SWANSEA LOCAL DEVELOPMENT PLAN
Report submitted in support of representations on the LDP Strategic Options Consultation Draft report

October 2012
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1.0 INTRODUCTION

1.1 Background

The Council of the City and County of Swansea is currently preparing the Swansea Local Development Plan (LDP) which, when adopted by the Council, will form the statutory development plan for the area for the period to 2025, replacing the current City and County of Swansea Unitary Development Plan (UDP).

LDP preparation is at a relatively early stage. The Council commenced work in November 2009, when the Delivery Agreement for the LDP was approved by the Welsh Government. This indicated that adoption of the LDP was to be achieved by December 2014 and that the plan would be produced in eight stages:

- Stage 1: Delivery agreement
- Stage 2: Pre-deposit plan preparation and involvement
- Stage 3: Pre-deposit plan consultation
- Stage 4: Deposit plan
- Stage 5: Independent examination
- Stage 6: Inspector's report
- Stage 7: Adoption
- Stage 8: Annual monitoring report.

Currently, the Council is at Stages 2 and 3, which are interlinked. As an integral part of these stages, the Council recently published two reports, on which comments are invited by 12 October 2012:

- Vision and Objectives Consultation Draft, July 2012; and
- Strategic Options Consultation Draft, July 2012.

The Strategic Options report does not contain proposals, but outlines spatial options and areas for consideration for development. The areas for consideration include a large area of land at Felindre, in respect of which the report states:

‘…The current focus for development of this area is based on bringing forward solely employment related uses (as proposed in the UDP). An alternative approach would see a major housing development alongside business development, with associated supporting uses, community facilities and open space.’
1.2 The Felindre site

The Felindre site totals 190 hectares and is owned by the Welsh Ministers (134 hectares) and the Council (56 hectares): see Figure 1.

The Felindre Tinplate Works that stood on part of the site closed in 1989 and was demolished in 1996. In 1997 outline planning permission was granted for general industrial (Class B2) and ancillary uses, with a view to attracting a major inward investment, but none was found. This led to a reassessment of the future role of the site, as a result of which outline planning permission number 2006/0773 was granted in 2006 for a ‘strategic business park for B1 and B2 uses to accommodate emerging industries, high tech manufacturing, high level services, ancillary uses, associated car parking, landscaping and access roads’. Although the outline planning permission extends to the whole of the 190 hectare site, development is restricted initially to the previously developed (or ‘brownfield’) land, which is that part of the site on which the tinplate works stood. The application was supported by a master plan and environmental statement; a development framework was prepared subsequently to discharge one of the planning conditions.

In 2009 the Welsh Government and the Council entered into a joint venture agreement (JVA) for the period 2009-19, to promote the site for employment development. Before this, they had already made a significant investment in land acquisition, site reclamation and site preparation and in providing infrastructure, including a new junction on the M4 motorway and a new site access road. Further investment in servicing the site is programmed for 2012/13 and 2013/14, with a view to making the site immediately available for employment uses.

The Felindre site is in three distinct parts (see Figure 1):

- **Area A**: the brownfield site, which has been prepared for employment uses pursuant to the outline planning permission;

- **Area B**: the greenfield site; and

- **Area C**: the tip site, which lies to the east of Burma Road.

This report is concerned with the future development of Area B, albeit with due regard to the development that is proposed for Area A. Area C is owned by the Council.
KEY TO LAND OWNERSHIPS

Welsh Ministers  ► Orange
City and County of Swansea  ► Blue

Figure 1. Land ownership
1.3 Purpose of the report

The Welsh Government's Department for Business Enterprise Technology and Science submitted the Felindre site as a candidate site for consideration during the preparation of the LDP (site reference LF009). The candidate site submission stated that the proposed use is: 'Strategic business park with associated mixed use development residential employment and ancillary retail uses'. The capacity of the residential element was estimated to be 300 to 500 units.

This report is intended to support representations made by the Department for Business Enterprise Technology and Science on the Strategic Options Consultation Draft report in respect of land at Felindre. Following this introduction, the report is presented in three main sections, followed by a conclusion:

- Section 2 outlines the existing UDP allocations and the LDP's draft vision, objectives and strategic options as they relate to the Felindre site.
- Section 3 presents a succinct environmental profile of the site.
- Section 4 sets out the development potential of the site for a sustainable urban village and includes the Land use framework drawing.
THE DEVELOPMENT PLAN

2.1 Swansea Unitary Development Plan

The current development plan for the area in which the site is located is the City and County of Swansea Unitary Development Plan, adopted by the Council in 2008, which provides planning policies for the period to 2016.

One of the goals of the UDP is to ‘help promote the sustainable growth of the local and regional economy’. The development of Felindre as a high quality business park is viewed as one of the strategic actions required to meet that goal.

