

COMMUNITY HOUSING DEVELOPMENT GLEBE FIELD PENPONT





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1. Introduction

- 1.1. This concept design is for a new and innovative approach to providing affordable housing in Scotland that meets or exceeds current building standards providing an economical solution with the construction of high quality modular off-site homes that are comfortable, light and spacious to live in. These homes are to be set in a community garden and parkland environment with added benefits to the local community including the provision of allotments and additionally if there is a demand, some small business work units.

2. The Team

- 2.1. KPT Development Trust.
- 2.2. Community-led Housing and Regeneration, South of Scotland Community Housing SoSCH.
- 2.3. South of Scotland Enterprise SOSE.
- 2.4. Construction by Iron and Pine.
- 2.5. Revolution Architecture, Project Management, Energy, Town Planning and Civil Engineering from the Prospus Group.
- 2.6. Quantity Surveying from McGowan Miller.
- 2.7. Thermal modelling by Luths Services.

3. Standards

- 3.1. These are the standards applied to this concept design and to further stages of the project going forward.
- 3.2. Scottish Homes, Housing for varying needs 1998.
- 3.3. Scottish Building Standards, Scottish Building Regulations and Building Warrant process.
- 3.4. Secured by Design (SBD). Police security initiative, security of buildings and surroundings to provide safe places to live, work and visit.
- 3.5. Construction Health and Safety (CDM).



The Parish Church.



Existing view of The Glebe from the centre of the site with the Parish Church spire.

4. Accommodation

4.1. The requirement for the concept design stage of the project has been developed using the May 2024 report, the Housing Need and Demand Assessment 2022 and through recent client team meeting discussions.

Type A: 1 x 1 bed, fully accessible with a spare room for overnight stay for a guest or carer or as a treatment room or home office.

TYPE B: 2 x 2 bed, large bathroom/wet room, with a spare room for overnight stay for a guest or carer or as a treatment room or home office.

TYPE D: 3 x 3 bed, larger unit with 4th single bedroom for overnight stay for a guest or carer or as a treatment room or home office.

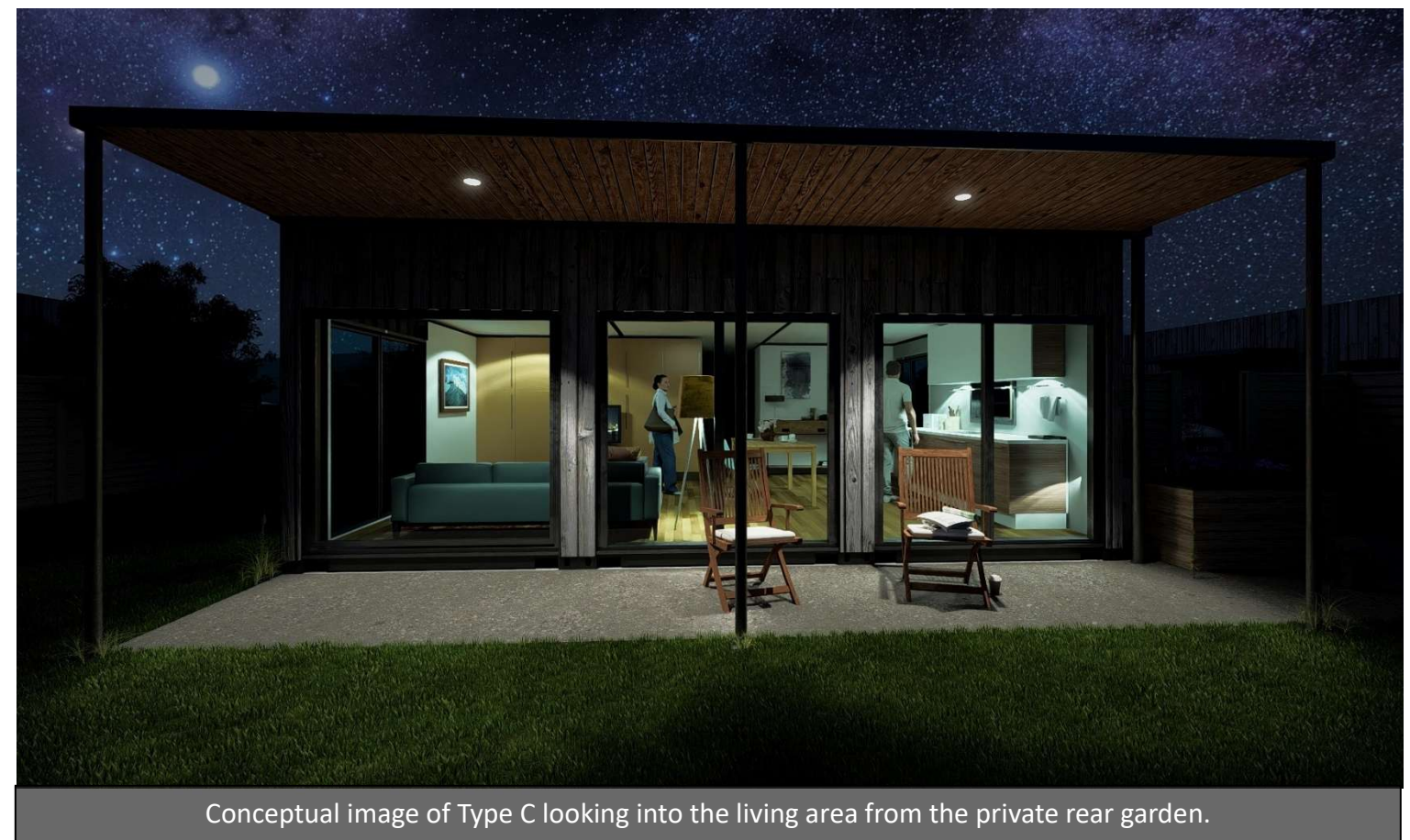
WORK: 2 x double units forming separate workspaces, workshop, office, business incubation with parking. This is an option should there be a local demand.

5. Car parking

5.1. Car parking provision will be agreed with the local authority planning department going forward, currently planned at 2.2 cars/household.

5.2. This will be provided on drives within the curtilage of each home and in a parking area next to the community garden for visitors and users of the work units shown in the concept design.

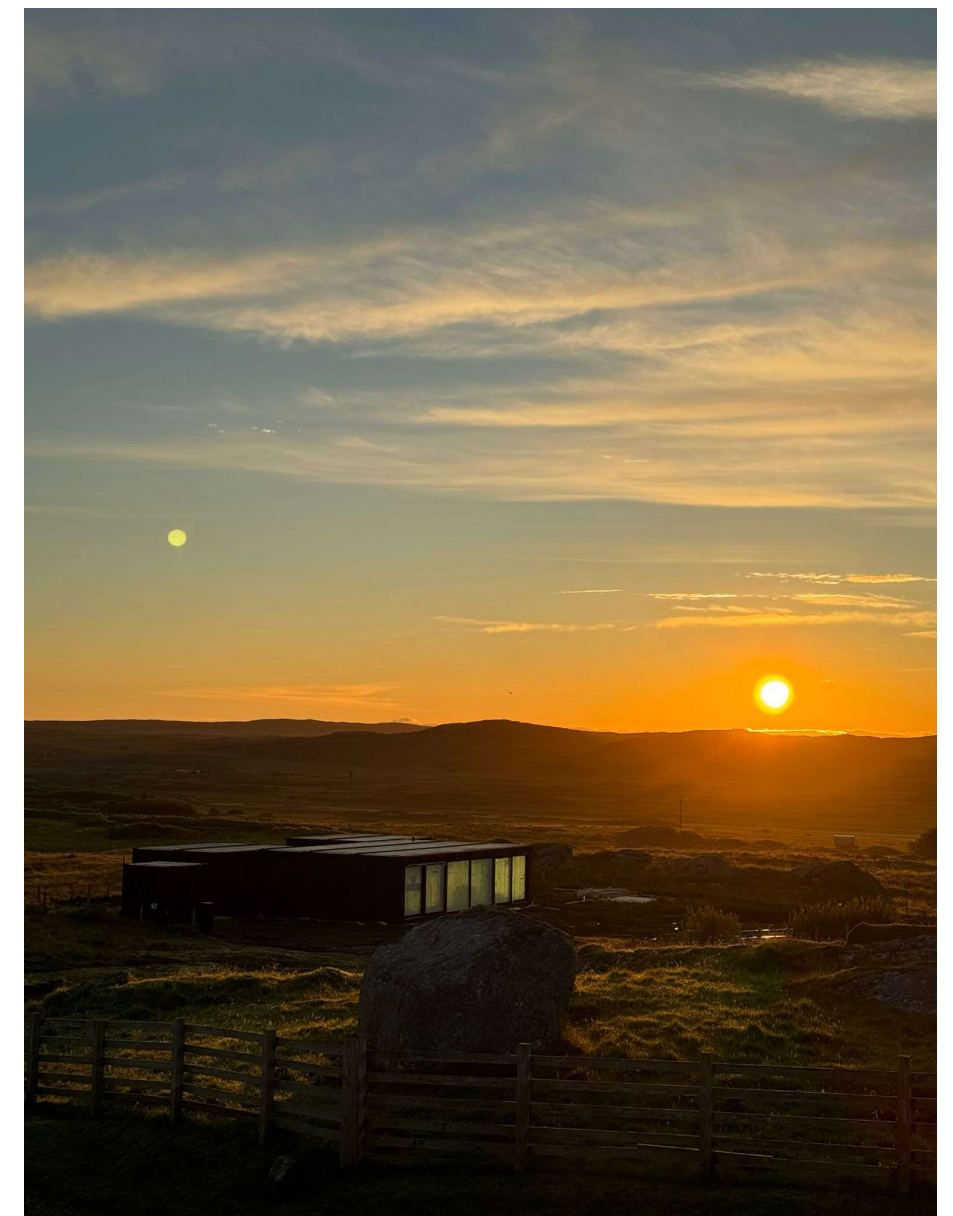
5.3. This car parking area will provide space for at least 10 vehicles including enough space for disabled and deliveries.



Conceptual image of Type C looking into the living area from the private rear garden.

6. Iron & Pine

- 6.1. Iron & Pine are a modular construction company based in Dalbeattie and proudly fly the flag for Dumfries & Galloway. The company was established with two main aims in mind of creating skilled jobs in the local economy and disrupting the traditional rural housing market by offering a superior product at a reasonable price.
- 6.2. The company specialises in steel frame modular construction mainly upcycling shipping containers. This construction technique utilises the incredible strength and durability of the core ten steel coupled with architectural style and design to create buildings that will not only last indefinitely but look incredible too.
- 6.3. Through utilising very high levels of insulation, MVHR, air source heat pumps and solar PV as well as harnessing natural solar gain the buildings are very economic to run and kind to the environment. The inherent strength of the construction system means that screw pile foundations can be used at strategic points across the building rather than a full concrete slab approach, further reducing costs and environmental impact.
- 6.4. Iron & Pine push boundaries, they create modern structures and accept that to change an industry which has stayed static for several hundred years you need to do things differently. The company is young, bold and dynamic with a can do, get stuff done attitude. This has stood it in good stead winning multiple awards and growing its team to over 20 employees.
- 6.5. The rural housing market is fundamentally broken, and it is believed that the Glebe Park development could be a fantastic showcase of how off-site modular construction coupled with a novel approach to tenure, a diverse offering including non-residential and community space could be a fantastic offering and one which could be replicated repeatedly across the south of Scotland and other rural areas across the country.



Iron & Pine

7. Site analysis

- 7.1. This is a relatively level site at the eastern entrance to the village of Penpont.
- 7.2. The site has the A702 on its northern boundary with national speed limit.
- 7.3. The new cycle path is positioned along the east and south boundaries of the site. When complete the path will connect eastwards to Burnhead and Thornhill.
- 7.4. There are good pedestrian routes back towards the centre of Penpont via the Penpont Primary School. These routes are set well away from the main road.
- 7.5. There are great views at the edge of the site and out of the site towards the hills north and west.
- 7.6. There is also a great view out towards the church spire from the centre of the site and from the main road on the approach the village.
- 7.7. There is a low stone wall along the main road edge, hedging and trees across the cycle path on the east, south and part of the western boundaries.
- 7.8. The first property on the south side of Main Street has a garden and windows in its east elevation that overlook the site.
- 7.9. The Glebe immediately to the south of the site has upper storey windows that overlook the site. There are mature 'specimen' trees in the garden.
- 7.10. Across the western boundary is the Penpont Primary School. To the east of the site there is a field and then the Penpont Holiday Park.



View looking along the A702 and MainStreet towards the centre of Penpont.

