

03

towards a masterplan - The Vision

This section describes how the masterplan presented within this PPIP has evolved, drawing on the background studies and analyses which were initially incorporated into the Vision Document (October) 2019. Some representative pages of the report are shown opposite (Figures 9 (a-f)).

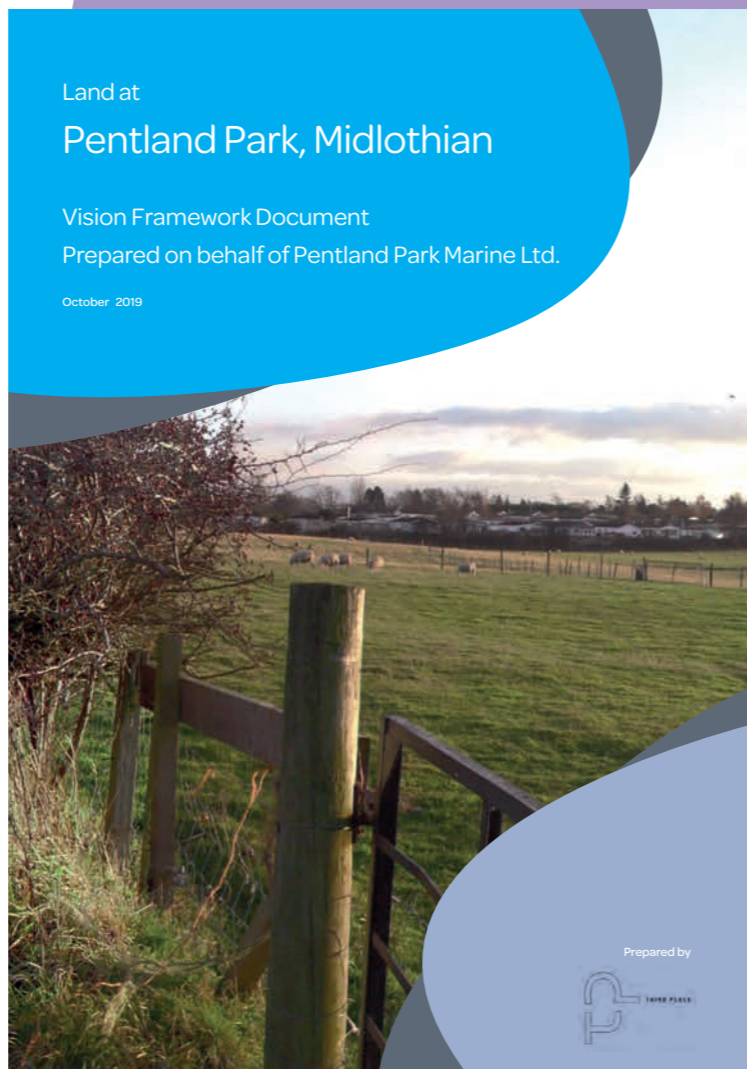
A sequence of guiding design principles for the subject site has been developed, which have informed a development framework and associated parameters plans, which together form the design intent of this proposal.

A range of background studies were simultaneous undertaken alongside a Landscape and Visual Appraisal, to further assist in confirming the feasibility of development on the subject site, and guide the design constraints and the principles to be adopted.

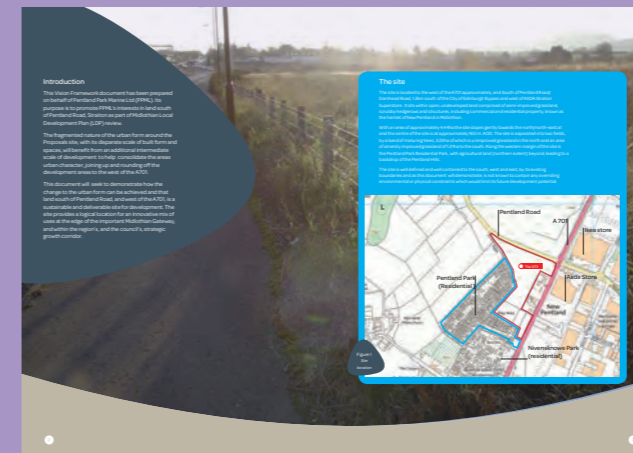
Included in the following section are explanations and details of:

- Supporting technical assessments
- Design evolution;
- Design Principles used and developed to arrive at the current PPIP proposals, and which inform the Development Framework and Indicative Masterplan in following part of the DAS, - Section 04.
- Landscape - Visual appraisal - updated from the Vision Document;
- Stakeholder consultation, including on line 'exhibitions/ meetings' and the MLC pre application responses;

This work sets the scene for the PPIP Framework Plans and the Indicative Masterplan and its proposals, which will follow in Section 04.



Figures 9 (a-f) Vision Document cover - and selected pages (overpage)



3.1

summary of technical assessments

Background analysis reports

A range of background technical studies have been undertaken to assist feasibility, with the findings used to develop the masterplan ideas and options. These studies were commissioned in early 2020, and many have now been updated as per the latest versions issued, and appended, as supplementary information to the PPIP application:

- Transportation and highways
- Ground investigation and environmental
- Ecology and Tree surveys
- Landscape and Visual Appraisal
- Flood Risk assessment
- Drainage - foul and surface water sewers strategy
- Economic benefit appraisal
- Noise and air quality

All of these studies will be available as stand alone documents - presented as part of the PPIP application package. A number of them are summarised below, as they have directly affected the design and access parameters (including the establishment of constraints), and development of the masterplan - namely:

- Flood risk assessment and Drainage Strategy .
- Tree survey - and ecology (phase 1)
- Landscape and Visual Appraisal

Flood risk (stage 1) Assessment

Undertaken by Goodson Associates (April 2021), the latest guidelines in planning policies and relevant advice notes have been observed and consideration of all possible sources of flood risk assessed.