UDP Policy EC1 allocates 190 hectares of land at Felindre as a strategic business park, comprising 90 hectares of brownfield land and 100 hectares of greenfield land. The extent of the allocation is shown on Figure 2, which is an extract from the UDP Proposals Map, on which the site boundary has been superimposed.

The explanatory text to Policy EC1 states that Felindre is a strategic employment site of regional significance, which aims to provide a high level, high quality business park for Class B1 and B2 uses. It states that the greenfield land within the site will only be released following the development of the brownfield land and provided that there is a strategic employment justification. It does not anticipate that the greenfield land will come forward during the plan period (to 2016). For this reason, the greenfield element is identified as a “contingency employment site” on the UDP Proposals Map.

2.2 LDP vision and objectives

The Council’s Vision and Objectives document sets out the core purpose of the plan and a set of overarching objectives. The draft LDP vision is as follows:

‘By 2025 Swansea will be a vibrant and distinctive City and County that:

- Is a desirable place to live, work and visit
- Capitalises on its regional role and Waterfront City location
- Enables a competitive and prosperous economy
- Protects and enhances its natural, built and cultural environment
- Is accessible with a sustainable, integrated transport system
- Makes efficient use of its natural resources

- Is safe and feels safe
- Encourages and promotes good health
- Promotes sustainability and equality
- Supports the delivery of the best possible services and facilities
- Facilitates the provision of excellent education infrastructure.

The LDP objectives seek to elaborate upon the vision and focus on the deliverability of the plan. The document sets out three sets of draft LDP objectives, dealing with (a) economic prosperity and lifelong learning, (b) quality environment and (c) community and social provision.

'Economic prosperity and lifelong learning
- Support the development of Swansea as an economically competitive place and a regional economic driver
- Reinforce and improve the City Centre as a vibrant regional focus for business and administration, shopping, culture and leisure
- Direct new housing to economically developable sites close to supporting employment, retail, leisure, education and other community facilities
- Ensure that communities have sufficient good quality housing to meet their needs
- Promote and enhance a sustainable rural economy
- Improve, expand and diversify appropriate, sustainable tourism facilities and infrastructure
- Provide for the development of accessible, high quality education, training and employment infrastructure and facilities

Quality environment
- Promote development that avoids significant adverse environmental impacts and respects constraints
- Protect and enhance the system of accessible greenspace
- Support adaptation and mitigation measures due to climate change
- Protect the interplay of town and country
- Preserve or enhance the quality of the natural, cultural and historic environment
- Promote good design which is locally distinct, sustainable, innovative and sensitive to location
- Reduce the effects of environmental pollution from development

Community and social provision
- Promote an integrated and sustainable transport system
- Develop appropriate types of renewable energy resources and energy infrastructure
- Encourage the efficient use of minerals and safeguard existing resources
• Facilitate the sustainable management of waste
• Ensure improvements to the water environment and promote the sustainable use of water
• Promote the provision of state of the art utility and telecommunications infrastructure
• Support the development and management of safe and vibrant places and spaces
• Create social and physical environments that encourage and support good health and well being for all sectors of the community
• Promote equality of access to health, community, leisure and recreation facilities.

The Appendix to this report assesses the extent to which the urban village proposal for Felindre meets these draft objectives.

2.3 LDP strategic options

In preparation for producing the preferred LDP strategy, the Council’s Strategic Options document sets out various options that the Council is considering. This consideration is in three parts:

• The first part deals with levels of future growth based on population forecasts.
• The second part puts forward four possible spatial approaches for accommodating the level of growth that is required.
• The third part identifies areas for consideration for development, which the Council proposes to assess for their suitability. The Felindre site is one of these.

Level of growth

The Council is considering four population scenarios: one based on the Welsh Government’s official projection, which is the highest; the other three on variations of it. At this stage, the Council has not reached a conclusion as to which of these it will adopt.
### Projection

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</table>

Source: LDP Background Document: Population and Housing Projections, City and County of Swansea, June 2012

### Spatial options for growth

The Council is considering four broad strategic options:

- Option 1: Spread approach - large and small edge of settlement allocations;
- Option 2: Spread approach - large and small edge of settlement locations, including limited rural/semi-rural extensions;
- Option 3: Sustainable urban extensions; and
- Option 4: Mixed use major development areas.

Again, the Council has not yet expressed a preference for one of these options, but the report notes that:

- Each option is underpinned by the aim of maximising appropriate brownfield land and regenerating key urban areas in Swansea.
- Brownfield sites are a diminishing resource in Swansea.
- A “brownfield only” strategy is not considered a deliverable option for Swansea.
- Providing for all of Swansea’s development requirements over the plan period (2010-25) will require significant new land for development.

