6.2

B – Plot Stakeholder Design Guidance



APPENDIX B – PLOT STAKEHOLDER DESIGN GUIDANCE

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Cyngor Bwrdeistref Sirol
MERTHYR TUDFUL
MERTHYR TYDFIL
County Borough Council

1.0 INTRODUCTION

CLIENT

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1.0 Design Principles

1.1 Design Guide Principles
1.2 Design Stakeholder Guide
1.3 Sustainable Building Standards

1.1 Design Guide Principles

The proposed development of the Goat Mill Road site as required by MTCBC is to develop the site infrastructure for the whole site to service individual speculative plots which are to be sold and developed by separate stakeholders.

A Stakeholder Design Guide is to be developed for use by future plot stakeholders to enable visual consistency between individual plot designs within the whole development.

The guide will include external architectural and landscape design principles and indicative material finishes for incorporation into stakeholder plot development.

The Design Guide will be developed to capture the following:

- Building Massing
- Elevational Treatment
- Materials Palette
- Ecological Considerations
- Sustainable Design Principles



1.2 Design Stakeholder Guide

A design code will be developed to establish a common architectural language and set of design principles, ensuring a unified and cohesive place. The enterprise park will showcase contemporary architectural styles and building technologies, reflecting a forward-thinking approach and supporting the goal of creating a dynamic and innovative environment.

Materiality plays a crucial role in shaping the visual and functional aspects of architectural design, particularly when developing a design code for an enterprise park. The approach will draw on historical context and local materials, with a strong commitment to sustainability, to create a distinctive and environmentally responsible built environment.

Drawing on the region's history, the design code will incorporate elements that reflect local architectural traditions. This will help establish continuity and cultural relevance, strengthening the identity of the enterprise park.

Emphasising local materials will strengthen the connection with the surrounding environment. The design code will encourage the use of regionally sourced materials to promote visual harmony with the landscape.

The design code will prioritise sustainability by promoting eco-friendly materials and construction methods, including low-impact products, recycled content, and materials that can be recycled at the end of their life cycle. Energy-efficient technologies and passive design strategies will be integrated to reduce the carbon footprint of the built environment.



1.3 Sustainable Building Standards

All development proposals shall demonstrate compliance with the Welsh Government's Sustainable Building Standards and any associated statutory or policy requirements applicable at the time of submission.

Building designs shall adopt a holistic approach to sustainability, incorporating measures to reduce operational and embodied carbon, optimise energy and resource efficiency, enhance climate resilience, and support occupant health and wellbeing.

Compliance with relevant sustainability standards and performance criteria shall be evidenced as part of the design and approval process.

Relevant Sustainability Standards & Guidance:

1. Welsh Government Sustainable Building Standards

Sets the sustainability requirements for new buildings promoted or supported by Welsh Government and establishes minimum environmental performance standards. It includes BREEAM requirements and energy performance targets.

https://www.gov.wales/sustainable-building-standards

2. Building Regulations (Wales)

Relevant statutory building regulations, including energy performance and sustainability requirements applicable to development proposals in Wales.

https://www.gov.wales/building-regulation

3. Planning for Sustainable Buildings Guidance

Welsh Government guidance to assist developers and planning authorities in delivering sustainable development.

https://www.gov.wales/planning-sustainable-buildings-guidance

4. BREEAM (Building Research Establishment Environmental Assessment Method)

The primary sustainability assessment methodology referenced by Welsh Government for non-residential development. The Welsh Government Sustainable Building Standards specify BREEAM ratings according to building size and use.

https://breeam.com/

2.0 Building Façade Typologies

2.1 Profile Metal Cladding & Pennant Sandstone
2.2 Profile Metal Cladding & Welsh Slate stone

2.1 Building Façade Typologies – Profile Metal Cladding & Pennant Sandstone



Profile Metal cladding options



Semi Coursed Parallel Walling



Coursed Walling



Locally sourced stone in South Wales:

Gwrhyd Blue Pennant Sandstone is a dense, durable gritstone quarried across the South Wales Coalfield, making it a readily available and cost-efficient material with minimal transport emissions.
Its strength, weather resistance and ease of repair make it ideal for contemporary warehouse-style developments, while its local provenance supports low-carbon construction and reinforces the region's industrial architectural character.

