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Lochshore, Kilbirnie Masterplan Design Report

24133-EMA-XX-XX-TRP-A-000001-P05 | 17/03/2026

Prepared by EMA Architecture + Design Limited on behalf of North Ayrshire Council

North Ayrshire Council
Comhairle Siorrachd Àir a' Tuath



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Executive Summary

EMA were appointed by North Ayrshire Council (NAC) on 6th November 2024 to develop a residential masterplan for an area of NAC owned land at Lochshore, Kilbirnie.

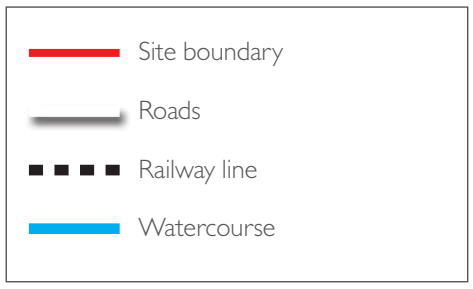
The residential masterplan has been developed taking into consideration best practice guidance, market feedback and the following:

- Evidence based analysis to inform concept design.
- Masterplan that blends best practice design with residential market requirements.
- Phasing strategy that reflects market interest.
- A masterplan that integrates the surrounding landscape.

This report has been prepared to summarise the site investigation and design process completed to date in relation to development of the Lochshore site. It sets out a clear concept that underpins the proposal and creates a clear landscape framework for new development to emerge.

Design Team

Client:	North Ayrshire Council
Architect / Masterplanner:	EMA Architecture + Design Limited
Planning Consultant:	Hill Dryburgh Limited
Civil Engineer:	Dougall Baillie Associates
Transport Engineer:	Dougall Baillie Associates
Landscape Architect:	David Wilson Associates
Ecology:	RPS Group
Cost Consultant:	Thomson Gray



N

Milton Rd.

A760

Maich River

Largs Rd. (A760)

Main St.

KILBIRNIE

Newton St.

Paddockholm Rd.

Stonecholm Rd.

KILBIRNIE LOCH

River Garnock

B777

Dalry Rd.

Caledonian Rd.

GLENGARNOCK

Site Context

The site is located approx. 20 miles from south-west Glasgow and to the east of Kilbirnie. The site sits to the north-eastern edge of the general urban area of Kilbirnie and Glengarnock.

The site is bound to the west by National Cycle Route 7, which links to Ardrossan and Irvine to the south and Johnstone, Paisley and Glasgow to the north. Kilbirnie Town Centre lies beyond the core path, providing access to various services and amenities.

To the north of the site is the A760 which connects with Lochwinnoch to the north, providing onward connection to the A737 and Glasgow. Open fields lie to the north beyond the A760.

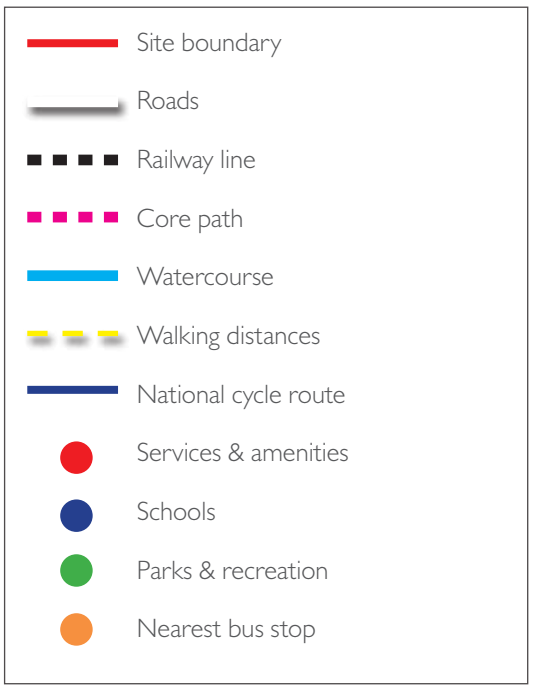
The site is bound to the east and south by Clyde Muirshiel Regional Park. Lochshore Park is set within the Clyde Muirshiel Regional Park, and provides access to extensive recreational facilities such as the Lochshore Park Hub, rugby pitches, and cycle and walking routes. To the east of Kilbirnie Loch is the Willowyard Industrial Estate in Beith.

Further south of the site is Glengarnock, where the new community campus is located and the nearest railway station, providing onward travel to Ayr, Glasgow, Largs and Ardrossan Harbour.

Access to public transport is located nearby the site, with bus stops located to the west on Bank Street in Kilbirnie, providing onward travel to Largs, Irvine, Beith, Broomlands and Stanecastle.

The site is located nearby to a number of local amenities, including shops, a post office, library, a medical practice, all within walking distance.

The site is currently within the catchment area of Moorpark Primary School, St Bridget's Primary School, Garnock Community Campus and St Matthew's Academy.



N

Milton Rd.

Playground

A760

Maich River

1,600m

800m

400m

Moorpark Primary School

Dental Practice

Tesco Superstore

Stonevholm Rd.

Largs Rd. (A760)

Post Office

Main St.

KILBIRNIE

Kilbirnie Place Golf Club

Paddockholm Rd.

KILBIRNIE LOCH

Playground

Public Library

Newton St.

