from the Gogar Burn. Some flood risk from burn/drain to the north, so set back also required. (All Wilkieston Sites may be linked to East Calder sewage work, which may have pumping issues).</p> <p>This site on land forming part of Overshiel Farm is at risk of flooding. This is underlined by the flood hazard maps and detailed knowledge from a previous event. The cause of the flooding relates to a series of culverted watercourses through the site which are both expected to compromise the development potential of this site and one is at a depth where considerable geotechnical problems can be expected. If these issues can be successfully over come the usual treatment and attenuation criteria would apply.</p>	No	on boundary	Yes	Record of surface water flooding to road to west of development site. We hold no additional information and recommend contact with flood prevention officer at the council	None known	Small watercourse flows along northern and eastern boundary and recommend that an assessment is carried out. The watercourse may be culverted which should be assessed and where possible opened up. Incorporation of mitigation measures to eliminate the risk of flooding from surface water flooding. These should not increase the risk of flooding to neighbouring areas.	Yes	Yes

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0171	Residential – Milrig Holdings, Kirknewton	No apparent issues or complexity. Med to High Flood Risk 1 in 200: No / No issues or complexity. There is a pocket at the south-east corner of this site that appears to be susceptible to pluvial flooding. There is little doubt that this should be capable of being eliminated through effective engineering. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No additional information	None known	Med to High Flood Risk 1 in 200: No / Watercourse Catchment less than 3km <sup>2</sup> : No / Development will increase flood potential : No / Additional SEPA Information : No additional information / Formal Flood Defences Present : None known / Comments : N/A / Flood Assessment Recommended : No : / Water Resilient Measures Recommended : No	No	No



Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0172	Residential/ mixed use – Lammermuir, Owen Square, Livingston	<p>Site assessed previously for draft planning brief. Flooding from Kenilworth can be overcome. There is no requirement for a flood risk assessment however developers are advised that there is a history of flooding associated with the flow of surface water from Kenilworth Rise to the south of the site into the underpass beneath Dedridge East Road and onto the site of the former Lammermuir House. Developers will be required to have regard to this and mitigate the risk of flooding by routing this back to the watercourse</p> <p>There is some susceptibility to pluvial flooding caused by runoff from higher ground flowing on the remote footpath networks into the site. It should be possible to eliminate this issue through effective engineering. The usual attenuation and treatment of runoff criteria would apply.</p>	No	No	No	No additional information	None known	<p>Med to High Flood Risk 1 in 200: No / Watercourse Catchment less than 3km<sup>2</sup>: No / Development will increase flood potential : No / Additional SEPA Information : No additional information / Formal Flood Defences Present : None known / Comments : N/A / Flood Assessment Recommended : No : / Water Resilient Measures Recommended : No</p>	No	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0173	Residential/ Employment – Toll Roundabout, Livingston	FRA required. Issues of agricultural run off. Stand off required to river Almond at Almond Pools. Issue locally of flooding from previously mining land as mines flood over time.	Fluvial - part	No	Yes	No additional information	None known	We require a FRA which assesses the flood risk from the River Almond. There will likely be development constraints in the southern portion of the site.	Yes	No
EOI-0174	Residential – Bankton Playing Fields, Murieston West, Livingston	FRA required. Dedridge Burn runs beneath the site i.e. it is culverted. Flooding and drainage issues throughout the site. Also issue of large scale funding by council etc into Dedridge Burn green and blue network in this area.	No	going through site	Yes	No additional information	None known	We require a FRA which assesses the flood risk from the Dedridge Burn which is shown to be culverted through the middle of the site. We would highlight PAN 69 which states that “buildings must not be constructed over an existing drain (including a field drain) that is to remain active”. Site may be constrained due to flood risk.	Yes	No
EOI-0175	Residential – Carledubs, Uphall	Scottish Water system to the south. Mining issues causing problems of water quality and flooding in Uphall generally. A study for the north end of Uphall is being considered. This site - swales, picking up drainage ditches north/south through the site but careful consideration of SUDs/ flooding is required.	No	No	No	Record of surface water flooding by West Lothian council within the vicinity of the development site. We hold no additional information and recommend contact with flood prevention officer at the council	None known	Incorporation of mitigation measures to eliminate the risk of flooding from surface water flooding. These should not increase the risk of flooding to neighbouring areas.	No	Yes

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0176	Residential – Site east of Glen Road Junction, Nellburn, Deans, Livingston	FRA required. Nell Burn is culverted to the northeast of the site and flows in an open channel to the east of the site.	No	adjacent to site	No	Surface water issues recorded nearby in 2007, 2008 and 2009	None known	Nell Burn is culverted to the northeast of the site and flows in an open channel to the east of the site. The OS map indicates a sufficient height difference between the site and the watercourse.	No	No
EOI-0177	Residential – Field east of former Travelling Peoples site, Hardhill Road, Bathgate	No particular problems.	No	No	No	No additional information	None known	Med to High Flood Risk 1 in 200: No / Watercourse Catchment less than 3km <sup>2</sup> : No / Development will increase flood potential : No / Additional SEPA Information : No additional information / Formal Flood Defences Present : None known / Comments : N/A / Flood Assessment Recommended : No : / Water Resilient Measures Recommended : No	No	No
EOI-0178	Residential – Former Travelling Peoples site, Hardhill Road, Bathgate	No particular problems.	No	No	No	No additional information	None known	Med to High Flood Risk 1 in 200: No / Watercourse Catchment less than 3km <sup>2</sup> : No / Development will increase flood potential : No / Additional SEPA Information : No additional information / Formal Flood Defences Present : None known / Comments : N/A / Flood Assessment Recommended : No : / Water Resilient Measures Recommended : No	No	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0179	Residential – North of Deans Community High School, Deans, Livingston	This site is at risk of pluvial flooding caused by runoff from higher ground. It ought to be possible to minimise this problem through effective engineering though that will depend on Scottish water accepting land drainage which is currently contrary to its policies. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	Surface water issues recorded nearby in 2007, 2008, and 2009	None known	Med to High Flood Risk 1 in 200: No / Watercourse Catchment less than 3km <sup>2</sup> : No / Development will increase flood potential : No / Additional SEPA Information : Surface water issues recorded nearby in 2007, 2008, and 2009 / Formal Flood Defences Present : None known / Comments : N/A / Flood Assessment Recommended : No : / Water Resilient Measures Recommended : No	No	No
EOI-0180	Residential – rear of New Deans House, Glen Road, Deans, Livingston	FRA required.	No	No	No	No additional information	None known	Med to High Flood Risk 1 in 200: No / Watercourse Catchment less than 3km <sup>2</sup> : No / Development will increase flood potential : No / Additional SEPA Information : No additional information / Formal Flood Defences Present : None known / Comments : N/A / Flood Assessment Recommended : No : / Water Resilient Measures Recommended : No	No	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0181	Employment use (extend class 4 use to class 2 uses) – Rosebank, Kirkton Campus, Livingston	Flood risk on site can be mitigated. Killandean Burn may be pulled back, allocation to west and north. The layout of this site appears shaped to avoid susceptibility to fluvial flooding from the Killandean Burn. A Flood Risk Assessment will be required to determine that the exposure to risk from flooding has been taken into account in the layout. The functional flood plain must be protected from development. The usual attenuation and treatment of runoff criteria would apply.	Fluvial - small part	multiple watercourses through site	Yes	No additional information	None known	We require a FRA which assesses the flood risk from the Killandean Burn and the small watercourses that transect the site. Consideration should be given to any culverted structures within or nearby the site which may exacerbate flood risk.	Yes	No

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EOI-0182	Residential – Wester Inch, Bathgate	<p>There is a history of ground contamination on the site. A Flood Risk Assessment is required for this site. It is not impossible to address any issues however to enable the site to be developed.. Off site SUDS will however required (to South East).</p> <p>The flood hazard maps suggest that this site is susceptible to fluvial and pluvial flooding. There is some doubt as to the accuracy of this information; however which is thought to take little account of the Boghead Burn and Bog Burn flood Alleviation Schemes. A flood risk assessment will be required to determine the extent of the land capable of being developed. The usual attenuation and treatment of runoff criteria would apply.</p>	No	on boundary	Yes	The development on the opposite bank of the Bog Burn has been shown to increase the risk of flooding to the allocation side of the Bog Burn due to land-raising on the floodplain (0377/ ARM/09, PCS101188)	None known	We require a FRA which assesses the flood risk from the Bog Burn (taking into account the land-raising on the opposite bank), the Boghead Burn, and the small watercourse adjacent to the site. Most of the site is likely to be developable. Consideration should be given to any culverted structures within or nearby the site which may exacerbate flood risk.	Yes	No

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EOI-0183	Residential – Beechwood Road, Blackburn	A Flood Risk Assessment requires to be submitted for this site. The usual attenuation and treatment of runoff criteria would apply.	No	adjacent to site	Yes	Numerous surface water issues recorded in 2008 and 2009	None known	We would require a FRA which assesses the flood risk from the small watercourse to the east of the site allocation. Consideration should be given to any culverted structures within or nearby the site which may exacerbate flood risk.	Yes	No
EOI-0184	Residential/ mixed use – Clarendon House, 30 Manse Road, Linlithgow	Issue of potential cumulative impact downstream, but development on site could still be achieved. The site itself is not considered to be liable to flooding. However, the Council has only been required to maintain records since the end of 1997 of flood events affecting non-agricultural ground and any issues may not have come to its attention.  To help prevent the cumulative effects of surface water or an adverse impact downstream as a result of any proposed development, the developer will need to ensure that post-development run-off is attenuated. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No additional information	Formal scheme present in Linlithgow but not relevant to allocation	Consideration should be given to surface runoff issues to ensure adequate mitigation is implemented.	No	Yes

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0185	Residential/Local Neighbourhood Centre uses – Community Centre & site of former petrol filling station Ash Grove, Blackburn	No issues. No evidence of particular flood susceptibility . The usual attenuation and treatment of runoff criteria would apply.	No	No	No	Numerous surface water issues recorded in 2008 and 2009	None known	Consideration should be given to surface runoff issues to ensure adequate mitigation is implemented.	No	Yes
EOI-0186	Residential/Local Neighbourhood Centre uses – Parkhead, West Calder	A Flood Risk Assessment is required for this site. No significant issues that could not be overcome however to enable the site to be developed.  This site includes areas deemed susceptible to pluvial flooding. The developer may also be required to provide land and drainage infrastructure to help alleviate existing risk at Hermand Gardens and Harburn Drive. The usual attenuation and treatment of runoff criteria would apply	No	going through site	Yes	No additional information	None known	Watercourse is culverted beneath development site. Culverted within garden ground of property on Parkhead Crescent and appears as an open watercourse to the east of the development site. There should be no development on top of culvert to comply with SPP and PAN 69 guidance. May be opportunities to open up watercourse	Yes	No



Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0187	Residential – Trindleyknowe, Whitehill Road, Blackburn	No Flood Risk Assessment required, however, consideration should be given to surface runoff issues to ensure adequate mitigation is implemented.  No evidence of particular flood susceptibility. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	Numerous surface water issues recorded in 2008 and 2009	None known	Consideration should be given to surface runoff issues to ensure adequate mitigation is implemented.	No	Yes
EOI-0188	Residential (one unit) – 24 Royal Terrace, Linlithgow	The flood hazard maps suggest that this site is very susceptible to pluvial flooding and it is exacerbated by short-term lack of capacity in the sewer systems. The site doesn't drain to the loch but the issue of wastewater and available sewer capacity still has the potential to cause an increase in the number of spills from the loch CSO so considerable caution is urged about bringing forward this site. The usual attenuation and treatment of runoff criteria would, however, apply.	No	No	No	No additional information	Formal scheme present in Linlithgow but not relevant to allocation	Med to High Flood Risk 1 in 200: No / Watercourse Catchment less than 3km <sup>2</sup> : No / Development will increase flood potential : No / Additional SEPA Information : No additional information / Formal Flood Defences Present : Formal scheme present in Linlithgow but not relevant to allocation / Comments : N/A / Flood Assessment Recommended : No : / Water Resilient Measures Recommended : No	No	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0189	Town centre uses – Almondvale Stadium, Alderstone Road, Livingston	A Flood Risk Assessment required due to proximity of the River Almond if the site is to be redeveloped. No apparent issues however as site largely built out.	Fluvial - part	going through site	Yes	No additional information	None known	We require a FRA which assesses the flood risk from the River Almond and the small watercourse which flows through the south east corner of the site. Consideration should be given to any structures which may increase flood risk to the site.	Yes	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0190	Residential – land surrounding Breich, south of the A71	FRA required which assesses the flood risk from the Woodmuir Burn and small watercourses. Consideration should also be given to any culverted watercourses within/nearby the site. if site taken forward an FRA would be required. The SEPA comments on this site would be relevant. Med to High Flood Risk 1 in 200: Fluvial - part / Watercourse Catchment less than 3km <sup>2</sup> : going through site / Development will increase flood potential :Yes / Additional SEPA Information : No additional information / Formal Flood Defences Present : None known / Comments : We require a FRA which assesses the flood risk from the Woodmuir Burn and small watercourses. Consideration should also be given to any culverted watercourses within/nearby the site. / Flood Assessment Recommended :Yes : / Water Resilient Measures Recommended : No	Fluvial - part	going through site	Yes	No additional information	None known	We require a FRA which assesses the flood risk from the Woodmuir Burn and small watercourses. Consideration should also be given to any culverted watercourses within/ nearby the site.	Yes	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0191	Residential – Land north of Blackridge, Heights Road, Blackridge	<p>FRA required – A Flood Risk Assessment is required for this site. Significant flood risk issues as run off possible from adjacent fields, due to slope from north to south. Barbauchlaw Burn and culverts also potentially an issue.</p> <p>Although there is no risk of flooding to the site identified in the flood hazard maps, there is a history of flooding in Blackridge from higher ground and heavy soils. Effective drainage also depends on culverted watercourses and combined sewers some of which are in a frail condition and have a history of surcharging. Any proposal to develop this site may have to include for the upgrading of drainage infrastructure off site. The usual attenuation and treatment of runoff criteria would, however, apply.</p>	No	No	Yes	Numerous surface water issues recorded in general area in 2004, 2008 and 2009	None known	Consideration should be given to surface runoff issues to ensure adequate mitigation is implemented.	Yes	Yes

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0192	Residential – Land at Wyndford Brae, Philpstoun	A Flood Risk assessment is required for this site given the close proximity of the Pardovan Burn to the east of the site to determine if any part of this site can be developed.  This site is deemed susceptible to fluvial flooding from out of bank flows in the adjacent watercourse. A Flood Risk Assessment will be necessary to determine the extent of land available for development. The usual attenuation and treatment of runoff criteria would apply.	Fluvial - part	No	Yes	Record of surface water flooding by West Lothian council to west of the development site. We hold no additional information and recommend contact with flood prevention officer at the council	None known	Pardovan Burn flows along the eastern boundary and a degree of the site is at risk of flooding and therefore development will be constrained. Number of culverts/bridges within the vicinity of the development which will have to be taken into consideration. Should consider the risk of surface water flooding	Yes	Yes
EOI-0193	Residential/ mixed use – site west of Glendevon and south of Lampsindub, west of Winchburgh	Winchburgh Tunnel floods, being diverted along Bathgate. Culverts which would need to be opened, not aware of any specific issues.	No	No	No	No additional information	None known	Med to High Flood Risk 1 in 200: No / Watercourse Catchment less than 3km <sup>2</sup> : No / Development will increase flood potential : No / Additional SEPA Information : No additional information / Formal Flood Defences Present : None known / Comments : N/A / Flood Assessment Recommended : No : / Water Resilient Measures Recommended : No	No	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0194	Residential/ mixed use – Site east of Waterstone Farm and west of Glendevon, west of Winchburgh	Winchburgh Tunnel floods, being diverted along Bathgate. Culverts which would need to be opened, not aware of any specific issues.	No	No	No	No additional information	None known	Med to High Flood Risk 1 in 200: No / Watercourse Catchment less than 3km <sup>2</sup> : No / Development will increase flood potential : No / Additional SEPA Information : No additional information / Formal Flood Defences Present : None known / Comments : N/A / Flood Assessment Recommended : No : / Water Resilient Measures Recommended : No	No	No
EOI-0195	Residential/ mixed use – land at Trinlaymire Farm, east of Threemiletown	Drainage from roads goes into mineshafts and developer needs to be aware of this. There is however no requirement for a Flood Risk Assessment or Drainage Assessment for this site. The flood hazard maps don't show flood risk affecting this area but reference to the Scottish detailed Rivers network suggests that there may be culverts on the site and there will inevitably be land drainage which would need to be grouted. The usual attenuation and treatment of runoff criteria would apply. It is not clear how and to where this site would drain.	No	No	No	No additional information	None known	Med to High Flood Risk 1 in 200: No / Watercourse Catchment less than 3km <sup>2</sup> : No / Development will increase flood potential : No / Additional SEPA Information : No additional information / Formal Flood Defences Present : None known / Comments : N/A / Flood Assessment Recommended : No : / Water Resilient Measures Recommended : No	No	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0196	Residential/mixed use – Land at Fawnsark, north west of Winchburgh	FRA required	No	No	No	Union Canal flows through development site and we would recommend contact is made with British Waterways to establish whether there is a risk of flooding.	None known	Med to High Flood Risk 1 in 200: No / Watercourse Catchment less than 3km <sup>2</sup> : No / Development will increase flood potential : No / Additional SEPA Information : Union Canal flows through development site and we would recommend contact is made with British Waterways to establish whether there is a risk of flooding. / Formal Flood Defences Present : None known / Comments : N/A / Flood Assessment Recommended : No : / Water Resilient Measures Recommended : Yes	No	Yes
EOI-0197	Residential/mixed use – Land south of M9 motorway, south of Duntarvie Castle and north of Winchburgh	FRA required.	No	No	No	No additional information	None known	Site lies adjacent to flood outline but there is a significant height difference and as a result unlikely to be at risk of flooding.	No	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0198	Residential/ mixed use – Land west of Ross's Plantation, east of Winchburgh	It is likely that a Flood Risk Assessment would be required for this site given the SEPA comments. The Core Development Area Flood Risk Assessment would also assist in assessing the site. The usual attenuation and treatment of runoff criteria would apply.	Fluvial - part	going through site	Yes	Indicative River and Coastal Flood Map (Scotland) appears to be slightly wrong here as it follows the wrong watercourse as it should follow the Niddry Burn but doesn't.	None known	Appears to be a small watercourse that flows through the site which is culverted. Recommend that the culvert is opened up if possible. Another watercourse flows along southern boundary of the development site. Complex hydrology in this area.	Yes	No
EOI-0199	Residential/ mixed use – Land at Niddry Mains Golf Club, south east of Winchburgh	A Flood Risk Assessment is likely to be required for this site. The Core Development Area Flood Risk Assessment would assist in assessing the site. The north side of this site appears susceptible to fluvial flooding. The developer will be expected to carry out a flood risk assessment to determine the extent of land capable of being developed. The usual attenuation and treatment of runoff criteria would apply.	Fluvial - part	on boundary	Yes	Indicative River and Coastal Flood Map (Scotland) appears to be slightly wrong here as it follows the wrong watercourse. Flood outline correct along northern boundary but the Niddry Burn flows along eastern boundary of allocation but the flood map has not created an outline here when there is an element of flood risk.	None known	Review of the OS Maps it appears that there are a number of crossings which should be incorporated within the hydraulic model. Complex hydrology in this area due to previous alterations.	Yes	No



Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0200	Residential/ mixed use – Land at Middry Mains Bing, east of Winchburgh	A Flood Risk Assessment is likely to be required for this site. The Core Development Area Flood Risk Assessment would assist in assessing the site for flood risk. The usual attenuation and treatment of runoff criteria would apply.	No	adjacent to site	No	No additional information	None known	Small watercourse located just outwith the site boundary at North East corner. Unlikely to pose a significant flood risk however a flood risk assessment would be required to fully assess the risk of flooding. The watercourse enters a culvert adjacent to the development site and this should be incorporated and assessed in the FRA.	Yes	No
EOI-0201	Residential/ mixed use – Land north of Niddry Castle, south of Winchburgh	Core Development Area - Flood Risk Assessment would assist in assessing the site. A Flood Risk Assessment is likely to be required for the site. The usual attenuation and treatment of runoff criteria would apply.	Fluvial - part	No	Yes	No additional information	None known	Large number of crossings over the Niddry Burn which flows along the southern boundary presumably in association with golf course. All structures will have to be incorporated within the hydraulic model	Yes	No
EOI-0202	Residential/ mixed use – Land at Sewage work, south of Winchburgh	No evidence of particular flood susceptibility. The usual attenuation and treatment of runoff criteria would apply. It is noted that SEPA require a Flood Risk Assessment for this site.	Fluvial - part	No	Yes	Union Canal flows to the southern boundary of the development site. May wish to consider contacting British Waterways to establish whether there is a risk of flooding	None known	Niddry Burn flows through middle of the development site. Both culverts (Beneath Union Canal and Railway) should be incorporated within the hydraulic model. Majority of development site is developable.	Yes	Yes

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0203	Residential/ mixed use – Land north of Niddry Farm Cottages, south of Winchburgh	Flood Risk Assessment would assist in assessing the site. The usual attenuation and treatment of runoff criteria would apply.	Fluvial - part	No	Yes	Union Canal flows to the North boundary of the development site. May wish to consider contacting British Waterways to establish whether there is a risk of flooding	None known	Niddry Burn flows through northern part of the development site before being culverted beneath the Union Canal. Flood risk assessment should incorporate the two culverts (one beneath the B8020 & Union Canal).	Yes	Yes
EOI-0204	Residential/ mixed use – Land south of Niddry Farm Cottages, south of Winchburgh	No evidence of particular flood susceptibility. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No additional information	None known	N/A	No	No
EOI-0205	Residential/ mixed use – Land south Faucheldean, south west of Winchburgh	Given the proximity of the Niddry Burn along the northern boundary a Flood Risk Assessment is required for this site. The usual attenuation and treatment of runoff criteria would apply.	Fluvial - part	No	No	No additional information	None known	Niddry Burn flows along northern boundary of the development site. Bridge located just upstream of the development site and should be incorporated within any detailed modelling. Majority of the development site will be developable.	Yes	Yes
EOI-0206	Residential/ mixed use – Land south of the Dean, west of Winchburgh	A Flood Risk Assessment may be required for this site. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No additional information	None known	A Flood Risk Assessment may be required for this site. There is no requirement for a Drainage Assessment and there is no requirement for water resilient measures.	Yes	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0207	Golf course after restoration of Auldcaithie Landfill site, west of Winchburgh	No apparent issues other than those raised by SEPA (see further along the column)	Fluvial - small part	No	Yes	Union Canal flows to the North boundary of the development site. May wish to consider contacting British Waterways to establish whether there is a risk of flooding	None known	Very small portion of the development site shown to be at risk of flooding and as a result no request for FRA due to the proposed use (Golf Course). Instead recommend avoidance of development within North East boundary of site where watercourse is present	No	Yes
EOI-0208	Retail/mixed use – Buchanan House, Kirkton North Road, Livingston	The flood hazard map shows some pluvial flooding associated with this site. It anticipated that this can be eliminated by effective engineering. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	Surface water issues recorded in 2003 nearby	None known	N/A	No	No
EOI-0209	Residential - Buchanan House, Kirkton North Road, Livingston	The flood hazard map shows some pluvial flooding associated with this site. It anticipated that this can be eliminated by effective engineering. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	Surface water issues recorded in 2003 nearby	None known	N/A	No	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0210	Residential – Clarendon Farm south of Linlithgow	Issues – site at flood risk. FRA required.	No	going through site	Yes	Union Canal flows adjacent to development site and we would recommend contact is made with British Waterways to establish whether there is a risk of flooding.	Formal scheme present in Linlithgow but not relevant to allocation	We require a FRA which assesses the flood risk from the small watercourses that transect the site. Due to steep topography located to the north of the allocation, consideration should be given to surface runoff issues to ensure adequate mitigation is implemented.	Yes	Yes

ere are some potential flooding issues associated with this site in terms of flood risk.

Much of this site is within the Linlithgow Loch catchment. Development of the site has the potential to impact very negatively on Linlithgow Loch a body of water which is deteriorating from what was a mesotrophic loch to one that is currently eutrophic trending towards hyper-eutrophic. There are seasonal impacts on public health and public use of the loch for associated with extensive and long-lasting toxic algal blooms and the low oxygen conditions that this creates impacts on the ability of the loch to support fish. There have been a number of fish kills during the late summer. In summer 2013 much of the fish population was under significant visible stress and a large number of fish were killed.

If surface runoff were to be directed to the public sewer it would increase the risk of flooding to properties in the High Street and in the town bay of the loch due to the balancing function performed by the loch through a complex series of level controls. The loch is a heritage asset owned by Scottish Ministers and supports an important SSSI which is in a deteriorating condition. The implications for development of this site are serious. It is a very steep site. Surface runoff from the site would need to be subject to a particularly rigorous treatment and attenuation regime exceeding normal expectations. Preference would be for surface runoff to be directed to the canal. A high level of attenuation and treatment of runoff would apply.

The additional volume of wastewater generated by development also presents a serious risk assuming that it is to be directed to Linlithgow Bridge Wastewater Treatment Works. Already there are a number of spills from a combined sewer overflow into the loch which contributes to impaired water quality. An increase in the number of spills associated with additional volumes is unacceptable. There is also regular flooding in the High Street as a result of temporary lack of capacity in the combined sewer during periods of intense rainfall. Increasing the number of events of the extent of these events will not be acceptable.

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0211	Amendment to settlement envelope request – Land at Rhana Cottage, west of Armadale on A89 road to Blackridge	No specific issues, drainage difficulties, but these are being addressed. Requirements for SUDS and FRA.	No	No	No	No additional information	None known	There are uncertainties on the OS map regarding the location of a small watercourse. However, this allocation is shown to be a garden ground extension. Consideration should be given to any culverted structures nearby/within the site. Should an application be submitted for residential development we would recommend investigation into any potential culverts on-site and highlight PAN 69 which states that “buildings must not be constructed over an existing drain (including a field drain) that is to remain active.”	No	No
EOI-0212	Residential/ mixed use – Land north of Almondell Terrace, East Calder	THIS SITE HAS BEEN WITHDRAWN FROM THE PROCESS. However account should be taken of SEPA comments if the site is to be pursued. Parts of this site appear susceptible to pluvial flooding. It is anticipated that this could be eliminated through effective engineering. The usual attenuation and treatment of runoff criteria would apply						Unable to provide site specific comments as no allocation boundary provided. However, as an initial assessment of flood risk, consideration should be given to the River Almond to the northeast of the allocation and the small watercourse to the west of the allocation		

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA - FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0213	Residential/ mixed use – Land east of Almond Grove, East Calder	THIS SITE HAS BEEN WITHDRAWN FROM THE PROCESS. However account should be taken of SEPA comments if the site is to be pursued. Parts of this site appear susceptible to pluvial flooding. It is anticipated that this could be eliminated through effective engineering. The usual attenuation and treatment of runoff criteria would apply				Unable to provide site specific comments as no allocation boundary provided. However, as an initial assessment of flood risk, consideration should be given to the River Almond and a small watercourse to the northeast of the allocation. Consideration should be given to any culverted structures within or nearby the site which may exacerbate flood risk.				
EOI-0214	Cycling general issue – enhancement of cycling routes throughout West Lothian	N/A						General comments applicable as no site allocation provided. Consideration should be given to the flood risk associated with the cycle route located near to watercourses to ensure there is no loss of floodplain and raised paths do not exacerbate flood risk elsewhere.		
EOI-0215	Residential – Land at Blackhill Farm west of Breich	FRA required which assesses the flood risk from the Woodmuir Burn (the Woodmuir Burn is <3km <sup>2</sup> for part of the site. Consideration should also be given to any culverted watercourses within/ nearby the site. Could be significant agricultural run off also to the site.	Fluvial - small part	on boundary	Yes	No additional information	None known	We require a FRA which assesses the flood risk from the Woodmuir Burn (the Woodmuir Burn is <3km <sup>2</sup> for part of the site. Consideration should also be given to any culverted watercourses within/ nearby the site.	Yes	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0216	Mixed use – Land at Uphall Industrial Estate, south of the A89, south of Uphall	<p>Beugh Burn is in culvert under the Stankards Bing, with potential for collapse. Could develop downstream of culvert (east side).</p> <p>This site includes a long section where the Beugh Burn is culverted beneath Stankards Uphall East Bing. The culvert is in a poor condition. Collapse of the culvert would present a potentially serious flooding situation upstream affecting roads and infrastructure. It is suggested that development of this site should be conditional upon either day lighting of the culvert or its remediation. To the east the site is dissected by the Beugh Burn in open section. A Flood Risk Assessment would be required to determine the extent of land capable of being developed. There is also some pluvial flooding on the site. It should be possible to eliminate the latter through effective engineering. The usual attenuation and treatment of runoff criteria would apply.</p>	Fluvial - part	going through site	Yes	No additional information	None known	Beugh Burn culverted within development site and no development should occur on top of the culvert in line with SPP and PAN 69. Assessment into the feasibility of opening watercourse. Number of small watercourses which could be culverted within site should also be assessed in terms of flood risk	Yes	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0217	Provision of canal based moorings – Union Canal at Muirend Moorings, south of Uphall	Flooding/drainage issue at Muirend Cottage.	No	No	No	Adjacent to Union Canal. Presumably this proposals has been submitted by British Waterways. It is recommend advice is sought by them with regards to flood risk	None known	Med to High Flood Risk 1 in 200: No / Watercourse Catchment less than 3km <sup>2</sup> : No / Development will increase flood potential : No / Additional SEPA Information : Adjacent to Union Canal. Presumably this proposals has been submitted by British Waterways. It is recommend advice is sought by them with regards to flood risk / Formal Flood Defences Present : None known / Comments : N/A / Flood Assessment Recommended : No : / Water Resilient Measures Recommended : Yes	No	Yes
EOI-0218	Residential – Recreation Park, to the rear of Woodmuir Place, Breich	No apparent issues, site now being developed for Breich Primary School and has been assessed for flood risk.	Fluvial - part	No	Yes	No additional information	None known	We require a FRA which assesses the flood risk from the Woodmuir Burn. Consideration should also be given to any culverted watercourses within/ nearby the site.	Yes	No
EOI-0219	Residential – Site A, Rashiehill Terrace, Breich	FRA required which assesses the flood risk from the small drain to the east of the site allocation. Consideration should also be given to any culverted watercourses within/ nearby the site. There may be agricultural run off also.	No	on boundary	Yes	No additional information	None known	We require a FRA which assesses the flood risk from the small drain to the east of the site allocation. Consideration should also be given to any culverted watercourses within/ nearby the site.	Yes	No



Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0220	Residential – Site B, Rashiehill Terrace, Breich	No specific issues	No	No	No	No additional information	None known	Med to High Flood Risk 1 in 200: No / Watercourse Catchment less than 3km <sup>2</sup> : No / Development will increase flood potential : No / Additional SEPA Information : No additional information / Formal Flood Defences Present : None known / Comments : N/A / Flood Assessment Recommended : No : / Water Resilient Measures Recommended : No	No	No
EOI-0221	Residential – On existing employment allocation ELv24, in the adopted WLLP north of Houston Road, Livingston	FRA required. Issues historically of flash flooding to the site from the Nell Burn east of the site. Run off to the Eliburn reservoir to the south of the would need careful consideration as in recent times this has suffered from diffuse pollution.	No	on boundary	Yes	No additional information	None known	We require a FRA which assesses the flood risk from the Nell Burn that flows along the eastern perimeter of the site. Consideration should be given to any culverted structures within or nearby the site which may exacerbate flood risk.	Yes	No
EOI-0222	Employment (remove single user status and replace with general employment uses) - On existing employment allocation ELv25, in the adopted WLLP, Appleton Parkway, Livingston	No significant issues, but FRA still likely required. Watercourse to south end of the site and nearby Lochshot Burn west of the site.	Fluvial - small part	on boundary	Yes	No additional information	None known	We require a FRA which assesses the flood risk from the Lochshot Burn and the small watercourses that flow along the northern and eastern boundary of the site allocation. Consideration should be given to any culverted structures within or nearby the site which may exacerbate flood risk.	Yes	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EOI-0223	Employment (widen range of uses to include class 6 uses) - On existing employment allocation ELv26, in the adopted WLLP, Appleton Parkway, Livingston	FRA required. A Flood Risk Assessment is required given the proximity of the Lochshot Burn to the north of the site.	No	No	No	No additional information	None known	Med to High Flood Risk 1 in 200: No / Watercourse Catchment less than 3km <sup>2</sup> : No / Development will increase flood potential : No / Additional SEPA Information : No additional information / Formal Flood Defences Present : None known / Comments : N/A / Flood Assessment Recommended : No : / Water Resilient Measures Recommended : No	No	No
EOI-0224	Employment (widen range of uses to include class 6 uses) - On existing employment allocation ELv27, in the adopted WLLP, land north of Westcroft Court, Livingston	FRA required. Parts of this site appear susceptible to pluvial flooding. It is anticipated that this could be eliminated through effective engineering. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No additional information	None known	Med to High Flood Risk 1 in 200: No / Watercourse Catchment less than 3km <sup>2</sup> : No / Development will increase flood potential : No / Additional SEPA Information : No additional information / Formal Flood Defences Present : None known / Comments : N/A / Flood Assessment Recommended : No : / Water Resilient Measures Recommended : No	No	No
EOI-0225	Mixed use – Land at Wester Torrance Farm, Blackridge	FRA and DIA required, significant flood risk possible to this site, in particular to the western edge of the site.	No	on boundary	Yes	Surface water runoff in 2004 caused problems at a nearby culvert entrance.	None known	We require a FRA which assesses the flood risk from the small watercourses which flow along the southern boundary. Consideration should also be given any culverted watercourses within/nearby the site.	Yes	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
LATE-001	Mixed use – Land at Stonerigg Farm west of Armadale	FRA required, as per SEPA comments, which assesses the flood risk from the Black Moss Burn and tributaries. In addition, consideration should be given to any culverted structures within/nearby the site which may exacerbate flood risk. Consideration should be given to PAN 69 which states that “buildings must not be constructed over an existing drain (including a field drain) that is to remain active”. There will likely be development constraints due to flood risk.	No	multiple watercourses through site	Yes	Surface water flooding of nearby property in 2004, 2006 and 2007.	None known	We require a FRA which assesses the flood risk from the Black Moss Burn and tributaries. In addition, consideration should be given to any culverted structures within/nearby the site which may exacerbate flood risk. Consideration should be given to PAN 69 which states that “buildings must not be constructed over an existing drain (including a field drain) that is to remain active”. There will likely be development constraints due to flood risk.	Yes	No
LATE-002	Residential – Land to south of Station Road, Kirknewton	FRA required. Watercourse to the south of the site.	No	on boundary	Yes	Surface water issues recorded in 2001 at inlet of culvert downstream of site	None known	We require a FRA which assesses the flood risk from the small watercourse which flows along the southern boundary of the site. Consideration should be given to any culverted structures within or nearby the site which may exacerbate flood risk.	Yes	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
LATE-003	Mixed use – Land at Wester Torrance Farm, south of Blackridge	FRA required.	No	multiple	Yes	Surface water runoff in 2004 caused problems at a nearby culvert entrance.	None known	We require a FRA which assesses the flood risk from the small watercourses which flow through the site. Consideration should also be given any culverted watercourses within/ nearby the site.	Yes	No
LATE-004	Residential – Land north of Breich	FRA required.	No	No	No	No additional information	None known	Med to High Flood Risk 1 in 200: No / Watercourse Catchment less than 3km <sup>2</sup> : No / Development will increase flood potential : No / Additional SEPA Information : No additional information / Formal Flood Defences Present : None known / Comments : N/A / Flood Assessment Recommended : No : / Water Resilient Measures Recommended : No	No	No
LATE-005	Residential – Land at Benthead, Harthill Road, north of Fauldhouse	FRA required. Significant drainage issues, flooding from road to west of the site.	No	No	No	No additional information	None known	Med to High Flood Risk 1 in 200: / Watercourse Catchment less than 3km <sup>2</sup> : / Development will increase flood potential : / Additional SEPA Information : / Formal Flood Defences Present : / Comments : / Flood Assessment Recommended : : / Water Resilient Measures Recommended :	Yes	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
LATE-006	Residential – Land north of railway line and Rashiehill Terrace, Breich	FRA required.	No	No	No	No additional information	None known	Med to High Flood Risk 1 in 200: No / Watercourse Catchment less than 3km <sup>2</sup> : No / Development will increase flood potential : No / Additional SEPA Information : No additional information / Formal Flood Defences Present : None known / Comments : N/A / Flood Assessment Recommended : No : / Water Resilient Measures Recommended : No	No	No
LATE-007	Mixed use – Land at Blackburn Road, Bathgate	No evidence of particular flood susceptibility however it is noted that SEPA require a Flood Risk Assessment. There is a substantial culverted watercourse thought to pass beneath the south end of this site. Ideally this would be daylighted. Care would need to be taken not to build over this structure. This is a lengthy culvert which, ideally, would be day lighted. The usual attenuation and treatment of runoff criteria would apply.	No	culverted through site	Yes	N/A	None known	We require an FRA which assesses the flood risk from the Bog Burn which flows through the site. The applicant should be minded that PAN 69 states that “Buildings must not be constructed over an existing drain (including a field drain) that is to remain active.” The site may be constrained due to flood risk.	Yes	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
LATE-008	Residential– Land to north of Muirhousedykes, west of Loganlea	There is a Flood Risk Assessment required for this site Groundwater issues significant in the area.The usual attenuation and treatment of runoff criteria would apply.	No	No	No	Nearby record of surface water flooding in 2007. No further details provided.	None known	N/A	No	No
LATE-009	Residential – Land to west of Hartwood Road, West Calder	A Flood Risk Assessment is required for this site. Issues also of run off to public road would be unacceptable. Though this site is not shown to be at risk of flooding on the flood hazard maps we know from local knowledge that runoff from the site is a significant problem. There is also a history of flooding due to short-term lack of capacity in the public sewer. Considerable thought would need to be given as to how this site could be developed in the context of the aforementioned difficulties. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	We have nearby records of 12 homes being affected in 2001 by a surcharging culvert. Allocation not located adjacent to watercourse.	None known	N/A	No	No