This example:

Triple-height unit demonstrates how a contemporary warehouse-style building can successfully combine a stone lower façade with black metal cladding above, creating a clear visual hierarchy between the grounded, durable base and the lightweight industrial upper level.
The proportion of materials stone at the base, metal cladding above, and controlled glazing supports a sustainable, low-maintenance design approach while reinforcing local South Wales character.

Façade Composition:

Stone masonry (lower façade): ~30-35%
Forms the entire ground-floor plinth
Metal cladding in black (upper façade): ~45-55%
Covers the full upper storey in vertical panels, providing a contemporary industrial aesthetic.
Glazing (windows and openings): ~25-35%
Distributed evenly across both levels, offering good daylighting while maintaining a solid-to-void ratio appropriate for warehouse-inspired architecture.

2.2 Building Façade Typologies – Profile Metal Cladding & Welsh stone



Anodized aluminium cladding



Welsh stone - Split Faced Slate



Locally sourced stone in South Wales:

The use of locally sourced Welsh split-faced slate at the Goat Mill Road site in Merthyr Tydfil reinforces local character while offering a cost-effective, low-carbon façade solution, as minimal processing and short transport distances significantly reduce material cost and embodied carbon over the building's lifetime.

This Example:

This building is a single-storey medium sized (250–300 m²), double-height unit with a strong contemporary character.
The façade combines vertical metal (anodised) cladding, split-faced Welsh stone, and bronze-metal framed glazing. The lower portion is expressed in robust stonework, grounding visually, while the upper band uses warm vertical metal to soften the elevation.

Façade composition:

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Forms the entire ground-floor plinth

- Metal cladding in adonised aluminium (upper façade): ~45-55%

Covers the full upper storey in vertical panels, providing a contemporary industrial aesthetic.

- Glazing (windows and openings): ~25-35%

3.0 Sustainability Objectives

3.1 Aspirational Sustainability and Environmental Vision
3.2 Hierarchy of Spaces
3.3 Servicing and Back-of-House Areas
3.4 Roof Types Typologies
3.5 Sustainable Design Principles on Goat Mill Road

3.1 Aspirational Sustainability and Environmental Vision

Sustainability must be central to every design decision, ensuring developments actively address the climate emergency, enhance environmental quality, and deliver long-term resilience.