Skatepark

Lochshore Park

St Bridget's Primary School

Kilbirnie Public Park

River Garnock

Nisa Store

Pharmacy

Kilbirnie Medical Practice

Convenience Store

Convenience Store

Garnock R.F.C

Ladside Pavilion Football Pitches

Lochshore Park Hub

B777

Dalry Rd.

Caledonian Rd.

GLENGARNOCK

Garnock Community Campus

B777

Constraints and Opportunities

The site extends to circa. 23.510 hectares (58.094 acres) and is located to the east of Kilbirnie. A number of technical assessments have been carried out to inform the proposals.

Development of the site provides the opportunity to extend existing residential development east along Stoneyholm Road/A760, to the edge of the settlement of Kilbirnie.

There is opportunity to widen the A760 and provide footpaths to improve connectivity. This also provides opportunities to connect to the existing core path to the west of the site, which provides access links to Ardrossan and Irvine to the south and Johnstone, Paisley and Glasgow to the north.

Existing trees are located along the field lines, and the local authority have planted trees to accord with the indicative masterplan proposals for Lochshore. Whilst the existing trees have been accommodated within the proposals, there are small areas of removals suggested as part of the residential development. A detailed tree survey would be required with mitigation proposals in support of any future planning application.

The Lochshore masterplan proposes a roundabout to the northern tip of the site, which would provide a new park access road that connects to car parking, amenity facilities and the wider park area. This roundabout does not need to be provided for the residential development, but would need to be accommodated in future, should the new access to the park be introduced.

There are no existing services or sewers located on the site. There is an existing combined sewer located on Stoneyholm Road (A760) to the north-east of the site. There is an existing ditch located to the south-east of the site which would be a suitable point of discharge for storm water.

A utilities and services check will be carried out along with further site investigation in support of a future application.

The site topography falls from north to west and south to east, to the ditch that runs from west to east through the centre of the site. There is a steep embankment that runs along the western edge of the site from the core path, up to the development site. The proposed site levels will be designed to tie in with the surrounding context, with the SUDS basin to be positioned to the centre of the site, at the lowest point. This would provide an opportunity for the blue green network to transition with the woodland edge to the eastern boundary.

In summary, the site and its location presents no physical constraint to development. With appropriate mitigation implemented, the site offers a logical extension to the residential development to the west and an attractive setting for new homes.

Site boundary

Roads

Core path

A760

Stoneyholm Rd.

+70.0

+57.0

+57.0

+69.0

Site Visit

EMA and NAC visited site on 13th November 2024.



1. NCR7, looking north-west from the west of the playing fields



2. View east looking across the playing fields.



3. View north looking across western corner of playing fields.



4. Footpath along western boundary, connecting to Stoneyholm Road.



5. Embankment to western boundary, looking east.



6. View looking south showing proposed pedestrian connection to Stoneyholm Road which transects site west-east.



7. View from site looking across western boundary towards existing housing on Stoneyholm Road.



8. View south-west towards Stoneyholm Mill



Key Plan

Lochshore Masterplan

The Lochshore masterplan (shown opposite) was developed by SLR Consulting in conjunction with North Ayrshire Council in early 2022. The masterplan concept is focused on an integrated parkland linking the towns of Kilbirnie and Beith to the east and west with a new network of walking and cycling routes.

At the heart of the park is a new visitor and community hub, which was designed by Collective Architecture and opened to the public in October 2022.

1. 'Ironworks' Destination Adventure Play Area
2. 'Lookout' Destination Adventure Play Area
3. Junior Play Area
4. Community Garden / Orchard & Games Area
5. Hub Building (Cafe, toilets, changing facilities and events space)*
6. Bouldering Area
7. New Cycle Route Through Park*
8. Rolling Mill Wheel Park
9. Wetland Zone
10. Boardwalk Restoration
11. Fishing Pegs
12. Woodland Water Play
13. Native Woodland Planting*
14. 5km Leisure Route*
15. Crannog
16. Wild Camping Zone
17. Arrival Area - Focal Point and toilets
18. New Car Park
19. Dog Exercise Area - North
20. Dog Exercise Area - South
21. Fair Green Events Space
22. Car Park Extension
26. Park Entrance Enhancements
27. Western Gateway Enhancement*
28. Northern Roundabout Access
30. Park Access Road
34. Road Resurfacing from Hub to Lock
35. Lochside Car Park
36. Wee Forest Projects*

*Committed projects already delivered as part of Phase 1.




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Concept

The vision of this new residential development at Lochshore is to regenerate an existing site that forms part of the Lochshore/Stoneyholm Mill Strategic Development site and is a long-term housing site (anticipated to become active 2024-2029).

The site will provide an attractive housing development which positively responds to its local setting. The site has been designed to accord with the wider Lochshore masterplan. The primary design elements which form the basis of the development are:

- Provide two points of vehicular access from the A760;
- Provide pedestrian connections to the west which connect with NCR7, Stoneyholm Road and Padockholm Road;
- Create a north-west to south-east landscape corridor through the centre of the site, connecting the site to Lochshore Park to the east;
- Provide a landscaped buffer to the edges of the development adjacent to Lochshore Park, softening the housing into the landscape;
- Respect the tree planting that has been implemented across the site;
- Create frontage development to the A760, activating the main entrance to the site and creating a sense of place;
- Create visual connections and pedestrian permeability to the development edges by forming connections to Kilbirnie to the west and Lochshore Park to the east;
- Integrate the development into the existing built environment and create a movement network around streets and lanes that create a positive and high quality public realm;
- Provide an extension of existing green networks through the use of varied landscape features that aid movement and provide desirable recreational spaces;
- Enhance habitats and biodiversity on site through the use of tree planting, areas of open space, SuDS measures and garden ground;
- Provide new homes in an area that is suitable for residential development and in close proximity to local amenities and public transport.