Based on records from Midlothian Council the site does not appear to have any record of historic flooding. A review of SEPA's flood maps in conjunction with OS map data does not indicate the site to be at risk of fluvial or tidal flooding, while

Scottish water records to not indicate any risk of sewer flooding either. There is no infrastructure nearby that poses a flood risk to the site.

Whilst the site is considered to be at low risk of groundwater flooding consideration should nevertheless be given to an interceptor trench at the south western boundary to collect any groundwater coming in from the caravan site.

It was therefore concluded by Goodson Associate that the flood risk of the proposed site is negligible, and that new site-wide drainage proposals will deal with all reasonable flood events. See below for summary of that report.

Drainage Strategy - foul and surface.

Undertaken by Goodson Associates (April 2021).

A pre-development enquiry process was concluded with Scottish Water, confirming that a foul connection can be made to the existing sewerage infrastructure located within the site, and there is adequate capacity within the local sewer system.

Surface water run-off from the site should be drained through a SUDS system, designed in accordance with the requirements of the Local Authority and SEPA. An outline design is shown in Figure 10 opposite. It is envisioned that the discharge, can be made to the nearby off site surface water sewer - confirmed by Scottish Water in September 2021.

The current development proposals can be drained in accordance with the recommendations of the latest planning guidance and key stakeholder design criteria with regards to impact upon the existing drainage systems and the natural water environment as:

- The existing combined sewer is to be redirected and upgraded to facilitate the foul discharge from the site.
- The surface water drainage from the site will incorporate full SUDS measures to control the discharge from the site and reduce the pressure on the existing drainage system.
- In the main this will be achieved using porous paving and swales which will provide the necessary treatment within the site.

