PLANNING & DESIGN GUIDELINES

Waterfront Residential District







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INTRODUCTION

The masterplan for Lusail has evolved since 2006 and comprises detail proposals for a new coastal city quarter to the north side of Doha's city centre.

The Lusail Development covers 19 separate Districts with over 4.000 development parcels. It is a complex real estate construction project for 200,000 residents, overseen by Lusail Real Estate Development Company (LREDC) as Master Developer and involving many Agencies and Sub-Developers all with a mutual interest in delivering a vibrant and successful world class coastal city. The development will feature State-of-the-Art Mass Transit Networks, Infrastructure services and a range of Residential, Mixed-Use, Hospitality, Sports, Retail & Entertainment venues and districts. With an over-riding sustainabilitydriven development strategy Lusail is a key part of delivering Qatar's forward thinking, Global vision for a sustainable approach that befits our times.

To help guide and ensure integrated and high quality delivery of all development, a suite of integrated design guidelines and controls has been prepared for each of the districts. These documents provide a single series of design codes and guidelines that explain the masterplan intent, its districts and respective parcels as well as the design guidelines for a variety of development typologies across the masterplan. Each District Document has its own brand colour to make the family of documents more legible to use.

Each of the documents, comprises 2 sections:

- > Section 1: Masterplan Overview
- > Section 2: District Overview / Design Guidelines & Controls

Document Organisation

Section 1: Masterplan Overview

Section 1 introduces the project, its vision and development strategy and its overall significance to Doha and Qatar.

It confirms the status of the development within the national and municipal planning frameworks and shows how the guidance fits into the planning and construction process.

Section 1 sets out the rationale behind the overall masterplan for the Lusail development, including:

- > The Vision for the area's development
- > The character of its component parts, including retail and employment, centres, residential suburbs
- > The transport and green space networks that link its different districts
- Overall guidelines applicable to all development within Lusail Masterplan.



Section 2: District Design Guidelines & Controls

Section 2 provides 2 layers of design guidance:

- > District Wide: These guidelines set out a series of District wide urban design frameworks explaining the design context for individual or multiple plot development
- > Parcel & Plot: These guidelines explain the design parameters and approach to be used by subdevelopers at parcel and plot level.

The District wide guidelines explain the key development and planning principles for each neighbourhood within a district, together with any District distinguishing features and treatments to be applied.

The sub-developer will need to carefully read and understand the District wide context to ensure that their parcel or plot developments are contributing to the overall success of the District. The Parcel & Plot guidelines explain the typical & mandatory plot controls along with the guidance on the design intent such as the expected form, style and material treatments for a development.

Section 2 emphasises the importance of the street composition and public realm design. It is important that all sub-developers consider the street and adjacent plots so that their development contributes to the overall District, Neighbourhood and Street intended sense of character.

The Section 2 guidelines cover:

- > Character Guidelines
- > Parcel Typology Design Guidelines
- > Parcel Architectural Guidelines
- > Parcel Landscape Guidelines

Plot Building Regulation Sheets

The Plot Building Regulation sheets provide the legal basis for development, setting the conditions of permissible development for each plot and parcel. These are issued to the plot owners at the time of purchase as separate documentation to the Design Guidelines & Controls

Section 1 and 2 of Design Guidelines & Controls are the supplementary documents to the Plot Building Regulation Sheets and provide additional information on the how the Plot Building Regulation conditions should be used and understood.



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1.1 PURPOSE OF SECTION 1

PURPOSE OF SECTION 1

Section 1 sets out the broad principles for the Lusail Masterplan together with an overview of the Character and Design Framework for each District.

Section 1 is to be read in conjunction with Section 2 and the Plot Building Regulation sheets.

Together these sections provide all the development and design guidance required for Investors, Owners and Subdevelopers to understand and comply with the design / development quality, aspiration and requirements of Lusail City.

The guidance ensures that there is sufficient scope for design and development expression so that each plot can meet sub-developer / owner expectations. Section 1 will help ensure that each plot within the Lusail Development meets the overall masterplan expectations.

Section 1 describes the significance of the Lusail Development along with the over arching principles and concepts within the city-wide masterplan.

Section 1 explains city-wide development aspects that integrate all the districts such as highway and utility infrastructure, key features and landmarks, principle boulevards and promenades, key amenities and overall open space network.

Section 1 sets out the general development rules, standards and constraints for the development, including general design principles to be observed at district, street / neighbourhood and parcel / plot level.

OTHER REFERENCE PUBLICATIONS

It is expected and required that all Sub-Developers refer to and comply with other statutory documents / codes issued by The Ministry of Municipality and Urban Planning (MMUP) as well as other Government Departments and Agencies.



Lusail is a 38 squarekilometer development for 200,000 residents and planned by Qatari Diar Real Estate Investment Company (the "Master Developer") on land located just north of the city of Doha

1.2.1 LUSAIL LOCATION & CONTEXT

Lusail is located north of Doha (see Figure 1), capital of Qatar. Lusail is one of the most significant developments planned for Qatar, providing a hub for new growth and a new waterfront setting for living, working, and recreation.

The city has a projected population of 200,000 with approximately 170,000 transit work force and 80,000 visitors. It includes land bounded by the sea to the East, the Al Khor expressway to the West, and extends approximately 7km North of the Ritz Carlton Hotel / Pearl Development Area (see Figure 1). The development will be a new, vibrant and world class master-planned city district and urban environment with a coherent and self-sustaining mix of residential, mixed-use, commercial, retail, recreation, sports, education, leisure and hospitality

uses. Lusail city includes significant resorts and entertainment venues, that will attract international visitors and expatriate residents as well as Qatari nationals.

The existing coastal area will be transformed through a controlled development strategy that will create a range of waterfront, island and inland environments and characters. Lusail City will provide an environment for businesses and families. It will attract discerning investors seeking freehold property opportunities. Lusail City will be professionally managed and procured to the highest levels of quality via the Master Developer's property development & management company - Lusail Real Estate Development Company (LREDC).



Figure 1- location plan (Image by others)



1.2.2 VISION

The Vision for Lusail is for a complete 21st Century Capital City Quarter, offering a broad array of quality leisure facilities, with a range of well-planned neighbourhoods designed to appeal to families, couples and individuals with different needs and aspirations. The illustration above, Fig. 2 shows the extent of the development.

Lusail will provide a regional focus for sports and leisure entertainment, with shops and value-added employment activities providing unrivalled diversity across the 38 square kilometres of the site. Lusail will become one of Doha's most sought-after addresses with a range of villas, townhouses and apartments designed in a variety of styles. The development will be served by a comprehensive highways and path systems, integrated with engineered utility services, within a green network of parks, promenades and waterfront spaces which link the neighbourhoods with destinations and community facilities. Each neighbourhood cluster will have its own facilities, including shops, schools, parks, healthcare and places of worship, each scaled to suit its catchment.

Lusail will be sold as a series of serviced land parcels and plots, for corporations, development companies, families and individuals to purchase and develop to their own needs. In-addition to Plot Building Regulation Sheets, these needs will be guided through design codes in Sections 1 and 2.

1.2.3 GUIDING PRINCIPLES

Lusail has been developed as a holistic masterplan, featuring low to medium density development comprising a number of different communities designed and planned to compliment Doha's existing facilities and features.

It is held together within a well-conceived framework of luxuriant boulevards, parks, waterside drives and informal spaces which lend character and appeal to each part of the plan.

The guiding principles relate to the communities the masterplan will ultimately serve, as well as the networks underlying the masterplan for site-wide access and utility provision. These are scaled to fit with the density of Lusail's urban form. The principles are reviewed in summary below:

- Identifiable, self-contained clusters - ensuring each neighbourhood and cluster has its own sense of place and special character, by virtue of its landscape and architectural form. Planned to operate in isolation, while contributing to the wider masterplan.
- > Complete communities providing the necessary facilities for each neighbourhood including public transport facilities, local shops, estate management, schools, clinics, parks & recreation facilities and places of worship.
- > Fixed densities the capacity of the masterplan's infrastructure is finite and has been scaled to accommodate the profile of uses and densities

proposed. For this reason the density limits of the Plot Building Regulation sheets must be strictly observed so that the completed development can operate within its means.

- Green communities extensive use of soft landscape is made possible through the creative reuse of available recycled water. This relies upon the participation of developers & occupiers to plant and maintain low demand (xeriscape) species & adopt a conservative approach to water use.
- > Hierarchical infrastructure roads and access infrastructure have been designed as an efficient and legible series of connected routes designed to service the needs of residents, businesses and visitors.
- > Landmark waterfront world-class attractions and vibrant outdoor spaces connecting the marinas, promenades, beaches and waterfront residential areas as a cohesive edge to the development.
- > Gateway identity key vehicular entrances to Lusail and its districts are marked with high quality built form and landscape to promote the project.
- > Cohesive urban design a simple system of codes are applied to the built form and landscape of the development to ensure each parcel meets the masterplan's intent.
- > Climatically responsive planned and designed according to the national GSAS code for sustainable construction, ensuring resource and energy consumption is minimised while maximising quality of life.

1.3 MASTERPLAN DISTRICTS THE DISTRICTS

Lusail features a number of different districts, each placed to reinforce the next, and designed to reflect latest best practice The masterplan shown in Figure 3, is made up of 19 Main Districts, each with their own character and purpose.

The 19 Districts are:

- > GOLF DISTRICT
- > NORTH RESIDENTIAL VILLAS + WATERFRONT RESIDENTIAL VILLAS
- > AL KHARAEJ
- > WATERFRONT COMMERCIAL SEEF LUSAIL
- > FOX HILLS (NORTH DISTRICT AND SOUTH DISTRICT)
- > AL ERKIYAH
- > STADIUM DISTRICT
- > BOULEVARD COMMERCIAL + LUSAIL TOWERS
- > ENERGY CITY 1 CORPORATE
- > ENERGY CITY 2 RESIDENTIAL
- > ENTERTAINMENT CITY
- > ENTERTAINMENT ISLAND
- > MEDICAL EDUCATION
- > QATAR PETROLEUM
- > MARINA DISTRICT
- QETAIFAN ISLANDS (NORTH DISTRICT AND SOUTH DISTRICT)
- > WATERFRONT RESIDENTIAL

A description of each District is provided on the following pages.



LUSAIL DISTRICT DESCRIPTIONS

GOLF DISTRICT

The Golf District comprises of one 18-hole golf course and luxury housing with large shaded patios, open gardens and landscaping, reflecting an outdoor, leisure oriented lifestyle.

NORTH RESIDENTIAL VILLAS + WATERFRONT RESIDENTIAL VILLAS

Villas (North and West) is a planned community to serve the local population with large villas in high quality vernacular or contemporary style architecture. A total of 895 villas are planned.

AL KHARAEJ

Located strategically between the Golf course and the Waterfront Residential area, the Al Kharaej Towers are designed to accommodate 42 residential towers. The architecture is a regionally influenced Arabic style blended with contemporary international design.

Density/Height: Low

Development Summary

Land Area	366 Ha
Population	29,000
Total	22,000 Residents
GFA	1,800,000m ²
Building Heights	2-5 levels

Density/Height: Low

Development Summary

Land Area Population Total GFA Building Heights

126 Ha + 52 Ha 7,100 5,400 Residents 950,000m² 2 levels

Density/Height: Medium - High

Land Area	29 Ha
Population	11,000
Total	10,500 Residents
GFA	550,000m²
Building Heights	15-20 levels







STADIUM DISTRICT

The Lusail Stadium District will be the host venue for the opening-closing ceremonies and centrepiece of the 2022 FIFA World Cup, Qatar. With a net capacity of 80,000 spectators, the stadium and support facilities with other mixed uses will occupy 100 Ha. of land within Lusail City. It will be served by the Lusail LRT system and have pedestrians links to the Doha Metro. The architecturally innovative stadium design will incorporate latest sustainable technologies and maintain its sporting functionality beyond the main events. Other uses within the site will complement and fully integrate with the rest of Lusail City.

Density/Height: As required

Development Summary

Land Area
Total Population
Expected GFA
Building Heights

100 Ha 87,000 Event Visitors 750,000m² TBD

WATERFRONT RESIDENTIAL

The Waterfront Residential District is an exclusive high-rise residential development with luxury towers and private beaches with outward views across the Gulf.

ENERGY CITY 1- CORPORATE

Energy City 1 is the first energy business centre to exclusively fulfil the commercial, technical and human resource needs of the oil and gas industry in the region. All buildings in this development will be designed with GSAS criteria to achieve high quality and sustainable "Green Buildings".

Density/Height: Low-High

Development Summary

Land Area Population Total GFA Building Heights 53 Ha 19,000 17,000 Residents 940,000m² 20-36 levels

Density/Height: Medium

Land Area	72 Ha
Population	25,000 employees
GFA	1,000,000m ²
Building Heights	4 levels







LUSAIL DISTRICT DESCRIPTIONS

WATERFRONT COMMERCIAL – SEEF LUSAIL

The Waterfront Commercial District is a retail and entertainment destination with boutique and lifestyle shopping, combined with residential and office space. Pedestrian connectivity between the developments will lead to the contiguous waterfront public realm.

FOX HILLS (NORTH DISTRICT AND SOUTH DISTRICT)

The Fox Hills District is a medium density Residential Development intersected by a landscaped framework of linear parks radiating from the Crescent Park. The main commercial spine running North-South together with pocket parks organizes the district into smaller precincts. Mixed uses are located on the central axis and surrounded by residential blocks.

AL ERKYAH

The AI Erkyah master plan is an integration of a mixed-use residential district interlinked with open space networks and unique commercial and medical land use. The vision for this district is to maintain a healthy environment by minimizing internal traffic and congestion. This mediumdensity district will provide a unique landmark along AI Khor highway.

Density/Height: Medium - High

Develo	pment	Summar	y
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Land Area	54 Ha
Population	29,700
Total	9,600 Residents
GFA	690,000m ²
Building Heights	3-15 levels

Density/Height: Medium

Development Summary

Land Area Population Total GFA Building Heights

168 Ha 50,000 38,600 Residents 2,100,000m² 5-8 levels

Density/Height: Medium

26 Ha
12,000
10,600 Residents
640,000m ²
8-10 levels







ENERGY CITY 2- RESIDENTIAL

Energy City 2 is a high density Residential Development to cater to the housing needs for the population working in Lusail and particularly in the Corporate District. Contemporary international design with a focus on harmony between users and its surroundings will hallmark this development.

ENTERTAINMENT CITY

The Qatar Entertainment City accommodates 2,000 residential units, 11 hotels, a cineplex, nightclubs, theme parks and shopping spaces.

ENTERTAINMENT ISLAND

Linked to the Qatar Entertainment City, this island caters to providing entertainment facilities and hotels with a recreational theme.