8. Concept design - Site layout

8.1. Proposed site plan

- 8.1.1. The overall concept vision for the site is to make a community parkland and garden environment in which low impact homes are placed. This can be achieved through the careful placing of the new homes together with the selection and planting of appropriate trees, hedging, shrubs, flowers and grasses.
- 8.1.2. This idea to create a garden to live in doesn't need to be expensive as the planting can be grown for immature plants, bare root hedging whips and even from seed.
- 8.1.3. The concept is for a low impact design both from an environmental point of view and visually across the site. This can be realised using recycled shipping containers and with single storey homes.
- 8.1.4. The site access road will be designed to meet regulations for widths and vision splays, the idea is to introduce a permeable shared space for vehicles and people starting at the end of the entrance bell mouth and continuing through to the parking area. The achieve a low environmental impact we avoid a standard 'estate' road with its concrete kerbs and asphalt pavements and instead have a surface where pedestrians have equal status with vehicles and where rainwater can soak directly into the ground.
- 8.1.5. The edge of the vehicular part will be bounded with a combination of a change in permeable surface specification, some timber bollards or planters or with the use of local large boulders.
- 8.1.6. These ideas have the potential to provide a cost effect solution in comparison to a more standard approach.

8.2. Constraints and opportunities

- 8.2.1. In laying out the site plan several constraints and opportunities have been incorporated.
- 8.2.2. The view to the Parish Church spire is maintained from the A702 and the site by placing the units back from the main road edge and with the use of single storey homes.
- 8.2.3. In placing the units back from the main road, vehicle pollution and noise from passing traffic is minimised for residents. The site would benefit from the 30mph speed limit being moved eastwards past the crossing point for the cycle path.
- 8.2.4. A major consideration in the concept is the new homes relationship to neighbouring properties. For 'The Glebe' across the southern boundary of the site we have incorporated a 'buffer' zone of allotments. For the first property on the south side of Main Street 'Kirkland' we have excluded any new buildings along its eastern garden boundary.

8.3. People

- 8.3.1. There are great pedestrian connections with the new cycle way located around the eastern and southern perimeters. The proposed plan allows pedestrian movement through the site with a community garden space and 2 new pathways with the western one potentially giving access across the A702 to the existing pavement on the north side of Main Street.
- 8.3.2. Pedestrian access from the new homes links the site with Penpont Primary School, the Parish Church and back to the centre of Penpont without having to necessarily walk along the main road.
- 8.3.3. The community garden shown can be an asset for the village, perhaps with a meeting space and shelter at its centre?
- 8.3.4. The allotments shown can be made available to the wider village community.

- 8.3.5. The work units shown on the site plan are to test whether there is demand in the area for startup business units or other community uses?

8.4. Boundary treatments

- 8.4.1. At the front of the site is an existing low stone wall which will be retained except for where new entrances are formed. Stone removed can be reused on site. The planting along this boundary will incorporate low shrubs, grasses and flowers to maintain views in and out of the site.
- 8.4.2. To the east and southern boundaries, it is proposed to plant a mixed native hedgerow with the incorporation of blackberries and other edibles.
- 8.4.3. To the western boundary it is proposed to plant fruit trees and other shrubs.
- 8.4.4. The idea is to have bird friendly hedgerows with fruit for locals to pick. In time these will form dense privacy boundaries for the back gardens of the new homes. These hedges can be easily maintained from the cycle path.



Typical mixed native hedging.



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1. A notional 6m x 6m grid with a fruit tree planted at each available grid intersection. Apples, plums, pears, figs.

2. Perimeter hedging along the site side of the cycleway for screening with blackberries, raspberries and other edibles growing within. For example: Amelanchier, Berberis, Blackthorn, Cornelian Cherry, Elder, Elaeagnus ebbingei, Hazel, Myrobalan Plum, Quickthorn, Rugosa Roses and Sea Buckthorn.

3. Privacy hedging within the site to reduce the amount of timber fencing required and to encourage garden birds.

4. Mainly, lawns, wildflowers and grasses.

5. Mainly perimeter shrubs and bushes for structure and enclosure with some large stones to form protected edges to vehicular areas.



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9. Concept design - Homes

- 9.1. Every new home has a front garden, a drive to park on and a private rear garden.
- 9.2. The designs have open plan living spaces facing the rear gardens, double bedroom sized rooms with a spare room for overnight stay for a guest or carer or as a treatment room or home office.
- 9.3. All the units can be tailored to be either fully accessible, ambulant or general use in accordance with the Housing for Varying Needs 1998 document.
- 9.4. Without a staircase taking up valuable area, the designs maximise floor space for living.
- 9.5. Each home is designed for net zero annual energy bills.
- 9.6. The homes are made off site in the factory near Dumfries from converted single use shipping containers and delivered to site in sections for the final assembly junctions and service connections.
- 9.7. Being made in the factory, quality control during conversion and final quality of the finished product is high.
- 9.8. The design concept is for a modular approach with repeating elements and choices of internal and external finishes. This gives a high level of cost certainty for the homes with a 'shopping list' of materials and modules that can be selected.
- 9.9. Modules can include elements such as a living wall which can replace applied external cladding and entrance canopies and covered rear terraces. These modules are shown in the conceptual images that follow.
- 9.10. The elevations shown in the conceptual images are clad with a timber style, maintenance free composite board. Other choices can be made including rendered panels or a larger format boarding or even just the exposed container painted metal profiles.
- 9.11. The units will be supported on metal screw piles. This is a very quick way of preparing the foundations for the homes. Screw piles have a lower impact on the ground

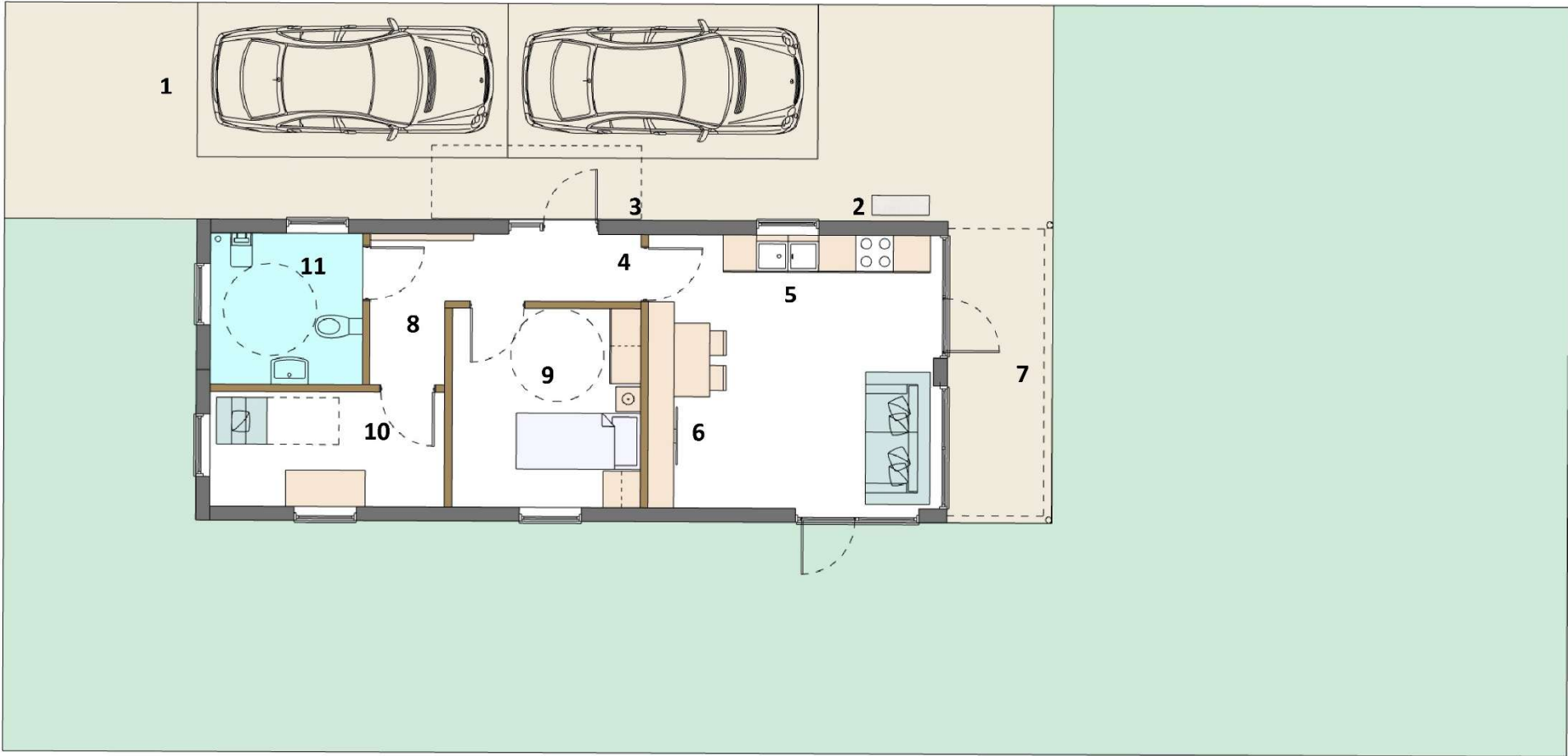
and the environment and a much lower cost when compared to concrete foundations.

- 9.12. The roofs are insulated inside and outside of the containers and finished with a rubber (sustainable EPDM) finish on a very low pitch.
- 9.13. Rainwater can be used from the gutters to irrigate the living walls or collected for garden use.
- 9.14. The photovoltaic solar panels are attached to the roof and laid almost level. They completely cover each of the roofs to maximise generation.
- 9.15. As the homes are single storey, they can be easily cleaned by a window cleaner using a pole and filtration system with short steps allowing the solar panels to be washed without having to go on the roof.



Example image of a living wall

- 1. Drive with space for 2 vehicles
- 2. Air source heat pump
- 3. External canopy
- 4. Hall
- 5. Kitchen/dining/living
- 6. Full height storage wall
- 7. External covered terrace
- 8. Corridor 1.2m wide
- 9. Bedroom
- 10. Office/carer/treatment room
- 11. Fully accessible wetroom



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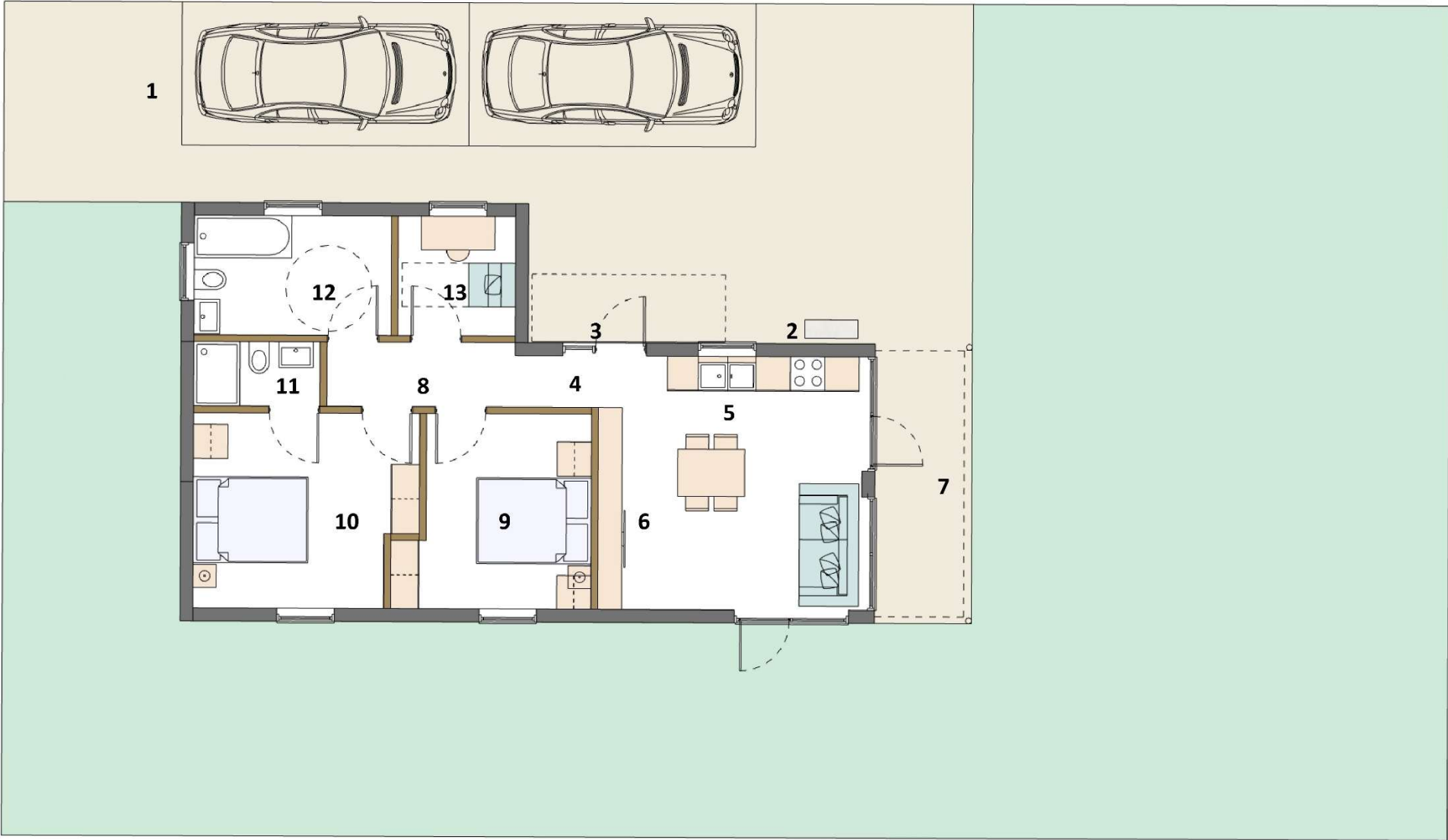
TYPE A: 1 BED FULLY ACCESSIBLE 2 X 40FT
GLEBE FIELD, PENPONT
CONCEPT DESIGN