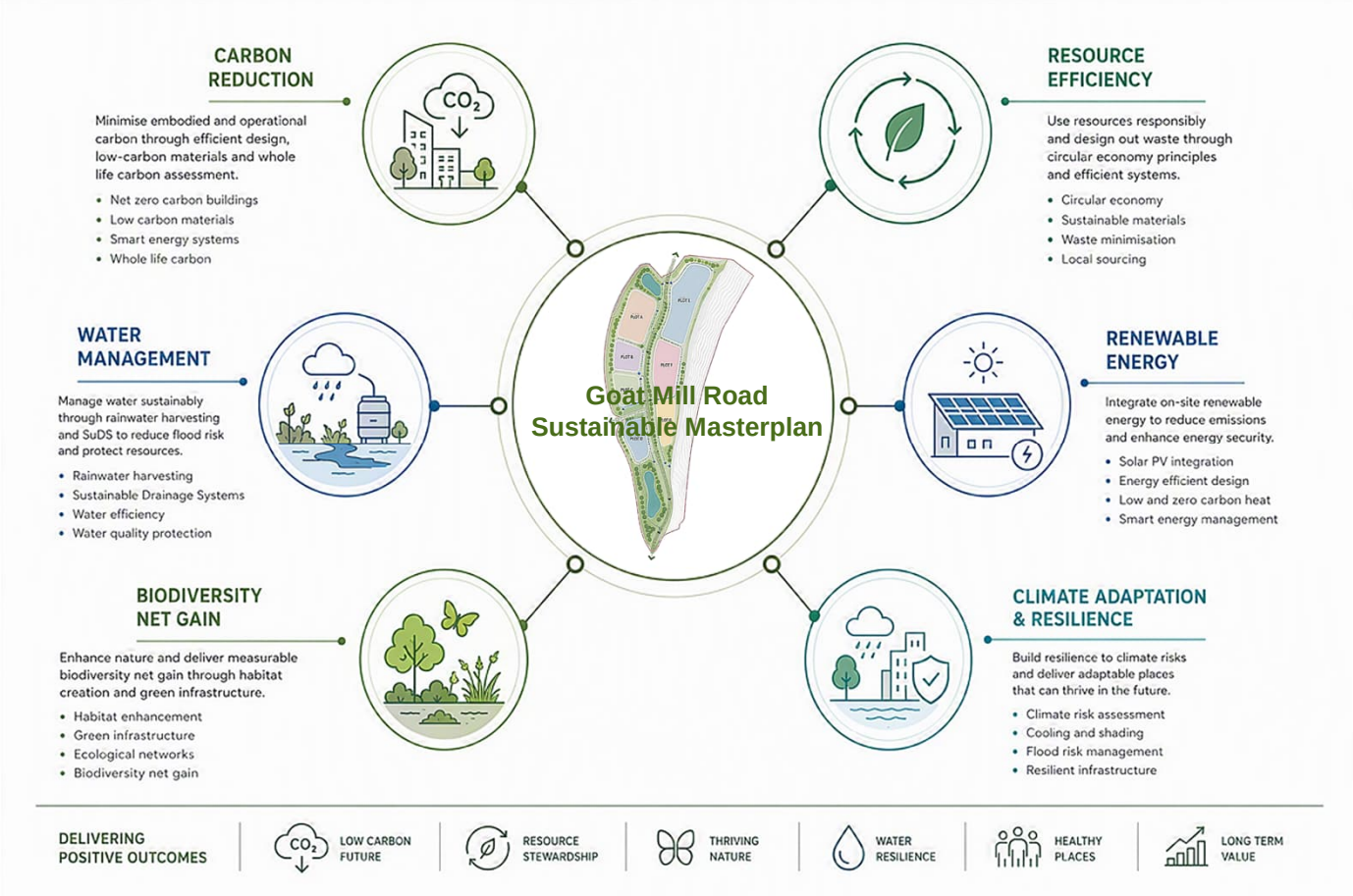
The framework should drive integrated, forward-thinking design that prioritises carbon reduction, resource efficiency, biodiversity, and climate adaptation from the outset.

Projects should demonstrate high environmental performance through renewable energy integration - including well-placed photovoltaic panels and green or wildflower roofs that boost biodiversity and building efficiency.

Rainwater harvesting, sustainable drainage, and effective water management should be standard practice to minimise environmental impact and strengthen climate resilience.

Energy-efficient design, biodiversity net gain, and nature-based solutions should underpin both buildings and public spaces, creating a healthier, greener environment for all.

By setting clear expectations and fostering innovation, the masterplan will deliver a resilient, low-carbon destination that adds lasting social, environmental, and economic value.



3.2 Hierarchy of Spaces

The development should establish a clear hierarchy of spaces that creates a legible, attractive and people-focused environment.

