2 DELIVERING GOOD URBAN DESIGN

QATAR URBAN DESIGN COMPENDIUM

إرشادات التصميم العمراني في قطر

NOVEMBER
2019

QATAR URBAN DESIGN COMPENDIUM

VOLUME 2: DELIVERING GOOD URBAN DESIGN

FOREWORD

Underpinned by the Qatar National Vision 2030 (QNV 2030) and the Qatar National Masterplan (QNMP), the country is striving to become ever more attractive as an international destination for high-end business, outstanding education, science, research, health and high-quality leisure. This ambition has seen considerable successes, with the hosting of an increasing number of premier international events, the opening of major infrastructure projects like Doha Metro and Hamad International Airport, as well as the completion of new cultural facilities such as the National Museum of Qatar.

Qatar is equally ambitious about meeting its international obligations towards climate change and sustainable development, being a signatory to both the Paris Climate Accord and the United Nations Development Programme (UNDP)'s Sustainable Development Goals. The Ministry recognizes that the form of Qatar's cities, urban areas, town and villages will play a critical role in meeting Qatar's national vision and international responsibilities towards a sustainable, economically prosperous and socially equitable future.

In this context, the Ministry of Municipality and Environment is proud to introduce the Qatar Urban Design Compendium (QUDC) which is derived from one of the policies in the Qatar National Development Framework (QNDF). The role of the QUDC is to illustrate best practice and give advice on how crucial urban challenges can be overcome and provide implementation guidance for our regulatory agencies.

With the QUDC as a tool to reach out as many entities as possible such as all the development-players and enthusiasts, we ultimately aim to achieve high quality Qatari cities; the townscapes, public realms, open spaces, buildings or their surrounded landscapes, everywhere and by anyone.

The Ministry is grateful for the assistance and advice received from the Government Ministries and Agencies, the private sector and community representatives throughout the preparation of the QUDC. The Ministry strives to build strong relationships with all stakeholders and citizens as we embark on the next era of Qatar's urban growth. We look forward to building great urban places for the people of Qatar.

HE ENG. ABDULLAH BIN ABDULAZIZ BIN TURKI AL-SUBAIE

Minister Of Municipality And Environment

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Gratitude is extended to everyone who has assisted in the compilation of the Qatar Urban Design Compendium

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The project team and the Ministry of Municipality and Environment wishes to extend its deepest thanks to the State of Qatar for providing us with the platform to prepare the first urban design guideline in the Middle East.

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Prologue

- Robust design process

The management of the design process is a crucial part of delivering good-quality urban design. The importance of good urban design is set out in Volume 1, Part A. It establishes that urban design is about making places for people, and dealing with the relationships between physical forms and the spaces they create at all scales of development. It identifies the qualities of places that people feel safe and comfortable with – and that attribute a character that distinguishes cities from one another and achieves a distinct urban identity. As such, the practice of urban design is less about a normative prescriptive design of the city's parts and much more about reforming, unifying and connecting the urban parts into an urban experience that achieves a certain ease of mobility and accessibility, healthiness, walkability, liveability, sustainability, and so on. These are qualities that underpin a safe, comfortable, enjoyable, distinguishable, people-oriented urban whole. Ensuring a robust design process will contribute to better urban design practice through a deeper appreciation of the processes and broad objectives that underpin urban design practice.

- Towards a responsive design process

Having a robust process forces the different participants to undertake key tasks and have a common understanding of the value of the tasks being undertaken. Undertaking a robust context and character appraisal will provide the foundations of a responsive design outcome. Utilizing well-established design techniques in a logical process provides the basis for an inclusive design process that considers a broad range of parameters. Good design also relies on good management of the development process, with a robust enforcement regime for those who do not comply with the regulations or application process.

Purpose

Volume 2 is a practical companion to Volume 1. It focuses on the processes and techniques associated with urban design practice, as well as providing practical examples of best practice, together with a comprehensive checklist against which new design can be assessed. It is not possible to incorporate all urban design theory into this document, and therefore the intention is to provide an overview of the different techniques and processes common in urban design practices and act as a gateway to a broader understanding of the subject.

Structure

The remainder of Volume 2 is divided into five key sections:

Section 2: Understanding types of development and context.

Section 3: Understanding typical urban conditions.

Section 4: Exemplary case studies.

Section 5: Starting to plan and design.

Section 6: Enabling the delivery of good urban design.

Section 2 gives guidance on the process of understanding context and character. It describes the various issues that will guide and inform the urban design process. It discusses different established techniques for character area assessments, introducing these assessment techniques and giving advice on the context in which they should be used.

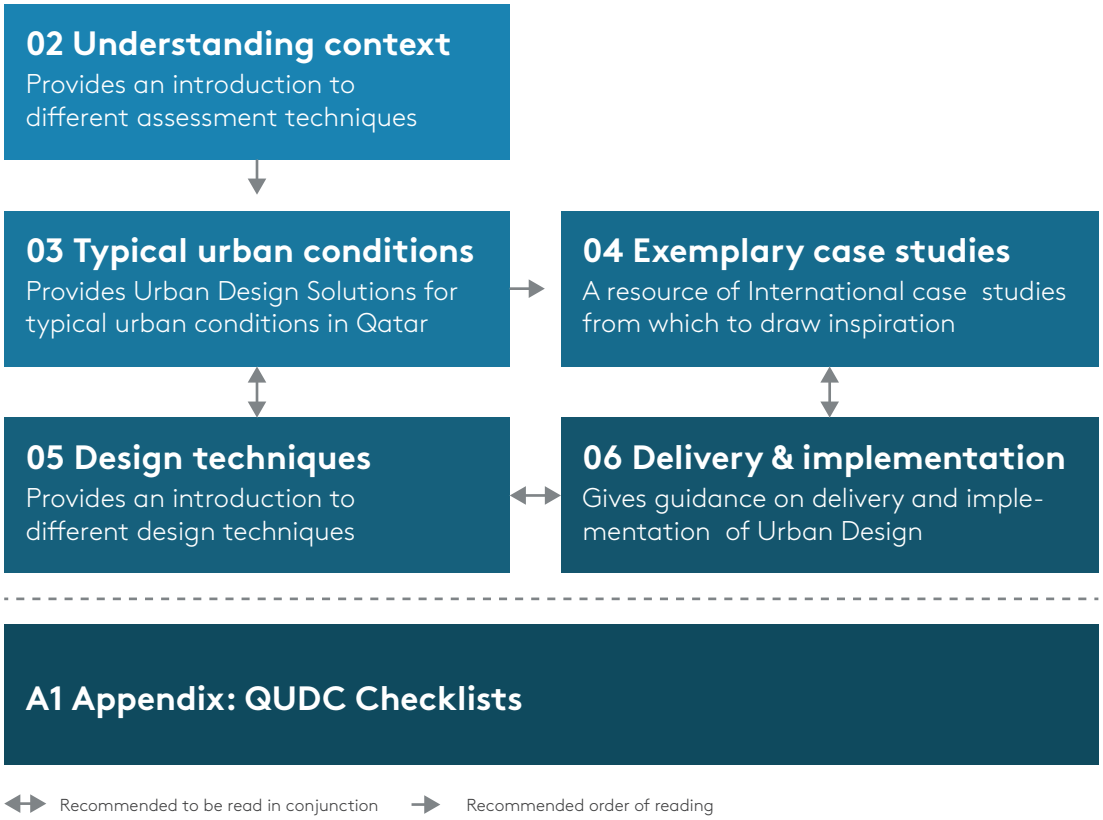
Section 3 gives practical examples of best practice, based on a series of typical scenarios relevant to Qatar. The examples have been designed based on the guidelines contained in Volume 1. They are intended to be used as inspiration for the designer rather than as a template for direct replication.

Section 4 looks beyond Qatar, to provide an international perspective on best practice, drawing on case studies from around the world.

Section 5 looks at the process of design and the various techniques and tools available to the designer.

Section 6 looks at how design quality can be delivered, exploring the different delivery options, mechanisms for delivering change, the planning application process, and ways in which urban design can be promoted in public and private sector organisations.

Two checklists have been created to enable a systematic review of the design process and design proposals to be undertaken. The first checklist is for major applications and masterplans, the second for building and public space schemes. The checklists are not intended to be a repetition of the key guidelines set out in Volume 1 or a shortcut to understanding the objectives and guidelines set out in Volume 1. It is anticipated that readers will use the checklists in consultation with Volume 1, having gained a thorough appreciation of the objectives and guidelines contained therein.



2 UNDERSTANDING TYPES OF DEVELOPMENT AND CONTEXT

2.1 TYPES OF URBAN DESIGN INITIATIVES

Constant change is a challenge all cities have to cope with. The change in a city's social and economic life through the years always brings physical changes, too, the impacts of which a city has to mitigate. Therefore, the city authority needs to anticipate dynamics in developments by understanding any potential development issues and initiating appropriate ways to resolve them.

2.1.1 Adopted type of development: physical and spatial planning

As the spatial translation of the Qatar National Vision 2030 (QNV 2030), the Qatar National Master Plan (QNMP) adopts a set of physical and spatial planning tools to guide development and how it is implemented in Qatar. Urban design-led guidance provides flexible tools to practically resolve a wide range and variety of issues for developments of any scale.

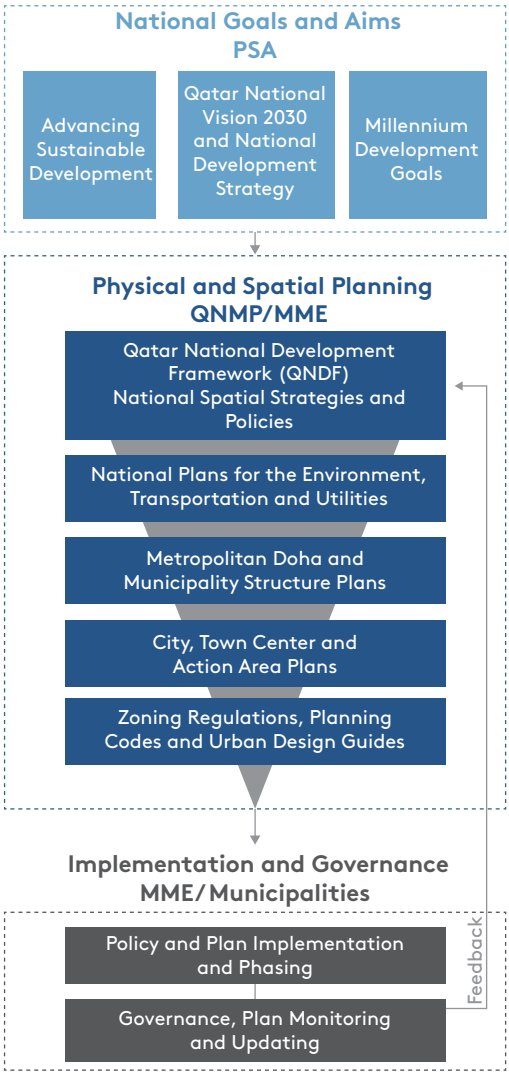
2.1.2 Types of urban design interventions

Adopting an urban design-led intervention has many advantages. Some of these involve the flexibility of its format – unlike the rigid zoning regulations – and effectively deal with the physical aspects. As a result, this ensures the physical look and feel of the final outcomes.

Urban design-led intervention is able to comprehensively handle large-scale developments, such as a new town or city, as well as mid-scale or even small-scale development – such as streetscape upgrading, for instance.

It is vital for the authority to have the ability to identify the real issues on the ground and subsequently to initiate appropriate types of intervention to resolve them. To start with, there should be reference to all the options available. The following are a range of development types that may adopt an urban-design led intervention:

Urban redevelopment – An intervention to develop an area inside the city that is unused or derelict, especially brownfield



1. *Following the massive destruction of the World Trade Center site in lower Manhattan by the 9/11 attacks, New York City has redeveloped the 64,750m² site. The project comprises the tallest building in the city, The Freedom Tower, the 9/11 Memorial and Museum, a Mall, a Park and the iconic new transit hub, the Oculus*

sites. This process usually involves demolition of the existing buildings and a complete reconstruction of the area into something new and more functional for the city. Alternatively, it could incorporate some existing buildings and structures as a part of the new development.

Urban regeneration/renewal – This is an attempt to reverse the decline or deterioration of an urban area by improving both the physical structure and – more importantly – the economy of the area. In most regeneration programmes, public money is used in an attempt to encourage private investment in an area.

Public realm revitalization – This comprises a set of initiatives aimed at reversing physical, social and economic decline through public realm enhancements, with the expectation that the private sector will respond by enhancing private assets. It typically includes improving streets, squares, parks, and so on. The projects can also address the need for improving the economic and social function of the public realm through activating spaces, as well as through events and programmes.

Retrofitting – An initiative to add extra features to a place, in order to improve the capacity, efficiency or functionality of an area or location.

Urban infill – This is defined as new development that is sited on vacant or undeveloped land within an existing urban fabric, enclosed by other types of development. The term 'urban infill' itself implies that the existing surroundings are mostly built out, and what is being constructed is, in effect, filling in the gaps.

Urban conservation and urban preservation – Urban conservation is concerned with parts of the built environment that are of historic, morpholgical or architectural significance. It is not limited to the preservation of single buildings; rather, it views architecture as an element of the overall urban setting. Urban preservation or restoration – in this case, of buildings or landscape features – is the act of keeping something the same or of preventing it from being damaged.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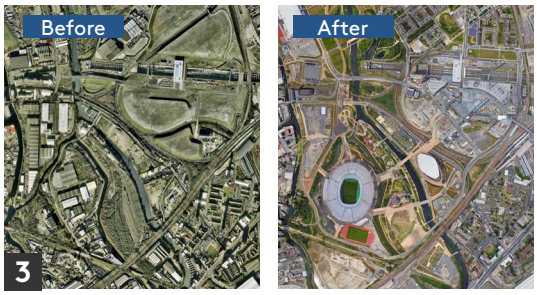

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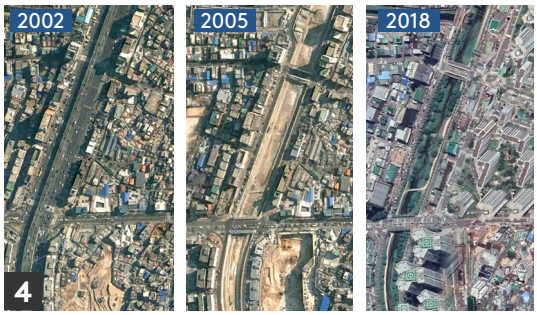

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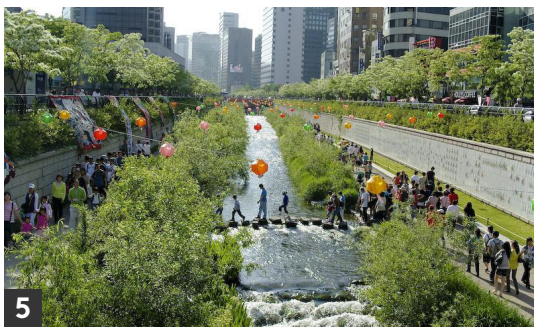
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2. *Massive urban regeneration in*
3. *Stratford, London, as the legacy of the 2012 Olympic Games. Prior to the Olympics, Stratford was one of the most deprived communities in the country, where unemployment was high and levels of health were poor. There was a lack of infrastructure, and the environmental quality of this part of the Lee Valley was poor. The 2012 London Olympics bid succeeded partly on the basis of a commitment to address these physical deficiencies*

4. *The Cheonggyecheon*
5. *Project in Seoul, South Korea, is a series of*
6. *multi-development interventions. It started with the restoration of the Cheonggyecheon Stream in downtown Seoul by demolishing the road and elevated highway that covered it, turning it into an attractive open space. The project has repaired a key part of the city. Cheongyecheon has become a centre for cultural and economic activities.*
During the modernization era, downtown Seoul was divided into two parts, north and south, based on their features and function. The restoration helped to retrofit these parts to create a new urban structure connecting the cultural and environmental resources in northern and southern areas of the stream

2.2 APPRECIATING INTRINSIC CONTEXT AND CHARACTER

Assessing the intrinsic context and character of a site is one of the key starting points of the urban design process. Different aspects need to be thoroughly assessed to understand the assets and potentialities, as well as negative issues that may undermine the image of a site. Depending upon the purposes, goals, context and development type of a project, the assessment may focus on discovering potential features that contribute to the future image and identity of the project or place. In line with its findings, a character enhancement strategy may subsequently be developed with a more heritage-based approach, while other cases may focus more on the landscape character. All of these approaches are valid in their own terms, and each of them has a particular assessment technique. The preferred method of assessment and analysis should be set out in the brief.

In order to identify and reveal the appropriate identity or image of a place that derives from its intrinsic character, the following are types of assessment that need to be conducted at the first stage.

Character area	▸ Land use ▸ Urban structure ▸ Movement Patterns ▸ Landscape ▸ Demographics ▸ Biodiversity	▸ Heritage ▸ Climate ▸ Economic & Market ▸ Social cultural ▸ Interaction with broader community
Visual character	▸ Skyline ▸ Contour of landscape ▸ Scale and massing of buildings ▸ Architecture style & features	▸ Facade external expression ▸ Landmark or focal point ▸ Building materials ▸ Colour and Patterns
Experiential character	▸ Street or path alignment ▸ Intersection treatment ▸ Vista	▸ Streetscape ▸ Node ▸ Buildings configuration
Memories	▸ Collective memory thing associated with the place ▸ Smell & sound ▸ Texture	▸ Perception & feeling toward a place (positive-negative) ▸ Impression of safety & comfort
Thematic character	▸ Geographical location ▸ Predominant use ▸ Unique morphology	▸ Type of development ▸ Nature or open space ▸ Architecture style

2.2 APPRECIATING INSTRINSIC CONTEXT AND CHARACTER

2.2.1 Character area assessments

As assessment of character typically covers all the elements associated with the townscape. The townscape definition is derived from the Latin 'genius loci', which means the prevailing character or atmosphere of a place. Townscape is more than what we would recognize as the individual outputs of architecture and landscape architecture; it is more a collective understanding of various contributing elements. The elements that contribute to a place's townscape range from the visual and physical elements we can see, through to the more experiential characteristics of smell, texture, memories and associations of places.

2.2.2 Visual character assessment

Visual character can be defined by those physical elements of the townscape that we can see, recognize and shape into a legible picture of what is in front of us. Contributing elements to the visual character include skyline; contour of landscape; scale and massing of buildings; architectural style and features; façade external expression; landmarks; and so on.

2.2.3 Experiential character

The experiential character of a place is a personal or individual subjective feeling in experiencing any part of a town. Kevin Lynch describes it as the 'imageable environment' (*The Image of the City*) in which places have value and emotional attachment for groups or individuals who live in or use them. One of the aims of stakeholder engagement is to elicit these experiential characteristics from groups and individuals, layering them over the professional analysis of a place. Elements


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1. *Sana'a city, Yemen, has maintained its strong local architectural style, and its buildings together create a unique and memorable skyline*

2. *Triangle-shaped blocks are rare in the grid-block pattern of Manhattan, New York City. The design of the high-rise Flatiron Building that enhances the triangle shaped corner block and its highly visible location, has led to the building becoming one of the city's most famous landmarks*

3. *A segment with a half-crescent street alignment and strong street wall in Regent Street, London, enriches the experience of people who stroll along it. From certain angles, it creates an attractive vista and becomes a visual break to the long linear street*

4. *The redesign of Oxford Circus, London has successfully made this area very legible, through the strong street wall and diagonal building lines on the corners that create little squares for users. The latest improvement of diagonal pedestrian crossings enhances the functionality of the intersection's activity as one of the important movement hubs in the West End*

5. *New York City is synonymous with the noise of 24/7 police and ambulance sirens, which can become part of a city's image*

6. *The smell from typical street vendors in Istanbul Turkey selling roasted chestnuts and other local delicacie can create a vivid image in its own right, as an intangible aspect that intrigues visitors' senses*

2.2 APPRECIATING INSTRINSIC CONTEXT AND CHARACTER

that help contribute to experiential character include street/path alignment; intersection and building corner design and treatment; vistas; building configuration; and so on.

2.2.4 Memories

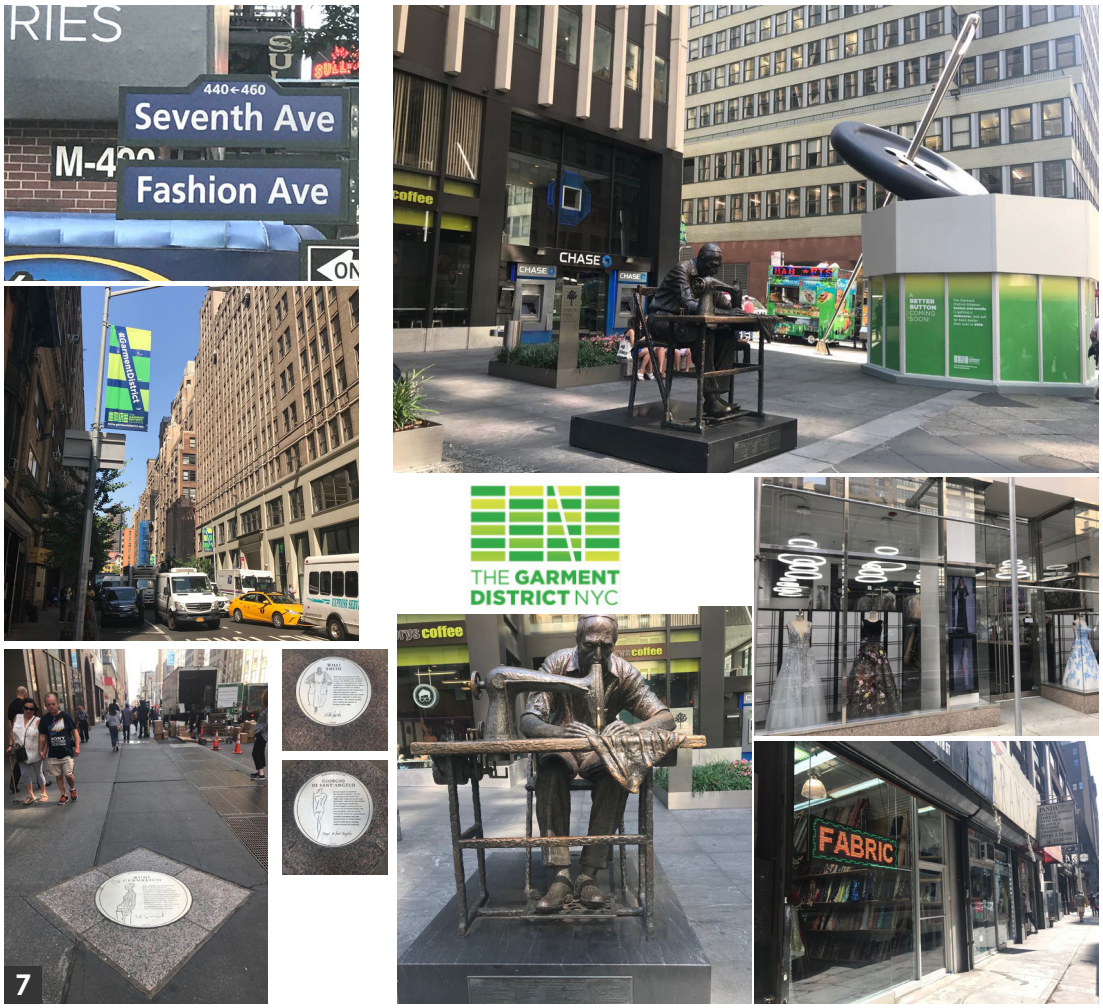
The image of a place can also be vividly derived from intangible aspects that can successfully intrigue the senses of users or visitors, such as a collective memory that is associated with the place for years. These might include particular smells from food street-vendors or cafés; local scents from households; feelings towards a place; the perception of safety and comfort; and so on.

2.2.5 Thematic character

Thematic character, which often becomes the brand of an area, is derived from similarities of physical features that enable the viewer to recognize them as part of an area with a particular theme.

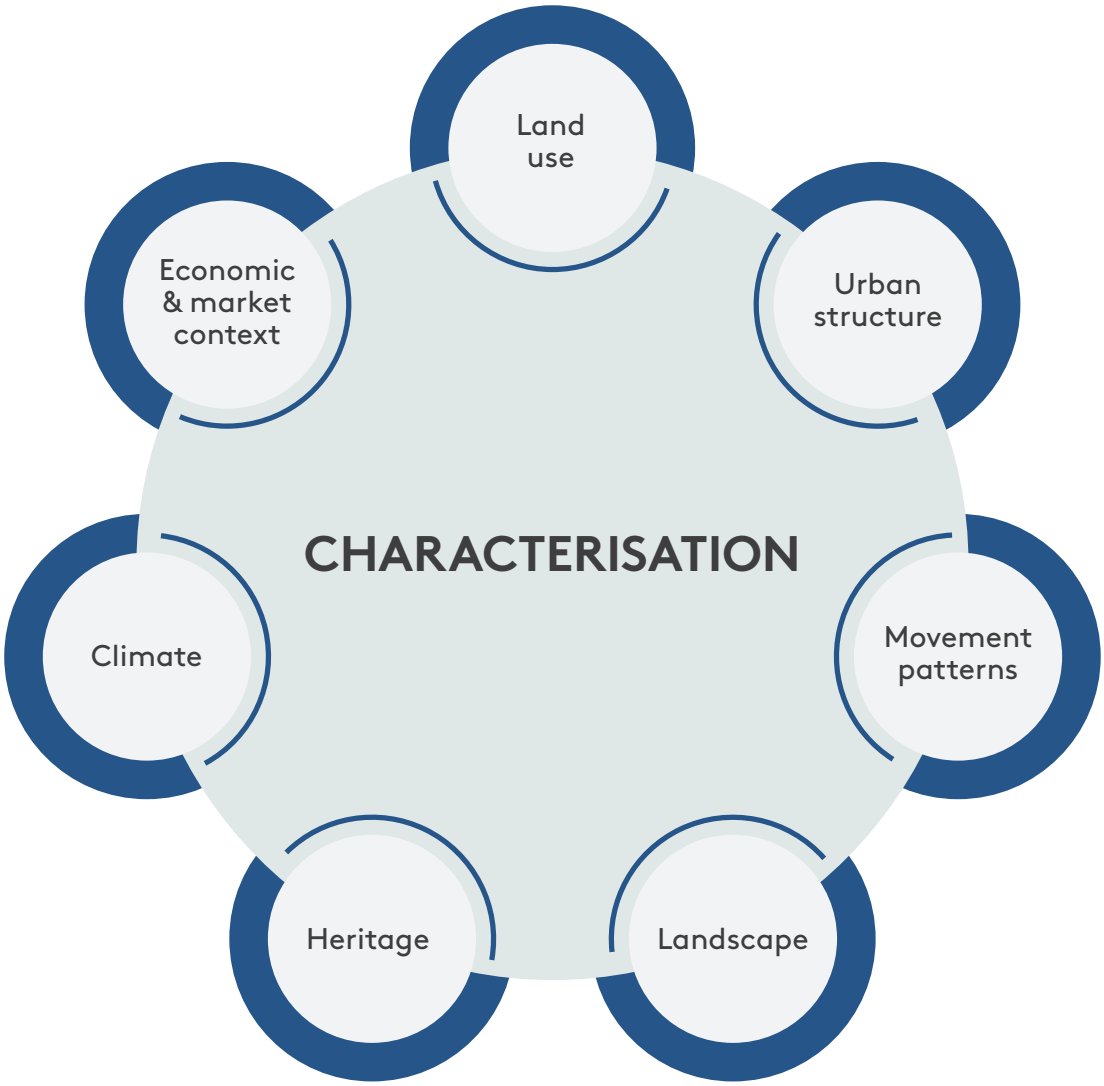
Many of the world's cities adopt this strategy, which aims to create vibrant and thriving places with identity, to facilitate certain predominant activity in one area for an effective purpose, and provide more choices of destinations for the residents of the city.

Contributing elements that can help determine an area's thematic character include geographical location; predominant use or activity; unique morphology; type of development; nature or open space; architectural style; and so on.



7. *The Garment/Fashion District, New York City, is one of the successful examples of character and image of a place that has been shaped by a specific land use. The 260-hectare area is a home for all fashion-related activities including the famous Fashion Institute of Technology (FIT) and Parsons School of Design.*
The brand of the Garment District is enhanced by the design of its street furniture, such as street names, street banners, 'Walk of Fame' for fashion designers, and sculptures that relate to the theme

2.2 APPRECIATING INSTRINSIC CONTEXT AND CHARACTER



2.3 CHARACTER ASSESSMENT TECHNIQUES

2.3.1 Introduction

There are a number of well-established character assessment techniques used by urban designers in different countries. This section sets out three of the most well-used techniques, outlining the key methodologies and applications for each.

2.3.2 Urban area assessments

2.3.2.1 Purpose

Urban area assessments consider the policy context, form and scale of existing development and the capacity of existing infrastructure. No development is without context and, therefore, contextual analysis is imperative in undertaking an assessment of an urban area.

2.3.2.2 Fitting into a place

Appropriate form of development – In a plan-led system such as Qatar's, the planning policy provides the overarching policy context for new development to be planned. The planning policy will respond to the existing settlement structure, and either propose a continuation of the same or some form of planned enhancement based on sound technical analysis.

Identify scale and density – Having identified the appropriate form of development, there is a need to identify the appropriate scale and density of development. This involves observing and understanding the form and character of neighboring areas.

Other key factors – Other key factors that are important considerations include:

- Density and scale of neighboring developments.
- Planned role and function of the site.
- Opportunities arising from mass transit connectivity.
- Constraints relating to requirements for open space or areas that need to be retained because of environmental or historical significance.
- Need to tie into existing movement network and streets structure in order to provide a seamless development that can repair lost connections and create new connections.

2.3.2.3 Infrastructure capacity

When assessing large-scale developments, infill or urban extension, it is important to undertake an assessment of the existing infrastructure capacity to cope with such a large-scale increase in demand on the various networks and services. The infrastructure capacity includes the following issues:

Utility infrastructure – The existing and potential capacity of utility infrastructure. Key infrastructure includes: potable water; foul sewage; electricity; and storm-water drainage. Other infrastructure, such as treated sewage effluent (TSE) provision, will impact on the design of the public realm.

Movement – The capacity of the existing infrastructure, such as road and public transit capacity, together with an assessment of potential modal shift and options for changing use behavior through different designs. Questioning existing patterns of movement should form part of this assessment.

Social infrastructure – The capacity of the area's schools, libraries, healthcare facilities, mosques, sports clubs, and so on, to support growth in development, or the potential impact on existing facilities if redevelopment and change in demographics was to occur. Through this assessment, the need for new facilities will be identified. This enables a form of levy on new development to be established (such as the UK's Community Infrastructure Levy).

2.3.2.4 Application

Urban area assessments can be used for most applications. They can also be made applicable for developments in rural villages and used alongside the more specialist heritage and landscape character assessment techniques.

2.3 CHARACTER ASSESSMENT TECHNIQUES

2.3.3 Heritage area assessments

2.3.3.1 Purpose

Heritage area assessments look at buildings of historical importance, both individually and collectively. They are typically required where a development site is located within, or adjacent to, a conservation area or where evidence suggests that the site may have had an important role historically. It is an assessment technique that recognizes the collective value of a group of buildings or entire streetscape, rather than focusing on a single building of outstanding architectural merit.

2.3.3.2 Location and setting

The wider landscape and townscape setting of an area provides the contextual understanding from which a more in-depth analysis of the site can be made. This may be a landscape character assessment or a similar, more strategic character assessment.

2.3.3.3 Architectural and built form quality

Individual buildings are important where they frame or terminate a view or vista, but these are often rare and, therefore, a wider appreciation of the collective quality of a place is required.

When assessing an area's historical significance, it is important to understand the context in which the buildings were constructed:

- Who were they built for?
- How did they fit into the wider urban context at the time?
- Was the architect of national or international significance?
- How were the buildings organized internally, and what uses occupied the buildings?

Having established this, it is then important to chart the way in which the buildings have altered through their history. How did these changes respond to the economic and cultural events of the time?

There is a statutory requirement in Qatar to seek approval from both the Ministry of Culture and Sport and the Qatar Museums Authority prior to changing or demolishing buildings or structures over 50 years old. Information on these buildings should inform the assessment process.

2.3.3.4 Traditional land uses

In addition to the architectural merits of a building, the use and function of that building can be just as important. The use may be related to a particular industry, or a particular person or family of national significance. The purpose and occupiers of buildings can elevate an otherwise unremarkable building to national importance as a key part of the cultural heritage of Qatar.

2.3.3.5 Traditional movement networks

The historic movement network of a place can provide a source of inspiration for the future layout of a redesigned place.

