



NEPTUNE ROAD, BARRY | July 2023

# Design Brochure



**Site Analysis**

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Site Aerial View





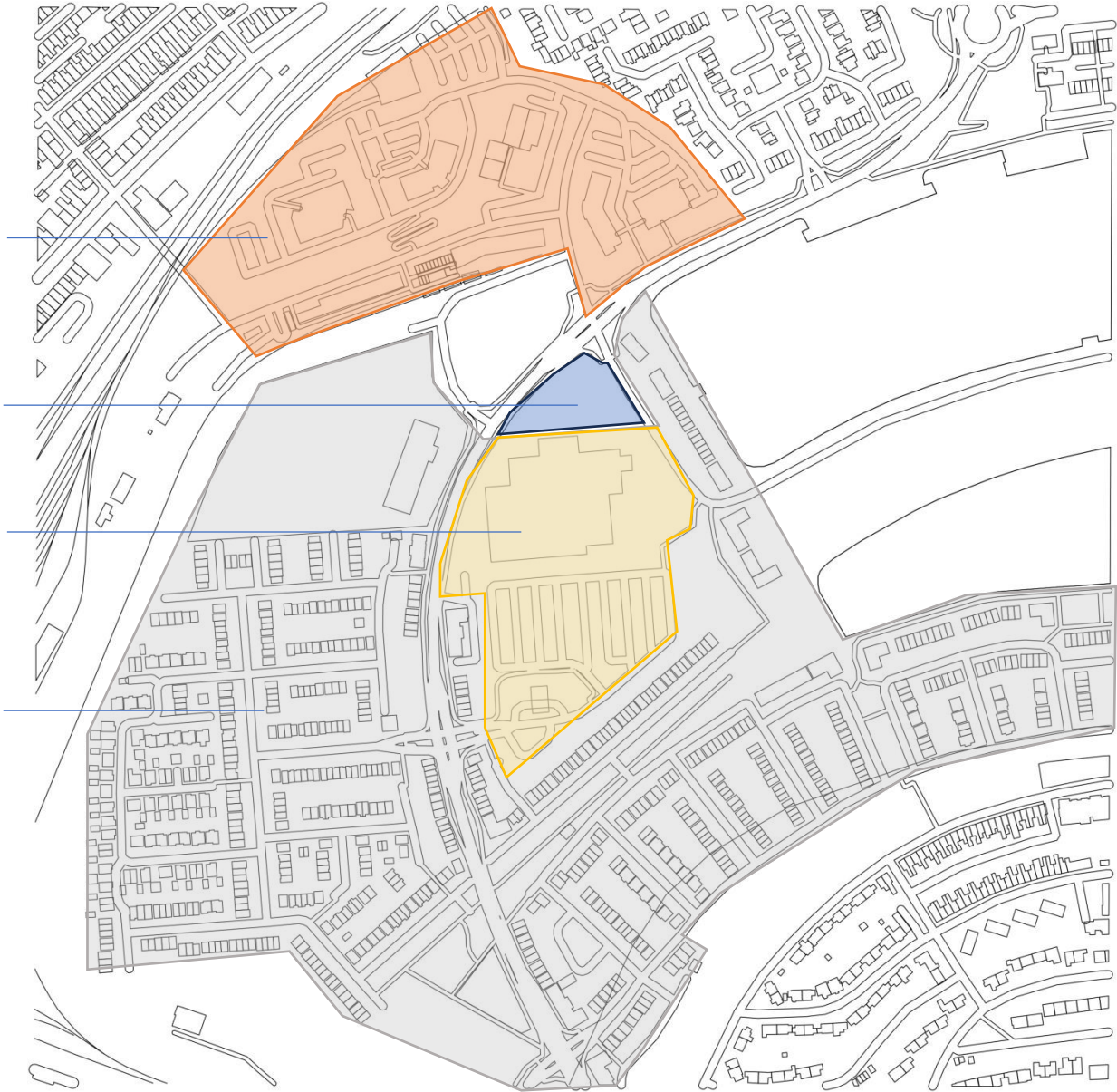


'Hood Road'  
Character area

SITE

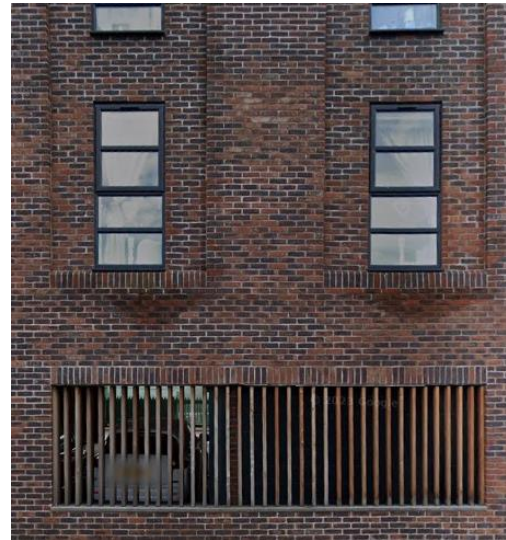
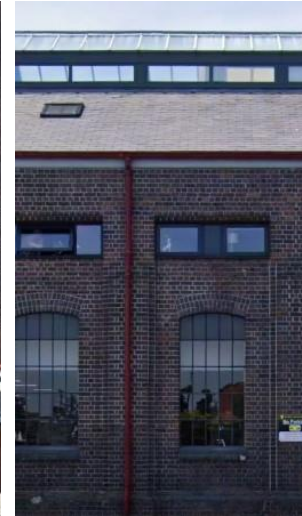
'Asda'  
Character area

'Waterfront'  
Character area



# Local Vernacular

## Hood Road



**Rustic Brick**  
Muted Colours

**White Mortar**  
Recessed Brickwork

**Brick Buttresses**  
Industrial Aesthetic

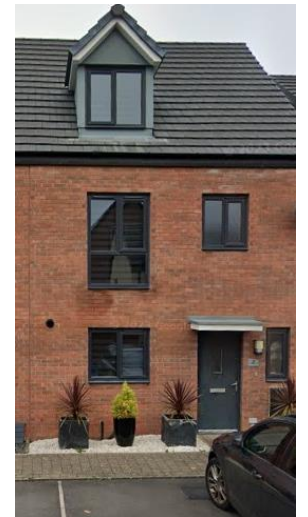
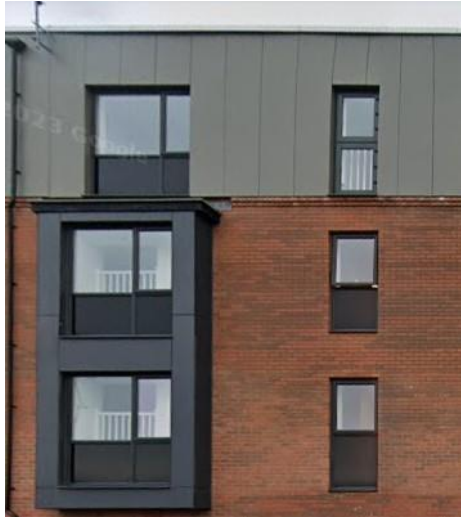
**Tall Windows**

**Dark Frames**  
Modern Vernacular

**Metal Cladding**  
Traditional Materials



# Local Vernacular Waterfront Development



**Standard Brick**  
Muted Colours

**Natural Mortar**  
Minimal Brickwork Details

**Oriel Windows**

**Tall Windows**  
Neo-vernacular Aesthetic

**Dark Frames**

**Mixed Cladding**  
Traditional Materials



## Local Vernacular Asda Development



**Metal Louvers**  
Muted Colours

