

5. DETAILED DESIGN

Building Materials

- 5.1 Glasgow's intrinsic sense of place and history can be traced through the building materials used across the City. Traditionally seen as a city built from stone and slate; local quarried blonde sandstone and latterly red sandstone sourced from Dumfriesshire are synonymous with Glasgow and its tenements. The impressive brick, iron and steel structures evident in former industrial areas also make an important contribution to Glasgow's unique character. In more recent decades, advances in the use of concrete, metal, glass and even plastic has added to the City's ever evolving image.
- 5.2 The variety of materials, colours and textures seen throughout the City's built environment contributes to the overall character and attractiveness of Glasgow's commercial and residential districts, as described in SG 1 - Placemaking, Part 1. All new development will be expected to respect and enhance Glasgow's existing identity and character through its overall design, the choice of materials and the way in which these materials are used.
- 5.3 It is expected that all new development, depending on the nature and scale of the development, will:
- a) employ high quality facing and roofing materials that complement and, where appropriate, enhance the architectural character and townscape quality of the surrounding area;
 - b) use robust and durable materials that fit their context and are capable of retaining their appearance over time and in Glasgow's climate; and

- c) acknowledge the local architectural and historic context through the use of appropriate materials.
- 5.4 It is expected that when specifying the materiality of a new development, consideration will be paid to:
- a) microclimatic issues, with particular thought as to how the visual appearance of a development will be affected over time;
 - b) mitigating the negative visual impact that air pollution can have on facing materials, see also SG1 - Placemaking, Part 2, Detailed Guidance - Air Quality;
 - c) the lifespan and maintenance of the chosen materials (evidence of the maintenance requirements of the materials specified will require discussion with the Council and will be a consideration by the Council in assessing development proposals);
 - d) ensuring that a development acknowledges and responds to the materials of the surrounding townscape and the hierarchies of streets and spaces. Proposals should harmonise with the prevailing materiality of the surrounding built environment. The Council will be supportive of schemes which specify locally sourced materials; and
 - e) ensuring that the specified materials do not detract from the visual amenity of existing buildings and the surrounding environment.
- 5.5 Depending on the scale and size of a proposal, the reasoning behind the selection of materials should be set out in a design statement.
- 5.6 Informed decisions, taken at an early stage in the development process, can minimise later maintenance requirements and enhance

the appearance of buildings and streets. The choice of building materials may be a condition of planning permission. Where appropriate, advice should be sought from an architect or other design professional.

- 5.7 In conservation areas and in areas of sensitive urban character, particular care will require to be taken regarding choice of materials. Further detailed guidance is provided in SG9 - Historic Environment and Conservation Area Appraisals.
- 5.8 Some materials are more likely to suffer from adverse weathering like staining. Where this might be the case, architectural detail drawings may be sought. On larger or more prominent schemes, sample panels may need to be constructed for approval. This purpose of this is to demonstrate how the proposed building materials fit together.
- 5.9 When detailing the building envelope, particular attention should be given to the avoidance of water and dirt traps through the specification of suitable slopes and end laps. Water run off should be controlled to ensure facades do not become stained and badly weathered. Further details may be sought from developers on this issue, where appropriate.
- 5.10 When specifying cladding materials, consideration must be paid to the overall visual effect of the façade and its impact on the surrounding context. Poorly specified facades can appear flat and dull in comparison to Glasgow’s well-articulated historic architecture.
- 5.11 A high level of design sophistication will be expected. Proposals should:
- a) avoid flat and visually dull facades, especially in areas of sensitive architectural urban form;
 - b) acknowledge and respond to the existing datums, courses and proportions found in the surrounding built environment; and

- c) acknowledge and harmonise with the range of textures and tones in the surrounding buildings and streetscape.