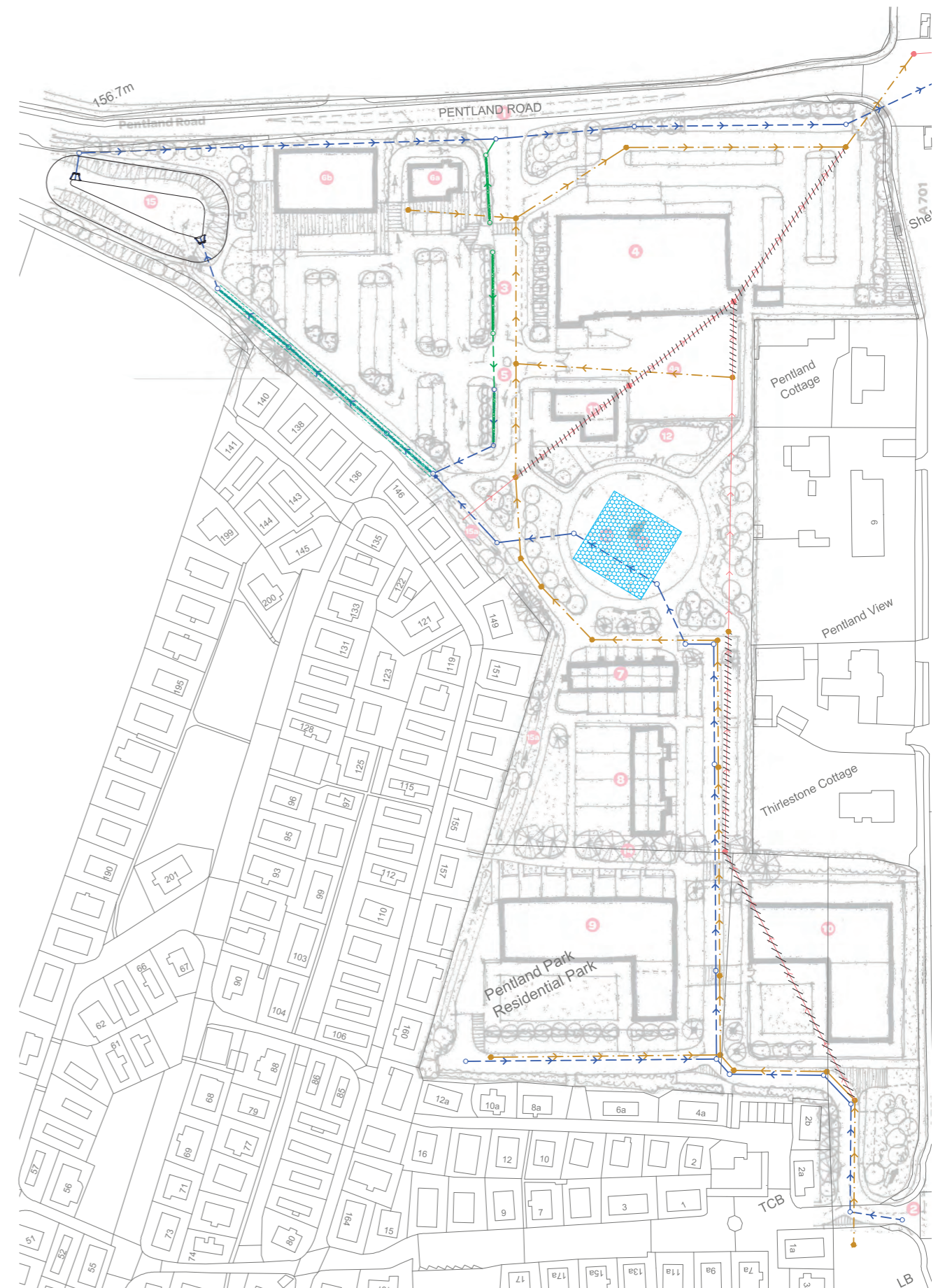


Figure 10- Foul sewer flows and Sustainable Drainage provisions.

3.2

ecology and tree surveys

Ecology

The Ecological survey was carried out by ITP Energised on behalf of PPML, in December 2018.

A limited range of habitats were identified within the Site boundary and survey buffer (see Figure 11 Phase 1 habitat survey, opposite), and of the nine habitat types identified, five were considered for their nature conservation value:

- Broadleaved plantation woodland (A1.1.2);
- Semi-improved grassland (B2.2);
- Improved grassland (B4);
- Amenity grassland (J1.2);
- Defunct species poor hedgerow (J2.2.2);

No evidence was found on site (2019) of key indicator species - namely bats (although further surveys were recommended of buildings with low bat roosting potential), badgers, reptiles, otters, water voles and amphibians.

Bird habitats within and immediately adjacent to the Site boundary, such as the deciduous trees and hedgerows, were assessed as being suitable for a range of farmland and lowland/upland bird species.

Recommendations were given on future landscape planting, namely, that where possible a native, non-invasive plant schedule should be developed as part of the proposed development masterplan. Native planting throughout the development can be beneficial and often improve the biodiversity of an area by encouraging many nectarivorous invertebrates (e.g. butterflies, moths and bumblebees) and provide shelter and food for larvae, adult insects and flying insects, which in turn, may encourage small mammals, bats and birds into the Site. Species which encourage nocturnal insects (such as honeysuckle) can also be valuable for bats and by incorporating native, edible fruit and berry bearing plant species this will encourage further use of the Site by birds, small mammals and invertebrates.

The planting of trees and hedges can also be valuable to birds, bats and other mammals within an urban setting, by providing, not only further foraging opportunities, but also a buffer from artificial light and often connects important features and habitats.

It was also considered that there is no risk to Ancient Woodland Inventory (AWI) -listed woodland at Bilston Wood, or SSSI's, such as Bilston Burn and Roslin Burn, from the proposed development site, due to the lack of connectivity between these areas of interest and the Site - ranging in distance from 1.1 km to 4.1km.

Tree and hedge survey

A tree and hedge survey was carried out by Donald Roger Associates Ltd on behalf of PPML, in May 2021, to confirm and expand on, an earlier preliminary survey by 3rdplace design studios in November 2018.

A list of the trees identified on the site is shown as Table 1 opposite. Clearly, Norway maple is by far the dominant species on the site, with a total of 17 trees recorded, or 31% of the tree cover. Beech (9 trees) and sycamore (7 trees) are also frequently recorded. The remaining species tend to occur in small groups or as individual specimens.

The tree cover tends to be fairly even-aged and established largely through various phases of planting over the last 20 to 40 years. As such, most trees tend to be semi-mature or in early maturity for their respective species, and of relatively modest size and stature. The exception are seven beech trees which are located intermittently along the western boundary (trees 990 to 996). These trees are older and have been retained from the agricultural landscape. They stand as the largest and oldest trees within the site.

The majority of trees (73%) are assessed as being in good to fair condition overall. One tree is dead and 14 trees are recorded as being of poor overall condition. These display issues relating to poor form and structure, historical wounding and declining vigour and vitality. All tree locations and their condition are shown on the plans that accompany the tree and hedge report - an extract from the plans in the report is shown at Figure 12 - with recommendations for action contained in schedules for each tree and hedgerow identified.

Table 1 - Indicative block model (refer - Figure 12)

Norway maple (<i>Acer platanoides</i>)	17
Beech (<i>Fagus sylvatica</i>)	9
Sycamore (<i>Acer pseudoplatanus</i>)	7
Ash (<i>Fraxinus excelsior</i>)	4
Silver birch (<i>Betula pendula</i>)	4
Whitebeam (<i>Sorbus aria</i>)	3
Cherry laurel (<i>Prunus laurocerasus</i>)	2
Hawthorn (<i>Crataegus monogyna</i>)	2
Leyland cypress (<i>X Cupressocyparis leylandii</i>)	2
Poplar (<i>Populus nigra</i>)	1
Gean (<i>Prunus avium</i>)	1
Swedish whitebeam (<i>Sorbus x intermedia</i>)	1
Lawson cypress (<i>Chamaecyparis lawsoniana</i>)	1
Goat willow (<i>Salix caprea</i>)	1
TOTAL	55