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RevolutionArchitecture
part of the Prospus Group
AFFORDABLE HOUSING CONCEPT, GLEBE FIELD, PENPONT
KDT Development Trust. SoSCH

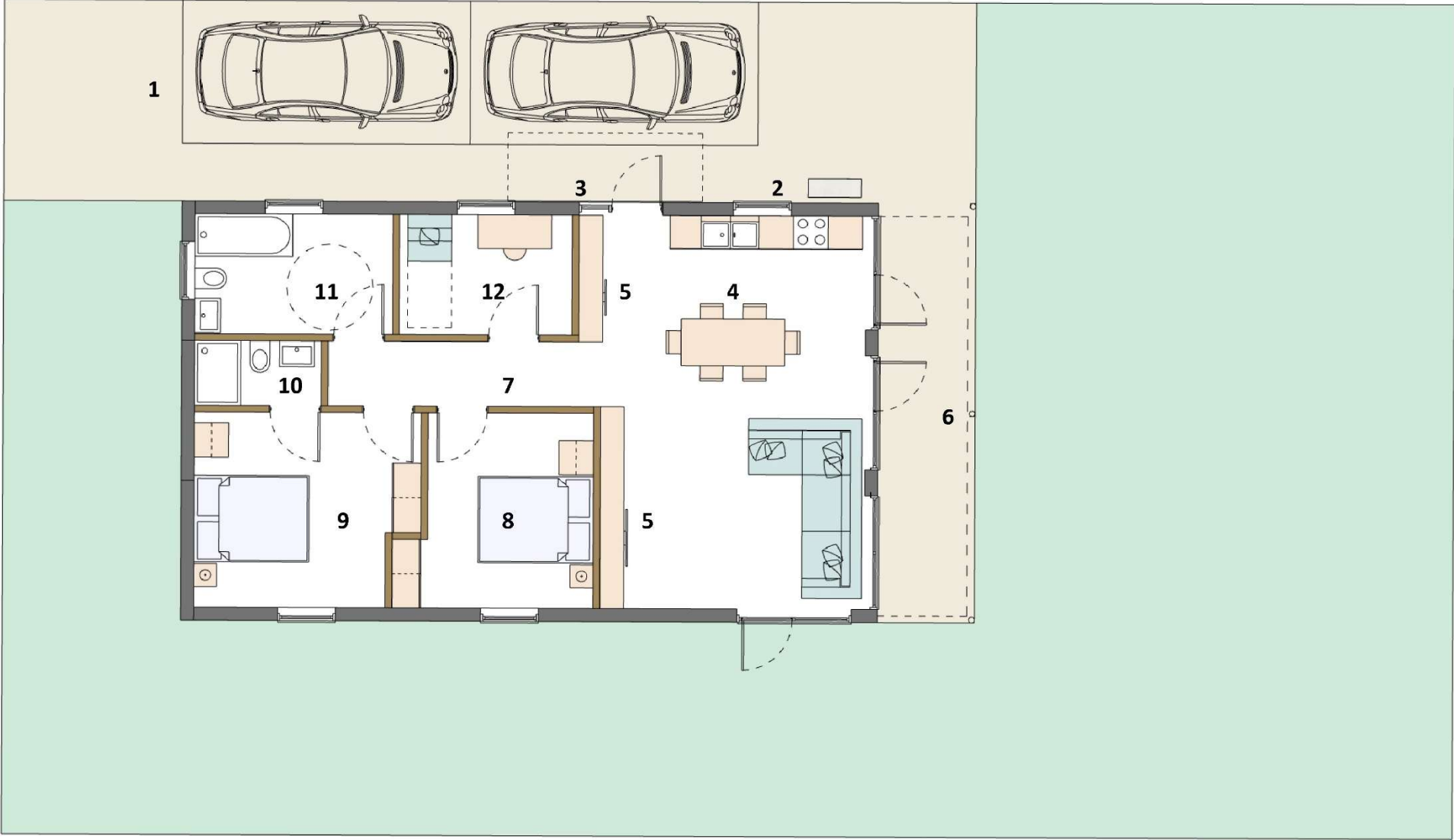
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1. Drive with space for 2 vehicles
2. Air source heat pump
3. External canopy
4. Hall
5. Kitchen/dining/living
6. Full height storage wall
7. External covered terrace
8. Corridor 1.2m wide
9. Double bedroom
10. Double bedroom
11. Ensuite
12. Family bathroom
13. Office/carer/treatment room



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Concept image shows shared permeable surface and homes arranged within the site with open front areas and fenced private rear gardens.



View shows the back gardens to properties on the eastern boundary with the proposed new hedgerow along the cycle path.



View shows the 2-bed unit driveway and front door canopy with 2 modular green wall elements to the front elevation.



View from the southern boundary looking over the allotment buffer zone to the back gardens of the homes.



View from the southern boundary cycle path looking over the proposed perimeter hedgerow and the allotment buffer zone towards the back gardens of the homes.



View from the proposed new footpath looking north with the Work Units to its west side.



View looking west across the tops of the homes showing the photovoltaic solar panels on the roofs.



View from the community garden looking towards the Parish Church Spire.



View of proposed Work Units showing how they face each other forming a courtyard space between them.



View from the back garden of the 2-bed home showing the patio glazing and the proposed terrace canopy.



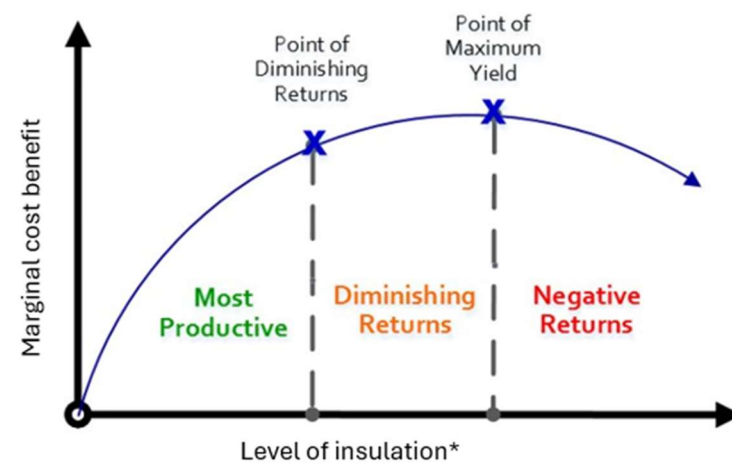
View from the garden of the 2-bed home looking into the living area.



Conceptual view inside the 2-bed unit of the living area.

10. Energy

- 10.1. The Energy Strategy we have adopted for the project focusses on maximising the cost benefit of the works undertaken, given the law of diminishing returns typical for building insulation, as illustrated below.



Note * Including heat recovery and airtightness

- 10.2. The budget constraints for the project ruled out an assessment of the marginal costs and benefits of increasing the level of insulation, airtightness and heat recovery above those levels required by the current building standards¹.
- 10.3. Instead of focusing on fabric, the Energy Strategy has focused on assessing whether on-site solar PV generation and battery energy storage could be used to off-set energy costs, offering residents a Zero Energy cost living (or close to Zero Energy cost living).

¹ To be of value, this would require detailed engineering modelling and analysis, which was outside of the scope of the works. An EPC rating of C would equate to a heat and domestic hot water energy requirement of

- 10.4. Solar PV type and location hierarchy

10.4.1. The proposed design includes a large, nearly flat roof area for each unit type, which offers the ideal opportunity for every property to include a significant level of solar PV generation.

10.4.2. However, as part of the assessment, we also considered several alternative options for the location and mounting of the solar modules, including:

- Wall mount on the units as a cladding feature
- Fence mounted in the grounds
- Ground mounted
- Car park / walkway mounted panels.

10.4.3. Using a cost, performance and impact hierarchy, we ruled all these options out given: i) their marginal cost (over and above the cost for installing on the roof); ii) their lower performance levels, due to increased shading; and/or iii) their impact on the wider development, including loss of green space.

10.4.4. The energy modelling undertaken as part of the works has assumed that for each unit type, the design strategy maximises the amount of solar PV on the roof.

10.4.5. As the design emerges, the level of PV installed on each unit could be scaled back if required for commercial, or other reasons.

10.4.6. A summary of the energy modelling results is included on the following page. For the purposes of the Energy Strategy, we have focused solely on the dwellings and have not included the commercial unit, though understand that this may be added in due course.

10.4.7. The energy modelling demonstrates that by adopting the maximum solar PV generation levels achievable for each unit type roof area, that each unit has the potential to offer Zero Energy cost living for residents, based on an assumed EPC C rating.

approximately 50KWh/m²/year. The modelling assumes a further 50kWh/m²/year for small power load.

Energy model -Penpont Unit types				
	Property Type A (One bed)	Property Type B (Two bed)	Property Type C (Two bed)	Property Type D (Three bed)
Number of units on site	1	2	3	3
GIA of unit (m2)	52	65	80	108
Roof area of unit (m2)	59	74	88.5	118
Forecast annual heat demand per unit (*A) (kWh)	2,600	3,250	4,000	5,400
Forecast annual heat load per unit (*B) (kWh)	867	1,083	1,333	1,800
Forecast annual small power demand per unit (*C) (kWh)	2,600	3,250	4,000	5,400
Total annual electrical load for each property type (no solar) (KWh)	3,467	4,333	5,333	7,200
Annual energy cost per unit (*D) (£)	£867	£1,083	£1,333	£1,800
Annual electrical standing charge per unit (*E) (£)	£223	£223	£223	£223
Annual energy cost & standing charge with no on-site generation (£)	£1,090	£1,306	£1,556	£2,023
Potential solar PV capacity per property type per unit (*F)(kWp)	10.8	13.5	15.3	18.9
Potential annual solar PV generation year 1 per unit (*G) (KWh)	7,960	9,950	11,276	13,929
Annual PV surplus sold to the grid per unit (*H) (KWh)	4,493	5,616	5,943	6,729
Assumed level of imported electricity per year per unit (*G) (KWh)	1,144	1,430	1,760	2,376
Assumed cost of imported electricity per unit (*H) (£)	£172	£215	£264	£356
Assumed annual electrical costs, including standing charge per unit (£)	£395	£438	£487	£579
Annual value of solar energy sold to grid per unit (*I)(£)	£674	£842	£891	£1,009
Annual energy cost/surplus per property type (£)	£279	£405	£404	£430
Total annual energy savings per unit (£)	£1,090	£1,306	£1,556	£2,023
Annual carbon savings per unit (kg CO2e)	1,648	2,060	2,335	2,884

Assumptions	
*A	In line with a typical EPC C rated property we have assumed an annual heat demand of 50kWh/m2/year.
*B	The Energy Strategy assumes that the properties are all heated by an air source heat pump, offering a seasonal coefficient of performance of at least 3. i.e. One unit of electricity used to power the heat pump provides three units of heat.
*C	In line with a typical EPC C rated property we have assumed an annual heat demand of 50kWh/m2/year.
*D	Assumes an average unit import rate of £0.15/kWh on the basis that the battery system can be charged outside of peak charge periods.
*E	Assumes an average standing charge of £0.61/day.
*F	Assumes Property type 1 (P1) can accommodate 24 modules, P2 30 modules, P3 34 modules and P4 40 modules. All modules are 0.45kWp.
*G	Based on the data available from the PVGIS solar model, we have assumed that flat solar mounted PV will generate on average 737kWh/year/kWp. Note: the efficiency of solar panels will degrade over time, so that by year 25. the annual generation may be reduced by 10 - 15%.
*H	Assumes that each property has battery storage as well as solar PV, minimising the dependency of imported solar PV from the grid, outside of the peak winter months. The model assumes 33% of total
*I	Assumes an export value of £0.15/KWh in line with the current export tariff offered by Octopus Energy .
*J	Assumes 0.20705 kg CO2e/KWh. Source: https://www.gov.uk/government/publications/greenhouse-gas-
Annual energy cost/surplus per property type (£)	£279 £405 £404 £430
Total annual energy savings per unit (£)	£1,090 £1,306 £1,556 £2,023
Annual carbon savings per unit (kg CO2e)	1,648 2,060 2,335 2,884

10.5. The seasonal energy profile

10.5.1. The UK climate means that peak energy demand occurs during the period that solar PV generation levels are at their lowest. So even where the design ensures that every unit can generate more electricity each year than it requires, all units will still depend on importing grid electricity through the peak winter months (typically November - Feb).

10.5.2. The seasonal profile for the 'average' unit is included below, which compares the annual electrical load (heat and power), and the solar PV generation profile. The modelling illustrates that in this scenario, the average unit will generate a monthly energy surplus from March to October.