Density/Height: Medium

Develop	oment	Summary
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Density/Height: Medium

Dovalo	nmont	Summon
Develo	pment	Summary

Land Area Population Total GFA Building Heights 98 Ha 32,400 8,400 Residents 1,020,000m² 4-13 levels

Density/Height: Medium

Land Area	23 Ha
Population	4,200
GFA	220,000m ²
Building Heights	2-12 (for hotel only)







LUSAIL DISTRICT DESCRIPTIONS

MEDICAL & EDUCATION

A Community District with schools, hospitals and associated medical suites and staff accommodation nested amongst lineal parkland. Lusail City and its neighbouring residents will be well catered for, with a range of amenities including schools, mosques, local retail establishments, state-of-the-art hospitals and medical facilities.

Also, medium density residential developments will be developed in a park-like setting with road connections that unite the 'green' surroundings; natural and man-made.

QATAR PETROLEUM DISTRICT

Within the 45 Ha. site, the district will be developed as a corporate office campus and regional headquarters of Qatar Petroleum, with numerous public and private spaces connecting the iconic forms of the buildings. The site will be served by the Lusail LRT system and is located in close proximity to Al-Khor highway and the Lusail Marina Interchange. The cluster of office buildings of Energy City-1 and Qatar Petroleum will together create renewed business synergy for the energy sector in Qatar.

MARINA DISTRICT

This is the Downtown of Lusail comprising high-rise towers for office, residential, mixed-use, hotel and retail uses connected to a continuous boardwalk. Buildings will be designed in an international contemporary style and served by a Light Rail Transit Network.

Density/Height: TBD

Devel	opment	Summary
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Land Area	164 Ha
Population	TBD
GFA	1,150,000m ²
Building Heights	TBD

Density/Height: TBD

Building Heights

Development Summary		
Land Area	45 Ha	
Population	TBD	
GFA	447,550m ²	

Density/Height: High

Development Summary

Land Area Population	188 Ha 103,900
Total	31,000 Residents
Building Heights	15-60 levels
0 0	





TBD



QETAIFAN ISLANDS (NORTH DISTRICT AND SOUTH DISTRICT)

The Qetaifan Islands are a group of 4 islands just off the Lusail Waterfront. The islands are master planned to create the best natural beaches in Doha with a choice of resort type villa developments and medium density terraced apartments. Tourist resorts/ boutique hotels, traditional Souks and a marina for 400 large boats will be accommodated along its waterfront.

BOULEVARD COMMERCIAL + LUSAIL TOWERS

This is the heart of Lusail City comprising of a central boulevard with mixed use developments of high end retail at the lower levels and offices above. The scale of the street and the buildings are modelled on the Champs Elysées with a focus on branded mega stores and a range of commercial and cultural activities.

Density/Height: Low

Development Summary

Land Area	256 Ha
Population	37,500
Total	15,000 Residents
GFA	1,980,000m ²
Building Heights	2-4 levels

BC - Density/Height: Medium / Low

Boulevard Commercial Summary

Land Area Population Total GFA Building Heights 52 Ha 20,900 5,500 Residents 760,000m² 3 - 6 levels (F.Center 7-12)

LT - Density/Height: High

Lusail Towers Summary

Land Area	16 Ha
Population	19,300
GFA	620,000m ²
Building Heights	55-80 levels







1.4 MASTERPLAN STRATEGIES

The land use framework for Lusail Development has evolved since 2006. The latest land use framework incorporates new sporting attractions to accommodate World Cup events for 2022

1.4.1 LAND USE STRATEGY

The physical and economic impacts of the Lusail Development will be significant and strategic - it will be the home to more than 200,000 residents with further significant employment provided by a range of offices, leisure, entertainment, retail and education facilities.

In addition, Lusail City's Stadium District has been designated as the focal site accommodating the Premiere 2022 FIFA World Cup Flagship Stadium venue that will feature the 2022 World Cup Opening Ceremony and final playoff matches.

Strategically, this ensures that Lusail City will achieve an International destination status that will ensure positive implications for Lusail's residents, businesses and visitors alike.

Several World Cup stadia are in Lusail which will become an international destination for the city's visitors, businesses and residents. The latest Land Use Strategy Plan for Lusail City is illustrated in Figure 4.

The development will incorporate the following elements:

- > Residential: Luxury villas & apartments.
- Community services: Civic offices, schools, clinics, mosques, parks and open spaces.
- > Hospitality: Hotels, residents' clubs.
- Entertainment: Arenas, stadia, theme parks and Water-related venue activities.
- > Commercial Development: Open retail (boutique shops & restaurants), local/ neighbourhood shops, corporate offices, mixed use development.
- Amenities: beaches, golf, marina berths.

WATERFRONT RESIDENTIAL DISTRICT



1.4 MASTERPLAN STRATEGIES (CONT.)

Lusail will be defined by its verdant open spaces network and the quality of its waterfront featuring sandy beaches, vibrant promenades and prestigious marina facilities

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1.4.2 OPEN SPACE STRATEGY

Lusail has been planned with consideration for open space and access to parks, recreation areas and waterfront at its very heart. Lusail recognises the importance of quality open space and public realm in the creation of superb liveable Districts and Neighbourhoods.

Lusail's open space network will not only provide public spaces for general outdoor enjoyment but is also critical to supporting a general sense of pride and place for residents and visitors alike.

Parks and open-spaces in the District will be provide for community focus and local identity and will support localized neighbourhood activities.

The open space network is also an integral part of Lusail's sustainabilitydriven precepts and a fundamental part of the movement strategy across the City. A comprehensive system of walks and bicycle routes link all neighbourhoods to all major parks and waterfront areas. This means all residents, workers and visitors will have easy access to Lusail's amenities without the need to rely on vehicles. The Master Developer is investing in the overall open space and public realm. This means sub-developers and investors will have the benefit of a high-quality network of streets and open spaces that their developments can use.

The plan in Figure 5 sets out the respective open space components, with their relationship to their immediate context and the waters of the Gulf.





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1.4 MASTERPLAN STRATEGIES (CONT.)

The transport strategy makes provision for all modes and facilitates comprehensive access by road and by sustainable transport as well as fully integrated infrastructure

1.4.3 TRANSPORTATION STRATEGY

Lusail features a range of city-wide transport and infrastructure initiatives to ensure its seamless connection with greater Doha and elsewhere.

This includes LRT tram, bus and ferry networks, as well as facilities for cyclists and pedestrians. This transit network will provide for interconnected circulation between home, work, open space and recreation areas. The plan in Figure 6 illustrates the fully developed transport network that will serve Lusail generally and each district and parcel.

Lusail's proposed road network will form the spine for its utility infrastructure, by incorporating its electrical, water supply, surface water drainage, irrigation, sewerage and telecommunications distribution networks and systems. All services will be available at the boundary limits of each subdivision parcel.



LEGEND

1.5 MASTERPLAN REGULATIONS

The requirements described in this section are mandatory and must be incorporated into all development proposals

1.5.1 LAND USE

Permitted Land uses

The land-use distribution and quantum for Lusail City has been carefully developed to ensure that the predicted resident and worker population are served by world class transit, infrastructure, amenities and open space networks. The overall masterplan landuse zoning and quantum of development is to be maintained and respected. It is expected that all sub-developer proposals will be in accordance with the masterplan described in "1.4 Masterplan Strategies" above.

Permitted land-uses include mixeduses, residential, offices, commercial, hospitality, entertainment, cultural, religious, health and education. The zoning of the permitted Land use for Lusail City is shown in Figure 4.

Non Permitted Land-Uses

These include, but are not limited to; industrial, manufacturing, warehousing activities and any use which produces excessive noise, odour, light or environmental nuisance.

1.5.2 GENERAL STANDARDS

Building Design

All building works must meet all local required and applicable building codes, submissions, approvals and permits. It is a requirement that all development within the Master Community "Lusail" respects the architectural styles defined by the Master Developer for each district and land use and cultural traditions of the region.

All designs submitted as part of the statutory approvals procedure will be required to demonstrate conformity to the ideal which is intended to unify the whole development and to establish clear identity and distinctive character. Aesthetically pleasing developments of high quality shall be created, which harmonise with the environment and local cultural traditions.

Innovative sustainable building design is encouraged. Buildings shall have a carefully considered identity and appearance, reflecting the character spirit and cultural background of Lusail with modern and contemporary building techniques.

Buildings should create at the pedestrian and street level a high quality public and private landscape environment. Building design shall encompass all structures on site, including those for maintenance, storage and servicing.

Landscape and Public Realm Design

A high quality Private and Public Realm is a of great importance to the success of Lusail City. Developers are expected to prepare and deliver high quality landscape design.

In-addition to Architectural design all development proposals will be expected to include high quality landscape design showing detail of all landscaped areas to the parcel / plot not limited but including planting areas, hard areas, walls, landscape features, pools, lighting, shade structures must.

The landscape design must also indicate treatments for private plot to public area interfaces not limited to but including interfaces with side-walks, points of access, streets, open spaces and all other public areas.

Sustainable Design

All buildings and landscape areas are expected to meet GSAS requirements of GORD and Lusail City. This applies to building performance, that should be designed to minimise energy and to water consumption to landscape areas that should use native and drought tolerant plant species and low water use irrigation systems.

Where proposals better these minimums and can demonstrate significant sustainable improvements the Master Developer may offer incentives including GFA gains. These will be considered on a project by project basis.

Waterfront Design

Lusail City includes extensive areas of waterfront. All development that interacts or faces water or beach front must be of the highest quality. Significant investment has been made to all waterfront areas to meet the masterplan intent.

Completed and constructed beach and shoreline protection are not to be modified. Any modifications proposed will be required to meet all necessary Authority standards and permits as well as the design aspirations of the Master Developer. This includes any proposals which project beyond the waterfront boundary line such as jetties, walkways, pontoons or other boat landing and mooring facilities.

Boat maintenance, fuelling or the storage of fuel and oil is strictly forbidden on the waterfront of any property except where designated for particular sites.

No waterfront development is permitted that will adversely impact on the privacy, use or character of adjacent plots or public areas.

1.5 MASTERPLAN REGULATIONS (CONT.)

Access, Servicing & Parking Design

Vehicle access to plots and building plots is permitted only from the access roads and points indicated in the Plot Building Regulation sheets unless otherwise agreed with Master Developer and subject relevant Authority standards and permits.

Access and service areas for delivery, garbage collection and other service traffic should be separated from other traffic movement.

Plot owners must provide all required parking on site. At least two parking spaces or 2% of the required parking shall be for the disabled. Surface Parking areas shall be landscaped to a high quality and should include adequate shading to parking spaces. All parking areas are to connect with the local pedestrian path system. This connection must be clearly visible and accessible to all.

Typical Parking spaces are to be minimum 2.65m x 5.8m with minimum aisle width for perpendicular parking to be 6.7m unless otherwise agreed and subject to Authority requirements and standards.

Parking provision shall also be made for access and parking of bicycles, motorbikes, and motorcycles in appropriate locations.

Universal Access Design

The aspiration for Lusail City is to maximise opportunities for universal (disabled / handicapped) access for all disabilities. All proposals should provide for barrier-free access in-accordance with recognised best international practice. All development proposals will be expected to include and show universal access details including but not limited to access paths, ramps and building entrances.

Security Design

Security Design should be integrated into all development proposals as required. Where special high security measures are required such special gates, special boundary walls, special guard posts etc these will be expected to be well integrated into the overall design in such a way that they are not obtrusive and do not adversely impact on adjacent plots and public areas.

Design of Levels and Drainage

All development proposals will be expected to integrate seamlessly into the levels of their surroundings and meet relevant Authority standards and permits. Site and context levels must be carefully checked and referenced.

At grade levels within the plots must be designed to integrate well with external levels, especially side-walk and street levels without the requirement for steps and ramps.

All plot generated surface water runoff, storm drainage and roof drainage must be disposed off within the site boundaries and not directed into adjacent roads or properties or beach, or into the sanitary sewer system.

Garbage / Refuse Storage Design

Storage areas for waste material must be carefully design to allow required access for waste collection whilst being screened from building users, adjacent buildings and public streets and areas. Provisions must also be made to minimise bad odours and control pests.

Integration of Services

All service connections will be subject to relevant Authority standards and permits. It is also of critical importance that service connections are well integrated into the overall building and site design. It is expected that all service connections design will be to a high quality so that services are not be visible and do not affect quality or appearance of the site or building.

Site Lighting Design

Development proposals will be expected to include high quality lighting design showing details of all lighting to the parcel / plot.

Exterior lighting fixtures including high intensity lighting shall be mounted such that light does not adversely affect adjoining sites and public spaces. Landscaped and parking area should be provided with adequate lighting so as to ensure safety and security.

1.5.3 BUILDING CODES

Qatar Building Codes & Regulations

All Design must be in accordance and compliant with applicable regulations and standards of all relevant Qatar Government Authorities and Agencies.

International Standards & Codes

Relevant International Codes and guidance documents for each design discipline maybe applied subject to Master Developer agreement and approval by relevant Qatar Government Departments and Agencies.

1.6 REVIEW & APPROVAL PROCESS

All Development & Design Proposals by Sub-Developers are subject to Master Developer Approval.

The Plot Building Regulations are mandatory, the guidelines in Sections 1 & 2 provide supplementary controls and guidance that are to be adhered to meet the overall masterplan and design intent and expectation of Lusail City

1.6.1 STATUS

The Lusail Planning & Design Guidelines comprise 2 Sections which set out the Master Developer's regulations and design intent for Lusail City.

The Plot Building Regulation sheets are augmented by Sections 1 and 2 which set out the guidelines for the development of the overall masterplan and the design principles for each district, parcel and plot.

Sections 1 and 2 with the Plot Building Regulation sheets are to be read and used in conjunction. This will ensure that Owners and Sub-Developers and other Stakeholders in the project have a full understanding of the mandatory regulations and the design intent, principles and guidance that is required by the Master Developer.

1.6.2 SUPERSEDED GUIDANCE

From time to time LREDC may make changes to rules, regulations or guidelines that apply to development in Lusail.

The Lusail Planning & Design Guidelines contained herein replace the Site Specific Planning & Design Regulations (SPA documents) issued as part of the sales and purchase agreement between LREDC and the owners of Lusail plots.

Please note that the Plot Building Regulation sheets issued to owners are retained. Section 1 and 2 provide supplementary guidance to the regulations indicated on the Plot Building Regulation Sheets.

1.6.3 THE APPROVING AUTHORITY

Lusail City Administration Complex

Lusail City Administration Complex (CAC), a Department within LREDC, will act as the development control authority for Lusail City districts, hereinafter referred to as CAC.

CAC will be responsible for:

- Ensuring compliance with the Planning and Design Guidelines and Controls for Lusail City, and administering any amendments to the said rules.
- Establishing an internal Architectural Review Committee to consider and make decisions on development applications and design concepts;
- In making its determination and exercising any discretion allowed under the Design Guidelines and Controls, CAC will take into consideration:
 - The Lusail Masterplan and other plans in use by the Master Developer for Lusail City development; and
 - > All other applicable rules, technical codes, design guides and regulations in use by the Master Developer.

It should be noted that the Design Guidelines and Controls are not intended to retract, annul, impair or interfere with existing bylaws, decrees, regulations, or limitations running with the land.