Felindre is identified on the Strategic Options Concept Plan as one of four possible major development areas under Option 4.
3.0 ENVIRONMENTAL PROFILE OF THE SITE

3.1 Location and urban context

The Felindre site is located on the northern outskirts of Swansea, the second largest city in Wales and the principal commercial and administrative centre for the Swansea Bay region. Swansea is identified as a “Key Settlement of National Importance” in the statutory national plan (People, Places, Futures: The Wales Spatial Plan Update 2008 (Welsh Assembly Government, 2008), which views the city’s role as being an essential one in the city region:

‘A network of interdependent settlements with Swansea at its heart which pull together effectively as a city region with a modern, competitive, knowledge-based economy designed to deliver a high quality of life, a sustainable environment, a vibrant waterfront and excellent national and international connections.’

The site is strategically located, lying adjacent to junction 46 on the M4 motorway, and within two miles of junctions 45 (to the east) and 47 (to the west): see Figure 3. The M4 motorway provides easy communications east-west throughout South Wales: from junction 46 Cardiff is accessible in 45 minutes and Cardiff Airport, Newport and the Severn Bridge within an hour; to the west Milford Haven is within an hour and a half’s drive time. Swansea city centre and waterfront are easily accessible from junctions 45, 46 and 47 and, at junction 43 - only five miles from the site - there is direct access to the A465(T) Heads of the Valleys Road, which connects to the M50 motorway and the Midlands. Approximately 1.5 million people live within an hour’s drive time of the site; nearly 600,000 within 30 minutes; and over 350,000 within 20 minutes.

The site lies to the north of the motorway and between it and Penllergaer Forest. It is located within the Llangyfelach ward of the City and County of Swansea which, in 2010, had an estimated population of 5,183 (LDP Baseline Data Ward Profiles Llangyfelach, City and County of Swansea, July 2012). The nearest existing settlement is Llangyfelach, which lies immediately south of junction 46. Other settlements in the vicinity include Penllergaer to the west, Morriston to the south-east, Cwmrhydyceirw to the east and Pontlliw to the north-west. Felindre itself is a small village located about two miles to the north.

3.2 Statutory planning designations

The site is largely unconstrained by statutory planning designations. Two listed buildings are located in the western side of the site (see section 3.6 below), but it does not contain any scheduled monuments or statutory nature conservation sites.
The site is not located in a national park, area of outstanding natural beauty or a designated conservation area. The access road from junction 46 crosses Llangyfelach Common, but the remainder of the site does not comprise open access land under the Countryside and Rights of Way Act 2005. There are no bridleways or public footpaths crossing the greenfield part of the site.

3.3 **Ground conditions**

The bedrock at the site comprises the Grovesend Beds of the Upper Coal Measures, which are overlain by glacial deposits and, in part, by alluvium and, on the brownfield site, by made ground. It is understood that coal has been worked at shallow to moderate depths in the vicinity of the site and there are records of shafts and adits in close proximity. Appropriate investigations will be required to confirm what precautions and type of foundation design will be necessary.

3.4 **Topography**

The site is at a general elevation of 70 to 95 m above Ordnance Datum (AOD), with levels rising towards the north-west. The site has a pleasant southerly aspect, which will assist building orientation to make the best use of natural daylight and control solar gains.

The site is drained by a series of small, open-channel watercourses which flow to the Afon Llan, which runs from north-east to south-west through the southern part of the site.

3.5 **Hydrology**

Planning policy guidance on flood risk is set out in Technical Advice Note 15: Development and Flood Risk (Welsh Assembly Government, July 2004). TAN 15 is accompanied by a series of development advice maps. On the latest (2011) version of this map, the site is shown to lie principally within flood risk Zone A, which is defined as land considered to be at little or no risk of fluvial or tidal/coastal flooding. The TAN indicates that, for land within Zone A, there is no need to consider flood risk further.

Small, isolated parts of the site are shown to lie within Zone B, which is defined as land known to have been flooded in the past (evidenced by sedimentary deposits). Land in Zone B is generally suitable for most forms of development. Assessments, when required, are unlikely to identify consequences that cannot be overcome or managed to an acceptable level.
Small areas of land adjoining the Afon Llan, in the southern part of the site, are shown to lie within Zone C2, which is defined as areas of the floodplain without significant flood defence infrastructure. A detailed flood study was carried out in 2005, which confirmed the extent of the 1 in 1000 year (0.1% probability) floodplain as far west as Bryntywod and was used to determine the extent and acceptability of the business park development. To the west of Bryntywod, the Zone C2 land lies outside the proposed development area.

3.6 Cultural heritage

The site does not contain any scheduled monuments and does not form part of an historic park, garden or landscape as recorded in the non-statutory Register of Landscapes, Parks and Gardens of Special Historic Interest in Wales (Cadw & ICOMOS UK, 2000). The nearest such designated area is a mid-nineteenth century picturesque landscape at Penllergaer, which is located to the south of the motorway.