10.6. The red bars illustrate the dependence on imported grid energy over the core winter months, compared to the green bars which show the surplus solar generation over

the summer months. The yellow bars illustrate the monthly solar PV generation profile, shown by the shaded orange zone.

10.7. Grid

10.7.1. Based on the assumed maximum PV capacity installed on each unit type, the development could accommodate 144KWp² of solar PV, or an average of 16kWp per property.

10.7.2. This exceeds the capacity per property that the local network operator must consent (3.6kWp/property) and will therefore need consent from Scottish Power Energy Networks (SPEN).

10.7.3. The first stage of this process would be to submit a budget grid application for the development to establish if there are any material constraints that may impact this Energy Strategy. Whilst this would not constitute a formal quote, it would offer a useful

means of 'teasing out' any likely material grid issues at an early stage of the process and without incurring SPEN fees.

10.7.4. A budget grid application can be submitted to SPEN at no cost but will require written landowner consent.

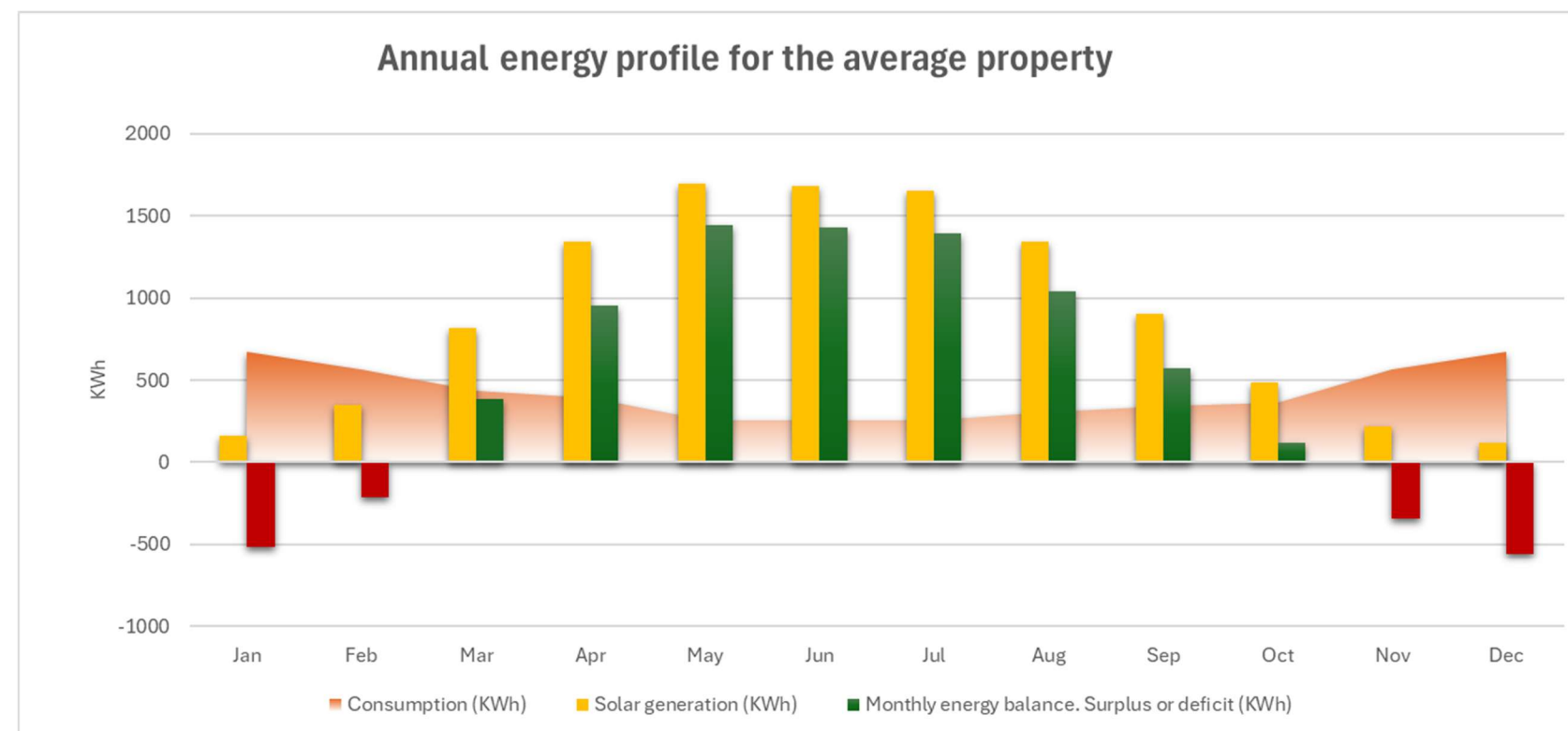
10.8. EV

10.8.1. The Energy Strategy has not included any electric vehicle (EV) energy load within its analysis, but we would note that the surplus identified from the proposed generation levels would likely extend the level of savings available to residents if EV charging facilities were included for each residential unit, particularly if the residents were able to benefit from the current very low-cost EV charging rates offered to EV owners overnight.

10.9. Costs

10.9.1. At this early feasibility stage, we have not looked at detail at the likely costs of the proposed PV or battery scheme, but we would anticipate that a sensible working budget of £600 - £700/KWp installed would be a reasonable working budget for PV component of the project, and a 9.5kWh GivEnergy battery system would cost in the region of £6,000.

10.9.2. In this case, the average capital cost for the required to offer residents Zero Energy cost living would be in region of £15,000.



² Excluding the commercial unit.

10.10. Summary

10.10.1. The energy modelling undertaken finds that the annual average energy saving per average unit type equate to approximately £1,500³ and the average carbon savings equate to over 2,000kg/year/property.

10.10.2. Cumulatively, the solar PV would save residents in the region of £15,000 annually on their energy costs and over 21,000kgs of CO₂/year.

10.11. Further consideration would be required for how the scheme makes provision for maintenance and replacement costs. The annual surplus, which is forecast to be in the region of £3,600k would not be sufficient on its own. For a scheme of this size and nature an annual set aside for maintenance, cleaning⁴, and replacement purposes of ~6% of Capex would be prudent, which would equate to ~£6k/year⁵.

10.12. Technology selection

10.12.1. The following section summarises potential technology options for the team to consider as the scheme design progresses beyond the feasibility stage.

10.13. Solar PV

10.13.1. The design team have based the design round a 450Wp Trina solar module. However, there are a wide range of module types available within the size and output range and so the precise module type is not considered to be a material design choice at this stage.

10.14. Heating

10.14.1. In line with experience gained for our wider work and from earlier Irion & Pine projects, we are proposing an Air-to-Air heat pump for each unit type. Daikin are one of the sector leaders in air-to-air heat pumps, including the [Multi+](#) system⁶, which can also heat domestic hot water.

10.14.2. Heat pumps offer a high efficiency heating system capable of heating the dwelling and the hot water and also providing summer cooling for the properties.

10.15. Battery energy storage

10.15.1. To deliver maximum flexibility to the residents and maximum savings, we would also propose that each unit type includes for some battery energy storage. These systems offer two material benefits for users:

10.15.2. Firstly, they allow the users to benefit from low-cost solar energy when the sun isn't shining. So, with a modest battery system, each of the proposed unit types would be able to minimise any requirement to acquire electricity from the national grid during the summer months.

10.15.3. Secondly, they allow the residents to take advantage of time of use electrical tariffs, to remove the requirement to buy electricity from the grid through the peak demand periods each day where grid costs are highest. The unit rate for electricity during off-peak periods can be 50% cheaper than during peak periods. This is particularly beneficial over the winter months where the proposed solar PV system will not be able to generate sufficient

electricity to meet the forecast demand for the all the unit types.

10.15.4. One option for the battery and management system is the [GivEnergy](#) battery system. GivEnergy is a UK based company specialising in the design and manufacture of battery storage energy systems.

³ As both the battery and the PV system will require some maintenance, parts replacements and cleaning costs, over the system lifetime, there may be a requirement to pass some costs onto the residents to cover these costs.

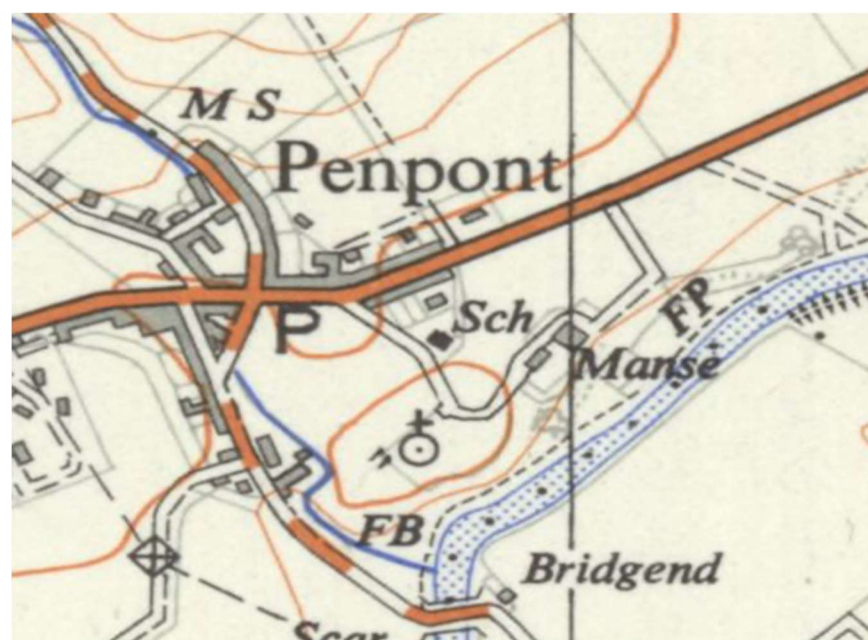
⁴ As the modules will be flat, the rain will not self-clean them, and so provision should be made for them to be cleaned by a window cleaner, using an extendable pole/brush/hose system, on a quarterly basis.

⁵ We have assumed that the batteries and inverters will need to be replaced every 10 years and the panels at 30 years.

⁶ https://www.daikin.co.uk/en_gb/residential/products-and-advice/product-categories/heat-pumps/air-to-air-heat-pumps.html#tabs-d4053cca82-item-cd4a09b1ba-tab



OS 6 Inch 1856 Source: Ordnance Survey



OS 1:25k 1951 Source: Ordnance Survey

11. Planning

11.1. Introduction

11.2. The proposed site falls within the village boundary of Penpont, the Local Planning Authority (LPA) is Dumfries and Galloway Council. Historic Mapping shows that the site has never been previously developed and has remained a greenfield site.

11.3. The local development plan 'Dumfries and Galloway Local Development Plan 2' has included the proposed site as an allocated housing site PNT.H2 – Main Street (18 units allocated up to 2029). The LPA guidance for the site is as follows:

11.4. *'This site provides a natural extension to the village. Careful consideration of the design will be required to ensure that any development will be appropriate to the form and character of the settlement. There is a water body near this site, records of flooding are held for the area, as a result a Flood Risk Assessment will be required. Consideration must also be given to facilitating pedestrian movement to and from the site. The feasibility of providing a pedestrian crossing facility on the A702 in the vicinity of the west end of the site frontage should be investigated. Pedestrian access between the site and the adjoining school, and to the road beyond, should also be investigated. A convenient parking area should also be provided within the site for existing residents along the A702. Site layout should minimise the effect of development on the adjoining caravan park.'*

11.5. The main takeaways from this policy are:

11.5.1. A flood risk assessment and outline drainage strategy will be required at the pre-planning stage to demonstrate flood resilience.

11.5.2. Early engagement with Dumfries and Galloway Roads is needed to understand what model of pedestrian crossing is required and how this will be funded

11.5.3. Discussion with the primary school head teacher is needed to determine the feasibility of a direct pedestrian entrance to form part of the community consultation.

11.5.4. A parking area for the community will need to be included in the design.

11.5.5. Separation distance to the caravan site is required.

11.6. Planning Risk Assessment

11.6.1. A Planning Risk Assessment evaluates potential risks in a development project, ensuring compliance with regulations and identifying challenges. It considers environmental factors (e.g., flooding, contamination, ecology), policy compliance, infrastructure availability, and community impact. The full planning risk assessment can be found in the separate document.

11.6.2. The main findings from the planning risk assessment are:

11.6.3. The proposal will require an Environmental Impact Assessment (EIA) Screening Opinion from the LPA as part of the pre-app enquiry due to the site being over 0.5 ha of urban extension classifying the site as a schedule 2 proposal. However, it is not considered that the proposal, being allocated, would require an EIA Report as there are not likely to be any significant environmental impacts from the proposal.

11.6.4. We recommend a pre-app submission to LPA authority covering all elements of the proposal. A 12-week period should be allowed for this.