CAC Powers and Duties

Lusail City Administration Complex (CAC) has a number of powers and duties as follows:

- > CAC shall administer and enforce the Design Regulations and Guidelines.
- CAC shall be responsible for issuing Concept Design, DC-1, Services Review and DC-2 approvals.
- > Al Daayen Municipality shall be responsible for the issuance of Building Permits for developments which have received approval from CAC.
- > CAC shall have the power to interpret these Design Guidelines and Controls and to clarify any ambiguities contained therein.
- > CAC's decision shall be final and binding on the Developer.

Interpretation

If a question arises concerning discrepancies, inconsistencies or ambiguities within the Design Guidelines and Controls, CAC shall interpret the rules and shall render a decision to clarify the question. CAC's decision shall be final and binding.

Relevant Authorities and Approvals

Nothing in these Design Guidelines and Controls shall relieve the Developer of the responsibility for also meeting the technical requirements of, and securing relevant approval(s), NOC(s) or permit(s) from, any government agency or entity or other third party having jurisdiction over the development activities and the use of land at Lusail, including but not limited to:

- > MMUP
- > AI Daayen Municipality
- > Karahmaa
- > Ashgal
- > Ooreedoo
- Marafeq (SNG, District Cooling, Vacuum Waste)
- > The Department of Civil Defense
- > Ministry of the Environment
- > Civil Aviation
- > Ministry of the Interior (MoI)
- Gulf Organization for Research & Development (GORD)

Written evidence of all such approvals, permits, No Objection Certificates (NOCs), or other permissions (if required) must be submitted to CAC in advance of construction.

1.6 REVIEW & APPROVAL PROCESS (CONT.)

1.6.4 OVERVIEW OF REVIEW AND APPROVAL PROCESS

The following paragraphs describe the overall development and design review and approval process that includes the following key steps:

Step 1 . Project Initiation with Lusail City

Step 2 . Pre-Application Meeting (Optional)

Step 3 . Concept Design Review & Approval

Step 4 . DC1 - Design Control 1 Review & Approval

Step 5 . Temporary Building Permit (Optional)

Step 6 . Services Review

Step 7 . DC2 - Design Control 2 Review & Approval

Step 8 . Building Permit

Step 9 . Certificate of Completion

PLANNING & DESIGN GUIDELINE CHECKLIST

A planning & design checklist has been prepared to assist Owner / Developer project teams in assessing and adhering to relevant planning and design guidelines. All project teams will be expected to read, refer to and use the Lusail Planning & Design Guideline documentation in the preparation of their development and design proposals.

GSAS IN LUSAIL

Lusail City is committed to the principles of sustainability and green buildings. As such, all projects in Lusail must attain a GSAS two-star rating under the Gulf Organization for Research & Development's (GORD) GSAS rating system.

All projects should be conceived as "green" buildings early on in the design process and sustainability strategies carried forward in the project's design development and execution.

Demonstration of this is required in all stages of CAC's development review and approval process.

GORD administers GSAS and is the entity that determines a building's star rating.

GORD works hand-in hand with CAC during the development review process and should be consulted early on to determine requirements for the star– rating the project is seeking to achieve.

STEP 1 PROJECT INITIATION WITH LUSAIL CITY

The Plot owner must initiate a project with LREDC by submitting a letter to the CAC director, appointing a qualified local registered consultant to act his behalf.

STEP 2 PRE-APPLICATION MEETING OPTIONAL

All Parcel / Owners are recommended to initiate a pre-application meeting with CAC. A meeting will be held upon Developer request.

This is especially important where 3rd party Developers and Design teams are:

- > New to the Lusail City Project
- Dealing with medium to large developments (small proposals such as single villa applications will not require pre-application)
- Dealing with Complex development proposal.

If a 3rd party Developer and Design team is unclear whether the preapplication stage is needed then they should contact CAC for clarification. It is the responsibility of the Owners / Sub-Developers Project Team to initiate this.

- > The purpose of the pre-application meeting is to have dedicated CAC staff time to answer questions regarding a project proposed in Lusail City before a project is formally submitted for review.
- > These meetings can be used to identify and resolve key issues related to the development site, and highlight project opportunities and constraints.

- > The Project Team will be expected to provide sufficient project vision information such that development and design queries or ideas can easily be responded by the CAC team. Ideally this information will be summarised in a short presentation. If required this will include submission of Vision Computer Generated Images (CGIs).
- > Pre-application meetings help consultants better understand the expectations that LREDC has for development in its Master Plan. This will ensure that a complete development application is submitted by the project team and this will help save time in the design and approval process.
- > No formal approvals are granted at vision and pre-application stage. A record of any meetings / presentations will be prepared by the Project Team and issued to CAC. CAC reserves the right to clarify any item in the submitted record.

Early Ideas and Vision CAC Support

At the pre-application meeting CAC will explain the development review process and outline the Lusail Master Plan development controls and design guidelines that are applicable to the parcel and / or plot.

CAC will provide information on new or emerging initiatives (eg. new policies, infrastructure and utility investments, sustainability, circulars) that could influence or affect the site development or design processes.

CAC can also give some guidance on vision options that the Project team may have prepared prior to the preapplication meeting.

STEP 3 CONCEPT DESIGN REVIEW & APPROVAL

CAC will review Concept Design applications against the Lusail City Master Plan, Plot Building Regulations and District Design Guidelines.

Concept Design proposals are to consist mainly of 3D rendering day and night images, illustrating desired character and outcome of the development.

These elements are presented to the CAC Architectural Review Committee.

The Committee will provide feedback on the project and direct the design team to either modify the proposed concept design or to proceed to DC-1 the next stage in the development review process.

STEP 4 - DC-1 DESIGN CONTROL 1 REVIEW & APPROVAL

DC-1 is the first Architectural approval design step for a proposed development in Lusail City. In the DC-1 Stage, CAC Development and Technical teams will evaluate the project's consistency with Lusail City's Master Plan, Plot Building Regulations and Design Guidelines.

Initial fire safety approvals are also required at this stage from Qatar Civil Defense Department.

DC-1 endorsement provides assurance to the developer and design team that the project is consistent with the Lusail City Master Plan.

CAC's endorsement of the DC-1 allows the project's design development to proceed to the next design stage. It is critical that proposed Architectural Designs identify and consider realities of its interface with infrastructure, city utilities and tie-in methodology. Each Plot's specific infrastructure conditions will help determine constructability of underground structures, preferred enabling works system (shoring or open excavation), and extent of basement parking setbacks. They may further impact on above grade Public Realm or neighbouring plot construction, pedestrian / vehicular access and driveways, and internal landscape design.

The Interface between Lusail infrastructure conditions and the proposed project will be evaluated to identify potential clashes; and, any such utility clash or connection clearance or dimensional issue should be resolved in-principle at this stage.

In addition to regulatory requirements under the Master Plan, CAC Development and Technical teams will evaluate architectural design details such as parking layout, façade design and materials, space planning for services and landscape concept.

1.6 REVIEW & APPROVAL PROCESS (CONT.)

STEP 5 - TEMPORARY BUILDING PERMIT (OPTIONAL)

A temporary building permit can be obtained after the DC-1 stage for enabling works subject to Lusail approval.

Access to site for enabling works must follow LREDC's Site Access for Construction procedures.

STEP 6 - SERVICES REVIEW

At this stage the consultants will obtain approvals from relevant agencies for electrical, telecommunications, water & irrigation and drainage.

Marafeq engineers will advise on gas, district cooling, pneumatic waste collection and Mol will advise on CCTV and civil defense. Engineers will review plans against the standards, guidelines and codes imposed by the relevant authorities.

All authorizations shall be obtained from relevant agencies prior to DC-2 submittal.

STEP 7 - DC 2 - DESIGN CONTROL 2 REVIEW & APPROVAL

DC-2 is the final architectural design step in the approval process of a proposed development in Lusail City.

The DC-2 stage generally corresponds with the design industry's detailed architectural design phase that coordinates and resolves all architectural design issues that surface in the Services Review Stage. the project's consistency with approved DC-1 and will verify that services drawings are coordinated with the architectural drawings.

DC-2 endorsement allows the project owner to pursue a building permit for the proposed project.

A letter of undertaking will be provided by the Project Owner / Consultant Team for the Structural Design and where needed GSAS, Landscape Design and other key aspects.

STEP 8 - BUILDING PERMIT

Upon receiving design approval the project developer can apply for a building permit.

CAC will administer the building permit application and fees. Al Daayen Municipality will issue a building permit based upon a DC-2 approval from CAC.

Building permits will be issued by Al Daayen Municipality and received from CAC.

Access to site for enabling works must follow LREDC's Site Access for Construction Procedures

Site Access for Construction

Once the Building Permit is approved and issued the developer must apply

for authorization for site access prior to commencement of construction.

The application will be reviewed for consistency with LREDC standards for enabling works, HSE and logistics requirements and land hand over requirements.

STEP 9 - CERTIFICATE OF COMPLETION

At DC-2 CAC planners will evaluate



SECTION 2


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2.1 HOW TO USE THE DESIGN GUIDELINES & CONTROLS

The District Overview and Design Guidelines & Controls Section provides a clear overview of the district and sets out the brief and framework for plot owners/developers and their design & construction advisors to create a compliant design for the development of each plot

To ensure good understanding of the context, the summary of the key urban design strategies has been included within this Section. These will inform the designers about the overall strategies related to land use distribution, access, massing and other strategies.

THE NEED FOR DESIGN GUIDELINES & CONTROLS

The guidelines are meant to ensure that the quality of construction remains in line with the ambition and expectations of the masterplan. In particular they are conceived to bring about a positive and cohesive urban character, through a comprehensive package of agreed codes that reflect local needs and current international construction standards. These are to be read in conjunction with the Building Regulations Sheets issued upon the purchase of each plot.

Improving on previous controls

It has been decided to prepare a single family of related documents that will enable all parties to understand the potential offered by the development opportunity, and the standards by which the design and construction work will be set against.

Key objectives

- Cohesive approach to massing, form and materiality;
- Appropriate distribution of uses and form within each plot;
- > Sound inter-plot relationships;
- Appropriate strategies for access and utility provision;
- Flexibility to cope with contemporary needs and demands, including plot aggregation.

Mandatory status

For the purpose of this document, the term **Guidelines** refers to a suggestion, made to assist the design process, for information purposes only. The term **Controls** refers to rules which are mandatory and must be adhered to. These are highlighted in black for immediate clarity.

HOW DO THE DESIGN GUIDELINES & CONTROLS WORK?

The guidelines provide an authoritative source book of building forms suitable for each plot within the district. Section 2 can assist the owner in selecting the design advice that best suits their functional needs in terms of size, capacity, accessibility, outlook, privacy and proximity to facilities.

Guide for plot owners

Existing title holders will have reviewed the masterplan in Section 1 to select the most appropriate district for their needs. They can refer to Section 2 for further clarification of the structure of their chosen district.

It contains overall district strategies such as: land use designation, open space provision, connectivity and massing. Having understood the context of the district, they will use Design Guidelines & Controls section in conjunction with the existing Building Regulations, to guide them through the design process. The Guidelines & Controls provide clarity on aspects such as privacy, boundary walls, architectural materials and styles as well as landscape treatments.

Navigation

The digital version of **Section 2** can be downloaded from **www.lusail.com**. Hyperlinks connect the Content Page with the key sections of the document and the **design Check List**.







2.2 DISTRICT OVERVIEW AND KEY DESIGN STRATEGIES

2.2.1 LUSAIL MASTERPLAN CONTEXT & VISION

The Waterfront Residential District is an exclusive highrise residential development with luxury towers and private beaches with outward views across the Gulf.

WATERFRONT RESIDENTIAL

This charming residential area will be one of Lusail's most sought-after addresses.

It is the true pinnacle of Lusail City, given its distinguished location that overlooks the spectacular waterfront. The front end of the beach park is connected to seven shores.

Here one has a mix of residential and mixed use plots, a beautiful and enchanting area that directly overlooks the waters of the magnificent Arabian Gulf on one side, and the city of Lusail on the other side.

The residential waterfront will no doubt be a popular place to go, containing a wide range of services and amenities.

The beach club, hotels, restaurants, stores and recreational areas will combine elegance and excellence to an exceptionally high standard, in harmony with the essence of Qatari life.



2.2.2 KEY STRATEGIES

URBAN DESIGN FRAMEWORK



LOCAL MOSQUE (* HEALTH CARE FACILITY н NEIGHBOURHOOD RETAIL FACILITY ₩ PREPARATORY SCHOOL ₩ PR 触 P PRIMARY SCHOOL SECONDARY SCHOOL HIGHWAY MAIN DISTRIBUTORS

URBAN STRUCTURE

The layout is designed to provide a linear high quality residential development along the waterfront. A high range of mixed use plots confront the gateways and define the access and identity of the district.

Developed as the highest quality residential offer in Lusail, it benefits from increased prominence and visibility over all the city. Amenities like private beaches and private linear parks and routes make for an exceptionally secure and exclusive community.

High rise towers define the streetscape, articulating residential and ancillary uses on low rise elements facing the waterfront side.







LRT LINE

CIVIC

RETAIL

LRT STATION



KEY STRATEGIES CONT.

LAND USE STRATEGY



MASSING STRATEGY



KEY STRATEGIES CONT.

PUBLIC REALM STRATEGY



PUBLIC REALM VISION

A continuous network of linear open spaces define a hierarchy of green connections that privilege beach uses and promotes the use of outdoor spaces.

The streetscape will rely on appropriate shade trees and shading structures.

The private Waterfront areas will be defined by a structure of Green Parks, Urban plazas and neighbourhood activity nodes.

These will include areas of dense shade, tree planting and innovative shading structures to create a liveable external environment with a high quality ambience.

PRIVATE GREEN OPEN SPACE PUBLIC GREEN OPEN SPACE EVA ROUTE BICYCLE NETWORK GATEWAY LRT LINE LRT STATION SPORTS COURT KIOSK TOILET PLAY AREAS CAFE

1 LINEAR PARK - NORTH

Main open space developed along the district comprising a shaded promenade with seating areas and shading structures. It includes clusters of activity, a cycle path and sports courts.



2 MOSQUE ZONE

Public square surrounding the mosque including shaded seating areas and water features. A complementary parking area is also considered.

3 RECREATIONAL ZONE

Waterfront area relating private plots to the beach front. Includes leisure areas with Cafes & Kiosks, kids play area with a splash pad and a walkable pier.

4 EXCLUSIVE ZONE

Recreational area with controlled access to the waterfront creating a more exclusive environment.

5 SOCIAL ZONE

Family oriented environment with seating areas, beachfront steps, kids area with splash pads and water features.

6 LEISURE ZONE

Recreational area with adventure & play zones, cafes and shaded seating areas

7 POCKET PARK

Small scale neighbourhood parks with shaded seating areas, kids playground spaces, planted areas and water features. They may include urban art or sculptural elements.





2.3 STREET SCAPE GUIDELINES 2.3.1 ACCESS STREET CONTEXT

REF: LWRD-RSG- Sheet 1/8

Managing the composition of the different elements of the residential street scape is of foremost importance in Waterfront Residential district in order to ensure a high quality development.