Closely related to the urban grain, the movement networks of historic areas are predominantly based on the movement patterns of pedestrians and are therefore important contextual elements in creating walkable neighborhoods. By putting the pedestrian first in designing the movement network, the ability of a place to retain its flexibility over the long term will be greatly enhanced. Proof of this is seen in how numerous European cities have retained much of the same network throughout their history, accommodating pedestrians, horse-drawn carriages, bicycles, trams, buses and cars – with many cities now converting some streets back to non-car environments.

2.3.3.6 Traditional urban grain and massing

The size and arrangement of blocks and plots, together with the relationship between street width and building heights, provides an important character reference. The massing of buildings is also important to understand, as this influences how buildings collectively appear to users. A single large building may have the same height and width as a collection of townhouses, but the appearance and perception will be very different.

2.3 CHARACTER ASSESSMENT TECHNIQUES

2.3.3.7 Application

In Qatar, heritage area assessments should be considered for land within the A-Ring Road of Doha, and around the centre of historic coastal settlements and historic farming villages.

2.3.4 Landscape character assessment

2.3.4.1 Purpose

Landscape character assessment should be undertaken in a robust, transparent and structured way. It follows that the approach applied to each assessment will depend on the purpose, scope and scale of the assessment being undertaken, and the skills and resources available to carry it out.

2.3.4.2 Applicability

The government agency responsible for the protection of rural England, Natural England, has established a well-considered methodology for undertaking landscape character assessments. The process advocated is the same for the rural landscape as it is for the townscapes of conurbations and cities – from suburbs, towns and villages to small rural hamlets. It is felt that the methodology can be used as a basis for undertaking such assessments in Qatar. The process allows for the various physical and cultural aspects that contribute to differences in character.

2.3.4.3 Principles

The methodology for undertaking landscape character assessments is set out in the guidance document *An Approach to Landscape Character Assessment* (Natural England). It recommends that the following five principles should be adhered to, whatever the scope and methodology adopted in a landscape character assessment:

1. Landscape is everywhere, and all landscape and seascape has character.
2. Landscape occurs at all scales, and the process of landscape character assessment can be undertaken at any scale.
3. The process of landscape character assessment should involve an understanding of how the landscape is perceived and experienced by people.
4. A landscape character assessment can provide a landscape evidence base to inform a range of decisions and applications (it can provide an invaluable contextual reference tool for townscape and character-based analysis).
5. A landscape character assessment can provide an integrated spatial framework – a multitude of variables come together to give us our distinctive landscapes.

When undertaking a landscape character assessment, it is vital that the purpose and scope of it is well defined. The area it will cover, its scale, level of detail and resources available to carry out the work should all be established at the outset.

2.3.4.4 Process

Desk research – Having established the scope, it is important to undertake a robust desk study, collecting, reviewing and analyzing data and documentation. This can be supported by interviewing stakeholders with an interest in the management and maintenance of the landscape.

Field survey – Following the desk study, the next step is to conduct a field survey. The purpose of the field survey is to test, refine and add to the outputs from the desk study, while capturing aesthetic, perceptual and experiential qualities of the landscape. Plan-based and photographic recording of information, preferably utilizing geographic information system (GIS) software, is critical to effective field surveys.

Defining landscape attributes – On the basis of the desk and field studies, the assessment should aim to classify, map and describe the landscape's character areas, types and characteristics, including geological, and other physical and sociocultural influences.

2.3 CHARACTER ASSESSMENT TECHNIQUES

The landscape character assessment should capture the characteristics of the landscape, including:

- Topographic features.
- Flora and fauna.
- Land use.
- Sights, sounds, touch and smells.
- Cultural associations, history and memories.

The completed assessment will be a document detailing the character of the landscape and an annotated map showing the character areas or types. Photos, diagrams and survey results can also be included. A landscape character assessment concludes after characterization of the landscape. The characterization process, because it is transparent, acts as a neutral baseline upon which decisions can be made. Specific actions and recommendations of whether to plan, manage, protect or conserve can be part of an additional document.

2.3.4.5 Application

In Qatar, it is recommended that a landscape character assessment is undertaken for all projects in rural areas and on the edge of a conurbation as part of an urban extension.

2.3.5 Assessing urban form using transects

Transects are commonly used to describe and organize different urban conditions based on type, form and density. They tend to describe place character – ranging from rural through suburban to urban core – and follow a common numeric classification system.

The higher the transect number (T number), the more intense the physical intensity of the built form, the relationship between nature and the built environment, and the complexity of uses within the zone.

Benefit of transect – The benefit of using the transect-based approach as an organizing element of an urban area is that it can be applied to most of the placemaking elements, from building form and placement to parking, public spaces, signage, lighting, and so on.

Special cases – Within a specific area there could be a development that does not conform to the normal transect pattern. In many instances, these areas are classed as special use zones. An example of a special use zone in Metropolitan Doha would be Education City.

Subcategories – In some instances, it may be necessary to create subcategories within a transect. For example, a city such as Doha with a large suburban area will benefit from gaining a deeper understanding of the differences between developments, aiding the overall understanding of the urban form.

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1. *Diagram illustrating transects*

3 UNDERSTANDING TYPICAL URBAN CONDITIONS

3.1 INTRODUCTION

1. *Al Sadd street neighborhood*
2. *Al Sudan metro station neighborhood*

3.1.1 Purpose

The purpose of this section is to use typical urban design scenarios found in Qatar to illustrate some of the key challenges and solutions for each typology. Each scenario sets out the ideal land use mix, block structure, scale and provision of public space, and typical form of different land uses.

The different typologies should be used as reference points for designers, rather than a blueprint for designers to follow. They can be beneficial for those not familiar with the urban design principles.

The typologies can be used by officers to help inform applicants of the typical issues that need to be addressed and the broad principles that new development should look to meet.

3.1.2 The typologies

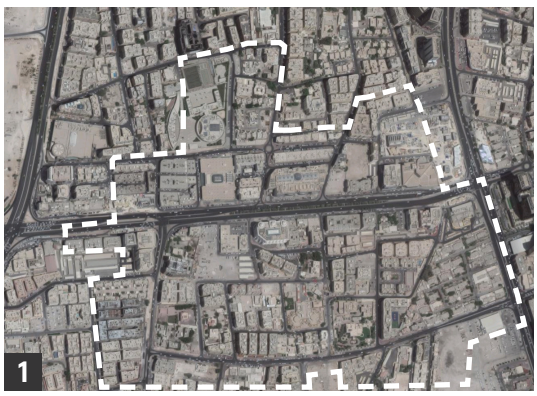
There are six typologies, ranging from the high-density central business district (CBD) through to the low-density rural context. The typologies cover the main types of development condition found in Qatar.

3.1.2.1 Typical urban area

The first condition is that of the typical urban area. This condition is typically found within and adjacent to the C-Ring Road of Doha. The neighborhoods covered by this condition often determine the success of a city's liveability, because of their high-density mix of uses and proximity to central business districts.

3.1.2.2 Typical mid-city area

The next condition is the mid-city area. These are the areas found just beyond the typical urban area, providing a transition between higher-density mixed-use and more suburban neighborhoods.



3.1.2.3 Typical suburban area

The typical suburban condition in Qatar is becoming increasingly dominated by the large subdivisions on the periphery of urban areas. As such, they represent both a major challenge and opportunity for designers to make them vibrant, liveable communities rather than just dormitory neighborhoods.

3.1.2.4 Typical CBD

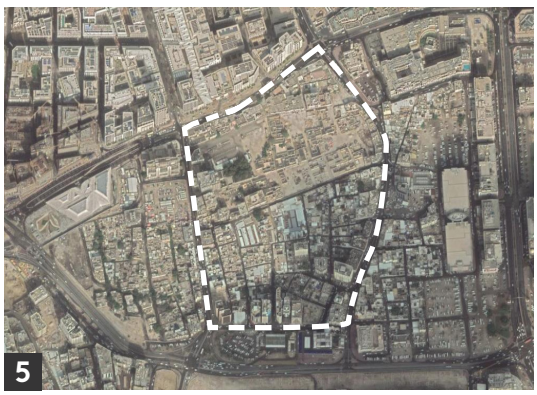
The typical CBD condition is examined, as although few in number they are highly visible and nationally significant places with a high concentration of hotels, offices, visitor attractions and high-density residential. These neighborhoods often help shape the international perception of a place through their architecture and skyline.

3.1.2.5 Typical heritage area

Also key in forming this international perception are heritage areas. The typical heritage area condition gives guidance on the importance of retaining heritage assets and how new development can enhance the setting and bring new life to old buildings.

3.1.2.6 Typical rural area

The last typical condition is the typical rural area. These settlements in Qatar have some of the oldest remaining buildings and street patterns, often with a more responsive form demonstrating a closer appreciation of the natural setting.



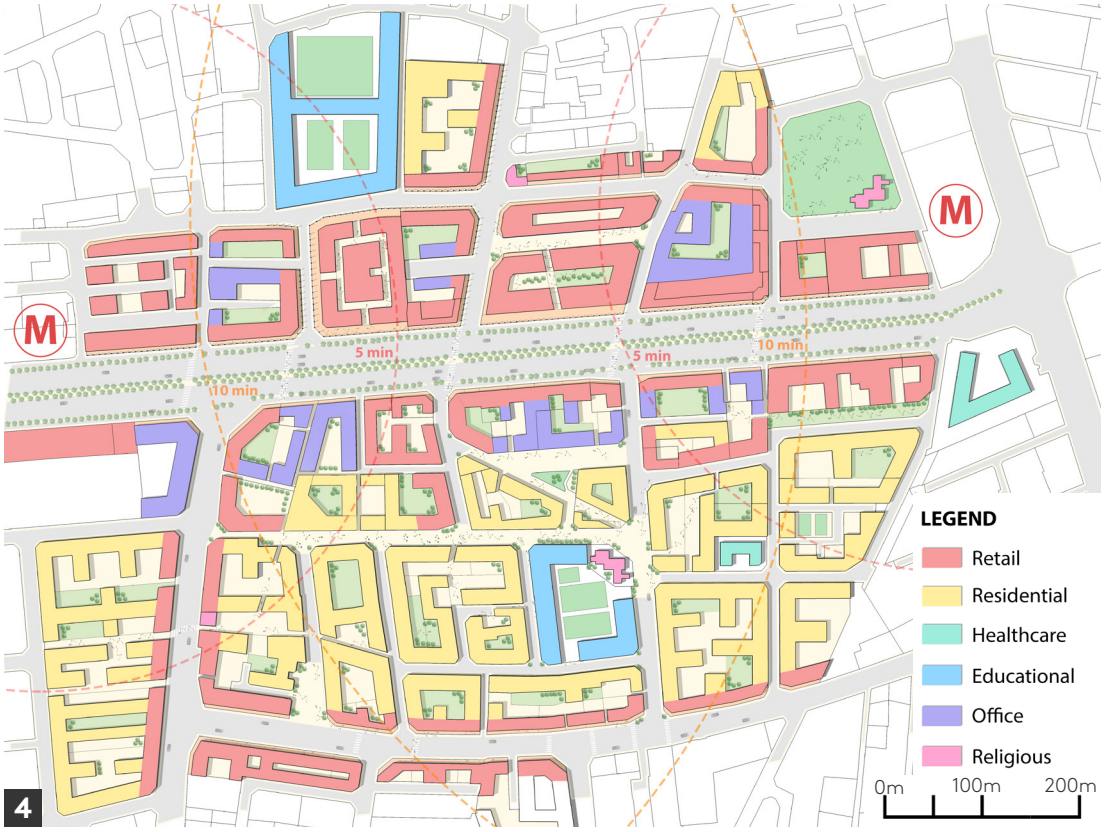
3. *Bani Hajer neighborhood*
4. *West Bay*
5. *Al Asmakh neighbourhood*
6. *Umm Salal village*

3.2 TYPICAL URBAN AREA

1. *Aerial perspective of development, illustrating urban blocks, good permeability and strong frontage to active streets*
2. *View towards downtown Doha, an area that exhibits many of the typical features*
3. *Street-level images*
4. *illlustrating the mix of uses, scale and form typically found in the urban areas of western cities*
5. *Plan of typical distribution of ground-floor uses*

3.2.1 Key attributes

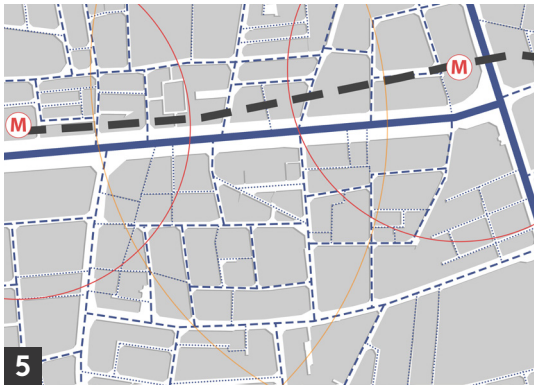
- A typical urban area should be a place that is built around a network of transport hubs, which enables a development of high density that is very well connected to the surrounding city zones.
- It should have a high proportion of commercial or retail use, depending on how the area is zoned in relation to the wider city land-use planning.
- It should be a genuinely mixed-use place, with a strong residential community, living in apartments or townhouses, ensuring that the area is active at all times of the day.



3.2 TYPICAL URBAN AREA

3.2.1.1 Roles

- **Social place –** A typical urban area will offer something for everyone; it will be a place where workers can meet and interact, where visitors can socialize, and where residents can enjoy the full range of options that urban living affords.
- **Movement hub –** A typical urban area will exhibit a robust and graded movement hierarchy that will create permeability to neighboring urban areas and establish privacy delineations for residents. The movement network will integrate with a green grid of pocket parks and play spaces for children, and be tied to other community facilities.
- **High variety of typologies –** Buildings in an urban area should be varied, and will display a variety of typologies that enable the required mix of use. A grading of height and plot size is desirable, as is a variety of architectural expression to create variety and interest along the streets.



Metro line
M Metro station
5-min walking distance from metro
10-min walking distance from metro
Primary route
Secondary route
Tertiary route
Public open space
Semi-private open space
Roof gardens
Offices with retail frontage
Residential with retail frontage
Residential
Mosque
Educational
Healthcare
250m from mosque
Arcade
Ground-floor retail
Ground-floor residential
Ground-floor office

Scale 0m 200m

5. *Plan showing typical street hierarchy and network of an urban area in Qatar*
6. *Plan illustrating typical balance of public right of way and private plots in urban areas*
7. *The potential mix of private and public spaces that can be found in a typical urban area*
8. *Mix of uses typical of an urban area*

Guidance links

C6.2.10 Urban place typologies

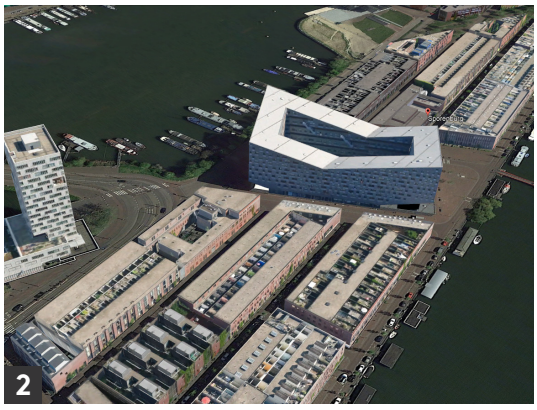
3.3 TYPICAL MID-CITY AREA

1. *Aerial perspective of development, illustrating urban blocks, good permeability and strong frontage to active streets*
2. *View across a typical mid-city environment*
3. *Images illlustrating mid-scale apartment-led residential environments typical of many mid-city areas in western cities*
4. *Plan of typical distribution of ground-floor uses*

3.3.1 Key attributes

- A typical mid-city area should be a place that has a recognizable centre, preferably developed around a primary transport node.
- There is likely to be a major road intersection, which should interface with the main transport node and form the basis of a commercial or retail component.
- There will be a strong residential community of mixed tenure and unit


1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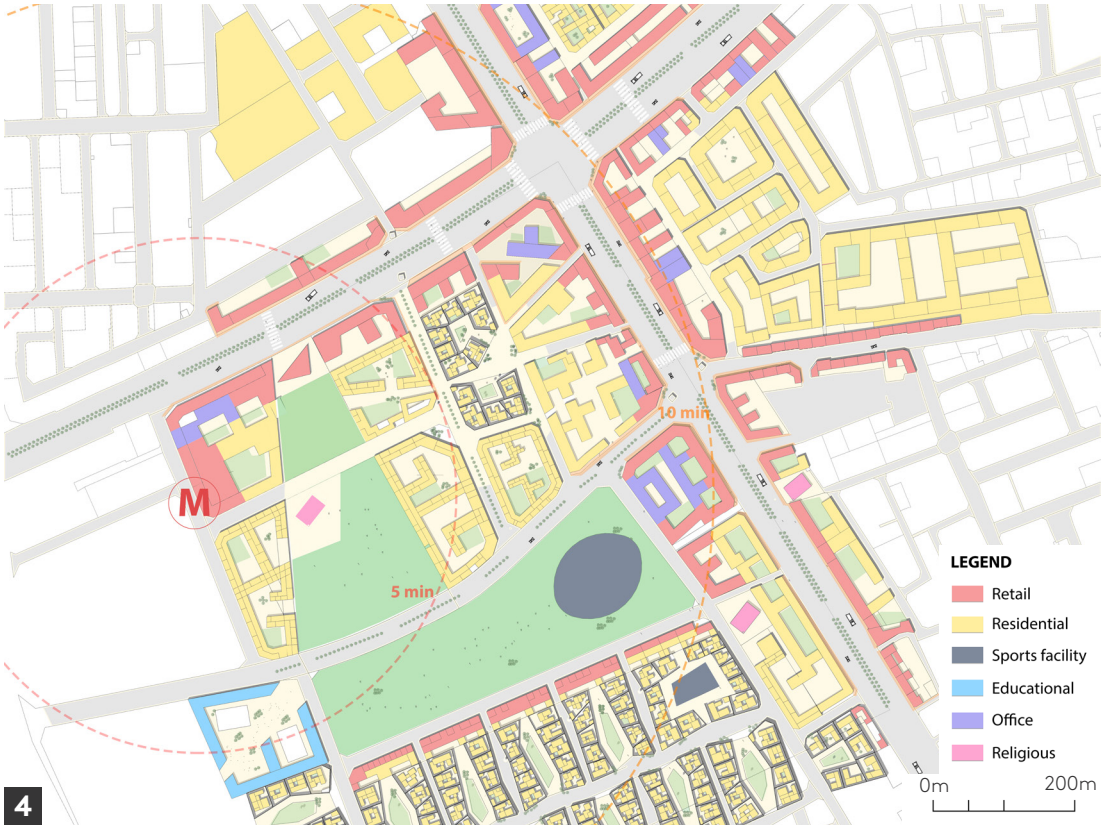

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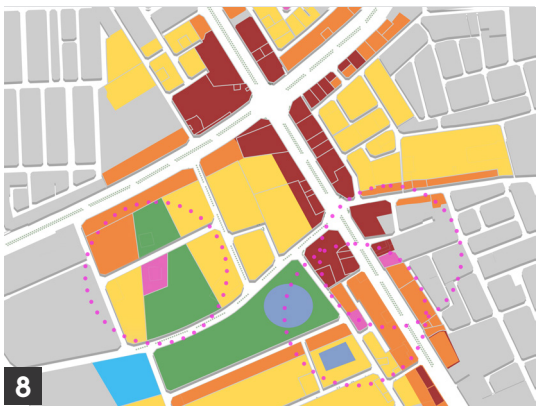
3.3 TYPICAL MID-CITY AREA

size, with a blend of apartments and houses.

- The zone should be of medium density as a minimum, but being a transition place between an urban core and a periphery there will be times when higher densities will be appropriate. The height and density should graduate down from the commercial hub towards the defined residential zones, where the public realm will need to support the community.

3.3.1.1 Roles

- A mid-city zone should contain a suitable civic space, a park or urban square, providing a focus for the community and a rich opportunity for recreational use.
- There should be a strong street network feeding into this space from the surrounding urban area, linking a network of neighborhood recreation zones.
- A strong identity should be created for the community, through the use of existing site features, architecture, function or other means. The main civic space should be enhanced by a clearly legible hierarchy of community uses.



Scale 0m 200m

5. *Plan showing typical street hierarchy and network of mid-city area in Qatar*
6. *Plan illustrating typical balance of public right of way and private plots in mid-city areas*
7. *The potential mix of private and public spaces that can be found in a typical mid-city area*
8. *Mix of uses typical of a mid-city area*

- Metro line
- Metro station
- 5-min walking distance from metro
- 10-min walking distance from metro
- Primary route
- Secondary route
- Tertiary route
- Public open space
- Semi-private open space
- Roof gardens
- Offices with retail frontage
- Residential with retail frontage
- Residential
- Mosque
- Educational
- Sports facility
- 250m from mosque
- Arcade
- Ground-floor retail
- Ground-floor residential
- Ground-floor office

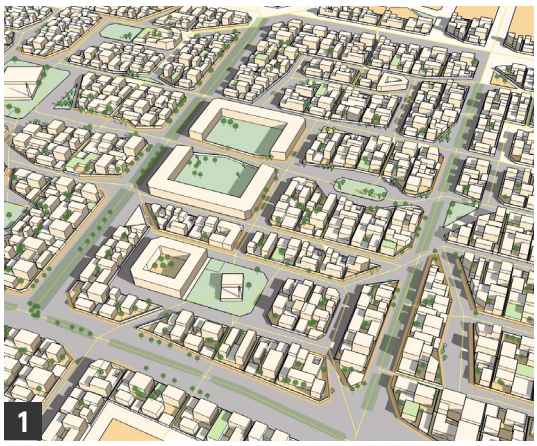
Guidance links

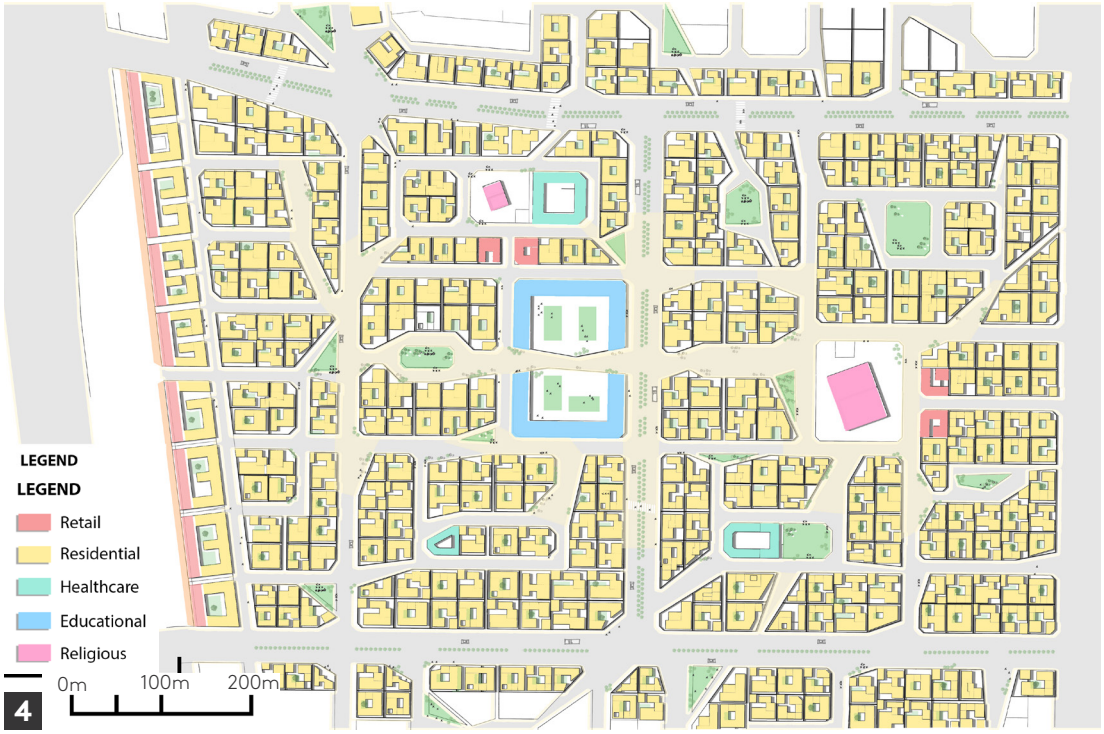
C6.2.10 Urban place typologies

3.4 TYPICAL SUBURBAN AREA

3.4.1 Key attributes

- A suburban neighborhood will be predominantly residential in its land use.
- It could be low-density, with a predominance of houses, or medium-density, with apartments and generous open space. Crucially, a suburban neighborhood should not be isolated; it must be connected locally with an open street network, linking distinct communities, and have no gated compounds.





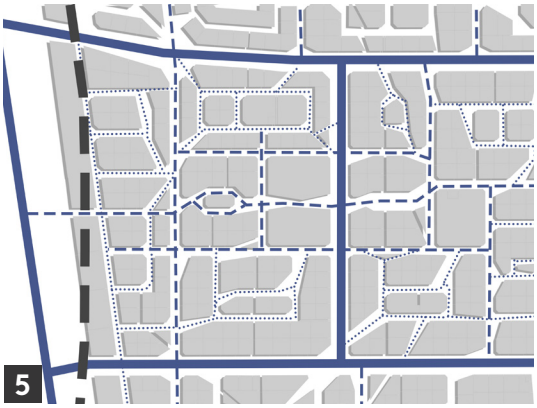
1. *Aerial perspective of development, illustrating urban blocks, good permeability and strong frontage to active streets*
2. *View across an example suburban area in the USA illustrating the dominance of villa development*
3. *Image illlustrating a mid-scale, medium density apartment-led residential area around a communal social space.*
4. *Plan of typical distribution of ground-floor uses*

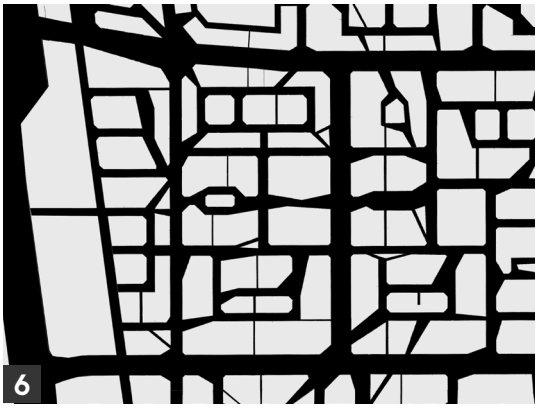
3.4 TYPICAL SUBURBAN AREA

- Although there may be employment use locally, it is likely that a large number of people in the community will travel to their place of work, so the area must have good access to a means of rapid public transport that will connect the community with other urban areas.

3.4.1.1 Roles

- There will need to be an important focus on supporting a balanced residential community, by providing a tenure mix, a variety of units reflecting the likely mix of family unit sizes, and a variety of affordable housing options.
- The public open space will need to accommodate and support sufficient play and leisure facilities for all social components of the community.
- A suburban neighborhood is likely to accommodate a number of neighborhoods, and these should have some distinguishing character, provided through the architecture, landscape or other features.
- It is especially important to incorporate sufficient community space, ideally clustered around other convenience facilities such as small-scale retail and leisure.





Metro line
Primary route
Secondary route
Tertiary route
Public open space
Semi-private open space
Roof gardens
Offices with retail frontage
Residential
Mosque
Educational
Healthcare
250m from mosque
Arcade
Ground-floor retail
Ground-floor residential

Scale 0m 200m

5. *Plan showing typical street hierarchy and network of mid-city area in Qatar*

6. *Plan illustrating typical balance of public right of way and private plots in mid-city areas*

7. *The potential mix of private and public spaces that can be found in a typical mid-city area*

8. *Mix of uses typical of mid-city area*

Guidance links

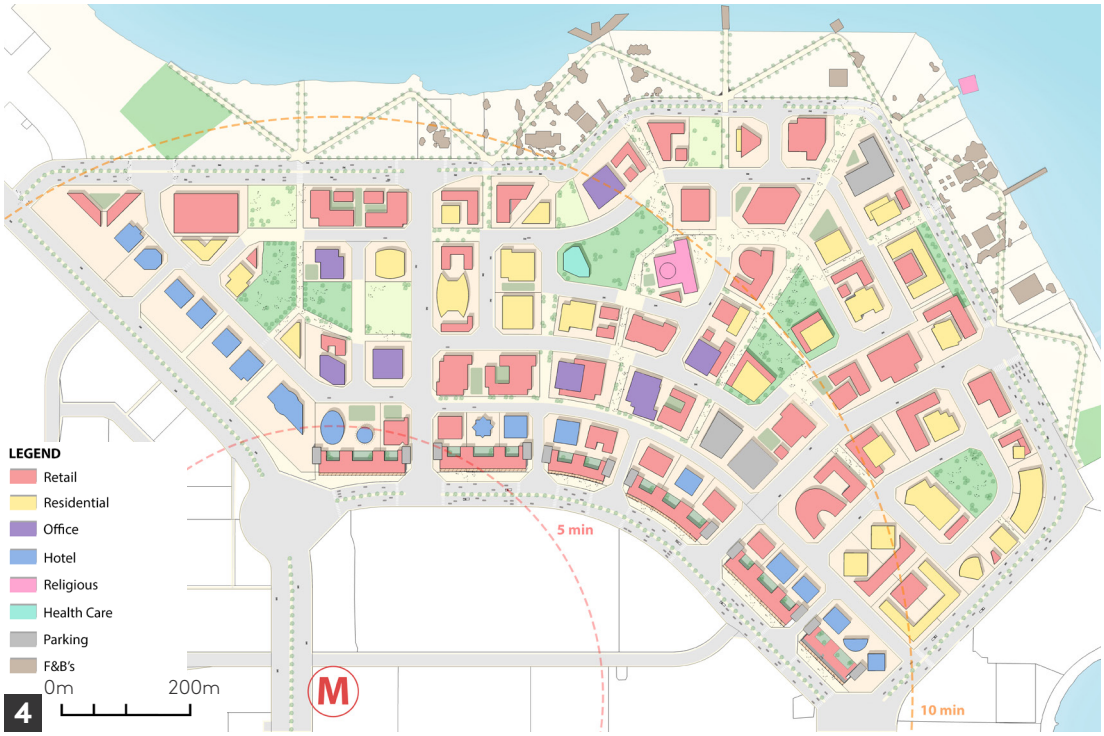
C6.2.10 Urban place typologies

3.5 TYPICAL CENTRAL BUSINESS DISTRICT (CBD)

1. *Aerial perspective of development, illustrating urban blocks, good permeability and frontage to active streets*
2. *Typical central business district in Bejing*
3. *Typical central business district in Midtown Manhattan, New York City*
4. *Plan of typical distribution of ground-floor uses*

3.5.1 Key attributes

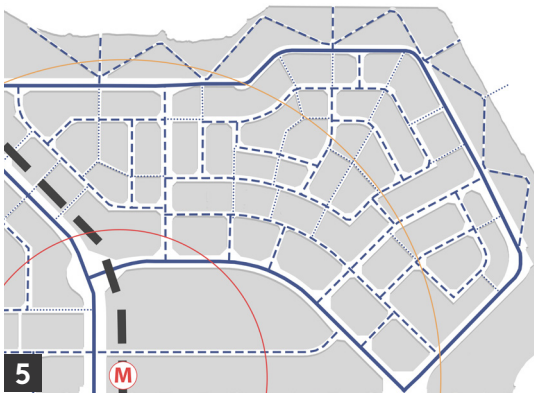
- A CBD is an area that is zoned to be an attractive place for investment and business expansion in a city.
- It may include development incentives such as swift planning processes or financial incentives including preferential rates, and will need a high digital infrastructure capacity.
- It will certainly be an area where there is scope for the delivery of a large volume of commercial floor plate in a high-density zone. This can mean the area will promote tall buildings, although this should not be a defining factor, as there are certainly plenty of high-density CBDs without tall buildings where they would be inappropriate.