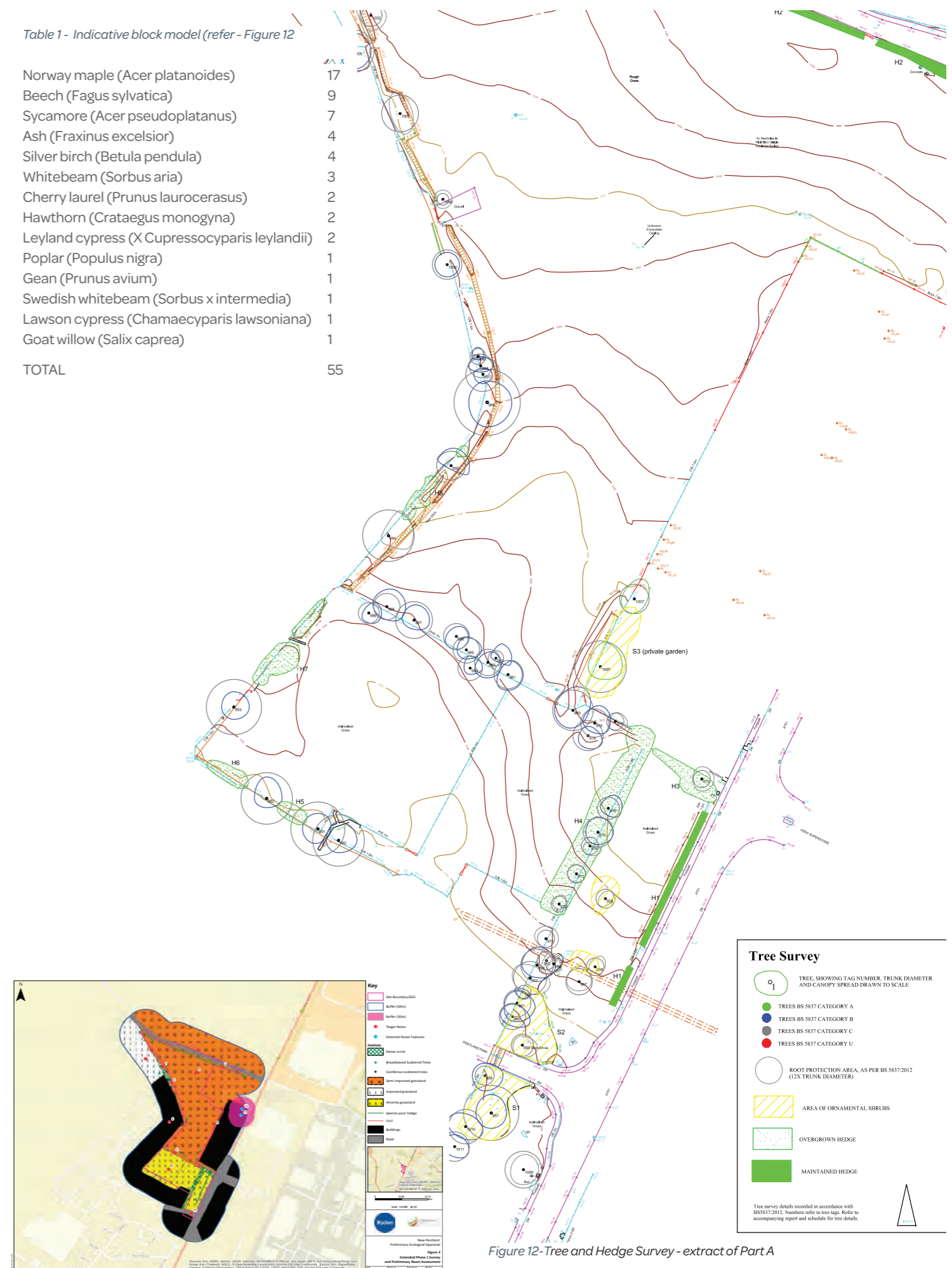


Figure 12-Tree and Hedge Survey - extract of Part A

Figure 11- Ecology - Phase 1 habitat mapping

3.3

transport + access

Transport and access

A Transport and Access Appraisal was carried out by Transport Planning, on behalf of PPML, in December 2018, with a further Transport Statement carried June 2021.

In line with current best practice, the accessibility of the site has been considered using the following hierarchical approach:

- pedestrians;
- cyclists;
- public transport; and
- private car.

The site is accessible by a wide range of transport modes and surrounded by a mix of varied land uses and other development sites.

Development proposals contain opportunities to link internal networks within the site to existing pedestrian, cycle and public transport networks as well as the key road infrastructure.

Since December 2018, the transport and highways issues have been further investigated and continue to develop as the masterplan has been revised and updated. A Transport Statement (TS), prepared by Transport Planning Ltd., (June 2021) sets out in detail the proposed access arrangements and considers the impact (including cumulative assessment) of the proposed development on the local road network.

The TS includes a review of the current accessibility of the application site including walking, cycling and public transport provision. The road network bounding the site has also been analysed. In considering accessibility for pedestrians and cyclists, it is noted that there are footways along the length of the A701 on its western edge adjoining the application site. There are gaps in the footway provision to the east of the A701 notably to the south of the Asda access junction. Formal pedestrian crossings are, however, included within the signalised junctions to the north and south of the site on the A701. Additional crossing provision is also available within the signal set that provides access to the Asda store and the

footways and crossing points combine to enable a walkable network of routes along the west (site) side of the A701 and on the east side connecting with e.g. Asda, Ikea and routes towards Loanhead. The footways are generally lit and level.