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LATE-010	Mixed use- Land at Houston Mains Holdings, west of Uphall	Flood Risk Assessment (FRA) is required. There is already a FRA for the whole area. Some set back will also be required from burn to the south.  Parts of this site appear susceptible to pluvial flooding. It is anticipated that this could be eliminated through effective engineering. The usual attenuation and treatment of runoff criteria would apply. A flood protection scheme has been constructed in some susceptible parts of the town though not all. The design standard of the scheme will be undermined by continued development in what is already an over-developed catchment. A very high-spec SUDS system would be required if development of this were to be otherwise forced through.	Fluvial - small part	going through site	Yes	N/A	None known	We commented on the eastern area and had no objection (although a small area is within the flood map) as the proposed use was for a garden centre. As we have not commented on the remainder of the allocation we would require a FRA which assesses the flood risk from the small watercourses which flow through the site. In addition, should the development to the east differ from what we commented on in 2009 we would also require the flood risk from the Beugh Burn to be assessed.	Yes	No
LATE-011	Employment - Land at 8 Houston Mains Holdings, west of Uphall	A Flood Risk Assessment is required for this site.	No	adjacent to site	No	Record of flooding in 2001 adjacent to the site. No further information is provided and contact with WLC is recommended.	None known	Applicant may wish to consider the small drain located to the west of the development during the design phase.	No	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
LATE-012	Residential – Land to the rear of Craigrigg Cottages, Bridgehouse	FRA required. Parts of this site appear susceptible to pluvial flooding. It is anticipated that this could be eliminated through effective engineering. The usual attenuation and treatment of runoff criteria would apply.	No	on boundary	Yes	N/A	None known	We require a FRA which assesses the flood risk from the small watercourse which flows along the northern boundary of the site. Consideration should also be given to any culverts which may exacerbate flood risk.	Yes	No
LATE-013	Residential – Land at Boghall East, east of Boghall, Bathgate	A large part of this site is wet and very susceptible to flooding. There are thought to be few ways to overcome this problem. A Flood Risk Assessment would be required to determine the extent of the land capable of being developed. The usual attenuation and treatment of runoff criteria would apply.	No	on boundary	No	N/A	None known	We require a FRA which assesses the flood risk from the small watercourse which flows along the eastern boundary of the site. Consideration should also be given to the downstream culvert to ensure there is no risk of flooding to the site.	Yes	No
LATE-014	Residential / mixed use – former abattoir site, Whitburn Road, Bathgate	There is a significant part of this site considered at risk of flooding and there is a history of flooding on this site. A Flood Risk Assessment would be required to determine the extent of the land capable of being developed. The usual attenuation and treatment of runoff criteria would apply.	No	going through site	Yes	N/A	None known	We require a FRA which assesses the flood risk from the small watercourse which flows along the northern boundary of the site and is shown to be culverted through a housing development immediately to the east of the development boundary.	Yes	No



Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
PJ-001	Mixed use – Land at Whitrigg, south of A89, East Whitburn	Parts of this site appear susceptible to flooding from the adjacent watercourse. A Flood Risk Assessment would be required to determine the extent of the land capable of being developed. The usual attenuation and treatment of runoff criteria would apply.	No	adjacent to site	No	N/A	None known	We previously removed our objection to this site as we were satisfied that development would be located outwith the functional floodplain i.e. located well above a steep embankment. Should changes be made to the development site plan we would recommend that an updated FRA is produced to show that the development accords with the principles set out in SPP.	No	No
PJ-002	Residential – land on west side of Foulshiels Road, Stoneyburn	FRA required. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	N/A	None known	N/A	No	No
PJ-003	Residential – land west of Station Road, Addiewell	Parts of this site appear susceptible to flooding from the adjacent watercourse. A Flood Risk Assessment would be required to determine the extent of the land capable of being developed. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	N/A	None known	N/A	No	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
PJ-004	Murraysgate Industrial Estate, whutburn	<p>FRA required. The usual attenuation and treatment of runoff criteria would apply.</p> <p>The site has a history of flooding both within the site and immediately out with. It is understood there is a culvert passing beneath the site in a structurally poor condition. Any development of this site would require this to be investigated further and defects made good. It would be better if the culvert could be relocated into the public domain and opened up.</p> <p>The most recent information provided to the council by SEPA in terms of fluvial and pluvial flood hazard maps has been checked and although this information is raw data and still needs to be refined at this point there appears to be no cause for concern. (The site also requires to be subject to assessment of 2013 SEPA fluvial and pluvial maps).</p>	No	No	No	No	None known	There are several watercourse in the vicinity which appear to be culverted at points (unknown if any in the allocation boundary). The design and layout of the building may wish to consider surface water flooding from any surcharge culvert. The applicant should be minded that PAN 69 states that "Buildings must not be constructed over an existing drain (including a field drain) that is to remain active."	No	Yes

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
PJ-005	Residential – Land at Eagle Brae Depot, Livingston	No Flood Risk Assessment required (The site also requires to be subject to assessment of 2013 SEPA fluvial and pluvial maps).The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No	None known	There is a small watercourse to the north west of the site. SEPA have no evidence to suggest it flows through the site however the applicant should be minded that Planning Advice Note 69 'Planning for Flooding' states that "Buildings must not be constructed over an existing drain (including a field drain) that is to remain active."	No	There is no requirement for any buffer strip and there are no restoration opportunities.
PJ-006	Residential – Land at Burnhouse Farm, Dechmont	A significant part of this site is at serious risk of flooding. A Flood Risk Assessment would be required to determine the extent of the land capable of being developed. The usual attenuation and treatment of runoff criteria would apply	No	No	No	No	None known	SEPA require a Flood Risk Assessment which assesses the flood risk from the Brox Burn which flows along the southern extent of the allocation and therefore poses a level of fluvial flood risk to part of the site. Consideration should be given to any culverts located within or nearby the site to ensure flood risk is not increased elsewhere. Potential development of this allocation could increase the probability of flooding elsewhere unless appropriately mitigated.	Yes	The meandering of the Brox Burn watercourse to the south of the site could be an opportunity for restoration and a buffer strip between any development and the watercourse would require to be agreed with SEPA.

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PJ-007	Residential – Land at Croftfoot Farm, Fauldhouse	The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No	None known	There is a small watercourse which flows along the western and southern perimeter of the site boundary. However, the four plots (as indicated in the Site and Location Plan dated March 2010) are located away from the watercourse hence we do not object. Should the layout differ from what is proposed and the dwellings be located closer to the small watercourse we would require a Flood Risk Assessment.	Yes	No

Site ref	Proposed use and location	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
PJ-008	Employment – Land at Former Vion Plant, East Main Street, Broxburn	A significant part of this site is at serious risk of flooding from the adjacent Liggat Syke. A Flood Risk Assessment would be required to determine the extent of the land capable of being developed. There is also a history of surface water being discharged from this site onto the A8. The developer would be expected to develop a well considered engineering solution to overcome this problem development were to proceed. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No	None known	<p>A Flood Protection Scheme has been built downstream at Burnside. There is a wider scheme proposed however funding has not been secured. A flood outline for this reach of the Liggat Syke has been produced by Halcrow and shows the site is encroaching within the flood outline. It is not clear whether bridge blockage has been considered. The upstream culvert is also noted to be in a poor condition. Broxburn has a well documented history of flooding. Burnside which is downstream of the site was flooded in 2008. There is also a record of surface water flooding in 1999 adjacent to the site.</p> <p>SEPA require a FRA which takes into consideration the upstream culverted reach, downstream bridge capacity (and blockage potential), and any influence with the confluence of the Brox Burn downstream. The council may be able to provide more details on the flood risk associated with this site as numerous studies have been undertaken as part of the FPS.</p>	FRA required	No

Allocations continued from West Lothian Local Plan

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HAd4	Loganlea Crescent / Place, Addiewell	A, B. Wet Ground. Flood Risk Assessment required	A, B. Wet Ground. Flood Risk Assessment required Parts of this site appear susceptible to flooding from the adjacent watercourse. A Flood Risk Assessment would be required to determine the extent of the land capable of being developed. The usual attenuation and treatment of runoff criteria would apply.	No	Fluvial - small part	No	No	Record of nearby flooding in 2007. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that there is wet ground and a flood risk assessment is required. We support this. We require a FRA which assesses the flood risk from the Skolie Burn which flows along the western boundary of the site.	No
HAd6	Muirhousedykes Mains, Addiewell	Wet Ground. Flood Risk Assessment required	Wet Ground. Flood Risk Assessment required	N/A	No	No	No	None known	This site is largely complete, no requirement for any Flood Risk Assessment or Drainage Assessment for this site and there is no requirement for any water resilient measures to be introduced on the site.	Yes	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HAd7	Meadowhead Avenue (North), Addiewell	Flood Risk Assessment required	Flood Risk Assessment required Much of this site is at risk of flooding. There is some doubt that any of the site would be suit The usual attenuation and treatment of runoff criteria would apply able for development.	No	No	going through site	Yes	Record of flooding in 2007 adjacent to the site. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a flood risk assessment is required. We support this. We require a FRA which assesses the flood risk from the small watercourses that flow through the site.	No
HAm10	Heatherfield West, Armadale	Flood Risk Assessment required	Flood Risk Assessment required	N/A	No	No	No	None known	Flood Risk Assessment required	Yes	No
HAm8	Muirfield (North Street), Armadale	A, B. Site susceptible to flooding.	A, B. Site susceptible to flooding.	N/A	No	No	No	None known	A Flood Risk Assessment is required for this site.	Yes	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA - FRA recom'd?	SEPA - water resilient measures recom'd?
HAm12(C)	Nelson Park, Armadale	TBC – check application	This site is susceptible to pluvial flooding. Work undertaken by the adjacent house builder has alleviated much of the effect during normal weather conditions but the site may still be at risk from more severe storms. It is thought to be possible for this site to be developed by raising some of the levels in the park. Careful consideration will need to be given to the issue of surface water disposal, however. The usual attenuation and treatment of runoff criteria would apply.	N/A	No	No	No	Record of flooding in 2007 adjacent to the site. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	N/A	No
NH (CDA)	Tarrareoch CDA, Armadale	TBC – check	A Flood Risk Assessment is required for this site.	No	going through site	Yes	Record of flooding in 2004, and 2006 near to the site. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a drainage impact assessment and a flood risk assessment is required. We previously commented on this application and agreed to not object but require re-consultation at the design stage.	Yes	No



Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
TF (CDA)	Trees Farm CDA, Armadale	TBC – check application	A Drainage Impact Assessment and a Flood Risk Assessment is required. This site shows a number of hollows deemed susceptible to flooding. It is thought that these could potentially be engineered to avoid surface water accumulating there. The usual attenuation and treatment of runoff criteria would apply.	No	going through site	Yes	Record of flooding in 2004, and 2006 near to the site. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a drainage impact assessment and a flood risk assessment is required. We previously commented on this application and agreed to not object but require re-consultation at the design stage.	No	No
SN (CDA)	Standhill (North) CDA, Armadale	TBC – check application	A Flood Risk Assessment is required for this site. This site shows a very small hollow that is susceptible to flooding. This could potentially be engineered to avoid surface water accumulating there. The usual attenuation and treatment of runoff criteria would apply.	Fluvial - adjacent to	multiple watercourses through site	Yes	Record of flooding in 2007 and 2008 near to the site. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	We require a FRA which assesses the flood risk from the small watercourses which flows through the site. Consideration should be given to any culverts along this reach.	Yes	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
SS (CDA)	Standhill (South) CDA, Armadale	TBC – check application	A Flood Risk Assessment is required for this site. A very small part of this site close to the A89 is deemed at risk from pluvial flooding. The site also has some road drains in it but not placed such that they would significantly impact on the development potential of the site. The usual attenuation and treatment of runoff criteria would apply.	No	multiple watercourses through site	Yes	Record of flooding in 2007 and 2008 near to the site. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	We require a FRA which assesses the flood risk from the small watercourses which flows through the site. Based on the OS Map there is a potential culvert through the site. We would require investigation into the culverts. We would highlight PAN 69 which states that “buildings must not be constructed over an existing drain (including a field drain) that is to remain active”.	Yes	No
HBg22	Standhill, Bathgate	Flood risk assessment required.	Flood risk assessment required.	No	No	No	No	None known	Flood Risk Assessment required. There is no requirement for any Drainage Assessment	Yes	
HBg39	Wester Inch, Area O, Bathgate	TBC – check application	Flood risk assessment required and flood alleviation scheme that has been developed needs taken account of and protected. SUDs needs careful consideration.	No	No	No	No	None known	Flood Risk Assessment required and flood alleviation scheme that has been developed needs taken account of and protected. SUDs needs careful consideration.	Yes	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HBg24	Napier Avenue, Bathgate	A,B,C – History of flooding from this site. Possible actions required by developer both on and off site.	A,B,C – History of flooding from this site. Possible actions required by developer both on and off site. FRA required. Hillside run off also to a culverted system. in particular there must be a 3m buffer between the ditch at the eastern end of the site and the development.	No	No	No	No	None known	A Flood Risk Assessment is required for this site, given what the council state in their response.	Yes	No
HBg37	Factory Road, Bathgate	TBC – check application	Site completed – remove, there was no requirement for any Flood Risk Assessment on this site and the only comments were that surface water required to be attenuated by means of SUDs	No	No	No	No	None known	This site has been developed following the granting of planning permission under ref 1226/03	No	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HBg30	Little Boghead (6)(Phase1), Bathgate	A,B,C,D. Drainage impact assessment required History of nearby flooding from obstructed culvert Flood risk assessment required Action likely to be required by developer on and off site Possible risk from adjacent bodies of water in nature park Further details in planning brief	A,B,C,D. Drainage impact Assessment required History of nearby flooding from obstructed culvert Flood risk assessment required Action likely to be required by developer on and off site Possible risk from adjacent bodies of water in nature park Further details in planning brief Much of the northern half of this site is deemed to be at risk of pluvial flooding. There is also a history of some limited fluvial flooding associated with obstruction of a culverted watercourse. A Flood Risk Assessment will be required to demonstrate the extent of the risk and identify how development could successfully be integrated. The usual attenuation and treatment of runoff criteria would apply.	No	on boundary	Yes	No	None known	Information provided from the council states that a drainage impact assessment and a flood risk assessment is required. There is a history of nearby flooding from obstructed culvert. Also, there is a possible risk from adjacent bodies of water in nature park. The report states that action is likely to be required by the develop on and off site. We have commented on this site previously and part (approximately half) is developable. We are unlikely to support further development towards the small watercourse without additional assessments and improvement of the current situation.	No	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HBg51	Kaim Park Hotel Grounds, Bathgate	TBC – check application	FRA required – drainage and porosity issues. constraint but development of site is not unsurmountable.	No	No	No	No	None known	A Flood Risk Assessment is required for this site. There is no requirement for a Drainage Assessment and there are no water resilient measures required for this site.	Yes	No
HBg29	Easton Road (Former Sibcas Site), Bathgate	TBC – check application	A Flood Risk Assessment and Drainage Impact Assessment are required. Culvert at eastern end of site with structural issues.	Fluvial - small part	adjacent to site	Yes	Record of flooding in 2001 and 2003 adjacent to the site. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	We require a FRA which assesses the flood risk from the Bathgate Water which flows along the eastern and northern boundary of the site. The river is culverted in places.	No	No
HBg45	Jarvey Street, Bathgate	Drainage Impact Assessment required	A Drainage Impact Assessment required	No	No	No	No	None known	There is no requirement for any Flood Risk Assessment for this site. A Drainage Impact Assessment is required for this site. There are no water resilient measures required for this site.	Yes	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HBg41	Pentland Avenue, Bathgate	Wet ground Drainage impact assessment required Flood risk assessment required Opportunity to dispose of surface water via swale to east The usual attenuation and treatment of runoff criteria would apply.	Wet ground Drainage impact assessment required Flood risk assessment required Opportunity to dispose of surface water via swale to east The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No	None known	Information provided from the council states that there is wet ground and a drainage impact assessment and a flood risk assessment are required. There is opportunity to dispose of surface water via swale to the east. We are unaware of any flood risk issues for this site.	No	Yes
HBg43a	Main Street, Bathgate	Drainage impact assessment required	Drainage impact assessment required	No	No	No	No	None known	Information provided from the council states that a drainage impact assessment is required	No	No
HBg29	Easton Road (Former Sibcas Site), Bathgate	TBC – check application	A Flood Risk Assessment is required for this site. This site shows a number of hollows deemed susceptible to flooding. It is thought that these could potentially be engineered to avoid surface water accumulating there. The usual attenuation and treatment of runoff criteria would apply.	Fluvial - small part	adjacent to site	Yes	Record of flooding in 2001 and 2003 adjacent to the site. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	We require a FRA which assesses the flood risk from the Bathgate Water which flows along the eastern and northern boundary of the site. The river is culverted in places.	Yes	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HBg48	Edgar Allen Works, Whitburn Road, Bathgate	Flood risk assessment required	Flood risk assessment required	No	No	No	No	None known	Flood Risk Strategy and assessment accompanied applications 1119/P/03 and 551/FUL/09	Yes	No
HBg47	Windyknowe/ Glasgow Road, Bathgate	Flood risk assessment required This site includes a low area at risk of pluvial flooding. It is thought that these could potentially be engineered to avoid surface water accumulating there. The usual attenuation and treatment of runoff criteria would apply.	Flood risk assessment required. This site includes a low area at risk of pluvial flooding. It is thought that these could potentially be engineered to avoid surface water accumulating there. The usual attenuation and treatment of runoff criteria would apply.	No	going through site	Yes	Record of flooding in 2008 adjacent to the site. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Based on the OS Map there is a potential culvert through the site. We would require investigation into the culverts. We would highlight PAN 69 which states that "buildings must not be constructed over an existing drain (including a field drain) that is to remain active".	No	No
HBb18	Bathgate Road, Blackburn	Drainage impact assessment	Drainage impact assessment required. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	Record of flooding in 2008 and 2009 adjacent to the site. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a drainage impact assessment is required	No	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HBb2	Daisyhill Road, Blackburn	TBC – check application	FRA required. check needed on if site has been developed – site developed – remove.	No	No	No	Record of flooding in 2008 and 2009 adjacent to the site. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	A FRA was required for this site which has now been developed under application ref: 1270/05	Yes	No
HBb5	Redhouse (West), Blackburn	Flood risk assessment required No significant issues - allocated site. The southern boundary of the site is susceptible to fluvial flooding. A Flood Risk Assessment will be required to demonstrate the extent of any risk. Development will only be permitted in that part of the site deemed to be out with the fluvial flood zone. The usual attenuation and treatment of runoff criteria would also apply.	Flood risk assessment required. This site shows a low area deemed susceptible to flooding. It is thought that these could potentially be engineered to avoid surface water accumulating there. The usual attenuation and treatment of runoff criteria would apply.	Fluvial - adjacent to	No	Yes	Record of flooding in 2008 and 2009 adjacent to the site. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a flood risk assessment is required. Should a FRA be submitted we would recommend it assesses the flood risk from the River Almond	No	No



Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HBb16	Beechwood Road, Blackburn	A, B Drainage impact assessment required	A, B Drainage impact assessment required  A significant part of this site is deemed at risk of flooding. It might be possible to overcome this risk through engineering to prevent the accumulation of surface water. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	Record of flooding in 2008 and 2009 adjacent to the site. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a drainage impact assessment is required	No	No
HBb6	Riddochhill Road, Blackburn	A, B, C, D Drainage Impact Assessment Required Flood risk assessment required	A, B, C, D Drainage Impact Assessment Required Flood risk assessment required  Part of this site appears to be at risk from fluvial flooding. A flood risk assessment will be required to determine the extent to which the site is capable of being developed without compromise to the risk that has been identified. The usual attenuation and treatment of runoff criteria would apply.	Fluvial - part	adjacent to site	Yes	Record of flooding in 2008 and 2009 adjacent to the site. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a drainage impact assessment and a flood risk assessment is required. We support this. We require a FRA which assesses the flood risk from the River Almond. Site is likely heavily constrained due to flood risk.	No	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HBb10	West Main Street (West), Blackburn	A, B Drainage impact assessment required	A, B Drainage impact assessment Required The usual attenuation and treatment of runoff criteria would apply.	No	Fluvial - adjacent to	No	No	Record of flooding in 2008 and 2009 adjacent to the site. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a drainage impact assessment is required	No
HBb11	West Main Street (East), Blackburn	A, B Drainage impact assessment required	A, B Drainage impact assessment Required The usual attenuation and treatment of runoff criteria would apply.	No	Fluvial - adjacent to	No	No	Record of flooding in 2008 and 2009 adjacent to the site. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a drainage impact assessment is required	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HBb19	Ash Grove East , Blackburn	Drainage impact assessment	Drainage impact assessment required  A very small area of this site at the road junction is at risk from pluvial flooding. Otherwise, the usual attenuation and treatment of runoff criteria would apply.	No	No	No	No	Record of flooding in 2008 and 2009 adjacent to the site. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a drainage impact assessment is required. Consideration should be given to the small pond adjacent to the site	No
HBr5	Harthill Road, Blackridge	TBC – check application	A Flood Risk Assessment is required for this site that considers Flood Risk from the Barbauchlaw Burn  Part of this site is at risk from fluvial flooding caused by out of bank flows in the watercourse but has been partially built out respecting this phenomenon. There is also a small hollow where surface water accumulates. It thought that this can be mitigated through engineering design. For the part of the site that has not been developed the usual attenuation and treatment of runoff criteria would apply.	Fluvial - part	No	Yes	Record of flooding in 1997, 2004 and 2008 adjacent to the site. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	We require a FRA which assesses the flood risk from the Barbauchlaw Burn which flows through the site. Commented on small part of site and did not object but recommended conditions. We require additional information for the whole site.	No	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HBr6	Harthill Road, Blackridge	TBC – check application	REMOVE – SITE COMPLETED	No	No	No	Record of flooding in 2009 adjacent to the site. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a flood risk assessment is required. We are unaware of any flood risk issues for this site.	No	No
HBr9	Woodhill Road, Blackridge	Flood risk assessment required	Flood risk assessment required The usual attenuation and treatment of runoff criteria would apply.	No	No	No	Record of flooding in 2009 adjacent to the site. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a flood risk assessment is required. We are unaware of any flood risk issues for this site.	No	No
HBr5b	Westcraigs Road, Blackridge	TBC – check application	We require a FRA which assesses the flood risk from the Barbauchlaw Burn which flows through the site. Commented on small part of site and did not object but recommended conditions. We require additional information for the whole site.	Fluvial - part	No	Yes	Record of flooding in 1997, 2004 and 2008 adjacent to the site. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	We require a FRA which assesses the flood risk from the Barbauchlaw Burn which flows through the site. Commented on small part of site and did not object but recommended conditions. We require additional information for the whole site.	No	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HBr8	Craiginn Terrace, Blackridge	Flood risk assessment Required An environmentally sustainable Engineering solution to the flooding issue to be agreed in consultation with SEPA, before planning permission is granted DIA and WIA carried out. Results conclude that the first two phases can proceed prior to upgrade of Waste Water treatment works Phase 3 may need further upgrade	Flood risk assessment Required An environmentally sustainable Engineering solution to the flooding issue to be agreed in consultation with SEPA, before planning permission is granted DIA and WIA carried out. Results conclude that the first two phases can proceed prior to upgrade of Waste Water treatment works Phase 3 may need further upgrade There is a significant risk of flooding from out of bank flows in the watercourse and potential backing up upstream of structures in the watercourse. A flood risk assessment will be required to determine the extent to which the site is capable of being developed without compromise to the risk that has been identified. The usual attenuation and treatment of runoff criteria would apply.	Fluvial - part	on boundary	Yes	Record of flooding in 1997, 2004 and 2008 adjacent to the site. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a flood risk assessment is required. An environmentally sustainable engineering solution to the flooding issue to be agreed in consultation with SEPA, before planning permission is granted. We require a FRA which assesses the flood risk from the Barbauchlaw Burn which flows through the site. We are unlikely to support development on functional floodplain at this site hence site likely to be constrained due to flood risk.	No	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HBc3	Rashiehill Crescent, Breich	A, B Flood Risk Assessment required	The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No	None known	Information provided from the council states that a flood risk assessment is required. We are unaware of any flood risk issues for this site.	No	No
HBc6	Woodmuir Road (East), Breich	Flood Risk Assessment required	There is a significant risk of flooding from out of bank flows in the watercourse. A flood risk assessment will be required to determine the extent to which the site is capable of being developed without compromise to the risk that has been identified. The usual attenuation and treatment of runoff criteria would apply.	Fluvial - part	No	No	No	None known	Information provided from the council states that a flood risk assessment is required. We did not object subject to conditions when previously consulted.	No	No
HBd1	Woodside , Bridgend	A,B,C Flood Risk Assessment required	A,B,C Flood Risk Assessment required	Fluvial - part	No	Yes	No	None known	Information provided from the council states that a flood risk assessment is required. We support this. We require a FRA which assesses the flood risk from the Haugh Burn which flows past the site. Site likely to be constrained due to flood risk.	No	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HBd2	Willowdean (South), Bridg end	A,B, Flood Risk Assessment required	A,B, Flood Risk Assessment required The usual attenuation and treatment of runoff criteria would apply.	No	adjacent to site	No	No	None known	Information provided from the council states that a flood risk assessment is required. We are unaware of any flood risk issues for this site.	No	No
HUB 20 part	Holmes North (Site A), Broxburn/ Uphall.	TBC – check application	Flood Risk Assessment required	Fluvial - majority	No	Yes	Broxburn experienced widespread flooding in 2008. The council commissioned Halcrow to undertake a study along the Brox Burn. There is a FPS proposed for Broxburn but completion date is unknown	Formal scheme present in Broxburn but not relevant to allocation	The council have requested a FRA for a site immediately adjacent to this one. Therefore, we require a FRA which assesses the flood risk from the Brox Burn. Site is likely constrained due to flood risk.	No	No
HUB29	Holmes North (Site C), Broxburn/ Uphall.	Flood Risk Assessment required	Flood Risk Assessment required	Fluvial - adjacent to watercourse	No	No	Broxburn experienced widespread flooding in 2008. The council commissioned Halcrow to undertake a study along the Brox Burn. There is a FPS proposed for Broxburn but completion date is unknown	Formal scheme present in Broxburn but not relevant to allocation	Information provided from the council states that a flood risk assessment is required. Based on Halcrow report the site is outwith the 1:200 year flood extent	No	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HLv130	Former Uphall Station Infant School, Broxburn/ Uphall.	Drainage Impact Assessment required. Possible culvert	Drainage Impact Assessment required. Possible culvert	No	No	No	No	None known	This site has been developed under application reference 0740/FUL/10 and is no longer relevant. A FRA was submitted with the application	Yes	No
HUB13	Holmes North (Site B), Broxburn/ Uphall.	Flood Risk Assessment required	Flood Risk Assessment required There is a significant risk of flooding from out of bank flows in the watercourse. A flood risk assessment will be required to determine the extent to which the site is capable of being developed without compromise to the risk that has been identified. The usual attenuation and treatment of runoff criteria would apply.	Fluvial - majority	No	Yes	Broxburn experienced widespread flooding in 2008. The council commissioned Halcrow to undertake a study along the Brox Burn. There is a FPS proposed for Broxburn but completion date is unknown	Formal scheme present in Broxburn but not relevant to allocation	Information provided from the council states that a flood risk assessment is required. We support this. We require a FRA which assesses the flood risk from the Brox Burn. Site is likely constrained due to flood risk.	No	No
HUB12	Greendykes Road, Broxburn/ Uphall.	Flood Risk Assessment required	Flood Risk Assessment required	No	No	No	Extensive flooding in nearby Broxburn in 2008. Union Canal flows next to development site and we would recommend contact is made with British Waterways to establish whether there is a risk of flooding.	None known	Information provided from the council states that a flood risk assessment is required. Consideration should be given to the potential flood risk from the Union Canal and the incorporation of flood mitigation measures.	No	Yes



Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HUB15	Albyn , Broxburn/ Uphall.	Flood Risk Assessment required	Flood Risk Assessment required	No	No	No	Extensive flooding in nearby Broxburn in 2008. Union Canal flows next to development site and we would recommend contact is made with British Waterways to establish whether there is a risk of flooding.	None known	Information provided from the council states that a flood risk assessment is required. Consideration should be given to the potential flood risk from the Union Canal and the incorporation of flood mitigation measures.	No	Yes
HUB28	Bridge Place (West), Broxburn/ Uphall.	Flood Risk Assessment required	Flood Risk Assessment required There is a significant risk of pluvial flooding affecting part of this site along its street frontage. It is doubtful that engineering of the land can alleviate this risk but it might be possible to raise the solum of the building and use appropriate design and construction techniques to ensure that the properties are not at risk. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	Extensive flooding in nearby Broxburn in 2008. Union Canal flows near to development site and we would recommend contact is made with British Waterways to establish whether there is a risk of flooding.	Formal scheme present in Broxburn but not relevant to allocation	Information provided from the council states that a flood risk assessment is required. Consideration should be given to the potential flood risk from the Union Canal and the incorporation of flood mitigation measures.	No	Yes

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HBc5	Woodmuir Road (West), Breich	TBC – check application	Remove – individual plotted site now largely completed.	NO	No	No	No	None known	This plotted site has been largely completed.	No	No
HBc3	Rashiehill Crescent, Breich	A, B Flood Risk Assessment required	A, B Flood Risk Assessment required	No	No	No	No	None known	Information provided from the council states that a flood risk assessment is required. We are unaware of any flood risk issues for this site.	No	No
HBc6	Woodmuir Road (East), Breich	Flood Risk Assessment required	Flood Risk Assessment required	Fluvial - part	No	No	No	None known	Information provided from the council states that a flood risk assessment is required. We did not object subject to conditions when previously consulted.	No	No
HBd1	Woodside, Bridgend	A, B, C Flood Risk Assessment required	A, B, C Flood Risk Assessment required	Fluvial - part	No	Yes	No	None known	Information provided from the council states that a flood risk assessment is required. We support this. We require a FRA which assesses the flood risk from the Haugh Burn which flows past the site. Site likely to be constrained due to flood risk.	No	No
HBd2	Willowdean (South), Bridgend	A, B Flood Risk Assessment required	A, B Flood Risk Assessment required	No	adjacent to site	No	No	None known	Information provided from the council states that a flood risk assessment is required. We are unaware of any flood risk issues for this site.	No	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HUB 20 part	Holmes North (Site A), Broxburn/Uphall	TBC – check application	A Flood Risk Assessment is required for this site.	Fluvial - majority	No	Yes	Broxburn experienced widespread flooding in 2008. The council commissioned Halcrow to undertake a study along the Brox Burn. There is a FPS proposed for Broxburn but completion date is unknown	Formal scheme present in Broxburn but not relevant to allocation	The council have requested a FRA for a site immediately adjacent to this one. Therefore, we require a FRA which assesses the flood risk from the Brox Burn. Site is likely constrained due to flood risk.	No	No
HUB29	Holmes North (Site C), Broxburn/Uphall	Flood Risk Assessment required	Flood Risk Assessment required  There is a significant risk of flooding from out of bank flows in the watercourse. A flood risk assessment will be required to determine the extent to which the site is capable of being developed without compromise to the risk that has been identified. The usual attenuation and treatment of runoff criteria would apply.	Fluvial risk	No	No	Broxburn experienced widespread flooding in 2008. The council commissioned Halcrow to undertake a study along the Brox Burn. There is a FPS proposed for Broxburn but completion date is unknown	Formal scheme present in Broxburn but not relevant to allocation	Information provided from the council states that a flood risk assessment is required. Based on Halcrow report the site is outwith the 1:200 year flood extent	No	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HUB13	Holmes North (Site B), Broxburn/Uphall	Flood Risk Assessment required	Flood Risk Assessment required	Fluvial - majority	No	Yes	Broxburn experienced widespread flooding in 2008. The council commissioned Halcrow to undertake a study along the Brox Burn. There is a FPS proposed for Broxburn but completion date is unknown	Formal scheme present in Broxburn but not relevant to allocation	Information provided from the council states that a flood risk assessment is required. We support this. We require a FRA which assesses the flood risk from the Brox Burn. Site is likely constrained due to flood risk.	No	No
HUB12	Greendykes Road, Broxburn/Uphall	Flood Risk Assessment required	Flood Risk Assessment required	No	No	No	Extensive flooding in nearby Broxburn in 2008. Union Canal flows next to development site and we would recommend contact is made with British Waterways to establish whether there is a risk of flooding.	None known	Information provided from the council states that a flood risk assessment is required. Consideration should be given to the potential flood risk from the Union Canal and the incorporation of flood mitigation measures.	No	Yes
HUB15	Albyn , Broxburn/Uphall	Flood Risk Assessment required	Flood Risk Assessment required	No	No	No	Extensive flooding in nearby Broxburn in 2008. Union Canal flows next to development site and we would recommend contact is made with British Waterways to establish whether there is a risk of flooding.	None known	Information provided from the council states that a flood risk assessment is required. Consideration should be given to the potential flood risk from the Union Canal and the incorporation of flood mitigation measures.	No	Yes

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HUB28	Bridge Place (West), Broxburn/ Uphall	Flood Risk Assessment required	Flood Risk Assessment required	No	No	No	Extensive flooding in nearby Broxburn in 2008. Union Canal flows near to development site and we would recommend contact is made with British Waterways to establish whether there is a risk of flooding.	Formal scheme present in Broxburn but not relevant to allocation	Information provided from the council states that a flood risk assessment is required. Consideration should be given to the potential flood risk from the Union Canal and the incorporation of flood mitigation measures.	No	Yes
GW, Broxburn East CDA	Greendykes Road (West)	TBC – check application	Requires a Flood Risk Assessment which assesses the flood risk from the small watercourse which flows through the site.  This site includes a few low areas where surface water can accumulate. It is thought that these could potentially be engineered to avoid surface water accumulating. There is also a history of surface water running off this site and inundating Greendykes Road. Drains leave the south-east corner of the site and pass beneath Greendykes Road connecting with a pipe which discharges to the canal. The usual attenuation and treatment of runoff criteria would apply.	No	going through site	Yes	Broxburn experienced widespread flooding in 2008. The council commissioned Halcrow to undertake a study along the Brox Burn. There is a FPS proposed for Broxburn but completion date is unknown	Formal scheme present in Broxburn but not relevant to allocation	We require a FRA which assesses the flood risk from the small watercourse which flows through the site.	No	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
WW, Broxburn East CDA	West Wood	TBC – check application	Requires a Flood Risk Assessment (FRA) which assesses the flood risk from the small watercourse which flows through the site. Consideration should be given to any culverts along this reach of the small watercourse  This site includes a few low areas where surface water can accumulate. It is thought that these could potentially be engineered to avoid surface water accumulating. The usual attenuation and treatment of runoff criteria would apply.	No	going through site	Yes	Extensive flooding in nearby Broxburn in 2008. Union Canal flows next to development site and we would recommend contact is made with British Waterways to establish whether there is a risk of flooding.	Formal scheme present in Broxburn but not relevant to allocation	We require a FRA which assesses the flood risk from the small watercourse which flows through the site. Consideration should be given to any culverts along this reach of the small watercourse	No	No
GE, Broxburn East CDA	Greendykes Road (East)	TBC – check application	There is no requirement for any Flood Risk Assessment or Drainage Assessment for this site.  This site includes a few low areas where surface water can accumulate. It is thought that these could potentially be engineered to avoid surface water accumulating. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No	Formal scheme present in Broxburn but not relevant to allocation	N/A	No	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
GI, Broxburn East CDA	Greendykes Industrial Estate	TBC – check application	<p>Extensive flooding in nearby Broxburn in 2008. Union Canal flows next to development site and we would recommend contact is made with Scottish Waterways to establish whether there is a risk of flooding.</p> <p>This site includes a few low areas where surface water can accumulate. It is thought that these could potentially be engineered to avoid surface water accumulating. The usual attenuation and treatment of runoff criteria would apply.</p>	No	adjacent to site	No	Extensive flooding in nearby Broxburn in 2008. Union Canal flows next to development site and we would recommend contact is made with British Waterways to establish whether there is a risk of flooding.	Formal scheme present in Broxburn but not relevant to allocation	N/A	No	No
AD, Calderwood CDA	Almondell	TBC – check application	<p>No Flood Risk Assessment is required for this site. The submitted Overall Surface Water Strategy report is generally acceptable. Planning conditions shall be used to secure implementation of SUDS.</p>	No	No	No	No	None known	<p>Support the SUDS strategy for this site as submitted with planning application 0524/P/09 and accept that there is no flood risk.</p> <p>Require a detailed site investigation of the cemetery site to demonstrate its suitability.</p>	No	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA - FRA recom'd?	SEPA - water resilient measures recom'd?
RW, Calderwood CDA	Raw Holdings	TBC – check application		No	going through site	Yes	Record of flooding in Fauldhouse in 2007 and 2008 adjacent to the site. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	We require a FRA which assesses the flood risk from the small watercourse which flows through the site. Consideration should be given to any culverts along this reach of the small watercourse. As no clear outline has been provided these comments should be treated as general. Any other flood risk concerns should be addressed in the FRA	No	No
HDm1, Dechmont	Houston 3	TBC – check application	REMOVE – SITE LARGELY COMPLETED ONLY ONE OR TWO PLOTS LEFT.  This site includes a few low areas where surface water can accumulate. It is thought that these could potentially be engineered to avoid surface water accumulating. The usual attenuation and treatment of runoff criteria would apply.	No	on boundary	Yes	Record of flooding in 2001 adjacent to the site. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	We require a FRA which assesses the flood risk from the small watercourse which flows along the southern boundary of the site. Consideration should be given to any culverts along this reach of the small watercourse	No	No



Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HBn1, Dechmont	Bangour Village Hospital	Flood Risk Assessment required	<p>Flood Risk Assessment required</p> <p>This site includes a few low areas where surface water can accumulate. It is thought that these could potentially be engineered to avoid surface water accumulating. There is also considerable risk identified from fluvial out of bank flows in the watercourse. A Flood Risk Assessment will be required to demonstrate the extent of any risk and to determine the extent to which development can be successfully integrated with the risk that has been identified. The usual attenuation and treatment of runoff criteria would apply.</p>	Fluvial - part	on boundary	Yes	Record of flooding in 2009 adjacent to the site. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a flood risk assessment is required. We support this. We require a FRA which assesses the flood risk from the Brox Burn and tributaries as well as any small watercourses on site. Consideration should be given to any culverts along this reach. Site may be constrained due to flood risk. Same comments as HBn1(exp).	No	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA - FRA recom'd?	SEPA - water resilient measures recom'd?
HBn1(Exp), Dechmont	Bangour Village Hospital (Expansion)	Flood Risk Assessment required	<p>Flood Risk Assessment required</p> <p>This site includes a few low areas where surface water can accumulate. It is thought that these could potentially be engineered to avoid surface water accumulating. There is also considerable risk identified from fluvial out of bank flows in the watercourse. A Flood Risk Assessment will be required to demonstrate the extent of any risk and to determine the extent to which development can be successfully integrated with the risk that has been identified. The usual attenuation and treatment of runoff criteria would apply.</p>	Fluvial - part	on boundary	Yes	Record of flooding in 2009 adjacent to the site. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a flood risk assessment is required. We support this. We require a FRA which assesses the flood risk from the Brox Burn and tributaries as well as any small watercourses on site. Consideration should be given to any culverts along this reach. Site may be constrained due to flood risk. Same comments as HBn1.	No	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HEc3, East Calder	Langton Gardens	A,B,C,D. Flood risk assessment required  The culvert at the northwest corner of the site might potentially offer an outlet for the disposal of surface water from the developed site  The developer will need to determine whether any water leads into the ditch and deal with the findings accordingly	A,B,C,D. Flood risk assessment required  The culvert at the northwest corner of the site might potentially offer an outlet for the disposal of surface water from the developed site  The developer will need to determine whether any water leads into the ditch and deal with the findings accordingly	No	No	No	No	None known	A Flood Risk Assessment is required for this site. The culvert at the northwest corner of the site might potentially offer an outlet for the disposal of surface water from the developed site. The developer will need to determine whether any water leads into the ditch and deal with the findings accordingly. It is understood however that this site has been completed.	Yes	No
HEc5, East Calder	Camps Cottage	Drainage Impact Assessment Required Flood Risk Assessment required	Drainage Impact Assessment Required Flood Risk Assessment required	No	No	No	No	None known	Drainage Impact Assessment Required Flood Risk Assessment required	Yes	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HEc6, East Calder	Broompark Farm	Drainage Impact Assessment Required Flood Risk Assessment required	Drainage Impact Assessment Required Flood Risk Assessment required	No	No	No	No	None known	Drainage Impact Assessment Required Flood Risk Assessment required  The Linhouse Water is some 150m to the west of the site and the River Almond is some 200m north of the site.	Yes	No
HEc7, East Calder	Calderhall Terrace	Drainage Impact Assessment Required	Drainage Impact Assessment Required  The usual attenuation and treatment of runoff criteria would apply.	No	No	No	Record of flooding in 2004, 2007, and 2008 adjacent to the site. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a drainage impact assessment is required.	No	No
HEc4, East Calder	Millbank Depot	Flood Risk Assessment required	Flood Risk Assessment required  This site is deemed to be at risk from out of bank flows in the watercourse. A Flood Risk Assessment will be required to demonstrate the extent of any risk and to determine the extent to which development can be successfully integrated with the risk that has been identified. The usual attenuation and treatment of runoff criteria would apply.	No	going through site	Yes	Record of flooding in 2004, 2007, and 2008 adjacent to the site. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a flood risk assessment is required. We support this. We require a FRA which assesses the flood risk from the small watercourse which flows through the site. Consideration should be given to any culverts along this reach. We would highlight PAN 69 which states that "buildings must not be constructed over an existing drain (including a field drain) that is to remain active".	No	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HEw6, East Whitburn	Redmill Park	TBC – check application	REMOVE – SITE COMPLETED.	No	No	No	No	None known	This site has been completed.	No	No
HFh7, Fauldhouse	Lanrigg Road (1)	TBC – check application	Flood Risk Assessment required  A very small area of this site is at risk from fluvial / pluvial flooding. It is thought that the site could potentially be engineered to avoid surface water accumulating. The usual attenuation and treatment of runoff criteria would apply.	No	adjacent to site	Yes	Record of flooding in Fauldhouse in 2001, 2004, 2005, 2007, 2008 and 2009 adjacent to the site. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	We require a FRA which assesses the flood risk from the small watercourse which flows adjacent to the site. Consideration should be given to any culverts along this reach. We would highlight PAN 69 which states that “buildings must not be constructed over an existing drain (including a field drain) that is to remain active”.	No	No
HFh15, Fauldhouse	Croftfoot Drive	TBC – check application	Flood Risk Assessment required. Difficulty also of potentially creating run off and flooding from the site to the railway line south of the site.	No	No	No	No	None known	This site has been partially developed. It is noted the council would require a Flood Risk Assessment for this site	Yes	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HFh16, Fauldhouse	Harthill Road	TBC – check application	REMOVE – INDIVIDUAL PLOTTED SITE HAS BEEN LARGELY COMPLETED.	No	on boundary	Yes	Record of flooding in Fauldhouse in 2004, 2007, 2008 near to the site. There is a record of flooding in 2007 adjacent to the site. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a flood risk assessment is required. We support this. We require a FRA which assesses the flood risk from the small watercourses which flow along the north and west boundaries. Consideration should be given to any culverts along this reach.	No	No
HFh20, Fauldhouse	Lanrigg Road (3)	Drainage Impact Assessment Required	Drainage Impact Assessment Required A very small area of this site is at risk from fluvial / pluvial flooding. It is thought that the site could potentially be engineered to avoid surface water accumulating. The usual attenuation and treatment of runoff criteria would apply.	No	multiple watercourses through site	No	Record of flooding in Fauldhouse in 2001, 2004, 2005, 2007, 2008 and 2009 adjacent to the site. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a drainage impact assessment is required. We require a FRA which assesses the flood risk from the small watercourses which flow through the site. Consideration should be given to any culverts along this reach. We would highlight PAN 69 which states that "buildings must not be constructed over an existing drain (including a field drain) that is to remain active".	No	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HFh8, Fauldhouse	Meadow Crescent	A,B. Drainage impact assessment required	A,B. Drainage impact assessment required	No	No	No	No	None known	Drainage impact assessment	No	No
HFh11, Fauldhouse	Shotts Road	A,B. History of problems with surface water run off from this site	A,B. History of problems with surface water run off from this site The usual attenuation and treatment of runoff criteria would apply.	No	No	No	Record of flooding in Fauldhouse in 2001, 2004, 2005, 2007, 2008 and 2009 adjacent to the site. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that there is a history of problems with surface water runoff from this site	No	Yes
HFh10, Fauldhouse	Park View (West)	Flood Risk Assessment required	Flood Risk Assessment required A very small area of this site is at risk from fluvial / pluvial flooding. It is thought that these could potentially be engineered to avoid surface water accumulating. The usual attenuation and treatment of runoff criteria would apply.	No	on boundary	Yes	Record of flooding in Fauldhouse in 2004, 2007, 2008 near to the site. There is a record of flooding in 2007 adjacent to the site. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a flood risk assessment is required. We support this. We require a FRA which assesses the flood risk from the small watercourses which flow along the north and west boundaries. Consideration should be given to any culverts along this reach.	No	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HFh14, Fauldhouse	Croftfoot Farm	Flood Risk Assessment required	Flood Risk Assessment required This site includes a large low area where surface water can accumulate. It is thought that this could potentially be engineered to avoid surface water accumulating there. The usual attenuation and treatment of runoff criteria would apply.	No	on boundary	Yes	Record of flooding in Fauldhouse in 2001, 2004, 2005, 2007, 2008 and 2009 adjacent to the site. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a flood risk assessment is required. We support this. We require a FRA which assesses the flood risk from the small watercourse which flows along the eastern boundary of the site. Consideration should be given to any culverts along this reach. We would highlight PAN 69 which states that "buildings must not be constructed over an existing drain (including a field drain) that is to remain active".	No	No
HFh18, Fauldhouse	Lanrigg Road (2)	Caution to be exercised re presence of culvert Drainage impact assessment required	Caution to be exercised re presence of culvert Drainage impact assessment required The usual attenuation and treatment of runoff criteria would apply.	No	going through site	Yes	Record of flooding in Fauldhouse in 2001, 2004, 2005, 2007, 2008 and 2009 adjacent to the site. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that caution should be exercised regarding the presence of a culvert and a drainage impact assessment is required. We require a FRA which assesses the flood risk from the small watercourse which flows through the site. Consideration should be given to any culverts along this reach. We would highlight PAN 69 which states that "buildings must not be constructed over an existing drain (including a field drain) that is to remain active".	No	No



Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HFh19, Fauldhouse	Sheephousehill (North)	Flood Risk Assessment required	Flood Risk Assessment required  A very small area of this site is at risk from pluvial flooding. It is thought that this could potentially be engineered to avoid surface water accumulating there. The usual attenuation and treatment of runoff criteria would apply.	No	multiple watercourses through site	Yes	Record of flooding in Fauldhouse in 2001, 2004, 2005, 2007, 2008 and 2009 adjacent to the site. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a flood risk assessment is required. We support this. We previously requested a FRA which assesses the flood risk from the small watercourses which flow through the site. Consideration should be given to any culverts along this reach. We would highlight PAN 69 which states that "buildings must not be constructed over an existing drain (including a field drain) that is to remain active".	No	No
HKn2, Kirknewton	Braekirk Gardens	TBC – check application	FRA required, possible flood risk to site, also constraint of running surface runoff to the railway line to the north.	No	No	No	N/A	None known	A Flood Risk Assessment is required for this site, possible flood risk to site, also constraint of running surface runoff to the railway line to the north. Most of this site has however already been developed.	Yes	No
HKn7, Kirknewton	Station Road (East)	Flood Risk Assessment required	Flood Risk Assessment required	No	No	No	Record of flooding in Kirknewton in 2001 and 2009 adjacent to the site. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a flood risk assessment is required. We are unaware of any flood risk issues for this site.	No	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA - FRA recom'd?	SEPA - water resilient measures recom'd?
HKn8(1), Kirknewton	Camps Junction (East)	TBC – check application/ planning brief	The usual attenuation and treatment of runoff criteria would apply.	No	No	No	Record of flooding in Kirknewton in 2001 and 2009 adjacent to the site. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	N/A	No	No
HKn10, Kirknewton	Station Road (South Extension)	Drainage impact assessment	Drainage impact assessment The usual attenuation and treatment of runoff criteria would apply.	No	No	No	Record of flooding in Kirknewton in 2001 and 2009 adjacent to the site. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a drainage impact assessment is required.	No	No
HLI29, Linlithgow	Stockbridge North (2)	Flood Risk Assessment required	Flood Risk Assessment required	Fluvial - majority	No	Yes	Flooding along the Mains Burn recorded in 1998 and surface water issues recorded nearby in 2007. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	Formal scheme present upstream of development site. Designed to a 1:200 year event. It is unclear what protection (if any) is provided to the downstream allocation site.	We require a FRA which assesses the flood risk from the Mains Burn. Consideration should be given to culverted structures within/ nearby the site which may exacerbate flood risk to the site. The development site may be heavily constrained due to flood risk.	No	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HLI27, Linlithgow	Bus Depot, High Street	Drainage impact assessment required assessment	Drainage impact assessment required The usual attenuation and treatment of runoff criteria would apply.	No	No	No	Union Canal flows adjacent to development site and we would recommend contact is made with British Waterways to establish whether there is a risk of flooding.	Formal scheme present in Linlithgow but not relevant to site	Information provided from the council states that a drainage impact assessment is required	No	No
HLI26, Linlithgow	The Vennel	Flood Risk Assessment required	Flood Risk Assessment required This site is at risk from pluvial flooding exacerbated by constraints in the capacity of the combined sewer. Measures will be necessary to evaluate the extent of risk and to identify how development can take place without compromise to the fabric of the building during periods of severe weather.	No	No	No	Record of nearby flooding in 2001, 2007, and 2008. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	Formal scheme present in Linlithgow but not relevant to site	Information provided from the council states that a flood risk assessment is required. We support this. We do not have enough information to satisfy ourselves that the area is outwith the 1:200 year flood extent for the Linlithgow Loch	No	No
HLv79, Livingston	Forth Drive, Craigshill	A,B. Drainage impact assessment required	A,B. Drainage impact assessment required	No	No	No	No	None known	Drainage impact assessment Required as required by the council.	No	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HLv104, Livingston	Deerpark Drive, Livingston	TBC – check application	No comments, this site has been largely completed.	No	No	No	No	None known	N/A	No	No
HLv122, Livingston	Deans West / Hardie Road	Drainage impact assessment required	Drainage impact assessment required	No	No	No	Record of nearby flooding in 2004 and 2008. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	N/A	No	No
HLv115, Livingston	Eliburn Phase 1 & 2	Flood Risk Assessment required	There is a risk of surface water accumulating on Hardie Road. Care will need to be taken to ensure that development of this site does not allow runoff from Hardie Road into the development site and if it were to do so to ensure that the runoff can be safely routed through the site without compromise to property within the site or elsewhere.								
HLV128, Livingston	Inveralmond CHS Playing Field (North West)	Drainage impact assessment required Site already has potential SUDS basin	Drainage impact assessment required. Site already has potential SUDS basin Site already has a SUDS basin.	No	No	No	Drainage Impact Assessment required. Site already has potential SuDS basin. Site is under construction as a council house build site.	None known	N/A		No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HLv68, Livingston	Former Laboratory Craigshill	Drainage impact assessment required	Drainage impact assessment required The usual attenuation and treatment of runoff criteria would apply.	No	No	No	Record of nearby flooding in 2003 and 2009. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a drainage impact assessment is required.	No	No
HLv110, Livingston	Centre Interchange	A,B. Drainage impact assessment required	A,B. Drainage impact assessment required	No	No	No	Record of nearby flooding in 2001, 2003 and 2009. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a drainage impact assessment is required.	No	No
EOI 0189 Livingston	Almondvale Stadium	No	The council would require a FRA which assesses the flood risk from the River Almond and the small watercourse flowing through the southern area of the site which is allocated in the West Lothian Local plan for town centre uses.	Fluvial - part	going through site	Yes	Record of nearby flooding in 2003. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	No current site provided but this area was part of a previous consultation (EOI-0189). We would require a FRA which assesses the flood risk from the River Almond and the small watercourse flowing through the southern area of the site. Site may be constrained due to flood risk.	Yes	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HLv73, Livingston	Bellsquarry (16)	Drainage impact assessment	Drainage impact assessment required Sensitivity Analysis required Developer required to provide a culvert beneath Calder Developer required to provide a culvert beneath Calder Road to drain the Playing field via the Woodland Trust ditch that runs Along the east boundary of HLv73 The usual attenuation and treatment of runoff criteria would apply.	No	on boundary	Yes	Record of nearby flooding in 2001 and 2008.No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a drainage impact assessment is required. Unsure what is meant by sensitivity analysis required. Also developer required to provide a culvert beneath Calder Road to drain the playing field via the Woodland Trust ditch that runs along the east boundary of HLv73. We require a FRA which assesses the flood risk from the small watercourse to the east of the site	No	No
HLv123, Livingston	Almond Junction (South)	Drainage impact assessment	Drainage impact assessment required This site includes a few low areas where surface water can accumulate. It is thought that these could potentially be engineered to avoid surface water accumulating there.The usual attenuation and treatment of runoff criteria would apply.	No	No	No	Record of nearby flooding in 2008 and 2009.No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a drainage impact assessment is required.	No	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HLv76, Livingston	Craigshill 35	Drainage impact assessment required	Drainage impact assessment required The usual attenuation and treatment of runoff criteria would apply.	No	No	No	Record of nearby flooding in 2003 and 2009. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a drainage impact assessment is required.	No	No
HLv85, Livingston	Dedridge (East) (R2)	A,B, possible C. Drainage impact assessment required	A,B, possible C. Drainage impact assessment required	No	No	No	SEPA agree with the council that a Drainage Assessment is required for this site.	None known	SEPA agree with the council that a Drainage Assessment is required for this site. It is noted that site has consent now for nursing home extension and commercial units.	No	No
HLv129, Livingston	St Ninian's Primary (North)	Drainage impact assessment required	Drainage impact assessment required The usual attenuation and treatment of runoff criteria would apply.	No	No	No	Record of nearby flooding in 2001 and 2009. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a drainage impact assessment is required.	No	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA - FRA recom'd?	SEPA - water resilient measures recom'd?
HLv26, Livingston	Ballantyne Place (South)	Flood Risk Assessment required	Flood Risk Assessment required There is a history of the Folly Burn where it enters the culvert on this site. If this site were to be developed there would need to be measures put in place to defend the site against flooding from this source. The developer will also be expected to install measures to improve the hydraulic performance of the culvert inlet and prevent overtopping onto Cousland Road. The usual attenuation and treatment of runoff criteria would apply.	No	going through site	Yes	Record of flooding in adjacent area in 2003. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a flood risk assessment is required. We support this. We require a FRA which assesses the flood risk from the small watercourse which flows through the site. Consideration should be given to culverted structures within/nearby the site which may exacerbate flood risk to the site. The development site may be constrained due to flood risk.	No	No



Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HLv111, Livingston	Kirkton (North) (10B)	A,B,C. There is a surface water capacity problem affecting this site. Regional SUDS control in Place	A,B,C. There is a surface water capacity problem affecting this site. Regional SUDS control in Place  This site has a history of flooding and retaining runoff. It is also traversed by a culverted watercourse. Each of these issues should be capable of being mitigated through effective engineering design and construction. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No	None known	Information provided from the council states that a drainage impact assessment is required.	No	No
HLv106, Livingston	Kirkton (North) (R5)	Drainage impact assessment required	Drainage impact assessment required  This site includes culverted watercourse running parallel to Millfield. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No	None known	Information provided from the council states that a drainage impact assessment is required.	No	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HLv109, Livingston	Cousland Interchange East	A, B Drainage impact assessment required	A, B Drainage impact assessment required  A large area of this site is impacted by pluvial flooding. It might potentially be possible to mitigate susceptibility by effective engineering but this cannot be at the expense of increasing flood risk on the public road. The developer may be expected to accommodate flood storage on the site which has the potential to limit the extent of development. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	Record of flooding in adjacent area in 2003. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a drainage impact assessment is required.	No	No
HLv94, Livingston	Murieston (South)(R1)	Drainage impact assessment required	Drainage impact assessment required  The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No	None known	Information provided from the council states that a drainage impact assessment is required.	No	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HLv59, Livingston	Murieston (South)(6A)	Flood Risk Assessment required	Flood Risk Assessment required – site is under construction	No	adjacent to site	No	No	None known	Information provided from the council states that a flood risk assessment is required. We support this. We require a FRA which assesses the flood risk from the small watercourse which flows along the southern boundary of the site.	No	No
HLv61, Livingston	Murieston South 8	Drainage impact assessment required	Drainage impact assessment required The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No	None known	Information provided from the council states that a drainage impact assessment is required.	No	No
MO, Livingston West CDA	Mossend	TBC – check application	A Flood Risk Assessment and Drainage Assessment are both required	No	No	No	No	None known	A Flood Risk Assessment and Drainage Assessment are both required for this site as per the council requirements. SEPA made comment on the application in 2001 and noted that the site was not at flood risk however and that the SUDs proposals were acceptable	Yes	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
CB, Livingston West CDA	Cleugh Brae	TBC – check application	A Flood Risk Assessment and Drainage Assessment are both required	No	No	No	No	None known	A Flood Risk Assessment and Drainage Assessment are both required for this site as per the council requirements. SEPA made comment on the application in 2001 and noted that the site was not at flood risk however and that the SUDs proposals were acceptable	Yes	No
GS, Livingston West CDA	Gavieside South	TBC – check application	There is the requirement for a Flood Risk Assessment and Drainage Assessment for this site.	No	No	No	No	None known	There is the requirement for a Flood Risk Assessment and Drainage Assessment for this site. Development of this site could potentially lead to flood risk out with the site unless appropriately mitigated. The River Almond straddles the western and northern boundaries of the site and the West Calder Burn similarly straddles the south eastern boundary of the site. There are also pond and pools and drains within 100m of the southern boundary of the site.	Yes	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HLr3, Longridge	Curling Pond Lane (Phase 2)	TBC – check application	A Flood Risk Assessment and Drainage Assessment are required for this site, which is largely built out however.	No	No	No	No	None known	A Flood Risk Assessment and Drainage Assessment are required for this site, which is largely built out however.	Yes	No
11/12 Longridge	1 Hillside Place, Whitehart Inn	TBC – check application	No issues, site completed	No	No	No	No	None known	No comments, site completed.	Yes	No
HLr6, Longridge	Fauldhouse Road (North)	Drainage impact assessment required Flood risk assessment (land drainage issues)	A Flood Risk Assessment and Drainage Assessment are required for this site primarily due to land drainage issues from the site.	No	No	No	No	None known	A Flood Risk Assessment and Drainage Assessment are required for this site primarily due to land drainage issues from the site as per the councils requirements	Yes	No
HLv134, Mid Calder	New Calder Paper Mill	Flood Risk Assessment required	A Flood Risk Assessment and Drainage Assessment are required for this site primarily due to land drainage issues from the site.	Fluvial - part	multiple watercourses through site	Yes	No	None known	Information provided from the council states that a flood risk assessment is required. We support this. We require a FRA which assesses the flood risk from the River Almond, small watercourses and lade structure. Site likely to be constrained due to flood risk	No	No
HWc12, West Calder	Limefield Mains	Drainage impact assessment required	Drainage impact assessment required	No	No	No	Record of flooding in nearby area in 2008. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a drainage impact assessment is required.	No	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HWC10, West Calder	Polbeth Farm	Drainage impact assessment required	Drainage impact assessment required	No	adjacent to site	No	No	None known	Information provided from the council states that a drainage impact assessment is required.	No	No
HLv98, Pumpherston	Drumshoreland/ Kirkforthar Brickworks (A)	Flood risk assessment required		No	multiple watercourses through site	Yes	Record of flooding in nearby area in 2003, 2004, 2008, and 2009. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a flood risk assessment is required. We support this. We previously commented on part of the site. We require a FRA which assesses the flood risk from the small watercourses located through the site. Consideration should be given to culverted structures within/nearby the site which may exacerbate flood risk to the site. We would highlight PAN 69 which states that "buildings must not be constructed over an existing drain (including a field drain) that is to remain active".	No	No
HLv99, Pumpherston	Drumshoreland/ Kirkforthar Brickworks (B)	TBC – check application	REMOVE, SITE COMPLETED ?	No	No	No	No	None known	It is understood that this site has been completed.	No	No
HLv119, Pumpherston	Pumpherston Golf Course	Drainage impact assessment required	Drainage impact assessment required	No	No	No	No	None known	Information provided from the council states that a drainage impact assessment is required.	No	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HSb 8 Stoneyburn	Stoneyburn Workshops North	No issues	No issues	No	No	No	No	None known	No comments or issues	No	No
HSb7, Stoneyburn	Stoneyburn Farm (West)	A, B	A, B Drainage impact assessment required  The site includes a couple of low areas at risk of accumulating surface water. It is probable that these can be mitigated through effective engineering design and construction. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	Record of flooding in 2007. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a drainage impact assessment is required.	No	No
HSb6, Stoneyburn	Stoneyburn Farm (East)	Wet Ground Drainage impact assessment required	Wet Ground Drainage impact assessment required  The site includes a couple of low areas at risk of accumulating surface water. It is probable that these can be mitigated through effective engineering design and construction. The usual attenuation and treatment of runoff criteria would apply.	No	going through site	No	Record of flooding in 2007. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that there is wet ground and a drainage impact assessment is required. We require a FRA which assesses the flood risk from the small watercourse that flows through the site	No	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA - FRA recom'd?	SEPA - water resilient measures recom'd?
HWc8, West Calder	Station Yard, West Calder	Flood risk assessment required	Flood risk assessment required The site includes a low area at risk of accumulating surface water. It is possible that this can be mitigated through effective engineering design and construction. The usual attenuation and treatment of runoff criteria would apply.	No	going through site	Yes	Record of flooding in nearby area in 1999, 2003, 2004, 2005 and 2007. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a flood risk assessment is required. We support this. We require a FRA which assesses the flood risk from the small drain located within the site	No	No
HWf1, Westfield	North & South Logiebrae, Westfield	Flood risk assessment required	Flood risk assessment required This site is at risk of flooding from both fluvial and pluvial flooding. The pluvial flooding may be overcome through effective engineering design and construction but considerable set back will be required from the water course and a Flood Risk Assessment is required to determine the potential extents of development without compromise to the risk of flooding. The usual attenuation and treatment of runoff criteria would also apply.	No	No	No	Record of flooding in nearby area in 2003, 2004, and 2005. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a flood risk assessment is required. We are unaware of any flood risk issues for this site.	No	No



Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HWb4, Whitburn	Polkemmet	Flood Risk Assessment required	Flood Risk Assessment required This site is at risk of flooding from both fluvial and pluvial flooding. The pluvial flooding may be overcome through effective engineering design and construction. A Flood Risk Assessment is required to determine the potential extents of development without compromise to the risk of flooding. The usual attenuation and treatment of runoff criteria would also apply.	No	multiple watercourses through site	Yes	Record of flooding in nearby area in 1999, 2005, 2007, 2008 and 2009. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a flood risk assessment is required. We support this. We require a FRA which assesses the flood risk from the small watercourses on site. Site likely to be constrained due to flood risk. Site needs a hollistic approach due to its size. Consideration should be given to culverted structures within/nearby the site which may exacerbate flood risk to the site. We would highlight PAN 69 which states that "buildings must not be constructed over an existing drain (including a field drain) that is to remain active".	No	No
HWb10, Whitburn	Ellen Street	Drainage impact assessment required Drainage impact assessment required	Drainage impact assessment required Flood Risk Assessment required	No	No	No	No issues	None known	No comments, it is understood that this site has been developed.	No	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA - FRA recom'd?	SEPA - water resilient measures recom'd?
HWb14, Whitburn	Dixon Terrace (South) (Sites 2 & 3)	Drainage impact assessment required Flood Risk Assessment required	Drainage impact assessment required Flood Risk Assessment required	No	multiple watercourses through site	Yes	Record of flooding in nearby area in 1999, 2005, 2007, 2008 and 2009. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a flood risk assessment is required. We support this. We require a FRA which assesses the flood risk from the small watercourses on site. Site likely to be constrained due to flood risk. Site needs a hollistic approach due to its size. Consideration should be given to culverted structures within/nearby the site which may exacerbate flood risk to the site. We would highlight PAN 69 which states that "buildings must not be constructed over an existing drain (including a field drain) that is to remain active".	No	No
HWb11, Whitburn	Whitdale, East Main Street	Drainage impact assessment required	Drainage impact assessment required	No	No	No	No	None known	SEPA would agree with the council that a Drainage Assessment is required for this site.	No	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HWb13, Whitburn	St. Joseph's Primary (South)	Drainage impact assessment required	Drainage impact assessment required Developer required to install Drainage scheme pre-designed by WLC This is a very wet site and the developer will need to allow for this. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	Record of flooding in nearby area in 1999, 2005, and 2009. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a drainage impact assessment is required. Developer is required to install a drainage scheme pre-designed by WLC.	No	No
HWk1, Wilkieston	War Blinded, Wilkieston	Drainage impact assessment required	Drainage impact assessment required The site includes low areas at risk of flooding from accumulating surface water. It is possible that this can be mitigated through effective engineering design and construction. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No	None known	Information provided from the council states that a drainage impact assessment is required. Pre-planning advice provided (PCS/113261) however this included allocation to the south as well hence our objection	No	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
HWh3, Winchburgh	Castle Road	A, B Drainage impact assessment required	A, B Drainage impact assessment required The usual attenuation and treatment of runoff criteria would apply.	No	No	No	Record of flooding in nearby area in 2007. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a drainage impact assessment is required.	No	No
HWh5, Winchburgh	Winchburgh Primary School (North)	Drainage impact assessment required	Drainage impact assessment required The usual attenuation and treatment of runoff criteria would apply.	No	No	No	Record of flooding in nearby area in 2008 and 2009. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a drainage impact assessment is required.	No	No
NN, Winchburgh CDA	Niddry Mains (North)	TBC – check application	There is the requirement for a Flood Risk Assessment and Drainage Assessment for this site.	No	No	No	No	None known	There is the requirement for a Flood Risk Assessment and Drainage Assessment for this site.	Yes	No
GS, Winchburgh CDA	Glendevon (South)	TBC – check application	There is the requirement for a Flood Risk Assessment and Drainage Assessment for this site. There is a watercourse through the site running west to east and there is also Glendevon Pond.	No	No	No	No	None known	There is the requirement for a Flood Risk Assessment and Drainage Assessment for this site.	Yes	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
CP, Winchburgh CDA	Claypit	A Flood Risk Assessment is required	A Flood Risk Assessment is required for this site	No	No	No	No	None known	SEPA would commend the approach taken in identifying many of the environmental constraints in the overall now approved master plan for Winchburgh with emphasis on sustainable development and welcomes the commitment to employ sustainable construction methods and the use of energy saving measures. SEPA commends the consideration given to the siting of the SUDS features across the site and the diversity of regional control structures. There remain matters of detail which will require to be resolved as detailed design codes and applications are brought forward, however, overall the proposals are to be commended as an example of best practice in environmental design. Following the submission of an additional report SEPA is satisfied that it offers adequate justification for the part culverting of the Beatlie drainage channel.	Yes	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
MS, Winchburgh CDA	Myreside	A Flood Risk Assessment is required	A Flood Risk Assessment is required for this site.	Fluvial - majority	on boundary	Yes	No	None known	Information provided from the council states that a Flood Risk Assessment and a Drainage Impact Assessment are required. SEPA are not aware of being consulted regarding this site and outline planning has been approved. Majority of site within Flood Map so development will likely be heavily constrained due to flood risk. Would have recommended removal if no planning consent had been given. The site also contains the Swine Burn that runs east to west through the site and there is also a watercourse north to south and a large water body to the west of the site.	Yes	No
GN, Winchburgh CDA	Glendevon (North)	There is the requirement for a Flood Risk Assessment and Drainage Assessment for this site.	There is the requirement for a Flood Risk Assessment and Drainage Assessment for this site.	No	No	No	No	None known	There is the requirement for a Flood Risk Assessment and Drainage Assessment for this site. The Union Canal runs close to the northern and eastern boundaries of the site, contact would be required with Scottish Waterways.	Yes	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
NS, Winchburgh CDA	Niddry Mains (South)	There is the requirement for a Flood Risk Assessment and Drainage Assessment for this site.	There is the requirement for a Flood Risk Assessment and Drainage Assessment for this site.	No	No	No	No	None known	There is the requirement for a Flood Risk Assessment and Drainage Assessment for this site.	Yes	No
EAd3, Addiewell	Addiewell West	No significant flood risk issue that cannot be mitigated	This site appears prone to pluvial flooding. It is probable that this risk can be mitigated through effective engineering design and construction. The usual attenuation and treatment of runoff criteria would apply.	No	multiple watercourses through site	Yes	No	None known	Information provided from the council states a flood risk assessment is required. We support this. Development may be constrained due to flood risk	Already requested in LDP	No
EBg2, Bathgate	Easter Inch	See Flood Prevention Officer comments	We require a FRA which assesses the flood risk from the small watercourse (potentially culverted in parts) which flows along the south west boundary.  This site appears prone to some limited pluvial flooding. It is probable that this risk can be mitigated through effective engineering design and construction. The usual attenuation and treatment of runoff criteria would apply.	No	on boundary	No	No	None known	We require a FRA which assesses the flood risk from the small watercourse (potentially culverted in parts) which flows along the south west boundary.	Yes	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA - FRA recom'd?	SEPA - water resilient measures recom'd?
EBg3, Bathgate	Inch Wood South	See Flood Prevention Officer comments	This site appears prone to pluvial flooding. It is probable that this risk can be mitigated through effective engineering design and construction. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No	None known	N/A	No	No
EBg8, Bathgate	Starlaw Farm	Detailed comments provided on application for Distillery built out on part of site.	If part of site remaining is to be taken forward a FRA and DA would be required. This site appears prone to some limited pluvial flooding. It is probable that this risk can be mitigated through effective engineering design and construction. The usual attenuation and treatment of runoff criteria would apply.	Fluvial - small part	No	Yes	No	None known	Two separate sites allocated the same ID. For both we would require a FRA which assesses the flood risk from the Bog Burn tributary which flows to the south of the site.	Yes	No



Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EBb1, Blackburn	Riddochill	See Flood Prevention Officer comments	<p>FRA required – complex issues on site of mineshaft, minewater and flooding from moss ,similar issues to flooding to st. kentigerns academy to the south. also need to avoid flooding to st.kents in south.</p> <p>This site appears potentially prone to pluvial flooding though the blaes material may well not allow surface water to accumulate. It is probable that this risk can be mitigated through effective engineering design and construction. The usual attenuation and treatment of runoff criteria would apply.</p>	No	going through site	Yes	No	None known	There are small watercourses adjacent to the site. There is also a potential culverted watercourse through the site. This should be investigated. We would highlight PAN 69 which states that “buildings must not be constructed over an existing drain (including a field drain) that is to remain active”. Majority of site is likely developable.	Yes	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EBg7, Bathgate	Pottishaw	See Flood Prevention Officer comments	FRA required on site development allocation that remains. Potential for significant issues. Existing flood pumping station also gets flooded. This site appears prone to pluvial flooding. It is probable that this risk can be mitigated through effective engineering design and construction. The usual attenuation and treatment of runoff criteria would apply.	No	multiple watercourses through site	Yes	No	None known	GIS shape file and map allocation are different. We require a FRA which assesses the flood risk from the small watercourses (culverted in parts) which flows through the site. We would highlight PAN 69 which states that "buildings must not be constructed over an existing drain (including a field drain) that is to remain active".	Yes	No
EBb2, Blackburn	Inchmuir Road	See Flood Prevention Officer comments	FRA required. The usual attenuation and treatment of runoff criteria would apply.	No	going through site	Yes	No	None known	There is a potential culverted watercourse through the site. This should be investigated. We would highlight PAN 69 which states that "buildings must not be constructed over an existing drain (including a field drain) that is to remain active".	Yes	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EBb4, Blackburn	Pottishaw Place	See Flood Prevention Officer comments	REMOVE – SITE HAS BEEN COMPLETED This site appears prone to some limited pluvial flooding. It is probable that this risk can be mitigated through effective engineering design and construction. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No	None known	N/A	No	No
EBd1, Bridgend	Bridgend Bing	Flood Risk Assessment required	Flood Risk Assessment required Part of this site is potentially at risk from fluvial flooding as a result of out of bank flows in the adjacent watercourse. A flood risk assessment will be required to determine the extent of the site that is potentially able to be developed. The usual attenuation and treatment of runoff criteria would apply.	Fluvial - small part	adjacent to site	Yes	No	None known	We require a FRA which assesses the flood risk from the Haugh Burn which flows along the southern boundary and any small watercourses which may impact the site.	Yes	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EUB1, Broxburn/Uphall	Youngs Road south	? – CONSTRAINTS ON FLOODING DUE TO BURNSIDE TO THE SOUTH	REMOVE – SITE HAS BEEN COMPLETED The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No	None known	N/A	No	No
EUB14, Broxburn/Uphall	Stankards South	Flood Risk Assessment required Culverting of Beugh Burn not acceptable.	Flood Risk Assessment required Culverting of Beugh Burn not acceptable.	Fluvial - part	on boundary	Yes	Extensive flooding downstream in 2008	Partially completed Broxburn FPS downstream but not thought to extend this far upstream	Information provided from the council states that a flood risk assessment is required and that culverting of the Beugh Burn is not acceptable. We support this. We require a FRA which assesses the flood risk from the Beugh Burn and the minor watercourse which flows along the eastern boundary. Based on the OS Map there is potentially a culverted watercourse through the site which should be investigated. We would highlight PAN 69 which states that “buildings must not be constructed over an existing drain (including a field drain) that is to remain active”.	Already requested in LDP	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EEw2, East Whitburn	North East	Flood Risk Assessment required	Flood Risk Assessment required The usual attenuation and treatment of runoff criteria would apply.	No	going through site	No	No	None known	Information provided from the council states a flood risk assessment is required. We support this. We previously commented on this proposal and did not object as happy with the proposal. Should the proposal change we would require a FRA.	Already requested in LDP	No
EEw3, East Whitburn	South West	Flood Risk Assessment required	Flood Risk Assessment required The usual attenuation and treatment of runoff criteria would apply.	No	on boundary	Yes	No	None known	Information provided from the council states a flood risk assessment is required. We support this. We previously commented on this proposal and did not object as one man-made drain was to be infilled and the site was for haulage vehicles. Should the proposal change we would require a FRA.	Already requested in LDP	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
ELI2, Linlithgow	Boghall East	See Flood Prevention Officer comments		No	No	No	No	None known	N/A	No	No
<p>FRA required. Site would also need treatment as site drains ultimately into Linlithgow Loch.</p> <p>This site is within the catchment for Linlithgow Loch. Development within this catchment presents difficulties. This site is within the catchment of Linlithgow Loch. Development of the site has the potential to impact negatively on Linlithgow Loch, a body of water which is deteriorating from what was a mesotrophic loch to one that is currently eutrophic trending towards hyper-eutrophic. There are seasonal impacts on public health and public use of the loch associated with extensive and long-lasting toxic algal blooms and the low oxygen conditions that this creates impacts on the ability of the loch to support fish. There have been a number of fish kills. In summer 2013, much of the fish population was under significant visible stress and a large number of fish were killed. If surface runoff were to be directed to the public sewer it would potentially increase the risk of flooding to properties in the High Street as the capacity of the combined sewer through the town leading to Linlithgow Bridge Wastewater Treatment Works is heavily constrained. The lack of capacity in the sewer also results in frequent spillage of waste and surface water into the loch through the combined sewer overflow (CSO) at the Vennel, worsening the outlook for the loch. The loch is a heritage asset owned by Scottish Ministers and cared for by Historic Scotland. It supports an important SSSI which is also in a deteriorating condition due to eutrophication. The council as Planning Authority as well as other stakeholders together have a responsibility to improve the outlook for the loch and must intervene to ensure that potential negative impacts presented by development within the catchment are avoided or appropriately mitigated. The context is described in the Draft Linlithgow Loch Catchment management Plan which is shortly due to be finalised. The implications of development of this site are potentially serious.</p> <p>The additional volume of wastewater generated by the proposed development also presents a serious risk assuming that it is to be directed to Linlithgow Bridge Wastewater Treatment Works via the combined sewer. Already there are a number of spills from a combined sewer overflow into the loch which contributes to impaired water quality. An increase in the number of spills associated with additional volumes would be unacceptable.</p>											
ELI4, Linlithgow	Mill Road Industrial Estate - Mill Road West (2 plots)	Flood Risk Assessment required	Part of this site is potentially at risk from fluvial flooding as a result of out of bank flows in the adjacent watercourse. A flood risk assessment will be required to determine the extent of the site that is potentially able to be developed. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No	None known	Information provided from the council states a flood risk assessment is required.	Already requested in LDP	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
ELI8, Linlithgow	Sun Expansion Land	See Flood Prevention Officer comments		No	No	No	No	None known	There is a small pond and spring on-site. Consideration should be given to these potential sources of flooding	No	No

FRA required. Surface water run off issues and water quality issues as land would largely drain into Linlithgow Loch.

This site is within the catchment for Linlithgow Loch. Development within this catchment presents difficulties. This site is within the catchment of Linlithgow Loch. Development of the site has the potential to impact negatively on Linlithgow Loch, a body of water which is deteriorating from what was a mesotrophic loch to one that is currently eutrophic trending towards hyper-eutrophic. There are seasonal impacts on public health and public use of the loch associated with extensive and long-lasting toxic algal blooms and the low oxygen conditions that this creates impacts on the ability of the loch to support fish. There have been a number of fish kills. In summer 2013, much of the fish population was under significant visible stress and a large number of fish were killed. If surface runoff were to be directed to the public sewer it would potentially increase the risk of flooding to properties in the High Street as the capacity of the combined sewer through the town leading to Linlithgow Bridge Wastewater Treatment Works is heavily constrained. The lack of capacity in the sewer also results in frequent spillage of waste and surface water into the loch through the combined sewer overflow (CSO) at the Vennel, worsening the outlook for the loch. The loch is a heritage asset owned by Scottish Ministers and cared for by Historic Scotland. It supports an important SSSI which is also in a deteriorating condition due to eutrophication. The council as Planning Authority as well as other stakeholders together have a responsibility to improve the outlook for the loch and must intervene to ensure that potential negative impacts presented by development within the catchment are avoided or appropriately mitigated. The context is described in the Draft Linlithgow Loch Catchment management Plan which is shortly due to be finalised. The implications of development of this site are potentially serious.

The additional volume of wastewater generated by the proposed development also presents a serious risk assuming that it is to be directed to Linlithgow Bridge Wastewater Treatment Works via the combined sewer. Already there are a number of spills from a combined sewer overflow into the loch which contributes to impaired water quality. An increase in the number of spills associated with additional volumes would be unacceptable.