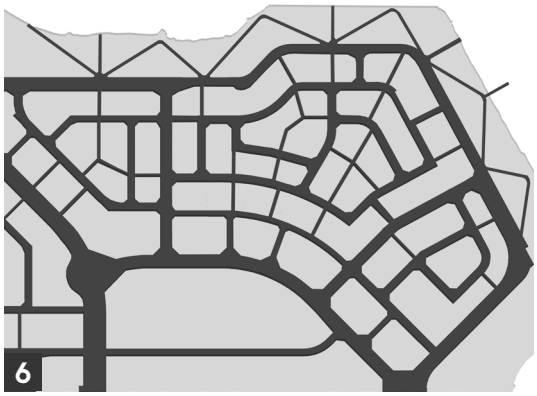


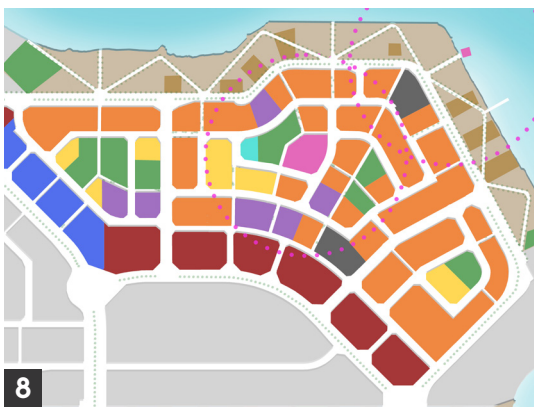
3.5 TYPICAL CENTRAL BUSINESS DISTRICT (CBD)

- The area must be supported by excellent access to a network of public transport nodes, provding rapid connection to multiple other areas.
- There should be a strong focus on creating a pleasant, connected public realm that will allow people to meet, network and socialize. Tall buildings should either touch the ground via a podium or should be interspersed with some lower-rise buildings that create public realm definition and network of streets and spaces.
- Public spaces should be edged with active frontages and integrate with a street network that forms a connected pedestrian movement network.
- An ordering of the massing and street network should be created to form distinctive townscape views, distant silhouettes and street-level views.
- The area should ideally not be mono-use commercial floor plate, but include use classes that will create urban activity for longer and can add to the architectural diversity of the place. Suitable uses include hotels, certain residential tenures and retail hubs.

Metro line
Metro station
5-min walking distance from metro
10-min walking distance from metro
Primary route
Secondary route
Tertiary route
Public open space
Semi-private open space
Roof gardens
Offices with retail frontage
Residential with retail frontage
Residential
Mosque
Hotel
Healthcare
Parking
Food and beverage (F&B)
250m from mosque
Arcade
Ground-floor retail
Ground-floor residential
Ground-floor office







Scale 0m 200m

5. *Plan showing typical street hierarchy and network of typical central business district area in Qatar*
6. *Plan illustrating typical balance of public right of way and private plots in central business district areas*
7. *The potential mix of private and public spaces that can be found in a typical central business district*
8. *Mix of uses typical of a central business district*

Guidance links

C6.2.10 Urban place typologies

3.6 TYPICAL HERITAGE AREA

3.6.1 Key attributes

- A Typical Old Precinct is an area where the heritage morphology and/or traditional buildings are still in evidence.
- They can be in old downtown areas, scattered throughout other parts of the city or situated in rural settlements.
- A careful, in-depth analysis of the historic fabric should be completed to establish what can be preserved.
- A compact morphology is typical,

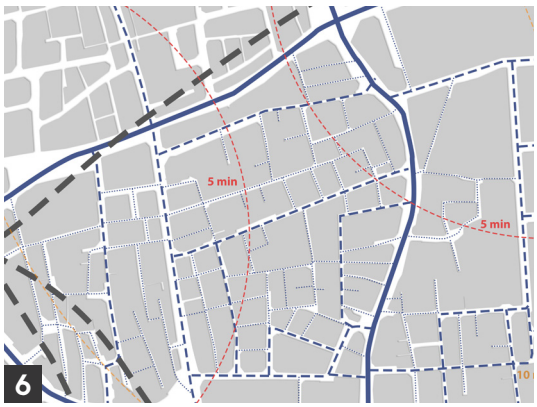
1. *Aerial perspective of development, illustrating small urban blocks in a grid pattern, with good permeability and strong frontage to active streets*
2. *Masterplan for Msheireb in Doha alongside*
3. *the Museumsinsel in Berlin*
4. *Image illustrating the importance of scale, form and color when developing around a heritage asset*
5. *Plan of typical distribution of ground- floor uses*

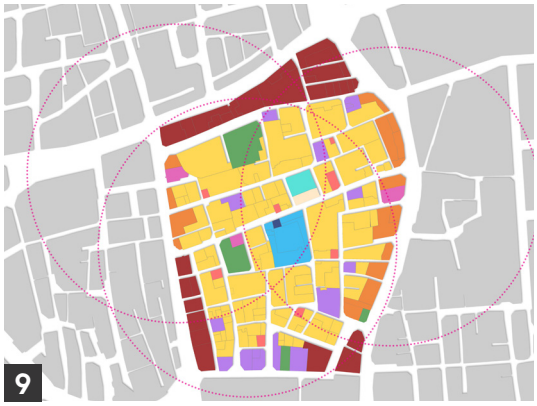
3.6 TYPICAL HERITAGE AREA

created by a tight agglomeration of houses and sometime larger quarters.

- A organic structure is resultant of an incremental (not planned) growth, typical of historic Islamic or Gulf cities.
- A layout that developed in response to the specific requirements of Islamic life and regional, social traditions. Especially those surrounding community and family life.
- Urban patterns that are characterized by narrow streets (3-6 m wide), intricate networks of alleyways (sikkak, 60 cm -2.5m wide) and frequent shared open spaces.
- A unique townscape characterized by one to two storey buildings, predominantly inward looking open-courtyard typologies.
- Walkable environments, with variable vistas created by the winding streets.
- Where infill is appropriate, the scale of new buildings should be carefully tested in relation to the heritage assets, seeking to harmoniously relate to them in scale, use and appearance.
- At times, heritage buildings will be in poor condition, where reuse is not possible. In such cases, adaptive reuse can be used, whereby part of the buildings are integrated and combined with new developments.

- Metro line
- 10-min walking distance from metro
- Primary route
- Secondary route
- Tertiary route
- Public open space
- Semi-private open space
- Roof gardens
- Offices with retail frontage
- Residential with retail frontage
- Residential
- Mosque
- Parking
- Heritage
- 250m from mosque
- Arcade
- Ground-floor retail
- Ground-floor residential





Scale 0m 200m

6. *Plan showing typical street hierarchy and highly connected street network typical of heritage areas. Note number of sikkak*
7. *Plan illustrating the typical balance of public right of way and private plots in a heritage area*
8. *The potential mix of private and public spaces that can be found in a heritage area. Note the importance of sikkak in providing safe public realm for residents*
9. *Mix of uses typical of a heritage area, noting the high number of small commercial units at ground-floor level*

Guidance links

C6.2.10 Urban place typologies

3.7 TYPICAL RURAL AREA

3.7.1 Key attributes

- A typical rural area will usually be built upon an existing settlement.
- This settlement should establish the urban structure, including a building morphology and street patterns that should be respected and elaborated on in any expansion.
- There should be a clear street hierarchy that leads and connects with a central community civic space, which will be an important place of social interaction.

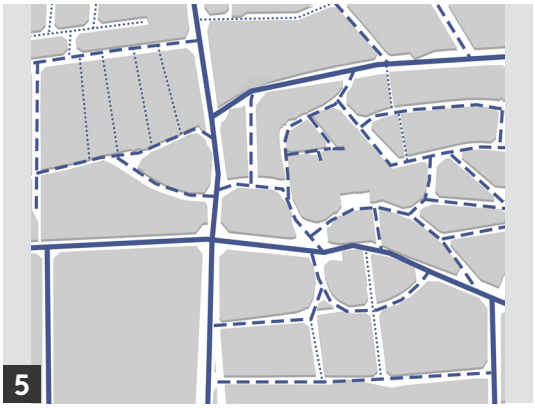
1. *Aerial perspective of development, illustrating organic shape of different-sized blocks, with low-rise, low-density development*
2. *Most rural communities are located close to a farm. These can provide a green backdrop for new rural development*
3. *A rawdah in Umm Salal Mohammed provides a constraint and an opportunity for new rural housing in Qatar*
4. *Plan of typical distribution of ground-floor uses*

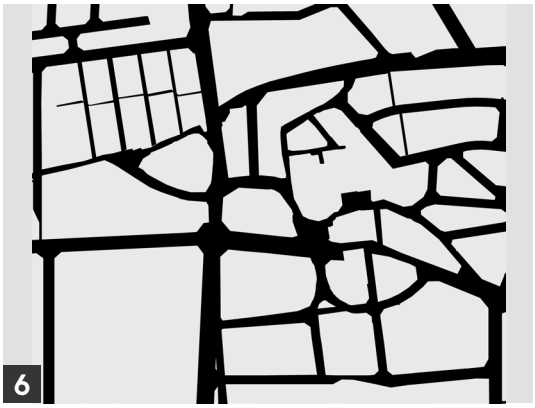
3.7 TYPICAL RURAL AREA

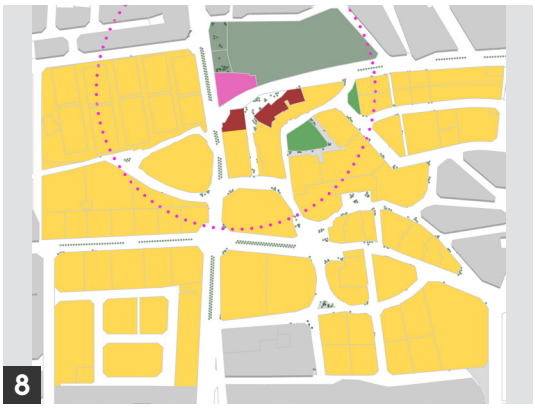
- Ideally, depending on the size of the settlement, there will be a community centre and some convenience retail congregated around the civic space.

3.7.1.1 Specific characteristics for Qatari context

Qatari rural architecture exhibits a clear historic link to desert camps, with clustering of buildings in a family settlement. These have frequently developed to include walled-in courtyard houses. The walls help form a useful shelter from the harsh climate and natural context. This existing heritage architecture should be protected and used as a guide for modern development. Clustering of walled, courtyard housing in an organic form can create pleasant enclosure for streets, which should have some natural overlooking provided via semi-transparent structures or carefully placed openings.







Primary route
Secondary route
Tertiary route
Public open space
Private/semi-private open space
Roof gardens
Offices with retail frontage
Multi-family residential
Residential
Mosque
Farm and farmhouse
250m from mosque
Ground-floor retail
Ground-floor residential

Scale 0m 200m

5. *Plan showing typical street hierarchy and network of a typical rural area, where permeability is mixed but still walkable*

6. *Plan illustrating typical balance of public right of way and private plots in a rural setting, noting the variety in block size and shape*

7. *The potential mix of private and public spaces that can be found in a typical rural area, with an increase in the amount of private or semi-private space*

8. *Mix of uses typical in a rural context. Note the dominance of residential as the result of lower density*

Guidance links

C6.2.10 Urban place typologies

4 EXEMPLARY CASE STUDIES

4.1 INTRODUCTION

1. *The Souq Waqif area with Msheireb adjacent is an example of urban regeneration and the coexistence of old and new – a current topic and a high priority for the urban development of Doha. Many of the case studies shown in the following pages deal with the design and process of urban renewal*

4.1.1 Purpose

The following exemplary case studies have been provided to give inspiration to designers and planning officers. They represent a small sample of best practice in planning and design from around the world. The majority are based on major regeneration projects where the historic use or built form had failed to adapt organically to changing natural, economic or social circumstances. The case studies have been selected to represent how the issues of each urban design area in Section C of Volume 1 have been addressed.

C1: The fundamentals - step by step

- De Citadel, Almere, Netherlands.
- Ostend, Frankfurt am Main, Germany.

C2: Sustainable urbanism

- Msheireb, Doha, Qatar.

C3: Movement and transport

- HafenCity, Hamburg, Germany.

C4: Spatial structure and urban form

- Olympic Village, Barcelona, Spain.
- Frankfurt am Main, Germany.

C5: Land use and density

- King's Cross, London, UK.

C6: Built form and architecture

- Oostelijk Havengebied, Amsterdam, Netherlands.
- False Creek North, Vancouver, Canada.

C7: Landscape urbanism

- Stratford, London, UK.

4.1.2 Application

The case studies can only provide an introduction to the places they cover. They have been provided to inspire and act as a springboard to further research and a deeper understanding.

Designers and planning officers are encouraged to analyze these places and the process behind their transformation in more detail. This can be done through further reading and, if possible, visiting the places to gain a more in-depth understanding of them. This will give designers the opportunity to see how people live and work in these places, how the public spaces work, how traffic and parking are managed, and how accessible they are.

1

4.2 C1: THE FUNDAMENTALS – STEP BY STEP

1. *Almere in 1973: first road infrastructure connection to Amsterdam*
2. *Almere in 1980: Almere poort*
3. *Almere in 2010: newly formed town with proper town center, residential areas and industrial area*
4. *Almere: future expansion in 2030*

4.2.1 De Citadel, Almere, Netherlands

This project demonstrates how an initially suburban development has evolved to include a strong town centre (De Citadel), and transitioned from a single train connection suburban neighborhood to an integrated part of the Dutch Randstad.

It is a socially oriented development that offered residents more space (in contrast to Amsterdam) and the ability to customize house designs to suit their needs, and even the opportunity for self-build, with a mix of plot sizes including rural plots.

4.2.1.1 About the project

The city of Almere in the Netherlands provides a range of case studies, from planning and design through to how land and property is developed for the benefit of residents. Almere is one of the fastest-growing cities in Europe and has been developed on land reclaimed from the sea.

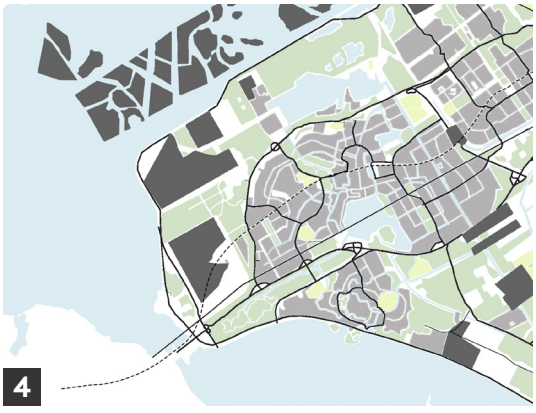
4.2.1.2 Highlights of the project

The city was formed in 1976 as a suburban alternative to the dense urban form of Amsterdam. The development is based on a number of key principles, known as the 'Almere principles', which were defined in collaboration with international sustainability expert William McDonough.

1. Almere principles

Socially oriented development initiatives have formed part of Almere's DNA. Almere Poort is a project where individuals can purchase individual plots from the local authority and customize an architect-designed home to suit their needs, as long as they do so within the confines of the design guidelines.

Future housing will in part consist of self-build housing in the Oosterwold expansion area. Residents are free to develop the rural plots based on their needs, as long as they meet the rules on construction, irrigation, and use of the land for agricultural purposes.



4.2 C1: THE FUNDAMENTALS - STEP BY STEP

5. *Almere town center and its proximity to the railway station*

6. *The town center, with a number of essential facilities, such as a cultural nucleus (museum, library and theatre) and large-scale retail facilities. Building shapes form the pedestrian routes*

7. *Public space and built volumes diagrams*

8. *De Citadel, forming the new heart of the town*

4.2 C1: THE FUNDAMENTALS - STEP BY STEP

4.2.2 Ostend, Frankfurt am Main, Germany

This project demonstrates the retention of an existing community rather than gentrifying and pushing out residents. It has a broad social mix and commercial property to create economic opportunities for the neighborhood. Focus is on:

- Rehabilitation of housing stock.
- Community building.
- Promotion of infilll development.
- Enhancing streetscape and public realm.

4.2.2.1 About the project

The process of regeneration and rehabilitation of the southern district of Ostend began in 1984, with the application to include the area in the urban development program. The project lasted for 31 years and expanded to an area of 21 hectares by 2006. The boundary of the project changed in response to evolving circumstances, with notable additions including the Großmarkthalle (Wholesale Market Hall) and the incorporation of the Ruhrorter Shipyard. The powers to implement the project were enhanced in 1987 with the statute for a regeneration area which gave the city the powers of acquisition.

4.2.2.2 Highlights of the project

1. Challenges

The issues and challenges were different across the neighborhood. In the northern part – that closest to the CBD – the focus was more on streetscape and public realm enhancements, while the southern areas were much more challenging and required greater public intervention.

2. Interventions

Critical physical interventions included the rehabilitation of the existing housing stock, coupled with the infilling of gaps to create complete blocks. The rehabilitation strategy led to a balance between old and new, gave the blocks a stronger street frontage, and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9. *Enhanced public realm has been a cornerstone in the regeneration of Ostend*

10. *New infill development sits alongside older*
11. *stock that has been rehabilitated*

4.2 C1: THE FUNDAMENTALS - STEP BY STEP

made the internal courtyards much more pleasant spaces, as noise and air pollution were reduced.

3. Results

Achieving a broad social mix was a fundamental principle for the city, which was determined to make the place work for the existing residents.

Before the project, urban form was heterogeneous. Scale and height were important design considerations, with most new development being five storey, matching much of the rehabilitated housing stock.

There was also a strong emphasis on enhancing the streetscape. Interventions included restructuring of the road network, greening via tree planting, and changes to the streets to make them safe for all road users, particularly pedestrians and cyclists.


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12. *New uses, such as hotels, have been introduced*

13. *Overlooked public space*

14. *Aerial view of Ostend neighborhood. New apartment housing overlooking the river, with the new European Central Bank headquarters building in the background*


14

4.3 C2: SUSTAINABLE URBANISM

1. *Historic picture of the context*
2. *Creating a microclimate*
3. *Merging heritage with contemporary building scales*

4.3.1 Msheireb, Doha, Qatar

This project demonstrates how working with dense layout and shaded public spaces has created a model of sustainable urbanism for the region – as has the integration of historic and new buildings in an adaptive reuse exemplar. Focus is on:

- A Qatari example of excellence.
- The mixed-use city center environment.
- A heritage-informed development.
- A climate-responsive design.

4.3.1.1 About the project

The site is on a 35-hectare area of land next to Souq Waqif, and behind the Amiri Diwan Palace in the center of the city. The project was inspired by the Qatar National Vision 2030 – a plan advocating a balancing of the need for progress with a deep harmony with the country's cultural heritage. Its street patterns and architecture are generated from the language of Qatari traditional buildings, to create a Qatari contemporary vernacular.

4.3.1.2 Highlights of the project

1. Setting out a vision

A starting point for the development was that it should be a compact, true mixed-used neighborhood – a place overflowing with life. The result is a progressive, Qatari-sensitive masterplan of regional significance. It is a place that blends the global with the local, mixing international best-practice urban development with a deep appreciation of and sensitivity towards Qatari heritage and culture.

2. Visio-guided masterplan

The masterplan, prepared by a team including Arup, Aecom, and Allies and Morrison architects, used historic site features, including an old wadi and street pattern to establish the primary ordering structure, over which was meshed a contemporary urban grid. Critically, an adaptive reuse principle was adopted, with several historic buildings being retained and reused.


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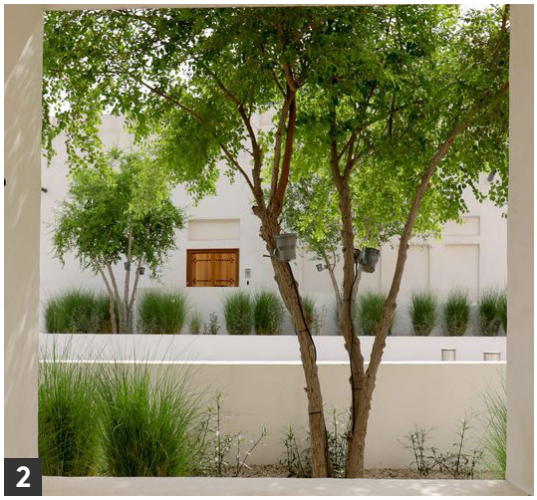
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4.3 C2: SUSTAINABLE URBANISM

It has been designed to promote walking, and wind modelling was completed to capture cooling breezes, while cutting-edge sustainable measures and various climate-responsive measures have been built into the fabric.

3. Public realm

The public realm was also inspired by the patterns of the Doha fareej and their active public spaces. A large basement superstructure under the whole site allows for cars to be largely removed from the public realm, enabling a tightening of the streets and a focus on the pedestrian at ground level. Activation of the public realm is further supported by environmental measures – shading of public routes, landscaping, and detailed computational fluid dynamics (CFD) modeling to create wind flows through the streets.

4. *Courtyard within the residential quarter*

5. *Shaded public spaces*

6. *Aerial view of development model*

7.

4.4 C3: MOVEMENT AND TRANSPORT

1. *Historic picture of Hamburg harbor*
2. *A conceptual sketch for HafenCity development: transport connections with context through bridges, and architectural relationships between buildings*
3. *Aerial view of all masterplan model*

4.4.1 HafenCity, Hamburg, Germany

This project demonstrates high permeability and connectivity as key masterplan principles. The urban grain has been achieved, in a dense new development, with excellent connectivity within and between neighborhoods, despite site constraints and multiple connections back to the mainland.


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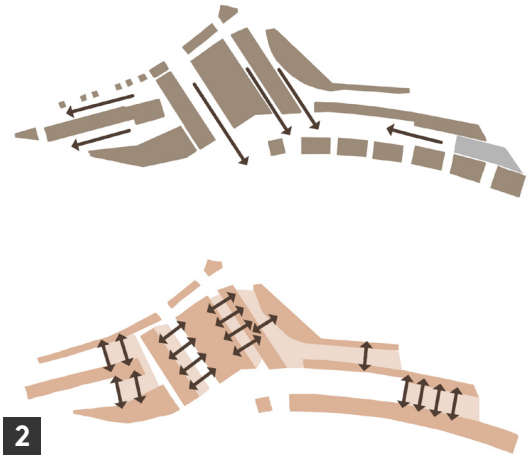
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4.4.1.1 About the project

The 165-hectare site is a new mixed-use docklands development in the former port area of Hamburg, Germany. It consists of a number of fingers of land reaching out into the river Elbe on the eastern edge of the city. The project, selected via a competition, was masterplanned by the Dutch firm KCAP and its German partner ASTOC in 2000. Recognizing that such large projects need flexibility to evolve with changing market conditions, a specific redevelopment company was established, and the masterplan created a set of rules and principles that could guide the detailed designs but allow them to respond to changing conditions.

4.4.1.2 Highlights of the project

1. Mixed use

The project's ambition is to create a lively metropolitan waterfront district. It follows a principle of full mix of uses across the site, creating a number of urban communities


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4.4 C3: MOVEMENT AND TRANSPORT

that function 24 hours a day. There is a strong desire not to create mono-use zones.

2. Character areas

Helping to subdivide the site and create communities, eight character areas have been established, each assigned with distinct qualities and restrictions, with a number integrating existing historic buildings. Layered over the character zones is a movement structure that retains the old port footprint but introduces a permeable street pattern and adds visually defining arts venues at key points.

3. Design process

As market and development programs demand, parcels of land are brought forward, with teams procured through competitions, as is frequent in Germany. Enough freedom is allowed for individual plot designers to create place diversity.

HafenCity is still in the process of being developed, but it is becoming recognized as an important model for mixed-use urban regeneration at the start of the 21st century. It can be seen as a larger evolution of Oostelijk Havengebied in Amsterdam (see separate case study - 4.7.1).

4. *Urban parks and plazas attract the public*

5. *Building typologies match local architecture and materials*

6. *Mixed-use development, retaining the historic character of the harbor and forming a strong relationship to the water.*

4.5 C4: SPATIAL STRUCTURE AND URBAN FORM

1, 2. *Athletes accomodation reused as private housing after the Olympic Games*

3 *New beachfront for the city, created beside the Olympic village, showing gateway towers.*

4.5.1 Olympic Village, Barcelona, Spain

This project demonstrates how the block structure created for the Olympic Village respects the urban morphology of Barcelona, with building height and density respecting surrounding developments. The connections back to the city, to the sea and to the Botanic Gardens in this former industrial location are exemplary, as is the manner in which the seafront has been transformed from a former littoral highway. Focus is on:

- Sports regeneration.
- Regeneration of former industrial land.
- Respecting the strong urban form of city.
- Reconnecting to the coast.

4.5.1.1 About the project

The Barcelona Olympics Games in 1992 became a model example of how to use a sports legacy to boost urban regeneration and utilize the Games as a catalyst to stimulate infrastructure renewal. The sites selected were spread across the city, developing different areas rather than creating a sports campus in one part of the city alone.

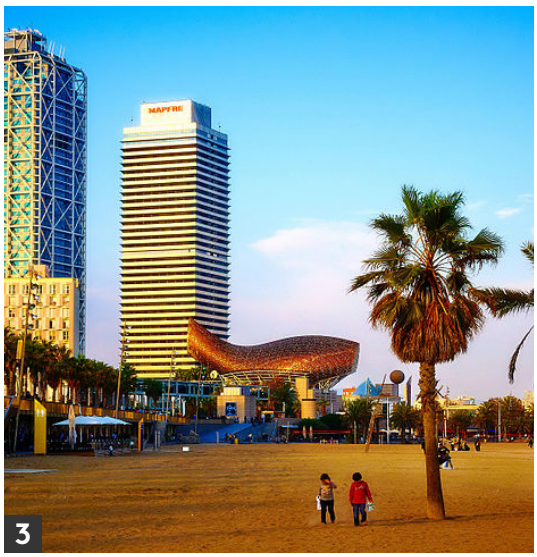
4.5.1.2 Highlights of the project

1. Legacy planning

In particular, the development of the Olympic Village at Nova Icària, master-planned by Martorell Bohigas Mackay, has become a model for sports legacy planning. This was created as a long-term housing area. By locating the village on the seafront in a former industrial area, the city was able to reclaim a beachfront area that is now a significant asset and boost for the city's leisure industry.

2. Connections

Major infrastructural moves, including the burying and decking over of a coastal highway, enabled the city to connect to the sea. Pre-existing seaside restaurants, previously isolated, became a major

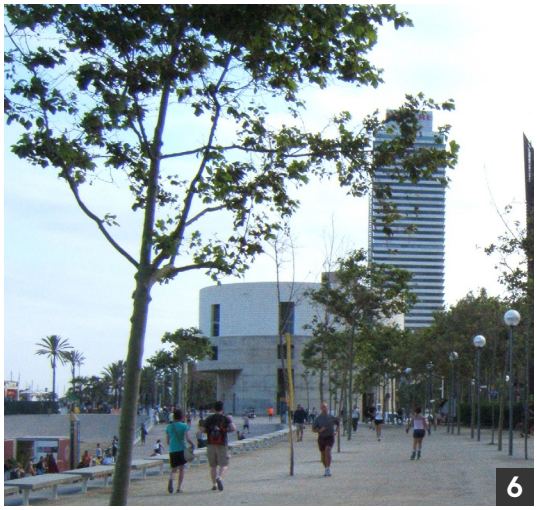


4.5 C4: SPATIAL STRUCTURE AND URBAN FORM

destination, supported and reinforced by the addition of some commercial and hotel uses.

3. Housing design brief

With athletes only occupying the apartments for the Games themselves, it was important to avoid a dormitory feel. This was cleverly avoided with a well-defined design brief for housing areas, with a mixture of family houses and varying apartment sizes to create a long-term community mix, supported by social and physical infrastructure. Equally successfully, the place's character was developed to the highest quality, with a large variety of architects and designs creating a distinctive environment.



4. *Olympic Village between the Cerdà blocks and the new promenade*
5. *Mix of housing typologies – linear blocks, perimeter blocks, standalone towers, or utilizing the interior of the block, along with the new beachfront park.*
6. *New beachfront walk and park.*
7. *New park, showing the bridge that spans over the coast road and leads to the beach from the residential areas inland.*

4.5 C4: SPATIAL STRUCTURE AND URBAN FORM

8. *Frankfurt tram on a dedicated green route*

9. *Historic core of Frankfurt*

10. *City park in Frankfurt, looking towards CBD*

4.5.2 Frankfurt am Main, Germany

This project demonstrates a clear hierarchy of centers across the conurbation, including a clear density profile and building typology response to each location.

4.5.2.1 About the project

Frankfurt is a city of nearly 750,000 people, situated within an urban conurbation of around 2.3 million, therefore similar in population to Doha. The city is consistently ranked highly in liveable city rankings (listed as the seventh most liveable city in the 2018 Mercer Quality of Living Survey).

4.5.2.2 Highlights of the project

1. Spatial structure

The city benefits from a comprehensive and integrated public transport system that utilizes most forms of mass transit including train, tram and bus. It is one of the most affluent conurbations in Europe, yet public transport use is high.

It is a compact city, with integrated open space networks (waterways, embankments, inner city green belt that used to be fortified canals, and neighborhood parks). It is also home to Germany's largest city park. Frankfurt has led on many initiatives to support sustainable lifestyles, through its provision for walking, cycling, green public transit and a public park network.

2. Centers

The city has a clear hierarchy of centers connected by public transport. The lower-order centers provide a range of commercial, civic and leisure facilities for the suburban neighborhoods, while the larger-order centers provide national and continental institutions such as the Frankfurt Stock Exchange and the European Central Bank.

3. Density

The morphology of the city displays a clear order of density and building typology according to context, from downtown to urban and suburban.

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4.5 C4: SPATIAL STRUCTURE AND URBAN FORM

The city has many cultural facilities and activities, including world-class events and exhibitions, such as the book fair (Buchmesse) and consumer goods trade fair (Ambiente).

4. Diversity

The city is one of the most diverse in Europe, with more than half of residents having a parent born outside Germany. There are strong academic institutions with good integration and synergy (such as in industrial research) with the surrounding areas throughout the Rhein-Main Metropolitan Region.

11. *Aerial context view of Frankfurt am Main, a conurbation of 2.3 million*

12. *Aerial view of the historic core of Frankfurt, the Altstadt district, with a ring of open spaces around the old city walls*

4.6 C5: LAND USE AND DENSITY

1. *Granary Square*
2. *Coal Drops Yard*
3. *Pancras Square*

4.6.1 King's Cross, London, UK

This project demonstrates how to achieve the right density through forms rather than extreme heights. Focus is on:

- Regeneration of former industrial land.
- Mixed-use city center environment.
- Heritage-informed development.

4.6.1.1 About the project

This mixed-use, 35-hectare development in London, with residential, commercial and educational use all integrated, has been a catalyst for the redevelopment of the former industrial land. It shows a stong arrangement of commercial close to two train stations, and transitions to a more mixed-use site further away from the rail hubs.

4.6.1.2 Highlights of the project

Heritage is central to the King's Cross vision, and the numerous listed buildings, all within a conservation area, were both constraints and opportunities in the development of a regeneration framework.

The masterplan became the UK's largest planning application ever – comprising thousands of documents, both technical and aspirational. It included 'parameter plans' setting absolute fixes of plot allocation, land use, height and density. The resilience of the plan for the future of the property market was a key part of its success – meaning that numerous parcels were allocated as flexible for either residential or office, so that the masterplan could respond to market forces as the project evolved.

Many pilot projects were carried out by the masterplan team, including the Great Northern Hotel and German Gymnasium, and the 'shared service yard' – a huge piece of underground infrastructure. These early projects were kick-started by the success of the London 2012 Olympics bid and, in turn, became the catalyst for tenants to choose to locate at King's Cross.


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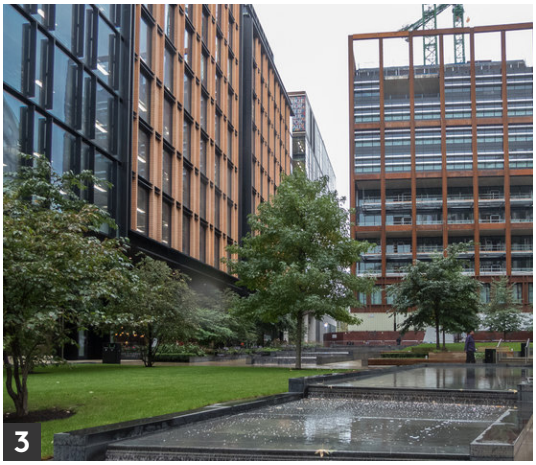
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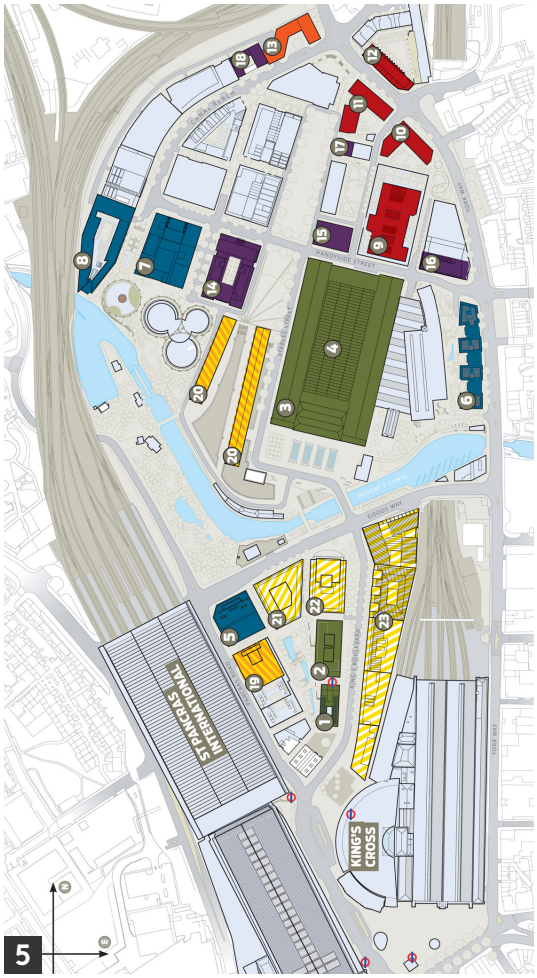
4.6 C5: LAND USE AND DENSITY



4. *King's Cross masterplan*

5. *King's Cross masterplan uses*

6. *King's Cross masterplan aerial view in context*

4.7 C6: BUILT FORM AND ARCHITECTURE

1. *Aerial historic photo of the Eastern Docklands in 1987*
2. *Small-scale housing blocks interspersed with larger apartement blocks*
3. *Borneo-Sporenburg – each house has the same dimensions but was designed by a different architect, resulting in a variety of looks*
4. *Java Island – four- to eight-storey housing blocks, showing the strong relationship to the site context*

4.7.1 Oostelijk Havengebied, Amsterdam, Netherlands

This project demonstrates a docklands regeneration, showing an elegant fragmentation of plots. Across the development, a variety of architects and coding approaches were used, giving each island a very distinct architectural character. Focus is on:

- Docklands development.
- Residential-led environment.
- Reclaimed islands, linked to the city center.