- 5.12 When specifying a material that will provide a deliberate contrast with the surrounding context, it is expected that care will be taken to ensure that the architectural effect is not at the expense of the quality of the design of the street as a whole.
- 5.13 The character and history of Glasgow expresses itself physically through the materiality of its architecture, see also SG1 - Placemaking, Part 1, Qualities of Place - Character and Identity. The honesty of materials (see Definition) is, therefore, an important consideration when assessing a proposal, particularly in areas of important townscape quality.
- 5.14 Synthetic materials have been found to inadequately replicate the characteristics of the materials they seek to emulate and as a consequence have a poorer appearance. The use of synthetic materials will be considered on a case by case basis and their appropriateness will be assessed against:
- a) the extent of use;
 - b) their prominence on the building; and
 - c) the street setting.
- 5.15 The following sets out in more detail the Council’s technical expectations for facades and roofing:

FACADES

Stone

Sandstone contributes greatly towards the City’s character and identity and it has been used effectively to help integrate modern buildings into historic areas. Natural sandstone will be the preferred

main external building material on developments in Conservation Areas and in areas where sandstone is the main prevailing building material. This is particularly important on public facing façades and secondary facades visible from the public realm.

It is expected that new development will acknowledge coursings, block size and proportions in order to harmonise with the existing built context. The Council will be supportive of proposals which use locally sourced materials. Scottish sandstone is still available from a few quarries (for example, red sandstone can still be sourced from Locharbriggs in Dumfries and blonde sandstone from Clashach in Moray). The fixings and support structures used for the cladding system should be hidden and specified to ensure no staining.

Brick

It is expected that brick and mortar will be specified to harmonise with the tonality and texture of the existing built context. Brickwork should acknowledge and respond to existing coursing in the proposals immediate context, where appropriate.

In historic areas, care should be taken to ensure the proportions of new brick facades match that of their context. When using brick to provide contrast, care must be taken that this is not at the expense of the design of the street as a whole. Although brick normally has good weathering characteristics, care is needed with specification and during construction to avoid efflorescence (see Definition).

Cast Stone and Concrete

When compared to the tonally rich natural stone seen across the City, cast stone can appear to be visually monotonous in comparison, due to its uniformity. This effect can become more apparent over time as typically it will weather in a more uniform way than similarly specified stone. The use of cast stone and concrete will be acceptable where their uniform and monolithic appearance is deemed appropriate. This will be dependent on the urban context and the design of the project. Proposals will be

assessed on a case by case basis.

It will be expected that measures will be taken to avoid adverse weathering, streaking, staining and the build-up of dirt. Such measures include:

- a) architectural details which control the water run-off from façades in ways which enhance the weathering characteristics;
- b) the specification of the surface finish; and
- c) the inclusion of sealants to the surface.

Ceramic Resin and Cement Based Cladding

Ceramic, resin and cement based cladding systems will be considered appropriate depending on:

- a) the quality of finish and detailing (the support fixings of cladding should be detailed to avoid staining and streaking and hidden from sight); and
- b) consideration of the built context and the overall visual impact of the proposal on the surrounding townscape.

Resin and cement based panels have poorer visual characteristics in comparison with metal claddings like anodised aluminium, stainless steel and zinc and should be avoided in Conservation Areas.

Timber

Glasgow's built environment has typically not had a prevalence of timber buildings and this will be taken into account when assessing a building's appropriateness in response to its context.

Timber should be appropriately detailed to ensure that it retains a good visual appearance over time:

- a) water should be shed clear of the end of the timbers to

- ensure moisture absorption is prevented;
- b) the types of fixings used for the timber cladding should be specified to ensure no staining;
- c) durable species of timber should be specified such as European Oak, Western Red Cedar and Sweet Chestnut;
- d) moderately durable species such as Larch, Douglas Fir and European Redwood can be used on smaller proposals which are not in sensitive sites; and
- e) tropical hardwoods should be avoided unless it can be clearly demonstrated that these are sourced sustainably.

Cross Laminated Timber

The design principles for cross laminated timber fall between timber frame and masonry. To ensure longevity it must be:

- a) suitably treated or have a protective cladding when used as an external façade; and
- b) be suitably detailed in order to avoid deterioration in its visual appearance over time.

Cross laminated timber's similarities to masonry are in its monolithic nature, not dissimilar to precast concrete. When specified as a facing material, it will be expected that the proposed design:

- a) will avoid flat and visually dull facades; and
- b) demonstrate a sophisticated response to the immediate context.

Metal

Metal cladding can provide buildings with a striking contemporary appearance, however, if used inappropriately or specified with a poor quality finish it can have a negative visual effect on an area.