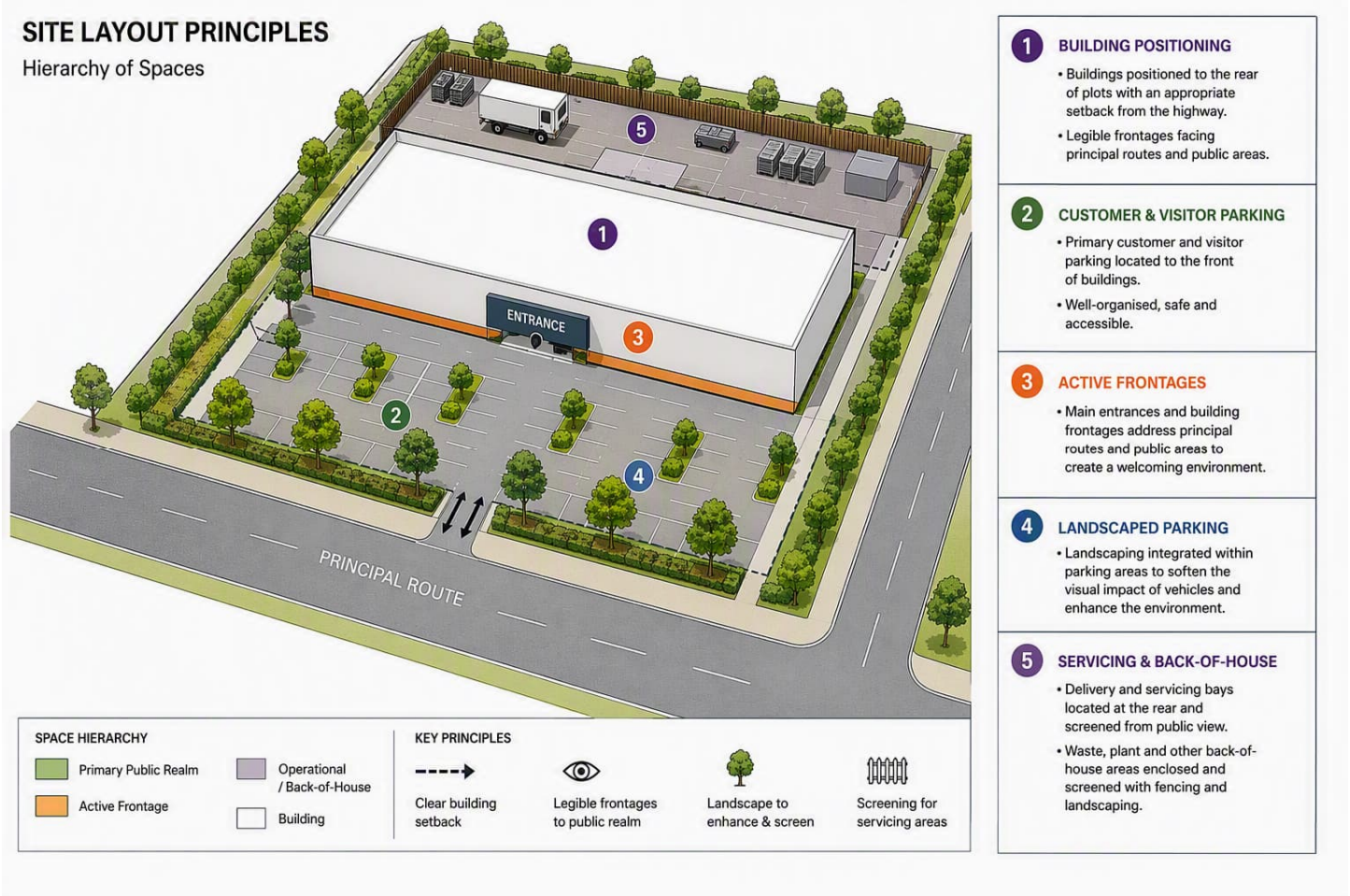
Buildings should define the principal streets and public realm, with consistent setbacks providing a cohesive frontage and strong sense of place.

Prominent building elevations and entrances should address key routes, creating active and welcoming frontages that reinforce wayfinding and enhance the identity of the development.

The arrival environment should be prioritised as the primary public-facing space, where visitor parking, landscaped forecourts and pedestrian routes combine to create a positive first impression.

Parking areas should be integrated with generous planting and landscape features, softening the visual impact of vehicles and contributing to a greener, higher quality setting. Beyond the public realm, a secondary layer of landscape and movement spaces should connect buildings, support pedestrian activity and provide a coherent network of routes throughout the site.

These spaces should be designed to promote accessibility, safety and visual continuity while enhancing the overall character of the development.



3.3 Servicing and Back-of-House Areas

A clear distinction should be maintained between customer-facing environments and operational functions. Servicing, deliveries, waste storage, plant and other back-of-house activities should be located discreetly to the rear or side of buildings, ensuring that operational requirements do not compromise the quality of the public realm.

