



Jersey Architecture Commission

Annual Report 2022

Front Cover: Jersey Design Awards 2022 – Award Best large-scale development. The Beach, Gorey, St Martin. Morris Architects and Award Best landscape architecture project Moignard Liberation Garden, St Lawrence Waddington Architects

Jersey Architecture Commission's purpose

The Jersey Architecture Commission was established by the Minister for the Environment in 2010. The JAC is in place to provide an external, independent forum for Jersey through which the promotion of good architecture and urban design is delivered.¹

- There are 10 Commissioners at present with a wide ranging and inter-disciplinary mix of practice and experience.
- The Commissioners are highly respected and valued practitioners, professionals, and experts of national (Jersey and UK) and international standing. Their skill set covers architecture, urban design, master planning, landscape architecture, sustainability in policy and engineering, residential estate procurement and management, and financial viability.
- The aim of all the Commission's work is to find the best design and outcomes for Jersey – to define and deliver excellent design that has a quintessential 'Jersey-ness'.

The Commission offers a robust design review process which is targeted in its advice, critical in its assessment and articulated in agreed written notes submitted to the design teams following each formal review. The process and conduct of the Commission are set out in its terms of reference.²



*Jersey Design Awards 2022 - Award: Taigh-Dubh, St Saviour Axis
Mason Architects*

¹ [Jersey Architecture Commission web page](#)

² [Jersey Architecture Commission Terms of Reference](#)

Serving Commissioners 2020 – 2021

- June Barnes
- David Gausden
- Antony Gibb
- Johanna Gibbons
- Sara Hart
- David Levitt OBE (stepped down in 2021)
- David Prichard
- Lynne Sullivan OBE
- Andy Theobald
- Chris Twinn
- Mike Waddington

Specialist on call:

- John Desmond

A biography for each Commissioner is provided in Appendix A.

David Prichard was appointed as Chair of the Commission in 2020 serving to 2022. The Minister will appoint a new Chairperson for 2023 to 2025.

The cohort of Commissioners is 15. It is proposed that the Minister appoints new Commissioners to strengthen landscape, transport and architectural/ urban design advice in 2023.

The Commission's work in 2022

In 2022 it was agreed with the Minister that the Commission would ensure:

- that consideration is given as to how good design should be rooted in context – how setting, landscape, heritage and skyline should be encompassed in a design response;
- the promotion of innovative ways to reduce the environmental footprint in new buildings, looking to re-use buildings where possible;
- support for good modern architecture, where of course it can be different but still respectful to place and character; and
- the promotion of innovation in sustainability to help the island move to a carbon neutral future.

The Commission met the Minister in September 2022 to discuss this agenda and arising work in 2022 through into 2023. The action points for the Commission were to:

- explore the scope for time and discussion with the Planning Committee around the role of the Commission and its use of the 6 C's in its approach to design reviews;
- work up thresholds to require applications, at the earliest stage, to come to the Commission in discussion with I&E (Regulation);
- explore how other planning authorities manage to improve design, energy performance and engage design panels to learn lessons to apply here; and
- consider how standards could be improved in Jersey, having regard to the potential use of tools such as the existing building byelaws, an urban greening factor and other such measures to focus on and drive improvement.

The work of the Commission has and will continue to be guided by Jersey's 6 C's (see appendix B) and the Minister's agenda to improve the assessment of context so as to encourage new development to

be responsive, to reduce carbon footprint (linked to the Carbon Neutral Roadmap) and generally continue to raise design standards.

The approved Bridging Island Plan 2022 is the policy context for placemaking, climate responsiveness, community involvement and raising the standards and quality of design in considering land and property development. The plan proposes a series of new supplementary planning guidance notes that the Commission will support and offer requested advice, focusing on design, housing standards, sustainability and climate resilience.

The Commission will update its terms of reference in 2023 to better reflect and deliver against the Minister’s agenda.

Reviews and Design Surgeries

The Commission have discussed the need to update the guidance to those attending reviews. Further advice will be offered to design teams to maximise the benefits of attending the Commission’s design reviews. The changes are outlined in the submission standards section below. The Commission will continue to convene subgroups to help deliver timely reviews for major schemes.

An annual meeting with I&E (Regulation) will help ensure that the Commission is supportive of the planning service, aiming to offer advice at the right time in the planning process and to receive feedback on how this process can be improved. Given the regulatory and construction industry pressures to meet more regularly the Commission will continue to work on future agile working options including digital meetings, design surgeries and focused workshops, where required.