Framework Plan

Development Layout

The proposal provides circa. 400 new homes with associated open space, landscaping and infrastructure, including SuDS basins and two new vehicular access points from the A760 to the north of the site.

The site consists of three main parcels; the northern parcel overlooks the two vehicular access points from the A760 and provides a gateway into the new development. Frontage development is provided to the A760, activating the primary access and providing natural surveillance to the street.

The western parcel is located adjacent to the NCR7 to the west and the north-west to south-east landscape corridor that transects the site, providing SuDS basins and active travel routes connecting with the wider site. The parcel is contained by landscaped, tree planted edges, to transition with the existing Kilbirnie settlement edge.

The southern parcel is adjacent to the central landscape corridor and the west-east active travel link to Kilbirnie. A central tree-lined avenue is provided within this parcel, providing opportunity for homes to overlook the corridor and connect with nature. This provides a visual connection with Lochshore Park to the south.

There is an option to include a roundabout to the north of the site, which would only be required if the park access road is implemented to the east of the site. This would provide access to a new car park, an arrival area with focal point and toilets, a ‘lookout’ destination adventure play area and various walking / running routes.

Indicative Layout

Access & Movement

Pedestrian & Cycle Movement

The proposed development at Lochshore has been carefully designed to improve and expand pedestrian connections both within the site and to the wider surrounding area, promoting permeability, accessibility and active travel. A series of well-defined pedestrian footpath connections will link the development to the existing core path and footpath network, ensuring safe and convenient movement for pedestrians. Proposed footpaths within the development integrate the site into its wider context by connecting into the existing core path to the west of the site, reinforcing established movement patterns and strengthening connections between the settlement and surrounding green infrastructure.

These routes will link key spaces within the site, including green pockets, the village green and various Sustainable Urban Drainage (SUDS) areas, creating an interconnected network of accessible open spaces. This approach supports NPF4's placemaking and health and well-being objectives by encouraging walking, informal recreation and social interaction, while allowing new and existing Kilbirnie residents to enjoy enhanced and retained green spaces within the development.

The site also benefits from its strong connection to the National Cycle Route (NCR) network. The development is directly linked to NCR 7 via the core path route. From here, cyclists can travel north through Johnstone to Paisley and Glasgow, or south to Troon and Ayr along the coast. This high level of cycle connectivity supports NPF4's emphasis on sustainable, low-carbon transport by facilitating everyday and recreational cycling, reducing reliance on private car travel and enhancing access to local and regional destinations.

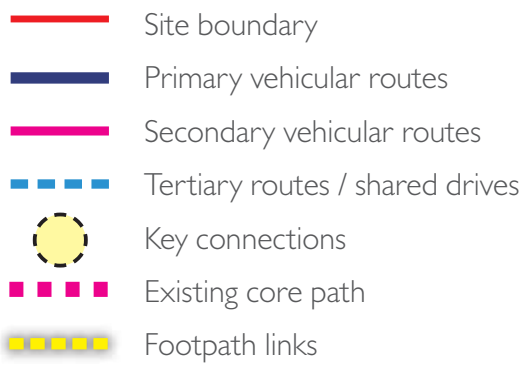
Vehicular Movement

Vehicular access to the proposed development will be provided from the A760, with two access points serving the northern part edge of the site. This arrangement has been designed to distribute traffic effectively and integrate the development with the surrounding established residential areas. The access strategy establishes a clear and legible route through the site, enhancing permeability and connectivity in accordance with NPF4 placemaking principles.

The primary route will be designed as a clearly identifiable movement corridor, incorporating an increased carriageway width and footways on both sides to support safe and inclusive pedestrian movement. This design reflects NPF4's emphasis on active travel and reduced car dominance within residential environments. Street trees and landscaped verges will frame the route, creating a high-quality streetscape, enhancing visual amenity and reinforcing the overall identity of the development, while also contributing to urban greening and climate resilience objectives.

A hierarchy of secondary and tertiary streets, and shared drives will provide access to the wider site and individual residential areas. These streets will be designed to accommodate lower vehicle speeds, creating a pedestrian-friendly environment and supporting safe shared use. This approach will also reduce the visual and functional impact of on-street parking along the primary streets, ensuring that key routes remain uncluttered and legible.

Overall, the proposed access and movement framework aligns with NPF4 by delivering a connected, legible and people-focused street network that balances vehicular access with high-quality placemaking, active travel and landscape-led design.