The site contains two buildings that have been statutorily listed as being of special architectural or historic interest:

- **Tredegar-fawr**
  Post-mediaeval seventeenth and eighteenth century farmhouse
  Listed Grade II in 1998 (record number LB19983)

- **Pigsty at Tredegar-fawr**
  Post-mediaeval nineteenth century lofted pigsty
  Listed Grade II in 1998 (record number LB19984).

The effect of development on a listed building or its setting is a material planning consideration. There is no intention to demolish these listed buildings and the development will be designed so as not to adversely affect their settings or that of a nearby listed building, Cefnfforest-fawr, a post-mediaeval eighteenth century house (listed Grade II in 2002, record number LB26238).

The site contains a number of sites of archaeological interest recorded on the regional Sites and Monuments Record maintained by the Glamorgan-Gwent Archaeological Trust. Although these sites do not have statutory protection, the impact of development on them would be assessed as part of the planning application process. Provision will be made also for investigating and recording unexpected archaeological remains discovered during construction. A number of hedgerows within the site may be considered historically “important” under The Hedgerow Regulations 1997. Hedgerows can, beneficially, be incorporated into the development both as landscape features and as wildlife corridors.
3.7 Landscape

The Countryside Council for Wales’s LANDMAP geographical information system is an important resource for making landscape assessments. It identifies and explains their most important characteristics and qualities, whether they are ordinary, but locally important landscapes, or nationally recognized spectacular landscapes. LANDMAP describes and evaluates aspects of the landscape and provides the basis for a consistent Wales-wide approach to landscape assessment. It is endorsed by the Welsh Government (see paragraph 5.3.13 of Planning Policy Wales Edition 4, Welsh Government, February 2011) and is used widely by local planning authorities in Wales to inform policy guidance and decision making.

For each of five “aspects” - geological, habitats, historic, cultural, visual and sensory - landscapes are assessed on a scale ranging from low - moderate - high - outstanding. The published assessment for Swansea records the following assessments for each of the five aspects:

- **Geological Landscape aspect**: part of an extensive area assessed as “outstanding” (aspect area SWNSGL033) and including the Penllergaer Railway Cutting Site of Special Scientific Interest (SSSI), which was designated on geological criteria.

- **Landscape Habitats aspect**: assessed as “high” in the main (aspect area SWNSLH406) because “…a number of priority habitats are present and area supports Marsh Fritillary and is likely to support a number of other key species…” and “moderate” for the Afon Llan (aspect area SWNSLH438).

- **Historic Landscape aspect**: part of an extensive area assessed as “outstanding” (aspect area SWNSHL398) because of its “…outstanding integrity, survival, rarity and potential…”.

- **Cultural Landscape aspect**: assessed as “high” for the greenfield element (aspect area SWNSCL029) as part of a very extensive area on account of its “…multi-period historic and evolved cultural significance” and “outstanding” for part of the brownfield element (aspect area SWNSCL032).

- **Visual and Sensory aspect**: assessed as “moderate” (aspect area SWNSVS811 for the greenfield element and aspect area SWNSVS738 for part of the brownfield element).
Overhead aerial photograph showing the site and its immediate context.
3.8 Ecology

The site does not contain any statutorily designated nature conservation sites. The nearest Sites of Special Scientific Interest are the Nant-y-Crimp SSSI - a 65.5 hectare area of wet pastures, species-rich neutral grasslands and semi-natural woodland - and the Penllergaer Railway Cutting SSSI - a 3.5 hectare geological exposure of the Grovesend Beds strata. At their closest, these SSSIs are approximately half a mile from the edge of the site.

The site is not designated as a non-statutory Site of Interest for Nature Conservation (SINC). The Council is currently reviewing SINC in its area and it is believed that parts of the site may meet the qualifying criteria set out in Guidelines for the Selection of Wildlife Sites in South Wales (The South Wales Wildlife Sites Partnership, 2004).

Detailed ecology surveys of the site carried out previously (by Cresswell Associates) identified and evaluated five broad habitat types with associated species:

- **Rhos pasture and related habitats:** These habitats are considered to be of value to a wide variety of protected and/or uncommon plant and animal species, including the marsh fritillary butterfly (a European protected species) and reptiles, and to provide nesting and foraging habitat for a range of bird species. These habitats were evaluated as being of at least “high local” nature conservation value.

- **Species-poor grassland, bare ground and scattered scrub:** Such areas are generally of low intrinsic nature conservation value, but may be of particular value to reptiles and breeding birds and as badger foraging habitat. These habitats have been evaluated as being of “moderate” nature conservation value.