11.6.5. The full planning application determination period is 13 weeks due to the site being over 0.5 ha

- 11.6.6. There are several listed buildings in the village of Penpont, with two in close proximity to the proposed site, Penpont Village School and School House and Penpont Parish Church. Within the Planning Design and Access Statement, the impact on the heritage assets will be reviewed.
- 11.6.7. We recommend early consultation with the County Archaeologist as part of a pre-app enquiry to see if they hold any records of interest in the site.
- 11.6.8. To demonstrate that the proposal will not have an adverse effect on the key view of the parish church a viewshed analysis will be undertaken.
- 11.6.9. It appears that the site consists of semi-improved grassland with some mature boundary trees, to ensure that habitats are protected a Preliminary Ecological Survey will be required at the pre-app stage. It is recommended that the site aims to create a 10% biodiversity net gain.
- 11.6.10. The site is within the Middle Dale Local Landscape Character Area and within the townscape of Penpont, careful design will ensure the proposal is complementary to both.
- 11.6.11. Early contact with the highways authority is recommended to discuss, pedestrian crossing, moving of the 30mph speed limit and required visibility splays.
- 11.6.12. A Flood Risk Assessment and outline drainage strategy will be required as part of the pre-app, with detailed percolation tests prior preparing feasible drainage design as part a full planning application.
- 11.6.13. The proposal will be exempt from most developer contributions due to it being an affordable housing scheme. A pre-app enquiry will get clarification of this from the council.

11.7. Planning Policy

We have identified the following policies that the proposal will have to comply with:

- Dumfries and Galloway Local Development Plan 2
- OP1 - Development Considerations
- OP2 - Design Quality and Placemaking
- OP3 - Developer Contributions
- H1 - Housing Land
- NE2 - Regional Scenic Areas
- IN7 - Flooding and Development
- IN8 - Surface Water Drainage and Sustainable Drainage Systems (SUDs)
- IN9 - Waste Water Drainage
- T2 - Location of Development/Accessibility
- SG01 - Design Quality and Placemaking - Supplementary Guidance
- SG02 - Developer Contributions - Supplementary Guidance
- SG31 - Flooding and Development - Supplementary Guidance
- NPF403 – Biodiversity
- NPF409 - Brownfield, vacant and derelict land
- NPF414 - Design, quality and place
- NPF416 - Quality Homes
- NPF422 - Flood risk and water management

11.8. Statutory Planning Designations

- 11.8.1. A statutory designation refers to a legally defined status assigned to a specific area or property by government authorities. These designations are typically established through legislation or regulations and carry legal implications for how the land can be used, developed, or protected.
- 11.8.2. These statutory designations play a crucial role in the planning process, guiding decisions on land use, development proposals, and conservation efforts to ensure sustainable and balanced development while protecting important natural and cultural assets.
- 11.8.3. The planning designation plans can be seen in the following 3 drawings.

Penpont Affordable Housing
Feasibility Study



Legend

- Site Boundary
- SEPA Flood Risk Data
 - River Flood Risk High
 - River Flood Risk Medium
 - River Flood Risk Medium with Climate Change
 - River Flood Risk Low
- Planning Designations
 - Listed Buildings
 - B
 - C
 - Local Landscape Area
 - Thornhill Uplands

DOCUMENT TITLE: Planning Risk Assessment

CLIENT: SOSE

25/020-PRA-01

Drawn By: BN
Approved By:

Date:14/03/2025
Date:

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REV.1



Penpont Affordable Housing
Feasibility Study



Legend

- Site Boundary
- Site Details
 - Protected Area of Open Space
 - PNT.H1 Allocated Housing Site
 - Tree Canopies
- Glebe Field Development 22/1859/PIP
 - 22:1859:PIP - Building Outlines
 - 22:1859:PIP - Site Boundary
- SEPA Flood Risk Data
 - Surface Water Risk High
 - Surface Water Risk Medium
 - Surface Water Risk Medium with Climate Change
 - Surface Water Risk Low
 - River Flood Risk High
 - River Flood Risk Medium
 - River Flood Risk Medium with Climate Change
 - River Flood Risk Low
- Planning Designations
 - Listed Buildings
 - B
 - C

DOCUMENT TITLE: Planning Risk Assessment - Local Level

CLIENT: SOSE

25/020-PRA-02

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REV.1

Penpont Affordable Housing
Feasibility Study



Legend

- Penpont Contours 1m
- Site Boundary
- SEPA Flood Risk Data
 - Surface Water Risk High
 - Surface Water Risk Medium
 - Surface Water Risk Medium with Climate Change
 - Surface Water Risk Low
 - River Flood Risk High
 - River Flood Risk Medium
 - River Flood Risk Medium with Climate Change
 - River Flood Risk Low

DOCUMENT TITLE: SEPA Flood Risk Data

CLIENT: SOSE

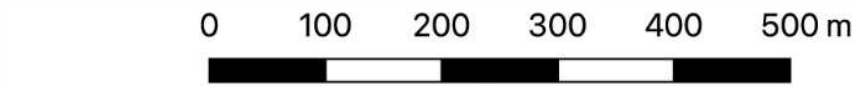
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REV.1

11.9. Conclusion

11.9.1. The site is allocated, and the proposal broadly meets the housing allocation aspiration, although at a lower density than anticipated in the Local Plan. However, the proposal also includes public open space, community parking and workshop units. The proposal therefore represents a more nuanced development that should meet the specific needs of the local community better than the County-wide allocation process. A pre-application public consultation will be useful in confirming this or suggesting further amendments.

11.10. Next Steps

- 11.10.1. We recommend that the next step is to submit a pre-app enquiry which consists of.
- Pre-app covering report, management of application and presenting next steps
 - EIA Screening
 - Desktop Archaeological assessment
 - Preliminary Ecological Assessment
 - Visual Appraisal
 - Outline Flood Risk Assessment & outline drainage strategy

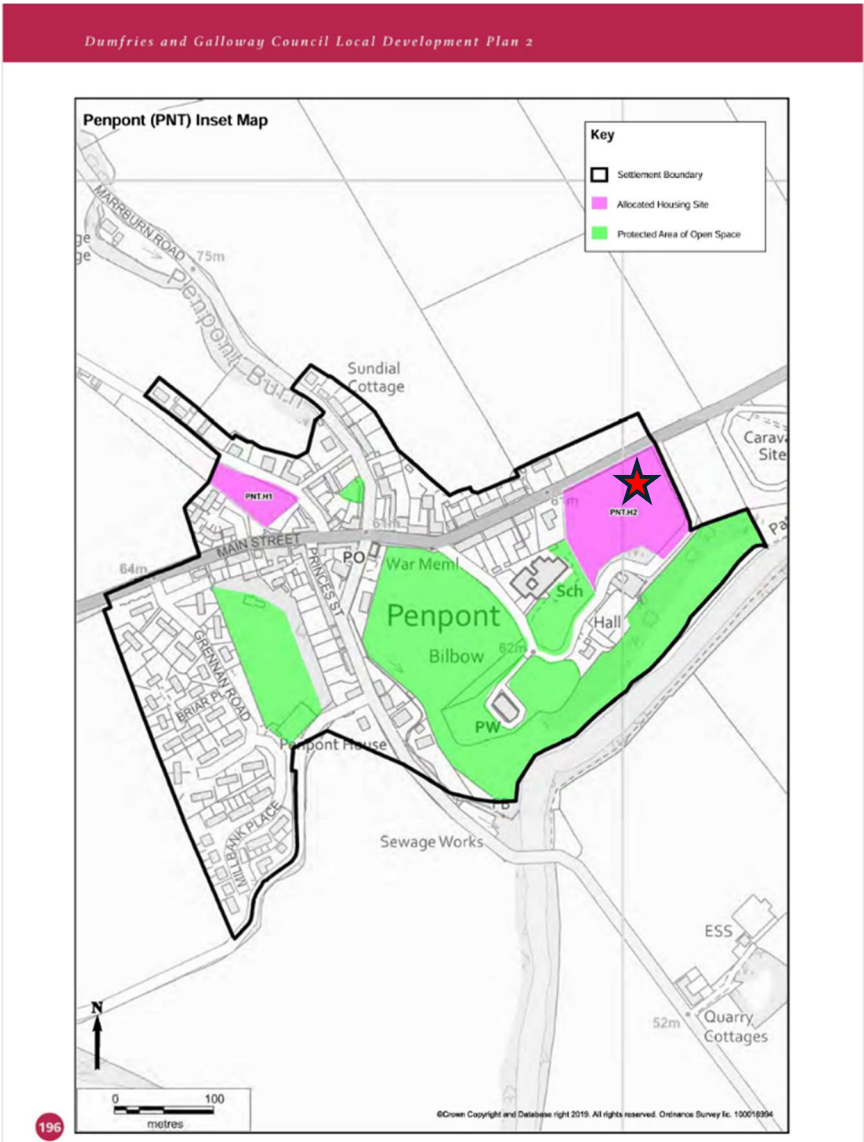
12. Engineering

12.1. Introduction

The project involves developing the greenfield site at the eastern edge of Penpont, near Thornhill in Dumfries and Galloway, with nine housing units utilising modular construction techniques. This includes the provision of all site infrastructure and services associated with the development. A communal garden, allotments and working units will also be provided for the local community.

12.2. Site Description

The undeveloped greenfield site (marked by the red star) is located off the A702 as you approach Penpont from the east. The site is allocated for future housing within the current Dumfries and Galloway Council Local Development Plan 2, as illustrated. Reviewing the historical mapping for the area, the site has remained undeveloped since the 1840's featuring only grassland over its history. The site topography shows a gentle slope from the west at 60.5m AOD to the east at 58.75m AOD, with a shallow valley running through the middle. The site is approx. 100mm north of the Scaur Water, a tributary to the River Nith.



Extract from Dumfries and Galloway Local Development Plan 2



Extract from National Library of Scotland OS 6 inch, 1840s – 1880s



Contours derived from open-source LiDAR data

12.3. Ground Conditions

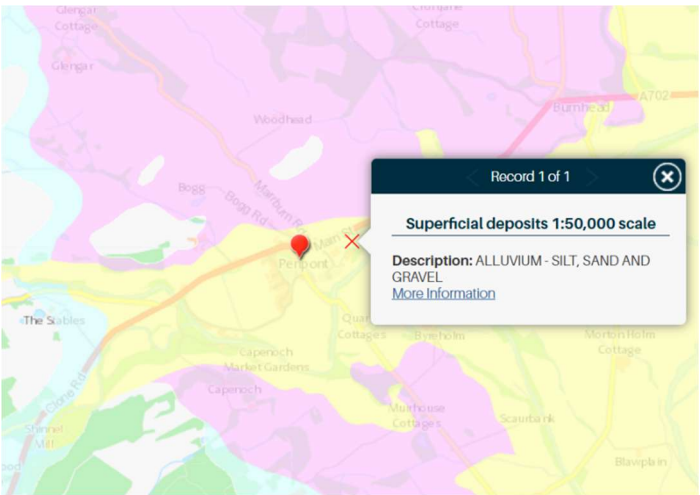
An initial desktop study of freely available British Geological Society (BGS) Geo Index Onshore and Scotland’s Soil mapping data was undertaken to provide a preliminary analysis of the ground conditions on site.

As the project progresses to the next stage a formal Phase I desktop study and Phase II intrusive Ground Investigation will be required to fully understand the ground conditions and any constraints/mitigation requirements associated with the development.

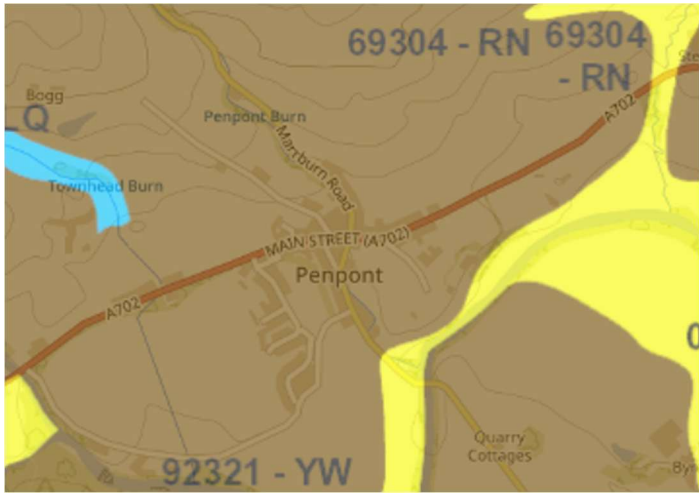
12.4. Superficial Deposits

The BGS mapping indicates superficial soils consisting of silt, sand and gravel, as shown below.

The soil classification from Scotland’s Soils is Brown Soils, subgroup Brown Earth, which is a free draining soil, see below. The parent material is classified as Glacio-fluvial and upper raised beach deposits of gravels derived from greywackes and shales of Silurian and Ordovician ages which is consistent with the findings from the BGS.



Superficial Deposits



Soil map of Scotland (Scotland’s Soils)

The free draining nature of the soil is supported by a Soil runoff risk of “Low” meaning “soils can store large volumes of water or can allow water to quickly infiltrate, and so surface runoff is limited.” See figure below.