The streetscape character of the district is governed by the relationship between semi-private landscaped areas and public realm, the quality and maintenance of the plot edges, the scale of the pedestrian and vehicular entrances and parking bays, the architectural features of the towers and the tree planting in the front buffers.

PLANTING 🎇

The front buffers will host the district's selected street trees, providing useful shade, special character and a verdant foil to the succession of residential buildings fronting the street. This will mitigate the underlying condition of some streets not being able to have trees due to infrastructure requirements. Front buffer planting will have a mandatory status, as it defines the feel and ambience of the arrival experience in the district.

PLOT PRIVACY 💿 🗭

General setbacks have been developed to ensure privacy between residential units. Mandatory side boundary walls ensure separation and privacy between lower storeys and open gardens.



STREET ARTICULATION (=) 🥋

The Lobby access to the towers, tree planting, light column spacing, driveways, vehicular entrances and boundary wall designs combine as a series of spatial elements to provide a sense of articulation and rhythm along each street, as a cohesive and consistent language to aid legibility and sense of place.

WATERFRONT RESIDENTIAL DISTRICT

PLEASE ALSO SEE

ARCHITECTURAL DESIGN

BOUNDARY WALLS

LANDSCAPE DESIGN



REF: LWRD-RSG- Sheet 2/8



VARIETY & INTEREST

The building regulations allow for great flexibility in placing of high and mid rise components. These will allow for an interesting skyline and building interaction. A contemporary style is to be interpreted by the sub developers to their best interest. General guidelines will regulate this with great attention to allow for flexibility and creativity of solutions.

PARKING (P)

Access driveways are incorporated and built to master developer design, while owners are required to provide for general parking demands within their plot(s). Private parking is encouraged to be underground, although it is allowed on the ground floor with access to the underground and incorporated in a building podium. Specific guidelines will control its presence on the street and to the resident.

2.3.2 WATERFRONT STREET CONTEXT

REF: LWRD-RSG- Sheet 3/8

Waterfront Residential district is developed with its main focus on it's private waterfront parks and beaches that bring exceeding value to their residential offer.

The organic design of the tear-like parks, devising numerous connection to the beach bellow will blend seamlessly into the private plots, enhancing the experience of exclusivity of the district.

PLANTING 🎇

The back buffers will be defined by the plot owners. They will decide the degree of privacy that they deem necessary. The plant palette will be of a similar type than that of the waterfront parks and will ensure a harmonious transition between spaces.

Side buffers will create secondary gardens that will frame the built mass and alleviate the presence of mass, as well as securing shaded areas for outdoor crossing from access streets.

LOW RISE RESIDENTIAL

Low rise residential uses will frame the waterfront. This will ensure there is an activated front to the pedestrian only waterfront area. This low rise zone allows uninterrupted views from the towers and allows rooftop podiums to hold high quality leisure areas.

Other residential typologies like townhouses, studios and semi detached villas are encouraged within this zone, as well as ancillary residential uses like gymnasiums, condominium rooms, conference centres, foyers, etc.

BOUNDARY TREATMENT

Side boundary walls will ensure privacy between ground floor open spaces, however, these will step down into lower, ornamented front edges, that will create maximum views for low rise elements and promote a continuously landscaped zone from private to public areas.



ROOFTOP USES

Rooftops will be landscaped to foster leisure activities on different levels. This will allow different residential typologies and uses to have individual open air areas, further adding to the exclusivity of the residential parcels. These will have water features and shading structures, to allow for cooled areas for extended use.

WATERFRONT RESIDENTIAL DISTRICT

PLEASE ALSO SEE:

ARCHITECTURAL DESIGN

BOUNDARY WALLS

LANDSCAPE DESIGN

GLOSSARY OF TERMS

REF: LWRD-RSG- Sheet 4/8



VARIETY & INTEREST

Building mass is encouraged to be arranged in varied forms, not overly limited by controls. High and Mid-rise towers on the background frame the low rise elements that, due to their nature, can be arranged in the best way available for the developer to achieve the best value, through an interpretation of a contemporary style.

PARKING FREE AREA 🔎

The waterfront side is free of parking. Parking is allowed on low rise elements, but only to the limit of 10m from the building edge. This ensures an activated front to the park and beaches. Hard standing pavement for EVA routes is allowed within the public realm areas, adjacent to each plot.

2.3.3 PUBLIC REALM CONTEXT

REF: LWRD-PRC- Sheet 5/8

GLOSSARY OF TERMS

STREET PARCEL GUIDANCE

The street parcel guide seeks to create a cohesive composition for each parcel, to ensure owners optimise their investment value, and to attract a settled residential community.

STREET SCAPE HIERARCHY

The following pages show the details of the proposed landscape treatment for the 3 road corridor types of Waterfront Residential District.

Note: The highway Corridor is part of the overall Lusail Masterplan and has been detailed in Section 1.







MAIN DISTRIBUTOR - 40M ROAD CORRIDORS

The distributor road corridors are the main external thoroughfares that feed the site.

Street tree planting combined with sculptural ground cover, grasses and shrub planting frame the road and form a buffer between the traffic and the footpath on both sides of the road.

Complementary shrub and tree planting is also provided on the central median.





Concrete block paving (light)



Grasses and shrubs



Concrete block paving (dark)

PUBLIC REALM CONTEXT





LOCAL ACCESS - 17M ROAD CORRIDORS

The local access road corridors follow a similar treatment to the distributor road corridors, but do not feature a central median.

Street trees, ground cover and planting buffer footpaths in some parts of the road. On specific locations these roads will have the bicycle track only on one side, following LREDC specifications.



Shrubs and groundcovers

Concrete block paving (light)



Ornamental grasses



Concrete block paving (dark)





LOCAL ACCESS - SHARED SURFACE -12M ROAD CORRIDOR

Plots on the residential cluster are accessed through a smaller shared surface road, which creates a more pedestrian oriented experience, coherent with the smaller footprint and increased height of the buildings.

Ground cover and planting buffers are provided on each side of the road. Pavement materials will be the same on carriage way and footpath with a minimal kerb differentiating both areas.



Shrubs and groundcovers

Concrete block paving (light)



Ornamental grasses



Concrete block paving (dark)

2.4 PLOT TYPOLOGY GUIDELINES & CONTROLS

2.4.1 PLOT TYPOLOGY LOCATION PLAN

MIXED USE - REF: LWRD-MUPG
RESIDENTIAL TYPICAL - REF: LWRD-RWPG
RESIDENTIAL CLUSTER - REF: LWRD-RCPG
LANDMARK PLOT - REF: LWRD-LPG
CIVIC - REF: LWRD-CPG
RETAIL - REF: LWRD-KPG
OPEN SPACE

OWNERS' GUIDE TO PLOT TYPE

The guides and controls relate to the coded plan to the right. This differentiates the Residential plots from the mixed used plots. Residential plots are divided into typical (waterfront) and cluster (inland). Basic guides are also provided for the Retail and Civic plots.

The prescribed code references are set out in the key which refer to specific guideline sheets in the following chapters.



District Location Plan



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EXISTING REGULATION SUMMARY:

The following conditions within Building Regulations Sheet for the Individual Plots **remain unchanged** - Summary of Building Regulations :



			B	O	D
Permitted Land Use		Low rise: Residential and ancillary uses / carpark			
		High rise	+ Mid rise:	Residentia	ıl
Plot Area		As per individual Building Regulation Sheets			
Max	. FAR	4.0			
Max. Plot	Coverage	50% Habitable buildings coverage			
Low Rise	Max Height	14m	14m	14m	14m
Mid Rise	Max Height	71m G+19	59m G+16	71m G+18	55m G+15
	Min. Height	63m G+17	51m G+14	48m G+12	47m G+13
High Rise	Max Height	90m G+23	78m G+19	118m G+33	93m G+24
	Min. Height	82m G+21	70m G+17	98m G+25	82m G+21
		1	7 m setbad	ck one side	
Setbacks criteria:		3 m setback on front, side and back of podium			
		8 meter side set back on mid-rise and high-rise level			
Minimum car parking provision		1 spaces per 1 bedroom unit/ 1.5 spaces per 2+ bedroom unit			

PLEASE ALSO SEE:

REF: LWFD-RWPG- Sheet 2/8

GENERAL PARAMETERS



This guideline sheet has been prepared to support the plot Regulation sheet issued to each plot owner.

The guidelines are intended to promote good urban design and will be enforced by LREDC.

Plot owners must demonstrate compliance with the guidelines to ensure rapid acceptance of their proposals and granting of the appropriate development permits.

Due to continued implementation of building developments and related Utility and Landscape infrastructure, based on Lusail City's Master Plan, Sub-developers and Consultants need to preconfirm with LREDC all current infrastructure implications on their specific plot.

ADDITIONAL REGULATIONS:

To safeguard the quality of the development, the **following regulations are amended to augment and add** to the original Building Regulations:



BUILD-TO-LINE	Majority of the primary frontage to be built to the minimum front setback
BOUNDARY WALL	No Boundary wall along the primary frontage and waterfront side, unless a 1m max ornamental wall. Boundary walls up to 2.5m high are allowed along the neighbour plot boundary
FLOOR PLATE	Floorplate of towers to be a maximum of 900sqm
HIGH RISE MINIMUM HEIGHT	High Rise minimum height to be 3 floors less than the maximum allowed, to maintain high rise district vision
ACCESS	Vehicular Access point subject to built driveways.
	Access ramps and service areas are to be integrated within the low-rise construction
PENTHOUSE	Penthouse must not exceed 65% of the High-rise top Floor and must be within a 3 meter setback on a minimum of 2 sides
ENCLOSED ROOF STRUCTURES	Structures such as lift cores, stair towers, circulation, technical equipment rooms, etc., collectively cannot exceed 45% of roof area and must be within a 3 meter setback on a minimum of 2 sides.
OPEN ROOF STRUCTURES	Open Roof structures such as pergolas, roof plantings, awnings and screen walls are permitted to exceed the maximum building height as long as they are less than 3m in height and occupy less than 20% of the total roof area.
MECHANICAL EQUIPMENT SCREENING	All exposed and visually obtrusive, rooftop mechanical equipment must be screened, using materials/colours harmonious with the building facade, when viewed along the normal line of sight from the Public Realm

RESIDENTIAL GUIDELINES & CONTROLS CONT.

TYPICAL WATERFRONT PLOTS CONT.

REF: LWRD-RWPG- Sheet 3/8

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REF: LWRD-RWPG- Sheet 4/8

TYPICAL SECTION

- Building envelope is the total 3-dimensional area in which the buildings are permitted and is defined by the minimum setback lines and the maximum building height restrictions.
- Parking is permitted below-grade and one parking level is permitted abovegrade. Parking podium must not face the waterfront side, and on street access side, building design should mitigate the presence of the parking facade.
- High-rise floors must be within a maximum of 90 m and a minimum of 82 meters building height
- Mid-rise floors must be within a maximum of 71 m and a minimum of 63 meters building height
- Penthouse must not exceed 65% of the High-rise top Floor and must be within a 3 meter setback on at least two sides
- Mechanical Bulkhead must not exceed 45% of the High-rise top Floor and must be within a 3 meter setback on at least two sides



RESIDENTIAL GUIDELINES & CONTROLS CONT.

TYPICAL WATERFRONT PLOTS CONT.

REF: LWRD-RWPG- Sheet 5/8

PRIVACY & BOUNDARY WALL



Towers should be a minimum of 25 m apart, for privacy concerns. Owners should be encouraged to go for even wider setbacks to ensure high quality living.

Due to the nature of the tower blocks, boundary walls will be less important than on low rise developments. They are mandatory on side limits, but not encouraged at front. On the back side special care should be given to the positioning and treatment of the boundary wall in order to articulate the connection to the waterfront side.

- A Balconies should prevail on walls facing waterfront
- B Side walls should control overlooking views
- Side boundary walls must be 2.5 m height
- Secondary street walls must be setbacked from the building edge and should be fenced to avoid views over private recreational / leisure zone
- Landscape should support privacy and overlooking on the low/rise floors
- Direct pedestrian access to private recreational / leisure zone is encouraged
- Increasing the setback to 8 metres on the towers to add to the 17m on the adjacent plot, creating 25m between plots

REF: LWRD-RWPG- Sheet 6/8

ACCESS / PARKING / SERVICE



Parking is encouraged to be at basement level. It can be placed in the podium, provided that a 10m setback area is reserved for residential uses at the waterfront side.

Vehicular access is encouraged to happen on the 17m setback side. Secondary access to the podium or basement can be provided by a secondary driveway area. Plot owners must provide all required parking on site. Servicing will be via front access side delivery bays or via secondary entrance, within restricted hours. Owners must use designated driveways.

- Ramp to basement parking levels inside the building. Ramp to be min. 3m wide for single lane and 6m for two lanes. Ground level parking restricted to visitor parking and must not exceed 4% of required spaces.
- B Primary access road with coach to the lobby area.
- Pedestrian entrance separated from vehicular entrance.
- Servicing via front access side. Refuse storage to be secured from pedestrians, designed to control odours and located so that it is easily reached by municipal collector trucks. Designated access to waste storage compartment located in the podium.
- Pedestrian access to waterfront area must be controlled.
- Basement parking encouraged. Parking permitted on low rise area, provided that a 10m deep band is reserved for residential use on waterfront side. Street side parking podium must be screened or setbacked as to reduce the impact on the building image.

PLEASE ALSO SEE:

GLOSSARY OF TERMS

RESIDENTIAL GUIDELINES & CONTROLS CONT.

TYPICAL WATERFRONT PLOTS CONT.

REF: LWRD-RWPG- Sheet 7/8

CURVED PLOT VARIATION

Curved Plots make for a special condition, as their front and back limits are arched to different measurements.

Their width is also significantly larger than a typical plot.

This will lead the tower arrangement to be split into separate volumes to avoid excessive bulkiness.

Due to their location, curved plots have a significant impact on the neighbourhood character and act as visual references. Therefore they are granted with extra height for increased visibility and prominence.

Plots curved to the access road will have a bigger width on the tower side, requiring extra attention when breaking down the mass of the tower.

Plots that curve to the waterfront have bigger width for low rise elements, making way for solutions with courtyards and other internal open areas to deal with the extra space on the back side of the plot.

Orthogonal designs are encouraged for the podiums. Low rise elements can respect the curve and address the street at a consistent setback.



ILLUSTRATIVE SECTION



Building Envelope

REF: LWRD-RWPG- Sheet 8/8

MASSING STRATEGY

High and mid rise arrangements are to be articulated to create an attractive and slender building arrangement that lessens the overall mass.

"Wedding cake" designs are to be avoided. Asymmetrical designs are favoured, reinforced by towers in different heights.

- High-rise Tower to act as a visual reference to the street. Being visible from both ends of the street requires considerable attention to the design of the side facades.
- B High-rise volumes must be within a maximum height of 118 m and a minimum of 98 meters.
- Mid-rise volumes must be within a maximum height of 71m and a minimum of 48 meters.
- If more than 1 mid rise volume is present, there should be a difference in height between them. This can be achieved by the addition of a penthouse or other various solutions.
- Mid rise rooftops to be landscaped and provide leisure areas for added value.
- Low rise residential structures can benefit from extra width for greater use of courtyard solutions, double loaded blocks, etc.