**Natural Mortar**  
Minimal Details

**Limited glazing**   **Tall Windows**  
Commercial Aesthetic

**Dark Frames**  
Utilitarian Materials

**Timer Cladding**  
Green Spaces





**Design Response**  
40 residential apartments  
WDQR Compliant Housing

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→ overlooking





Perimeter Massing



Split Massing



Fragmented Massing



Setback Massing











Brick & white mortar



Snapped header  
derail

Alt. Brick



Dark Railings

Timber

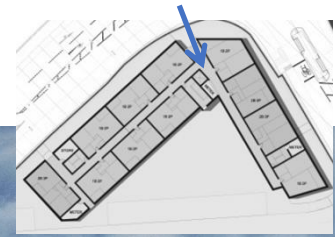


Green roof

Dark Frames & glazing



3D Massing  
View 1





3D Massing  
View 2



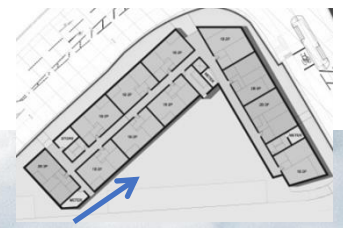


3D Massing  
View 3





3D Massing  
View 4



### People & Community:

The design aims to foster the growth of a new community by providing desirable affordable accommodation to meet the needs of the local area, as well as respecting and integrating with the existing communities through the scale of the development and connections to existing communities.