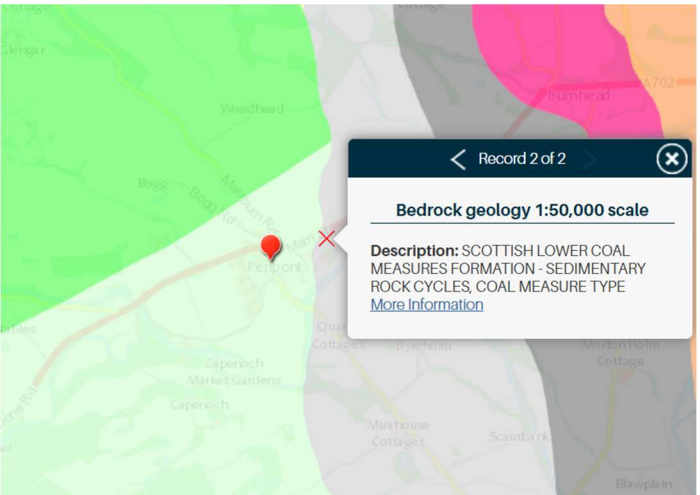
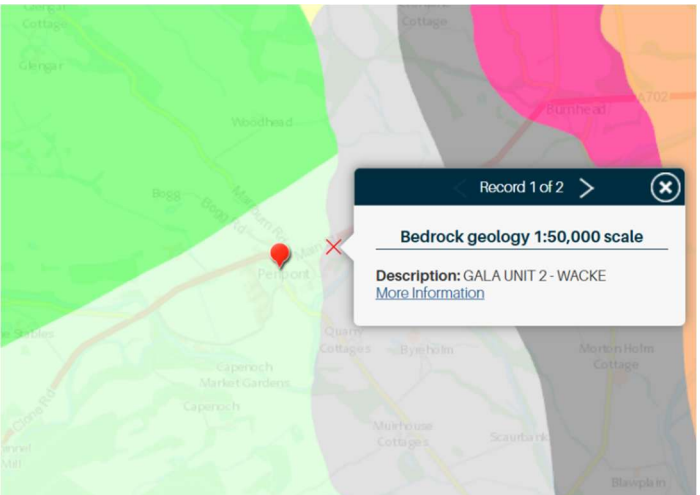
This could indicate that a SuDS system utilising infiltration would be appropriate for the development. Percolation testing would be required to confirm.



Soil runoff risk (Scotland’s Soils)

12.5. Bedrock Geology

The BGS mapping indicates the bedrock geology is likely to be Wacke or Scottish Lower Coal Measures Formation as shown in figures below.



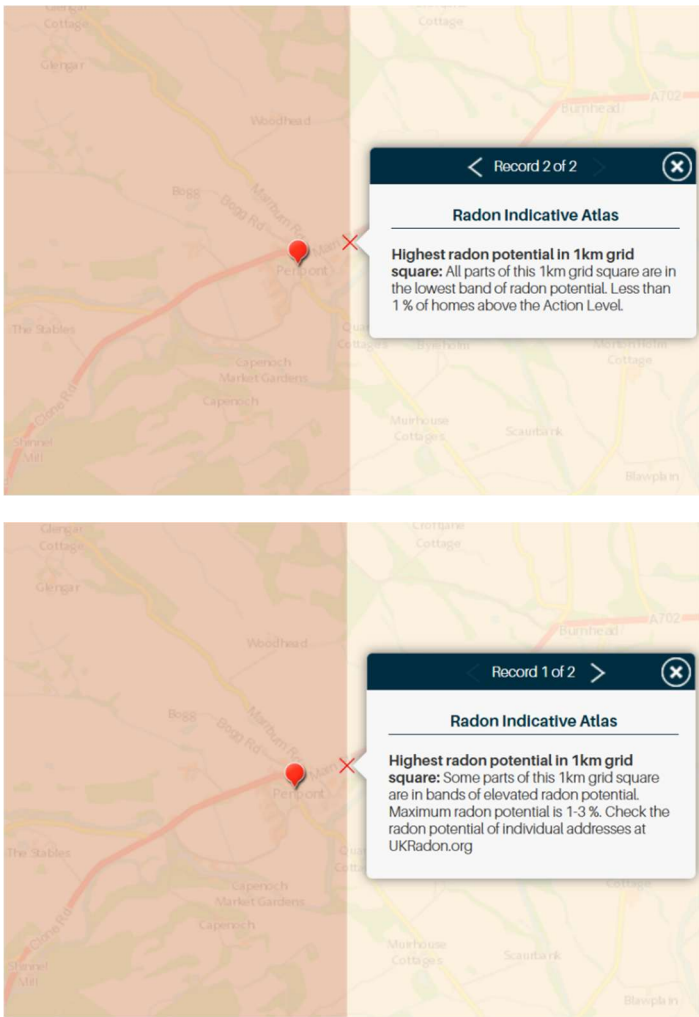
Bedrock Geology (BGS Geo Index Onshore Viewer)

12.6. Radon

The BGS Geo Index Onshore Viewer Radon mapping below indicates the site crosses two bands:

- I. Some parts of this 1km grid square are in bands of elevated radon potential. Maximum radon potential is 1-3 %.
- II. All parts of this 1km grid square are in the lowest band of radon potential. Less than 1 % of homes above the Action Level.

The potential for high levels of Radon needs further investigating with gas monitoring as part of the Geo-Environmental Assessment. Suitable mitigation measures such as a gas membrane may be required as part of the construction.

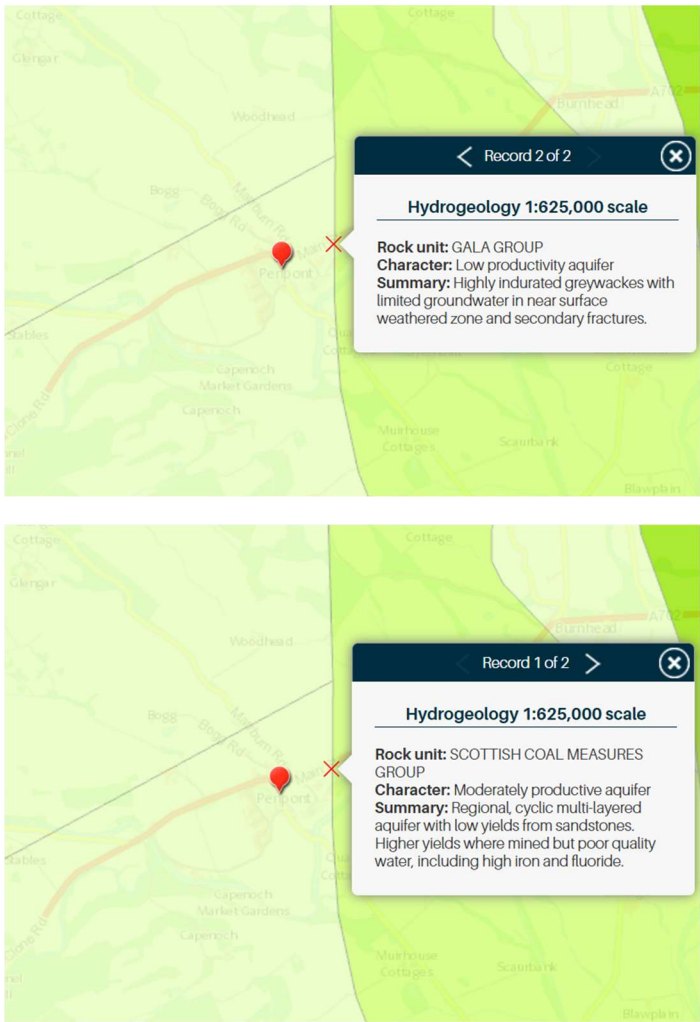


12.7. Groundwater

The BGS Geo Index Onshore Viewer Hydrogeology mapping below indicates the site lies over two aquifers:

- I. Gala group, low productivity aquifer.
- II. Scottish Coal Measures group, moderately productive aquifer, low yields from sandstone, high yield when mined but poor-quality water.

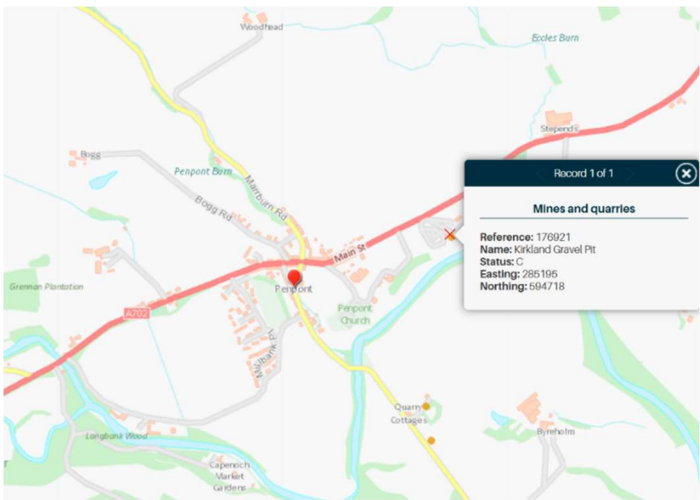
The low yields close to the surface may be a good indication that groundwater is at a depth where infiltration as a means of dealing with surface water generated from the development is feasible.



12.8. Mining

The Mining Remediation Authority map viewer indicates the site is not in a high-risk development area, being off the coalfield from their records.

The BGS minerals mapping confirms this by showing no mining in the vicinity of the site however, there is presence of historic gravel quarrying with three gravel pits within 500m of the site, as shown below. The presence of gravel correlates with the superficial deposit classification Alluvium.

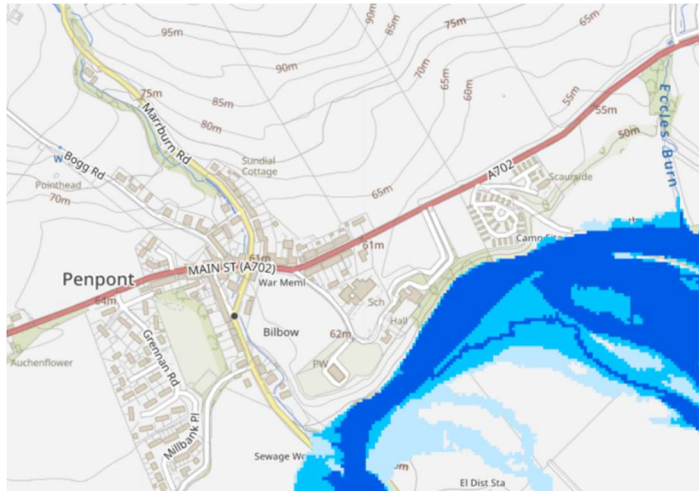


12.9. Flood Risk

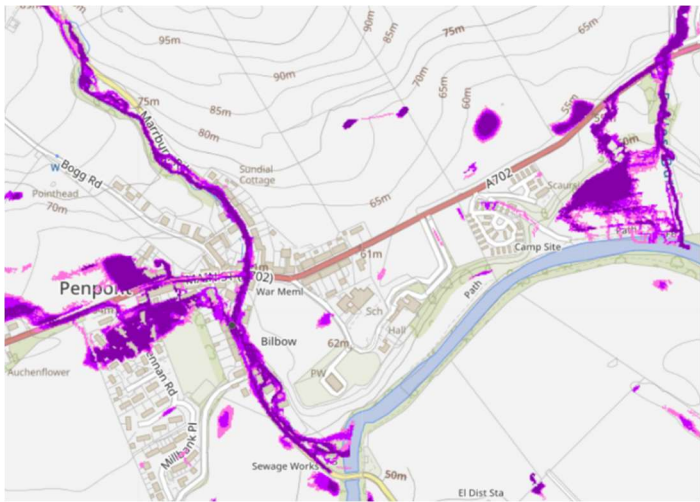
An assessment of the long-term flood risk from river, coastal and pluvial sources was undertaken for the site using the SEPA interactive mapping tool. Due to the inland location of the site coastal flooding has been ignored for the remainder of this assessment. The results state there is “no specific risk” from river or pluvial sources. This means “there is no specific likelihood of ... flooding identified for this area but there could still be localised effects from flooding in some places.” However, there is small area of surface water flooding on the site as illustrated on the ‘Surface Water and Small Watercourses’ figure. This has a 0.1% of flooding any given year which is considered a low likelihood. The future SuDS design will need to be cognisant of this.

Although the site is at low risk of flooding, the Local Development Plan highlights the proximity of the Scaur Water and the need for a Flood Risk Assessment. “There is a water body in close proximity to this site, records of flooding are held for the area, as a result a Flood Risk Assessment will be required.”

Liaison with Dumfries and Galloway Council Flood team will be required to determine what level of Flood Risk Assessment is required. A level 1 screening study or Level 2 scoping study would appear appropriate.