ELv3, Livingston	Brucefield East	No apparent issues	No apparent issues The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No	None known	N/A	No	No
ELv63, Livingston	Brucefield North	No apparent issues	No apparent issues	No	No	No	No	None known	N/A	No	No
ELv5, Livingston	Nairn Road north east	See Flood Prevention Officer comments	No FRA requirement on uses Dedridge Burn and Adambrae burn adjacent to site.	No	No	No	Record of nearby flooding in 2008 and 2009. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	N/A	No	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA - FRA recom'd?	SEPA - water resilient measures recom'd?
ELv9, Livingston	Dunlop Square west	No apparent issues, no FRA or DA required	No apparent issues, no FRA or DA required The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No	None known	N/A	No	No
ELv15, Livingston	Caputhall Road east	No apparent issues, no FRA or DA required	No apparent issues, no FRA or DA required	No	No	No	No	None known	N/A	No	No
ELv16, Livingston	Caputhall Road central	No apparent issues, no FRA or DA required	No apparent issues, no FRA or DA required The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No	None known	N/A	No	No
ELv17, Livingston	Caputhall Road west	No apparent issues, no FRA or DA required	No apparent issues, no FRA or DA required The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No	None known	N/A	No	No
ELv18, Livingston	Caputhall Road	Check application 0304/P/08 for comments	Check application 0304/P/08 for comments Part of this site appears prone to some limited pluvial flooding. It is probable that this risk can be mitigated through effective engineering design and construction. The usual attenuation and treatment of runoff criteria would apply.	No	adjacent to site	Yes	No	None known	There is a small drain adjacent to the site. Consideration should be given to ensure there is no increase in runoff	No	No



Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
ELv21, Livingston	Appleton Parkway west	Culverting of Lochshot Burn not permissible	Culverting of Lochshot Burn not permissible Parts of this site appears prone to some limited pluvial flooding. It is probable that this risk can be mitigated through effective engineering design and construction. The usual attenuation and treatment of runoff criteria would apply.	Fluvial - small part	No	Yes	No	None known	Information provided from the council states that culverting of Lochshot Burn not permissible. We require a FRA which assesses the flood risk from the Lochshot Burn which flows to the south of the site.	Yes	No
ELv22, Livingston	Appleton Parkway north west	SUDs system in site to serve railway run off. No apparent issues.	SUDs system in site to serve railway run off. No apparent issues. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No	None known	N/A	No	No
ELv23, Livingston	Appleton Parkway north east	SUDs system in site to serve railway run off. No apparent issues.	SUDs system in site to serve railway run off. No apparent issues. Parts of this site appears prone to some limited pluvial flooding. It is probable that this risk can be mitigated through effective engineering design and construction. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No	None known	N/A	No	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA - FRA recom'd?	SEPA - water resilient measures recom'd?
ELv24, Livingston	Houstoun Road north	Flood Risk Assessment required	Flood Risk Assessment required Parts of this site appears prone to some limited pluvial flooding. It is probable that this risk can be mitigated through effective engineering design and construction. The usual attenuation and treatment of runoff criteria would apply.	No	on boundary	Yes	No	None known	Information provided from the council states that a flood risk assessment is required. We would support this. Majority of site is likely developable.	Already requested in LDP	No
ELv25, Livingston	Appleton Parkway east	Development must respect the location of the Lochshot Burn	Development must respect the location of the Lochshot Burn Parts of this site appears prone to some limited pluvial flooding. It is probable that this risk can be mitigated through effective engineering design and construction. There are also small open watercourses on this site. It is expected that these will remain open and aboveground. The developer should design his layout accordingly. The usual attenuation and treatment of runoff criteria would apply.	Fluvial - small part	on boundary	Yes	No	None known	We require a FRA which assesses the flood risk from the Lochshot Burn which flows along the southern boundary. In addition, there is are small drains which flow along the northern and eastern boundaries which should be assessed	Yes	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
ELv26, Livingston	Appleton Parkway south	Development must respect the location of the Lochshot Burn	Development must respect the location of the Lochshot Burn Parts of this site appears prone to some limited pluvial flooding. It is probable that this risk can be mitigated through effective engineering design and construction. The usual attenuation and treatment of runoff criteria would apply.	Adjacent to site	No	Yes	No	None known	We require a FRA which assesses the flood risk from the Lochshot Burn which flows along the northern boundary. Majority of site is likely developable.	Yes	No
ELv27, Livingston	Appleton Parkway south west	Site mostly built out. FRA required. Poorly designed basin in place on site. No other specific issues.	Site mostly built out. FRA required. Poorly designed basin in place on site. No other specific issues. Part of this site is occupied by an existing sustainable drainage pond which treats runoff from other parts of the units on Appleton Place. The developer will be expected to provide appropriate setback from this feature. The usual attenuation and treatment of runoff criteria would apply.	No	adjacent to site	Yes	No	None known	We require a FRA which assesses the flood risk from the small watercourse (potentially culverted) which flows along the western boundary.	Yes	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
ELv28, Livingston	Appleton Parkway south east	In hand, basin in site check application 0056/P/12, S75 still to be signed off.	In hand, basin in site check application 0056/P/12, S75 still to be signed off.	No	No	No	No	None known	N/A	No	No
ELv30, Livingston	Nettlehill Road west	Remove from LDP – site completed	Remove from LDP – site completed Parts of this site appear prone to some limited pluvial flooding. It is probable that this risk can be mitigated through effective engineering design and construction. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No	None known	N/A	No	No
ELv32, Livingston	Firth Road west	Remove from LDP – site completed	Remove from LDP – site completed The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No	None known	N/A	No	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
ELv34, Livingston	Firth Road south	Site partially built out. Drainage issues potential could also be discharge issues, run off from field to south, old culvert previously severed, site should feed into sewer.	Site partially built out. Drainage issues potential could also be discharge issues, run off from field to south, old culvert previously severed, site should feed into sewer. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No	None known	N/A	No	No
ELv36, Livingston	Nettlehill Road east	Culvert issue through the site, water bodies to south of site that are covered. An issue to be aware of.	Culvert issue through the site, water bodies to south of site that are covered. An issue to be aware of. Part of this site is occupied by an existing sustainable drainage pond which treats runoff from other parts of the units on Appleton Place. The developer will be expected to provide appropriate setback from this feature. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No	None known	N/A	No	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
ELv37, Livingston	Simpson Parkway	No apparent issues	No apparent issues The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No	None known	N/A	No	No
ELv39, Livingston	Former Rosebank Nursery	Flood Risk Assessment required	Flood Risk Assessment required  The lower part of this site is at risk of flooding from out of bank flows in the Killandean Burn. It is unlikely the lower part of the site would, however, be considered for development. A small area on the upper platform appears to be susceptible to the accumulation of surface water. It is probable that this risk can be mitigated through effective engineering design and construction. The usual attenuation and treatment of runoff criteria would apply.	Fluvial - small part	multiple watercourses through site	Yes	No	None known	Information provided from the council states that a flood risk assessment is required. We would support this. We require a FRA which assesses the flood risk from the Killandean Burn which flows along the eastern boundary of the site. In addition, there are small watercourses which flow through the site which should be assessed. Potential site constraints due to flood risk.	Already requested in LDP	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
ELv41, Livingston	Alba Campus	Suds ponds in north eastern plot. Watercourse to western most part of site. We require a FRA which assesses the flood risk from the Killandean Burn and tributaries which flows along the western boundary of the site. In addition, there is are small watercourses adjacent to the site which should be assessed. Majority of site is likely developable.	Suds ponds in north eastern plot. Watercourse to western most part of site. We require a FRA which assesses the flood risk from the Killandean Burn and tributaries which flows along the western boundary of the site. In addition, there is are small watercourses adjacent to the site which should be assessed. Majority of site is likely developable. Parts of this site appear prone to some limited pluvial flooding. It is probable that this risk can be mitigated through effective engineering design and construction. The usual attenuation and treatment of runoff criteria would apply.	Fluvial - small part	adjacent to site	Yes	No	None known	Comments applicable to the four separate sites. We require a FRA which assesses the flood risk from the Killandean Burn and tributaries which flows along the western boundary of the site. In addition, there is are small watercourses adjacent to the site which should be assessed. Majority of site is likely developable.	Yes	No
ELv43, Livingston	MacIntosh Road	No apparent issues	No apparent issues The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No	None known	N/A	No	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA - FRA recom'd?	SEPA - water resilient measures recom'd?
ELv44, Livingston	Macintosh Road west	No apparent issues	No apparent issues The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No	None known	N/A	No	No
ELv45, Livingston	Kirkton South Road	No apparent issues	No apparent issues The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No	None known	N/A	No	No
ELv46, Livingston	Gregory Road east	Drainage ditches throughout the site. We require a FRA which assesses the flood risk from the small watercourse (culverted in parts) which flows along the northern boundary.	Drainage ditches throughout the site. We require a FRA which assesses the flood risk from the small watercourse (culverted in parts) which flows along the northern boundary. Parts of this site appear prone to some limited pluvial flooding. It is probable that this risk can be mitigated through effective engineering design and construction. The usual attenuation and treatment of runoff criteria would apply.	No	on boundary	Yes	No	None known	We require a FRA which assesses the flood risk from the small watercourse (culverted in parts) which flows along the northern boundary.	Yes	No



Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
ELv47, Livingston	Gregory Road	Drainage network issues. We require a FRA which assesses the flood risk from the small watercourses (culverted in parts) which flows through the site.	Drainage network issues. We require a FRA which assesses the flood risk from the small watercourses (culverted in parts) which flows through the site. Parts of this site appear prone to some limited pluvial flooding. It is probable that this risk can be mitigated through effective engineering design and construction. The usual attenuation and treatment of runoff criteria would apply.	No	multiple watercourses through site	Yes	No	None known	We require a FRA which assesses the flood risk from the small watercourses (culverted in parts) which flows through the site.	Yes	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
ELv48, Livingston	Gregory Road west	We require a FRA which assesses the flood risk from the small watercourse (culverted in parts) which flows through the site. We would highlight PAN 69 which states that "buildings must not be constructed over an existing drain (including a field drain) that is to remain active". There is also a drain located along the northern boundary which should be assessed.	We require a FRA which assesses the flood risk from the small watercourse (culverted in parts) which flows through the site. We would highlight PAN 69 which states that "buildings must not be constructed over an existing drain (including a field drain) that is to remain active". There is also a drain located along the northern boundary which should be assessed.  A small part of this site appears prone to some limited pluvial flooding. It is probable that this risk can be mitigated through effective engineering design and construction. The usual attenuation and treatment of runoff criteria would apply.	No	going through site	Yes	No	None known	We require a FRA which assesses the flood risk from the small watercourse (culverted in parts) which flows through the site. We would highlight PAN 69 which states that "buildings must not be constructed over an existing drain (including a field drain) that is to remain active". There is also a drain located along the northern boundary which should be assessed.	Yes	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
ELv49, Livingston	Gregory Road	We require a FRA which assesses the flood risk from the small watercourse which flows adjacent to the site. Majority of site is likely developable. Possible culvert in locality beneath the site.	We require a FRA which assesses the flood risk from the small watercourse which flows adjacent to the site. Majority of site is likely developable. Possible culvert in locality beneath the site.  A small part of this site appears prone to some limited pluvial flooding. It is probable that this risk can be mitigated through effective engineering design and construction. The usual attenuation and treatment of runoff criteria would apply.	No	adjacent to site	Yes	No	None known	We require a FRA which assesses the flood risk from the small watercourse which flows adjacent to the site. Majority of site is likely developable.	Yes	No
ELv52, Livingston	Allen Road	REMOVE – SITE COMPLETED	REMOVE – SITE COMPLETED  A small part of this site appears prone to some limited pluvial flooding. It is probable that this risk can be mitigated through effective engineering design and construction. The usual attenuation and treatment of runoff criteria would apply.	No	going through site	Yes	No	None known	We require a FRA which assesses the flood risk from the small watercourse which flows through the site. The watercourse is culverted upstream and downstream which would require consideration.	Yes	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA - FRA recom'd?	SEPA - water resilient measures recom'd?
ELv54, Livingston	Linhouse	Separation of Linhouse Water and protection of watercourses from surface water contamination	A small area of this site appears at risk of pluvial flooding. There is also a history of fluvial flooding caused by incapacity or obstruction of a nearby culvert inlet. A Flood Risk Assessment may be required to demonstrate the extent of any risk. The usual attenuation and treatment of runoff criteria would apply.	No	multiple watercourses through site	Yes	No	None known	Information provided from the council states that separation of Linhouse Water and protection of watercourses from surface water contamination. We require a FRA which assesses the flood risk from the minor watercourses which flow through the site. Based on the OS Map there is also a culverted watercourse through the site which should be investigated. We would highlight PAN 69 which states that "buildings must not be constructed over an existing drain (including a field drain) that is to remain active".	Yes	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
ELv59, Livingston	Williamston North	Drainage via pond approved to south west of site in site, not constructed to a great standard.	Drainage via pond approved to south west of site in site, not constructed to a great standard. Parts of this site appear prone to pluvial flooding. It is probable that this risk can be mitigated through effective engineering design and construction. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No	None known	N/A	No	No
ELv60, Livingston	Williamston South	Drain to south west of the site Check application, includes SUDS pond to west of allocation.	Drain to south west of the site Check application, includes SUDS pond to west of allocation. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No	None known	N/A	No	No
ELv68, Livingston	Houstoun Interchange (North West)	Flood Risk Assessment required	Flood Risk Assessment required Drainage Impact Assessment required The usual attenuation and treatment of runoff criteria would apply.	No	No	No	Record of nearby flooding in 2004 and 2009. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a flood risk assessment and a drainage impact assessment are required. We are unaware of any flood risk issues for this site.	Already requested in LDP	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
ELv57, Livingston	Starlaw Park	Southern site is wet, possible issues, caution of drainage issues that needs discussed.	The usual attenuation and treatment of runoff criteria would apply. FRA and DA required. No development on site at present.	No	No	No	No	None known	N/A	No	No
ELv61, Livingston	Deer Park	FRA and DA required. No development on site at present.	The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No	None known	N/A	No	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
ELv64, Livingston	Beugh Burn	Re-alignment of Beugh Burn and integrated SUDS scheme.	<p>Re-alignment of Beugh Burn and integrated SUDS scheme.</p> <p>Check planning application/consent also.</p> <p>We require a FRA which assesses the flood risk from the Beugh Burn and tributaries which flows through the site. Consideration should be given to small watercourses. Any proposed re-alignment will be dealt with through the CAR (2011) process.</p> <p>A significant part of this site is at risk of flooding from out of bank flows in the Beugh Burn and potentially from a backing up effects resulting from the potential collapse of a structurally frail culvert downstream. Small areas of site appear prone to some limited pluvial flooding. It is probable that this risk can be mitigated through effective engineering design and construction. The usual attenuation and treatment of runoff criteria would apply.</p>	Fluvial - part	multiple watercourses through site	Yes	No	None known	Information provided from the council states that re-alignment of Beugh Burn and integrated SUDS scheme is required. We require a FRA which assesses the flood risk from the Beugh Burn and tributaries which flows through the site. Consideration should be given to small watercourses. Any proposed re-alignment will be dealt with through the CAR (2011) process.	Yes	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
ELv65, Livingston	Almondvale Business Park	No apparent issues	The usual attenuation and treatment of runoff criteria would apply.	No	on boundary	Yes	No	None known	We require a FRA which assesses the flood risk from the small watercourse which flows along the northern boundary. Majority of site is likely developable.	Yes	No
ELv66, Livingston	Almondvale Business Park	No apparent issues but caution due to site run off from south of site.	No apparent issues but caution due to site run off from south of site. Small areas of site appear prone to pluvial flooding. It is probable that this risk can be mitigated through effective engineering design and construction. The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No	None known	N/A	No	No



Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
ELv67, Livingston	Almondvale Business Park	We require a FRA which assesses the flood risk from the small drain located within the site. Flood issues from B&Q site to south.	We require a FRA which assesses the flood risk from the small drain located within the site. Flood issues from B&Q site to south. A significant area of this site appears prone to some pluvial flooding. It is probable that this risk can be mitigated through effective engineering design and construction. The usual attenuation and treatment of runoff criteria would apply.	No	going through site	No	No	None known	We require a FRA which assesses the flood risk from the small drain located within the site.	Yes	No
EWc1, West Calder	Westwood Central	? – check recent application, no historical information on flooding however.	A significant area of this site appears prone to some pluvial flooding. It is probable that this risk can be mitigated through effective engineering design and construction. The usual attenuation and treatment of runoff criteria would apply.	No	going through site	Yes	No	None known	We require a FRA which assesses the flood risk from the small drains located within the site. Based on the OS Map there is potentially a culverted watercourse through the site which should be investigated. We would highlight PAN 69 which states that “buildings must not be constructed over an existing drain (including a field drain) that is to remain active”.	Yes	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA - FRA recom'd?	SEPA - water resilient measures recom'd?
EWc4, West Calder	Westwood west	? – check recent application, no historical information on flooding however. We require a FRA which assesses the flood risk from the small watercourse which flows along the western boundary. Majority of site is likely developable.	A significant area of this site appears prone to some pluvial flooding. It is probable that this risk can be mitigated through effective engineering design and construction. The usual attenuation and treatment of runoff criteria would apply.	No	on boundary	Yes	No	None known	We require a FRA which assesses the flood risk from the small watercourse which flows along the western boundary. Majority of site is likely developable.	Yes	No
EWb3, Whitburn	Drum Farm	FRA and DA required. site may be removed from LDP	FRA and DA required. site may be removed from LDP The usual attenuation and treatment of runoff criteria would apply.	No	No	No	No	None known	N/A	No	No
EWb4, Whitburn	Cowhill, Whitburn	Flood Risk Assessment required	We require a FRA which assesses the flood risk from the River Almond and the minor watercourses which flow through the site.	Fluvial - small part	multiple watercourses through site	Yes	No	None known	Information provided from the council states that a flood risk assessment is required. We support this. We require a FRA which assesses the flood risk from the River Almond and the minor watercourses which flow through the site.	Already requested in LDP	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
TF, (Trees Farm), Armadale CDA	Trees Farm, Armadale	TBC	A drainage impact assessment and a flood risk assessment is required. We previously commented on this application and agreed to not object but require re-consultation at the design stage.	No	going through site	Yes	Record of flooding in 2004, and 2006 near to the site. No further information provided by the council. Recommend contact is made with the WLC Flood Protection Officer	None known	Information provided from the council states that a drainage impact assessment and a flood risk assessment is required. We previously commented on this application and agreed to not object but require re-consultation at the design stage.	Already requested in LDP	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
MW (Myreside West) Winchburgh CDA	Myreside West	TBC	Information provided from the council states that a flood risk assessment and a drainage impact assessment are required. We are not aware of being consulted regarding this site and outline planning has been approved. Majority of site within Flood Map so development will likely be heavily constrained due to flood risk. Would have recommended removal if no planning consent had been given. Part of this site appears prone to pluvial flooding. It is probable that this risk can be mitigated through effective engineering design and construction but this would need to be demonstrated by the developer. A Flood Risk Assessment is required to accurately determine the accuracy of the flood hazard maps and, in turn, the extent to which the site can potentially be developed without compromise to the risk of flooding. The usual attenuation and treatment of runoff criteria would apply.	Fluvial - majority	on boundary	Yes	No	None known	Information provided from the council states that a flood risk assessment and a drainage impact assessment are required. We are not aware of being consulted regarding this site and outline planning has been approved. Majority of site within Flood Map so development will likely be heavily constrained due to flood risk. Would have recommended removal if no planning consent had been given.	Already requested in LDP	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
ME, Myreside East, Winchburgh CDA	Myreside East	TBC	Information provided from the council states that a flood risk assessment and a drainage impact assessment are required. We are not aware of being consulted regarding this site. Part of site within Flood Map so development may be constrained due to flood risk.  This site is entirely at risk of pluvial flooding and development of this site may not be possible. As a minimum a flood risk assessment will be required to determine the extent of risk and identify what part of the site might potentially be capable of being developed. The usual attenuation and treatment of runoff criteria would apply.	Fluvial - part	on boundary	Yes	No	None known	Information provided from the council states that a flood risk assessment and a drainage impact assessment are required. We are not aware of being consulted regarding this site. Part of site within Flood Map so development may be constrained due to flood risk.	Already requested in LDP	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
CE, (Camps Estate) CDA	Camps Industrial Estate, East Calder	TBC	<p>Possible requirement for FRA and DIA. We require a FRA which assesses the flood risk from the Gogar Burn which flows along the southern boundary. Majority of site is likely developable.</p> <p>Considerable areas of this site are at risk of flooding from both fluvial flooding and pluvial flooding and have a history of doing so. Development may well not be feasible. As a minimum, a Flood Risk Assessment would be required to determine the extent of the site capable of being developed without compromise. The usual attenuation and treatment of runoff criteria would apply.</p>	Fluvial - small part	No	Yes	No	None known	Information provided from the council states a possible requirement for FRA and DIA. We require a FRA which assesses the flood risk from the Gogar Burn which flows along the southern boundary. Majority of site is likely developable.	Already requested in LDP	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
EM, (East Mains) Broxburn CDA	Site east of East Mains, Broxburn	TBC	<p>A flood risk assessment and a drainage impact assessment are required. We support this. We require a FRA which assesses the flood risk from the Broxburn and the small watercourse to the west of the site.</p> <p>Large areas of this site appear at risk of pluvial flooding. There is some doubt as to whether this can be entirely overcome. A flood risk assessment will be required to assess the risk of flooding and determine the extent of the site capable of being developed without compromise. The usual attenuation and treatment of runoff criteria would apply.</p>	Fluvial - small part	adjacent to site	Yes	Upstream flooding through Broxburn in 2008.	Partially completed Broxburn FPS upstream but not thought to extend this far downstream	Information provided from the council states that a flood risk assessment and a drainage impact assessment are required. We support this. We require a FRA which assesses the flood risk from the Broxburn and the small watercourse to the west of the site.	Already requested in LDP	No

Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
AN (Almond North), West Livingston	Almond North, west of Livingston	TBC	Possible requirement for FRA and DIA. There is a small watercourse along the south west boundary that should be investigated. Majority of site is likely developable. The usual attenuation and treatment of runoff criteria would apply.	No	on boundary	No	No	None known	Information provided from the council states a possible requirement for FRA and DIA. There is a small watercourse along the south west boundary that should be investigated. Majority of site is likely developable.	Already requested in LDP	No
AS (Almond South) West Livingston	Almond South, west of Livingston	TBC	The West Calder Burn flows to the south. Information provided from the council states a possible requirement for FRA and DIA. We would support this. Majority of site is likely developable. A large area of this site appears to be at risk of pluvial flooding. A flood risk assessment will be required to assess the risk of flooding and determine the extent of the site capable of being developed without compromise. The usual attenuation and treatment of runoff criteria would apply.	Adjacent to site	going through site	Yes	No	None known	The West Calder Burn flows to the south. Information provided from the council states a possible requirement for FRA and DIA. We would support this. Majority of site is likely developable.	Already requested in LDP	No



Site ref	Proposed use and location	Flood risk issues set out in WLLP	WLC Flood Prevention Officer comments	SEPA - allocation potentially at medium to high risk of flooding	SEPA - watercourse catchment less than 3km <sup>2</sup>	SEPA - potential increase the probability of flooding elsewhere	SEPA - additional information SEPA holds	SEPA - formal flood defences present and current standard of protection	SEPA - detailed comments including aspects for consideration in site specific FRA	SEPA – FRA recom'd?	SEPA - water resilient measures recom'd?
LT (Armadale)	Lower Tarrareoch		<p>This site shows a number of hollows deemed susceptible to flooding. It is thought that these could potentially be engineered to avoid surface water accumulating there. The usual attenuation and treatment of runoff criteria would apply.</p> <p>This site shows a number of hollows deemed susceptible to flooding. It is thought that these could potentially be engineered to avoid surface water accumulating there. The usual attenuation and treatment of runoff criteria would apply.</p>								
CS (Colinshiel, Armadale)			<p>This site shows a number of hollows deemed susceptible to flooding. It is thought that these could potentially be engineered to avoid surface water accumulating there. The usual attenuation and treatment of runoff criteria would apply.</p>								

## Flood risk designations as provided above:

### Flood Risk designations are:

- A** Developers will be required to submit a site specific drainage impact assessment (DIA) with their first application for planning permission whether outline or detail. The assessment must be comprehensive and must deal address the issues of waste and surface water and, where applicable, ground water. It must detail the measures that are proposed to deal with quality, quantity, environmental and amenity issues associated with surface and ground water pre and post-development. The planning authority and other regulators will be seeking an innovative strategy for sustainable drainage that complies and, ideally, exceeds the standards laid out in contemporary guidelines and regulations. In preparing their DIA, developers are referred to the document National Drainage Impact Assessment – Guidance for Developers & Regulators published by SEPA et al. Developers are advised of local variation and early consultation with the planning authority is therefore strongly recommended.
- B** West Lothian covers two catchments with susceptibility to flooding. Both are also sensitive rivers in terms of water quality and quantity. To help minimise the cumulative effects of surface water on adjacent watercourses and a potentially adverse impact elsewhere, the developer will be required to attenuate flows. The generic attenuation criteria are currently under review. Developers must allow for the on site attenuation of the 1:100-year post-development flow to the equivalent of five litres per second hectare with sufficient on-site storage to accommodate the critical volumes from a storm of up to four hour duration. There may be scope to include attenuation as part of the surface water treatment facility required by SEPA. An end of line system alone is unlikely to be acceptable alone, instead, the developer will be required to include a series of source, site and regional controls as an integral part of his overall strategy. There is a strong preference for aboveground features that will help to enhance the landscape, amenity and habitat value of the proposed site. It is likely that the developer might reasonably be required to allocate up to five percent of the site area for the purposes of accommodating aboveground aspects of sustainable drainage systems. It is acceptable for these to be included as part of the public open space provision.
- C** Where development includes or is adjacent to a watercourse, including culverted watercourses, ponds or functional flood plain or is otherwise recognised as having a raised water table or being susceptible to flooding in any other way, developers will be expected to submit with their Drainage impact assessment a full flood risk assessment. This must comply with Annex B of the Scottish Environment Protection Agency Policy No. 4, A SEPA Planning Authority Protocol. The statement will identify the extent of all susceptibility to flooding on the site from higher ground outwith the site, culverted watercourses beneath the site and from the adjacent watercourse from events up to and including the 1:200-year (0.5% probability) and the impacts of developing the site on other areas. The study must be carried out by a suitably qualified and experienced Hydrologist or Chartered Civil Engineer.
- D** It is recommended that the opportunity be taken to assess the current condition watercourse corridors and to bring forward recommendations as to how they might best be restored to enhance habitat value and restore natural fluvial processes. The developer is recommended to liaise with SEPA and to secure advice from the River Restoration Centre in this regard. It is expected that a substantial green corridor will be provided alongside the watercourse. Where culverted watercourses are within or adjacent to a site the planning authority will require the applicant to have investigated the opportunities for opening these and naturally resorting the open channel in a way which accords with best contemporary practice. Development layouts will be expected to include watercourses and aboveground sustainable drainage features in a positive way. The applicant is referred to Watercourses in the Community published by SEPA (ISBN 1-901322-15-7) and Liquid Assets - making the most of our urban watercourses published by the Landscape Institute and the Institute of Civil Engineers. (ISBN 0 7277 2792 3) in this regard.

## Urban capacity sites 2013

Site Ref	Site name	Flood risk issues set out in WLLP	Flood Prevention Officer comments	SEPA - Allocation potentially at medium to high risk of flooding (Within or adjacent to indicative 1 in 200 flood outline) or at flood risk from another source	SEPA - Watercourse catchment less than 3km2 hence not modelled in Indicative Flood Map	SEPA - Potential development of allocation could increase the probability of flooding elsewhere	SEPA - Additional Information SEPA holds e.g. historic record of flooding from any source / post flood survey / Approved Local Authority or SEPA Flood Studies	SEPA - Formal flood defences present and current standard of protection	SEPA - Detailed comments including aspects for consideration in site specific FRA e.g. Structures complicate Flood Risk at site e.g. bridges, culverts etc	SEPA - FRA recom'ed?	SEPA - Water Resilient measures recom'ed?
BLA 3	WEST MAIN STREET, BLACKBURN	NO	Potential flood risk from the Latch Burn. FRA required and buffer planting. Burn is incised.	Yes	N/A	None known	We require a FRA which assesses the risk from the Latch Burn which flows along the southern perimeter of the site.	Yes	No	Yes	N/A
BLA 7	HEALTH CENTRE, BLACKBURN	NO	No significant issues, site drains to combined sewer may be some pressure on sewerage system, flood risk minimal.	No	Nearby surface water/water ponding issues recorded in 2008 and 2009. No further details provided.	None known	N/A	No	No	No	Nearby surface water/water ponding issues recorded in 2008 and 2009. No further details provided.
BLA 31	EX ADULT TRAINING CENTRE, BLACKBURN	NO	No significant issues, site drains to combined sewer may be some pressure on sewerage system, flood risk minimal.	No	Nearby surface water/water ponding issues recorded in 2008 and 2009. No further details provided.	None known	N/A	No	No	No	Nearby surface water/water ponding issues recorded in 2008 and 2009. No further details provided.

Site Ref	Site name	Flood risk issues set out in WLLP	Flood Prevention Officer comments	SEPA - Allocation potentially at medium to high risk of flooding (Within or adjacent to indicative 1 in 200 flood outline) or at flood risk from another source	SEPA - Watercourse catchment less than 3km2 hence not modelled in Indicative Flood Map	SEPA - Potential development of allocation could increase the probability of flooding elsewhere	SEPA - Additional Information SEPA holds e.g. historic record of flooding from any source / post flood survey / Approved Local Authority or SEPA Flood Studies	SEPA - Formal flood defences present and current standard of protection	SEPA - Detailed comments including aspects for consideration in site specific FRA e.g. Structures complicate Flood Risk at site e.g. bridges, culverts etc	SEPA - FRA recom'ed?	SEPA - Water Resilient measures recom'ed?
BRO 3	WEST MAIN STREET, FORMER BROXBURN PRIMARY SCHOOL, BROXBURN	NO	Site part of overall concern in terms of additional development adding to potential flood risk in the Brox Burn catchment if not appropriately mitigated. The site is already developed i.e. not Greenfield, would need proper attenuation. Site subject to previous planning brief	Yes	Broxburn has a well documented history of flooding, with extensive flooding in 2008. There is also a record of surface water issues/water ponding in 2003 and 2007 near to the site.	There is a FPS partially built in Broxburn but does not cover the allocation site	We require a FRA which assesses the flood risk from the Liggat Syke culvert which is shown to flow beneath/ near to the site. The applicant should be minded that PAN 69 states that "Buildings must not be constructed over an existing drain (including a field drain) that is to remain active."	Yes	No	Yes	Broxburn has a well documented history of flooding, with extensive flooding in 2008. There is also a record of surface water issues/water ponding in 2003 and 2007 near to the site.
BRO 6	CHURCH STREET DEPOT, BROXBURN	NO	Site part of overall concern in terms of additional development adding to potential flood risk in the Brox Burn catchment if not appropriately mitigated. The site is already developed i.e. not Greenfield, would need proper attenuation.	No	N/A	There is a FPS partially built in Broxburn but does not cover the allocation site	N/A	No	No	No	N/A

Site Ref	Site name	Flood risk issues set out in WLLP	Flood Prevention Officer comments	SEPA - Allocation potentially at medium to high risk of flooding (Within or adjacent to indicative 1 in 200 flood outline) or at flood risk from another source	SEPA - Watercourse catchment less than 3km2 hence not modelled in Indicative Flood Map	SEPA - Potential development of allocation could increase the probability of flooding elsewhere	SEPA - Additional Information SEPA holds e.g. historic record of flooding from any source / post flood survey / Approved Local Authority or SEPA Flood Studies	SEPA - Formal flood defences present and current standard of protection	SEPA - Detailed comments including aspects for consideration in site specific FRA e.g. Structures complicate Flood Risk at site e.g. bridges, culverts etc	SEPA - FRA recom'ed?	SEPA - Water Resilient measures recom'ed?
FAU 4	ELDRICK AVENUE , FORMER BOWLING CLUB, FAULDHOUSE	NO	FRA and DA required. There is a watercourse through the east of the site. Some surrounding housing to the site has been flooded. Council has previously undertaken works to resolve the situation to the rear of the old cinema.	Yes	Surface water issues/water ponding recorded nearby in 2001, 2004, 2005, 2007, 2008 and 2009. In July 2007 surface water runoff was reported to have flooded garden ground in Fallas Place and properties were flooded in Main Street.	None known	We require a FRA which assesses the flood risk from the small watercourse which flows along the north-east boundary. There is a downstream culvert which may exacerbate flood risk to the site. Development to the site may be constrained due to flood risk.	Yes	No	Yes	Surface water issues/water ponding recorded nearby in 2001, 2004, 2005, 2007, 2008 and 2009. In July 2007 surface water runoff was reported to have flooded garden ground in Fallas Place and properties were flooded in Main Street.

Site Ref	Site name	Flood risk issues set out in WLLP	Flood Prevention Officer comments	SEPA - Allocation potentially at medium to high risk of flooding (Within or adjacent to indicative 1 in 200 flood outline) or at flood risk from another source	SEPA - Watercourse catchment less than 3km2 hence not modelled in Indicative Flood Map	SEPA - Potential development of allocation could increase the probability of flooding elsewhere	SEPA - Additional Information SEPA holds e.g. historic record of flooding from any source / post flood survey / Approved Local Authority or SEPA Flood Studies	SEPA - Formal flood defences present and current standard of protection	SEPA - Detailed comments including aspects for consideration in site specific FRA e.g. Structures complicate Flood Risk at site e.g. bridges, culverts etc	SEPA - FRA recom'ed?	SEPA - Water Resilient measures recom'ed?
FAU 11	MAIN STREET (FORMER CINEMA) SOUTH SIDE, FAULDHOUSE	NO	FRA and DA required. There is a watercourse through the east of the site. Some surrounding housing to the site has been flooded. Council has previously undertaken works to resolve the situation to the rear of the old cinema.	Yes	Surface water issues/water ponding recorded nearby in 2001, 2004, 2005, 2007, 2008 and 2009. In July 2007 surface water runoff was reported to have flooded garden ground in Fallas Place and properties were flooded in Main Street.	None known	We require a FRA which assesses the flood risk from the small watercourse which flows along the southern boundary. There are upstream/ downstream culverts which may exacerbate flood risk to the site. Development to the site may be constrained due to flood risk.	Yes	No	Yes	Surface water issues/water ponding recorded nearby in 2001, 2004, 2005, 2007, 2008 and 2009. In July 2007 surface water runoff was reported to have flooded garden ground in Fallas Place and properties were flooded in Main Street.
FAU 12	EASTFIELD NORTH, FAULDHOUSE	NO	FRA and DA required. There is a culvert from the cricket ground through Victoria Park to the north.	No	N/A	None known	We require a FRA which assesses the risk from the small watercourse which flows along the eastern perimeter of the site.	Yes	No	No	N/A

Site Ref	Site name	Flood risk issues set out in WLLP	Flood Prevention Officer comments	SEPA - Allocation potentially at medium to high risk of flooding (Within or adjacent to indicative 1 in 200 flood outline) or at flood risk from another source	SEPA - Watercourse catchment less than 3km2 hence not modelled in Indicative Flood Map	SEPA - Potential development of allocation could increase the probability of flooding elsewhere	SEPA - Additional Information SEPA holds e.g. historic record of flooding from any source / post flood survey / Approved Local Authority or SEPA Flood Studies	SEPA - Formal flood defences present and current standard of protection	SEPA - Detailed comments including aspects for consideration in site specific FRA e.g. Structures complicate Flood Risk at site e.g. bridges, culverts etc	SEPA - FRA recom'ed?	SEPA - Water Resilient measures recom'ed?
LIV 12	DEANS SOUTH, LIVINGSTON	NO	DA required no FRA, site has not previously been subject to flooding. Developer is, however, expected to make his own assessment of the risk of flooding from all sources including pluvial flooding and bring forward measures to protect the development and other areas that may be affected as a result of the development as an integral part of the development planning process.	No	Surface water issues/water ponding recorded nearby in 2008 and 2009. No further info provided.	None known	N/A	No	No	No	Surface water issues/water ponding recorded nearby in 2008 and 2009. No further info provided.
TCU 11	ALMONDVALE ROUNDABOUT (SW), LIVINGSTON	NO	FRA and DA required. The development is adjacent to a watercourse, including a culverted watercourses and a functional flood plain and may have a raised groundwater levels.	No	Surface water issues/water ponding recorded nearby in 2001. No further info provided.	None known	We require a FRA which assesses the risk from the small watercourse which flows along the western perimeter of the site. The FRA should consider any nearby culverts.	Yes	No	No	Surface water issues/water ponding recorded nearby in 2001. No further info provided.

Site Ref	Site name	Flood risk issues set out in WLLP	Flood Prevention Officer comments	SEPA - Allocation potentially at medium to high risk of flooding (Within or adjacent to indicative 1 in 200 flood outline) or at flood risk from another source	SEPA - Watercourse catchment less than 3km2 hence not modelled in Indicative Flood Map	SEPA - Potential development of allocation could increase the probability of flooding elsewhere	SEPA - Additional Information SEPA holds e.g. historic record of flooding from any source / post flood survey / Approved Local Authority or SEPA Flood Studies	SEPA - Formal flood defences present and current standard of protection	SEPA - Detailed comments including aspects for consideration in site specific FRA e.g. Structures complicate Flood Risk at site e.g. bridges, culverts etc	SEPA - FRA recom'ed?	SEPA - Water Resilient measures recom'ed?
LON 1	SCHOOL PLACE (NORTH), LONGRIDGE	NO	FRA and DA required.  The council has no records to suggest that this site is particularly vulnerable to flooding from any source. The developer is, however, expected to make his own assessment of the risk of flooding from all sources including pluvial flooding and bring forward measures to protect the development and other areas that may be affected as a result of the development as an integral part of the development planning process.  Issue on this site in terms of drainage from the site, site could be drained, take drainage out of combined sewer. Could be flood issues downstream unless there is appropriate alleviation.	No	N/A	None known	N/A	No	No	No	N/A
WIN 1	SITE OF FORMER BEATLIE SCHOOL, WINCHBURGH	NO	No apparent issues, previous planning brief on site. A Drainage Assessment would be required.	No	Surface water issues/ water ponding recorded nearby in 2007, 2008, and 2009. No further info provided.	None known	N/A	No	No	No	Surface water issues/ water ponding recorded nearby in 2007, 2008, and 2009. No further info provided.



Site Ref	Site name	Flood risk issues set out in WLLP	Flood Prevention Officer comments	SEPA - Allocation potentially at medium to high risk of flooding (Within or adjacent to indicative 1 in 200 flood outline) or at flood risk from another source	SEPA - Watercourse catchment less than 3km2 hence not modelled in Indicative Flood Map	SEPA - Potential development of allocation could increase the probability of flooding elsewhere	SEPA - Additional Information SEPA holds e.g. historic record of flooding from any source / post flood survey / Approved Local Authority or SEPA Flood Studies	SEPA - Formal flood defences present and current standard of protection	SEPA - Detailed comments including aspects for consideration in site specific FRA e.g. Structures complicate Flood Risk at site e.g. bridges, culverts etc	SEPA - FRA recom'ed?	SEPA - Water Resilient measures recom'ed?
ARM 8	Mayfield Drive Armadale	FRA & DIA required	FRA & DIA required							FRA & DIA required	
MUB 1	Woodmuir Community Hall, Breich	FRA & DIA required	FRA & DIA required							FRA & DIA required	
MUB 2	Former Woodmuir PS, Breich	FRA & DIA required	FRA & DIA required							FRA & DIA required	
BEN 1	Redevelopment at Burnlea Place, Bents		No issues								
EBb 5	Employment site – Inchmuir Road, Blackburn	FRA & DIA required	FRA & DIA required							FRA & DIA required	
EBg 9	Employment site – Wester Inch	FRA & DIA required	FRA & DIA required							FRA & DIA required	
EWb 5	Balgormie Farm, Whitburn	FRA & DIA required Due to proximity to River Almond	FRA & DIA required Due to proximity to River Almond							FRA & DIA required Due to proximity to River Almond	
BLC 1	Local neighbourhood centre, Wester Inch, Bathgate	FRA & DIA required	FRA & DIA required							FRA & DIA required	