4.7.1.1 About the project

The site comprises a number of former docklands piers in Amsterdam that had been created as reclaimed land in the 19th century. The redevelopment was initiated in the 1980s and took place over the following 20 years, creating a residential-led extension to Amsterdam.

4.7.1.2 Highlights of the project

1. Distinctive character

The area is a very distinctive and successful expansion of Amsterdam. It attracted worldwide attention at the time, with the inspired decision to redevelop the islands and not fill in the land entirely for redevelopment, creating an unusual and distinctive new district.

Each island has a distinctive character. First to be developed was KNSM Island, master-planned by the practice of Jo Coenen. It consists of a series of large apartment buildings, reflecting the docklands pattern of large warehouse buildings. The neighboring Java Island, master-planned by Sjoerd Soeters, contrasted with this approach by creating a lower-rise scheme with a tighter street network and canal network. Extreme variety was allowed between neighboring individual houses or housing clusters, reflecting the variety of nearby Amsterdam's canal houses.

2. Masterplan approach

The component that has had the biggest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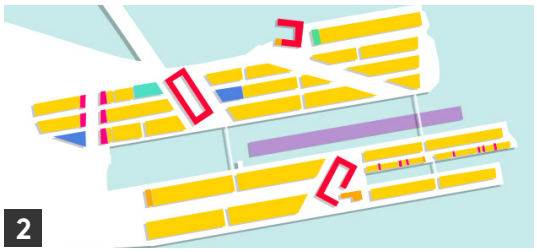
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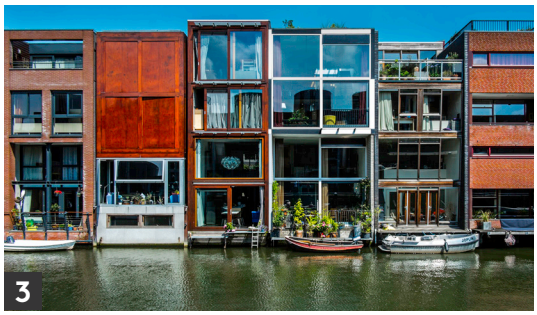
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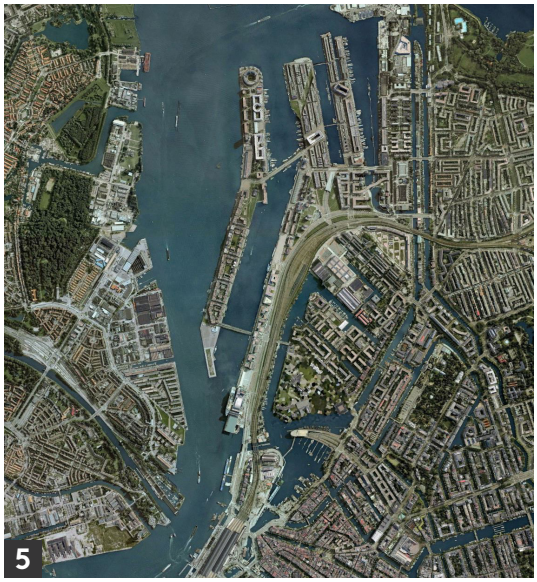
4.7 C6: BUILT FORM AND ARCHITECTURE

impact on international urbanism is the masterplan approach of Borneo-Sporenburg, master-planned by West 8. Recognizing the amenity provided by the scale of the water body surrounding the site, the proposal was to reduce the amount of public open space around the site (residents being able to appreciate the large expanse of water instead) and to create a low-rise, very dense carpet of housing at 100 units per hectare. Variety was introduced, through the fragmenting of the plots and selection of a diverse range of architects across the development. A number of larger apartment buildings are interspersed, linking to the larger scale of KNSM islands and historic docklands warehousing.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5. *Eastern Docklands plan and its proximity to Amsterdam*

6. *Aerial view of the development on the docks*

3. Movement and connectivity

Important for the success of the development was the introduction of a strong movement interconnectivity between the islands. A series of bridges were created, allowing a bicycle-friendly commuting neighborhood that is supported by a very efficient water-based public transport system linking back to Amsterdam.


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4.7 C6: BUILT FORM AND ARCHITECTURE

7. *False Creek historical photo*
8. *False Creek in 2018*
9. *Concept to connect the city with the waterfront through a network of public spaces*

4.7.2 False Creek North, Vancouver, Canada

This project demonstrates a successful tower and podium typology that is important for Qatar. The typological approach – a component of what is now known as 'Vancouverism' – placed a strong emphasis on achieving human scale at street level through the design of podium structure, while increasing density through the use of towers.

4.7.2.1 About the project

The site is an 83-hectare site on the edge of Vancouver's downtown peninsula. It represents an excellent example of how the city has been developed with density, yet has managed to create strong relationships to the natural surroundings (mountains and the ocean's edge), along with the creation of a strong public realm. This reflects very well the physical manifestation of the famous 'Vancouverism' principles – the promotion of liveability in inner-city districts.

4.7.2.2 Highlights of the project

False Creek South was developed earlier, in the mid-1970s, with a lower massing where housing districts followed the spirit of Christopher Alexander's 'pattern language'. Being tied up in development viability tussles, False Creek North developed later, enabled eventually by the Expo 1986 World's Fair. This delay meant that the North Shore development was advanced with more height and is an example of Vancouver's 'slim tower and podium' typology.

The tower-on-podium model allows for increased density while not compromising the human scale and active public realm. It has become a well-established and successful model for the city, and has been replicated around the world.

False Creek North shows how Vancouver's strong emphasis on participatory planning processes can aid development, whereby active neighborhood planning underpins megaprojects with a sophisticated design guideline process.


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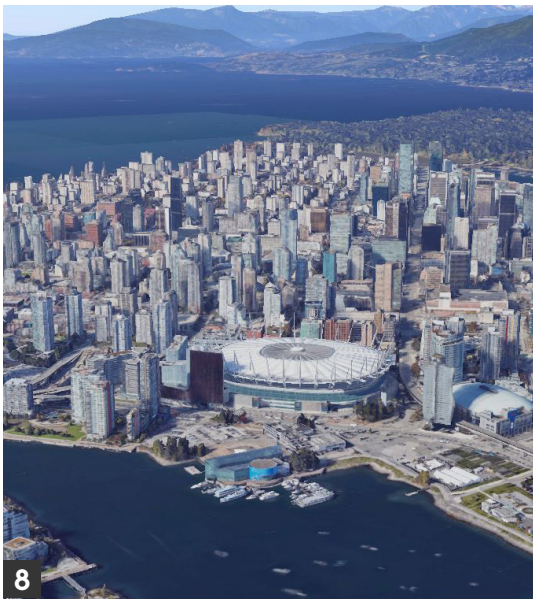
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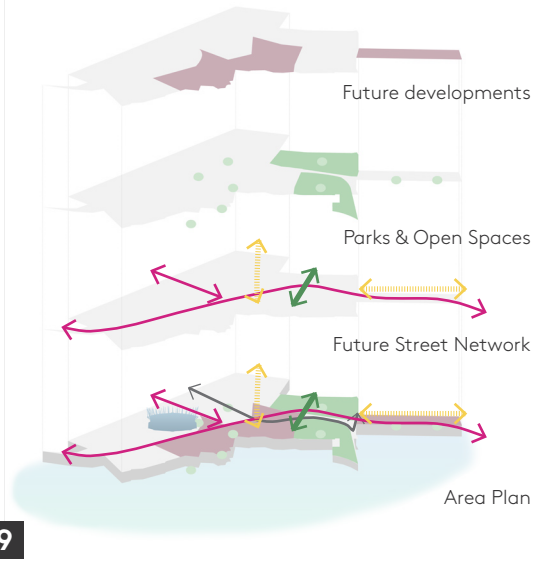

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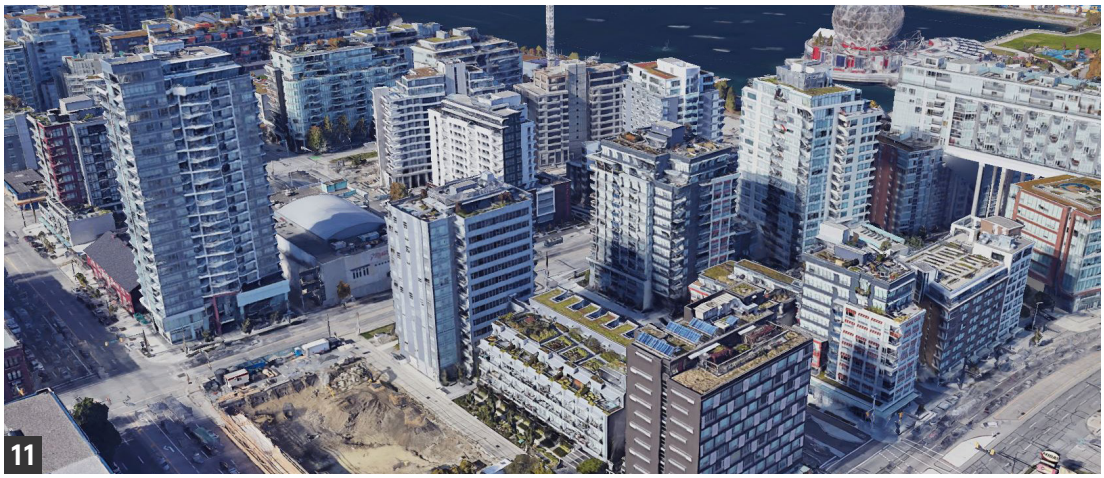
4.7 C6: BUILT FORM AND ARCHITECTURE

10. *Urban layers: city, road, parks and waterfront*

11. *Urban block typologies: residential tower and mixed use podium; residential tower and commercial ground floor; mix of different scales, heights and number of towers*



4.8 C7: LANDSCAPE URBANISM

1. *Stratford area in 2000, before the Olympic Games*
2. *Westfield shopping center at the heart of Stratford*
3. *LLDC Legacy masterplan 2030*

4.8.1 Stratford, London, UK

The project not only reclaims a lost landscape of this section of the Lee Valley, it also introduces a comprehensive park structure – the Queen Elizabeth Olympic Park – that ties together new and old communities where the industrial landscape once divided them.

4.8.1.1 About the project

The redevelopment of the lower Lee Valley was a long-term ambition for the London boroughs whose communities backed on to this industrial valley. It was a space that divided communities rather than connected them. The successful bid for the London 2012 Olympic Games was the catalyst required to undertake one of the largest land reclamation projects in London's history. The long-term redevelopment of the valley as part of the legacy of the Games was an essential factor in London being awarded the Games by the International Olympic Committee.

4.8.1.2 Highlights of the project

Based on the principles of landscape urbanism, the masterplan was based on bringing new purpose to the Lee Valley, through both new development and repurposed space as a major new London park. The athletes' village is now a residential neighborhood, a new high-speed rail station connects to central London (and then through onward Eurostar services with the European continent), and commercial developments have turned Stratford into a desirable living destination in the East End of London. The former Olympic Park is now the Queen Elizabeth Park, with the stadium hosting Premier League football and other former Olympic facilities, such as the velodrome and aquatics centre, open to the community while still being used for elite sport.

The BBC, London College of Fashion and V&A museum will form part of a major cultural mixed-use development in the East Bank neighbourhood, extending the legacy into the arts and education sectors.

4.8 C7: LANDSCAPE URBANISM

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4. *East Bank cultural development*

5. *International Quarter – commercial and residential development of various heights and typologies*

6. *East Village housing development*

7. *Queen Elizabeth Park landscape*

8. *International Quarter, East Bank and Queen Elizabeth Park*

5 STARTING TO PLAN AND DESIGN

5.1 INTRODUCTION

This section describes the process of assessment, planning and designing. Prior to site assessment, there is a project inception stage and usually a project brief. Site assessment and appreciation of context and morphology is a key process. The better the site assessment, the more likely that the final development will be robust and responsive. Some of the more formal assessment techniques have been outlined in Section 2.2. This section outlines some of the other techniques that are typically used to enhance the designer's understanding.

Following the site assessment stage, the creative process begins. This section sets out the different tools and techniques for creating concepts and vision, before going on to set out a typical process for creating an urban design framework.

5.2 USING PROJECT BRIEFS

5.2.1 Participants

Typically led by the developer or planning authority.

5.2.2 Purpose

A design brief can be a useful tool to frame the masterplan process.

- It provides the parameters for the designers and is an example of proactive planning.
- It lays out an initial set of objectives and, potentially, a vision that can be worked up in more detail during the master-planning process.
- It is typically produced by the planning authority as a means of controlling the form and type of development. A developer may have a very basic brief based on commercial viability, but in some instances a forward-thinking developer may produce a more detailed design brief outlined here.

A design brief will typically cover the following issues:

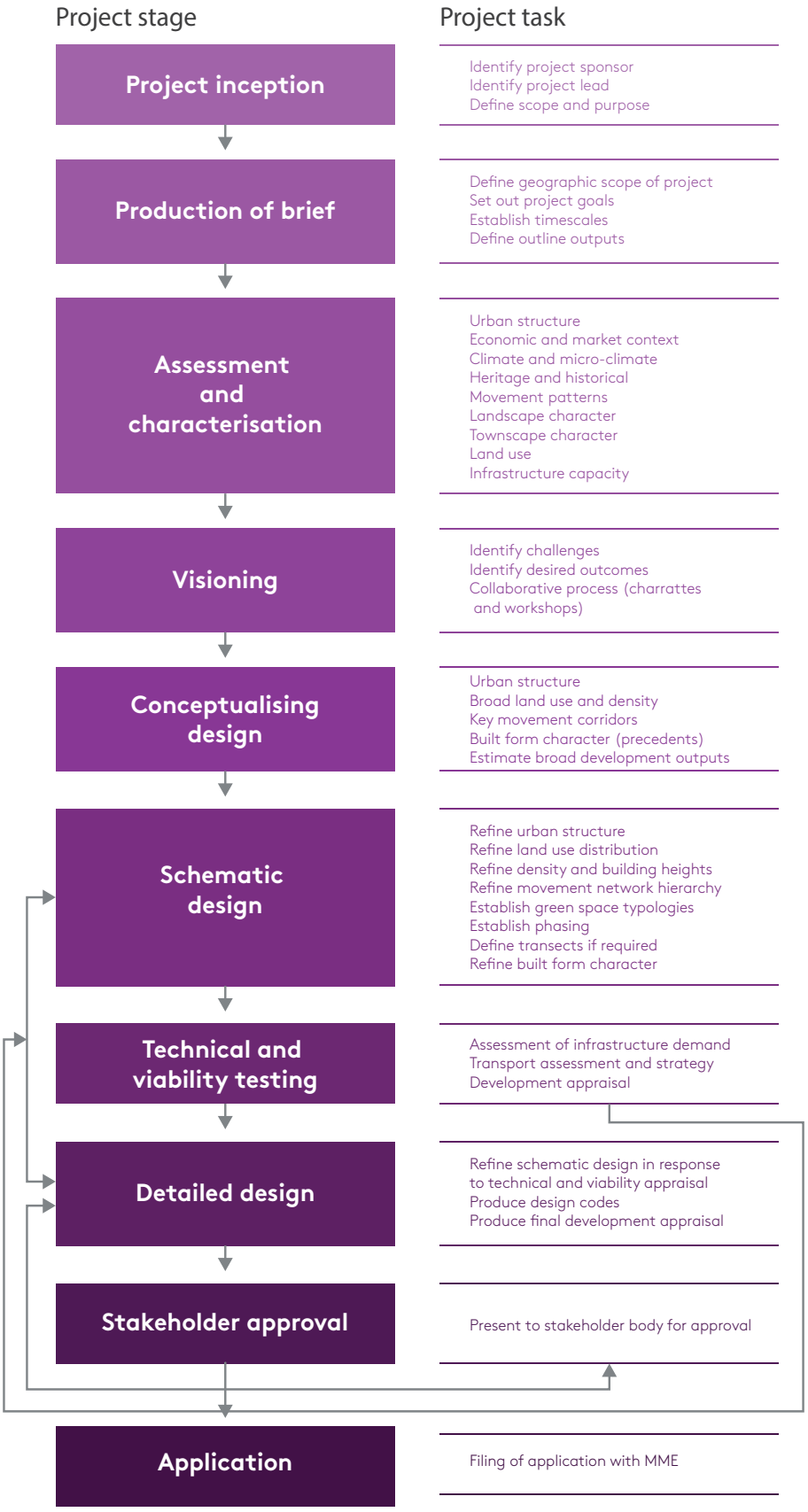
1. Introduction and context – The brief will identify the site and provide commentary on the contextual setting of the site in question. It will also provide information on the client, whether that be the site owner, the planning authority, or a combination of interested parties.

2. Planning requirements and constraints – It is likely that the broad planning policy requirements will be set out with perhaps an indicative SWOT analysis from the client's perspective.

3. Vision, aims and objectives – The brief will set out a broad set of aims and objectives and an outline vision for the site. This may be very specific in terms of mix of uses and target gross floor area (GFA), or it may be broader in its aspirations.

4. Framework plan – The brief will set out the required level of detail for the masterplan to deliver. This is often determined by the size of the site, and sometimes involves a broad framework for a larger site with more detail for the first phase.

5. Phasing and delivery – The design brief may give indications of phasing and delivery, perhaps related to the provision of third-party infrastructure such as roads, transit, utility or social infrastructure.


Project stage
Project task
Project inception
Identify project sponsor
Identify project lead
Define scope and purpose
Production of brief
Define geographic scope of project
Set out project goals
Establish timescales
Define outline outputs
Assessment and characterisation
Urban structure
Economic and market context
Climate and micro-climate
Heritage and historical
Movement patterns
Landscape character
Townscape character
Land use
Infrastructure capacity
Visioning
Identify challenges
Identify desired outcomes
Collaborative process (charrattes and workshops)
Conceptualising design
Urban structure
Broad land use and density
Key movement corridors
Built form character (precedents)
Estimate broad development outputs
Schematic design
Refine urban structure
Refine land use distribution
Refine density and building heights
Refine movement network hierarchy
Establish green space typologies
Establish phasing
Define transects if required
Refine built form character
Technical and viability testing
Assessment of infrastructure demand
Transport assessment and strategy
Development appraisal
Detailed design
Refine schematic design in response to technical and viability appraisal
Produce design codes
Produce final development appraisal
Stakeholder approval
Present to stakeholder body for approval
Application
Filing of application with MME

5.3 SITE ASSESSMENT

Assessment and characterisation

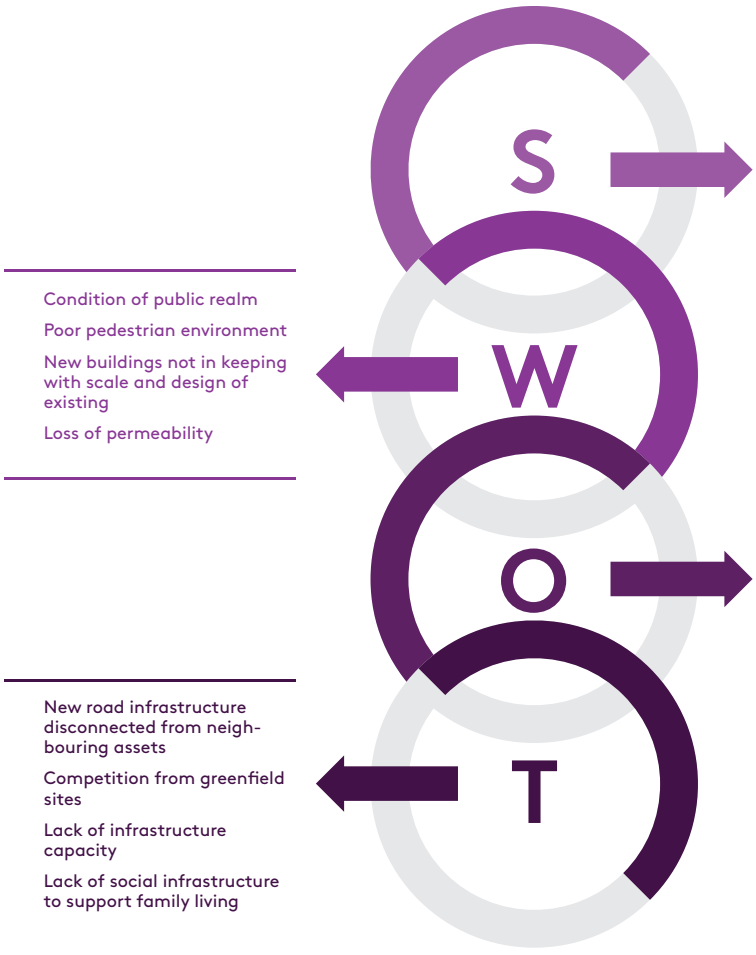
- Urban structure
- Economic and market context
- Climate and micro-climate
- Heritage and historical
- Movement patterns
- Landscape character
- Townscape character
- Land use
- Infrastructure capacity

5.3.1 Introduction

There are a number of potential techniques for undertaking a site assessment. This section outlines some of the key considerations when undertaking one, starting at the policy level, then looking at urban morphology analysis, characterization and SWOT analysis.

5.3.2 Planning and strategic context

The plan-led system provides the overall context for understanding the planning and strategic context for a site. Through an analysis of the Qatar National Development Framework (QNDF) and municpial spatial development plans (MSDPs), it will be possible to determine how the site fits into the planned urban



- Central location
- Proximity to cultural and tourist assets
- Access to coastline
- Views over the Gulf

- Condition of public realm
- Poor pedestrian environment
- New buildings not in keeping with scale and design of existing
- Loss of permeability

- Growing population driven by economic growth
- New public transit infrastructure
- Increased tourist numbers

- New road infrastructure disconnected from neigh-bouring assets
- Competition from greenfield sites
- Lack of infrastructure capacity
- Lack of social infrastructure to support family living

5.3 SITE ASSESSMENT

structure of Qatar. At the basic level, it will be possible to determine if it is an infill development within an existing city or is an urban extension or a new settlement. The planning policy will provide guidance on land use and building heights. There may be supplementary planning policy relating to a specific area, such as a center or conservation area, that needs to be considered too. There will also be the regulations relating to development in that area.

In assessing proposed developments, the planning authority will be able to determine how the site fits into the national and municipal planning framework. Does it seek to fulfil the ambitions of the QNDF and MSDPs, or is it looking to depart from them? If it is a departure from the prescribed policy, what are the justifications for the departure?

5.3.3 Baseline environmental conditions and studies

A key part of the baseline analysis is an assessment of the current environmental conditions. This assessment is likely to be based on a combination of existing studies, site assessments, and some additional studies where insufficient information is available. It is likely that most aspects will be reliant upon input from a range of professions. Environmental assessment will typically cover issues such as:

- **Water environment –** Ground water level, presence of rawdah and wadi are important considerations in Qatar, together with coastline and aquifer assessment, where applicable.
- **Ecology –** Assessment of flora and fauna, with a particular emphasis on native species.
- **Land –** Assessment of topography, soil and bedrock.
- **Climate –** Assessment of wind, sun path, shading, and temperature for the site.
- **Noise –** Assessment of ambient noise pollution from industry or infrastructure (roads, district cooling, and so on).
- **Smells –** Assessment of adverse smells resulting from industrial practices.

A series of plans and diagrams should be prepared to display the information in an easy to understand manner.

The designer should use a number of research techniques and tools, including site visits. It is recommended that a thorough site visit is undertaken by the design team and client team. Joint site visits between designer, client and planning officials can greatly enhance the understanding of the constraints and opportunities. As part of engagement with community members and stakeholders, open site walks can assist the designer to gain a deeper understanding of the site issues whilst beginning a dialogue with stakeholders that will enhance the design process.

5.3.4 SWOT analysis

The SWOT analysis technique can be utilized as part of the urban design process. It is a useful mechanism for attributing value to the assessment process. It provides a useful reminder for the designer of the key issues that need to be addressed in the design process.

5.3.5 Understanding urban morphology

There is a need to define the scope, scale and level of detail of the assessment to be undertaken. The scoping will guide the designer as to the methodologies required in relation to landscape, movement and settlement structure.

5.3.5.1 Land use

Land uses, particularly in central areas, are more flexible than many people think. With flexible building typologies, the land use within a particular building or block can change a number of times without major changes in the form, height or even the façades of buildings. Despite this, it is important to capture this process of evolution at a point in time, analyzing the existing land use mix, being mindful of both ground-floor and upper-floor uses. Charting the changes through time is also valuable,

5.3 SITE ASSESSMENT

as this can give an insight into the trends for different types of spaces. Key questions to ask include: 'Is the trend welcome and to be encouraged, or it is unwelcome and to be resisted and controlled?' The answer to this will lead to different policy and design solutions.

When recording land uses, it is important to drill down into the subcategories of uses. A building that may once have been a single dwelling may now be a set of apartments, and retail premises may have become a restaurant or café.

5.3.5.2 Urban structure

Urban morphology and the evolution of a place are often understood by gaining an understanding of the relationship between buildings and the street. This is typically described through the use of a figure-ground diagram or 'Nolli map'. The street network and resulting block structure can endure for centuries and help define the legibility and understanding of a city (think of the grid layout of New York City or the network of boulevards in Paris). As such, the street network is often deep-seated in the history of a city and difficult to alter (A-, B- and C-Ring Roads are a critical organizing features of Doha's morphology, while the alignment of Salwa Road predates the introduction of tarmac roads in Qatar).

5.3.5.3 Movement

Understanding existing patterns of pedestrian and cycle movement is important, along with an assessment of public transport movement. The street network has the potential to enable people to move from one place to another by whatever means. The means of movement along a street will change over time. Lanes may be converted from private vehicle lanes to public transport-only lanes; parking can be increased or removed; pedestrian space can change or take over a street through pedestrianization of the space or increased pedestrian space. The right of way can, and should, be responsive to its context and, therefore, as cities evolve and mature, it is reasonable to expect the composition of the right of way to change.

5.3.5.4 Landscape

A range of statistical analyses and structured assessment techniques are available to define and classify different landscape types. Issues such as topography and biodiversity are critical parts of a landscape character assessment, which is an effective way of mapping and describing areas of landscape with similar attributes. Focusing on the existing landscape features and how these connect to each other as part of an existing, or potential future, network is important at the early stages of the masterplanning process. Understanding how existing landscape features have evolved over time is important from a social, environmental and historical perspective, particularly in contexts such as Qatar's where such features would have been integral to the lives of citizens just a few generations ago. It is important that these links to the social history of Qatar are not lost.

5.3.6 Characterization of place

5.3.6.1 Tool to understanding the city

Character areas are important tools in enabling people to understand the city. The seminal work of Kevin Lynch (*The Image of the City)* refers to these areas as 'districts' but, importantly,sees them as a basic element of the city's image, enabling people to recognize them when they are in them and orient themselves as they move towards them or by them.

5.3.6.2 Achieving compatibility

Understanding and promoting character can help new development fit into the existing context. Characterization is more than aesthetic architectural appreciation.

5.3.6.3 Characterization process

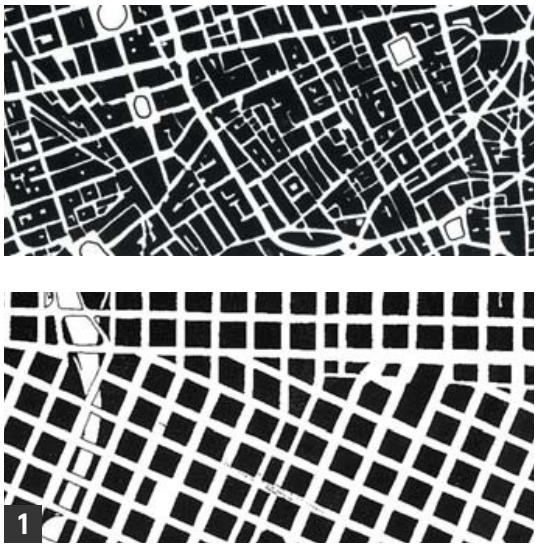
The characterization process can identify assets worth protecting and build this into policy, even if neighborhoods cannot always be saved from unwanted change. The process of characterization is primarily concerned with:

- Identifying areas that share common characteristics in terms of land use, movement, urban structure, landscape,

5.3 SITE ASSESSMENT

form, heights, and potentially architectural homogeneity – although in some instances, architectural homogeneity can lead to areas with different characteristics being linked based on purely visual likeness.

- Considering social or economic factors that can inform the boundaries between character areas. Some areas have particularly strong characteristics and definition boundaries. Some areas may have a weak or rapidly changing character. The boundaries between character areas may be sharp and definitive, or more blurred. Where possible, it is valuable to record how character areas and the boundaries between them evolve over time.
- Identifying areas that share similar characteristics but are not geographically connected. These can be recorded as character types. Where a single coherent area has been identified with common characteristics, this is a character area.
- Understanding that areas with a strong and positive character will usually elicit a very confident and complementary design response. Where character is weak and/or negative, the response is often less certain and may require further guidance from the planning authority. In instances such as this, there may be a need to draw on neighboring characteristics and/or examine historical characteristics that may need to be reintroduced.



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1. *Urban grids in (from top to bottom) London and Portland*

2. *Mass transit as part of the movement network*

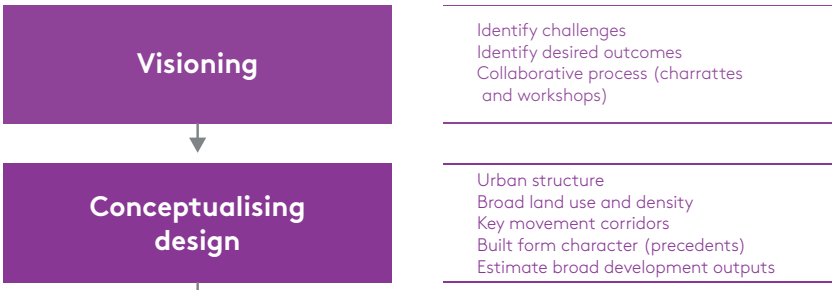
5.4 URBAN DESIGN PROCESS

5.4.1 The participants

There are a number of participants in the urban design process. As an approach that works best when it is a collaborative process, the main actors are:

- The developer/applicant
- The design consultant.
- The planning authority or other authorizing body.

There are different stages in the design process that utilize different tools and techniques. Each stage is described below.



5.4.2 Establishing a vision

The establishment of a vision is an important and often collaborative process. The vision should be as clear and concise as possible, and will provide the anchor point against which all parts of the project can be checked. It is important that the vision is not too generic and is applicable to the site or place to which it relates. This will help participants develop a more refined set of objectives.

In general terms, the vision sets out the 'what' and the objectives begin to establish the 'how'. The establishment of a vision may be led by any of the key participants. A vision is likely to have more weight if approved by the planning authority.