RESIDENTIAL GUIDELINES & CONTROLS CONT.

GLOSSARY OF TERMS

RESIDENTIAL DESIGN PRINCIPLES

REF: LWRD-RDP- Sheet 1/8

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TOWER COMPOSITION PRINCIPLES

The character of the Residential plots consists of High-rise towers, coupled with Low-rise podiums addressing the street and the waterfront side (with amenities to activate this frontage). The Towers should be composed by at least two volumes with different heights – High-rise and Mid-Rise. The composition of the volumes should be performed in a way that the parts relate to each other, in order to create a less massive building with a more dynamic design.

Tower composition principles were defined to help designing the towers. Vertical design is the main principle, where the towers are composed by several volumes aggregated together in different ways creating a graduation of massing from bottom to top and opening terraces to the waterfront side.

ATTACHED

Towers composed by different volumes attached or intersecting each other:

- Main tower as the highest volume.

- The elements should have different proportions/orientations. Only one of their faces may be aligned.

- The different volumes should have clear dimensions and planes to allow sufficient differentiation.

- Vertical lines should be expressed. One of the volumes should preferably touch the ground.

- It is possible to subdivide the volumes into smaller vertical elements maintaining the principles of attaching / intersecting.







DETACHED

Towers composed of detached volumes linked together:

- Main tower as the highest volume.
- The elements should have different proportions/orientations. Sides should never align to adjacent volumes.
- The linking element(s) should
- have visible expression.
- The volumes should have sufficient mass to achieve adequate proportions.
- Vertical lines should be expressed. One of the volumes should preferably touch the ground.





REF: LWRD-RDP- Sheet 2/8

TOWER COMPOSITION EXAMPLES



Example 2 - Typical Plot



- Volumetric definition with volumes intersecting each other.
- 2 Club house connecting with the leisure areas.
- 3 Townhouses integrated in the podium facing the private rooftop green podium.
- 4 Parking podium of max. 14m high. Service entrance.
- 6 Roof-top with views to the waterfront allows amenity areas with higher quality.

10 10m Street side

min

3m



- Apartments facing waterfront and detached from the towers: allows two fronts, better views and privacy.
- Primary entrance and drop off Lobby, integrated in the main tower for a better sense of arrival - recognisable entrance.
- Leisure/Amenity areas on the "green" roof.
- 9 Townhouses facing waterfront and detached from the towers: allows two fronts and better privacy.





- 10 Penthouse integrated in the main tower (high-rise) to emphasise the vertical design and increase the height difference between the two volumes
- 10 Ancillary uses facing the waterfront.
- 12 Private areas at the podium roof-top can be screened.
- 13 Access road to the Townhouses possible link with the car park.

High-rise Mid-rise Podium parking Lobby/Entrance Club house/Amenities Townhouses Apartments

RESIDENTIAL GUIDELINES & CONTROLS CONT.

RESIDENTIAL DESIGN PRINCIPLES CONT.

REF: LWRD-RDP- Sheet 3/8

TOWER COMPOSITION PRINCIPLES



Example 4 - Typical Plot



- Volumetric definition with volumes touching each other with different orientations.
- 2 Volumetric definition with min. 5m differentiation between them - volumes detached with a link element.
- Olub house connecting with leisure areas.
- 4 Townhouses integrated in the podium facing the private podium rooftop.
- Parking podium, with a max. of 14m high. Service entrance.

17m 17m 17m 10m 5treet side

min



- Private access road to the main entrance possible link with the car park.
- Apartments facing waterfront detached from the towers: allows two fronts, better views and privacy.
- Primary entrance and drop off Lobby, integrated in the main tower for a better sense of arrival – recognisable entrance.
- 9 Leisure/Amenity areas on "green" roof-top.
- Roof-top with views to the waterfront.





- Penthouse integrated in the main tower (high-rise) to emphasise the vertical design and increase the height difference between the two volumes.
- Second area for Amenities allows direct access for the waterfront.
- Balconies make the link between the towers – less massing and better views to the waterfront.
- Access road to the Townhouses possible link with the car park.

High-rise Mid-rise Podium parking Lobby/Entrance Club house/Amenities Townhouses Apartments

REF: LWRD-RDP- Sheet 4/8

TOWER COMPOSITION EXAMPLES

Example 5 - Curve Plot



Example 6 - Curve Plot



- Volumetric definition with volumes detached with a link element.
- Club house stepping down from towers and connecting with the roof-top leisure areas.
- 3 Townhouses integrated in the podium along the waterfront side.
- Parking podium with a max. of 5m high. Service entrance.
- 6 Private access road to the main entrance possible link with the car park





- 6 Apartments facing waterfront detached from the towers: allow two fronts, better views and privacy.
- 7 Primary entrance and drop off – Lobby integrated in the main tower for a better sense of arrival - recognisable entrance
- Leisure/Amenity areas on the "green" roof
- 9 Roof-top with views to waterfront - allows amenity areas with higher quality
- 10 Penthouse integrated in the main tower





(high-rise) to emphasise the vertical design increasing the heights difference between the two volumes

- Ð Second area for Amenities - linking with the waterfront - allows direct access to the waterfront.
- 12 Balconies making the link between the towers - less massing and better views for the waterfront.
- Access road to the Townhouses/ B Apartments - possible link to the car park

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High-rise Mid-rise Podium parking Lobby/Entrance Club house/Amenities Townhouses Apartments

RESIDENTIAL GUIDELINES & CONTROLS CONT.

RESIDENTIAL DESIGN PRINCIPLES CONT.

REF: LWRD-RDP- Sheet 5/8

RESIDENTIAL ILLUSTRATIVE SCENARIO - ACCESS STREET VIEW

- Variations in the building tops differentiate the skyline - the penthouse possibility emphasises the variation as well as the minimum and maximum height definitions.
- Differentiation of scale at the main entrance - 10m high - makes the car park entrance less noticeable and accentuates the lobby presence in the streetscape more light and animation in the street.
- 3 Car park entrances on opposite location of the Lobbies – Less presence in the facade and enhanced Lobby access.
- Expression line defined by the lobby double height scale – emphasizes the entrance within the streetscape.
- Volumetric differentiation associated with the height limits variation – Volumes should have balconies on the facades facing the access roads.
- 6 Roof-top terraces oriented to the waterfront for better views and privacy.
- Penthouses with better views over the waterfront help the massing to read more vertical.
- Waterfront side with low-rise volumes more adequate to the park scale and with more urban activating uses – townhouses and amenities – interaction between these uses and the park with possible direct links.
- 9 For privacy and sun exposure between buildings a 25m minimum distance between towers must be guaranteed.
- The building envelope allows variations in the towers arrangements - the mid rise tower can appear on both sides of the plot creating a less repetitive massing.



REF: LWRD-RDP- Sheet 6/8



RESIDENTIAL GUIDELINES & CONTROLS CONT.

RESIDENTIAL DESIGN PRINCIPLES CONT.

REF: LWRD-RDP- Sheet 7/8

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RESIDENTIAL ILLUSTRATIVE SCENARIO - WATERFRONT VIEW

- Variations in the building tops differentiate the skyline - the penthouse possibility emphasises this variation, as well as the minimum and maximum height definitions
- Waterfront side with low-rise volumes more adequate to the park scale and with more urban activating uses – townhouses and amenities – interaction between these uses and the park with possible direct links.
- Odium first floor at level 5m lower expression line - coherent alignment between buildings for visual continuity along the waterfront side.
- Expression line defined by the podium giving a better scale to the waterfront side
- The podium roof-top can be used as leisure and amenity area – with pool and chill-out spaces – allowing direct views to the waterfront.
- Volumetric differentiation associated to the height limits variation – Volumes should have balconies on the facades facing the access roads.
- Penthouses with better views over the waterfront help the massing to read more vertical.
- 8 Roof-top terraces oriented to the waterfront for better views.
- For privacy and sun exposure between buildings a 25m minimum distance between towers must be guaranteed.
- A 20m minimum distance between plots must be guaranteed at podium level
- Apartments facing the waterfront detached from the towers: better views and privacy.
- Townhouses integrated in the podium volume along the waterfront side.


REF: LWRD-RDP- Sheet 8/8



PLEASE ALSO SEE:

RESIDENTIAL GUIDELINES & CONTROLS CONT.

GLOSSARY OF TERMS

TYPICAL CLUSTER PLOTS

REF: LWRD-RCPG- Sheet 1/6

GENERAL COMMENTS

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This guideline sheet has been prepared to support the plot Regulation sheet issued to each plot owner.

The guidelines are intended to promote good urban design and will be enforced by LREDC Plot owners must demonstrate compliance with the guidelines to ensure rapid acceptance of their proposals and granting of the appropriate development permits.

Due to continued implementation

of building developments and related Utility and Landscape infrastructure, based on Lusail City's Master Plan, Sub-developers and Consultants need to preconfirm with LREDC all current infrastructure implications on their specific plot.

EXISTING REGULATION SUMMARY:

individual residential cluster plots remain unchanged:

The following conditions within Building Regulations sheets for

Permitted Land Use		GF: Residential / parking UFs: Residential
Plot Area		As per individual Building Regulation Sheets
Max. FAR		4.0
Floor Plate		Minimum: 800 sqm - Maximum: 1100 sqm
Max. Plot Coverage		50% Habitable buildings coverage
Low Rise	Max Height	14m
Mid Rise	Max Height	53m - G+14
	Min. Height	40m - G+10
High Rise	Max Height	114m - G+30
	Min. Height	83m - G+21
Setbacks criteria:		10 m on driveway side
		7m on side facing street
		3 m alternate side and back of plot
Minimum car parking provision		Residential: 1 spaces per 1 bedroom unit/ 1.5 spaces per 2+ bedroom unit

REF: LWRD-RCPG- Sheet 2/6



ADDITIONAL REGULATIONS:



BUILD-TO-LINE	The majority of the primary frontage shall be built to the minimum front setback	
BOUNDARY WALL	No Boundary wall along the primary frontage and waterfront side, except for a 1m ornamental wall. Boundary walls up to 2.5m high are allowed along the neighbour plot boundary	
HIGH RISE MINIMUM HEIGHT	The High Rise volume minimum height shall be 3 floors less than the maximum allowed, to maintain high rise district vision.	
400500	Vehicular access point subject to built driveways.	
ACCESS	Access ramps and service areas are to be integrated within the low-rise volume	
PENTHOUSE	The penthouse must not exceed 65% of the High-rise top Floor and must be within a 3 meter setback on a minimum of 2 sides	
ENCLOSED ROOF STRUCTURES	Structures such as lift cores, stair towers, circulation areas, technical equipment rooms, etc., collectively cannot exceed 45% of roof area and must be within a 3 meter setback on a minimum of 2 sides.	
OPEN ROOF STRUCTURES	Open Roof structures such as pergolas, roof plantings, awnings and screen walls are permitted to exceed the maximum building height as long as they are less than 3m in height and occupy less than 20% of the total roof area.	
MECHANICAL EQUIPMENT SCREENING	All exposed and visually obtrusive rooftop mechanical equipment must be screened, using materials/colours harmonious with the building facade, when viewed along the normal line of sight from the Public Realm	

To safeguard quality, the following regulations are amended to augment and add to the Building Regulations:

RESIDENTIAL GUIDELINES & CONTROLS CONT.

TYPICAL CLUSTER PLOTS CONT.

REF: LWRD-RCPG- Sheet 3/6



REF: LWRD-RCPG- Sheet 4/6

KEY PARAMETERS

- Building envelope is the total 3-dimensional area in which the buildings are permitted and is defined by the minimum setback lines and the maximum building height restrictions.
- Parking is permitted below-grade and one parking level is permitted at-grade. Parking podium must not face the waterfront side. On street access side, building design should mitigate the presence of parking facades.
- High-rise volumes must be within a maximum height of 114 m and a minimum of 83 meters.
- Mid-rise volumes must be within a maximum height of 53 m and a minimum of 40 meters.
- Penthouses should not exceed 65% of the High-rise top Floor and must be within a 3 meter setback on at least two sides.
- Penthouses should be located on mid-rise elements to increase difference in height to low rise volumes.
- Mechanical Bulkheads should not exceed 45% of the High-rise top floor and must be within a 3 meter setback on at least two sides.



RESIDENTIAL GUIDELINES & CONTROLS CONT.

TYPICAL CLUSTER PLOTS CONT.

REF: LWRD-RCPG- Sheet 5/6

PRIVACY & BOUNDARY WALL



Towers should be a minimum of 25 m apart, for privacy concerns. Owners should be encouraged to go for even wider setbacks to ensure high quality of living.

Due to the nature of the tower blocks, boundary walls will be less important than on low rise developments. They are mandatory on side limits and optional at the back, but not encouraged at front, where the building should address the pedestrian access, improving the "village like" experience.

- A Side walls should control overlooking views
- Balconies should prevail on walls facing the waterfront
- Side boundary walls must be 2.5 m height
- Back walls are 2.5m high. When facing the highway, they must adhere to highway wall guidelines - height to 3m and design to LREDC specifications.
- Landscape should support privacy and overlooking to the low-rise floors.
- Landscape buffer to add to highway wall for increased privacy and sound control.
- Low rise rooftop podiums to have shading and screens for added privacy of leisure areas

REF: LWRDRCPG- Sheet 6/6

ACCESS / PARKING / SERVICE



Parking is encouraged to be at basement level. It can be on parking podium, provided that its facade is treated to mitigate the presence on the street.

Main Vehicular access is to be encouraged on the 10m setback side. Secondary access to podium or basement can be provided by a secondary driveway area.

Plot owners must provide all required parking on site. Servicing will be via front access side delivery bays or via secondary entrance within restricted hours. Owners must use designated driveways.

A Ramp to the basement parking inside the building. Ramp to be minimum 3m wide for a single lane road and 6 meters for two lanes.

> Ground level parking restricted to visitor parking and must not exceed 4% of required spaces.

- B Primary access road with coach to the lobby area
- Pedestrian entrance separated from vehicular entrance.
- Servicing via front access side. Refuse storage to be secured from pedestrians, designed to control odours and located so that it is easily reached by municipal collector trucks. Designated access to waste storage compartment located in the parking podium.

No access is allowed on the highway side.

Basement parking is encouraged up to 2 levels. Parking is permitted on Ground floor area. Street side parking podium must be screened or setbacked to reduce its impact on the building image.

PLEASE ALSO SEE:

2.4.3 MIXED USE GUIDELINES & CONTROLS

REF: LWRD-MUPG- Sheet 1/6

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GLOSSARY OF TERMS

GENERAL COMMENTS

This guideline sheet has been prepared to support the Plot Regulation sheet issued to each plot owner.

The intent of the guidelines is to promote good urban design and will be enforced by LREDC

Plot owners must demonstrate compliance with the guidelines to

ensure rapid acceptance of their proposals and granting of the appropriate development permits.

Mixed use plots are located in prominent locations. Their design and concept should take advantage of this, striving for unique architectural approaches. Due to continued implementation of building developments and related Utility and Landscape infrastructure, based on Lusail City's Master Plan, Sub-developers and Consultants need to preconfirm with LREDC all current infrastructure implications on their specific plot.