- **Woodland:** The woodland area at Felindre is of intrinsic nature conservation value and supports a number of rare species (including various species of moths) and provides habitat for bats, barn owl and potentially red kite. This habitat has been evaluated as being of “high local” nature conservation value.

- **Hedgerows and field boundaries:** A large number of the hedgerows are classified as “important” under The Hedgerow Regulations 1997 and many support significant populations of bluebells. This habitat has been evaluated as being of “high local” nature conservation value.

- **Wetland habitat:** The Afon Llan is of importance for the local otter population and has been evaluated as being of “high local” nature conservation value. Ponds and ditches on site support common frog, common toad and palmate newt and have been evaluated as being of “moderate local” nature conservation value.
These habitats were mapped by Cresswell Associates, whose findings and assessments have been taken into account in designing the Land Use Framework for the site.

3.9 Land use

The site may be subdivided into two distinct elements. The southern part of the site comprises a large engineered plateau on the site of the former Felindre Tinplate Works. The plateau is accessed by a new highway from junction 46, which links with the minor road running northwards to the village of Felindre and beyond. Associated with this part of the site (but outside the land ownership) is the large National Grid sub-station, which is located on the eastern side of the new access road. This is served by several overhead electricity transmission lines, including some large 132 kV lines.

The northern and western parts of the site comprise woodland and farmland. The latter is low grade farmland, categorised as Grade 4 on the Agricultural Land Classification Map of England and Wales (Sheet 153, Ministry of Agriculture, Fisheries and Food, 1966). Grade 4 is described as: ‘Land with severe limitations due to adverse soil, relief or climate, or a combination of these… Land in this grade is generally only suitable for low output enterprises…’. Planning policy seeks to conserve the best and most versatile agricultural land, which is defined as land in Grades 1, 2 and 3A; Grade 4 land is not subject to this restriction.
4.0 SUSTAINABLE URBAN VILLAGE DEVELOPMENT POTENTIAL

4.1 Introduction

Substantial survey and assessment work - together with stakeholder consultation - will be necessary before a refined master plan can be submitted to the Council for detailed consideration as part of any future application for planning permission. As such, it is not the intention of this report to provide a definitive master plan, but rather to demonstrate that the proposed allocation is broadly acceptable in planning terms and that the site is capable of delivering the type and quantum of development envisaged.

4.2 The vision is to create a vibrant and sustainable new village with a strong sense of community, where people will choose to live, work and spend their leisure time, and which will complement the plans for the adjoining strategic employment site.

The key principles that underpin this vision, and on which the land-use framework has been designed, are as follows:

- the creation of a distinctive urban form with a strong sense of place that is appropriate to its topography and wider context;
- a simple and legible network of streets and pedestrian/cyclist routes that connect well into adjacent areas;
- a village green as the focus of the new settlement, within walking range of all the housing areas;
- a range of high-quality housing with a mixture of tenures; high sustainability standards for buildings and the possibility of pioneering/exemplar schemes;
- a variety of other uses - including small-scale employment, school, community facilities and shops - at the heart of the village;
- access to public transport within acceptable walking distances; and
- substantial, interconnected areas of “green infrastructure”, including conservation of important existing habitats and opportunities for biodiversity enhancement.

4.3 Land uses

The Land use framework drawing included as Figure 4 on page 24 shows how development on the site can be arranged. The quantum of development is summarised in the land use budget on page 25.
Housing
The drawing demonstrates that approximately 1,000 dwellings can be accommodated on the site boundary, while making provision for other ancillary land uses and amenity. This estimate of site capacity is based on a density of 30 dwellings per hectare (12 dwellings per acre), which is generally regarded as a medium density of development. In accordance with the Welsh Government's and the Council's policies, a proportion of the dwellings would be affordable housing, producing a mixed tenure development.

Employment
The current employment strategy for Felindre is set out in the Felindre Strategic Employment Site Development Strategy: Review No. 1, which was adopted by the Council in April 2010. It states that:

- Brownfield site: ‘...creation of a strategic business park for B1, B2 uses in line with both the outline planning permission and JVA. In addition other uses will be considered, on their merits, with particular emphasis on high employment provision, both qualitative and quantitative, which meets the adopted design code...for the site.’

- Greenfield site: ‘...considered for: large scale B1 and B2 uses in accord with Policy EC1; and sui generic strategic employment developments, on their merits as a justified departure from the UDP. On the substantial completion of infrastructure works for the brownfield site further infrastructure works to bring the greenfield forward for B1/B2 and other high quality uses with high employment provision, both qualitative and quantitative will be supported.’

- Tip site: ‘...identified for environmental infrastructure uses (waste recycling, waste to energy, sustainable energy generation etc)...’