5.4.3 Conceptualizing design

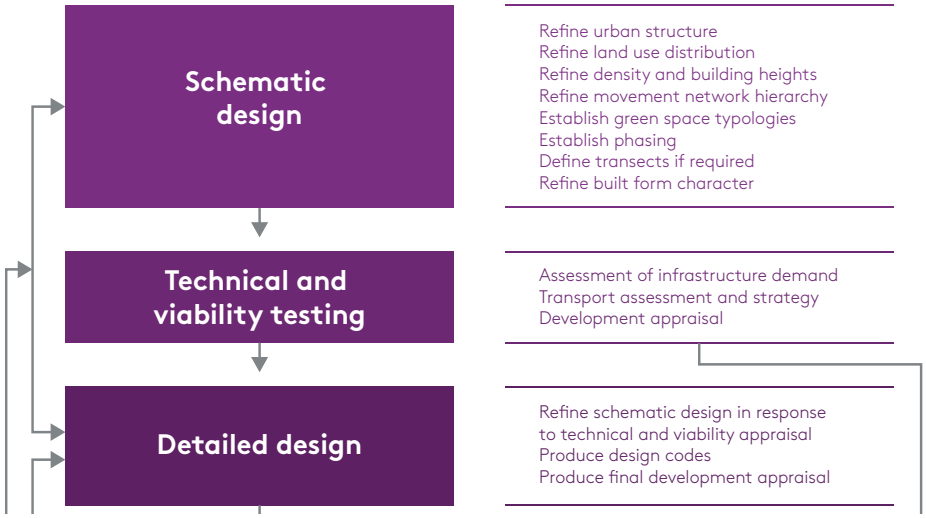
5.4.3.1 What is design conceptualization?

Design conceptualization is the art of synthesizing a deep understanding of a place, based on a sound and robust assessment process, and responding with a concept design that fulfills the vision.

5.4.3.2 How to conceptualize designs

- The conceptualization may be done as part of a charrette or workshop and may, in fact, be drawn from a range of concepts arising from different participants as part of the design process.
- The conceptualization of a design is usually led by the design consultant, but the process is enhanced if the developer and planning authority are involved.
- Having multiple concepts produced at the same time by different people can be a highly effective means of thinking outside of the box, and enables the designers to appreciate issues in different ways and reflect on different design solutions that they themselves may not have considered.
- Concept designs may be presented as a series of options for stakeholder consultation prior to the finalization of a preferred concept design.

5.4 URBAN DESIGN PROCESS



5.4.4 Design development – schematic and detailed design

Design development is a process that adds more certainty and clarity to the design, through a linear series of stages with inbuilt feedback loops that enable dialogue, comment and amendment to take place.

5.4.4.1 Schematic/preliminary design

Following the concept design (see 5.4.3) comes the schematic or preliminary design. Building on the preferred concept design, it is at this stage that the urban structure becomes more refined and in sharper focus, through a build-up of different design layers to arrive at a development framework that is largely sound and robust.

5.4.4.2 Reassessment of design and indicative phasing plan

At the conclusion of the preliminary design stage, it is useful to assess the design against the vision and objectives set out in the design brief. Stakeholder consultation should form part of the feedback loop at this stage, prior to moving on to the detailed design stage. An indicative phasing plan should be produced at this stage.

Design development will typically be led by the design consultant. The developer will be informed of the likely outcomes and provide useful feedback to the design consultant. Consultation with the planning authority is advisable.

5.4.4.3 Detailed design stage

The detailed design stage is not just a matter of ratifying the schematic design. It provides an opportunity to respond to the series of technical reviews undertaken at the end of the schematic design stage. Market demands, infrastructure requirements and comments from stakeholders may result in a reworking of the masterplan to enhance it. The detailed design stage may include more detailed work on a first phase, where more emphasis is placed on enhancing place, making opportunities, and legibility through manipulation of building setbacks and building heights.

5.4.5 Feasibility and capacity testing

Understanding the feasibility of a development is critical to its future success. It is unwise to continue to refine and implement a masterplan if feasibility has not been established, as this will undermine the masterplan and the developer/sponsor.

5.4.5.1 Feasibility study

A feasibility study can be undertaken at the outset of a project in order to determine whether the project should go ahead or not. This will be based on existing market and cost information, applied against a number of broad scenarios. The larger the site, the more difficult this process can become, as more and more variables are

5.4 URBAN DESIGN PROCESS

included. An early feasibility study can inform the development brief and provide important context for a charrette or workshop.

The feasibility and capacity-testing process will typically be led by the developer, although the planning authority may take the lead if the driver is more regeneration-based.

5.4.5.2 Urban capacity studies

One way that feasibility studies can be enhanced by urban design involvement is through the use of urban capacity studies. These studies can build up a database of development potential across an area, based on a range of locally tested assumptions. The assumptions are usually based on development densities and are a common tool in the UK planning process for determining housing allocation policy. Sites included in urban capacity studies have typically good access, no known significant constraints, and would be compatible with neighboring uses.

5.4.6 Stakeholder approval

Approval by the stakeholders (developer, landowner, and so on) is required to ensure the application proceeds with the full support of the client group. The client group will want to satisfy itself that the plan meets the original brief and delivers the economic, social and environmental goals it has set.

5.4.7 Consultation and community engagement

5.4.7.1 Introduction

At present, there is very limited opportunity for consultation and community engagement in the Qatar planning system. In more mature planning systems, having positive rather than reactive consultation and engagement has proven to be a challenge. One way to engage people from the outset and throughout the design process is to establish a series of charrettes and workshops that run alongside the design process. These are particularly useful for large masterplans, but they can be used for almost any type of urban design process and be scaled appropriately.

5.4.7.2 Charrettes and workshops

A charrette (meaning 'cart' in French) is a much more intense process that has, through use over the last couple of decades, developed a sound process that can be replicated.

The charrette process is predicated on collaboration, so it is vital that all key participants are involved. The process is typically led by either the design consultant or a specialist facilitator. The developer and planning authority should be active participants in the process, being as open as possible during the process.

Typically, the consultant team will consist of a multidisciplinary team comprising planners, urban designers, landscape architects, transport planners, engineers, economists, development market experts, legal specialists and cost consultants. The inclusion of market experts, cost consultants and legal specialists ensures that the process has a sound focus on feasibility rather than just being a design process. The speed and intensity of a charrette requires the professionals to be well prepared and have the expertise to make decisions based on limited information.

Engaging with the local community and stakeholders is a critical part of the charrette process. Engagement at the earliest stage can help create a sense of ownership over the design solution

5.4 URBAN DESIGN PROCESS

with participants often becoming active advocates of the design. Through early engagement, the local community and stakeholders also become more knowledgeable participants throughout the design and planning process. This makes for a more informed discourse between the planning officals and stakeholders at the planning application stage.

There are typically three phases of the charrette process:

1. Preparation – The first phase is the preparatory phase, where information is gathered and collated into a shared library, available to all participants. This information will typically include plans, data and photographs of the site. A best-practice resource library is often provided.

2. The charrette – The second phase is the charrette itself. The charrette will run from three days up to a week, depending on the type of project and resources available. The key to the success of the charrette process is the continual engagement with the public and decision-makers through a series of presentations and feedback sessions. These sessions create a positive energy, as the design team are tasked with responding to the feedback and updating the plans. The process also requires buy-in from the decision-making authorities, as they will be required to make decisions quickly to enable the process to flow.

The charrette should take place close to the site so that impromtu site visits can be undertaken to check on-site features or issues.

It is important that the design part of the charrette is a fluid, dynamic process. The use of pens and paper is strongly encouraged over the use of CAD to maintain flexibility and speed during the process.

Charrettes and workshops are tools used to bring people together with the common goal of reaching consensus on a way forward for a place, usually resulting in some form of framework plan or loose masterplan. The process of collaboration, undertaken at the right time will bring about a sense of ownership of the plan for all parties.

Points of disagreement are flagged early, with the onus of addressing these placed on the design team. It is also a useful mechanism to establish the points on which there is consensus; there are often more than people realize when faced with just an adversarial and reactive consultation process.

3. Review – The third phase is the review and feedback stage following the charrette. This involves the client and consultant team reviewing the outcome of the charrette and determining what changes need to be made to ensure viability and regulatory compliance.

5.5 CREATING A FRAMEWORK

5.5.1 Introduction

This section sets out the essential layers of design input typically used in creating an urban design framework. The process is not strictly linear, with some layers being developed together and some being dependent upon others to give the framework shape and structure. The diagram opposite illustrates how these layers are stacked on top of each other to create what we recognize as a masterplan.

5.5.2 Future-proofing

A masterplan for a place is not the same as a blueprint for a product. Masterplans exist in an ever-changing environment and are often built over many years – and will certainly aim to be relevant many years into the future. Anticipating all future social and technological trends is impossible, and it is therefore imperative that masterplans have a degree of flexibility. This flexibility needs to exist at the movement network and block structure level, as well as at the individual building level. Cities with seemingly strong and fixed block layouts, such as New York City and Barcelona, continue to evolve in terms of how the movement network, character and land uses overlay the largely fixed block layout. Barcelona has seen a response in the use of public realm through changing social attitudes to the car and a desire for a safer and broader-use public realm.

5.5.3 Smart solutions

Smart technologies are predicted to accelerate the change in how we use cities. From safety to movement, smart technologies will enable greater control over the public realm and the networks of a city. From driverless cars to robot or drone delivery, the way the public realm will be used in the future will change. It is crucial that networks remain as flexible and connected as possible so that cities can continue to adapt and change without wholesale renewal.

Land use	Identification of land uses for individual uses and mixed-use areas. Land Uses can be broken down into sub-categories based on density or tenure. Mix can be horizontal and vertical.
Character areas	Identify character areas based on proximity to centres, mass transit or open space networks. Character areas will help define land use.
Centres	Identifying location of and proximity to Centres as set in the QNDF. (Metropolitan, District, Town, Neighbourhood).
Infrastructure	Define the utility infrastructure network which will predominantly follow the street network.
Street network	Movement network should be based on the principle of walkable neighbourhoods, prioritising pedestrians and cyclists.
Block structure	The size of urban blocks based on walkability with active frontage and natural surveillance.
Aspect and prospect	Defining views out of the site (prospect) creating visual connections with surrounding townscape and landscape. Also identify the most critical aspects of the place, indicating where legible markers are required.
Legibility	Define the placement of landmarks, nodal points, edges, gateways and boundaries in the framework to enhance legibility.
Landscape structure	Identification of existing green and blue infrastructure along with overlaying of topography.

6 ENABLING THE DELIVERY OF GOOD URBAN DESIGN

6.1 CREATING A ROBUST POLICY FRAMEWORK

6.1.1 Introduction

This section outlines the importance of a plan-led system in delivering high-quality urban design practice. It highlights the importance of the QNDF in underpinning all subsequent policy and regulations. It goes on to identify other policy tools that can be used by MME to enhance design control and implement the QUDC as part of a plan-led system, such as design codes, form-based codes and design briefs. It also outlines the important role design statements can have as part of the application process.

6.1.2 Policy context

Good urban design begins with good planning. At the strategic level, urban design policies can establish clear principles that all development should adhere to. Urban design policy should be based on a clear analysis of environmental, social and economic issues. Policy BE11 of the QNDF provides the overarching policy framework for all urban design policy in Qatar, including the *Qatar Urban Design Compendium* (QUDC).

Policies should be clear in their intent and be technically feasible. Additional design policies can add detail to the QNDF policies through greater elaboration of the policy intention, and by adding a local response to an area-based scenario as part of a smaller area plan (for example, an area action plan).

6.1.3. Review of regulations

Regulations should reflect the strategic policy context, with each regulation being checked against the intention of the design policy and the guidelines contained in the QUDC. It is recommended that the current regulations are reviewed against the guidelines set out in Volume 1 of the QUDC to identify what, if any, changes need to be made to the regulations in order to make them consistent.

6.1.4 Design codes and form-based codes

These codes are often written as part of the masterplanning process and contain a level of coding appropriate to the development. Codes typically cover issues such as use, form, height, density and architecture. The level of prescription, particularly on architectural matters, varies greatly between codes. Where there is a strong desire to control the architectural vernacular – perhaps in response to an existing vernacular – then clearly greater emphasis is placed on the architectural components. Codes are useful tools, as they provide certainty for both the developer and the planning authority.

6.1.5 Design briefs

Design briefs can provide an effective means of focusing the design team on a set of outputs. The writing of the design brief is a critical process, and it is therefore imperative that it is done collaboratively. Without a well-defined brief there is a good chance that any urban design process will be flawed. The brief should have a lead author and project champion whose role it will be to maintain the principles and objectives of the brief throughout the design process. The design brief should:

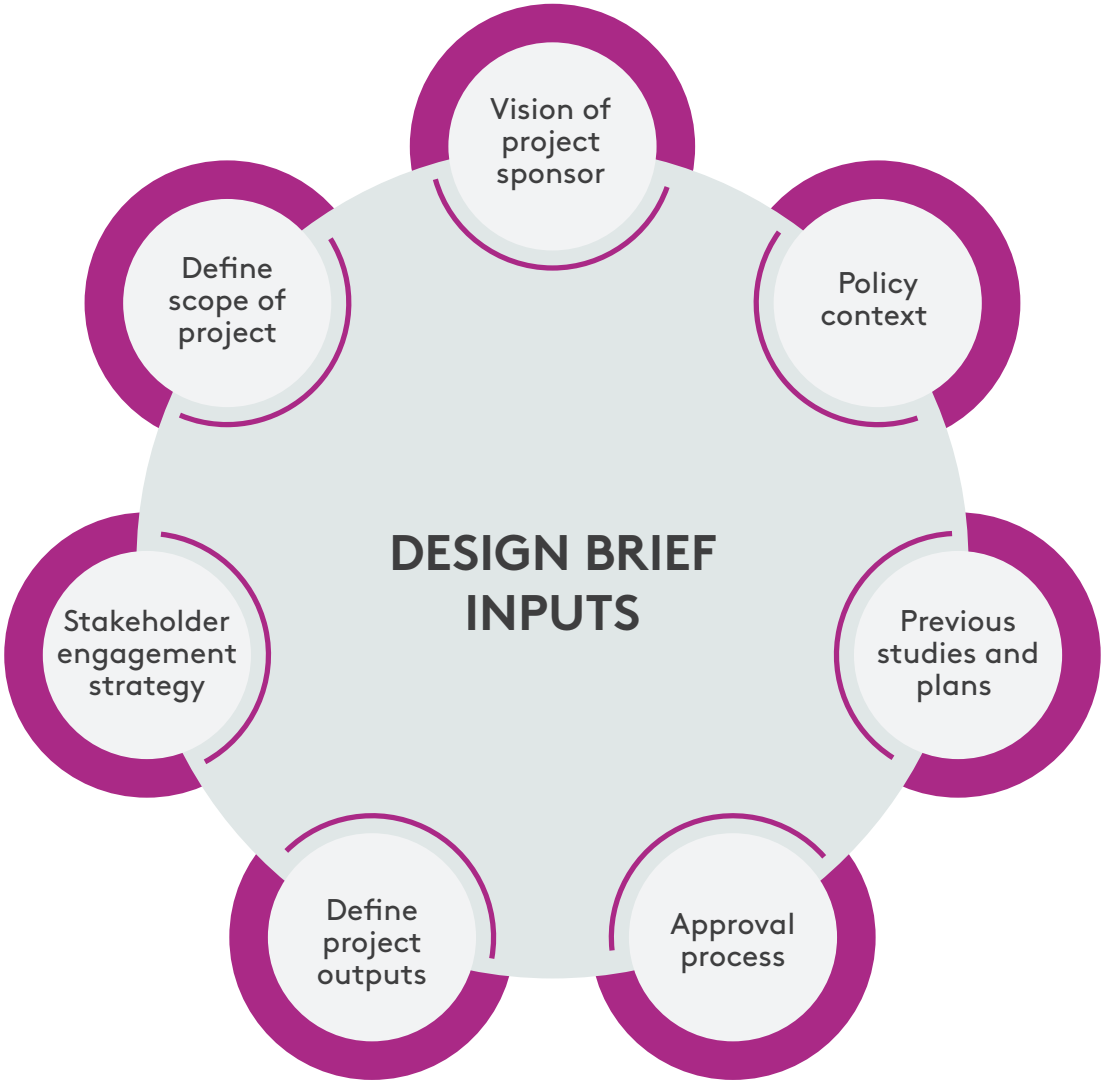
- Set out the objectives and vision of the project sponsor.
- Set out the planning policy context and define how the output will fit into the planning system.
- Identify and provide narrative on any previous studies relating to the site.
- Define clearly the scope area for the project and what technical elements the project should cover (transportation, utilities, market assessment, viability, and so on).
- Identify which other plans and

strategies should form part of the project context and describe how the project relates to each of them.

- Identify the main stakeholders and how they are to be engaged.
- Set out the process for project testing and approval.
- Set out the process the project should follow, including any assessment required.
- Set out what is required in terms of plans, reports, codes, and so on,that need to form part of the outputs.

6.1.6 Design statements

Design statements provide an effective mechanism to incorporate the guidelines set out in the QUDC into practice. Design statements can encourage the translation of the assessments, the absorption of the guidance and best practice, and the particulars of a subject site into a rationale that can be explicitly referred to, enabling a measure of the viability of the development. Design statements are effective in placing the design justification onto the designer, while also making it easy for a much more structured and objective process of design and application review by MME.



6.2 URBAN DESIGN IN THE APPLICATION PROCESS

6.2.1 Introduction

This section outlines the role of urban design in the planning application process. It provides information on how urban design can play a role in the existing system, particularly in larger applications. The management and monitoring of applications and enforcement of development is an important component of the planning system, and is also outlined in this section.

There are a number of options for promoting good quality design through high-level oversight and involvement in the application process. The potential role of a national design panel is discussed, as is the role of design champions.

6.2.2 Existing system

Planning applications are usually assessed against the regulations applicable to that site by the relevant municipality.

6.2.2.1 Automatically accepted

If the application meets the requirements of the regulations, then it is accepted from a planning perspective.

6.2.2.2 Masterplan route

For those developments that are seeking to propose a departure from the planning policy and regulations, there is an alternative route where the applicant can demonstrate that the proposed development will result in an overall improvement in planning outcomes and the achievement of government objectives. This route is called the masterplan route and requires the development of a robust masterplan. The masterplan route enables developments that were not envisaged by the zone regulations to be considered by the planning authority.

Further guidance is available from MME on the masterplanning route but, in short, the developer should show how the proposal addresses the QNDF 2032 and the MSDP(s) relevant to that site. In addition to the written and plan-based submission, engagement with the Urban Planning Department and other key stakeholders is particularly encouraged as part of the process (through a series of pre-lodgement meetings).

Applications for a masterplan approval must be lodged with the Urban Planning Department for assessment and determination. The application may be approved in whole or in part – with or without condition. Once approved, the application can be made through the normal process with the relevant municipality for assessment.

6.2.3 Effective management and monitoring

The management and monitoring of development is critical to the continual process of planning and design. As the planning process matures in Qatar the managing of development can be done through two principal means: planning requirements and planning obligations.

6.2.3.1 Planning requirements

In order to achieve higher design and management standards, it may be necessary to introduce additional controls through the planning system through the use of a planning control mechanism. This would enable planning authorities the ability to add certain requirements that the developer must fulfil to the planning approval. Such a mechanism does not form part of the current planning system in Qatar but should be considered as a potential tool to be included in the planning toolkit as the planning system in Qatar evolves. The use of such a planning control mechanism is common in exemplar planning systems such as the UK where they are known as planning conditions and their use is prescribed in planning legislation.

It is important that conditions are related to the development and are exercised in a way that is clearly seen to be fair, reasonable and practicable. It is important to ensure that conditions are tailored to tackle specific problems, rather than standardised or used to impose broad unnecessary controls. One of the key advantages is that they are clear and concise requirements that are easy to understand for all parties with the ability for the planning authority to request for a development to be changed or stopped until the requirement is fulfilled.

The requirements attached to the planning

6.2 URBAN DESIGN IN THE APPLICATION PROCESS

permission, can manage how a scheme is built, how it is phased and then how it is operated through its lifetime. Other requirements may control the design of the building or public spaces through specifying materials, fixtures and fittings to be used. In the exemplar of the UK system they are particularly common in high profile developments, environmentally sensitive areas, listed buildings and conservation areas. They can also control how the building or space is powered and lit, and what environmental standards the development needs to achieve.

6.2.3.2 Planning obligations

Planning obligations are a mechanism that make a development proposal acceptable in planning terms that would otherwise not be acceptable. The common uses of planning obligations are to secure affordable housing and financial contributions to provide infrastructure or affordable housing. They can also be used to:

- Restrict the development or use of the land in any specified way.
- Specify operations or activities to be carried out in, on, under or over the land.
- Require the land to be used in any specified way.
- Require a sum or sums to be paid to the relevant authority on a specified date or dates or periodically.

Planning obligations are more likely to be used in larger developments where the scale of development places an increased burden on public services or infrastructure. Through the provision of a levy, the development pays for the capital expenditure required to meet the increased demand.

6.2.4 The importance of enforcement

In addition to conditions, the process of enforcement is another critical tool. Enforcement procedures are necessary to control illegal or non-conforming development. Good enforcement requires good monitoring and the legal context to be able to impose penalties on those who breach the law. Effective enforcement is critical in maintaining the legitimacy of the plan-led system.

Enforcement can be undertaken if development is carried out without the required planning permission or if there is a failure to comply with a condition associated with the permission.

Enforcement action is the responsibility of the municipalities in Qatar. Effective enforcement requires investment in manpower to enable the municipalities to effectively police development activity.

6.2.5 Role of national design panel

QNDF Policy BE11 calls for the establishment of a national design panel to review all major development in Qatar. It is essential that a review panel enhances the design process and does not create a blockage in the development process. The panel should be made up of experts from a range of professional disciplines relevant to the project being reviewed and include professionals in the fields of landscape, infrastructure, highways and economics.

The national design panel should have

- A permanent chair with considerable proven experience in the field of urban design.
- A permanent secretariat to manage the panel's work. The secretariat should be independent of MME.
- Members drawn from a mix of professions to support the chairperson. The group should be made up of people with a proven understanding of urban design. The minimum number of members on a review panel should be six. Those with a qualification in urban design would be advantageous to the panel.

Those applications that are required to go through the masterplan route should be referred to the national design panel. Within the heads of terms of the national design panel, the body can determine which applications it reviews. It is recommended that the panel review the following types of projects:

- Developments that are significant

6.2 URBAN DESIGN IN THE APPLICATION PROCESS

because of their size, complexity or public impact – as a minimum, all projects requiring an environmental impact assessment (EIA) should be reviewed.

- Developments that are significant due to their site or context – all projects located in the capital city centers should be considered, along with projects near other strategic sites.
- Developments that face common design issues, such as integration with context, access to public transport, and issues such as maintaining permeability.

A project's scale does not necessarily determine its significance or impact. Smaller projects can be equally valid review candidates where there is potential for significant harm.

Design panels have been successfully used throughout the UK, through organizations such as CABE, Design Council and the Design Commission for Wales.

6.2.6 Design champions

Design champions are an effective means of ensuring that design sits at the heart of an organization involved in the development process:

- The design champion should be a person in a position of influence, a leader or board member capable of enacting change.
- The role of the design champion should be to ensure that each organization has a vision and strategy for delivering design quality in all its developments.
- Design champions in public bodies can have a major influence on how significant investment contributes to the creation of better places. Design quality should not be left to just the planning authority but should extend across all parts of government. When government bodies take the lead, it is much easier to persuade private sector organizations to do likewise.

6.2.7 Maintenance

The maintenance of streets and public spaces should be considered at the design stage, with budgets put in place for proper maintenance.

There are three principal maintenance elements. The first is the immediate period after installation. Post construction defect repair should be undertaken as quickly as possible to avoid defects leading to more significant longer-term issues. Ideally, any adaptation of a space by the public body should take place after a maintenance period, typically of two years, has expired.

The second element is the maintenance of the surfaces and street furniture. Any reinstatement should be done to the same standard and specification as the original works, with utility companies under an obligation to ensure that the works are undertaken to the appropriate standard. Failure to do this will lead to the gradual degrading of the public realm. It is recommended that a stockpile of materials is maintained to ensure that stock is available for any reinstatement work.

The third element of maintenance is the day-to-day cleaning and maintenance of the public realm. This can include street cleaning, softscape maintenance and the emptying of litter bins, checking and cleaning of water fountains and benches.

Not all streets and spaces will require the same level of maintenance. It is recommended that different regimes are produced for different types of spaces, with high profile spaces and streets requiring a more frequent and intense regime than other more residential streets, for example.

Funding for maintenance will typically come from the public sector. It may be possible, as the planning system matures in Qatar, for planning contributions to be collected when developments are constructed, with funds being ring-fenced for maintenance of that space. This will be particularly useful where a higher standard of surface finish or street furniture is used.

The adoption of spaces should be based on the ownership of the land. Privately owned public spaces should remain the responsibility of the private sector occupier or landlord. Developments, where spaces are designed with the intention of adoption by the public sector, should be adopted once the maintenance period has expired.

1. *Maintenance of street surfaces from time to time to ensure high quality of public realm*
2. *Day to day maintenance of the public realm including collection of garbage, maintenance of any street furniture and maintainance of all softscape is essential for clean and healthy public realm*

1


RSC
CAMBRIDGE THEATRE
BEST MUSICAL
'DELICIOUS'
SASSOON
Litter
SEVEN DIALS

2

6.3 PUBLIC SECTOR INVOLVEMENT IN DEVELOPMENT

6.3.1 Introduction

The public sector can play an active role in the development process, either as client, developer or sponsor. Outlined below are various mechanisms that have been used by the public sector to promote better development in their jurisdictions.

6.3 2 Public-private partnerships (PPPs or P3s)

Public-private partnerships (PPPs or P3s) are a cooperative arrangement between two or more public and private sector entities. In principle, with limited funding and increasing constraints, many government agencies are looking into different models of PPPs as a way of maintaining updated infrastructure or financing significant developments that benefit wider communities, without having to make large investments. In some, but not all, instances they utilize private finance and almost always involve a sharing of risk. From an urban design perspective, PPP projects can be challenging for clients, as the emphasis can be on the project outputs rather than the wider design objectives.

There are numerous forms of PPPs, whose suitability will depend upon the needs, the options available, and the size of the project being considered. The most common examples are listed as follows:

1. Operation and maintenance (OM) – The private component of the partnership operates and maintains installation of the project, while the public agency acts as the owner of the project.

2. Traditional – The public component of the partnership acts as a contracting officer. It looks for funding and has overall control of the project and its assets.

3. Design-build (DB) – The private partner designs and builds the facility, while the public partner provides the funds for the project. The public partner has control over possession of the project and assets generated.

4. Design-build-operate (DBO) – The private partner designs, builds and operates the facility or project. The public partner acts as the owner of the installation and gets the funds for construction and operation.

5. Design-build-operate-transfer (DBOT) – The private partner designs, builds and operates the project for a limited time, then the facility is transferred to the public partner.

6. Design-build-finance-operate (DBFO) – The private sector finances, designs, then

1. *Public-private partnerships (PPPs) can deliver new social infrastructure such as this new school in Solihull, UK*

6.3 PUBLIC SECTOR INVOLVEMENT IN DEVELOPMENT

builds, possesses, and operates the project. The public partner only provides funding while the project is being used or is active.

7. Build-transfer-operate (BTO) – The private partner builds and transfers the project to the corresponding public partner. The public partner then leases operation of the facility to the private sector under a long-term lease agreement.

8. Build-own-operate-transfer (BOOT): The public partner builds, possesses and operates the project for a limited time until the installation is transferred, free of charge and including ownership, to the public agency

9. Build-own-operate (BOO) – The private sector must build, possess and operate the facility, and has control over profits and losses generated by the facility through time. This is similar to a privatization process.

10. Lease – The public owner leases the facility to a private company. The private company must operate and provide maintenance for the facility per specified terms, including additions or a remodeling process.

11. Concession – The public agency partners with a private company, conceding all exclusive rights to operate and maintain the facility for a specific period of time under certain contract terms. The public partner has power over the ownership, but the private partner possesses owner rights over any addition incurred while it is being operated under its domain.

12. Divestiture – The public partner makes a complete or partial transfer of the installation to the private sector. The government might include specific clauses in the sales agreement requiring investment and modernization of the facility and a continuation of the services being provided.

6.3.3 Collaborations/joint ventures

Joint venture arrangements involve the creation of a special purpose vehicle (SPV), normally for the delivery of a project. The joint venture company (JVC) is its own legal entity, separate from its founders. They can involve private and public sector entities or just private companies collaborating for a particular project. The advantage of a joint venture is that it can pool resources based on a particular output. Large-scale design and construction projects are common areas for joint ventures to operate in, where a sharing of capital, expertise and risk is desirable.

2. *Public-private partnerships (PPPs) have been responsible for creating successful mega developments including Hafencity in Hamburg*

6.4 MECHANISMS FOR ENABLING CHANGE

6.4.1 Introduction

Outside direct involvement in the development process, the public sector has many potential levers that either individually or together can create the conditions for change. Outlined below are some of the key mechanisms that can be used alongside an urban design process. This section provides an introduction to each mechanism. Further legal advice should be sought prior to undertaking any of the processes outlined below.

6.4.2 Air rights

6.4.2.1 What are air rights?

'Air rights' is a concept that can be used to help achieve greater density and mix of uses in locations where the existing land use is seen to be underutilizing land. Examples may include retail malls that have a large land take and low land utilization, or transit stations or car parks that sit at the heart of a mixed-use centre.

6.4.2.2 Benefits

Air rights development enables landowners to utilize the space that would otherwise be used if the development met the regulated building height and density of the adjacent development. This can increase density where it is desired and enable landowners to maximize the returns from their land.

6.4.2.3 How does it work?

If you own the freehold for a site, you also own the rights to the space above that land without interference by others. Selling the space, or the air rights, for development is the commercialization of the space above an existing land use with little commercial value – for example, railway stations or rail yards, or the space above an existing building. Through redevelopment of land or buildings, it is possible to exploit the air rights by building above the current use. The densification of a particular site is often market-driven, where the value of the land far exceeds the existing use, but there is a need or desire for the current land use to remain in place.

6.4.2.4 Examples

The Hudson Yards development in Manhattan is probably one of the most significant air rights developments in the world, with the developer paying US$1bn for a 99-year lease of the space above the

1. *Visualization of Hudson Yards, New York City – a major new development created through selling of air rights*

6.4 MECHANISMS FOR ENABLING CHANGE

existing rail yards, which will remain in situ.

The Hong Kong Mass Transit Railway (MTR) has long utilized the air rights above its stations and infrastructure for commercial benefit, with around half its income coming from non-ticket revenue.

As such, the Doha Metro has the potential to benefit from exploiting the air rights above its tracks and stations.

6.4.3 Land amalgamation

Land ownership in Qatar's urban areas is often very fragmented. This fragmentation can result in the redevelopment of land being commercial and technically unviable. It can also result in development that falls below best practice. The amalgamation of land removes this problem, meaning that the successful redevelopment of property can be realized. Land amalgamation can happen anywhere, but perhaps is most likely in the higher-density inner areas, where plots are generally smaller.

6.4.4 Land swaps

Land swaps occur where a prospective purchaser wishes to develop a parcel of real estate and offers real estate in exchange, with the principle that the value of each piece of real estate is the same. A public or private body can initiate a land swap with the express intention of acquiring the land without having to fund the purchase with a cash payment. The land swap would involve a one-off voluntary transaction between the two parties. The process is overseen by solicitors, with each party being advised on the value of each piece of real estate by independent surveyors. A land swap is likely to be initiated either in an area of high value or by a public body wishing to undertake a regeneration project.

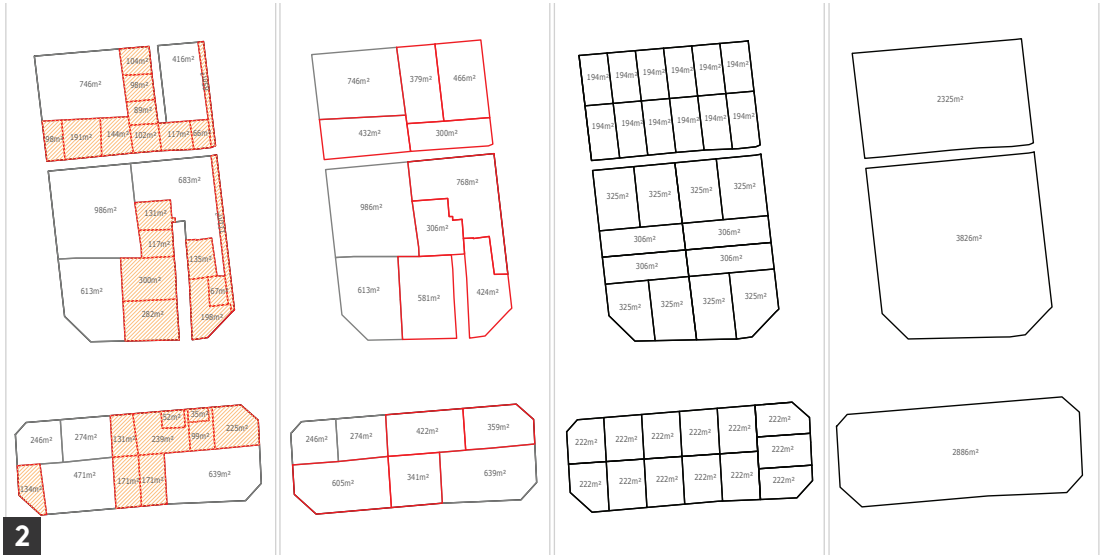
6.4.5 Privately-owned public spaces (POPS)

6.4.5.1 What are POPS?

Alternative incentives include the ability to develop more floor space on a particular plot in return for the provision of a public good. The common form of a public good incentive is in commercial schemes where additional floor space is allowed in return for the provision of a publicly accessible space. Privately-owned public spaces (POPS) are areas that are legally required to be publicly accessible open spaces, despite being privately owned, although owners can restrict what people can do in the space.