Design Reviews

In 2022 the Commission has reviewed a wide range of projects and issued 14 design review notes on 14 schemes some of which, where they have progressed to the planning application stage, are listed below; and three design surgeries. In addition, the Commission met the major project design teams for the St Helier Waterfront prior to the submission of the outline planning application in May 2022.

2022

- Maison du Midi,
- [REDACTED], St Martin
- [REDACTED] St Clement
- The Brackens, St Ouen
- Elizabeth Harbour, St Helier
- Waterfront, St Helier
- [REDACTED], St Ouen
- Eagle House, St Helier
- [REDACTED]s, St Helier
- [REDACTED] John
- [REDACTED] design guide
- [REDACTED] St Helier
- Hotel Savoy, St Helier
- [REDACTED] St Lawrence
- 3 design surgeries

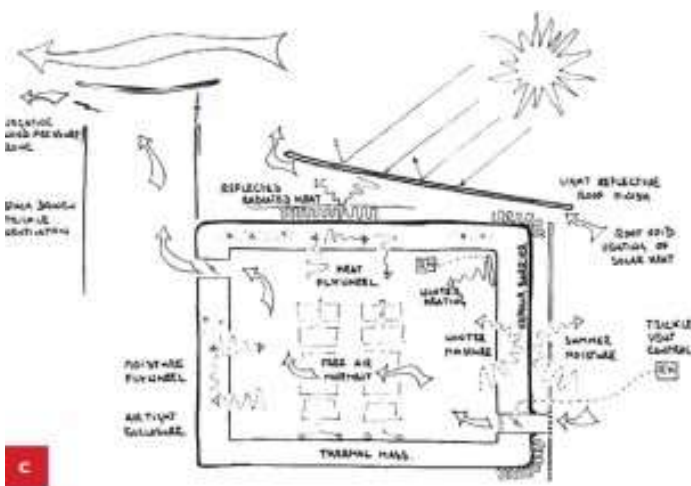
2022 Jersey Design Awards

The Commission held the Design Awards in 2022. The Awards are held to celebrate and promote the quality of design created and achieved by Jersey architects, designers, and developers. They are part of the wider remit of the Jersey Architecture Commission to help improve design for the island. The Awards had been scheduled to take place in 2021 but were postponed owing to the impact of the pandemic upon the development industry. The 2022 Design Awards covered schemes over the period April 2019 to April 2022.

The commitment to recognising high quality design, contextual responses and core consideration of climate resilience ensured that the judging standard was at the same high benchmark as past Awards. The innovation and sustainability Award had limited applicants. The Commission want to find innovative ways to reduce our environmental footprint in new buildings and look to re-use buildings where possible. They will work with the local architectural profession and construction industry to strive to improve and increase the number of applicants demonstrating their response to climate change.

The Minister particularly welcomed consideration of how good design is rooted in understanding context – how setting, landscape, heritage and skyline are encompassed in a design response. In this, the work of the Commission and the Awards champion good modern architecture, where it can be different but still respectful of place and character.

Judging took place in July 2022; shortlisted schemes were then visited. The Awards were presented by the Minister in September 2022, with an exhibition of the Awards and commendations in Jersey Museum’s Link Gallery in January 2023. The Commission will review the 2022 Awards and work with the Association of Jersey Architects to improve the next Awards planned in 2024.



Jersey Design Awards 2022 - Award Best example of innovative or sustainable design Jersey Archive Extension, St Helier BDK Architects, Met Work and Chris Twinn.

Award Winners

The 2022 Award winners and commendations were:

Best large-scale new build development (residential or other)

- **Award:** The Beach, Gorey, St Martin by Morris Architects
- **Highly Commended:** Grand Vaux Court, St Saviour by Michael Bravery Architect

Best large-scale refurbishment or extension

- **Highly Commended:** St. Matthew's Convent, St Mary by Waddington Architects
- **Highly Commended:** Jersey Archive Extension, St Helier by BDK Architects & Metropolitan Workshop

Best small-scale new build development

- **Award:** Taigh-Dubh, St Saviour by Axis Mason Architects

Best small-scale building or extension

- **Highly Commended:** La Maison de Portinfer, St Ouen by Godel Architects

The unbuilt scheme

- **Highly Commended:** Seaside Café, St Mary by MS Planning

Best refurbishment of a historic building

- **Award:** Greve de Lecq Barracks, St Mary by Barnes, Collie and Fischer Architects