The Masterplan proposes a new vehicular access off Pentland Road by way of a T-junction and right turn ghost island arrangement. This leads into the site by way of a new spine road which will provide access to the new Aldi foodstore, as well as other masterplan uses including the plots currently proposed for Class 2 and Class 10 uses. A further vehicular access into the southern portion of the Masterplan will be taken from a spur off the existing access to Pentland Park from the A701. This will enable access to the residential uses including the proposed care facility, retirement flats and affordable housing.

It is recommended that the two accesses do not join up, creating two separate and distinct zones for development, to prevent vehicle 'rat runs'. It does

Conclusion

The TS report has assessed the transport issues surrounding the proposed development and identified the site is highly accessible but with potential short term road capacity and road safety constraints which may limit the level of development able to occur in advance of the A701 realignment works being complete. The TS also concludes that:

- The New Pentland masterplan proposals can easily meet the requirements set out under Policy RD 1. - with accessibility to public transport routes and links.
- Vehicular parking in line with the council's standards has been noted, to include provision for easily accessible electric vehicle charging spaces.
- The nature of the surrounding road network will be sufficient to accommodate the likely traffic demands associated with the development proposals.



Plate 1- View along pentland road toward Junction with A701

3.4

environmental report - ground + mining conditions

Preliminary environmental conditions

A preliminary environmental assessment was carried out by Goodson Associates in December 2018, and updated in February 2021. As part of that assessment a range of appropriate environmental units were surveyed and analysed for their potential risk (of affecting or impacting the potential for future development on the site).

Assessments of the following units - Made ground; Superficial deposits; Solid geology; Radon gas; Natural Ground stability; Hydrogeology; Hydrology and climate; Flooding/drainage; Sensitive Land uses; National Monuments and Archaeology - concluded that they all had a Low or Low to Moderate risk.

The remaining environmental units - Waste management and licensed sites (nearby) and Coal/Mineral extraction - were assessed as having a Moderate to High risk. Consequently, and due to the location and geology of the site, a further study was undertaken to further evaluate these units.

DAM Geotechnical Services Ltd, were retained to do undertake this further review, and duly carried out a Coal Mine risk assessment. Additionally because of the presence of historic oil-shale and limestone mining within the district, required that the scope of the assessment was extended to include the potential effects and implications of these other minerals.

There are no records of past shallow coal mine workings or mine entries within or immediately adjacent to the site. It is probable however, that some shallow coal workings associated with a coal seam outcrop may encroach into the south-eastern corner of the site, but there was no information to suggest that the Fells Shale seam has been worked beneath the site. Also, it was noted the potential for atmospheric pressure and or rising ground water, could affect the status quo of the mine environment over time, and should not be discounted.

A Conceptual Site Model (CSM) was used to identify any nearby hazardous sources, complete exposure pathways and potential receptors on which to focus the risk assessment. The CSM presents the network of relationships between potential hazards from within and adjacent to the site area,

and the receptors that may be exposed to the hazards through pathways such as ingestion or inhalation of gases. An important aspect is that while the CSM examines the range of potential exposure pathways that are present and may be important for human and ecological receptors, it also eliminates those pathways that are incomplete, and that therefore do not pose a risk.

The key sources, pathways and receptors are detailed in the full report (included as Appendix 9) and summarised here in the diagrammatic conceptual model shown over page at Figure 13. It can be read as a stylised diagrammatic cross section - in this case taken from north to south through the proposals site, looking west, with the rising ground ("landfill") to the north of the site shown on the right of the diagram.

Applying the concept of viable pollutant linkage to the site, and considering the current site setting and historical land use, it was considered that there is limited potential for residual contaminants to be present within subsurface soils and groundwater at the site.

The findings of the detailed site investigation survey by DAM/ Goodson Associates, in February 2021, concluded that the subject site **presented a Low risk to end users.**

Plate 2- Ground investigation trench (in North west)