Vehicular Movement

Phasing

Phase 1

TYPE	DESCRIPTION	AREA	NOS	TOTAL
PRIVATE HOUSING				
TYPE A	2 BED TERRACE	856 ft²	8	6,848 ft²
TYPE B	2 BED TERRACE	840 ft²	5	4,200 ft²
TYPE D	4 BED DETACHED	1,152 ft²	13	14,976 ft²
TYPE E	4 BED DETACHED	1,205 ft²	9	10,845 ft²
TYPE F	4 BED DETACHED	1,248 ft²	16	19,968 ft²
TYPE H	3 BED SEMI-DETACHED	1,005 ft²	20	20,100 ft²
TYPE L	3 BED SEMI-DETACHED	1,100 ft²	4	4,400 ft²
DEVELOPMENT TOTAL			**75**	**81,337 ft²**

Phase 2

TYPE	DESCRIPTION	AREA	NOS	TOTAL
PRIVATE HOUSING				
TYPE A	2 BED TERRACE	856 ft²	16	13,696 ft²
TYPE B	2 BED TERRACE	840 ft²	10	8,400 ft²
TYPE D	4 BED DETACHED	1,152 ft²	13	14,976 ft²
TYPE E	4 BED DETACHED	1,205 ft²	26	31,330 ft²
TYPE F	4 BED DETACHED	1,248 ft²	28	34,944 ft²
TYPE H	3 BED SEMI-DETACHED	1,005 ft²	34	34,170 ft²
TYPE L	3 BED SEMI-DETACHED	1,100 ft²	2	2,200 ft²
DEVELOPMENT TOTAL			**129**	**139,716 ft²**

Phase 3

TYPE	DESCRIPTION	AREA	NOS	TOTAL
PRIVATE HOUSING				
TYPE A	2 BED TERRACE	856 ft²	8	6,848 ft²
TYPE B	2 BED TERRACE	840 ft²	6	5,040 ft²
TYPE D	4 BED DETACHED	1,152 ft²	18	20,736 ft²
TYPE E	4 BED DETACHED	1,205 ft²	17	20,485 ft²
TYPE F	4 BED DETACHED	1,248 ft²	14	17,472 ft²
TYPE H	3 BED SEMI-DETACHED	1,005 ft²	28	28,140 ft²
DEVELOPMENT TOTAL			**91**	**98,721 ft²**

Phase 4

TYPE	DESCRIPTION	AREA	NOS	TOTAL
PRIVATE HOUSING				
TYPE A	2 BED TERRACE	856 ft²	22	18,832 ft²
TYPE B	2 BED TERRACE	840 ft²	13	10,920 ft²
TYPE D	4 BED DETACHED	1,152 ft²	15	17,280 ft²
TYPE E	4 BED DETACHED	1,205 ft²	6	7,230 ft²
TYPE F	4 BED DETACHED	1,248 ft²	14	17,472 ft²
TYPE H	3 BED SEMI-DETACHED	1,005 ft²	28	38,190 ft²
DEVELOPMENT TOTAL			**108**	**109,924 ft²**

Overall Development

TYPE	DESCRIPTION	AREA	NOS	TOTAL
PRIVATE HOUSING				
TYPE A	2 BED TERRACE	856 ft²	54	46,224 ft²
TYPE B	2 BED TERRACE	840 ft²	34	28,560 ft²
TYPE D	4 BED DETACHED	1,152 ft²	59	67,968 ft²
TYPE E	4 BED DETACHED	1,205 ft²	58	69,890 ft²
TYPE F	4 BED DETACHED	1,248 ft²	72	89,856 ft²
TYPE H	3 BED SEMI-DETACHED	1,005 ft²	120	120,600 ft²
TYPE L	3 BED SEMI-DETACHED	1,100 ft²	6	6,600 ft²
DEVELOPMENT TOTAL			**403**	**429,698 ft²**

Phase 1
Phase 2
Phase 3
Phase 4

Phase 1
75 homes

Phase 2
129 homes

Phase 3
91 homes

Phase 4
108 homes

Phasing Plan

Phasing (incl. Affordable Housing)

Phase 1

TYPE	DESCRIPTION	AREA	NOS	TOTAL
PRIVATE HOUSING				
TYPE A	2 BED TERRACE	856 ft²	2	1,712 ft²
TYPE D	4 BED DETACHED	1,152 ft²	12	13,824 ft²
TYPE E	4 BED DETACHED	1,205 ft²	8	9,640 ft²
TYPE F	4 BED DETACHED	1,248 ft²	16	19,968 ft²
TYPE H	3 BED SEMI-DETACHED	1,005 ft²	14	14,070 ft²
TYPE L	3 BED SEMI-DETACHED	1,100 ft²	4	4,400 ft²
PRIVATE TOTAL			**56**	**63,614 ft²**
AFFORDABLE HOUSING				
TYPE A	2 BED TERRACE	856 ft²	6	5,136 ft²
TYPE B	2 BED TERRACE	840 ft²	5	4,200 ft²
TYPE D	4 BED DETACHED	1,152 ft²	1	1,152 ft²
TYPE E	4 BED DETACHED	1,205 ft²	1	1,205 ft²
TYPE H	3 BED SEMI-DETACHED	1,005 ft²	6	6,030 ft²
AFFORDABLE TOTAL			**19**	**17,723 ft²**
PHASE 1 TOTAL			**75**	**81,337 ft²**