River Flooding (SEPA Flood Map)

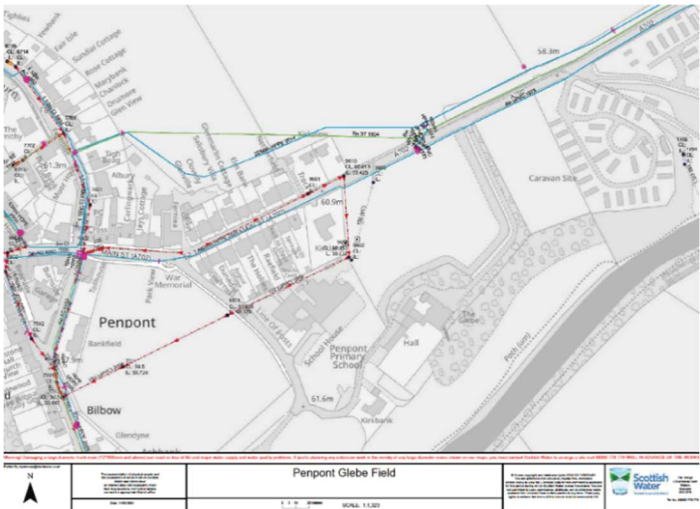


Surface Water and Small Watercourse Flooding (SEPA Flood Map)

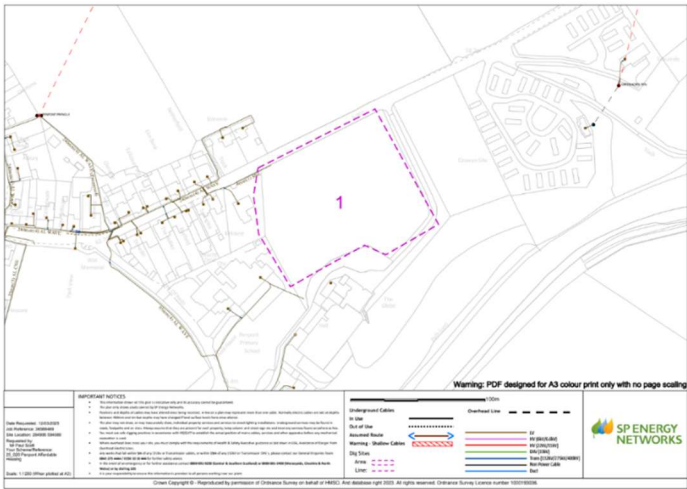
12.10. Existing Utilities

A utilities search was conducted to ascertain the presence of existing utilities

- The asset plan from Scottish Water below shows the following:
- 150/160mm diameter HDPE water main located along northern boundary.
 - 150mm diameter uPVC combined sewer located at northwest corner of the site along with a 150mm diameter VC sewer (abandoned).



The asset plan from Scottish Power Energy Networks (SPEN) shows a low voltage underground cable at the northwest corner of the site.



There are no Scottish Gas Networks (SGN) assets in the vicinity of the site.

12.11. Engineering Appraisal

An assessment of the likely engineering requirements was carried out to help identify any possible constraints to the development.

12.12. Earthworks

The topography of the site is as discussed under Site Description and in general the proposed development elevations (finished floor levels, road elevations etc.) will match the existing to minimise cut and fill:

- Bulk and Engineering fill will be minimal (except for the foul discharge option 1A (see section 12.15) where there will be extensive filling of the site required to provide a gravity connection to the existing Scottish Water manhole MH9611 identified at the western boundary).
- Cut will be from topsoil strip, road and footway formation, drainage, foundations etc.
- Imported material will be for road construction, pipe bedding and landscaping.

The future phase II intrusive ground investigation will provide comment on the ground conditions including recommendations for material reuse, groundwater levels, pavement foundation (i.e. CBR results), structural foundations and any earth retaining structures.

12.13. Roads

The proposed development will require a new access off the A702 (note there are plans for a future second access). Consultation with Dumfries and Galloway Council Roads Department will be required as part of a Section 56 agreement to carry out works on the public road.

Currently when entering Penpont from the east the change from national speed limit to 30 mph is midway along the northern boundary of the site. To improve safety for vehicles and pedestrians it is proposed that

this transition is relocated to the eastern edge of the site therefore covering the entire frontage of the development. This will allow a reduction to the visibility splay requirements associated with the Stopping Sight Distance for a 30 mph road and provide the opportunity to introduce a pedestrian crossing to create a link between the development and the rest of the village.

The proposed internal road network has been designed to service the development efficiently while maintaining suitable access for refuse and fire and rescue vehicles. Vehicle tracking will be required to prove the vehicles have sufficient space to manoeuvre, subject to the requirements of Dumfries and Galloway Council Roads Department.

The road network and public parking will be subject to a Road Construction Consent (RCC) from the Council Roads Department. This will ensure the geometry and pavement construction are constructed to adoptable standards.

Residents parking has been provided in curtilage with visitors and public parking provided on site.

12.14. Utilities

As discussed previously there are existing water and electricity services fronting the development. Any proposed service connections will be brought in using multi trenching, where possible.

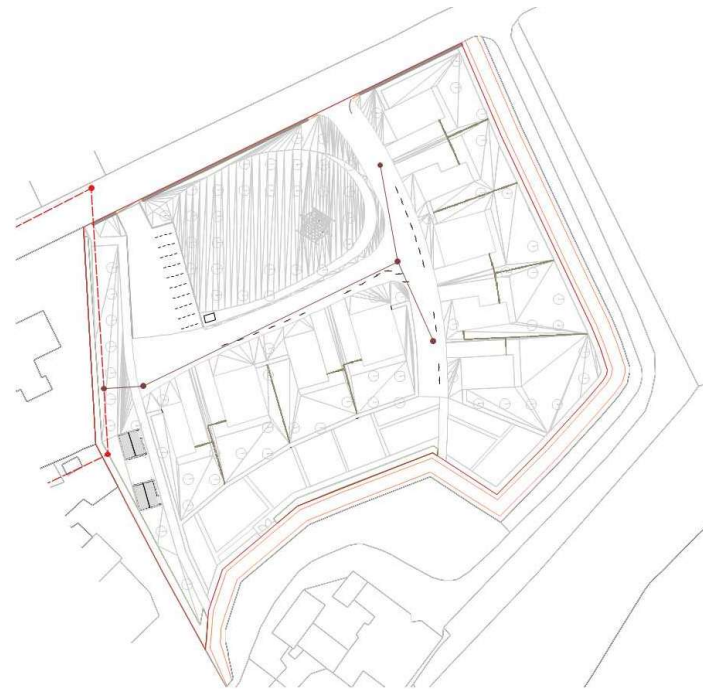
12.15. Foul Drainage

Option 1

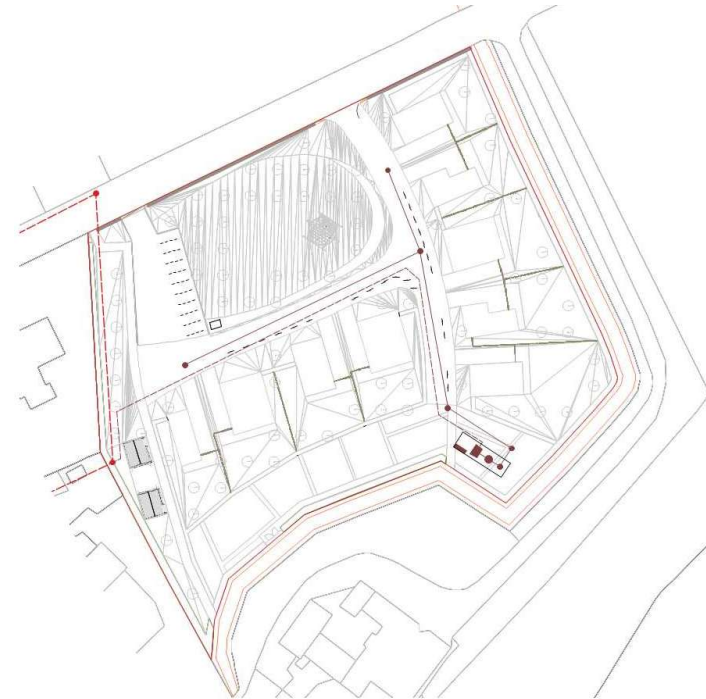
As was noted in under Existing Utilities, there is a Scottish Water combined sewer at the northwest corner of the site. The upstream manhole, MH9610, located on the A702, has a cover level 60.62m and invert level 59.43m, the downstream manhole, MH9611, located midway along the western boundary, has a cover level 60.15m and invert level 59.03m. MH9611 or the associated pipework would be the preferred connection point for the foul discharge from the development. A Scottish Water Pre-Development Enquiry will be required as part of the planning and design process for any connection to the Scottish Water network.

There are two ways to make this connection possible:

- A. Raise the site levels - This will require the import of suitable fill material to depths of up to 3 meters across the site. This would more than likely require earth retaining structures.



- B. Use a pumping station with valve chamber and kiosk. This would result in the loss of allotment space to the pumping station and provision for vehicular access.



Option 2

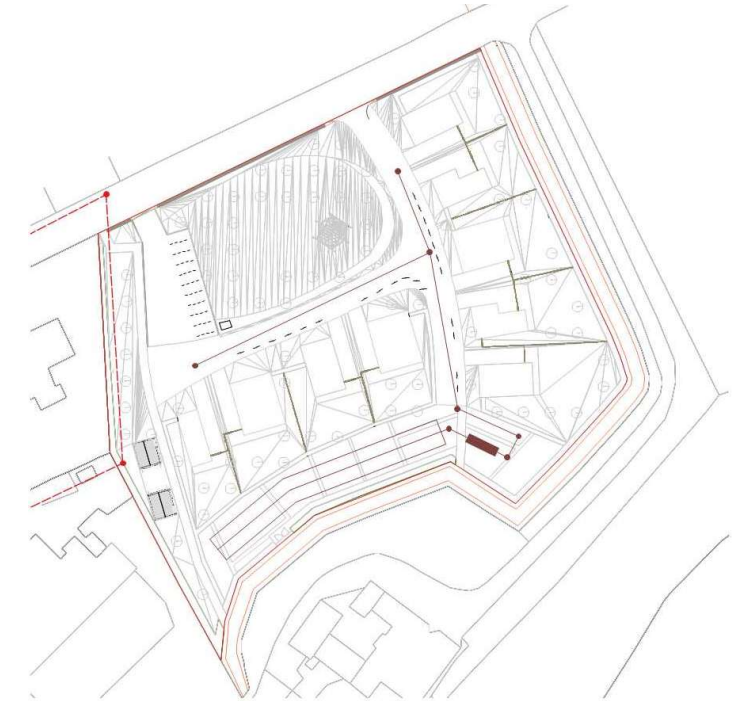
There is an option that doesn't require the connection to the existing Scottish Water infrastructure which is to install a private treatment system (PTP) and drainage field.

However, because there are Scottish Water assets in the vicinity of the site SEPA would want the connection to be made to the public sewer.

A case would need to be put forward to SEPA which highlights why going to the public sewer is technically infeasible such as a PTP is the most cost-effective solution rather than the options detailed above. If accepted, then it would require a simple licence from SEPA which has a 4-month decision period.

The PTP would be sited in approximately the same location as the pumping station in Option 1B, and the drainage field would be located beneath the

allotments, subject to the necessary approvals from Building Standards.



Option 3

This option would be to connect to the existing Scottish Water manhole MH7511 cover level 58.50m and invert level 55.724m.

The manhole is located 200m west of the site in open grassland and although the invert is low enough to make a connection achievable the pipework would require deep excavations near existing buildings and therefore would be costly to construct. For this reason, this option is discounted from further investigation.

12.16. Surface Water

The Dumfries and Galloway Council Surface Water Drainage and Sustainable Drainage Systems (SuDS) Supplementary Guidance, February 2020 states “With the exception of single houses and those with direct discharges to coastal waters, Sustainable Drainage Systems (SuDS) will be a required part of all proposed development as a means of treating the surface water and managing flow rates and must form part of any planning permission in principle proposal.”

The Dumfries and Galloway Council Flooding and Development Supplementary Guidance, February 2020 states “For any site a Drainage Impact Assessment (DIA) may be required to ensure that surface water flows are properly considered in the development design. Consideration should be given to pluvial flows especially those which exceed the capacity of the proposed drainage systems. Design of development must avoid flood risk from exceedance flows.” Considering the scale of the development a level 2 DIA will be required by the council.

All proposed drainage and SuDS systems should be designed for 3.3% AEP or 1 in 30-year rainfall event whilst ensuring there is no overall increase in unacceptable on or off-site flood risk for a 0.5% or 1 in 200-year event.

Infiltration would be the preferred SuDS design as there are no Scottish Water surface water sewers near the site and although there is large watercourse, Scaur Water, in proximity discharging to this would likely be unfeasible due to cost land ownership issues.

At the feasibility stage the suitability of infiltration is unknown but a review of the BGS and Soil mapping are favourable. The future intrusive ground investigation would confirm the viability of infiltration through percolation testing. Should the testing prove unfavourable discussions with Scottish Water would

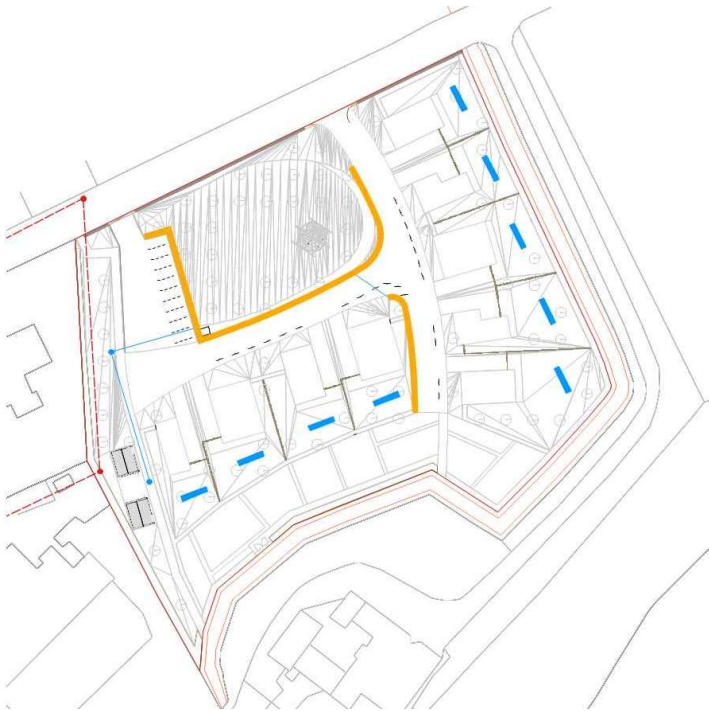
need to take place on attenuated flow discharging to the combined sewer.