The strategy is unchanged as far as the brownfield site and the tip site are concerned. The principal change is that the greenfield site, which has outline planning permission for employment development, is proposed by the Welsh Government to be used to create a mixed-use urban village. As part of this proposal, additional areas have been allocated for local business/commercial use.

Education
Council guidance provides formulae for calculating the number of pupils generated by residential development (Supplementary Planning Guidance: Planning Obligations, City and County of Swansea, March 2010):
Figure 4. Land use framework
### Land use budget

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<th>Size (ha)</th>
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<td>Housing area 3 (north)</td>
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<td>34.42</td>
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<td>Children's play areas</td>
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• 0.31 primary school places per relevant residential unit (0.07 for flats);
• 0.22 secondary school places per relevant residential unit (0.05 for flats);
• 0.04 post-16 places per relevant residential unit (0.01 for flats).

On this basis, a development of 1,000 dwellings would require approximately 310 primary school places, 220 secondary school places and 40 post-16 places. Provision has been made for a site capable of accommodating a single-from entry primary school, with potential to be expanded to a two-form entry school should there be longer term demand.

The on-site provision of a secondary school would not be feasible: the Council’s guidance indicates that a development of 3,500 dwellings is needed to support a secondary school.

**Village centre**

The village centre is intended to be a focal point for the community, providing essential services and facilities. It is located at the geographic centre of the development, at a crossroads and on a proposed bus route. The primary school site is located here, close to sports pitches, and with adjacent sites that could accommodate a community hall, place of worship, health centre, pharmacy, etc. Sites are also shown for local shop(s) - which could include a post office - and for leisure. These are arranged around a village green.

**Recreation**

It is proposed to provide recreational open space in accordance with the recommended benchmark standards: 2.4 hectares per 1,000 resident population (Planning and Design for Outdoor Sport and Play, Fields in Trust, 2008), subdivided into 1.6 hectares for pitch sports and 0.8 hectare for children’s playing space. Assuming an average household size of 2.10 persons in 2025, the end of the plan period, (Household Projections for Wales 2008-2033, Welsh Government), a development of 1,000 dwellings will result in an on-site population of 2,100. This will necessitate 5.04 hectares of recreational open space:

• Pitch sports  3.36 hectares
• Children play areas  1.68 hectares
• Total    5.04 hectares.

The children’s play areas will be accommodated within the residential layout, as local areas for play (LAPs), local equipped areas for play (LEAPs) or neighbourhood equipped areas for play (NEAPs). Provision for pitch sports is grouped, to facilitate management, and located close to the primary school site.
4.4 Access

Vehicle access points
Given the scale of development proposed for the site, it is advisable that at least two vehicle access points be provided. Of the various options considered, it is concluded that the arrangement shown on the Land use framework drawing would be the most appropriate. This entails utilizing the two existing accesses, both of which are adopted public highways: one from M4 junction 46; the other from the A48 via Bryn-tywod. The former is purpose-designed and built. The latter will need to be improved (in addition to works already planned, such as the strengthening of an existing weak bridge) and it appears that there is sufficient highway land along its alignment and at its junction with the A48 (where visibility is good) to secure necessary improvements.

The Land use framework shows potential for a third access point, from the road leading north to the existing Felindre village.

The exact nature of local highway improvements will need to be determined following the completion of a transport assessment that will be required to be submitted in support of a planning application.

Walking and cycling
The Land use framework makes provision for a network of shared cycle and pedestrian routes, separate from and additional to the highway routes. These are integrated with the strategic employment site so as to facilitate journey to work and use by the employment site labour force of local facilities in the village centre.

Public transport: bus
The development of the strategic employment site is predicated on access by bus and the infrastructure has been designed accordingly, with the bus route entering via Bryn-tywod. The bus route will be extended to serve the urban village. The Land use framework shows notional positions for bus stops, which have been located to be within acceptable walking distance of all developed parts of the site, which is generally taken to be 800 metres (see Table 3.2 of Guidelines for Providing for Journeys on Foot, The Institution of Highways & Transportation, 2000).

Public transport: rail
The Swansea District Line abuts the southern edge of the site. The Felindre Tinplate Works was served by freight trains and proposals for the strategic employment site suggested that continued rail access may be possible. The potential and economic viability of providing a passenger rail halt would have to be assessed and, even if practicable, it would have to be regarded as a long term option.
4.5 Surface water drainage

The surface water drainage strategy for the site will need to accord with prevailing legislation and planning policy. Currently, the most significant factors influencing the design of the drainage strategy are the Flooding and Water Management Act 2010, and the policies of the Welsh Government and Environment Agency Wales.