Phase 2

TYPE	DESCRIPTION	AREA	NOS	TOTAL
PRIVATE HOUSING				
TYPE A	2 BED TERRACE	856 ft²	10	8,560 ft²
TYPE B	2 BED TERRACE	840 ft²	6	5,040 ft²
TYPE D	4 BED DETACHED	1,152 ft²	10	11,520 ft²
TYPE E	4 BED DETACHED	1,205 ft²	20	24,100 ft²
TYPE F	4 BED DETACHED	1,248 ft²	23	28,704 ft²
TYPE H	3 BED SEMI-DETACHED	1,005 ft²	26	26,130 ft²
TYPE L	3 BED SEMI-DETACHED	1,100 ft²	2	2,200 ft²
PRIVATE TOTAL			**97**	**106,254 ft²**
AFFORDABLE HOUSING				
TYPE A	2 BED TERRACE	856 ft²	6	5,136 ft²
TYPE B	2 BED TERRACE	840 ft²	4	3,360 ft²
TYPE D	4 BED DETACHED	1,152 ft²	3	3,456 ft²
TYPE E	4 BED DETACHED	1,205 ft²	6	7,230 ft²
TYPE F	4 BED DETACHED	1,248 ft²	5	6,240 ft²
TYPE H	3 BED SEMI-DETACHED	1,005 ft²	8	8,040 ft²
AFFORDABLE TOTAL			**32**	**33,462 ft²**
PHASE 2 TOTAL			**129**	**139,716 ft²**

Phase 3

TYPE	DESCRIPTION	AREA	NOS	TOTAL
PRIVATE HOUSING				
TYPE A	2 BED TERRACE	856 ft²	2	1,712 ft²
TYPE B	2 BED TERRACE	840 ft²	3	2,520 ft²
TYPE D	4 BED DETACHED	1,152 ft²	18	20,736 ft²
TYPE E	4 BED DETACHED	1,205 ft²	15	18,075 ft²
TYPE F	4 BED DETACHED	1,248 ft²	14	17,472 ft²
TYPE H	3 BED SEMI-DETACHED	1,005 ft²	12	12,060 ft²
PRIVATE TOTAL			**64**	**72,575 ft²**
AFFORDABLE HOUSING				
TYPE A	2 BED TERRACE	856 ft²	6	5,136 ft²
TYPE B	2 BED TERRACE	840 ft²	3	2,520 ft²
TYPE E	4 BED DETACHED	1,205 ft²	2	2,410 ft²
TYPE H	3 BED SEMI-DETACHED	1,005 ft²	16	16,080 ft²
AFFORDABLE TOTAL			**27**	**26,146 ft²**
PHASE 3 TOTAL			**91**	**98,721 ft²**

Phase 4

TYPE	DESCRIPTION	AREA
PRIVATE HOUSING		
TYPE A	2 BED TERRACE	856 ft²
TYPE B	2 BED TERRACE	840 ft²
TYPE D	4 BED DETACHED	1,152 f
TYPE E	4 BED DETACHED	1,205 f
TYPE F	4 BED DETACHED	1,248 f
TYPE H	3 BED SEMI-DETACHED	1,005 f
PRIVATE TOTAL		
AFFORDABLE HOUSING		
TYPE A	2 BED TERRACE	856 ft²
TYPE B	2 BED TERRACE	840 ft²
TYPE D	4 BED DETACHED	1,152 f
TYPE E	4 BED DETACHED	1,205 f
TYPE F	4 BED DETACHED	1,248 f
TYPE H	3 BED SEMI-DETACHED	1,005 f
AFFORDABLE TOTAL		
PHASE 4 TOTAL		

Overall Development

TYPE	DESCRIPTION	AREA
PRIVATE HOUSING		
TYPE A	2 BED TERRACE	856 ft²
TYPE B	2 BED TERRACE	840 ft²
TYPE D	4 BED DETACHED	1,152 f
TYPE E	4 BED DETACHED	1,205 f
TYPE F	4 BED DETACHED	1,248 f
TYPE H	3 BED SEMI-DETACHED	1,005 f
TYPE L	3 BED SEMI-DETACHED	1,100 f
PRIVATE TOTAL		
AFFORDABLE HOUSING		
TYPE A	2 BED TERRACE	856 ft²
TYPE B	2 BED TERRACE	840 ft²
TYPE D	4 BED DETACHED	1,152 f
TYPE E	4 BED DETACHED	1,205 f
TYPE F	4 BED DETACHED	1,248 f
TYPE H	3 BED SEMI-DETACHED	1,005 f
AFFORDABLE TOTAL		
DEVELOPMENT TOTAL		

Phase 1
Phase 2
Phase 3
Phase 4
Affordable Housing

	NOS	TOTAL
	20	17,120 ft²
	12	10,080 ft²
t²	10	11,520 ft²
t²	2	2,410 ft²
t²	11	13,728 ft²
t²	30	30,150 ft²
	85	**85,002 ft²**
	2	1,712 ft²
	1	840 ft²
t²	5	5,760 ft²
t²	4	4,820 ft²
t²	3	3,744 ft²
t²	8	8,040 ft²
	23	**24,916 ft²**
	108	**109,924 ft²**

	NOS	TOTAL
	34	29,104 ft²
	21	17,640 ft²
t²	50	57,600 ft²
t²	45	54,225 ft²
t²	64	79,872 ft²
t²	82	82,410 ft²
t²	6	6,600 ft²
	302	**85,002 ft²**
	20	17,120 ft²
	13	10,920 ft²
t²	9	10,368 ft²
t²	13	15,665 ft²
t²	8	9,984 ft²
t²	38	38,190 ft²
	101	**102,247 ft²**
	403	**429,698 ft²**

Phase 1
75 homes

Phase 2
129 homes

Phase 3
91 homes

Phase 4
108 homes

Phasing Plan

Drainage Strategy

Surface water runoff will be directed to low points across the proposed development, mimicking the site's natural topography and minimising the cut and fill across the site. The site will incorporate two separate outfalls, with two SuDS ponds, north and south, provided to treat and attenuate surface water flows prior to discharge.