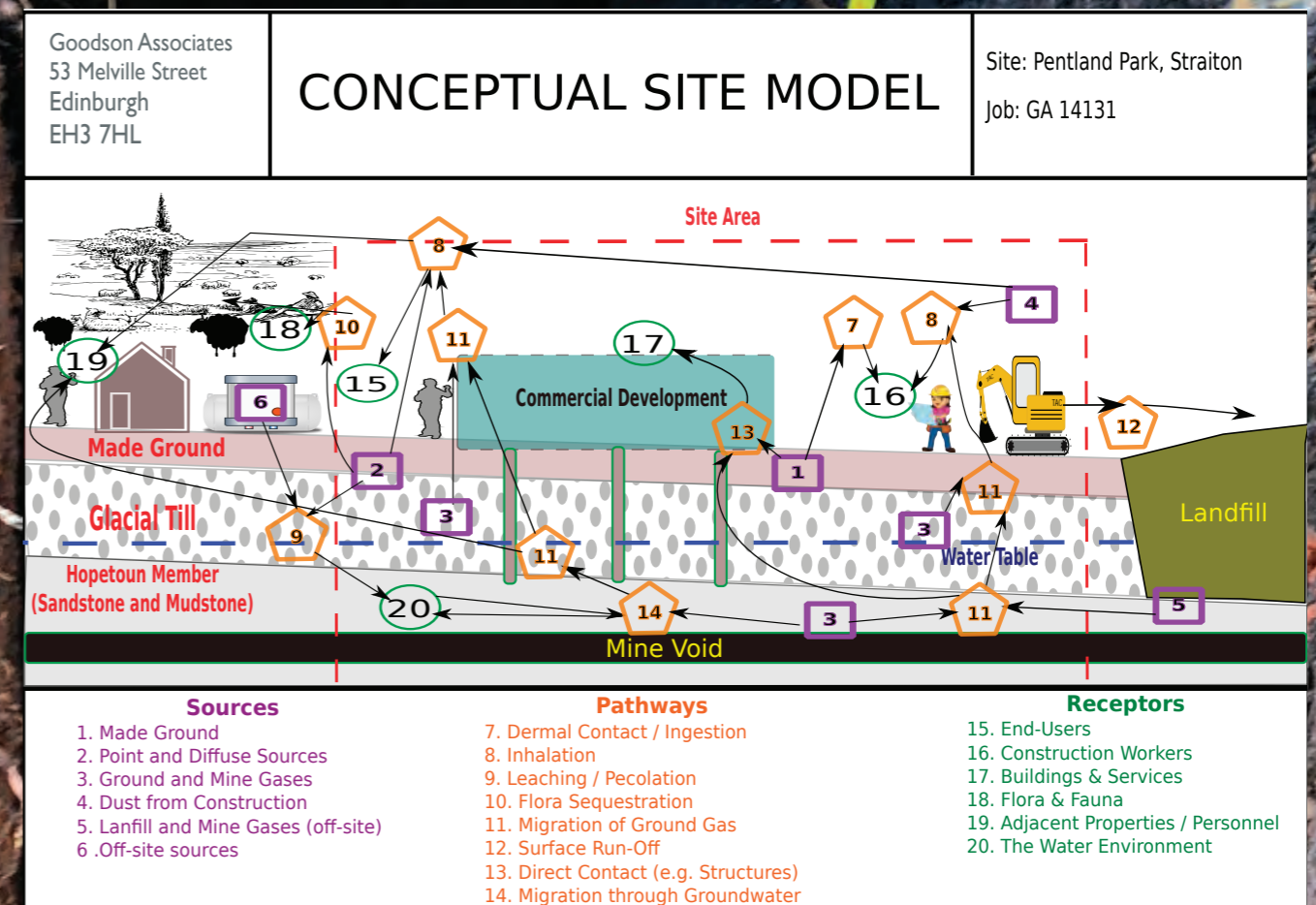


Figure 13- Conceptual Site Model (courtesy of Goodson Associates)

3.5

design evolution

Design evolution

The current indicative masterplan has been developed over a number of years through a series of design options and culminating in the current iteration. It has been shaped by informal and formal discussions with the local authority, responses to public events, and initial market testing of potential land uses.

The intention has always to create a coherent masterplan that responds to its context and the unique nature of this site. To that end it is clear from all the diagrams opposite, that the 'Aldi' site in the north east of the plan has always been a key component of the masterplan. Its arrangement and integration into the masterplan has been on going since 2019. It has been factored into the design process, to ensure we create a cohesive and coordinated development for this PPIp application.

The series of design development diagrams and images shown opposite (Figures 14-23) illustrate how the design has evolved over time. They demonstrate the various options considered and changes to the mix of uses proposed, as influenced by feedback from consultations and market demand. Indeed, the Concept diagram opposite (Figure 21) illustrates the current land use dispositions within the context of surrounding uses. Shown here in context we believe the proposed PPIp land use distribution (and wider masterplan area) has a complementary and positive relationship with surrounding land uses.

In the concept, the Aldi location sits within the proposed commercial corridor in the north of the masterplan area, proposed residential (quasi residential uses of the retirement and assisted living units), sits alongside/within the existing housing pattern and the upgraded open space acts as a central hub or focus to the new masterplan area. We believe this arrangement is both an appropriate and rational use of the land parcel going forward.

In short, we have endeavoured to design a place which blends the aspirations of the local community and local authority, with due care to technical considerations - creating a responsive proposal that will strengthen local pride in New Pentland.

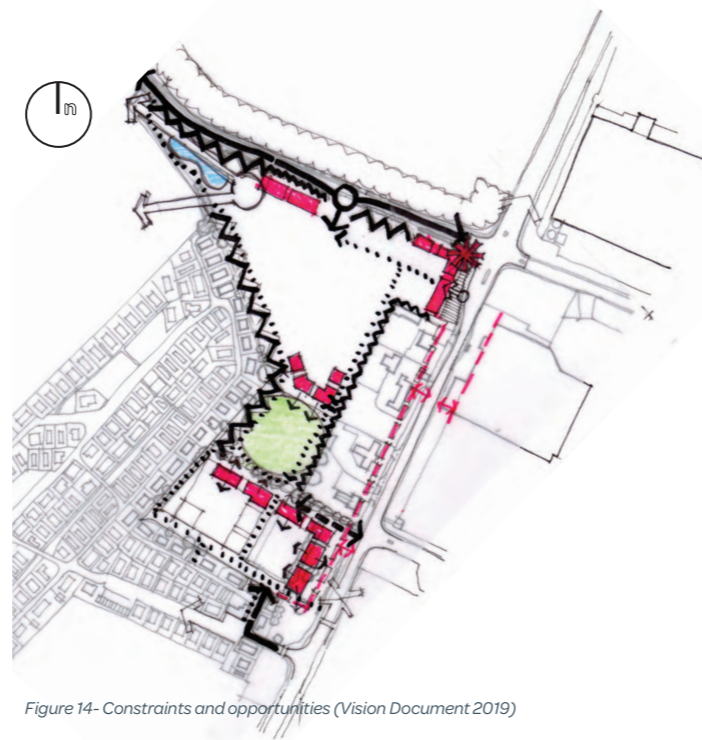


Figure 14- Constraints and opportunities (Vision Document 2019)