Best landscape architecture project

- **Award:** Moignard Liberation Garden, St Lawrence by Waddington Architects
- **Highly Commended:** Harry's Garden, St Saviour by Axis Mason
- **Commended:** Les Quennevais School, St Brelade by Design Team, Jersey Property Holdings

Best example of innovative or sustainable design

- **Award:** Jersey Archive Extension, St Helier by BDK Architects, Met Work and Chris Twinn
- **Commended:** Bottle Dash, a registered trademark product by Waddington Architects

Best artwork in the public domain

- **Commended:** Grand Vaux Court, St Helier by Michael Bravery Architects and artist Kerry-Jane Warner
- **Commended:** Hemery Row 'Glass Kernels', St Helier by Waddington Architects

Best interior

- **Award:** The Porters Store, St Helier by A-NY
- **Highly Commended:** The Ribbon, PF+A Offices, St Helier by PF+A Architects
- **Commended:** Awabi, St. Helier by A-NY

Jersey students architectural project

- No Award given

Jersey Architecture Commission's future focus

Association of Jersey Architects

The Association sought a more flexible route to engage with the Commission which has been trialled in 2022. This will continue through 2023 and be reviewed at the end of the year.

The Commission continues to engage with the AJA to deliver the Jersey Design Awards and aims to continue to support the programme of talks from Commissioners on their wide area of skills and knowledge as a way of promoting best practice and good design with local architects.

Terms of reference

The Commission are most effective when involved at the early stages of design development. As such engagement at feasibility and preapplication stages have proved the most useful for design reviews. At this point the Commission's comments can be incorporated with minimum impact to design team progress.

In further discussions with the Minister for the Environment in 2022 the need to update the terms of reference was agreed. This will allow the Commission to 'call in' applications that are at a pre application stage to ensure that the Commission's input might be most impactful, and to ensure a more consistent approach to the assessment of large and/or sensitive development proposals. Discussions with the I&E (Regulation) team have confirmed that the Commission's engagement with pre-application proposals will be prioritised alongside a planning review to ensure that schemes which do not meet planning policy principles are not inappropriately reviewed.

The Commission will also offer comment on major and sensitive proposals. These comments will not support or offer a view of the planning acceptability of a proposal. Once planning applications have been submitted, for the site by the design team engaged in design review process, the final set of design review notes will summarise the response to past design reviews, be published and be available to the decision maker.



Jersey Design Awards 2022 Award Best Interior Award The Porters Store, Award: The Porters Store, St Helier A-NY

Submission standards

The Commission considers schemes presented for design review against its 6 C's. To do this effectively, the Commission will encourage the submission of better contextual assessments, design narratives, sketch models and cross sections to help the assessment of impact. The JAC plan to update its terms of reference to set this out to ensure that design teams receive maximum benefit from the process.

In summary, the updated guidance for design teams will seek:

- design statements with narratives on the approach, with options that were considered and the logic for design decisions on major schemes or those in sensitive settings. The design narrative needs to be at the core of a project's Design Statement. This could assist decision makers in shaping their reports and defend recommendations and decisions.
- design sketches, rather than presentation CGIs, are acceptable at early stages.
- the incorporation of landscape and sustainability expertise as part of the constraints and opportunities analysis at the outset of the design process.
- the outcome of community engagement as an integral part of design development.
- modelling, in block form, for all new schemes that exceed the height of their surroundings, for every pre-app discussion, subsequent meeting and presentation. Physical models are well understood by the public; these can be maquettes to explain the big moves followed by more refined models at full application stage. The St Helier 3D town digital model is an excellent tool and should be more widely used by applicants; it can convey the kinetic experience of a scheme in its townscape setting.

To help shape future presentations by design teams as part of the design review process the Commission will, having regard to the 6 'C's, ask design teams to consider:

Context

- site sections, strip elevations of setting illustrating the grain of the townscape and its relationship to the site and the development proposed
- a thorough historical assessment, showing settlement pattern and evolution of the site context
- an assessment of existing community facilities and a gap analysis, relative to the scale and impact of the development
- reference to the St Helier Urban Character Appraisal (SHUCA) and the Integrated Landscape and Seascape Character Assessment (ILSCA), as appropriate, with a clear justification as to how the development proposals contributes towards the objectives of this guidance. Where divergence is proposed a clear justification is expected.
- looking outside of the planning boundary 'red line', and to consider the proposal in context.

Connectivity

- walking and cycling routes that are real and tested rather than 'seagull' isochrones.
- parking policy and strategy defined against standards and the need to encourage the use of electric vehicles.
- a reduction in the amount of space given over to parking through the use of, for example, designated car club spaces.
- secure cycle storage and associated facilities for washing and maintenance.
- traffic calming and the quality of public space.