The northernmost SuDS pond will discharge into the existing ditch within the site boundary. As this ditch is under the ownership of the landowner as riparian owner, it is proposed that the pond will be situated at the head of the ditch and the ditch truncated to suit. Surface water flows from the site will then discharge downstream of the ditch, flowing in a northerly direction via a series of open channels and culverts prior to discharging to the River Garnock.

The southern SuDS pond will outfall to a separate ditch which flows south and ultimately discharges to Loch Kilbirnie.

Surface water discharges from the development will be limited to the greenfield runoff rate applicable to the site, with attenuation designed to accommodate the critical 0.5% AEP storm event, including a 41% uplift to allow for climate change to ensure the site does not increase peak flows in the downstream catchment.

Foul water from the development is proposed to discharge via gravity to the existing foul sewer on Paddockholm Road via National Cycle Route 7. However, it is understood that Paddockholm Road is not adopted by North Ayrshire, and the ownership of the cycleway is not known. Therefore, third party land agreement will likely be required to route an outfall to this foul sewer.

An alternative connection point is available on Stoneyholm Road, where discharge could be made to a combined sewer. However, this would involve crossing a historic railway bridge over the cycleway, the depth of which is currently unknown. Depending on the available cover, an alternative route may be required to facilitate this connection. Additionally, due to the anticipated shallow cover and the combined sewer being located at a higher ground level than areas of the site, a pump station will likely be required to facilitate an outfall to the combined sewer on Stoneyholm Road.

Surface Water (Storm) Drainage

The surface water strategy has been developed in accordance with key SuDS principles, with runoff managed as close to source as practicable, conveyed primarily by gravity, and attenuated to control peak flows and provide appropriate water-quality treatment. The site is divided into two main catchments:

- Areas 1 & 2: Drain by gravity to SuDS Pond 1, which provides 2,349 m^3 of attenuation storage together with the required treatment in line with best practice. Following attenuation, flows discharge northwards in a controlled manner to an existing drainage ditch.
- Areas 3 & 4: Drain by gravity to SuDS Pond 2, which provides 1,921 m^3 of attenuation storage with equivalent treatment benefits. Post-attenuation flows discharge southwards in a regulated manner to an existing drainage ditch.

Both SuDS ponds also contribute to safe exceedance routing and enhance local biodiversity within the development.

Foul Drainage

Two foul drainage connection options have been assessed:

- Option 1: All foul flows drain by gravity via a piped network to the existing manhole on Paddockholm Road, east of the site.
- Option 2: All foul flows drain by gravity to a proposed foul pumping station adjacent to SuDS Pond 1, from where flows are pumped to the existing combined sewer on Stoneyholm Road.

Flooding

A flood risk assessment has been carried out to consider the risk of flooding to the site from a range of sources including coastal, fluvial, pluvial/overland flows, and groundwater.

The report notes that the site is not at risk of coastal flooding due to plan distance and vertical separation from the flood risk source.

It is determined that the site is not at risk of fluvial flooding due to plan distance and vertical separation from the Dipple Burn watercourse. The drainage ditches to the north and south of the site have also been assessed and deemed not to pose a risk to the site area.

It has been concluded that the centre of the north of the site and a small area to the south-east of the site are currently at risk of pluvial flooding from overland flows ponding within low points within these areas of the site. It is considered that development of the site and introduction of a formal drainage network will remove the overland flow catchment area and the low points and subsequently remove the risk of pluvial flooding. It is recommended that post development overland flow paths are identified and given careful consideration during detailed design to ensure that development of the site does not generate any new low points where overland flows may be able to collect.

It is considered that the development is unlikely to be at risk of groundwater flooding due to the level difference between the Kilbirnie Loch and Dipple Burn water features which groundwater levels within the site are expected to be in hydraulic continuity with. However, it is noted that there may be a risk of perched groundwater to be present within the site due to the presence of marshland within the centre of the site area.

The flood risk assessment concludes, by implementing the recommendations outlined within the report; the proposed will not be at an unacceptable risk of flooding, nor will it increase the risk of flooding elsewhere.

SUDS Maintenance Track
Proposed Storm Sewer
Proposed Head Wall
Site Boundary
Proposed Foul Sewer
Existing Foul Sewer
Existing Combined Sewer

STONEYHOLM ROAD

PUMPED FW TO CONNECT INTO CSOMANHOLE ON STONEYHOLD ROAD

Dismantled Railway

OUTFALL INVERT LEVEL: 57.50mAOD

SITE DISCHARGE TO BE RESTRICTED TO 121.12/s VIA THE USE OF A HYDROBRAKE FLOW CONTROL.

SUDS POND 1 TO PROVIDE CIRCA 2,349m3 OF ATTENUATION STORAGE AND MEASURE OF TREATMENT.