These areas should be carefully screened through a coordinated approach to fencing, enclosure design and landscaping, creating a seamless appearance across the site.
This hierarchy - from public arrival spaces, through landscaped movement corridors, to discreet operational areas will ensure the development delivers a high-quality business environment that is attractive, functional and enduring, while maintaining a strong and coherent identity throughout.

The accompanying visualization illustrates a modern commercial facility with a biosolar roof combining a green sedum layer and solar panels.

The rear yard consolidates all service operations, including articulated lorry access at the loading bay and an organised waste management station with sorted recycling bins.



Please note: This image was AI-generated to visualize the proposed design concepts and is not to scale.

3.4 Roof Types Typologies

BioSolar Roof - Combining Green Roofing and Solar Panels

A biosolar roof combines the strengths of solar PV and green roofing and is increasingly favoured by clients seeking to meet Biodiversity Net Gain (BNG) requirements.

The green roof helps maintain optimal operating temperatures for the PV panels, while the panels themselves provide wind protection and shading that enhances vegetation diversity. As a result, biosolar systems can make a valuable contribution to a development's Urban Greening Factor (UGF).
However, biosolar roofs vary significantly in quality and performance, and must be properly designed, constructed, and maintained to deliver these benefits.



Green and Biodiverse (formerly known as brown) Roof

Heavy rainfall has long affected Wales - including Merthyr Tydfil, where recent storms have triggered flash-flooding - while recent UK heatwaves have pushed temperatures to record highs, increasing pressure on new developments to respond to both climate extremes.

This type of rooftop designed using recycled aggregates, soils, and locally sourced substrates to recreate natural, species-rich habitats that support invertebrates, birds, and pollinators. Although green roofs are primarily ecological systems rather than water-management features, they can still incorporate shallow retention zones where captured rainwater supports vegetation, and any collected water can be reused for irrigation or treated as greywater for toilet flushing.



Wildflower Green Roof - Biodiverse Native Planting System

Wildflower green roof systems are a variation of extensive green roof design, providing a broader biodiversity of flora.

Incorporating native Welsh wildflowers further strengthens ecological value, supporting local pollinators, enhancing habitat diversity, and improving the overall resilience of the roof's planting system.
It helps to support local ecosystems under pressure from climate change, and contributes to planning expectations for greener, more climate-resilient urban environments.



We can support this by connecting you with experienced Welsh firms capable of delivering compliant, high-quality roof installations

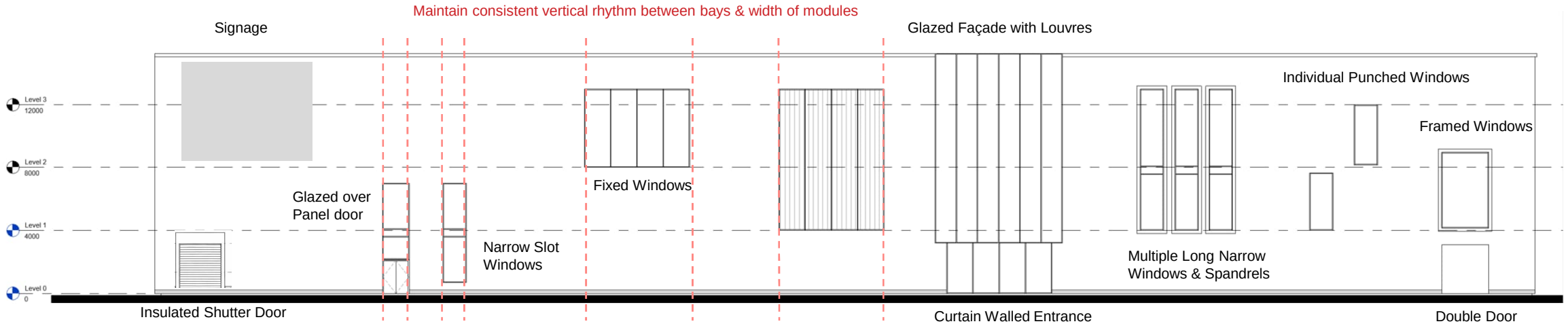
3.5 Sustainable Design Principles on Goat Mill Road