Community

- the up-front provision of the requisite community infrastructure, which may be the subject of a Planning Obligation Agreements, to bring clear and early benefit to the community.
- housing development that is tenure neutral in appearance and quality and that brings forward a broader mix of dwelling sizes and typologies to help create more sustainable communities.
- designing out double-sided corridors and exploring gallery access configurations to promote meeting places and social spaces.
- undertaking early community engagement rather than subsequent 'consultation' for a detailed and finalised scheme.
- the incorporation of communal amenity spaces designed for all.
- landscape management arrangements early in the process.
- a change in reference to homes rather than units, which shows more empathy.
- pride in place and wellbeing indicators built into the development of design proposals.
- finding ways to give greater civic generosity.
- percent for art early and embedded as an integral element of design, rather than as a late 'commission'.

Climate

- seeking coordinated advice on low carbon and sustainability at concept stage.
- energy sources and energy demand reduction measures.
- air source heat pumps: location for kit to minimise noise nuisance and maximise efficiency.
- the potential for an urban greening factor to be built in as an early metric.
- whole life carbon analyses – this might, for example, reduce concrete in underground car parks.
- Part O (UK Building Regulations) with advice on avoiding overheating.
- biodiversity gains, above and below ground

Character

- 'Jersey-ness' and the need to avoid 'everywhere and nowhere' designs.
- the presentation of more optioneering at layout stage.
- the density achieved, together with a definition of parking ratios.
- clear and evidenced refurbishment studies rather than an assumption of a cleared site, involving demolition.
- more design diversity within larger developments.
- 'form factor' will be simplifying building envelopes.
- the curation of place making– who will do it?

Change

- anticipation of upgrades needed for Zero by 50 and in the coming decades.
- 'Behaviour change by design' examples (in manner of 'Secure by Design')
- adaptability for future generations e.g. the challenges of repurposing of underground car parks.

Climate Resilience

The Commission continue to lead, urge and strive to deliver sustainability and climate resilience as part of the design and development of proposals that are presented to them for review by seeking a transformative approach to design and infrastructure. Without this focus it will not be possible to limit and adapt to climate change or reverse biodiversity loss. In moving to and delivering a low carbon future, as a place where people want to live, we must value natural as well as built assets. Nature provides 'free ecosystem services' particularly in relation to clean air, flood risk and extreme heat. Embracing integrated green infrastructure is the strategic context for it all.

Green infrastructure

The protection and improvement of green infrastructure and biodiversity is a core aspiration of the Bridging Island Plan's policies.

With regard to the biodiversity and green infrastructure the Commission continue to promote eco-centric rather than ego-centric approaches, which will realise consequential economic and social uplift. There is an opportunity for an innovative and inspired approach to infrastructure that acknowledges the potential of nature recovery and design with nature to benefit from the free ecosystems services that nature provides.

Green infrastructure encompasses an extraordinary scale and range of benefits. This needs to be seen as integral to the island's metabolism as say its roads, lanes or water pipes.

The 'urban forest' is, for example, a key component - a complex eco-systems made up of the canopy cover of all the trees, whether in private or publicly owned land, integral to the environment's function and experience - increasingly effective with age. Trees mitigate 'heat island' effects, intercept storm water in their canopy and roots, capture carbon, support a mass of biodiversity, relieve mental stress and create beautiful environments; places to thrive, rather than just survive.

Blue infrastructure

Whether disconnecting downpipes or de-paving land and gardens – the benefit of keeping it green rather than paving over are multiple. For instance, many small interventions can have a significant impact in preserving the function of sewers which will be under pressure from increasing densification.

The separation of rain and wastewater in Jersey needs to continue. Continuing to promote the delivery of sustainable urban drainage systems and permeable surfaces will help replenish ground water, streams and reservoirs. Water is a precious resource that needs to be managed in terms of water sensitive urban design. Jersey has the opportunity to show that incremental actions can be more effective, more economic, more resilient, and can better engage the community in rapid culture change.

Building better

In Jersey most emissions are from home and business space heating plus transport. The direction is to decarbonise by moving from fossil fuel to low carbon – this includes French nuclear, micro generation or major wind farms. This is challenging in the eight years to 2030, so practically the plan is to find realistic interventions to transition into known technologies.