6.4.5.1 How does it work?

POPS are created through either an incentivized scheme or through a planning requirement or condition when a site is redeveloped. Incentivization can be in the



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2. *Illustration of the different levels of land amalgamation possible in Qatar*

6.4 MECHANISMS FOR ENABLING CHANGE

3. *A privately-owned public space in New York City. Access is free, but additional restrictions have been placed – smoking is prohibited, which it isn't in the adjacent street*

form of enhanced floor area ratio (FAR) or a reduction in land cost if the land is publicly owned. A condition can be in response to a development brief or code for that site or area as a planning gain measure.

In New York City, POPS were introduced via a 1961 zoning resolution, and there are estimated to be more than 550 POPS currently in New York City. Paternoster Square in London is a prime example of where recent redevelopment of a central London site has led to the creation of new public space.

MME would need to take the lead in setting out the mechanism for delivering POPS, using local area plans or development briefs to identify where POPS are required.

6.4.6 Mechanism to address fragmented land ownership issue

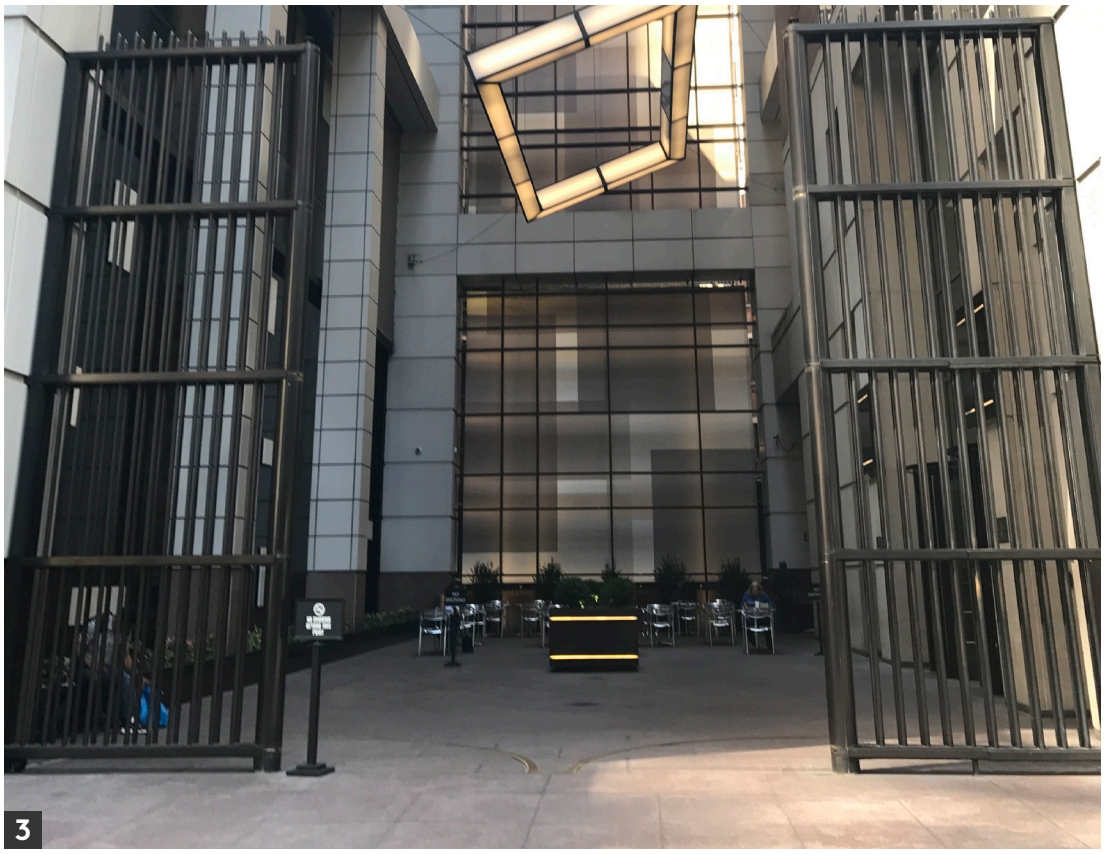
Doha Downtown and other old parts of the city have encountered the problem of fragmented land ownership as a result of sharia inheritance laws. The following options are available to address this issue.

6.4.6.1 Land regularization

Land regularization is the term given to the process of formally registering ownership of land that was previously unknown. It registers the beneficiaries' property rights and title to the lands. The complexity of ownership pattern as one of the main constraints needs to be tackled through respective government and informal institutions. Following an analysis of sharia law principles that govern inheritance, it is essential to identify and classify the status of each parcel of land.

6.4.6.2 Mechanism to consolidate ownership

A requirement to settle the ownership first as a criterion to valorize a property – This is a mechanism that can be applied to those who want to sell their property. It is recommended that there is a requirement to buy out (by way of operations of sale and exchange to consolidate ownership and reduce the number of co-owners) the rights of co-owners before proceeding to the valorization process of their property.



6.4 MECHANISMS FOR ENABLING CHANGE

Establish a first right of refusal mechanism – The first right of refusal is an acquisition device that allows one party the priority to acquire a property on the same terms and conditions that the seller is willing to sell to another party.

a. First right of refusal to adjacent property owners

This mechanism gives the adjoining property owners (non-family buyers) the opportunity to purchase the property on the same terms and conditions that have been agreed to by the parties to the proposed transaction, for a finite period (for example, 30 days or three months).

If the adjacent property owners waive their first right of refusal, and if the term expires, the transaction can go forward as initially proposed.

b. First right of refusal to government

Another option is to give this right to the government. The first right of refusal enables property owners in certain areas who are ready, willing and able, to sell the property to a third-party government agency.

The government's first right of refusal will come into effect only after the abutting property owners decline to purchase the property.

For properties of listed heritage building status or within a conservation area that has passed into public hands, this is one of the best solutions for enabling appropriate government institutions or executive agencies to perform restoration/refurbishment/rehabilitation of a property for use as a pilot project.

Afterwards, the property can be sold back to the descendants of the first owner or be part of other designated programs.

6.4.6.3 Land swap to consolidate ownership

Conducted by the government, this strategy can be effectively utilized to acquire and then re-sell houses that are currently leased as gathering houses.

The original owners of the property should be given the opportunity of first right of refusal to re-acquire the property on a less dispersed-ownership basis. If none of the family members is interested, the government/executive agency can sell to others citizens (Al Muharraq Manuals, 2006).

Within the period of ownership, the government/executive agency can perform various programs, such as:

- To use the property for pilot projects.
- To stabilize the property and sell it to an owner who would complete the rehabilitation (for properties within a conservation area), or fully rehabilitate the property and sell it to a new owner.
- To fully redevelop the property and sell it to a new owner or rent it.

6.4.6.4 Establish family ownership

Under sharia, there is a mechanism to form a company that owns the property (derived from the family endowment principle).

From a legal, financial and management perspective, it is easier to deal with multiple ownership problems in the form of shares in a company than shares in the property.

The formation of a company can be a very effective means for families to maintain ownership over multiple generations. The government can support this mechanism by providing technical assistance on legal and financial issues. Through this, it will encourage more families to undertake the process.

6.4.6.5 Small site program

To address the large numbers of small and irregular-shaped plots, these alternative mechanisms are proposed:

a. Joint ownership

The property owners can acquire adjacent properties or buy out co-owners, tenants or other holders of primary and secondary rights before proceeding on the valorization of their real estate assets.

6.4 MECHANISMS FOR ENABLING CHANGE

b. An incentive to consolidate

Provision of incentives (for example, FAR incentive of tax exemption) for small irregular plots that participate in a combined development.

c. Revival of unused land

There is an established Islamic economic and legal principle for the revival of unused land. The options are for the unused land to be used by landless owners or to become state land.

d. Long-lease mechanism

The long-lease mechanism is used for endowed properties, which allow the drawing of a large advanced lump sum and a nominal rent. It enables the administrator of endowment properties to circumvent the prohibition on the sale of endowed property and use the lump sum to purchase new revenue-producing property or to repair existing buildings.

6.4.6.6 Other options

In addition to the mechanisms set out above, there are a number of other options to consolidate land. These include Complusory Purchase Orders and the optioning of land. In international practice the creation of quango organisations (such as the London Docklands Development Corporation), a New Towns commission has been used to facilitate the development of larger development areas.

6.4.7 Mechanism to address deficiencies in social infrastructure

The following are various mechanisms to solve the problems of the deficiency of community facility provision and the required modifications that are affecting some of the properties:

a. Compensation

Compensation could be offered to owners of property rights affected by expropriation, demolition or alteration, according to the national laws and regulations governing seizure by eminent domain in the public interest.

b. Land sale/auction

The sale or auction of state-owned lands will help the government to obtain the up-front capital to undertake the first phase of conservation and regeneration programs, such as infrastructure and public realm improvements, including conducting pilot projects.

c. Land swap

Under land swaps, the replacement of land should be in a location that is accepted by both parties and should have an equal or higher value than the property being traded.

Land swap valuation is a complicated equation to formalize in the Islamic context, but it is seen as a critical mechanism if degradation and decay are to be reversed.

d. Compulsory purchase

This can be applied to secure designated lands for significant public use or interest, such as heritage buildings, community facilities and open spaces.

e. Transfer of development rights (TDR)

TDR is the method to move the density of development from areas that need protection (for example, heritage areas and open spaces) to areas designated for higher density.

The protected areas are called the sending areas, and the development areas are referred to as the receiving areas. For example, Al Asmakh-Al Najada as a part of old Doha Downtown is referred to as the sending area, while the receiving areas can be the areas outside C-Ring Road. The transfer would potentially need new planning permission, as it may not conform to the existing land use plan or regulations for that site.

6.4 MECHANISMS FOR ENABLING CHANGE

6.4.8 Partnership with other cities or countries

Partnerships between different countries can lead to long-term collaboration and investment. They can either take the form of a political or cultural partnership or project, or of issue-based partnerships. Both can be used as mechanisms to increase the understanding and knowledge of urban design in Qatar.

a. City partnerships (twinning)

City partnerships are long-term arrangements between cities that are institutionalized by a legal framework. International activities under the framework of city partnerships may be geared towards efforts for development cooperation, such as the improvement of the partner community's living conditions, or supporting the establishment of an efficient municipal administration with democratic structures. From an urban design perspective, they can be useful in the sharing of knowledge between cities. They may also aim to establish political friendships and cultural- and youth-exchange programs, or to foster cooperation in general. Doha has nearly 20 official twin cities across five continents.

b. Project partnerships

Project partnerships describe lighter forms of cooperation that consist of the exchange of experience between cities on certain subjects (or projects) over a determined period. Project partnerships can include institutional exchange or study visits by local politicians or municipal staff, training measures, or just the exchange of documents for learning. Despite their less formal character, project partnerships can sometimes be more efficient. Contacts with foreign cities can be made through donor agencies, embassies or other institutions, which are already working in international contexts, or directly between cities (GTZ, 2004).

These arrangements can be established between Doha and the twinning cities, or with other relevant cities that have demonstrated the success of their programs (for example, the benchmarks of the area action plan (AAP): Dublin, Singapore, Fez, Al Muharraq-Manama, Beirut).

The possibility is also open for creating such a partnership with other countries that have developed comprehensive systems to guide similar programs, in order to exchange expertise, information and experiences (for example Germany and the UK). Project partnerships would be led by MME, with potential collaboration with local and international professional bodies and academic institutions.

6.4.9 Pilot project to stimulate desirable future developments

6.4.9.1 Advantages

Showcase or pilot projects will help to enable residents, potential investors and even non-professionals to understand and to have a better idea of the kind – and scale – of measures to be taken. It also helps to anticipate impacts for the future process, as well as being very useful in initiating interconnectivity of sector-related aspects. Beyond the above benefits, it is also the best way to demonstrate the strong commitment of the government to a program of sensitive renewal.

6.4.9.2 Who?

MME would lead the pilot project, potentially in partnership with a local developer or landowner (public or private). A formal expression of interest would be issued to identify potential sites before a more in-depth site selection and design process is carried out.

6.4.9.3 How?

There are many possible types of projects that could become a candidate for a pilot project. A pilot project could consist of an urban site in a prominent location that has remained undeveloped for many years, or a suburban greenfield site identified for future development where a model neighborhood – based on the QUDC guidelines – could be demonstrated. MME would lead the design process through the production of a design brief and strong overview of the design consultants.

6.4 MECHANISMS FOR ENABLING CHANGE

4. *Qatar National Museum, during*
5. *construction and when finished*

6.4.10 Incentives

Incentivizing development is a standard tool used by governments to encourage development activity, particularly in regeneration areas. Incentives can be monetary, in the form of tax breaks or funding mechanisms. Financial, economic and planning incentives can form part of a programme of measures aimed at encouraging development in particular areas. Not all incentives will be effective at the current time, but they are included here for information.

a. Financial incentives
Financial incentives could be used as a means of reducing the cost of development finance or the cost of ownership and rent. Financial incentive schemes can be developed through close cooperation with Qatar financial institutions (for example, commercial banks or Islamic microfinance) to help finance the target group to own or rent properties within an identified action area. These schemes can be established in the form of housing loans, attractive mortgage rates or grants through innovative programs. Financial incentives would require collaboration between MME and the Ministry of Finance. It is likely that any arrangement would need the approval of the Qatar Central Bank.

b. Economic incentives
Economic incentives are targeted principally at developers. They are used where under normal market conditions the development would not be viable. Economic incentives can be used to make the scheme viable by reducing development costs or reducing risk. A wide range of financial incentives are available, such as:

- Fee waiver, waiver of development charges.
- Grants or specialized loan programs for conservation, restoration, rehabilitation or regeneration.
- Shared equity investment.
- Subsidy or grants for SMEs.
- Controlled rent in the conservation area.
- Tax exemption schemes if VAT or corporation tax were introduced in Qatar.

Similar to financial incentives, economic incentives would require the approval of the Ministry of Finance and, potentially, Qatar Central Bank.

c. Planning incentives
Planning incentives can also be used to make development viable, through increasing the amount of development that can be sold or reducing the requirements placed on the development. Typical planning incentives include:

- Gross floor area (GFA) incentives, where more GFA is permitted than would normally be the case.
- FAR incentives, which also enables more development to be constructed on a plot.
- Flexibility in the conservation guidelines, where rules are relaxed to enable the wider conservation area objectives to be fulfilled.

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A

APPENDIX: QUDC CHECKLISTS

A1. INTRODUCTION TO THE CHECKLISTS

Purpose

Checklists have been provided to aide the designer and reviewer of a development proposal. The purpose of the checklist is not to replicate the guidelines but rather to provide an easily accessible aide memoir of the key points. It is envisaged that the checklist will be read alongside the guidelines contained in Volume 1.

How to use

There are two checklists provided.

- The first is aimed at larger applications, those typically based on a master plan process. The major application checklist focuses on the strategy issues of a development rather than the detail. The urban structure, orientation, connectivity, open space networks, density and land use distribution are some of the key issues covered.
- The second checklist looks at the more detailed design elements of a project. This typically means the design of individual buildings, streets and spaces.

For a successful project, it is important that the design issues raised in the compendium and checklist are addressed properly.

The checklists are purposely not designed as a scoring assessment, as the guidelines are not written as such. Existing established assessment systems such as GSAS and LEED should be used if accreditation is sought for a particular project. It is important that the QUDC does not undermine these systems.

It should be noted that not all items covered in the checklist will be relevant. Space has been left for the designer and reviewer to note how issues have been addressed. For those issues that are deemed to be 'not applicable' (NA), this should be recorded in the checklist.

APPENDIX: A2. MAJOR APPLICATION CHECKLIST

A2. MAJOR APPLICATION CHECKLIST

SUSTAINABLE URBANISM	Yes/No/NA	Notes
C2.1 CLIMATE-RESPONSIVE DESIGN		
1. Has it been demonstrated that the block layout has been aligned to 45 degrees for reduction of solar radiation?		
2. Has building height and setback been considered in relation to the amount of shade the built form can cast upon the street? Do the proposed street width-to-building height ratios meet the requirements of the QUDC?		
C2.1.3 Wind		
3. Is there evidence that reducing the impact of north-west winds has been considered as part of the master-planning process?		
4. Has the designer introduced measures to harness and encourage the movement of cooler breezes in the public realm?		
C2.1.4 Thermal mass		
5. Has street design been utilized to create streets that funnel cooler breezes through a neighborhood?		
C2.1.6 Renewables		
6. Have photovoltaics been used to provide energy to urban furniture across the development?		
7. Has wind energy been considered as part of an area-wide renewable energy strategy?		
C2.2 WATER MANAGEMENT		
8. Have any of the following sustainable urban drainage strategies been used within the design:		
▶ District stormwater attenuation tanks		
▶ Plot-scale stormwater attenuation tanks		
▶ Green roofs		
▶ Brown roofs		
▶ Bioswales		
▶ Retention ponds		
▶ Underground gravel storage		

A2 MAJOR APPLICATION CHECKLIST

MOVEMENT AND TRANSPORT	Yes/No/NA	Notes
C3.1 CREATING WALKABLE SPACES		
1. Has the correct movement hierarchy been considered and applied, putting pedestrians first (including those who may be disabled), then cyclists, transit users and other motor vehicles?		
2. Will the proposals encourage walking, cycling and active lifestyles?		
3. Does the development deliver a mix of uses based around a network of connected, walkable streets?		
4. Has the walkable neighbourhood tool been used in the planning and design of the new development?		
C3.1.1 Pedestrian-friendly streets		
5. Have continuous, uninterrupted walking routes been designed in?		
6. Are these routes on the desire lines for pedestrians?		
7. Do they connect local centres, schools, shops, souqs, mosques and other destinations?		
8. Are new and existing streets traffic calmed to help create a better environment for pedestrians?		
9. Are pedestrian routes overlooked so they feel safe, and shaded with places to rest and good way-finding?		
C3.1.2 Pedestrian-friendly streets		
10. Is there a clear street hierarchy within the development?		
11. Have the streets been considered as social spaces with a focus on design for pedestrians?		
12. Is there a range of uses and active frontages that address the principal streets?		
13. Are the streets tree lined and shaded?		

A2 MAJOR APPLICATION CHECKLIST

MOVEMENT AND TRANSPORT	Yes/No/NA	Notes
C3.1.3 Movement spaces for the disabled		
14. Have the needs of disabled people been considered and met in the design?		
15. Are routes clear of obstacles, level and step free for the users of wheelchairs?		
16. Do routes have adequate shading and rest areas provided?		
17. Have the needs of disabled people been considered and met in the design?		
C3.1.4 Crossing the street		
18. Are frequent and level pedestrian crossings provided?		
19. Are pedestrian crossings convenient to use and on desire lines for movement?		
20. Have best practice designs been considered and used, such as raised tables and high-quality paving?		
C3.1.5 Planning for safe routes to schools		
21. Has a strategy for travel to school been set out? This may include buses, car share, walking and cycling initiatives.		
22. Are walking and cycling routes direct, easy and safe to use?		
23. Are schools and other facilities such as shops, offices, mosques etc.., located at the centre of neighbourhoods with good direct walking routes?		
C3.2 PLANNING FOR CYCLING FACILITIES **C3.2.1 Creating a cycling culture**		
24. Have strategic cycle routes to and from the development been considered and designed?Any cycle routes provided need to be part of a wider network.		
C3.2.2 Integrating cycle routes in the urban environment		
25. Are cycle routes segregated from traffic on busier streets and do they have appropriatecrossing points designed to minimize conflict with traffic?		

A2 MAJOR APPLICATION CHECKLIST

MOVEMENT AND TRANSPORT	Yes/No/NA	Notes
26. Where cycle routes run on busier streets, then are they designed as an integral part of theroad design?		
27. Are cycle routes shaded and well sign posted?		
28. Have cycle hire schemes, cycle parking and storage/changing facilities for cyclists been considered and provided?		
C3.3 PUBLIC TRANSPORT AND THE URBAN FORM **C3.3.1 Creating a multimodal transport culture**		
29. Is there an integrated public transport system that serves the development?		
30. Is the public transport system (heavy rail, metro, guided bus, taxi, bus) at the right scale for		
31. the nature of development?		
32. Is the public transport offer of high quality with a frequent, easy to use service?		
33. Does public transport have priority at junctions over other motor vehicles?		
34. Will public transport stops be designed as multi-use transport hubs?		
C3.3.2 Integrating urban transit systems in the city		
35. Are public transport stops located at key places and at the centres of neighbourhoods and on desire lines to maximize walkability?		
36. Has public transport been designed to accommodate disabled users and cycles?		
37. Has public transport been designed to allow for a seamless interchange with other modes of transport?		
C3.3.3 Complete Streets		
38. Has a Complete Streets approach to design been used?		
39. Have the following been considered: shaded footways and cycleways; street trees; legible routes on desire lines; traffic calmed streets;		

A2 MAJOR APPLICATION CHECKLIST

MOVEMENT AND TRANSPORT	Yes/No/NA	Notes
dedicated infrastructure for cycling and public transport; the needs of the disabled?		
C3.3.4 Retrofitting		
40. Are retrofit projects located to deliver maximum benefit to pedestrians and cyclists?		
41. Has consultation with the local community and stakeholders taken place?		
42. Will the retrofit project strike a balance towards pedestrians and cyclists away from motor vehicles?		
43. Are better crossing facilities provided and vehicle speeds reduced?		
44. Have underground utilities and services been considered and accommodated?		
45. Are new trees and shading structures provided?		
C3.4 CAR PARKING **C3.4.1 Parking provision based on character areas**		
46. Has the car parking provision (type, placing and number) been based on an analysis of character areas?		
47. Does the development offer a variety of parking solutions?		
48. Are flexible parking areas provided that can be shared between users at different times of the day/week?		
C3.4.2 Parking in transit-oriented developments		
49. At locations of high public transport accessibility, good walkability and mixed use have reduced car parking levels been provided?		
50. At these locations are flexible and shared parking areas used?		
51. Where parking structures are proposed (decked parking) is the design of these complementary to good street design, active frontages and walkability?		

A2 MAJOR APPLICATION CHECKLIST

MOVEMENT AND TRANSPORT	Yes/No/NA	Notes
C3.4.3 Parking in residential areas		
52. Have appropriate parking solutions been provided according to the density and height of proposed development?		
C3.4.4 Parking in commercial streets		
53. Has adequate and appropriate parking been provided?		
54. Where on-street parking is used is this regulated/ controlled to maximise sharing and efficiency?		
C3.4.5 Parking in places of interest		
55. Has a bespoke access and parking solution been developed for each place of interest?		
56. Has parking been provided to meet the average visitor demand?		
57. Have off-site parking solutions been considered where proximity parking is difficult?		
C3.5 WAYFINDING **C3.5.1 Creating an information system for the legible city**		
58. Is there a way-finding strategy in place?		
59. Does signage complement and enhance the surrounding environment?		
60. Are way-finding features positioned at key locations and along desire lines/main routes?		
C3.6 FUTURE TRANSPORT **C3.6.1 Introducing smart mobility for Qatary**		
61. Have future modes of transport been considered in the development proposals?		
62. Are streets and public spaces adaptable to future modes of travel?		

A2 MAJOR APPLICATION CHECKLIST

SPATIAL STRUCTURE AND URBAN FORM	Yes/No/NA	Notes
C4.1 ACHIEVING EFFECTIVE SPATIAL STRUCTURE		
C4.1.1 Appropriate urban morphology		
1. Has an urban morphological study been carried out, with evidence that it has formed part of the design process?		
2. Has the original morphology of the area been traced and responded to?		
3. Does the morphology of the new proposal respond to the site environment, with important natural features incorporated?		
4. Is historical morphology reintroduced or referenced in the new design?		
5. Does the proposed new morphology respond positively to its surrounding context?		
6. If applicable, can the spatial structure be repaired to respond to the adjacent morphology if it is of interest and value?		
7. Has the proposal been designed with the creation of neighborhood units in mind?		
C4.1.2 Adopting TOD approach		
8. If TOD possibilities are identified, does the proposal include a greater density and mix of uses around transit stations as per the principles of TOD design?		
9. If the proposal is within an existing center, is there opportunity to intensify the density and mix of uses through redevelopment of land around a public transport hub?		
10. If the proposal is within a new center and around a transit station, is the density higher than the surrounding development, with a greater mix of land uses?		
11. Is there a mix of vertical and horizontal land uses proposed in the master plan?		
12. For larger development proposals – and where possible – have civic, community and amenity uses been proposed as part of the land-use mix?		

A2 MAJOR APPLICATION CHECKLIST

	SPATIAL STRUCTURE AND URBAN FORM	Yes/No/NA	Notes
13.	Has a density cone been demonstrated in the proposal?		
14.	Has the development proposal demonstrated an emphasis on improving accessibility to and around the stations through permeable development forms?		
15.	Has a placemaking strategy been provided with the proposed design, and is it evident in the final design?		
C4.1.3 Establishing hierarchy of urban centers			
16.	Have the principles of center planning been applied, as set out in the QNDF and subsequent center planning regulations?		
17.	Does the proposal form part of an existing neighborhood center? If so, does it enhance the mix and function of the center?		
18.	Is the center defined by a design character that should be continued? If so, has this character been respected in the design?		
19.	Has the proposal been designed with the walkable principles of graded density and mixed use in mind?		
20.	Have the walkable catchments of between 250m and 400m been identified and clearly demonstrated as part of the design process?		
21.	Has the proposal enhanced the center's role as part of a connected network of centers linked by a range of transport modes?		
C4.1.4 Defining district centers			
22.	Is the proposal of sufficient size to provide districts within the boundary of approximately 110 hectares and 200 hectares and consisting of up to five neighborhoods? If so, have these districts been identified?		
23.	Are the edges of districts blurred and not defined by major highways, so residents can move between districts with ease?		
24.	Are there neighborhoods at the edge of districts with access to more than one district center?		

A2 MAJOR APPLICATION CHECKLIST

SPATIAL STRUCTURE AND URBAN FORM	Yes/No/NA	Notes
25. Has a new district center been proposed as part of the proposal?		
26. Has an existing district center been designated for its redevelopment or upgrade?		
27. Does the district center provide a range of goods and services that meet most residents' weekly needs?		
C4.1.5 Defining local centers		
28. Does the local center promote walking and cycling?		
29. Is car parking in local centers restricted to encourage walking?		
30. If proposal is in a lower-density residential suburb, is the local center a mixed land use proposal?		
31. In local centers, are medium-rise mixed-use buildings included to provide a choice and mix of housing in that neighborhood?		
32. Is the scale and massing of the local center responsive to the surrounding residential context, and does it sit as part of a mixed-use hub?		
33. Are public open spaces provided in or adjacent to the local center?		
34. Is a daily mosque provided in the local center?		
35. Are community or other important amenity facilities provided as part of the local center?		
36. If the local center is in a medium- and high-density environment, has the provision of retail and services formed part of a mixed-use building as opposed to a single-storey development?		
C4.1.6 Defining fareej		
37. Does the masterplan identify fareej units within the proposal that fall within the range of 20 hectares and 50 hectares, as outlined in the QUDC?		
38. Are there any existing neighborhoods with the characteristics of a fareej that need to be protected?		

A2 MAJOR APPLICATION CHECKLIST

	SPATIAL STRUCTURE & URBAN FORM	Yes/No/NA	Notes
39.	Have the following been considered in the design of a fareej:		
	▶ A walkable catchment of 250m to 400m maximum or area of between 20 hectares and 50 hectares.		
	▶ A network of sikkak provide pedestrian-only routes throughout the fareej.		
	▶ A series of small public spaces, known as barahaat, to provide safe spaces for social interaction.		
	▶ Provision of a local center with access by foot.		
	▶ Access to daily mosque via sikkak. network.		
	▶ No major roads to cross acting as barriers.		
	▶ Open spaces that encourage community interaction		
	C4.1.7 Integrating megaprojects		
40.	Is the proposed development programme of the project based on a framework rather than a rigid master plan?		
41.	If master plan proposed, is it sufficiently flexible to adapt to any changes further along the development programme?		
42.	Does the mega project use undeveloped land or is an existing urban area? If the latter, will any demolition be required as part of the development in urban area?		
43.	Does the mega project respond positively to its surrounding area in terms of scale and visual appearance?		
44.	Does the proposal blend seamlessly into the existing urban structure maintaining and enhancing connectivity across the site? Have existing movement routes been protected?		
45.	Where mega projects sit within an urban context and if so is the connectivity of pedestrians and cyclists prioritised over that of the motorist?		

A2 MAJOR APPLICATION CHECKLIST

SPATIAL STRUCTURE AND URBAN FORM	Yes/No/NA	Notes
46. Does the proposal blend into the existing fabric so that in future the boundaries blur?		
47. Has the project been designed to enable long term flexibility so it can respond to changing market conditions?		
C4.1.8 Defining periphery urban/urban-edge green belt		
48. If applicable, will the development meet the objectives of the Green Belt as set out in the QNMP?		
49. If located in the green belt, is the proposal visually discreet and designed to not adversely impact the open character of the desert green belt?		
C4.2 URBAN BLOCKS		
C4.2.1 Understanding block patterns and configurations		
50. Does the block pattern and configuration respond to the existing urban morphology and block layout?		
51. Does the block pattern and configuration respect the connectivity and permeability of the urban area?		
52. Does the layout respond to the existing natural features, links and landforms, if any?		
53. Does the block layout respond to climatic and solar orientation analysis?		
C4.2.2 Utilizing block shapes		
54. Are the block shapes regular or near regular in form?		
55. Are the blocks a maximum length-to-depth ratio of 2:1?		
56. Can irregular block shapes be used as an alternative to a rigid grid layout?		
C4.2.3 Understanding block sizes		
57. Has an optimum block size of between 100-150m maximum length or depth been achieved?		
58. Is family housing block depth at least 40m?		

A2 MAJOR APPLICATION CHECKLIST

SPATIAL STRUCTURE & URBAN FORM	Yes/No/NA	Notes
C4.3 PLOTS		
C4.3.2 Using small plot sizes in urban areas to create a fine grain of mixed uses		
59. Have plot sizes been based on walking distances to create permeable networks of streets?		
60. Have plots been designed to mimic the general size and shape of those in the surrounding area?		
61. Are plots of adequate size to accommodate their intended use or a mix of uses?		
62. Are plots arranged to ensure that frontages face public areas for natural surveillance?		
63. Does a subdivision proposal respect the existing scale and grain of the surrounding area?		
64. If the proposal is in an historic area, if possible, can new plots respond to the traditional layout, utilizing existing buildings and street networks as far as possible?		
65. Do plots respect the size, shape and arrangement of traditional plot layouts?		
66. Can historic cooling methods of street orientation or shading be respected in the modern development?		
67. Are new plots arranged to respect the existing movement patterns, in terms of walking, cycling and vehicles?		
68. Does the size and shape of a new plot reflect the surrounding plot grain?		
69. Are new plots of an appropriate size and shape to accommodate the designated land use in the regulations?		
70. Are plots flexible enough to accommodate a variety of uses, especially if classification is mixed-use?		

A2 MAJOR APPLICATION CHECKLIST

LAND USE AND DENSITY	Yes/No/NA	Notes
C5.1 DEFINING LAND USE IN URBAN CENTERS AND SUB-CENTERS		
1. Has the proposal for the center demonstrated a mix of land uses appropriate to the function of the center?		
2. Has a single-use zoning dominance been avoided?		
3. Does residential development form a key part of the land use mix in the center?		
4. Are the proposed mix of uses distributed to provide a fine grain and high intensity of active uses?		
5. Is there a balanced mix of vertically and horizontally mixed uses?		
6. Are the land uses proposed compatible with each other and existing neighboring uses?		
7. If there is any possible conflict between land uses, has design been used to mitigate the potential issues?		
8. Have an ample number of open spaces been included within the land use mix?		
C5.2 UNDERSTANDING PRIMARY AND SECONDARY USES		
C5.2.1 Primary land uses		
9. Has the distribution of primary uses across the master plan been designed in accordance with the guidelines of the QUDC?		
C5.2.2 Secondary land uses		
10. In addition to the primary land uses, have secondary land uses been provided in the development, as per the QUDC guidelines?		
11. Are secondary land uses integrated into the proposal?		
12. Are the secondary land uses complementary to other secondary uses proposed, and has any potential conflict been mitigated through design?		