Proposals will be judged on a case by case basis in relation to their

impact on surrounding townscape. Appropriateness will depend on the quality of finish and detailing as well as the character of the surrounding environment.

The following factors are particularly important and will be considered during the assessment of a proposal:

- a) **Profile Shape and Texture** - the profile shape can have a significant impact on the appearance of a building due to its effect on the perceived colour and texture of the cladding as well as affecting how the façade will weather;
- b) **Colour and Finish** - The specified finish will be judged in relation to how successfully the proposal responds and harmonises with its urban context. The assessment will also consider how the specified finish will age. Metal surfaces should be specified as raw or treated rather than coated for their better visual appearance. It will be expected that any specified metal cladding will be robust and long lasting;
- c) **Detailing of the Building Envelope** - It will be expected that the building envelope will be detailed to avoid water and dirt traps.

Render (see Definition)

Proposals which specify the use of render will be judged on a case by case basis in relation to their immediate context. Traditional lime renders and lime harling (see Definition) can be used in appropriate locations where render has been used in the surrounding historic built context.

Render will not be deemed an appropriate choice of material in certain situations, including:

- a) Areas that suffer from high levels of air pollution. For example, on facades facing busy arterial roads, rendered facades can become visibly stained which has a negative

- impact on the appearance of the surrounding area; and
- b) In situations where the visual effects of microclimatic issues will result in more pronounced weathering. Such as on facades which receive no or little direct sunlight, render can become badly stained and suffer from algae and moss growth.

For the reasons above, alternative materials with better weathering characteristics will be a more appropriate choice in streets or situations like this.

It will be expected that where render is used its specification will include:

- a) Efforts which ensure it does not discolour or fade over time and does not suffer from algae growth or lime bloom;
- b) architectural detailing to shed water from the surface of the render (Note that details may be sought); and
- c) Consideration of the location of all expansion and movement joints, slim vents, boiler flues, extract ducts and rain water goods etc. to ensure these do not have an adverse visual impact and will not cause the build-up of dirt, staining and streaking.

Glass

Curtain walling of transparent and translucent glass can prove to be an impressive contemporary architectural feature when specified to a high standard. Glass facades have often been used to great effect to create significant landmark features at night.

When specifying glass curtain wall facades, care will need to be taken to ensure that the design:

- a) Harmonises with the surrounding townscape. Consideration should be given to panel size, coursings, proportions and finish in relation to the prevailing

townscape; and

- b) Does not cause obtrusive daytime glare. It will be expected that the design will include measures to control and counter this.

ROOFING

Hard Roofing Materials

Glasgow has a strong tradition of using slate (such as Ballachulish) for a roofing material. The palate of darker greys of slate helps to draw out the warmth of sandstone.

Slate and metals such as lead, stainless steel, zinc and copper contribute to the City's roofscape. All these materials are generally considered appropriate. Synthetic versions of these materials should be avoided in Conservation Areas.

Living Roofs (see Definition)

Living roofs (both green and brown) consist of a waterproofing layer covered with a growing medium and a covering of vegetation. They can have numerous environmental benefits in terms of sustainability and adaptation to climate change, when designed and installed correctly, and can contribute to visual amenity. As a result, they are encouraged in appropriate locations, but care should be taken to ensure they do not have adverse effects, for example, by disrupting a visually cohesive existing roofscape.

Living roofs should be designed and installed to maximise their potential environmental benefits, including:

- a) improving air quality (see also SG1 - Placemaking, Part 2, Detailed Guidance - Air Quality);
- b) reducing surface water runoff as part of a SuDS train (see also

SG8 - Water Environment);

- c) improving insulation and reducing energy usage (see also SG5 - Resource Management); and
- d) creating and connecting habitats as part of the Green Network and providing for enhanced biodiversity (see also SG6 - Green belt and Green Network and SG7 - Natural Environment).

Living roofs can range in character from intensive, through semi-intensive, to extensive. Intensive roofs are characterised by a stronger structure, capable of supporting a greater weight of planting medium and vegetation and, where designed appropriately, can be used as private amenity space (see also SG6 - Green Belt and Green Network), e.g. in the form of a roof garden. Extensive green roofs can support less weight and are often unsuitable for supporting anything heavier than sedum and mosses.