4.0 Façade Standards

4.1 Façade Alignment and Arrangement Guidelines
4.2 Windows, Doors, Signage Guidance
4.3 Façade Material Breakdown Guidance - Office
4.4 Façade Material Breakdown Guidance - Industrial

4.1 Façade Alignment and Arrangement Guidelines



General Composition

- All openings (windows and doors) should align **vertically and horizontally** across levels to maintain a clean, ordered rhythm on the façade.
- The alignment should follow the **structural grid** and **floor levels** indicated on the elevation (Level 0, 4000, 8000, 12000).
- Window heads and sills must correspond consistently between adjacent bays to ensure visual continuity.

Design Intent

- The façade should express **order and proportion**, with openings forming a balanced composition across all levels.
- Vertical alignment reinforces architectural rhythm, while horizontal alignment ensures visual stability.

Window Arrangement

Ground Floor:

- Incorporate full-height glazing for primary spaces to enhance transparency and connection to the exterior.
- Align the full-height windows directly below upper-level openings to maintain vertical coherence.

Upper Floors:

- Use narrow vertical windows or paired rectangular windows positioned symmetrically above ground-floor glazing.
- Maintain consistent spacing between window centres across the façade.
- Ensure window heads align horizontally at each level (e.g., all first-floor windows terminate at Level 8000).

Door Arrangement

Main Entrance Doors:

- Align with the primary vertical grid lines of the façade.
- The single or double-glazed doors should sit flush with adjacent window frames for a unified appearance.

Service or Shutter Doors:

- The insulated black shutter door should be positioned at ground level, maintaining alignment with the structural bays and adjacent glazing.
- Its top edge should align with the head of the full-height windows to preserve a continuous datum line.

4.2 Windows, Doors, Signage Guidance



Window Types

A. Large Rectangular Glazing (Ground Floor)
Full-height or near full-height rectangular glazing. Used primarily on ground-floor commercial or industrial units. Provides strong visibility.

B. Narrow Vertical Slot Windows
Tall, slender vertical proportions. Typically arranged in pairs or repeated in a rhythmic sequence. Used on upper floors to provide controlled daylight and increased privacy.

C. Wide Horizontal Ribbon Windows
Long, continuous horizontal glazing band. Used on upper façades to create a strong linear emphasis and provide panoramic internal views.

D. Mixed-Size Rectangular Windows
Combination of small, medium, and large rectangular openings. Arranged asymmetrically to create a contemporary façade expression.

E. Spandrel Windows
Vertical glazing unit incorporating an opaque insulated spandrel panel. Used to maintain a continuous glazing rhythm while hiding floor slabs, insulation, or mechanical systems.



Door Types

A. Fully Glazed Entrance Door
Single leaf. Clear glazing with dark frame.
Typically paired with side glazing panels.
Used as main pedestrian entrance.

B. Solid Commercial Door (Dark Finish)
Opaque, likely insulated.
Dark metal or composite finish.
Used for service or secondary access.

C. Glazed Double Doors (Where Present)
Full-height double-leaf glazed doors.
Dark aluminium/timber frame.
Used for units requiring wider access.

D. Insulated Shutter
Solid panel, insulated for thermal efficiency.
Typically, metal or composite material with dark finish.
Used for security and weather protection on service or secondary openings.



Signage

Two signage typologies are supported to ensure a consistent and high-quality identity across the development:

A. Direct-Mounted Halo Letters: Individual illuminated letters fixed directly to the façade, giving a clean, premium appearance with subtle halo lighting.

B. Backlit Panel Signage: Lettering mounted on a shallow illuminated panel, providing softer, even lighting and strong legibility on varied façade materials.

Both options maintain a coherent visual language while allowing tenants to apply their branding within defined size, placement, and illumination parameters.

4.3 Façade Material Breakdown Guidance - Office

This example illustrates the minimum level of stone façade that stakeholders are asked to consider within the proposed material palette for the Office Unit Typology.