### Public Realm:

Both the Ffordd y Mileniwn & Neptune Road frontages are redefined and considerably enhanced from its existing state, with active frontages and sensitive massing. Green infrastructure and SUDs features are also integrated to the surrounding landscape design.

### Mix of uses:

The density and mix of tenures will help to support a diverse community, while active frontages and central location will provide a vibrant public realm. Scheme compliments a wider area of mixed use in the waterfront area

### Movement:

Walking, cycling and public transport are prioritised, with provision of convenient, safe bike storage provided within the scheme and pedestrian access directly to both road frontages & nearby retail centres & amenity areas. Nearby by public transport includes a train station, bus stops and a cycle network.

### Location:

The land use is very efficient, delivering high density development in a prominent, brown field site that is in a well-connected location.

### Identity:

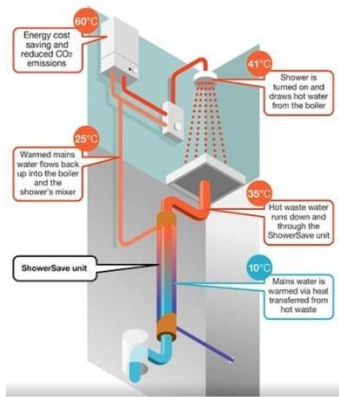
The contemporary design approach will form a focal design point that enhances the aesthetic aspect of the street, aiding legibility and providing a sense of identity to residents. An architecturally distinct building that draws on the influences of its surrounds and the dichotomy of styles prevalent in the area





## Waste Water Heat Recovery

How does this work?



Typically, a waste water heat recovery system works by extracting the heat from the water your shower or bath sends down the drain. This heat is used to warm the incoming mains water, reducing the strain on your boiler and the energy required to heat your water up to temperature. A system normally takes the form of a long vertical copper pipe, where the warm water runs alongside the colder mains water to exchange the heat.

## Mechanically Ventilated Heat Recovery

How does this work?



Heat recovery ventilation (HRV), also known as mechanical ventilation heat recovery (MVHR), is an energy recovery ventilation system which works between two sources at different temperatures. By recovering the residual heat in the exhaust gas, the fresh air introduced into the air conditioning system is pre-heated (pre-cooled), and the fresh air enthalpy is increased (reduced) before the fresh air enters the room or the air cooler of the air conditioning unit performs heat and moisture treatment. Building exhaust air is used as either a heat source or heat sink depending on the climate conditions, time of year and requirements of the building.



## Air Source Heat Pumps



How does this work?

Aeromax Plus air source heat pump collects and utilises thermal energy from the outside air to heat the home and provide domestic hot water. It does this in the same way that a fridge extracts heat from its inside. It can extract heat from the air even when the outside temperature is as low as  $-20$  degrees C. The heat generated can be used to warm water for radiators, underfloor heating systems or provide domestic hot water in your home. The process is simple, effective and entirely renewable – something which is good for both the environment and future generations as well as our pockets.



## Green Roof



How does this work?

A green roof or living roof is a roof of a building that is partially or completely covered with vegetation and a growing medium, planted over a waterproofing membrane. It may also include additional layers such as a root barrier and drainage and irrigation systems.

## Solar PV



How does this work?

A photovoltaic system, also PV system or solar power system, is an electric power system designed to supply usable solar power by means of photovoltaics. It consists of an arrangement of several components, including solar panels to absorb and convert sunlight into electricity.