The Commission will support emerging workstreams from the Bridging Island Plan and Carbon Neutral Roadmap. Two Commissioners spoke at the first Sustainable Construction Symposium in October 2022. This brought together the construction industry to think about and to take action to deliver climate resilient techniques and approaches to new development and reuse of buildings. The Commission will continue to engage in emerging workstreams to deliver lower carbon construction.

The emerging workstreams in 2023 will be to:

- support the project to review Building Byelaws.
- continue the dialogue with the local construction industry; finding and promoting best practice with Jersey case studies tied to the Carbon Neutral Roadmap;
- contribute to the development of sustainability statement planning guidance, including advice about practical measures to get the right data at the right time; and
- contribute to the development of planning practice guidance (for I&E (Regulation)) helping build the necessary skills for planning practitioners.

The Commission does not have any particular specialist advice on transport matters. This may be addressed with new recruitment in 2023 to bring the cohort of Commissioners to 15. Jersey is pursuing a modal shift to more walking and cycling, public not private transport, decarbonising road vehicles and finding ways to decarbonise the supply chain and as an island finding benefits in reuse and recycling materials for example.

Natural environment

The ecosystem approach encourages recognition of the interdependence of economic development, social development and environmental protection goals.

The natural environment is the setting in which economies can grow and local communities can be built with innovative leadership and delivery of integrated green infrastructure. For instance, de-compacting and safeguarding soil biodiversity; retrofitting sustainable drainage into our rights of way, roads and pavements; securing the soil for long-term large species tree growth; community woodland planting, a diversity of large species tree planting particularly along heavily trafficked roads and intercepting rainwater from every rooftop.

Community engagement

In the spirit of sustainable development, public dialogue is highly important. The community are encouraged take responsibility and realise it is within the collective capacity to influence the outcome. Development and infrastructure projects should not evolve without involving the ultimate beneficiary, the 'ordinary person'.

Planning Policy

The Commission will continue to support policy development from arising supplementary planning guidance; and area- and place-specific briefs around the themes of housing, design and sustainability.

Supplementary planning guidance

The Commission is assisting in scoping, shaping and testing new planning guidance.

- **Jersey Design Guide** – work to update this in 2023 will be supported by the Commission to address carbon neutrality and to take account of current good practice, including references to JAC awarded schemes.
- **Jersey Housing Design Guide** – the development of housing standards including density, space and parking have and will involve the Commission's input. There is also a need for guidance about those aspects of housing design that make for good quality homes and great places to live. The delivery of the right number and right size and specification of home is important, but good design is critical to ensure that they contribute to individual wellbeing and can enable and foster the development of sustainable communities. The Commission will play a key role in the development of this guidance.

Associated with this, the Commission wish to explore some key challenges:

- exemplars are needed of less car-centric and more sustainable residential developments.
 - can competitions be held, and built, to raise expectations and make urban living a preferred choice?
 - can housing providers be encouraged to collect residents' feedback one year on especially on rental accommodation? This remains an aspiration from the last Annual Report.
- **Conservation areas** – their introduction in 2023 will be supported by the JAC to help retain Jersey's heritage and character.
 - **Sustainable construction** – work to support initiatives to deliver both higher standards in new housing as well as the challenges of retrofitting have, and will continue to be supported by the Commission, helping the island respond to the climate emergency.
 - **Placemaking and community engagement** – the Commission will provide support for new guidance that is required to support and enable community engagement for larger development proposals and where it is linked to other regeneration strategies.
 - **Update the practice note on Design Statements** – the JAC will support this work to ensure this reflects best practice and enables a proper consideration of context within a design narrative.
 - **Sustainable drainage and water management** – the Commission will support the development of new guidance that promotes the greater use of sustainable drainage and better water management.

- The Commission will also encourage the adoption of the **St Helier Urban Character Appraisal** as guidance.



Jersey Design Awards 2022 Award Best refurbishment of a historic building Greve de Lecq Barracks, St Mary Barnes, Collie and Fischer Architects

Design Surgeries

The Commission continue to develop the delivery of design surgeries which provide a workshop/discursive environment to review the design and site constraint challenges of development schemes, usually at the planning application stage. The provision of informal advice has been offered to planning officers through design surgeries to assist the identification and delivery of potential amendments to submitted schemes to enable their approval and the delivery of better design outcomes. In other cases, a workshop with the design team has proved helpful in early iterations of sensitive sites, and these will be continued, as appropriate.

Conclusion

The Commission has responded positively to the challenges of working online and continues to deliver high quality objective reviews. It continues its work to raise the quality of placemaking and design and to deliver sustainable developments that will be appreciated by future generations as the island strives to reach a carbon neutral future.