Note: For plots MIX-18 and MIX-34 a 5m basement setback from the bridge side is mandatory.

EXISTING REGULATION SUMMARY:

The following conditions within Building Regulations sheets for individual mixed use plots remain unchanged:



Permitted Land Use		Low rise: Residential / commercial / hotel / parking Mid and High Rise: Residential / commercial / Hotel
Plot Area		As per individual Building Regulation Sheets
Max	. FAR	4.0
Floor Plate		Minimum: 800 sqm - Maximum: 1100 sqm
Max. Plo	t Coverage	50% Habitable buildings coverage
Low Rise	Max Height	14m
Mid Dies	Max Height	40m - G+10
IVIIU RISE	Min. Height	20m - G+4
High	Max Height	129m - G+35
Rise	Min. Height	116m - G+31
Setbacks criteria:		17 m setback on side of main access road
		3 m setback on front, side and back of podium
Minimum car parking provision		Residential: 1 spaces per 1 bedroom unit/ 1.5 spaces per 2+ bedroom unit
		Commercial: 1 space per 50 sqm GFA
		Hotel: 1 space per 3 rooms

REF: LWRD-MUPG- Sheet 2/6



ADDITIONAL REGULATIONS:

To safeguard quality, the following regulations are amended to augment and add to the Building Regulations:



UILD-TO-LINE	The majority of the primary frontage shall be built to the minimum front setback	
BOUNDARY WALL	No Boundary wall is allowed along the primary frontage and waterfront side, except for a 1m high ornamental wall. Boundary walls up to 2.5m high are allowed along the neighbour plot boundary	
HIGH RISE MINIMUM HEIGHT	The High Rise volume minimum height shall be 3 floors less than the maximum allowed, to maintain high rise district vision.	
	Vehicular Access point subject to built driveways.	
ACCESS	Access ramps and service areas are to be integrated within the low-rise construction	
PENTHOUSE	Penthouse must not exceed 65% of the High- rise top Floor and must be within a 3 meter setback on a minimum of 2 sides	
ENCLOSED ROOF STRUCTURES	Structures such as lift cores, stair towers, circulation areas, technical equipment rooms, etc., collectively cannot, in their aggregate, exceed 45% of roof area and must be within a 3 meter setback on a minimum of 2 sides.	
OPEN ROOF STRUCTURES	Open Roof structures such as pergolas, roof plantings, awnings and screen walls are permitted to exceed the maximum building height as long as they are less than 3m high and occupy less than 20% of the total roof area.	
MECHANICAL EQUIPMENT SCREENING	All exposed and visually obtrusive, rooftop mechanical equipment must be screened, using materials/colours harmonious with the building facade, when viewed along the normal line of sight from the Public Realm	

MIXED USE PLOT GUIDELINES & CONTROLS CONT.

REF: LWRD-MUPG- Sheet 3/6

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REF: LWRD-MUPG- Sheet 4/6

TYPICAL SECTION,:



MIXED USE PLOT GUIDELINES & CONTROLS CONT.

REF: LWRD-MUPG- Sheet 5/6

PRIVACY & BOUNDARY WALL



Mixed use plots are located on the edges of the development, creating gateways to the district.

They are separated from residential plots by an access road which resolves privacy issues between them.

For added flexibility in the design, boundary walls are not mandatory and should be implemented according to the plot owner's design.

- Balconies should prevail on walls facing the waterfront
- B Side walls should control overlooking views
- Side and back boundary walls specifications to the height and design of the plot owners intent.
- Existent back walls should be fenced to allow views over private recreational / leisure zone.
- Landscape should support privacy and overlooking onto the low rise floors.
- Direct pedestrian access to private recreational / leisure zone is encouraged.

REF: LWRD-MUPG- Sheet 6/6



Parking is encouraged to be at basement level. It is permitted on ground floor parking podium. However it should not face the waterfront side.

Main vehicular access is to be encouraged on the 17m setback side. Secondary access to podium or basement can be placed on secondary driveway area. Access to waterfront side must be controlled. Plot owners must provide all

required parking on site. Servicing will be made via front access side delivery bays or via secondary entrance within restricted hours. Owners must use designated driveways.

- Ramp to basement parking levels must be inside the building. Ramp to be minimum 3m wide for a single lane road and 6 meters for two lanes. Ground level parking restricted to visitor parking and must not exceed 4% of required spaces. Primary access road with coach to the lobby area
- B Pedestrian entrance separated from vehicular entrance.
- Servicing via front access side
 Refuse storage to be secured from pedestrians, designed to control odours and located so that it is easily reached by municipal collector trucks Designated access to waste storage compartment located in the park podium.
- Pedestrian access to the waterfront area must be controlled.
- Basement parking is encouraged up to 2 levels. Parking podium does not face the waterfront side. Street side parking podium must be screened or setbacked to reduce the impact on building image.

PLEASE ALSO SEE:

2.4.4 LANDMARK PLOT GUIDELINES & CONTROLS

REF: LWRD-LPG- Sheet 1/2

PLOT LOCATIONS

The diagrams on the side show three selected Landmark plots.

These are located in specific view corridors that frame the arrival of the visitor to the district.

They act as focal points that will represent the district's vision of all of Lusail City.

PLOT WR - RES/07







GLOSSARY OF TERMS

FLEXIBLE CONTROLS

To safeguard quality, the following regulations are relaxed to augment and add to the Typical Plot Guidelines & Controls:

HEIGHT	Maximum permitted height should be achieved throughout different volumes.
SETBACKS	Balconies, finns and other protruding elements can extend into the setback for 2m, as long as they keep the ground floor clear to a minimum of 3m high.
MATERIALS & Extra materials and colours are allowed, to approval of LREDC.	
ARCHITECTURAL EXPRESSION	Organic and bespoke facade solutions are encouraged. Glazing over 50% can be considered to the approval of LREDC.
ENCLOSED ROOF STRUCTURES	Roof structures such as lift cores, stair towers, circulation areas, technical equipment rooms, etc are encouraged to exceed the maximum building height to the consideration of LREDC
OPEN ROOF STRUCTURES	Open Roof structures such as pergolas, roof plantings, awnings and screen walls are encouraged to exceed the maximum building height to the consideration of LREDC

GENERAL COMMENTS

Landmark plots provide a special condition as they are placed in a location of visual prominence and will be of significant importance in defining the image of the district.

Landmark buildings should be encouraged on these locations, and relaxation of controls should be made to allow for a greater latitude of design.

This requires the plot typologies to be adapted in the following aspects:

- > Height
- > Setbacks
- > Architectural Character
- > Massing

These opportunity plot sheets add to the guidelines of a typical plot, in order to make the most of this condition. They should be therefore read in conjunction with the appropriate typology guidelines and controls.

It is essential to note that these specific guidelines are not mandatory but only an encouragement for plot owners to grasp and take advantage of the full potential of their plots.

NO GFA OR FAR INCREASE IS GRANTED, nor any of the subsequent guidelines can result in habitable spaces out of the current building envelope. All designs are subject to the approval of LREDC.

REF: LWRD-LPG- Sheet 2/2

LANDMARK REFERENCES

Landmark status can be achieved by solutions involving a more detailed design and approach to the facade composition.

Extended colour palettes, materials and facade arrangements can be used to great effect.

Owners / consultants are encouraged to devise roof structures, or facade extensions that add to the architectural quality of the building and express its form through greater vertical length.

- Small accents with organic protrusions add interest to facades and outset building presence.
- Dynamic forms with iconic facade treatment provides more impact and presence.
- Organic, nature like designs relate to natural surroundings and define a singular architectural view.
- Innovative tower orientations and variations add interest and district readability to the skyline.
- Use of an extended colour palette can easily make a building standout. However, it needs to be used with careful attention to the existing colour palette.
- Use of bespoke materials and bold lobby entrances and porte cochères ensure the landmark design is not contained only on the high rise elements.













2.4.5 OTHER PLOT TYPOLOGY GUIDELINES & CONTROLS

PLEASE ALSO SEE:

GLOSSARY OF TERMS

KEY RETAIL PLOTS

REF: LWRD-KRP- Sheet 1/4

GENERAL COMMENTS

This sheet defines the general principles & parameters to inform the retail provider's approach to the parcel's development.

This information supplements the Building Regulation sheets. It clarifies a number of points and lists the various relevant mandatory requirements.

The objective is to foster best design practice to result in a liveable neighbourhood.

The guidelines and controls are an outcome of LREDC detailed review of the approval process.



The following conditions within Building Regulations Sheet for the Retail Plots **remain unchanged**

Servicing access

EXISTING REGULATION SUMMARY:

Permitted Land Use	Special use - Beach Club
Plot Area	3,450 sqm
Max. FAR	1.90
Max. Plot Coverage	80% (includes covered parking areas)
Max. Number of Floors	G+2
Max. Height	14m height
Min Setbacks	3m from all sides
Min. Car Parking Provision	Commercial :1 space per 50 sqm GFA
	Restaurants, Cafeterias and coffee shops :1 space per 4 seating capacity
	Health Club, Multi purpose Halls: 1 space per 25 sqm NET leasable area
Car Park Location	Parking above grade is allowed. Subject to LREDC Approval

To safeguard quality, the following regulations **are amended to augment and add** to the Building Regulations:

ADDITIONAL REGULATIONS:

BOUNDARY WALL	Side party walls to be 2.5m till entrance gate for access to waterfront. other boundary walls not mandatory	
ACCESS	Servicing to be separate from general traffic & pedestrian movement.	
PARKING	Plot owners to provide all parking on site. Parking to be screened from view, parking podium to have activated frontage	
	Refuse and general external storage to be screened from view with enclosures of 2m min height.	
SCREENING	Stairwells, vents, utility equipment to be recessed away from the street and screened from view.	
	Rooftop parapets to be provided to 1.2m min. Height	

REF: LWRD-KRP- Sheet 2/4





Typical Retail Plot - Sections

- A The building envelope is the total Section within which permissible construction may occur and is defined by the minimum setback lines and maximum height restrictions. The maximum building height is 10m (ground level to top of parapet).
- B Pedestrian access separated from service and other traffic where possible.
- **6** Service access from secondary entrance to have 3m min clearance from adjacent plot(s).
- D General vehicular access.

OTHER PLOT TYPOLOGY GUIDELINES & CONTROLS CONT.

KEY RETAIL PLOTS

REF: LWRD-KRP- Sheet 3/4

ACCESS, SERVICING & PARKING



VISIBILITY, PRIVACY & BOUNDARY WALL



- A Increase presence of building at the entrance to improve legibility/ visibility upon approach.
 A (min) landscaped buffer should be used to
- B 3m (min) landscaped buffer should be used to buffer servicing areas.
- 2.5m party wall to control access to waterfront side.

- Refuse storage to be screened, secured and made accessible for collection.
- ON Boundary walls on waterfront side as to increase the relation with public realm and the accessibility from private users.
- Shrub planted margin to boundary walls.

Service traffic to be separated from all other traffic & pedestrian access. All parking to be provided on site. Pedestrian access to be controlled on access road side and open on waterfront side.

Vehicular access to be divided into access to parking and access to service area.

Refuse storage to be secured from pedestrians, designed to control odours and located so that it is easily reached by municipal collector trucks. Designated access to waste storage compartment located in the parking podium.

The main objective is to maintain a pleasant streetscape and retail frontage at the access road and waterfront side.

Beach club should promote visibility to Waterfront area. It will act as breathing space among high density towers

This special retail plot is intended to promote community interaction and activity.

On the front and back side there should be no boundary walls, except the ones required to control the access from the access road to the waterfront.

Rooftop podiums with leisure uses can have screens to provide extra privacy from residential units.

REF: LWRD-KRP- Sheet 4/4

LANDSCAPE & SHADING



- A Shrub planted margin to boundary walls.
- **B** Connection to waterfront side through landscaped areas, water features and shading elements.
- Alternative shading structures encouraged. C
- Rooftop podiums to be landscaped and have D leisure uses.

All rooftop podiums to be landscaped and have leisure uses.

Surface parking to be shaded and screened views from roads and residential units.

50% of surface parking within the parcel shall be shaded.

It is recommended a rate of 9 shade trees per 100sqm of parking space area.

The connection to the waterfront should be made through landscaped area, with use of water features and shading elements for extended cooling effects.

REFERENCE IMAGES







OTHER PLOT TYPOLOGY GUIDELINES & CONTROLS

CIVIC PLOTS - EDUCATION

REF: LWRD-CP(E)- Sheet 1/1

GENERAL COMMENTS

The Education Plot Guidelines & Control Sheets support & clarify Building Regulations, to engender high quality of design.

These guidelines are to be read in conjunction with the Development Control Regulations issued by LREDC in addition to regulations, standards and guidelines issued by the Supreme Education Council (SEC) and Ministry of Education and Doha Municipality (where applicable), in line with the Lusail City Education Strategy.



Education Plot - Plan

REFERENCE IMAGES





RECOMMENDED MATERIALS











Screening

Coloured highlights

CONSIDERATIONS

- > The developing agency should assume a G+2 height limit.
- Larger plots can accommodate community sports facilities.

ACCESS ARRANGEMENTS

- > Pedestrian access to be separated from student drop-off.
- Student entrance / exit points should minimise conflicts between parent and bus drop-off movements on site.
- Boundary walls are mandatory, must control access to plots and ensure privacy from neighbouring areas, while offering permeable access to park space.

ARCHITECTURAL CONSIDERATIONS

- > General character of buildings should be international contemporary style.
- > Screening elements should be used to control privacy and views from the surrounding plots.
- Large building facades should have visual breaks by using shifts in horizontal/vertical planes, material changes, transparency, etc.
- > Colour may be used for accents and highlights.
- > Use of patterns and textures addressing cultural aspirations are encouraged, but should be limited to accents and highlights.
- > All equipment on rooftops should be covered with metal trellis, louvres, etc.

WATERFRONT RESIDENTIAL DISTRICT

PLEASE ALSO SEE

CHITECTURAL DESIGN

BOUNDARY WALLS

LANDSCAPE DESIGN

GLOSSARY OF TERMS

CIVIC PLOTS - MOSQUE

REF: LWRD-CP(M)- Sheet 1/1

GENERAL COMMENTS

The purpose of the *Civic (Mosque) Plot Guidelines & Control Sheets* is to support and supply additional information to the existing Building Regulations, providing further clarifications and guidance to promote urban design quality.

The example site shown is for illustrative purposes only. For specific plot location please refer to original Building Regulations Guidelines. For additional regulations please refer to the Private Engineering Office's requirements for the approval of mosques and government buildings' elevations.

It is mandatory to receive the Private Engineering Office's approval on all types of mosque elevations as well as elevations of mosques' ancillary buildings.



sque Fiot - Fian

REFERENCE IMAGES



RECOMMENDED MATERIALS







Textured stone wall

Stone cladding

CONSIDERATIONS

- > As per the direction in the Qur'an all mosques shall be oriented towards Qibla.
- > The building programme should comply with standards set out by The Mosque Architectural Design Committee.
- > The max. overall height for a local mosque should not exceed 7m, or 10m in cases of justified exceptions.
- > The max. overall height for a Juma mosque should not exceed 10m, or 13m in cases of justified exceptions.