Surface water run-off will be attenuated to greenfield run-off rates, to be agreed with the Environment Agency Wales. The use of sustainable drainage systems (SuDS) is favoured and they can significantly reduce harm to water resources and improve the environment by moderating flows and filtering run-off. The choice of SuDS is dependent on ground conditions: the use of soakaways may be impracticable as parts of the site have impeded drainage and infiltration rates of the underlying ground are not known. It is likely that attenuation will have to be provided at several locations and in varying formats.

4.6 Utility services

All services - electricity, foul sewerage, gas, telecommunications and water - exist on or close to the site and, in some cases, have been strengthened to cater for employment development. Notwithstanding this, the feasibility of supplying services to the proposed development will need to be the subject of a specific feasibility study.

4.7 Green infrastructure

The Land use framework has due regard to the landscape character of the site, its ecology and visual amenity. Potential adverse impacts are moderated by avoiding developing areas of highest value - even though they are not subject to statutory and non-statutory designations - and by incorporating mitigation measures, such as buffer zones. These measures are based on four broad aims:

- to retain woodlands, mature trees and “important” hedgerows within the site;
- to retain areas of Rhos pasture;
- to incorporate buffer zones to the woodland edge; and
- to enhance biodiversity in the development design.

There is a strong and historical field pattern within the site, frequently defined by hedgerows. The Land use framework retains existing vegetation wherever practicable.
As the detailed master plan evolves, it will need to be accompanied by a landscape and biodiversity strategy, which will include proposals for mitigation and management. There are many overlaps between the strategies for ecology, drainage and landscape. The most appropriate mechanism to unite these various strategies will be a “Green Infrastructure” approach, defined as:

‘… a strategically planned and delivered network of high quality green spaces and other environmental features. It should be designed and managed as a multi-functional resource capable of delivering a wide range of environmental and quality of life benefits for local communities.’ (Green Infrastructure: Connected and Multi-functional Landscapes, The Landscape Institute, 2009).

This approach will consolidate the various strategies and promote the creation of a multi-functional and interconnected network of green spaces within the master plan, maximising the benefits to future residents of the site and those working on the adjacent strategic employment site.

4.8 Sustainable development

The Welsh Government is at the forefront in promoting sustainable development. In accordance with Welsh Government policy, development on the site will be sustainable and the means by which this will be achieved will be demonstrated in the documents that will accompany an application for planning permission, which will include a sustainability statement.

At this early stage, the sustainability measures identified include the following:

- Co-location of housing, employment, community facilities and recreation open space, to reduce travel by private car.
- Encouragement of access on foot and by bicycle.
- Extension of bus routes through the development, to facilitate travel by public transport, and the location of bus stops within acceptable walking distances.
- Mixed-tenure housing, with an agreed proportion of affordable housing in accordance with emerging LDP policy.
- Use of sustainable building standards in accordance with national planning policy (Code for Sustainable Homes and BREEAM) and the Welsh Building Regulations.
- Energy-saving measures and on-site renewable energy generation.
- Use of topography and aspect to make the best use of natural daylight and control solar gain.
• Water management and water-saving measures.
• Use of sustainable drainage systems where feasible.
• Habitat management and on- and off-site biodiversity compensation and enhancement measures.
• Waste management during construction and throughout the lifetime of the development.
5.0 **CONCLUSION**

In order to help meet the identified need for new homes in the plan period (2010-2025), the Swansea Local Development Plan will need to allocate substantial areas of land for new housing. The Council has, rightly, adopted a realistic and balanced approach, stating that it will need to allocate both brownfield sites and greenfield sites, thus ensuring range and choice. The Council is currently considering spatial options to accommodate the forecast growth and has identified areas for consideration, including a large area of land at Felindre.

The Felindre site is very well located:

- It lies within an area identified as a “Key Settlement of National Importance” in the statutory national plan and a hub for further development in the Swansea Bay city region.
- It is strategically located in relation to the regional highway network, being easily accessible from the M4 motorway.
- It lies on the outskirts of the existing built-up area, which offers potential for extending existing public transport routes and those proposed to serve the strategic employment site.
- It adjoins a strategic employment site, in which significant public investment has been made already, and offers an outstanding opportunity to co-locate housing and associated uses with employment.

Significantly, the site is relatively free of environmental constraints. It is not subject to flood risk; it does not contain any statutory designations (apart from two listed buildings, both of which would be retained); and it does not comprise best and most versatile agricultural land. Its topography, landform and aspect are conducive to development. Parts of the site are acknowledged to be of ecological value: principally the Rhos pasture, woodlands and hedgerows. These are proposed to be largely retained as part of the development and, where appropriate, buffer zones and wildlife corridors will be introduced, together with other mitigation and enhancement measures.

Although much work needs to be carried out before a refined master plan can be presented, preliminary work in preparing the Land use framework indicates that the site is capable of accommodating an urban village with a mixed use development of approximately 1,000 new homes, employment, community facilities and green infrastructure.