## What else?

Other key sustainability principles:

- 37% fabric improvement over current requirements
- 133-145% carbon emissions improvement over current requirements
- Regulated and un-regulated energy Zero Carbon
- Air tightness of below  $1.0 \text{ m}^3/\text{h}/\text{m}^2$  (@ 50pa)
- Triple glazed windows with BFRG certificates
- Passive house levels of insulation
- Solar Photovoltaic maximised to approximately  $8.6\text{kWp}$  per dwelling



# Accommodation schedule

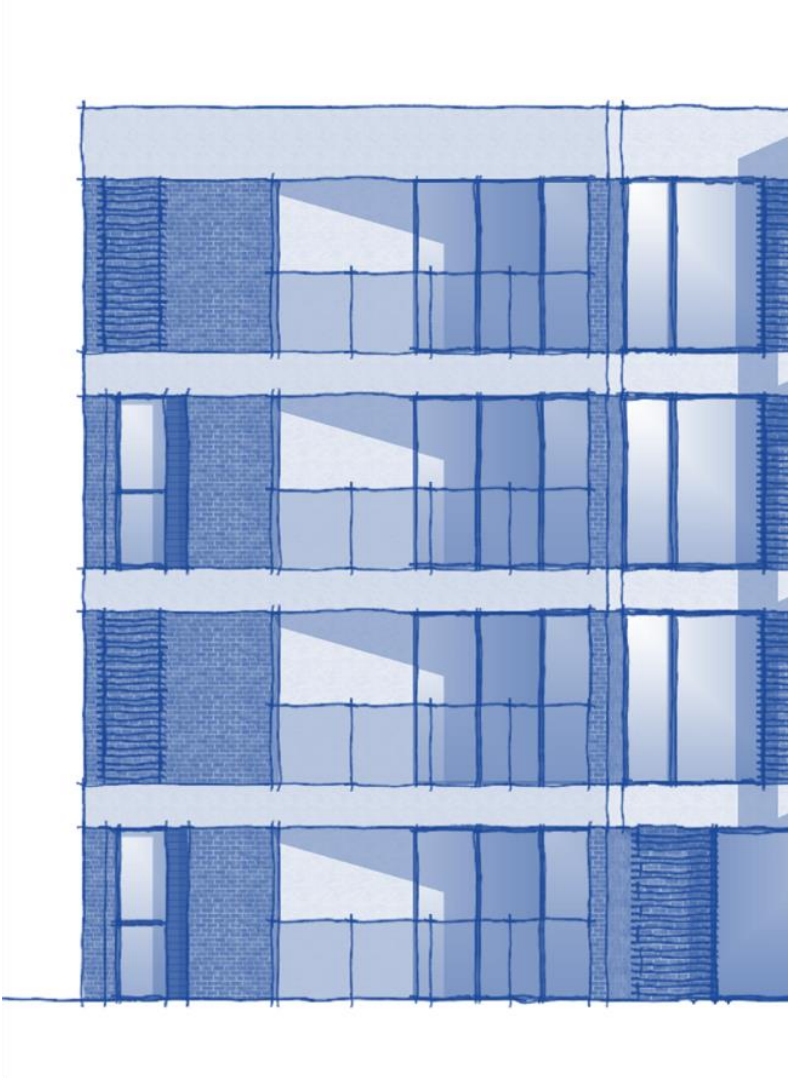
| Type | Area | No. Units |
|------|------|-----------|
|------|------|-----------|

## Apartments:

|          |    |                      |    |
|----------|----|----------------------|----|
| GF       | 1B | 50 m <sup>2</sup>    | 8  |
|          | 2B | 58-70 m <sup>2</sup> | 1  |
| 1F       | 1B | 50 m <sup>2</sup>    | 8  |
|          | 2B | 58-70 m <sup>2</sup> | 3  |
| 2F       | 1B | 50 m <sup>2</sup>    | 8  |
|          | 2B | 58-70 m <sup>2</sup> | 3  |
| 3F       | 1B | 50 m <sup>2</sup>    | 7  |
|          | 2B | 58-70 m <sup>2</sup> | 2  |
| Subtotal |    |                      | 40 |

|               |   |
|---------------|---|
| <b>TOTAL:</b> | 31 x 1B Apartments<br>9 x 2B Apartments<br><b>40 Apartments</b> |
|---------------|---|

|         |  |
|---------|--|
| Parking | 40 Resident Spaces<br>4 Visitor Spaces |
|---------|--|







**Design Response**  
Precedent Images

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## Precedents: Apartment Blocks

