ACCESS ARRANGEMENTS

- Access for vehicles should respect designated driveways.
- It is recommended that subsequent separation of entrance / exit points is provided on the plot enabling a separation of vehicle flows and bus drop-off within the site.

ARCHITECTURAL CONSIDERATIONS

- > Location of Mosque and Minaret should reference main visual corridors and enhance the relation with surrounding areas.
- > Architecture design should follow the Qatari Heritage.
- > Any type or form of domes is not allowed in the design.
- > Design should allow for one minaret only, to be designed proportionately to the Mosque's height.

PLEASE ALSO SEE:

RCHITECTURAL DESIGN

2.4.6 PLOT AMALGAMATION GUIDELINES & CONTROLS

REF: LWRD-AG- Sheet 1/6

GLOSSARY OF TERMS

INTRODUCTION

These Guidelines for Plot Amalgamation apply where individual plots are combined to form a larger single plot.

The Amalgamation Guidelines ensure that the overall quality of the environment is maintained to a high standard and the quality of the residential street frontage is not compromised.

The following regulations and guidelines apply to all plots:

- > Set Backs
- > Plot Ratio
- > Heights
- > Build-to lines
- > Expression Lines
- > Privacy & Boundary Wall

General regulations of individual plots apply to amalgamated plots, allocating and/or amalgamating permitted Land uses, GFA, BUA, outer edges setbacks, parking provisions, landscape buffers, etc.

However, a few specific guidelines apply to amalgamated plots as shown in these sheets.

REGULAR SCENARIO WITH INDIVIDUAL PLOTS



AMALGAMATION OPTIONS





REF: LWRD-AG- Sheet 2/6

The following conditions within Building Regulations Sheet for the Individual Residential Plots **remain unchanged**: The **following regulations are amended to augment and add** to the original Building Regulations and apply to amalgamated plots:

EXISTING REGULATION SUMMARY:		ADDITIONAL	REGULATIONS:
	> Allocated and amalgamated GFA		Maintain Massing along Street Elevation.
Land Use	 (BUA) and typologies Allocation of MultiFamily/ Plot (with understanding it can accommodate large, extended 		Facade articulations should be used to break unrelieved planes of building and avoid too long elevations.
		MASSING	Maximum number of tower buildings as per total of amalgamated plots.
Plot Coverage	 Footprint: Allocated maximum % of Plot area 		Low-rise elements may be joined in a continuous block to a maximum of 2 plots. Every 2 amalgamated plots, 1 break is mandatory for pedestrian permeability.
			In amalgamated plots, tower buildings shall have a maximum floor plate of 1100 sqm.
Heights	 Allocated Building heights 	HIGH RISE MINIMUM HEIGHT	Minimum recommended height for high rise buildings is 4 storeys less than maximum height permitted
Setbacks	 Allocated general setbacks. Outer edge setbacks apply. 	PLOT	Allowance and distribution of uses, typologies and GFA must be maintained in their totals as a sum of amalgamated plots.
		OUVERAGE	Combined landscape buffers and provision requirements to be maintained.
Plot Boundary	> Allocated overall Plot boundary	SETBACKS	Majority of building frontage to be on the 5m front setback.
			Gateway house can abut the front edge of the plot
Car Parking	Car Parking > Allocated and amalgamated Parking Provision		The space between High-rise buildings shall be no less than 25m, although aerial connections are permitted.
			All vehicular accesses are located per designated driveways on original plot sheets
		ACCESS	Vehicular access is to be kept to a maximum of 1 per 2 plots, in and out;

SPECIAL NOTES:

CAR PARKING

> All infrastructure capacities are located per specific Plot Regulations and infrastructure public realm designs.

If more than 2 plots are amalgamated there shall be a minimum of 2 separate pedestrian entrances.

Surface parking over 4% is permitted, as long as it is not visible from the street or waterfront side, and screened from overhead views

Underground parking may be joined in one single structure;

- > Sub developer diversion from the established access locations are at sole discretion of LREDC on a case-by-case basis.
- > All costs for revised relocation within the Public Realm as well as within the plot, if approved by LREDC, are borne 100% by the sub-developer

PLOT AMALGAMATION GUIDELINES & CONTROLS CONT.

REF: LWRD-AG- Sheet 3/6

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FURTHER AMALGAMATION KEY CONSIDERATIONS



RHYTHM OF OPENINGS

Pedestrian Access, vehicular entry points, as well as articulated boundary walls provide frontage continuity.

Regular openings and facade breaks alleviate continuous boundary walls to improve the quality of public realm.

Extra public crosswalk must be considered in the amalgamation process

SETBACKS

Build-to lines and setbacks define the street elevation.

Careful positioning of key buildings frames the street to enhance its composition.

FRONT & REAR ACCESS PROVISION

Every plot must have vehicular access from the front access road and pedestrian access from both front access road and waterfront side.

In case of amalgamated plots, vehicular access is to be kept to a minimum of 1 per 2 plots, in and outwards.

OPTIONS OF AMALGAMATION

1 AMALGAMATION OF 2 PLOTS







3 AMALGAMATION OF 4 OR MORE PLOTS



REF: LWRD-AG- Sheet 4/6

MASSING & STREET ARTICULATION



AMALGAMATION: ILLUSTRATIVE AMALGAMATION SCENARIO

REF: LWRD-AG- Sheet 5/6

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2.5 BOUNDARY TREATMENT GUIDELINES & CONTROLS

RESIDENTIAL & MIXED USE PLOTS

REF: LWRD-BTG- Sheet 1/8

RATIONALE

The Boundary Treatment Guidelines & Controls sheets support the existing Building Regulations as to provide privacy, security, safety and visual amenity

Key Principles:

- To establish a cohesive, > modular rhythm for heights and widths
- High quality, durable, > prestige finishes

Due to the nature of the tower blocks, boundary walls will be less important for privacy issues than on low rise developments.

While boundary walls are discouraged in Waterfront Residential district, the existence of low rise elements with residential uses and the need for privacy and security demand that on party walls a high wall is implemented.

As a way of demarcating the plot limit, a lower front wall with ornamental character is allowed.

On mixed use plots, to allow for greater flexibility in addressing their specific needs, boundary walls are less regulated on side and back limits.

TYPICAL RESIDENTIAL





Key Components

Party Wall - encouraged 2.5m height

(not mandatory)

Utility Panel

D

Street Wall - 1m ornamental Boundary wall allowed on front site limit

Waterfront Wall - To plot owners design

PLEASE ALSO SEE:



GLOSSARY OF TERMS

REF: LWRD-BTG- Sheet 2/8

RESIDENTIAL CLUSTER - HIGHWAY

Residential cluster plots face the highway, which represents a singular challenge as they must act as the image of the district, but also ensure the correct separation from a high traffic road from a residential area.

The highway wall will act as one of the main mitigators of noise, pollution and privacy issues.

Together with this wall, an increased green buffer, will help to elevate the quality of the residential area.



C Highway Wall - 3.0m height

UTILITY PANEL

The Utility panel should be clearly separated from the pedestrian entrance and located on the side of the plot.

It must be screened from view in a closed structure with a decorative panel to conceal the meters.

On corner plots, utility panels should always be located on the secondary road.

Definitive location must be validated with LREDC prior to planning and design to assess existing insertion of infrastructures.

A Street Wall - 1m ornamental Boundary wall allowed on front site limit

B Party Wall - 2.5m height

Vehicular Entrance Portico - 2.5m height

D Utility Panel



RESIDENTIAL AND MIXED USE PLOTS BOUNDARY GUIDELINES & CONTROLS CONT.

REF: LWRD-BTG- Sheet 3/8

1M STREET WALL

- A Street Wall Maximum 1m high and 0.3m wide street wall to design to suit architecture style
- B 1.2m wide landscape strip within street boundary wall



2.5 M PARTY WALL - SECONDARY STREET WALL

- A Party Wall; Maximum 2.5m height, the upper part (0.65m) to have a screening panel or decorative element.
- B Design to suit architecture style



3 M HIGHWAY WALL

- A Highway Wall 3m high. Outward face to follow specific design defined by Master Developer. Inside to be designed to architectural style
- B 3m setback to contain dense landscape buffer



REF: LWRD-BTG- Sheet 4/8

HIGHWAY WALL

The highway wall defines the image of the districts along the main routes.

It must be 3m high. The width of panel and range of finishes accommodate each individual plot owner architectural styles. The highway wall is to be built inside the plot boundary and to the plot owner's expense. Lusail's public realm strategy to include landscaped area adjacent to exterior of wall, ensuring consistency of image throughout.



	Components	Guidelines	MANDATORY CONTROLS
A	Piers	 Part of structural frame of a modular system. Define rhythm of boundary wall, adjusted to plot length, within approved range. 	 Fixed 3m in height from kerb line and 0.50m width. Permitted materials: masonry, concrete and stone. Finish to be paint or cladding, and respect image of building (refer to architectural guidelines - materials).
B	Inset Panel	 > Distinctive feature. > Range of finishes suited to architectural style. 	 > Fixed 2,35m in height from plinth to top. > Width to respect module of 2,5m to 3,5m for consistency and adjustment to plot length. > Permitted materials: masonry, concrete and stone. Finish to be paint or cladding and respect image of building (refer to architectural guidelines - materials).
C	Plinth	 Part of structural frame of a modular system. Receives and separates panels from landscaped area. 	 Fixed 0,65m in height from kerb line. Permitted materials: masonry, concrete and stone. Finish to be paint or cladding, and respect image of building (refer to architectural guidelines - materials).

INFRASTRUCTURE EASEMENTS

Certain Plots along arterial highways may need to accommodate additional belowgrade Infrastructural utility corridors within varying easements encroaching into individual rear Plot boundaries.

The Sub-developer is responsible for landscaping this easement portion of their Plot; and, that Landscape must incorporate relevant Authority utility access requirements.

Sub-developers must verify all Infrastructural requirements, existing easements and Public Realm Landscape plans with LREDC prior to planning and design. Easement areas of plot to be landscaped in coordination with specified Public Realm plant species and all required utility access per relevant Authority.



RESIDENTIAL AND MIXED USE PLOTS BOUNDARY GUIDELINES & CONTROLS CONT.

REF: LWRD-BTG- Sheet 5/8

PARTY WALL TO SECONDARY STREET WALL CONDITION

Party wall to secondary street wall :

- > Each plot owner to construct 1 party wall aligned to the boundary line
- > Boundary between plots to be defined by two parallel and abutting walls
- > Walls to fall within plot boundary line.
- > Walls to be 2.5m high with the upper part of 0.65m screened with trellis panel or any other decorative elements.
- > Secondary street wall used to control access to private area of the plot - to be setback from building edge.
- > Facade treatment to owners' requirements.
- B Party WallB Secondary Street Wall



Typical Plot Party & Rear Wall Boundary Treatment

	Components	Guidelines	MANDATORY CONTROLS
۵	Street / Waterfront Wall	 Fixed Height Ornamental Character 	 > To construct within plot boundary line, including footings/ foundations > Max. 1m high > Wall to be freestanding, not retaining earth
66	Party / secondary street Wall	 Design and finish to suit plot owner requirements 	 Party walls to be defined by two parallel and abutting walls, constructed within plot, aligned to the boundary line, including footings/ foundations Mandatory 2.5m high. Wall to be freestanding, not retaining earth.
C	Highway Wall	 Fixed Height Exterior Design to follow design by Master Developer No pedestrian access allowed 	 If wall needs to be setback due to infrastructure easements, easement area must be fully landscaped and planted with low level grasses and ground cover plants (as indicated on LUSAIL plant palette). To construct within plot boundary line, including footings/ foundations Mandatory 3.0m high. Wall to be freestanding, not retaining earth. Subject to LREDC approved system.

REF: LWRD-BTG- Sheet 6/8

TYPICAL PARTY WALL TO STREET / WATERFRONT WALL CONNECTION

Party Wall to Street/Waterfront Wall :

- > The connection shall be orthogonal.
- > Party wall assumes 1m street wall height at the 5m setback line.
- Materiality of ornamental street wall can > differ from Party wall
- Party Wall is mandatory. > Street Wall is optional.
- > Adjacent to the access road to waterfront, the side boundary wall shall reach 2.5m at the point of the access gate.



Typical Plot Party wall to Street Wall Connection

TYPICAL PARTY WALL TO HIGHWAY WALL CONNECTION

Party Wall to Highway Wall:

A

Street Wall B Party Wall

- The Highway wall exterior design is > mandatory to follow the design standard by Master Developer.
- The connection shall be orthogonal. >
- Inward finishes to owner's preference. >
- Plot owner to build wall within plot boundary, > 3.0m high
- > Landscape buffer 3m





Typical Plot Party wall to Highway Wall Connection

RESIDENTIAL AND MIXED USE PLOTS BOUNDARY GUIDELINES & CONTROLS CONT.

REF: LWRD-BTG- Sheet 7/8

STREET / WATERFRONT WALL



PARTY WALLS



REF: LWRD-BTG- Sheet 8/8

HIGHWAY WALLS

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BOUNDARY TREATMENT GUIDELINES & CONTROLS

COMMUNITY FACILITIES

REF: LWRD-CFPBT- Sheet 1/4

RATIONALE

The Boundary Treatment Guidelines & Controls Sheets further clarify the Building Regulations.

Community facilities include Mosques, health centre, sports and recreation facilities, local shops and education facilities including schools.

Key objectives:

> To promote accessibility to amenity functions whilst concealing private/ service functions

- > To provide a cohesive treatment to street and park elevations.
- > Provide solutions that complement the neighbourhood and reflect the function/ style of the amenity.
- > To have Arabic-inspired street wall/ planting styles in all amenities.
- > To modulate continuous walls with entrances, piers, panels and planting.
- To apply Lusail approved design palette.
- > To use high quality, durable finishes which are fit for the purpose.
- > To develop solutions with high visibility

such as railings or soft landscape treatments where appropriate

> Amenity frontages can omit street and park wall treatments if appropriate

TYPICAL MOSQUE BOUNDARY TREATMENT

Typical Mosque - three different conditions

1. Street wall:

- Where applicable, piers shall be consistent with adjoining street walls.
- Encourage visibility by the use of gates and railings or clipped hedges.
- > Trees and hedges may be used in lieu of piers and wall panels if appropriate.

2. Party wall with residential plots:

- > As per residential walls guidelines.
- > Constructed within plot boundary line.

3. Park wall/edge:

- > May be lower in height or can comprise soft landscape treatment.
- Optional pedestrian gate links facilitate informal access where appropriate.
- Integrated with landscape & public realm solutions.



Integrated with landscape/ Public realm solution



High visibility boundary treatment



High visibility boundary treatment with consistent boundary wall height
REF: LWRD-CFPBT- Sheet 2/4

OTHER FACILITIES BOUNDARY TREATMENT

Health care & sport facilities with two different conditions

- High visibility boundary treatment where appropriate, including railings and/or landscape.
- Party wall consistent with neighbour and constructed within the plot boundary line.