Executive Officer
With contributions from the Chair and Commissioners
Jersey Architecture Commission
4th July 2023

Appendix A

Membership of the Jersey Architecture Commission

David Prichard RIBA Retired (Chairperson)

Founder and partner in Metropolitan Workshop (Metwork) he was formerly a partner in MacCormac, Jamieson, Prichard Architects

David Gausden BA (Hons) Dip Arch RIBA

A practicing Architect, Director - Design Engine's Winchester studio. David has experience of working in the Channel Islands, in particular Major States of Guernsey projects.

Antony Gibb MRICS, MCSD, IHBC, Dip Grad Cons (AA)

A Building Surveyor with a background in history of art and archaeology. An RICS Certified Historic Building Professional specialising in the repair of historic buildings. Based in Trinity, Jersey.

Sara Hart RIBA BA Hons Architecture PG Dip Architecture with Conservation PG dip Town & Country Planning

A practising local Architect who has also worked as architectural advisor to a previous Minister for the Environment.

Andy Theobald BSc (Hons) BArch (Hons) RIBA

A practicing Architect, Partner and Studio Leader at Fielden Clegg Bradley, the 2008 Stirling Prize winners

Mike Waddington BA (Hons) Dip Arch RIBA FCSD

A practicing Architect and Director of Waddington Architects, one of Jersey's leading practices

June Barnes

Diploma in Urban and Regional Planning and a post graduate Qualification in Housing. Her career was in housing with 16 years as CE of a large London Housing Association. From 2014-2021 she was a Board member of Urban & Civic plc, a property development company. She currently chairs a small Housing Trust.

Johanna Gibbons RDI FLI FRSA

Jo is a landscape architect and Founding Partner of award-winning landscape practice J&L Gibbons. She was made Royal Designer of Industry in 2019 and is appointed to various advisory panels including Historic England and the Forestry Commission.

Lynne Sullivan OBE RIBA

Lynne is an architect and recent Chair of RIBA Sustainable Futures, representing the RIBA as Climate Change Ambassador at COP21 in Paris. She founded sustainableBYdesign, and has authored and chairs policy advice and research on sustainability in the built environment for UK governments and others. She chaired two reviews of energy efficiency regulations for the Building Regulation Advisory

Committee, is a member of the Independent Commission on Climate for Cambridgeshire and Peterborough and sits on the UK government's Green Construction Board.

Chris Twinn FRSA HonFRIBA FCIBSE MEI CEng BSc (Hons)

Chris is a design engineer who is a sustainability specialist in the built environment. He has contributed to many leading-edge projects including BedZED. His practice aims to give all projects a route to zero carbon, often achieving 75% better than UK building regulations energy use; and for various projects abroad - seeking zero carbon, water autonomy and as low as 10% car usage. He is a member of the Design Council, various design review panels as well as the EDGE think tank committee and is a non-exec director for the Sustainable Development Foundation. Chris is a board member and workstream lead for LETI, and a member of the UK Net Zero Carbon Buildings Standard Governance Board.

On call for advice

John Desmond BSc (Bldg Econ) FRICS MCI Arb FRSA

A Chartered Surveyor and Building Economist who has been advising on the economics of development in both the private and public sectors for the past 40 years.

Appendix B

Jersey Architecture Commission's 6 Cs

The Commission will use an agenda based on the following headings, as appropriate, for design reviews and surgeries. This will ensure clarity in presentations, ensure design approaches are clearly understood and will be used in the notes issued following any design review meeting.

- **Context** – physical and social history of the site and past eras of development; street elevations and sections; land uses; analysis of the receiving streetscape and surrounding landscape and topography.
- **Connectivity** –local destinations; movement patterns and permeability; walking cycling and other transport modes, provisions and shifts; broadband; safe thoroughfares.
- **Community** – involvement; social infrastructure and local services; amenity space and management; lifestyles; privacy and conviviality; wellbeing impact.
- **Climate** – carbon reduction strategies; biodiversity; water conservation; SUDs; shade and shelter; embodied energy.
- **Character** –memorable spaces; distinctive identity; landscape and materials; massing and density; public art; layout options considered and how assessed; parking and cycle storage; universal access; flexibility and adaptability; what is Jersey about the design?
- **Change** – rapid change can be anticipated in regulations, users' behaviour, public expectations, work and leisure, movement patterns and energy consumption and many more areas. What changes are anticipated by the client and designers and how are they facilitated in the proposed design?