12.17. Public Roads and Parking

An infiltration trench, as detailed to the right, would be used for the roads and car parking. The system doesn’t require permeable surfacing but there is a solution that combines a permeable asphalt surface with an infiltration trench. Any exceedance flow from the roads and parking would be routed to the communal garden.

12.18. Private

Roof and paved areas within the curtilage of the properties would drain to soakaways in the back garden.





FILTER DRAINS/ INFILTRATION TRENCHES

Description

Roadside trenches filled with a permeable media to provide treatment and temporary storage of runoff before either infiltration or conveyance to downstream SuDS features

Road/ Street Applications	Traditional Road Applications
■ Road/ Street 1,000 – 10,000 veh/ d	■ Trunk roads
■ Road/ Street >5,000<10,000 veh/ d	■ All distributor roads
■ Road/ Street 250 – 1,000 veh/ d	■ General access roads
	■ Industrial access roads

Types

- Allowing infiltration [Infiltration trenches]
- Downstream conveyance to SuDS feature

Design Criteria

- Storage of water based on void ratio of filter media
- Infiltration rate of surrounding soils requires to be determined for infiltration trenches
- Percolation through media using Darcy's law
- Design details – The SuDS Manual¹⁹

Pollutant Removal

- Medium to high
- Single level of treatment provided

Maintenance

- Monthly inspections
- Weed control, as required, following inspections
- Replace clogged material within geotextile wrapped top layer, as required, following inspections
- Refer to §3.4 for further details

Limiting Factors

- Pre-treatment features required to prevent clogging
- Should not be used where large sediment loads may be deposited on the paved surface

Amenity Benefit

- Low



PERVIOUS PAVEMENT-Porous asphalt

Description

Pavement construction that allows road runoff to infiltrate through the surface layer to underlying treatment and storage media, or through the top surface and over the surface of the impermeable binder to a filter drain

Road/ Street Applications	Traditional Road Applications
■ Road/ Street >5,000<10,000 veh/ d	■ Short Culs-de-sac
■ Road/ Street 250 – 1,000 veh/ d	■ Minor access link
■ Road/ Street <250 veh/ d	■ Homezones/ shared surfaces
■ On-Street Car Parking	

Design Criteria

- Structural design methods as conventional road pavements adjusted for different material properties and the presence of water in the sub-base and saturated subgrade where infiltration possible
- Hydraulic design to provide storage based on design rainfall and outflow restriction
- Design details – The SuDS Manual¹⁹, CIRIA C582²¹

Pollutant Removal

- Medium
- Reduced surface spray leading to reduction in pollutants washed off underside of vehicles

Maintenance

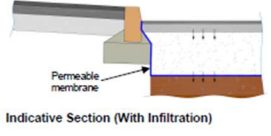
- Monthly inspections for clogging and ponding on surface
- Jet washing and vacuum sweeping, as required following inspection
- Refer to §3.4 for further details

Limiting Factors

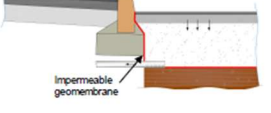
- Membranes may be required to protect weak subgrades
- Unsuitable to provide route for overland flow due to potential clogging
- Unsuitable where the seasonally high water table is within 1m of formation, where infiltration is being considered
- Should not be used where large sediment loads may be deposited on the paved surface

Amenity Benefit

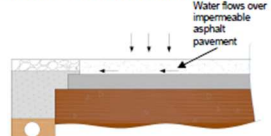
- Poor



Indicative Section (With Infiltration)



Indicative Section (Without Infiltration)



Indicative Section Showing Flow Through Porous Surface across Impermeable Binder and Base

Extracts from SuDS for Roads

12.19. Conclusions

Following the discussions contained within this report there are no insurmountable obstacles that would prevent the development from proceeding. However, there are two areas of reasonable significance which require further exploring to prove their viability and to allow the development to progress without incurring excessive costs: foul drainage and surface water drainage.

12.20. Foul

The foul discharge options contained within this report will need to be priced to select the most cost effective for the project. This comparison could potentially be used as justification to SEPA should the option of installing a PTP be pursued.

12.21. Surface Water

Confirmation the ground is suitable for infiltration is necessary to proceed to the design stage therefore percolation testing is of paramount importance. The alternative would be an agreement with Scottish Water to discharge attenuated surface water flow to the combined sewer

12.22. Next Steps

The following non-exhaustive list details the surveys and approvals that will be need for the next stage of the design development:

- Phase 1 desktop study and Phase 2 Ground Investigation including contamination testing.
- Environmental Impact Assessment Screening Opinion
- Scottish Water Pre-Development Enquiry
- Scottish Water Wayleave Agreement
- Dumfries and Galloway Level 2 Drainage Impact Assessment
- Dumfries and Galloway Level 1 or Level 2 Flood Risk Assessment
- Dumfries and Galloway Road Construction Consent and Section 56
- Dumfries and Galloway Building Standards
- Topographical survey including adjacent roads (200m in both directions)

13. Community consultation

- 13.1. Recent community consultations have taken place in Penpoint. The following material is a summary of the discussions and questionnaires at these events.
- 13.2. There is a Bulletin (18th April) on KPT DT website mentioning the Housing Consultation event, here's the material from the bulletin:

PENPONT HOUSING PROJECT HAVE YOUR SAY!

'KPT Development Trust and members of the Penpont Housing group were delighted to be invited by Penpont Community Council to attend the Grand Opening of the MUGA. This enabled a first sharing with the wider community of the proposed designs by Dalbeattie based construction company Iron & Pine. Many thanks to those who managed to brave the weather. For those of you who were unable to attend on the Wednesday there was a second event held at The Three Villages Café from 2pm until after 6pm.

Alistair Fell from Iron Pine was on hand to share a detailed presentation on the proposed design and provide answers to members of our community on any questions. To date feedback has been overwhelmingly positive - thank you to all of our community for attending.

KPT's Project Development Officer Michelle and members of Penpont Housing Project Group were absolutely delighted to welcome pupils from Penpont Primary School with their teacher Rachel Hudson and school helpers. The School community were able to meet with Alistair Fell and view the Iron & Pine presentation as well as participate in some workshops exploring and sharing their ideas and learning around land use. More photos and information to follow next week'.

- 13.3. Survey Monkey has been set up to gather ongoing feedback a link for this is provided in KPT Facebook posts and website.
- 13.4. Survey Monkey only went live last week, so there will be more data to follow. So far there have already been 7 responses stating an interest in renting one of the properties, some also expressing an interest in an allotment.

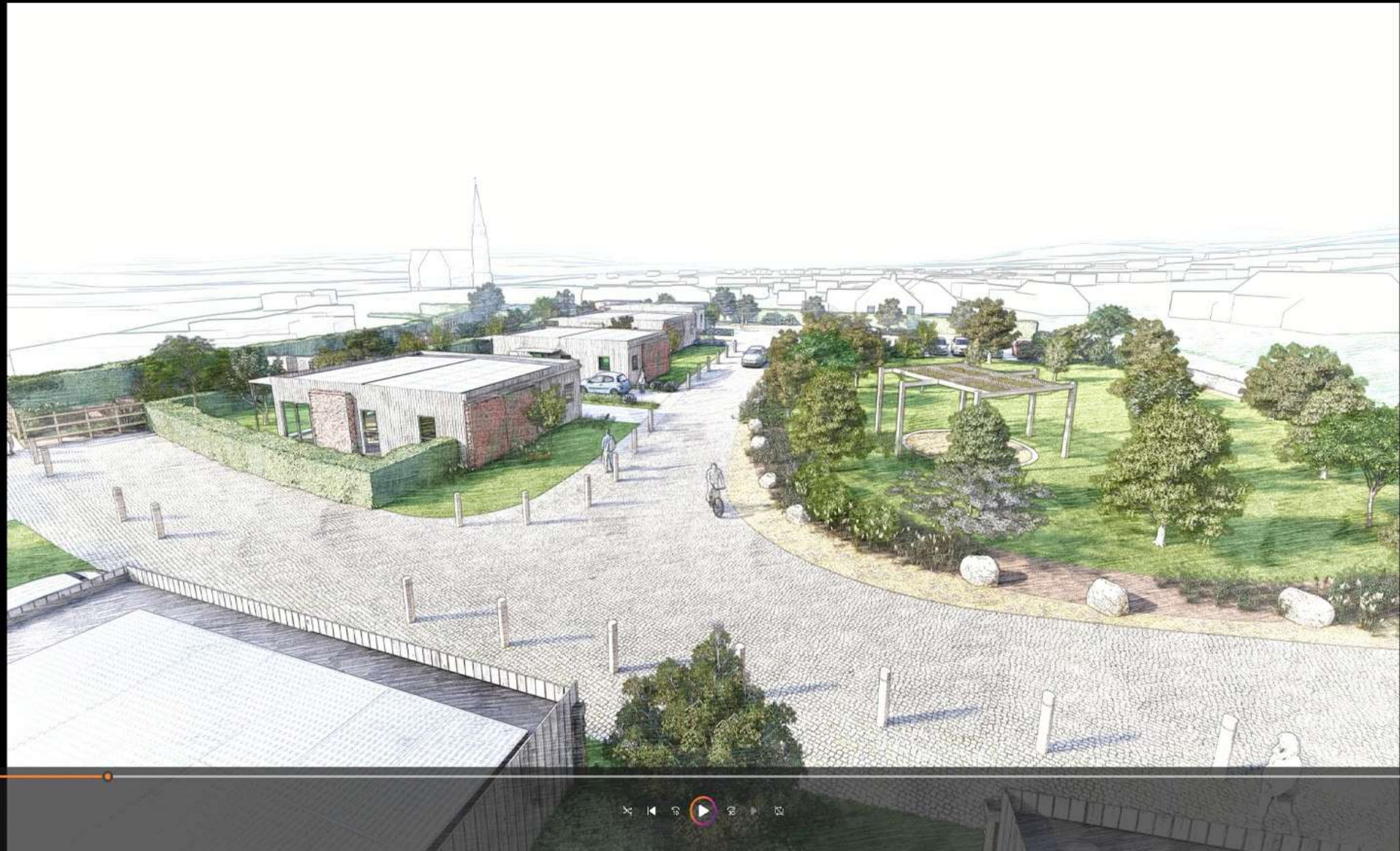




Photos from the Community Engagement Events

GLEBE FIELD HOUSING - PENPONT PRIMARY SCHOOL CONSULTATION					
IDEA		CATEGORY	GROUP COLOUR		
			Yellow	Green	Orange
▼ Nature					
	Zoo	Nature	1		2
	Pond (with frogs in it)	Nature	1		
	Plant trees	Nature	2		
	More wildlife	Nature	1		
	Nothing for wildlife	Nature	1		
	Wildlife park	Nature	1	1	
	Petting zoo	Nature	1		
	Loch	Nature		2	
	Flower field	Nature			1
	Planting places	Nature			1
	Vegetable plantation	Nature	1		
	Plant nursery	Nature	1		
▼ Shops					
	Mail	Shops	1	1	
	Costa	Shops	1		
	Pet shop	Shops	2		1
	Pubs/bars	Shops	2	1	
	Toy shop	Shops	2	1	2
	Tesco	Shops	2		1
	ASOS	Shops	1		
	Pizza Hut	Shops	1		
	Art Store	Shops	1		1
	LIDL	Shops	1		
	More shops	Shops	1		
	B&M	Shops	1		
	Co-op	Shops	2		
	Morrisons	Shops	1		
	Dominos	Shops	1		
	McDonalds	Shops	1		
	KFC	Shops	1		
	Wholefood Centre	Shops	1		
	Pizza Hut	Shops	1		
	Antique store	Shops	1		
	Aldi	Shops		1	
	Cafe	Shops		1	1
	Restaurant	Shops		1	
	Primark	Shops			2
	Sephora	Shops			1
	Gift shop	Shops			1
	More food places	Shops			1
	Lulu le Mon	Shops			1
▼ Activities					
	Water park	Activities	2	1	
	Laser tag centre	Activities	1	2	
	Football stadium	Activities	1		
	Art studio for anyone	Activities	1		





00:02:17

00:02:31

PENPONT concept flythrough_1



Still from the flythrough animation presented at the Community Engagement Event