A2 MAJOR APPLICATION CHECKLIST

LAND USE AND DENSITY	Yes/No/NA	Notes
13. Does the development include community facilities, as per the required standards for the area?		
14. Does the development include religious facilities, as per the required standards for the area?		
15. Does the development include leisure facilities, as per the required standards for the area?		
C5.3 MIXING LAND USES		
16. If the primary land use is residential, are complementary secondary land uses proposed?		
17. If the primary land use is residential, are additional community facilities proposed?		
18. If the primary land use is commercial, are complementary secondary land uses proposed?		
C5.4 MIXING USES IN BLOCKS AND BUILDINGS		
C5.4.1 Mixed use – side by side		
19. In larger districts, has a varied and active mix of land uses across the wider district been achieved?		
20. Has the horizontal distribution of land uses been clearly planned to ensure complementary uses are adjacent to each other?		
21. Are the proposed mix of uses viable to achieve an active commercial destination outside of work hours?		
C5.5 ACHIEVING VIBRANT PLACES THROUGH STREET ZONE ACTIVATION		
22. Is there opportunity to introduce additional active uses at ground-floor level so that streets can become more active and a vital part of the public realm network?		
23. Has the designer examined how streets can be adapted to encourage greater activation of the space on the street?		

A2 MAJOR APPLICATION CHECKLIST

LAND USE AND DENSITY	Yes/No/NA	Notes
C5.7 ACHIEVING VIABLE AND VITAL PLACES THROUGH PEPPER-POTTING AND 24/7 STRATEGY		
C5.7.2 Day/Night		
24. Will the mix of proposed land uses ensure an active street environment outside of the active hours of the primary land use?		
C5.8 UNDERSTANDING SEASONAL AND TEMPORARY LAND USE		
25. Has the public realm network been designed and programed to accommodate the majority of seasonal and temporary uses?		
26. Are the seasonal or temporary land uses proposed complementary to the permanent land uses?		
27. Are temporary land uses designed to avoid conflicts with residents and operators?		
28. Have design measures been proposed to mitigate any negative bad neighbor issues arising from temporary land uses in residential areas?		
C5.10 APPROPRIATE DENSITY AND LOCATION		
29. Has the proposal demonstrated the principle of graded density?		
C5.11 UNDERSTANDING DENSITY AND TRANSPORT RELATIONSHIP		
30. Has a ped-shed analysis been carried out to understand the most appropriate distribution of density at a transit station?		
31. Has the air rights above a transit station been utilized for development?		
32. Is the connectivity around the transit station conducive to safe and unobstructed movement, especially for pedestrians and non-motorized transportation?		
33. If the area is not well served by public transportation, are the density levels proposed appropriate or justified, given the poor movement options?		

A2 MAJOR APPLICATION CHECKLIST

LAND USE AND DENSITY	Yes/No/NA	Notes
C5.12 UNDERSTANDING DENSITY, FORM AND SPACE RELATIONSHIP		
34. Does the master plan respond to the existing context to warrant an increase in density?		
35. If applicable, has the proposed increase in density been achieved within the parameters of good urban design principles, based on the development of perimeter blocks over stand-alone towers?		
C5.13 UNDERSTANDING DENSITY AND FLEXIBILITY OVER TIME		
36. Can an increase in density be phased over time to mitigate any potential issues related to a sudden rise in population or visitors?		
37. Has the change of use from one land use been considered in the light of the implications in demand for infrastructure and transport?		
C5.14 ACHIEVING SAFETY AND SECURITY		
38. Have the principles and objectives of natural surveillance been demonstrated within the proposal?		
C5.15 LAND USE AND DENSITY ENHANCE BRANDING		
39. Has the designer demonstrated that the choice of land uses and density will reinforce the branding of a place?		

A2 MAJOR APPLICATION CHECKLIST

BUILT FORM AND ARCHITECTURE	Yes/No/NA	Notes
C6.1 CREATING SUCCESSFUL BUILT FORM		
1. Is the project exhibiting an understanding of the existing context, in terms of constraints and opportunities in the policy, environment, historic and social value?		
2. Has the project made the right choice in terms of building typology according to: landuse, density, orientation, massing, street and site geometry, street edge and skyline profile?		
3. Has the project addressed adequate the interface between public and private in a way to enhance the street life?		
C6.1.1 Distinctive character		
4. Is the project's character a reflection of local design nuances and suitable materials?		
C6.1.2 Diversity and richness		
5. Has diversity of form, use and aesthetics been considered, in keeping with the spirit of the context?		
C6.1.3 Clear external expression		
6. Are balance, composition and proportion in line with best practices and guidelines for clarity of expression in terms of base, middle, top building strata and their intrinsic properties?		
C6.1.4 Appropriate grain		
7. What is the proposed impact on the urban grain and does it allow for permeability, legibility, suitable block sizes?		
8. What is the proposed building grain and does it follow guidelines for appropriate facade variations along the street edge?		
C6.1.5 Appropriate scale		
9. Has the appropriate scale been achieved, in relation to the street, setbacks and grain of the context?		
C6.1.6 Building depth		
10. Has a suitable depth been chosen in relation to function and plot size?		

A2 MAJOR APPLICATION CHECKLIST

BUILT FORM AND ARCHITECTURE	Yes/No/NA	Notes
C6.1.7 Building width		
11. Has an appropriate width been chosen in relation to the street and plot configuration ?		
C6.1.8 Appropriate building orientation		
12. Is the design optimising the plot properties in terms of building orientation, taking into account environmental factors (sun, wind, microclimate), in order to achieve greater building energy efficiency and enhance the experience of the public realm?		
C6.1.9 Building height		
13. Is the building height relating suitably to street proportions, enclosure and urban grain?		
14. Is the building height help enhance the skyline?		
15. Does it relate suitably to appropriate densities, townscape and use mix diversity?		
16. Does it help urban legibility?		
17. Does it continue suitably the street edge properties and not overpower or unbalance the built context around?		
C6.1.10 Clear private and public space		
18. Does the design establish clear private, semi-private and public spaces?		
19. Is privacy achieved without hard limits, blocking views or disrupting street edges and impeding on the continuity of the public realm?		
C6.1.11 Maintain privacy, prevent overlooking		
20. Is privacy maintained by avoiding overlooking, but still maintaining a relationship with the street and public realm, so as to enhance urban life?		
C6.1.12 Clear fronts and backs		
21. Is there a clear distinction between fronts and backs and does each act according to best urban practices (fronts engaging with the street; and backs - achieving the appropriate functional goals?		

A2 MAJOR APPLICATION CHECKLIST

BUILT FORM AND ARCHITECTURE	Yes/No/NA	Notes
C6.1.13 Strong building lines		
22. Are the primary façades following the building lines, already established and according to setback regulations?		
23. Are large gaps in primary façades avoided in order to maintain a good building line?		
C6.1.14 Appropriate setbacks		
24. Are the setbacks in line with the overall vision for the street and is the development respecting such a vision?		
25. Are the corners resolved in a suitable way in terms of setbacks?		
26. Are there possibilities to utilize setbacks for the creating of public pocket spaces or courtyards?		
27. Are colonnades considered as a way to achieve a zero setback, but providing a suitable shaded public passage?		
C6.1.15 Building frontage - public realm		
28. Is the development creating an active frontage onto the street?		
29. Is the frontage supportive of people's activities?		
30. Is the frontage providing shaded passage?		
31. Is the frontage providing necessary thresholds between public or private?		
32. Is the frontage avoiding walls and proposing other ways to separate private from public, to comply with best practices?		
C6.1.16 Creating shade		
33. Is the development designed to provide maximum shade, onto the street?		
34. Is the development optimized to provide shade alog the façades, to shade glazed areas?		
C6.1.17 Solar gain and sunlight		
35. Is the development design to optimise thermal mass and shading in order to minimize solar gain and sunlight, especially on south-facing façades?		

A2 MAJOR APPLICATION CHECKLIST

BUILT FORM AND ARCHITECTURE	Yes/No/NA	Notes
36. Are appropriate measures, such as colors and reduced glazing considered?		
C6.1.18 Environmental optimisation		
37. Is the local climate considered in the design of buildings and spaces between buildings?		
38. Are passive measures considered?		
C6.1.19 Housing compounds		
39. In the case of housing compounds development, is grain, street patterns and scale considered?		
40. Is the maximum size of 150m for any one side of the compound adhered to?		
41. Are harsh walls avoided and more subtle designs proposed - such as vegetation or fencing?		
42. Is the development providing social and local retail facilities facing the street to allow equal access to other communities?		
43. Are the possibilities for pedestrian permeability within the compound and between compounds taken advantage of (reduced unbroken walls, unbroken building edges, etc.)?		
44. If there are opportunities for mixed use units, are they facing the streets and enhancing the wider neighbourhood?		
C6.2 DEFINING APPROPRIATE BUILDING TYPOLOGY		
45. Is a suitable building typology selected, based on form, function, urban criteria (social, physical and economic), architectural vision or program requirements?		
46. Is the building relationship to its surrounding well resolved, so as to offer the best possible urban solution in terms of scale, proportion, skyline, etc.?		
47. Is the chosen typology fitting with the rest of the developments along the street or within a wider masterplan? Does it enhance the overall experience?		

A2 MAJOR APPLICATION CHECKLIST

BUILT FORM AND ARCHITECTURE	Yes/No/NA	Notes
48. Is a suitable typology chosen, based on criteria, as set out in the QUDC, in the case of single building, and in consideration of their urban location?		
C6.3 COMPOSITION AND CONFIGURATION OF BUILT FORM		
C6.3.1 Geometry		
49. Is the development respectful of local geometric patterns, in terms of morphology, grain, form?		
50. Is the development balancing the benefits of regular and more organic geometries, to fit suitably, while also be inventive?		
C6.3.2 Continuity		
51. Is good continuity (and acceptably variations) maintained along and across streets, roof lines, elevations?		
C6.3.3 Enclosure		
52. Is the development creating good urban enclosures and enhance public life, be in external or internal?		
C6.3.4 Rhythm and repetition		
53. Is the development achieving a balanced asymmetry in terms of its rhythmic and repetitions character, in comparison to nearby developments and as a landmark on its own, setting a tone of reflection of Qatari historic architectural principles?		
C6.3.5 Proportion		
54. Are human-scale proportions adopted?		
55. Are vertical and horizontal elements well balanced?		
56. Are smaller elements balanced with bigger ones?		
C6.3.6 Contrast		
57. If contrast is chosen as a design approach, is it well suited and does it contribute positively to the scale and character of the surrounding context (by some binding principles)?		
C6.3.7 Unique spaces		
58. Has the development explored opportunities to create unique urban spaces and contribue to the public life and realm outside of its premises?		

A2 MAJOR APPLICATION CHECKLIST

BUILT FORM AND ARCHITECTURE	Yes/No/NA	Notes
C6.4 CREATING PLEASANT AND CLEAR URBAN JOURNEYS **C6.4.1 Vistas**		
59. Are vistas possible and has the development acknowledged and designed for them?		
60. Has the development assessed how its layout can promote movement, legibility and natural way-finding?		
C6.4.2 Landmarks		
61. Have points for potential landmarks been identified?		
C6.4.3 Corners		
62. Have corners been treated as special places, with higher height and a distinctive character?		
C6.4.4 Skyline		
63. Has the skyline been improved with the new development?		
C6.5 ACTIVATE THE BASE		
64. Has the base of the development been thoroughly designed to enhance the public life by activating it, by providing richness and delight in expression, appeal and welcoming feeling?		
65. Has the based on the development been considered for public use (such as madhkals, shaded semi-private areas, shaded passages - such as colonnades; outdoor seating areas for F&B; retail units, etc.?		
C6.5.1 Street scale and hierarchy		
66. Has the scale of the base been suited to its surroundings?		
67. Has the scale of the base been designed to human scale?		
C6.5.2 Forecourts		
68. Are forecourts designed to continue pedestrian movement through them?		
C6.5.3 Steps, levels and ramps		
69. Are changes of levels suitably dealt with at urban thresholds?		

A2 MAJOR APPLICATION CHECKLIST

BUILT FORM AND ARCHITECTURE	Yes/No/NA	Notes
70. In the case of ramps, are they well-suited for people with disabilities?		
71. In the case of large developments, are tiered levels adopted and is their design enhancing the public realm and providing continuous movement throughout, including for people with disabilities?		
C6.5.4 Walls and courtyard gardens		
72. Are fully blind walls avoided?		
73. Are the walls providing suited privacy, also engage with the public realm?		
C6.5.5 Thresholds: madkhal		
74. Are thresholds designed in a way to serve both the private and the public domains?		
C6.5.6 Retail and F&B		
75. Are base of buildings in downtown areas provided with retail and F&B?		
76. Does the retail and F&B enhance the street life without obstruction?		
C6.5.7 Other active uses		
77. Where no retail or F&B is possible, are other active uses considered?		
C6.5.8 Back-of-house entrances		
78. Are back-of-house entrances located away from primary streets?		
79. Are BOH units well hidden and wrapped by other uses?		
80. Are BOH units screened with good design, such as rolling shutters, thresholds details, bespoke gates, etc..?		
C6.6 ACCOMMODATING PARKING		
81. Has a strong parking strategy been proposed, which does not undermine the public realm and does not take on prime space (frontage)?		
C6.6.1 Street scale		
82. Is car parking avoided in the case of active streets in urban locations?		

A2 MAJOR APPLICATION CHECKLIST

BUILT FORM AND ARCHITECTURE	Yes/No/NA	Notes
83. Is the pedestrian experience prioritized within the parking scheme of the proposed development?		
C6.6.2 Cycles and motorbikes		
84. Are there provisions of cycle parking within the development?		
85. Are there provisions for cycles that are suitable for all ages, thus eliminating, for instance, the need to lift or drag the bike to park it?		
86. Is the development promoting cycling or motorbiking by the provision of adequate parking and facilities?		
C6.7 UNDERSTANDING QATARI ARCHITECTURAL LANGUAGE **C6.7.1 Common Qatari language**		
87. Is the development mindful of traditional Qatari architectural principles and language?		
C6.7.2 Iconic buildings and the everyday		
88. Is the new development enhancing the existing character of a place?		
89. Is the development's type (civic, for instance) benefiting from a more iconic design?		
90. Is the iconic development contrasting in a suitable way with the everyday?		
C6.7.3 Response to climate		
91. Is the development doing enough to consider and respond to the harsh climate in Qatar (E.g. use of mashrabiyas, deep openings, liwans, cantilevers, passive design)?		
C6.7.4 Elements of architecture		
92. Is the development employing principles of simplicity and solidity in its walls' design?		
93. Are walls a minimum of 500mm thick with windows located towards the inner side?		
94. Are the façades designed as a sequence of layers?		
95. Are openings and windows suitably located (less windows on south and west, more on east and north)?		

A2 MAJOR APPLICATION CHECKLIST

BUILT FORM AND ARCHITECTURE		Yes/No/NA	Notes
96.	Do all rooms have adequate access to daylight and ventilation?		
97.	Is the window design elaborated with projections - both vertical and horizontal - that can be used for privacy or climate control?		
98.	Are liwans considered and adequately designed to provide for continuous passage of suitable width; to provide for adequate shading and achieve good elevational proportion?		
99.	Are rooftop spaces considered as usable spaces?		
100.	Are rooftops activated to add to the urban vibrancy in the case of non-residential developments?		
101.	In the case of residential developments, are rooftops considered as private terraces and as special places within the overall design?		
102.	Are other elements of traditional architecture considered (albeit in their modern or interpreted form); such as madkhals, mashrabiyyas, shutters, malqafs, balconies and bays, parapets, projecting shades considered?		
103.	Are the considered elements in line with the vision for adherence to historic reference, interpreted in new contemporary ways?		
C6.7.5 Use of patterns			
104.	Are patterns considered?		
105.	Is pattern design done in a subtle way, not overpowering or overused?		
C6.8 DETAILING AND ANIMATING **C6.8.1 Roofscape intensity**			
106.	Are rooftops animated?		
107.	How is the rooftop design contributing to the overall skyline? Is it enhancing it, animating it, adding to it in a suitable way?		
108.	Are views prioritized and designed for within the rooftop spaces?		

A2 MAJOR APPLICATION CHECKLIST

BUILT FORM AND ARCHITECTURE	Yes/No/NA	Notes
C6.8.2 Natural light		
109. Is natural light prioritized in terms of daylight, but also in terms of shadow patterning?		
C6.8.3 Louvers		
110. Color, patterns, orientation can render louvers a delightful and very functional design element?		
C6.8.4 Urban scent and acoustics		
111. Does the design mitigate unpleasant sounds and create opportunities for delightful ones?		
C6.8.5 Texture		
112. Is material texture considered in a way to enhance the overall design and offer something visually unique?		
C6.8.6 Intrigue, delight and discovery		
113. Does the development bear moments of delight, curiosity, discovery - be it in materials, spaces, shadows, sounds, views or others?		
C6.8.7 Appropriate materials		
114. Has the project selected carefully its materials, in terms of local availability, local character and suitability, economics, energy efficiency etc..?		
C6.8.8 Simplicity and robustness		
115. Are the principles of simplicity and robustness upheld in the design? Is the project a feeling of timeless architecture, in line with the local spirit?		
C6.8.9 Color		
116. Has the design used colors in a suitable way? E.g. more traditional forms would benefit from off-white, subtle tonalities, whereas more iconic designs might opt for a more vibrant color palette?		
117. Are elements, such as window reveals or entries been accentuated with different colors?		
C6.8 COPING WITH CHANGES: ADAPTIVE REUSE **C6.8.1 Adaptability**		
118. Is the design adaptable, transformative, able to withstand time and change?		
119. Are its internal spaces with the right amount of flexibility?		

A2 MAJOR APPLICATION CHECKLIST

LANDSCAPE URBANISM	Yes/No/NA	Notes
C7.1 CONSERVING AND PROTECTING NATURE		
1. Have any nationally or regionally important sites been identified within the proposal? Have the relevant ministries or municipalities been consulted for advice on their protection?		
2. Has a site environmental study been undertaken to identify important natural features?		
3. Has an ecologist, environmental expert or other specialist (for example, horticulturalist) visited the site to identify its natural significance?		
4. Has the landscape character been assessed as part of the site assessment?		
5. Have the urban design and placemaking qualities of the site been identified within the proposal?		
6. Does the proposal incorporate habitat creation and enhancement using sensitive landscape and design?		
C7.2 PROTECTING COASTAL ZONES AND WATERFRONTS		
7. Has an environmental assessment of the coastal area been undertaken as part of the proposal?		
C7.3 ESTABLISHING A GREEN NETWORK		
8. At a citywide level, is there opportunity to create a green network of open spaces, linear parks and green streets?		
9. Are there spaces within the proposed development that can create or contribute to a green network in the surrounding area?		
10. Are there existing streets, road corridors, stormwater reserves or green belts that can be converted to green routes?		
11. Are there existing natural features that can be enhanced and form part of the green network?		
12. Are there any natural features that can be connected to form a wider green network? Can the planning process help provide the links to these gaps in the green network?		

A2 MAJOR APPLICATION CHECKLIST

LANDSCAPE URBANISM	Yes/No/NA	Notes
13. Can existing over-sized road corridors be enhanced and incorporated into the green network?		
14. Can a series of existing open spaces be linked to form a green network?		
15. Does the green network contain leisure facilities for recreational and educational purposes?		
C7.4 DESIGNING PUBLIC OPEN SPACE		
16. As part of the proposed development, is there opportunity to provide open space for the public to use?		
17. As part of the proposed development, is there opportunity to provide open space for the private use of the intended users?		
18. Has the park and its entrances been designed to allow for easy direct access from the surrounding area?		
19. Will the public park proposed help to meet the MME's required number of parks for the area?		
C7.4.3 Co-locating parks		
20. Does the master plan locate open space alongside a commercial center or other facilities that attract a high number of visitors?		
21. If the park is colocated with other uses, is the car park shared for both uses?		
22. If the park is colocated, are the connections between the two areas accessible, direct and not obstructed for pedestrians and cyclists?		
23. If not already beside a commercial center, is there opportunity to provide retail, F&B, medical or other community services beside the park, with easy access?		
24. Is there opportunity to provide community or commercial facilities within the park?		
C7.4.4 Pocket parks		
25. Has the master plan identified spaces that could be designated as pocket parks?		

A2 MAJOR APPLICATION CHECKLIST

LANDSCAPE URBANISM	Yes/No/NA	Notes
26. Is the pocket park of sufficient size to allow facilities such as children's play equipment?		
C7.4.7 Sports areas		
27. Has the master plan identified areas for sports facilities within the open space network that can address local needs?		
C7.4.8 Green streets		
28. Does the master plan include a streetscape and public realm strategy that identifies opportunities for greening of streets?		
C7.4.10 Linear park		
29. Has the opportunity to connect into, and provide an extension of, a linear park been explored?		
30. Have all scales of linear parks been considered, even the potential for silkkak to be provided as linear parks?		
31. Are linear parks shaded by a combination of trees, buildings and, where gaps are identified, shade structures?		
32. Do linear parks provide a variety of different exercise routes and equipment?		
33. Are the edges of linear parks lined with active uses, such as cafés?		
C7.4.11 Natural spaces and parks		
34. Is there an opportunity to create parks that include a productive landscape		
35. Is there an educational resource opportunity associated with the park?		
36. Can urban farms be introduced into the proposal or a adjacent urban area?		
37. Are there areas that have been identified for their environmental or cultural assets that need conservation and preservation?		
38. Are conservation areas able to provide a community asset in the form of a public park?		

A2 MAJOR APPLICATION CHECKLIST

LANDSCAPE URBANISM	Yes/No/NA	Notes
39. Can entertainment uses utilize natural open spaces in an environmentally-sensitive manner, improving biodiversity, flora and fauna in the process?		
C7.4.12 Civic spaces		
40. Has a placemaking strategy been developed for specific civic spaces that helps strengthen its function and visual identity?		
41. Does the master plan include a placemaking strategy that identifies public spaces that should receive higher investment in the public realm?		
C7.4.13 Prayer grounds and mosque spaces		
42. Have sufficient prayer grounds and religious spaces been provided in the area, as per MME standards?		
C7.5 EMBRACING LEVELS AND CONTOURS		
43. Are there existing changes in topography that can be utilized to create a unique development?		
44. Is there opportunity for new level changes to be introduced as part of the proposal?		
45. Are historical natural features present on the site that can be replicated such as a wadi or rawdat?		
46. Has the designer considered using the topography to good advantage – for example, using height and views or following ridge lines for master-planning?		
C7.6 ENLIVEN EXISTING BARREN SPACES		
47. Has a placemaking and/or urban design assessment been carried out, and is it evident in the designer's proposal for existing barren spaces?		
C7.6.1 Retrofitting leftover spaces		
48. Have any leftover spaces been identified that require treatment?		
49. Does the proposal address leftover spaces in a positive manner?		
50. Is there opportunity to conceal car parking either within a building structure or using a landscape		

A2 MAJOR APPLICATION CHECKLIST

LANDSCAPE URBANISM	Yes/No/NA	Notes
solution?		
C7.8 PROVIDING SHADE		
51. Within the proposal, has shade been considered in a comprehensive manner, using natural and built structures to shade the majority of the external areas?		
52. Has a shadow analysis been undertaken to understand what areas need additional shade?		
C7.9 RESPONSIVE HARDSCAPE		
C7.9.1 Urban heat island		
53. Has the design incorporated techniques for reducing or mitigating the urban heat island effect?		
C7.10 RESPONSIVE SOFTSCAPE		
54. Has the softscape palette chosen demonstrated good knowledge of indigenous or native planting species?		
55. Has the softscape palette chosen demonstrated good knowledge of regional or locally-adapted species?		
56. For larger developments, has the creation of a nursery been considered?		
57. Is there opportunity for the protection of native habitats or ecological regimes where native planting exists within or adjacent to the proposal?		
58. Has the proposal included solutions for introducing additional trees into existing road corridors?		

APPENDIX: A3. BUILDING AND PUBLIC REALM APPLICATION CHECKLIST

A3. BUILDING AND PUBLIC REALM CHECKLIST

SUSTAINABLE URBANISM	Yes/No/NA	Notes
C2.1 CLIMATE-RESPONSIVE DESIGN		
1. Have additional means of shading public realm space been considered by the designer:		
▶ Stepped and recessed façades		
▶ Colonnades		
▶ Extendable roof canopies and overhangs		
▶ Canopies at pedestrian level		
2. Does the window-to-wall ratio for the façade meet the requirements as set out in the QUDC? Has solar-control glazing been used within all the windows of the façade?		
3. If used, how many of the windows utilize solar-control glazing? It is recommended that all windows are using glazing with a maximum of 0.3 solar heat gain coefficient.		
4. Have flat roof skylights been used, as they are not recommended? If so, is there the possibility for north-facing clerestories?		
5. Has the building been designed in a manner to minimize the exposed surfaces to the sun? Buildings with lower surface area-to-volume are recommended by MME.		
6. What is the predominant shape and orientation of the building? Long buildings with an east-west axis are recommended.		
7. Does the building have a predominant façade facing east or west? Such façades should be limited when possible.		
8. Have south-facing windows been shaded with any of following horizontal shading methods?		
▶ Overhangs		
▶ Awnings		
▶ Brise-soleil		

A3 - BUILDINGS AND PUBLIC REALM CHECKLIST

SUSTAINABLE URBANISM	Yes/No/NA	Notes
▶ Recessed façades		
▶ Balconies		
9. Have windows facing east or west been shaded with any of the following vertical shading methods?:		
▶ Deep windows		
▶ Perforated façades		
C2.1.2 Daylight		
10. In office buildings, have shallow floor plates been used to ensure sufficient daylight? It is recommended below 15m for office buildings.		
11. Have glare control measures been introduced, such as overhang and/or screens?		
12. Have internal light shelves been used?		
13. Has dark glass been used? The MME recommends alternative means of limiting light rather than dark glass.		
14. Has solar-control glass transmittances around 50-60% been used?		
15. Are there potential glare issues from buildings in the vicinity facing the windows of the proposal? If so, has the designer identified and introduced means of mitigating the issue through the design of fenestration?		
C2.1.3 Wind		
16. Have windcatchers been used facing the sea to enhance natural ventilation?		
17. For single building design of offices, has the floor plate design been considered to enhance and facilitate natural cross-ventilation?		
18. Is there evidence of the use of passive evaporative cooling strategies?		
C2.1.4 Thermal mass		
19. Has the proposal demonstrated the use of methods for reducing the urban heat island effect at both the local and macro levels?		

A3 - BUILDINGS AND PUBLIC REALM CHECKLIST

	SUSTAINABLE URBANISM	Yes/No/NA	Notes
20.	For a single building proposal, has vegetation around the building been proposed?		
21.	For proposals larger than a single building, has vegetation been used around buildings, in parking lots and the open spaces?		
22.	Have light-colored reflective materials been used for roofs for single buildings?		
23.	Have light-colored reflective materials been used for roofs or pavements if the proposal is larger than single building?		
24.	For projects involving streets, have built shading structures been introduced to improve shading? The target is to reach 60-70% shading of hardscape pedestrian pavements and parking areas, and 25-30% shading for common areas.		
25.	For projects involving streets, have natural shading methods (primarily trees) been introduced to improve shading? The target is to reach 60-70% shading of hardscape pedestrian pavements and parking areas, and 25-30% shading for common areas.		
26.	Does the design of buildings seek to utilize thermal massing as part of their energy strategy?		
C2.1.5 Lighting			
27.	If external lighting is proposed, has it been directed downwards, away from the sky, using shields or blinds?		
28.	Have LED lights been used where possible?		
29.	Will buildings be externally lit outside of usable hours (for example, out of work times for office buildings)?		
30.	Are external lights fitted with time switches and/ or daylight sensors to reduce out of hours usage?		
31.	Will buildings be internally lit outside of usable hours (for example, out of work times for office buildings)?		

A3 - BUILDINGS AND PUBLIC REALM CHECKLIST

SUSTAINABLE URBANISM	Yes/No/NA	Notes
C2.1.6 Renewables		
32. Have any of the following solar technologies been introduced in the proposal?		
▶ Photovoltaic panels for energy		
▶ Photovoltaics for hot water		
▶ Solar cooling		
▶ Building integrated photovoltaics (BIPVs)		
C2.2 WATER MANAGEMENT		
33. Have any water-saving methods been used within the proposed project?		
C2.3 CONSTRUCTION MATERIALS		
34. Have regional materials been used in the planned construction and procurement strategy?		
35. Have mud-based materials been explored for use as part of the construction materials?		
36. Do the materials have responsibly-sourced certification?		
37. Have low environmental impact materials been used in the planned construction?		
38. Will the construction utilize modular systems or prefabrication?		
39. Will the construction be designed for disassembly?		
40. Will recycled materials be used in the construction?		
C2.4 WASTE MANAGEMENT		
C2.4.1 Strategic waste management plan		
41. Can materials that will be used in construction be recycled?		
42. Does the project include smart storage or collection systems?		
43. Have regional materials been used?		
44. Have recycled materials been used?		

A3 - BUILDINGS AND PUBLIC REALM CHECKLIST

	SUSTAINABLE URBANISM	Yes/No/NA	Notes
45.	Are any materials salvaged?		
46.	Has modular architecture been considered as a means of construction?		
47.	Has off-site prefabrication been considered as a means of construction?		
48.	Have smart monitoring systems for waste been considered at local or macro scale in the project?		
49.	Is food composting possible at local or macro scale in the project?		
50.	Can food compost be used in the green areas of the project?		

A3 - BUILDINGS AND PUBLIC REALM CHECKLIST

MOVEMENT AND TRANSPORT	Yes/No/NA	Notes
C3.1 CREATING WALKABLE SPACES		
1. Has the correct movement hierarchy been considered and applied, putting pedestrians first (including those who may be disabled), then cyclists, transit users and other motor vehicles?		
2. Will the proposals encourage walking, cycling and active lifestyles?		
C3.1.1 Pedestrian-friendly streets		
3. Have continuous, uninterrupted walking routes been designed to get o and from the buildings/ public realm?		
4. Do the buildings connect to local centres, schools, shops, souqs, mosques and other destinations for pedestrians and cyclists?		
5. Are new and existing adjacent streets traffic calmed to help create a better environment for pedestrians?		
6. Are pedestrian routes overlooked so they feel safe, and shaded with places to rest and good way-finding?		
C3.1.2 Pedestrian-friendly streets		
7. Are there active frontages at ground level to street/public spaces?		
8. Are the adjacent streets tree lined and shaded?		
C3.1.3 Movement spaces for the disabled		
9. Have the needs of disabled people been considered and met in the design?		
10. Are entrances to buildings accessible to disabled people?		
11. Are routes clear of obstacles, level and step free for the users of wheelchairs?		
12. Do routes have adequate shading and rest areas provided?		
C3.1.4 Crossing the street		
13. Are frequent and level pedestrian crossings provided?		

A3 - BUILDINGS AND PUBLIC REALM CHECKLIST

MOVEMENT AND TRANSPORT	Yes/No/NA	Notes
14. Are pedestrian crossings convenient to use and on desire lines for movement?		
15. Have best practice designs been considered and used, such as raised tables and high-quality paving?		
C3.1.5 Planning for safe routes to schools		
16. Has a strategy for travel to school been set out? This may include buses, car share, walking and cycling initiatives.		
17. Are walking and cycling routes direct, easy and safe to use?		
18. Are schools and other facilities such as shops, offices, mosques etc.., located at the centre of neighbourhoods with good direct walking routes?		
C3.2 PLANNING FOR CYCLING FACILITIES **C3.2.1 Creating a cycling culture**		
19. Have strategic cycle routes to and from the buildings/public realm been considered and designed? Any cycle routes provided need to be part of a wider network.		
C3.2.2 Integrating cycle routes in the urban environment		
20. Are cycle routes segregated from traffic on busier streets and do they have appropriate crossing points designed to minimize conflict with traffic?		
21. Where cycle routes run on busier streets, then are they designed as an integral part of the road design?		
22. Are cycle routes shaded and well sign posted?		
23. Have cycle hire schemes, cycle parking and storage/changing facilities for cyclists been considered and provided?		
C3.3 PUBLIC TRANSPORT AND THE URBAN FORM **C3.3.1 Creating a multimodal transport culture**		
24. Is there an integrated public transport system that serves the development/public space?		