Tall Buildings

- 5.16 A tall building is a building (including roof top structures and masts) that significantly exceeds general building heights in the immediate vicinity and which alters the skyline.
- 5.17 High rise development and tall buildings in particular, present major economic, design and environmental challenges and opportunities. Tall buildings have strategic economic and environmental impacts on the City's townscape character in particular issues of land use density, micro climate and energy sustainability. Such factors place major demands on design, construction technology, choice of materials and cost considerations.
- 5.18 It is an absolute prerequisite that tall buildings are restricted to locations that can accommodate their dominant built form, that protect areas of sensitive urban character, achieve excellent design quality and enhance the City's image, see also SG 1 - Placemaking, Part 1. An understanding of the varying physical characteristics established in such areas, particularly in the City Centre, will form the basis for any justification for a tall building. This predisposes the positioning of tall buildings into selected locations, rather than a scatter approach, leading to the undesirable effect of undermining urban morphology over a wide area. Accordingly, there are limited Sustainable Areas in the City that are capable of sustaining the economic and environmental impact of a tall building, with the implication that most of the rest of the City is unlikely to provide appropriate locations for such development.
- 5.19 This guidance seeks to identify opportunities for the development of tall buildings and establish the criteria to be observed in promoting their suitability.

- 5.20 Proposals for tall buildings must fulfil the City's aspirations to be of excellent architectural quality in their own right, in order to enhance the City's skyline and international image.
- 5.21 In terms of location, tall buildings will usually be acceptable only in areas where topography, existing urban scale, height, transport infrastructure and land values make them sustainable, and on sites where additional height is appropriate to its local urban context.
- 5.22 Tall buildings should be located:
 - a) within sustainable areas (e.g. the City Centre Western and Northern Fringes, the International Financial Services District, selected parts of the River Frontage from the Clyde Gateway westwards to the Clyde Tunnel and south of the Clydeside Expressway) and in areas with appropriate above and below ground infrastructure, public transport links and pedestrian accessibility;
 - b) to avoid areas of Sensitive Urban Character (see Definition) unless it is demonstrated, to the satisfaction of the Council, that the particular qualities of the area would be retained;
 - c) to avoid interruption of strategic views or competition with views of established landmarks and other significant or prominent listed buildings (e.g. the Trinity College building in the Park area), see also SG1 - Placemaking, Part 1, Qualities of Place - Character and Identity;
 - d) in a way that sensitively responds to local street conditions, recognising street hierarchies, building datums and in locations where tall building material choices will be appropriate;
 - e) in a manner that is not detrimental to local microclimate, public realm and local views; and

- f) in areas which are financially viable for long term adaptability of alternative uses.

5.23 In addition to the general Placemaking design principles outlined in SG1, Part 1, Site and Area Analysis and Qualities of Place, the design of tall buildings should take specific cognisance of:

- a) the urban morphology of their context, in terms of height, datums, urban grain, roofscapes, scale and massing;
- b) the design of the building 'in the round' creating articulated elevations that respond to wider as well as local views. Generally avoiding large, blank or inactive gables;
- c) how a building's design responds to and enhances the character of the skyline, as well as avoiding slab-like forms that over-dominate, and carefully designing and controlling any rooftop plant;
- d) the creation of a lively, engaging and activated public realm, that specifically considers and mitigates a building's impacts in terms of wind, overshadowing, and servicing requirements at ground floor, see also SG1 - Placemaking, Part 1, Qualities of Place - Vibrancy and Diversity;
- e) the townscape character of the specific street(s) that they are located on (especially in relation to datums, urban grain and massing), see also SG1 - Placemaking, Part 1, Qualities of Place - Character and Identity. Street elevations and local views should be provided to support this;
- f) creating an appropriately scaled 'base' in relation to the building's height;

- g) the use of robust materials, carefully considered to ensure that the constraints of tall building construction are appropriate within the local context;

- h) adaptability to future uses, particularly given the servicing and structural constraints of tall buildings;

- i) issues of microclimate, with wind studies informing massing and design mitigation measures; and

- j) the potential to offer something of additional and unique benefit to the city, such as rooftop access to the public (with a clearly defined public entrance), enhanced public realm as well as outstanding, and distinctive architectural character that imaginatively responds to its Glasgow context