Development of the site will not be hindered or delayed by difficulties associated with land assembly. The whole site is consolidated in public ownership. The Welsh Government has placed sustainability at the forefront of its agenda and is exceptionally well placed to promote a comprehensive, sustainable development at the site.
The site is suitable and deliverable. It has the potential to make an important contribution to meeting the area’s future need for new homes (5% to 10% according to which forecast is adopted), new jobs and new enterprises, and to do so in a way that is both environmentally attractive and sustainable. Allocation of the site for an urban village would assist in meeting the Council’s vision for Swansea in 2025 and in meeting its LDP objectives: see Appendix.
## Response to LDP draft objectives

<table>
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<tr>
<th>Objective</th>
<th>Comment</th>
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<td><strong>Economic prosperity and lifelong learning</strong></td>
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| Support the development of Swansea as an economically competitive place and a regional economic driver | • Strategic employment site  
• Additional employment opportunities introduced as part of the development                                      |
| Reinforce and improve the city centre as a vibrant regional focus for business and administration, shopping, culture and leisure | Not applicable                                                                                                                        |
| Direct new housing to economically developable sites close to supporting employment, retail, leisure, education and other community facilities | • Co-locates housing with the existing strategic employment site  
• Sustainable development that includes retail, leisure, education and community facilities  
• Land assembly complete; public ownership                                    |
| Ensure that communities have sufficient good quality housing to meet their needs | • Development will provide approximately 900 new homes  
• Mix of tenure, including affordable housing  
• Mix of house types  
• Quality control by landowner as well as local planning authority          |
| **Promote and enhance a sustainable rural economy**                        |                                                                                                                                       |
| Improve, expand and diversify appropriate, sustainable tourism facilities and infrastructure | Local employment opportunities                                                                                                           |
|                                                                            | Not applicable                                                                                                                        |
Provide for the development of accessible, high quality education, training and employment infrastructure and facilities

- Development will include a new primary school
- Adjacent to existing strategic employment site
- Additional employment opportunities introduced as part of the development

### Quality environment

**Promote development that avoids significant adverse environmental impacts and respects constraints**

- Avoids flood risk areas
- Avoids statutory nature conservation designations
- Avoids areas of landscape designation
- On-site constraints respected in the development proposal

**Protect and enhance the system of accessible greenspace**

- Recreation open space provided to the required standard
- Village green
- New off-road footpaths and cycleways

**Support adaptation and mitigation measures due to climate change**

- Avoids flood risk areas
- Energy efficient buildings
- Potential for renewable energy generation

**Protect the interplay of town and country**

- Introduction of buffer zones to woodlands
- New off-road footpaths and cycleways

**Preserve or enhance the quality of the natural, cultural and historic environment**

- Retention of Rhos pasture
- Retention of woodlands and hedgerows
- Retention of listed buildings; no adverse effect on their setting
- Introduction of wildlife corridors and buffer zones
- Enhancing biodiversity
<table>
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<tr>
<th>Description</th>
<th>Action Points</th>
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| Promote good design which is locally distinct, sustainable, innovative and sensitive to location | • Design control by landowner as well as local planning authority  
• Potential for pioneering/exemplar projects |
| Reduce the effects of environmental pollution from development              | • Use of sustainable drainage where practicable                               |
| **Community and social provision**                                         |                                                                               |
| Promote an integrated and sustainable transport system                      | • Extension of existing and proposed bus routes to serve the development       
• Shared footpaths/cycleways                                                 
• Bus stops sited within acceptable walking distance                          
• Potential railway halt (long term)                                          |
| Develop appropriate types of renewable energy resources and energy infrastructure | • Potential for renewable energy generation                                    |
| Encourage the efficient use of minerals and safeguard existing resources   | • Promote lean construction technologies and use of locally-sourced materials  |
| Facilitate the sustainable management of waste                              | • Construction waste management during implementation                         
• Waste recycling in homes and businesses                                      |
| Ensure improvements to the water environment and promote the sustainable use of water | • Water meters installed in all new buildings                                 
• Rainwater harvesting                                                         |
| Promote the provision of state of the art utility and telecommunications infrastructure | • Broadband                                                                   |
| Support the development and management of safe and vibrant places and spaces | • Village green at the heart of the community  
• Children's play areas sited within the housing areas for supervision  
• Provision for pitch sports, close to the school and village centre |
| Create social and physical environments that encourage and support good health and well being for all sectors of the community | • Accessible greenspace  
• New, off-road footpaths and cycleways |
| Promote equality of access to health, community, leisure and recreation facilities. | • Comprehensive development that includes ancillary uses and facilities  
• Sites identified for health centre, pharmacy, primary school, leisure, etc  
• Proximity to Morriston Hospital |