FOUL PUMPING STATION TO PUMP FW NORTH TO COMBINED SEWER ON STONEYHOLM ROAD

SUDS MAINTENANCE TRACK TO PROVIDE ADDITIONAL ACCESS TO PUMPING STATION

1:2 SLOPE FROM WAYLEAVE TO APPROXIMATE FINISHED GROUND LEVEL

INDICATIVE ROUTE OF FOUL OUTFALL

SUDS PONDS
SCALE 1:500

Biodiversity

The proposal has been informed by the input of a multidisciplinary team of specialists and has evolved in direct response to the site's existing environmental, landscape and hydrological characteristics. This integrated approach ensures the delivery of a cohesive and resilient framework that supports both people and nature, in accordance with the placemaking principles set out in National Planning Framework 4 (NPF4), particularly Policy 1 (Sustainable Places) and Policy 14 (Design, Quality and Place).

The landscape strategy prioritises the retention and enhancement of existing woodland where appropriate, alongside the creation of new woodland blocks and infill planting. Together, these measures will establish an expanded and interconnected green network that strengthens ecological linkages between the mature woodland to the north of the site and existing woodland areas to the south. The use of indigenous, locally appropriate species will enhance habitat diversity and ecological resilience, contributing positively to Policy 3 (Biodiversity) and Policy 6 (Forestry, Woodland and Trees).

In parallel, the proposal formalises a network of recreational paths and active travel routes that traverse the site, improving permeability and connectivity for pedestrians and cyclists both within the development and to the surrounding settlement. This supports Policy 15 (Local Living and 20-Minute Neighbourhoods) by promoting active travel, access to green space and healthier lifestyles.

Sustainable Urban Drainage Systems (SuDS) will be incorporated within each development parcel and designed as multifunctional landscape features that deliver biodiversity, visual amenity and climate resilience benefits. These systems will contribute to effective surface water management while enhancing the quality of open spaces for existing and future residents, in accordance with Policy 2 (Climate Mitigation and Adaptation) and Policy 11 (Flood Risk and Water Management).

Native planting species will be introduced throughout the site, both with areas of open space, around SUDS basins and to new and existing areas of woodland to enhance existing habitats and encourage nesting and foraging for wildlife. Additionally, insect hotels, bat and bird boxes and other habitat preservation measures will be installed throughout the site to ensure there are safe nesting opportunities.

Ecology

An ecology report was prepared in support of development of the Lochshore masterplan in 2019. This report was renewed by RPS Group in March 2025, in support of the residential development proposals.

The habitats noted within the site are areas of grassland bound by hedges. The hedges largely comprised of hawthorn and of poor condition with large gaps and thinning within the hedges. Within these hedged areas are large areas of newly planted broadleaved woodland. The trees are still saplings in tree tubes and the ground layer still mirrored that of the surrounding grassland. At time of reporting, the woodland has low value to wildlife, however the trees may provide for plants for some insect species.

Enhancement of the site in line with NPF4 could include improvement of hedgerows. Inclusion of other native species within the ledges to make them species rich would increase their condition. Planting of areas of species rich grass mix, including wildflowers would provide sources of nectar for invertebrates, which in turn provide food for birds and bats. Wetter areas would benefit from a wet meadow mix. In addition to landscaping measures, the addition of bird nesting and bat roost boxes will provide habitat for these species.





Sustainability

At the core of the proposed development at Lochshore is the delivery of a sustainable new neighbourhood that fosters a strong sense of place, supports community cohesion, and delivers enduring social, environmental, and economic benefits.

The scheme has been carefully designed to promote healthier and more sustainable lifestyles by prioritising active travel and strong community connectivity. A network of safe and accessible pedestrian routes will be integrated throughout and beyond the site, providing direct links to the wider path network and nearby public transport facilities, including local bus services. By reducing reliance on private vehicles and improving accessibility for all users, the development will enhance inclusivity and local connectivity, in accordance with NPF4 Policy 13 (Sustainable Transport).

Environmental sustainability is a fundamental principle of the proposed development, reflecting the objectives of NPF4 Policy 2 (Climate Mitigation and Adaptation) and Policy 5 (Soil and Biodiversity). All new homes will be constructed to high thermal performance standards and, where feasible, will utilise sustainable and low-carbon materials to minimise energy demand and reduce pressure on natural resources.

Residential units will incorporate a range of energy-efficient technologies, including photovoltaic (PV) panels and air-source heat pumps, significantly lowering operational carbon emissions. Electric vehicle charging infrastructure will be provided within both private and communal parking areas, supporting the uptake of zero-emission transport.

The integration of sustainability throughout the development ensures long-term affordability for residents while contributing positively to the transition towards a low-carbon economy. This approach aligns with NPF4 Policy 1 (Tackling the Climate and Nature Crises) and Policy 18 (Infrastructure First). The use of renewable energy technologies and efficient construction methods will reduce household energy costs, improving long-term economic resilience for future occupants.



Site Investigation

A preliminary desk based site investigation was carried out by RPS Group in 2019.

The desk study highlighted the potential contamination sources, pathways and receptors. The main potential source of contamination is the presence of made ground and waste slag material. Contamination may also be present from the associated former gas works and railway land, and the former iron and steel works. It is considered that the potential risk to human health receptors will require qualification.