A3 - BUILDINGS AND PUBLIC REALM CHECKLIST

MOVEMENT AND TRANSPORT	Yes/No/NA	Notes
25. Is the public transport offer of high quality with a frequent, easy to use service?		
26. Does public transport have priority at junctions over other motor vehicles?		
C3.3.2 Integrating urban transit systems in the city		
27. Are public transport stops located nearby and are they accessible by foot/cycle?		
28. Has public transport been designed to accommodate disabled users and cycles?		
29. Has public transport been designed to allow for a seamless interchange with other modes of transport?		
C3.3.3 Complete Streets		
30. Has a Complete Streets approach to design been used?		
31. Have the following been considered: shaded footways and cycleways; street trees; legible routes on desire lines; traffic calmed streets; dedicated infrastructure for cycling and public transport; the needs of the disabled?		
C3.3.4 Retrofitting		
32. Are retrofit projects located to deliver maximum benefit to pedestrians and cyclists?		
33. Has consultation with the local community and stakeholders taken place?		
34. Will the retrofit project strike a balance towards pedestrians and cyclists away from motor vehicles?		
35. Are better crossing facilities provided and vehicle speeds reduced?		
36. Have underground utilities and services been considered and accommodated?		
37. Are new trees and shading structures provided?		

A3 - BUILDINGS AND PUBLIC REALM CHECKLIST

MOVEMENT AND TRANSPORT	Yes/No/NA	Notes
C3.4 CAR PARKING		
C3.4.1 Parking provision based on character areas		
38. Has the car parking provision (type, placing and number) been based on an analysis of character areas?		
39. Does the development offer a variety of parking solutions?		
40. Has the parking been located and designed so that it does not dominate the street scene or obstruct pedestrians/cyclist?		
41. Are flexible parking areas provided that can be shared between users at different times of the day/week?		
C3.4.2 Parking in transit-oriented developments		
42. At locations of high public transport accessibility, good walkability and mixed use have reduced car parking levels been provided?		
43. At these locations are flexible and shared parking areas used?		
C3.4.3 Parking in residential areas		
44. Have appropriate parking solutions been provided according to the density and height of proposed development?		
C3.4.4 Parking in commercial streets		
45. Has adequate and appropriate parking been provided?		
46. Where on-street parking is used is this regulated/ controlled to maximise sharing and efficiency?		
C3.4.5 Parking in places of interest		
47. Has a bespoke access and parking solution been developed for each place of interest?		
48. Has parking been provided to meet the average visitor demand?		
49. Have off-site parking solutions been considered where proximity parking is difficult?		

A3 - BUILDINGS AND PUBLIC REALM CHECKLIST

MOVEMENT AND TRANSPORT	Yes/No/NA	Notes
C3.5 WAYFINDING **C3.5.1 Creating an information system for the legible city**		
50. Is there a way-finding strategy in place?		
51. Does signage complement and enhance the surrounding environment?		
52. Are way-finding features positioned at key locations and along desire lines/main routes?		
C3.6 FUTURE TRANSPORT **C3.6.1 Introducing smart mobility for Qatary**		
53. Have future modes of transport been considered in the development proposals?		
54. Are streets and public spaces adaptable to future modes of travel?		

A3 - BUILDINGS AND PUBLIC REALM CHECKLIST

SPATIAL STRUCTURE AND URBAN FORM	Yes/No/NA	Notes
C4.2 URBAN BLOCKS		
C4.2.4 Defining space within blocks		
1. Does the design of the block provide clearly defined public and private space?		
2. Is the space within blocks actively used for either the amenity of residents or visitors?		
3. If the proposal is for medium- and high-density development, has opportunity to open up the courtyard to commercial use been explored?		
4. In a medium- and high-density development where there is the need to utilize the ground floor for car parking with a podium deck above, has the podium been used as a garden space?		
5. In a lower-density residential development, is the space within blocks used as private garden space?		
6. In commercial settings, is there a balance between private car parking and amenity space for workers?		
7. Within internal block spaces, is there shading provided by both building and landscape?		
C4.3 PLOTS		
C4.3.1 Using plot types and sizes		
8. If the proposal is for a high-density tower, is the plot of sufficient size to achieve other objectives of human-scale ground floors and active frontage?		
9. Does the proposal contain large areas of blank frontage car parking podiums? Does this façade dominate the ground floor?		
10. Are plots of sufficient size to allow for a sufficient ratio between external area and floor plates?		
11. Are plots of sufficient size to ensure an adequate separation distance between building frontages?		
12. Do villa plots balance sufficient external areas compared to habitable floor space?		

A3 - BUILDINGS AND PUBLIC REALM CHECKLIST

SPATIAL STRUCTURE AND URBAN FORM	Yes/No/NA	Notes
13. Do villas have external areas at both the front and rear?		
14. Do villa plots and shapes allow for courtyard housing where external space is contained within the center of the plot?		
15. Does plot orientation and shape allow for buildings that can naturally shade from excessive sun exposure?		
C4.3.2 Using small plot sizes in urban areas to create a fine grain of mixed uses		
16. With consideration for the impact on a neighboring plot, has the amalgamation of undersized plots been tested to form a larger usable plot for modern use?		
17. If plot amalgamation is not possible, are undersized plots positively utilized for alternative uses such as community spaces or open space?		
C4.3.3 Positive boundaries and setbacks		
18. Have the boundaries and setbacks been considered in proposal?		
19. Have the privacy requirements of neighboring plots been considered in the proposal?		
20. Have the daylight requirements of neighboring plots been considered in the proposal?		
C4.3.4 Creating positive residential boundaries		
21. Do rear setbacks need to be applied if adequate distance between building fronts can not be achieved that would result in unacceptable distance between windows of habitable rooms?		
C4.3.5 Encouraging a mix of land uses on boundaries		
22. Have the separation distance standards set out in the QUDC been applied?		
23. In medium- and higher-density areas, can terraces, verandahs or balconies from public rooms be used to help activity to the street?		
24. Have the guidance for mixed-use boundaries been considered in the proposal?		

A3 - BUILDINGS AND PUBLIC REALM CHECKLIST

SPATIAL STRUCTURE AND URBAN FORM	Yes/No/NA	Notes
25. Are mixed-use buildings directly aligned to the public streets, with no setback, to allow retail or F&B visitors to access ground floor units?		
26. Do the lower floors of buildings facing front boundaries contain the most active uses and rooms?		
27. Have double-height ground floor units on front boundaries been used to increase active frontage?		
28. If residential uses on lower floors are proposed on front boundaries, have they been designed to ensure privacy of the residents in habitable rooms, especially bedrooms and bathrooms?		
C4.3.6 Providing a positive boundary to the public edge		
29. Have buildings been designed to provide an active edge to the public realm?		
30. Have blank façades facing public streets been avoided?		
C4.3.7 Ensuring car parking does not overly dominate front boundaries		
31. Is parking hidden from view on plots?		
32. If the proposal is in a lower density villa suburb, can vehicles can be screened within the private plot?		
33. Is visitor car parking provided in the street in designated areas?		
34. In higher-density residential areas, is car parking hidden behind or under buildings?		
35. Is the space above car parking podium usable open space?		
C4.3.8 Creating positive uses for front setbacks in residential areas		
36. Has the setback space been designed and treated with same consideration as the rest of the plot?		

A3 - BUILDINGS AND PUBLIC REALM CHECKLIST

SPATIAL STRUCTURE AND URBAN FORM	Yes/No/NA	Notes
37. Do buildings on corners consider a lower setback distance on its corner to create a visual landmark for the street?		
38. Does the proposal for medium/high density housing contain terraces, verandahs or balconies within setback areas?		
39. In higher-density areas where buildings have retail ground floors, has the introduction of arcades/colonnades been considered?		
40. If active fronts to residential buildings have been provided, do they respect the privacy of the main villa?		
C4.3.9 Understanding plot and building dispositions		
41. Do plots allow for a variety of building dispositions to ensure long term viability?		
42. Do plots allow for courtyard housing?		
43. Are villa plots arranged in accordance with privacy objectives?		
C4.3.10 Arranging plots on existing urban plots		
44. Does the plot allow for sufficient separation to the rear elevations of neighboring buildings?		
45. Have historic typologies been researched to inspire modern urban form?		
C4.3.11 Identifying relationships between plots		
46. Do plots have their own private access gained from public streets?		
47. Is primary access of the plot gained from its front boundary?		
48. If a side plot has two boundaries facing public streets, is the access gained from either direction?		
49. Are plots arranged to respect privacy of residents of that building and all neighbors?		

A3 - BUILDINGS AND PUBLIC REALM CHECKLIST

SPATIAL STRUCTURE AND URBAN FORM	Yes/No/NA	Notes
50. Are plots arranged to achieve efficiency, avoiding roads that only serve a single frontage?		
C4.3.12 Fronts and backs		
51. For proposals in residential areas, do the majority of window openings face forward to public areas and to the rear?		
52. When facing a neighboring plot, are windows on side elevations carefully designed so as not to impinge on privacy?		
C4.4 WORKING WITH EXISTING PLOTS		
C4.4.4 Infill development and regeneration areas		
53. Are new plots arranged to respect the existing movement patterns?		
54. Does the size and shape of new plots reflect the surrounding plot grain?		
55. Are new plots of an appropriate size and shape to accommodate the designated land uses given the above?		
56. Are plots flexible to accommodate a variety of uses?		

A3 - BUILDINGS AND PUBLIC REALM CHECKLIST

LAND USE AND DENSITY	Yes/No/NA	Notes
C5.2 UNDERSTANDING PRIMARY AND SECONDARY USES		
1. Are any potential conflicts between land uses within the building mitigated with design measures?		
2. If proposed buildings are to accommodate more than two land uses, have the access arrangements been designed to mitigate any potential conflict between users? For example, the mix of office workers and residents sharing the same access arrangement.		
3. Is the proposed building adaptable to support a variety of land uses?		
4. If the main land use of a building is a secondary land use, has it been adequately arranged to provide an active ground floor edge to primary street frontage?		
5. If a proposal is outside designated centers, are active ground floor uses provided at key points, such as corner positions, main street frontage or gateway points?		
C5.6 COPING WITH CHANGES: ADAPTABILITY AND RETROFIT		
6. Is it evident that the layout of the building could hinder the long-term flexibility of the building in terms of adapting to new uses?		
7. If the proposal involves any site clearance, is the reuse of buildings possible, as opposed to demolition and rebuilding?		
8. Can existing infrastructure or streets be reused where it maintains its historic urban structure, is well connected and pedestrian-oriented in its scale and pattern?		
9. Has the ability to retrofit buildings to alternative uses been considered by the architect?		
C5.9 MANAGING CLARITY BETWEEN PUBLIC AND PRIVATE		
10. Has the boundary been private and public space been clearly defined?		

A3 - BUILDINGS AND PUBLIC REALM CHECKLIST

LAND USE AND DENSITY	Yes/No/NA	Notes
11. Has the threshold between public and private space been designed to be unobstructed and safe, without any trip hazards?		
12. If appropriate, is there a visual separation between public and private space?		
13. Is the management and maintenance of the two adjacent spaces the same?		
C5.15 LAND USE AND DENSITY ENHANCE BRANDING		
14. Have the elements that are located in the public realm, such as benches, been branded with a citywide theme that reinforces the brand of that city?		

A3 - BUILDINGS AND PUBLIC REALM CHECKLIST

BUILT FORM AND ARCHITECTURE	Yes/No/NA	Notes
C6.1 CREATING SUCCESSFUL BUILT FORM		
1. Is the project exhibiting an understanding of the existing context, in terms of constraints and opportunities in the policy, environment, historic and social value?		
2. Has the project made the right choice in terms of building typology according to: landuse, density, orientation, massing, street and site geometry, street edge and skyline profile?		
3. Has the project addressed adequate the interface between public and private in a way to enhance the street life?		
C6.1.1 Distinctive character		
4. Is the project's character a reflection of local design nuances and suitable materials?		
C6.1.2 Diversity and richness		
5. Has diversity of form, use and aesthetics been considered, in keeping with the spirit of the context?		
C6.1.3 Clear external expression		
6. Are balance, composition and proportion in line with best practices and guidelines for clarity of expression in terms of base, middle, top building strata and their intrinsic properties?		
C6.1.4 Appropriate grain		
7. What is the proposed impact on the urban grain and does it allow for permeability, legibility, suitable block sizes?		
8. What is the proposed building grain and does it follow guidelines for appropriate facade variations along the street edge?		
C6.1.5 Appropriate scale		
9. Has the appropriate scale been achieved, in relation to the street, setbacks and grain of the context?		
C6.1.6 Building depth		
10. Has a suitable depth been chosen in relation to function and plot size?		

A3 - BUILDINGS AND PUBLIC REALM CHECKLIST

BUILT FORM AND ARCHITECTURE	Yes/No/NA	Notes
C6.1.7 Building width		
11. Has an appropriate width been chosen in relation to the street and plot configuration ?		
C6.1.8 Appropriate building orientation		
12. Is the design optimising the plot properties in terms of building orientation, taking into account environmental factors (sun, wind, microclimate), in order to achieve greater building energy efficiency and enhance the experience of the public realm?		
C6.1.9 Building height		
13. Is the building height relating suitably to street proportions, enclosure and urban grain?		
14. Is the building height help enhance the skyline?		
15. Does it relate suitably to appropriate densities, townscape and use mix diversity?		
16. Does it help urban legibility?		
17. Does it continue suitably the street edge properties and not overpower or unbalance the built context around?		
C6.1.10 Clear private and public space		
18. Does the design establish clear private, semi-private and public spaces?		
19. Is privacy achieved without hard limits, blocking views or disrupting street edges and impeding on the continuity of the public realm?		
C6.1.11 Maintain privacy, prevent overlooking		
20. Is privacy maintained by avoiding overlooking, but still maintaining a relationship with the street and public realm, so as to enhance urban life?		
C6.1.12 Clear fronts and backs		
21. Is there a clear distinction between fronts and backs and does each act according to best urban practices (fronts engaging with the street; and backs - achieving the appropriate functional goals?		

A3 - BUILDINGS AND PUBLIC REALM CHECKLIST

BUILT FORM AND ARCHITECTURE	Yes/No/NA	Notes
C6.1.13 Strong building lines		
22. Are the primary façades following the building lines, already established and according to setback regulations?		
23. Are large gaps in primary façades avoided in order to maintain a good building line?		
C6.1.14 Appropriate setbacks		
24. Are the setbacks in line with the overall vision for the street and is the development respecting such a vision?		
25. Are the corners resolved in a suitable way in terms of setbacks?		
26. Are there possibilities to utilize setbacks for the creating of public pocket spaces or courtyards?		
27. Are colonnades considered as a way to achieve a zero setback, but providing a suitable shaded public passage?		
C6.1.15 Building frontage - public realm		
28. Is the development creating an active frontage onto the street?		
29. Is the frontage supportive of people's activities?		
30. Is the frontage providing shaded passage?		
31. Is the frontage providing necessary thresholds between public or private?		
32. Is the frontage avoiding walls and proposing other ways to separate private from public, to comply with best practices?		
C6.1.16 Creating shade		
33. Is the development designed to provide maximum shade, onto the street?		
34. Is the development optimized to provide shade alog the façades, to shade glazed areas?		
C6.1.17 Solar gain and sunlight		
35. Is the development design to optimise thermal mass and shading in order to minimize solar gain and sunlight, especially on south-facing façades?		

A3 - BUILDINGS AND PUBLIC REALM CHECKLIST

BUILT FORM AND ARCHITECTURE	Yes/No/NA	Notes
36. Are appropriate measures, such as colors and reduced glazing considered?		
C6.1.18 Environmental optimisation		
37. Is the local climate considered in the design of buildings and spaces between buildings?		
38. Are passive measures considered?		
C6.1.19 Housing compounds		
39. In the case of housing compounds development, is grain, street patterns and scale considered?		
40. Is the maximum size of 150m for any one side of the compound adhered to?		
41. Are harsh walls avoided and more subtle designs proposed - such as vegetation or fencing?		
42. Is the development providing social and local retail facilities facing the street to allow equal access to other communities?		
43. Are the possibilities for pedestrian permeability within the compound and between compounds taken advantage of (reduced unbroken walls, unbroken building edges, etc.)?		
44. If there are opportunities for mixed use units, are they facing the streets and enhancing the wider neighbourhood?		
C6.2 DEFINING APPROPRIATE BUILDING TYPOLOGY		
45. Is a suitable building typology selected, based on form, function, urban criteria (social, physical and economic), architectural vision or program requirements?		
46. Is the building relationship to its surrounding well resolved, so as to offer the best possible urban solution in terms of scale, proportion, skyline, etc.?		
47. Is the chosen typology fitting with the rest of the developments along the street or within a wider masterplan? Does it enhance the overall experience?		

A3 - BUILDINGS AND PUBLIC REALM CHECKLIST

BUILT FORM AND ARCHITECTURE	Yes/No/NA	Notes
48. Is a suitable typology chosen, based on criteria, as set out in the QUDC, in the case of single building, and in consideration of their urban location?		
C6.3 COMPOSITION AND CONFIGURATION OF BUILT FORM		
C6.3.1 Geometry		
49. Is the development respectful of local geometric patterns, in terms of morphology, grain, form?		
50. Is the development balancing the benefits of regular and more organic geometries, to fit suitably, while also be inventive?		
C6.3.2 Continuity		
51. Is good continuity (and acceptably variations) maintained along and across streets, roof lines, elevations?		
C6.3.3 Enclosure		
52. Is the development creating good urban enclosures and enhance public life, be in external or internal?		
C6.3.4 Rhythm and repetition		
53. Is the development achieving a balanced asymmetry in terms of its rhythmic and repetitions character, in comparison to nearby developments and as a landmark on its own, setting a tone of reflection of Qatari historic architectural principles?		
C6.3.5 Proportion		
54. Are human-scale proportions adopted?		
55. Are vertical and horizontal elements well balanced?		
56. Are smaller elements balanced with bigger ones?		
C6.3.6 Contrast		
57. If contrast is chosen as a design approach, is it well suited and does it contribute positively to the scale and character of the surrounding context (by some binding principles)?		
C6.3.7 Unique spaces		
58. Has the development explored opportunities to create unique urban spaces and contribue to the public life and realm outside of its premises?		

A3 - BUILDINGS AND PUBLIC REALM CHECKLIST

BUILT FORM AND ARCHITECTURE	Yes/No/NA	Notes
C6.4 CREATING PLEASANT AND CLEAR URBAN JOURNEYS **C6.4.1 Vistas**		
59. Are vistas possible and has the development acknowledged and designed for them?		
60. Has the development assessed how its layout can promote movement, legibility and natural way-finding?		
C6.4.2 Landmarks		
61. Have points for potential landmarks been identified?		
C6.4.3 Corners		
62. Have corners been treated as special places, with higher height and a distinctive character?		
C6.4.4 Skyline		
63. Has the skyline been improved with the new development?		
C6.5 ACTIVATE THE BASE		
64. Has the base of the development been thoroughly designed to enhance the public life by activating it, by providing richness and delight in expression, appeal and welcoming feeling?		
65. Has the based on the development been considered for public use (such as madhkals, shaded semi-private areas, shaded passages - such as colonnades; outdoor seating areas for F&B; retail units, etc.?		
C6.5.1 Street scale and hierarchy		
66. Has the scale of the base been suited to its surroundings?		
67. Has the scale of the base been designed to human scale?		
C6.5.2 Forecourts		
68. Are forecourts designed to continue pedestrian movement through them?		
C6.5.3 Steps, levels and ramps		
69. Are changes of levels suitably dealt with at urban thresholds?		

A3 - BUILDINGS AND PUBLIC REALM CHECKLIST

BUILT FORM AND ARCHITECTURE	Yes/No/NA	Notes
70. In the case of ramps, are they well-suited for people with disabilities?		
71. In the case of large developments, are tiered levels adopted and is their design enhancing the public realm and providing continuous movement throughout, including for people with disabilities?		
C6.5.4 Walls and courtyard gardens		
72. Are fully blind walls avoided?		
73. Are the walls providing suited privacy, also engage with the public realm?		
C6.5.5 Thresholds: madkhal		
74. Are thresholds designed in a way to serve both the private and the public domains?		
C6.5.6 Retail and F&B		
75. Are base of buildings in downtown areas provided with retail and F&B?		
76. Does the retail and F&B enhance the street life without obstruction?		
C6.5.7 Other active uses		
77. Where no retail or F&B is possible, are other active uses considered?		
C6.5.8 Back-of-house entrances		
78. Are back-of-house entrances located away from primary streets?		
79. Are BOH units well hidden and wrapped by other uses?		
80. Are BOH units screened with good design, such as rolling shutters, thresholds details, bespoke gates, etc..?		
C6.6 ACCOMMODATING PARKING		
81. Has a strong parking strategy been proposed, which does not undermine the public realm and does not take on prime space (frontage)?		
C6.6.1 Street scale		
82. Is car parking avoided in the case of active streets in urban locations?		

A3 - BUILDINGS AND PUBLIC REALM CHECKLIST

BUILT FORM AND ARCHITECTURE	Yes/No/NA	Notes
83. Is the pedestrian experience prioritized within the parking scheme of the proposed development?		
C6.6.2 Cycles and motorbikes		
84. Are there provisions of cycle parking within the development?		
85. Are there provisions for cycles that are suitable for all ages, thus eliminating, for instance, the need to lift or drag the bike to park it?		
86. Is the development promoting cycling or motorbiking by the provision of adequate parking and facilities?		
C6.7 UNDERSTANDING QATARI ARCHITECTURAL LANGUAGE **C6.7.1 Common Qatari language**		
87. Is the development mindful of traditional Qatari architectural principles and language?		
C6.7.2 Iconic buildings and the everyday		
88. Is the new development enhancing the existing character of a place?		
89. Is the development's type (civic, for instance) benefiting from a more iconic design?		
90. Is the iconic development contrasting in a suitable way with the everyday?		
C6.7.3 Response to climate		
91. Is the development doing enough to consider and respond to the harsh climate in Qatar (E.g. use of mashrabiyas, deep openings, liwans, cantilevers, passive design)?		
C6.7.4 Elements of architecture		
92. Is the development employing principles of simplicity and solidity in its walls' design?		
93. Are walls a minimum of 500mm thick with windows located towards the inner side?		
94. Are the façades designed as a sequence of layers?		
95. Are openings and windows suitably located (less windows on south and west, more on east and north)?		

A3 - BUILDINGS AND PUBLIC REALM CHECKLIST

BUILT FORM AND ARCHITECTURE	Yes/No/NA	Notes
96. Do all rooms have adequate access to daylight and ventilation?		
97. Is the window design elaborated with projections - both vertical and horizontal - that can be used for privacy or climate control?		
98. Are liwans considered and adequately designed to provide for continuous passage of suitable width; to provide for adequate shading and achieve good elevational proportion?		
99. Are rooftop spaces considered as usable spaces?		
100. Are rooftops activated to add to the urban vibrancy in the case of non-residential developments?		
101. In the case of residential developments, are rooftops considered as private terraces and as special places within the overall design?		
102. Are other elements of traditional architecture considered (albeit in their modern or interpreted form); such as madkhals, mashrabiyyas, shutters, malqafs, balconies and bays, parapets, projecting shades considered?		
103. Are the considered elements in line with the vision for adherence to historic reference, interpreted in new contemporary ways?		
C6.7.5 Use of patterns		
104. Are patterns considered?		
105. Is pattern design done in a subtle way, not overpowering or overused?		
C6.8 DETAILING AND ANIMATING **C6.8.1 Roofscape intensity**		
106. Are rooftops animated?		
107. How is the rooftop design contributing to the overall skyline? Is it enhancing it, animating it, adding to it in a suitable way?		
108. Are views prioritized and designed for within the rooftop spaces?		

A3 - BUILDINGS AND PUBLIC REALM CHECKLIST

BUILT FORM AND ARCHITECTURE	Yes/No/NA	Notes
C6.8.2 Natural light		
109. Is natural light prioritized in terms of daylight, but also in terms of shadow patterning?		
C6.8.3 Louvers		
110. Color, patterns, orientation can render louvers a delightful and very functional design element?		
C6.8.4 Urban scent and acoustics		
111. Does the design mitigate unpleasant sounds and create opportunities for delightful ones?		
C6.8.5 Texture		
112. Is material texture considered in a way to enhance the overall design and offer something visually unique?		
C6.8.6 Intrigue, delight and discovery		
113. Does the development bear moments of delight, curiosity, discovery - be it in materials, spaces, shadows, sounds, views or others?		
C6.8.7 Appropriate materials		
114. Has the project selected carefully its materials, in terms of local availability, local character and suitability, economics, energy efficiency etc..?		
C6.8.8 Simplicity and robustness		
115. Are the principles of simplicity and robustness upheld in the design? Is the project a feeling of timeless architecture, in line with the local spirit?		
C6.8.9 Color		
116. Has the design used colors in a suitable way? E.g. more traditional forms would benefit from off-white, subtle tonalities, whereas more iconic designs might opt for a more vibrant color palette?		
117. Are elements, such as window reveals or entries been accentuated with different colors?		
C6.8 COPING WITH CHANGES: ADAPTIVE REUSE **C6.8.1 Adaptability**		
118. Is the design adaptable, transformative, able to withstand time and change?		
119. Are its internal spaces with the right amount of flexibility?		

A3 - BUILDINGS AND PUBLIC REALM CHECKLIST

LANDSCAPE URBANISM	Yes/No/NA	Notes
C7.1 CONSERVING AND PROTECTING NATURE		
1. Has planting appropriate to the site's existing condition been included in the proposal?		
2. Has the long-term management been considered in the design proposal?		
C7.4 DESIGNING PUBLIC OPEN SPACE		
3. Has the designer considered the site surroundings in their design proposal?		
4. Is the park entrance aligned with a connected network of streets in the surrounding area?		
5. Are park entrances unobstructed and accessible for people with disabilities?		
6. Does the design of the park consider the local character of the surrounding area?		
7. Does the choice of planting align to the scale of space?		
8. Does the proposal provide evidence that a wide range of age groups have been considered in its design?		
9. Has the designer considered the long-term maintenance of the park in term of its planting, facilities, equipment and lighting?		
10. Has the long-term condition of equipment been considered?		
11. Has the long-term condition of planting proposed within the park been considered?		
12. Have a mix of park facilities been provided that are appropriate to the size of the park?		
13. Are the park facilities shaded adequately by either trees, shade structures or adjacent buildings?		
14. Have park facilities been provided to address a mix of different age groups?		
15. Are park facilities appropriate to the local demographic of the intended users?		

A3 - BUILDINGS AND PUBLIC REALM CHECKLIST

LANDSCAPE URBANISM	Yes/No/NA	Notes
16. Have park facilities been chosen for their placemaking and visual quality?		
17. Are park facilities visually integrated with surrounding buildings?		
18. Has a deficiency in certain facilities been identified in the wider area that could be provided in a pocket park?		
C7.4.5 Amenity green spaces		
19. Is there an opportunity to provide softscape planting into an existing area to provide visual delight or shading?		
20. In high-profile areas, would green space improve the sense of place or contribute to its existing character?		
21. Has the designer considered the long-term impact of including trees into an existing road corridor or space?		
C7.4.6 Playgrounds		
22. Are all of the children's playgrounds shaded by trees, shade structures or adjacent buildings?		
23. Will the play equipment be visually attractive and fit into the placemaking strategy for the surrounding area?		
24. Is the surface material suitable for the climate, with consideration given to heat absorption and children playing in bare feet?		
25. Is the surface material suitable and safe for a playground, especially around equipment children can fall from, such as swings or slides?		
26. Has the long-term maintenance of playgrounds and their equipment been considered?		
27. Is there a maintenance plan in place for the long-term upkeep of parks and their facilities?		
28. Are play facilities provided for a variety of age groups and physical abilities?		

A3 - BUILDINGS AND PUBLIC REALM CHECKLIST

LANDSCAPE URBANISM	Yes/No/NA	Notes
C7.4.7 Sports areas		
29. Will sports facilities be lit at night with floodlights? If so, has the impact of such lighting on the surrounding area been considered in positioning and orientation?		
C7.4.8 Green streets		
30. Have the quality of materials, softscape, furniture and lighting been chosen in response to the commercial or civic importance of the space?		
31. Does the proposed green street place walking and cycling as a priority in its design focus?		
32. Are safe crossing points provided for pedestrians and cyclists?		
33. Are pathways in green streets safe, unobstructed, shaded and visually interesting?		
34. Are pathways accessible for people of all abilities in terms of, for instance, levels, obstructions, trip hazards, glare and visual contrast of materials?		
C7.4.9 Seaside and coastal routes		
35. Does the proposal offer opportunity to provide a waterfront corniche promenade or public park?		
36. If car parking is necessary, has it been integrated into the design and sufficiently screened or landscaped so that it does not overly dominate the space?		
C7.4.12 Civic spaces		
37. Have identified civic spaces been designed to the highest quality in terms of materials, furniture, public art and landscape?		
38. Is the urban space activated by ground floor uses of surrounding buildings?		
39. Are spaces sufficiently overlooked by surrounding uses?		
40. Is space appropriately lit for its intended use after dark?		

A3 - BUILDINGS AND PUBLIC REALM CHECKLIST

LANDSCAPE URBANISM	Yes/No/NA	Notes
C7.4.13 Prayer grounds and mosque spaces		
41. Can the external area accommodate the overflow of people on certain days in terms of a adequate-sized space that is safe and shaded?		
42. Do the prayer grounds of urban locations demonstrate the highest levels of quality and workmanship?		
43. Are materials responsive to the climate and seasonal use?		
C7.5 EMBRACING LEVELS AND CONTOURS		
44. If sloping or terracing is included in the proposal, is the site designed to universal design principles?		
C7.7 INNOVATIVE SMART LANDSCAPE SOLUTIONS		
45. Have modern smart technologies for irrigation and water management been explored within any landscape proposal?		
C7.8 PROVIDING SHADE		
46. Have trees been selected for the density of their canopy and spread, to provide maximum shading for water use?		
C7.8.1 Shade structures		
47. Have shade structures been introduced as a result of restrictions on using natural landscape in the external area?		
C7.9 RESPONSIVE HARDSCAPE		
C7.9.1 Urban heat island		
48. Are the proposed hardscape design and materials likely to add to the urban heat island effect due to over-absorption of the ground surface in external areas?		
C7.10 RESPONSIVE SOFTSCAPE		
49. Has the designer proposed a softscape design that provides effective shade of hardscape?		
50. Has a water-balance budget been demonstrated that favours the use of softscape to shade footpaths and other human spaces?		
51. If trees are being proposed for footpath shading, do they have a clear trunk height of at least 2.1m?		

A3 - BUILDINGS AND PUBLIC REALM CHECKLIST

LANDSCAPE URBANISM	Yes/No/NA	Notes
52. If trees are being proposed for cycle path shading, do they have a clear trunk height of at least 2.3m?		
53. Have tree pit details been submitted with the proposal to show how tree routes will not adversely interfere with underground utilities, if present?		
C7.11 BETTER ROADS, KERBS AND CROSSINGS		
54. Has the designer taken reference from the surrounding context in the choice of materials?		
55. Are the trees proposed suited to their location in the street, with regard to the level of shade, height and form of canopy, and potential exposure to winds and downdrafts?		
56. In instances where a local residential street has a large right of way, has the designer demonstrated that the street retains a sense of intimacy and appropriateness of scale?		
57. If the street is in a high-profile commercial context, have higher-quality materials been proposed?		
58. Will the hardscape materials reflect the location in terms of quality, durability, ease of cleaning and maintenance?		
59. If the street is in a high-profile commercial context, has more ornamental planting been proposed?		
C7.12 STREET FURNITURE		
60. Has a street or open space been identified as having an issue where pedestrian free movement is being obstructed by furniture?		
61. Can street clutter be consolidated to a furnishing zone away from movement routes of pedestrians?		
62. Will a furnishing zone, where all street furniture is placed, benefit the free movement of people on the street?		

A3 - BUILDINGS AND PUBLIC REALM CHECKLIST

LANDSCAPE URBANISM		Yes/No/NA	Notes
63.	Can benches be placed within the open space or street at key nodes?		
64.	Have benches been placed with suitable spacing to allow for the elderly to find a place to sit along a walking route?		
65.	Has the visual appearance of the street furniture selection been chosen to reflect the character of the area or building?		
66.	Has street furniture been chosen with consideration for its long-term maintenance?		
67.	Has street furniture been chosen with consideration for the climatic conditions in Qatar?		
68.	Does furniture need to be shaded to improve user function and offer longer-term protection for the material?		

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