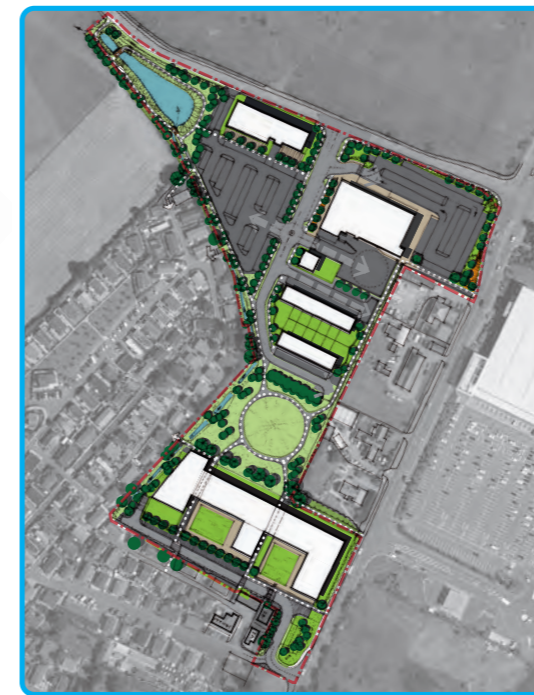


Figure 17 MASTERPLAN (indicative Option 1)- in development

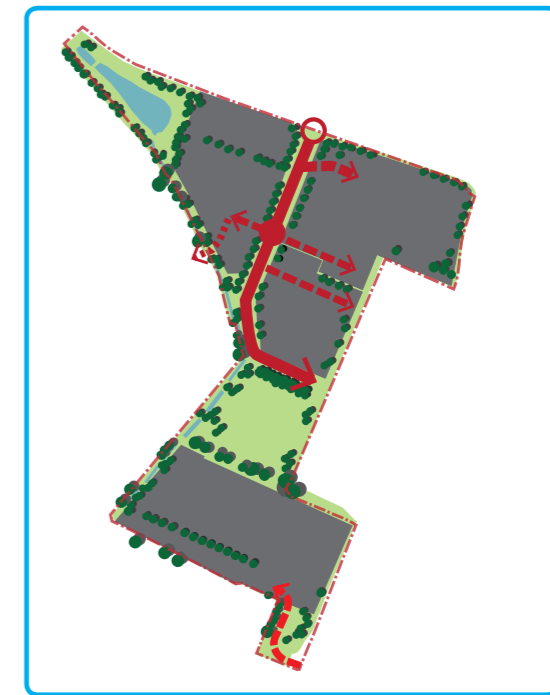


Figure 18 Framework Plan (Option 1) - in development



Figure 15 Option (2) development 2020



Figure 16 Option (3) development 2020



Figure 19- MASTERPLAN (indicative Option 2)- Exhibition

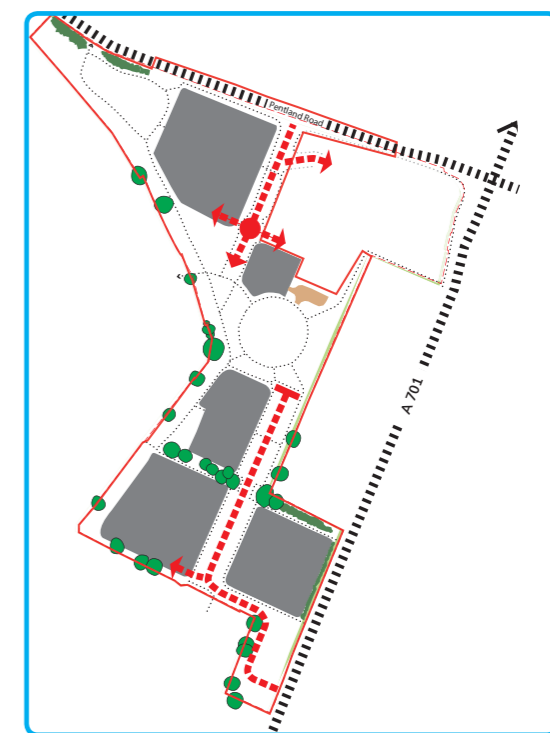


Figure 20 - Developmental PLOTS/ACCESS



Figure 21 - Final CONCEPT (option 2/3) - bubble diagram

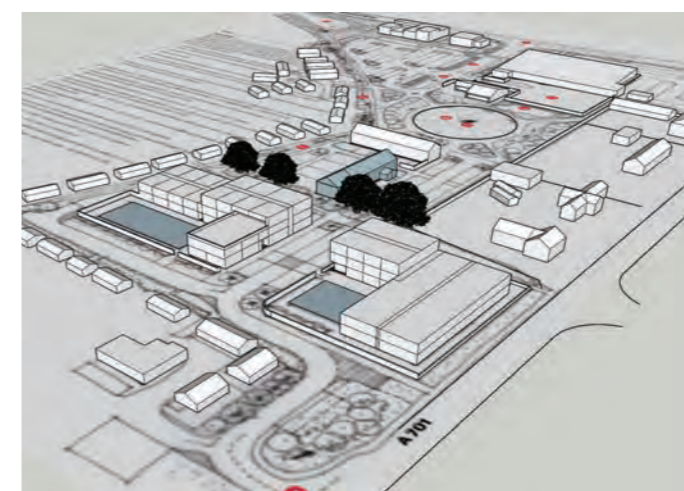


Figure 22 - Developmental 3D BLOCK MODEL (indicative Sketchup)