The composition shown - 23% stone, 39% glazing/windows, and 38% metal cladding - establishes the baseline material balance across the building elevations. The stone is primarily concentrated at ground-floor level, creating a robust and visually grounded base while reinforcing the building's relationship with the wider site context.

The glazing proportion shown represents the maximum allowable transparency, providing generous levels of natural daylight and strong visual connection to internal office spaces while maintaining compliance with energy-performance requirements. The metal cladding forms the predominant upper-level treatment, delivering a contemporary architectural expression and ensuring consistency with the character of adjacent development.

This configuration defines the minimum stone coverage expected across all Office Unit Typology proposals whilst maintaining the prescribed balance between solid and transparent façade elements.

Alternative façade compositions and material variations are detailed in Section 2.0 - Building Façade Typologies, where additional options and proportional adjustments are provided for reference.



4.4 Façade Material Breakdown Guidance - Industrial

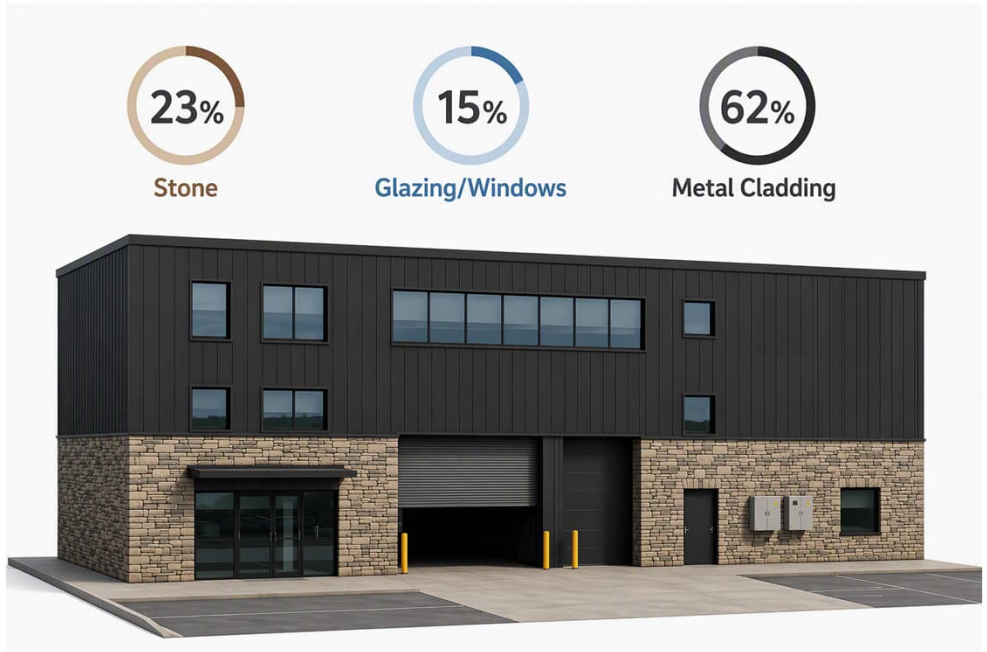
This example illustrates the minimum level of stone façade that stakeholders are asked to consider within the proposed material palette for the Industrial Unit Typology.

The composition shown - 23% stone, 15% glazing/windows, and 62% metal cladding - establishes the baseline material balance across the building elevations. The stone is primarily concentrated at ground-floor level, creating a durable and visually grounded base while reinforcing the building's relationship with the wider site context and providing a robust material suitable for industrial environments.

The glazing proportion shown represents the maximum allowable transparency for this typology, providing natural daylight to office and operational areas while maintaining privacy, security, and operational efficiency. The metal cladding forms the predominant upper-level treatment, delivering a contemporary industrial character, reducing visual mass, and ensuring consistency with the wider employment development.

This configuration defines the minimum stone coverage expected across all Industrial Unit Typology proposals whilst maintaining the prescribed balance between solid and transparent façade elements.

Alternative façade compositions and material variations are detailed in Section 2.0 - Building Façade Typologies, where additional options and proportional adjustments are provided for reference.



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