Historical site investigation information has not fully assessed the risk to environmental receptors such as Kilbirnie Loch, with regards to potential contamination. Uncertainty also remains in relation to soil gas and vapours, and no previous gas monitoring has been undertaken on the site.

Intrusive ground investigation and subsequent contamination assessment was carried out by RPS Group in September 2019.

Area A relates to the residential area and is predominantly underlain with natural ground consisting of sandy gravelly clay, with made ground found in the central and southern parts of the area. Slag was encountered locally within four trial pits. Sandstone bedrock was encountered between 3.0m and 7.2m below ground level, with historical records indicating sandstone bedrock between 4.8m and 7.4m

The findings of RPS's report concludes that no immediate remedial actions are required. A long-term programme of groundwater and surface water monitoring, as well as laboratory analysis was also undertaken to confirm the findings of the assessment.

A Preliminary Unexploded Ordnance (UXO) Threat Assessment was prepared as part of the PDA, which identified that the site posed a high risk from UXO associated with former WW1 and WW2 munitions factories. Any future ground investigation will need to include mitigation measures to the reduce the risk from UXO to as low as reasonably practicable.



Arboriculture

A small area of the tree planting implemented on site will need to be removed to accommodate frontage development to the A760. Whilst it is not desirable to remove trees that have already been planted, this is restricted to a small area of removals that would provide wider benefit to the local area by opening up the frontage to the development and activate the gateway to the new residential site. This would create an outward looking development and welcoming place for residents to live.

The updated Ecology Report notes that the newly planted woodland appears to have a relatively high proportion of mortality. The cause is unclear, but removal of dead stems and replacement of trees is recommended to enhance the woodland. The tree removals would be mitigated in conjunction with new planting and maintenance of existing trees across the wider site.

Landscape

A comprehensive and well-connected green network will be delivered as an integral component of the proposal, in accordance with National Planning Framework 4 (NPF4). The development will provide new areas of publicly accessible open space, extensive new tree and woodland planting, and a dedicated play and informal amenity area. This network will be reinforced by the retention and integration of the existing landscape framework throughout the site, including strong visual and functional connections to Lochshore and Kilbirnie. The approach accords with Policy 1 (Sustainable Places) and Policy 4 (Natural Places) by embedding blue-green infrastructure into the overall placemaking strategy and enhancing access to nature.

Smaller pockets of green space will be incorporated within the residential development parcels, forming informal "village green"-style spaces that provide opportunities for recreation, social interaction and visual relief. This strategy supports Policy 14 (Design, Quality and Place) and Policy 15 (Local Living and 20-Minute Neighbourhoods) by contributing to a distinctive sense of place and high-quality public realm.

Sustainable Urban Drainage Systems (SuDS) will be sensitively integrated within areas of open space at low points across the site to follow natural drainage patterns and manage surface water runoff effectively. SuDS basins will be planted with a diverse mix of native wetland species, ensuring they are fully assimilated into the landscape while delivering biodiversity, water quality and climate resilience benefits. This approach aligns with Policy 2 (Climate Mitigation and Adaptation) and Policy 11 (Flood Risk and Water Management).

Trees to be removed







Marketability

The proposal has been developed to ensure that the site can be marketed to future developers.

Two access points are proposed from the A760 to the north of the site, allowing the site to be developed in phases, with residential traffic kept separate from construction traffic as the site is built out. The site has been split into 4 phases, which could be further subdivided, depending upon future demand.

There are two SuDS basins proposed, with one to the north serving the first two phases and a second to the south which would serve the third and fourth phases. This reduces the upfront infrastructure costs to enable development of the earlier phases and won't place too large a burden on the initial phases.

Landscaping and open space is evenly distributed throughout the site, ensuring that each phase will have access to amenity space and connections to nearby core paths and active routes.

Cultural Heritage

Kilbirnie, located in the Garnock Valley of North Ayrshire, Scotland, possesses a rich cultural heritage rooted in prehistoric habitation, medieval baronies, and a significant industrial past. The town is known for its former status as a global leader in linen and steel production.

Historically the town was a hub for flax-spinning, linen-thread mills, and fishing-net factories. It later became a major centre for iron and steel production.

Glengarnock Steelworks was founded in 1840 as an iron-smelting works by Merry & Cunninghame. It was later reconstructed in 1916-18 by David Colville & Sons. The steelworks had a tumultuous history, being taken into public ownership in 1951, returned to private ownership in 1955 and then renationalised as part of the British Steel Corporation in 1967. It was closed in 1985, despite fierce opposition from local politicians and union members. Much of the land associated with the old Glengarnock Steelworks now forms Lochshore Park.





Summary

This design report has summarised the potential that the land at Lochshore Park presents for the provision of new homes to the east of Kilbirnie.

This masterplan provides a clear vision and design principles for the development of Lochshore, forming a valuable contribution to housing provision within Kilbirnie.

The masterplan has been developed to create a sustainable and landscape led place, with key infrastructure delivered at the outset.

Focused around the framework developed in 2019, the masterplan follows the landscape proposals and tree planting carried out on site. The biodiversity and amenity corridors will contribute to creating a unique sense of place.

The masterplan provides key features to be included within each of the development parcels as the phases progress. This will result in a successful and cohesive place, providing quality new homes in Kilbirnie.



Lochshore Park Hub



Lochshore Park Hub



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