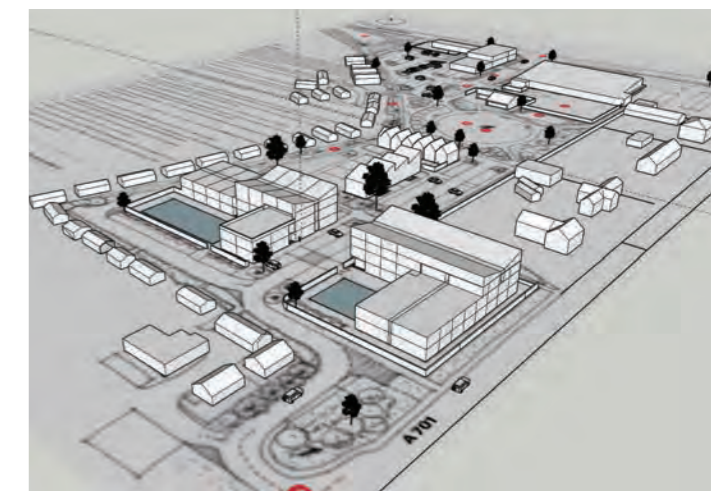


Figure 23 - Final 3D BLOCK MODEL (indicative Sketchup)

3.6

design principles

Principles

PPML and its design team have followed very specifically the following national guidance, to help shape ideas and proposals for New Pentland. Additionally major consideration was given to MLC's design and layout related policies and requirements - as specified in Policy DEV 5 Sustainability in New Development and DEV 6 Layout and Design of New Development.

Creating Places (2013)

Creating Places sets out the Scottish Government's policy position on architecture and place. It sets out an over-arching approach to achieving "good design" which is described as "an innovative and creative process that delivers value". "Good design" is described as having a range of values including;

- Physical value – enhances a setting;
- Functional value – meets and adapts to the long-term needs of all users;
- Viability – provides good value for money;
- Social value – develops a positive sense of identity and community; and
- Environmental value - efficient and responsible use of our resources

This document also refers to the contents of Designing Places and Designing Streets as providing the key guiding principles which continue to underpin the Scottish Government's approach to delivering good places

Designing Streets (2010)

- In the creation of new streets, the design should respond intelligently to location rather than follow a rigid application of standards. In both urban and rural context, streets have a strong influence on people's lifestyles and behavior.
- Street design also has a direct influence on a diverse range of significant issues, such as climate change; public health; social justice; inclusivity; and local and district economies. The document states that good street design should;

- Respond to local context to deliver places that are distinctive
- Be designed to be safe and attractive places
- Easy to move around for all users and connect well to existing movement networks
- Encourage positive interaction for all members of the community in the street layout and detail
- Be designed to accommodate future adaptation
- Consider orientation; the integration of sustainable drainage; and use attractive, durable materials that can be easily maintained.

Designing Places

Good design can add value to development beyond pure economic and functional requirements. At the core of good design for urban and rural environments is 'Designing Places' by the Scottish Executive.

The principles in this document align with the principles set out in 'Designing Streets' and include:

- Identity
- Safe and pleasant spaces
- Ease of movement
- A sense of welcome
- Adaptability
- Good use of resources.

The design of our streets and spaces have been shaped by a robust application of these guidance documents.

Proposals brought forward through the Pentland Park Masterplan are founded on the principles laid out in the various government policy and guidance documents referenced.

Additionally the design team have endeavored to embrace principles of sustainability, placemaking and good design.

Over and above the broad guidance we have also embraced the following design ideals:



PLATES 3-10 - Indicative precedent images

- Thinking Innovation -as the site is located within a Growth and Innovation corridor.
- Create places that espouse a Modern design aesthetic and avoid pastiche or cloning.
- Local distinctiveness and a local Sense of Place delivered through easy access, defensible spaces, pervasive movement patterns and permeability of place - creating a Memorable Place.
- Comply with Zero carbon aspirations for built form and use sustainable solar power and , ground source heat pumps, amongst other developing green technologies.
- Increase bio-diversity by careful planting of native tree, shrubs and grassland, initially, and then through focussed maintenance and management regimes, under the legacy and ownership of PPML.
- Use planting materials that have Local Provenance - either from the region or Scotland.
- Achieve a recognised BREEAM/ LEED accreditation for the site master planning and construction processes going forward.
- A place that carers for all ages.
- Design for natural surveillance - passive surveillance (or supervision) – discouraging wrong-doing (anti social behaviour) by the presence of passers-by to be seen out of surrounding windows. "Eyes on the Street".