5.24 In addition to all the other requirements outlined in SG1, all proposals for tall buildings, whether at the preliminary or planning application stage, shall be accompanied by a Townscape Statement which provides a detailed analysis and appraisal of the site's context, a reasoned expression of the proposal's design aspirations and a quantification of its impact on the City. The scope of the statement shall address the following requirements, constraints and obligations:

- a) **Contextual Analysis** - A detailed appraisal of the Sustainable Area's defining built form characteristics that separate it from other parts of the city will form the basis for the Townscape Statement. Among other things, appraisals will identify strategic views, identify the key features of its skyline and establish the area's building height datums. The built form should be analysed in three dimensions and also considered in detail with a street-by-street basis around the site. Views from pedestrian level should be a primary tool for analysis, and townscape analysis should include particular focus on historic development, plot patterns, building lines, datums, building

heights, urban morphology, and wider street elevations and urban sections.

- b) **Strategic and local views** - For all significant views affected (near, middle and distant) images that show the proposed tall building in context with the surrounding area shall be presented. The emerging design shall clearly display an understanding and analysis of these views, demonstrating that this understanding has informed the development of the design through various massing and height options.
- c) **Design Standards** - Tall building proposals shall include a design and access statement (see also SG1 - Placemaking, Part 1) that sets out architectural and townscape ambitions and demonstrates the achievement of excellent design in sufficient detail to allow a suitability assessment to be made. All proposals shall incorporate the highest quality building materials and robust construction technologies.
- d) **Permeability** - Pedestrian and cycle permeability in large, high density developments is essential to their integration with surrounding areas, see also SG11 - Sustainable Transport. Accordingly, prominent access routes should be included along with associated high quality public realm improvements. Tall building development should reflect existing pedestrian and cycle flows and street conditions, and consider the impact of their proposals in relation to increased numbers of users of the public realm. Improved public realm provision is likely to be required.
- e) **Weather and Micro Climate** - The impact of weather, particularly wind flows on any proposed tall building and the impact of the development on micro climate must be fully tested and assessed. Adverse effects shall be identified and be substantially mitigated by design. Wind analysis should be considered early within the design process, and sunlight and

daylight analysis should inform how the design can lessen the impact of the proposals on the wider area.

- f) **Sustainability and Green Credentials** - All proposals for tall buildings shall have regard to the requirements of policies DES 2: Sustainable Design and Construction and ENV 15: Energy and demonstrate the extent to which they incorporate sustainable standards in the use of passive and renewable energies and the extent to which they contribute to the well-being of the natural environment.
 - g) **Access and Public Transport** - Established and emerging public transport infrastructure should provide sustainable access to tall buildings. A Transport Assessment and Travel Plan will form part of any proposal (see also SG11 Sustainable Transport). Where expected trip generation is significant, then public transport accessibility levels set out in SG11 should be met. Tall buildings in particular should demonstrate that they are highly accessible and well-served by established or proposed public transport networks.
 - h) **Servicing and Infrastructure** - Tall buildings represent dense developments that rely on frequent and sustained servicing arrangements which must be fully measured, integrated and provided for off-street. The impact of the proposal on existing services and infrastructure, both above and below ground should be examined, and negative pressures mitigated against. Similarly, the impact of a tall building's increased servicing functions and plant rooms should be carefully controlled particularly at ground and rooftop levels.
- 5.25 Prior to the assessment of a planning application for a tall building, the Council will establish, by means of a screening opinion, whether the application should be accompanied by an Environmental Statement.

5.26 There is a preference for tall buildings to contain a mix of uses rather than rely on a single use alone to achieve a viable development, see also SG1 - Placemaking, Part 1, Qualities of Place - Vibrancy and Diversity. Proposals will be expected to incorporate mixed uses in a fully integrated manner that considers the need for street level frontages to be activated and encourages public access to the top levels of the building. Primary uses likely to sustain tall buildings in the longer term are residential developments, individual hotel uses and commercial office floorspace. Designs of tall buildings must be flexible to future changes of use. Complementary uses at both ground and top levels that would be acceptable with any of the primary uses include retail, leisure and cultural uses.