Application of pattern to reflect Arabic character in amenity facility.



High quality wall treatment integrated with lighting



Use of decorative panels to strengthen local character and identity.



Landscape and railings softens the street scape and improves perception of amenity facilities

TYPICAL LOCAL RETAIL BOUNDARY TREATMENT

Local retail with three different conditions

1. Street wall:

- > Where appropriate, piers should be consistent with adjacent plots.
- Possible landscape solutions
 hedges, railings to offer a more open environment.
- > High visibility where appropriate.

2. Party wall with residential plot:

> As typical residential boundary.

3. Park wall:

- > High visibility boundary treatment with pedestrian gates where appropriate.
- Integrated with landscape & public realm solutions



Legible gateway providing street enclosure with a strong identity.



Low railings integrated with landscape planting



Connectivity between park and community retail.

BOUNDARY TREATMENT GUIDELINES & CONTROLS

EDUCATION

REF: LWRD-SEBT- Sheet 3/4

RATIONALE

Schools require controlled access to the buildings and privacy from neighbouring plots, while offering permeable access to park public space.

Drop-off facilities can be integrated into the street wall treatment at the front of the school, while enclosing the buildings and external spaces to the rear.



School Plots Boundary Wall Treatment

A Neighbouring Plot Party Wall
 B Neighbouring Plot Rear Party Wall
 C School Parcels Rear Wall / Party Wall

	Components	Guidelines	MANDATORY CONTROLS
A	Plot Party Wall	Refer to Party wall Guidelines & Controls: REF: LWRD-BTG - Sheet 3/8	 Refer to Party wall Guidelines & Controls: REF: LWRD-BTG - Sheet 3/8
B	Plot Rear Party Wall	Refer to Rear Party wall Guidelines & Controls: REF: LWRD-BTG - Sheet 4/8	 Refer to Rear Party wall Guidelines & Controls: REF: LWRD-BTG - Sheet 4/8
C	School Party Wall	 > As residential boundary walls, to facilitate privacy, security and to mitigate noise. > Internal face can be decorated to school requirements. > Possible applied landscape treatment - up to 0.5m trellis can be added to further enhance privacy if required. 	 As Residential boundary wall Guidelines & Controls: REF: LWRD-BTG- Sheet 1/8
*	School Street Wall	 > Design as Mosque guidelines. > Open drop-off permissible if building entrances incorporate secure concierge. > Piers consistent with adjacent street walls. > Can be integrated with landscape & public realm solutions. 	 As Mosque street boundary wall Guidelines & Controls REF: LWRD-CFPBT- Sheet 1/4

REF: LWRD-SEBT- Sheet 4/4

SCHOOL BOUNDARY WALL CONDITIONS

Walls and fencing shall be integrated into the architectural design to enhance and complement campus character.

Designers are encouraged to apply appropriate and innovative texture and colour to perimeter walls.

Service access to kitchens and ancillary functions shall be located on adjoining street access.

Gates should match the height of the walls and open the full width of the access drive.

Service entry to be separated from pedestrian and visitor access.

School parcels with two different conditions

- 1. Street wall:
- > As per mosques boundary guidelines.
- 2. Party wall with residential plot:
- As per residential plots boundary guidelines.



Design should encourage innovation and inspirational designs.



Railings and landscape provide street enclosure and shaded playspace





Visible entrance, drop off & pick up area

2.6 PLOT ARCHITECTURAL GUIDELINES & CONTROLS

2.6.1 OBJECTIVE AND PURPOSE

These guidelines form the basis of a coherent architectural vision that will inform and drive the quality of the architecture of Waterfront Residential District.

This section of the document serves as a point of reference to the architectural DNA of the development and it aims to strengthen the architectural character of the district.

Good urban design principles and massing controls will ensure a high quality streetscape environment.

As a way of dissecting a building down to its components, pattern books and guidelines have been prepared for each typology.

The following list of elements have been defined as the key design elements when designing a building:

Facades LWRD-GDG-Sheet 1/21

Materials and Colours LWRD-GDG-Sheet 3/21

Openings LWRD-GDG-Sheet 4/21

Projections LWRD-GDG-Sheet 5/21

Shading and Privacy Structures LWRD-GDG-Sheet 6/21

Arcades LWRD-GDG-Sheet 7/21

Roof Components LWRD-GDG-Sheet 8/21

Lighting Design LWRD-GDG-Sheet 9/21

Building Signage LWRD-GDG-Sheet 11/21

2.6.2 PREFERRED ARCHITECTURAL CHARACTER TYPE

SELECTED STYLE

The private sale plots at Waterfront Residential have two key land use types.

A Mixed use plots



The intended architectural theme is contemporary. This has the goal of promoting modern location-sensitive architecture.



PLEASE ALSO SEE:

BOUNDARY WALLS

LANDSCAPE DESIGN

2.6.3 GENERAL DESIGN GUIDELINES & CONTROLS

REF: LWRD-GDG- Sheet 1/21

FACADES

General Remarks

Building facades shall be articulated to provide visual interest, architectural rigour and design quality to a given plot, while contributing to the overall spirit and feel of the street laid out by the masterplan.

Through the articulation of the facade design and specific elements, the following (but not limited to) design parameters should be considered:

- The number, size, depth and orientation of window openings;
- Offset or change in the direction of wall planes;
- Stepping back of upper stories, in full or in part;
- Feature windows, bay windows, pergolas, screens, overhanging roofs, trellis etc.;
- Articulation in depth, detail and treatment of roof parapets;
- > Use of balconies for amenities and architectural detail;
- Careful control of decorative elements, recesses, recessed patterns, beam or scupper extensions;
- > Where possible facades should be designed with both solid wall surfaces and window openings to avoid large expanses of blank wall or glass curtain wall;
- > Where larger expanses of curtain walling are created screening, loggia, colonnades, and recesses must be incorporated into the design solution;
- Architectural transom designs are not permitted on any facade.

Facade Ornamentation

Facades can have limited historical details where such a design dictates to add visual interest and depth to the facade. These may include but not be limited to the following:

- Recessed geometrical patterns; shapes not consistent to the vernacular style are discouraged;
- Screens including geometrical patterns.

Building Illumination

Design parameters to follow the Lusail Nightscape Lighting Strategy, which defines the Lighting Design Guidelines and Parameters for each plot according to the Ambient Mood of each street.

General design considerations:

- > The lighting of facades are encouraged to accentuate architectural features, to reinforce the architectural language and to become part of the overall night scene set in terms of importance and visual hierarchy within the development as a whole.
- > Draw the eye towards key features like entrances or arcades. Long, mid and short views as well as lighting levels should be considered.
- > High level illumination to the roof line 'crowns' the structure and provides a point of recognisable visual destination for the long view.
- Structural illumination to key elements of the facade reinforces the architectural intent and provides a visual statement of the building on mid view approach.
- Designed control of close offset light distribution limits and restricts obtrusive light trespass to adjacent areas, sky glow and importantly, for this use, stray light entering windows towards internal and neighbouring spaces.
- Site and building lighting should be located and directed to prevent off-site glare impacts on adjacent buildings, streets, properties, and open spaces.

For further details please consult the LIGHTING DESIGN section of this document.

Vertical design with balconies variations to provide diversity and interest



Vertical volumes composition - Lobby accentuation with canopy



Articulation of Mid-rise and High-rise towers

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GLOSSARY OF TERMS

REF: LWRD-GDG- Sheet 2/21

FACADES



Facade design with differentiation of volumes integrating balconies in the transitions



Lobby opened to the main street to increase the presence in the street ambience



Vertical tower with variations on the floors

Tower Design

The towers shall promote vertical designs and forms, using the combination of volumes and planes to create diversity and variations in the vertical massing.

The main tower should touch the ground while a podium (limited to the low-rise height) may be attached. The podium should not align with the adjacent building facades and should have some strategic setbacks for covered walkways and building entrances while creating architectural interest.

Street level facades will display a high degree of permeability between interior and exterior space through the use of transparent windows and doors that provide clear and unobstructed views into and out from ground floor uses – Lobbies and Amenity spaces on both front and water side.

The lobbies and foyers of the towers are a signature feature with high quality entry spaces to improve legibility – active street-related uses on the frontage to encourage activity and natural surveillance. The presence of lobbies on the main frontage is mandatory – the vehicular access can be made through a private side road.

Entrances to the buildings will be clearly defined with maximum visibility to ensure ease of access directly from the street, and free of obstructions – double height is preferable (approx. 9m clear).

Facades should be well articulated with an interplay of rhythm between transparent glass and solid materials.

Blank walls should be avoided, and if necessary must be well articulated. Air vents and mechanical equipment will not be located on the front facade.

Pedestrian weather protection will be provided over entrances – Canopies to accentuate the sense of arrival and the architectural expression.

Side and rear building facades should be designed with attention to architectural character and detail comparable to the front facade.

At lower levels, residential amenities should be provided as to encourage pedestrian interaction.

Locate access parking, loading, service areas and utilities primarily at the opposite corner to the lobbies so as not to conflict with pedestrian-oriented activities. These uses should be integrated into one single access, screened from public view.

The maximum floor plate area for the towers is 900 square metres, to emphasize the vertical design of the building.

The use of small floor plates (composed by the junction of smaller rectangles) is encouraged as they result in slender buildings casting smaller shadows, improving sky views and allowing for better views between buildings and throughout the site.

GUIDELINES & CONTROLS CONT.

REF: LWRD-GDG- Sheet 3/21

MATERIALS AND COLOURS

Primary Materials

Stone

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Cladding systems with natural stone should be used as a primary building material on all building facades. Recesses and rebates within a stone facade must use a contrasting stone finish to the main body of the facade. >Finishes: Bush hammered; Honed; Riven; Chiselled; Punched; Polished is not permitted. > Jointing shall be between 40 and 60cm: Horizontal joints shall be expressed while vertical joints to appear abutted and obscured. Normal tolerances and expansion coefficients to manufacturer and suppliers recommendations. Open jointing to stonework to be invisibly fixed and the back painted to obscure substructure and fixing method. Filled joints to be matched to main body colour of stone. Rhythmic pattern or alignment of panel joints is encouraged.

Secondary materials

Render

Plaster can be used as an alternative material to differentiate / enhance areas of the facade. The plaster should contain different textures and finish definitions. Plain walls without decorative joints are mandatory. Where recessed patterns are incorporated into the design of the facade a secondary material is preferable. If plaster is used then this should be a contrasting texture and or colour. Textures: Smooth Texture; Light Sand texture; Course texture.

Render finishes



Cladding

Cladding systems can be used as Secondary / alternative materials to accent the main building material. Appropriate building materials to include:

- Precast Concrete;
- Wood (imitation wood effect materials are not permitted);
- Metal (sheet or cast
- material non reflective);
- Glass curtain wall (glass with high level of reflectivity is prohibited)

Material Changes

Changes in material should occur, when there is a change in material plane of the facade. The change in material and colour must occur on the inside corner of a building, recess etc. A change in material on the same plane is not permitted unless this is broken by a recess detail, column as to define a clear separation.

Paint

Walls and roofs shall be painted as to minimise solar heat absorption. Refer to Sustainability guidelines for recommended colours. Reflective, luminescent, deep intense colours or similar finishes are not permitted.

Colours

Shades of pale and pastel colours are encouraged and should be applied in all main building components. Dwellings in single colour are to be avoided. Projections as balconies and bay windows shall be in different colour/

material. Dark accent colour shall not exceed 10

to 15% of building facade and should be used to emphasize some parts of it. Reflective, luminescent or similar finishes are not permitted.

- > Primary Building colours: White + Light greys + Light Terracotta;
- > Secondary accent colours: Greys + Terracotta (more vibrant colours).



Terracotta colour emphasizing white balconies



Stone facade - pale/pastel colours



Metal Cladding system - concealed fixings

Whites	34309	34209	37207
Light greys	37110	37111	37207
Greys	37106	37206	37306
Light Terracotta	32110	32111	32112
Terracotta	32100	32102	32240

Ral colour codes

REF: LWRD-GDG- Sheet 4/21

OPENINGS



Vertical openings composed with the same module aggregate in different compositions



Openings integrated with larger recesses



Repetition of the same opening with variations



Glass door integrated in lobby entrance

Openings solid to void ratios

- > Residential max. 50% void;
- > Mixed-Use max. 50% void.

Windows

Proportions

Careful consideration should be given to the design, size, shape and orientation of window openings.

Where interior layouts do not permit or dictate the location of a window, architectural devices should be used to control the overall appearance and aspect of the design such as, but not limited to:

- Window recess (border) to retain proportion of the facade;
- Locate a window within a screen;
- > All openings/voids must be vertical.

General Conditions

No mirrored/reflected, coloured or black glass is permitted in any typology. Continuous glazed areas are to be avoided.

Where windows do not meet the desired opening dimensions, screening may be permitted.

No false divisions are permitted. Glazing must be recessed to the inside limit of the wall.

Provide screens and protection for larger expanses of glazing.

Window Recesses

Where clear or opening windows are required outside the parameters stated above, these must be recessed in to the depth of the plan.

In the interest of privacy, if located above the ground floor, such windows should have a perforated wall or screen on the perimeter wall.

Other than a masonry wall which provides continuation of the main wall, screens shall be located at the back face of the thickness of the adjacent wall.

Material

Dark framed windows are encouraged.

White window frames are only permitted if the main body material of the facade is also white.

Doors

Quality and sense of entry are the main premisses to consider- public entrances with higher hierarchy; service access to be screened.

Doors should be in solid colour matching the window frames or in glass to increase the permeability of the public spaces.

Vertical orientation is mandatory.

The top of the door can never be lower than the top of the adjacent openings in the facade.

When part of the entrances, doors must be defined with a differentiation on the vertical scale and integrated in the lobby design.

REF: LWRD-GDG- Sheet 5/21

PROJECTIONS

Balconies

Balconies are encouraged to add depth and interest to the building facade. Facades facing Waterfront should have prevalence of balconies. All units must have one balcony.

The design of the balconies should reflect the architectural language of the building. These features and resultant outside space should be integral to the design and not appear tackedon or as an afterthought.

Where possible single materials should be avoided and at least one side of the balcony should be open sided with a balustrade feature or screen. Projected Balconies should extend for

a minimum of 1.5m away from the main facade.

Supportive columns are forbidden. No enclosed balconies are allowed (even with glass); all sides should be open.

Balustrades

Balustrades shall contrast to the main body material and colour of the building. Structure should be in metal, with screens in wood. applied. Handrails can be in wood or metal.

Balustrades must be at least 1.20m high. The modulation should follow a vertical proportion. The cornering should avoid variations in the modulation.

Balustrade Illustration

If glass balustrades are proposed the fixing method must be invisible, clamping systems, bolts, channels etc. are not permitted.

External Stairways

External stairways should be integral to the mass of the building, and compatible with architectural vernacular to the building. Stairways must not have a tacked on appearance, or feel like the design was an addition or afterthought. Industrial metal (chequer plate) staircase will not be permitted. Can be integrated in the landscape.

Key Principles

- Contrasting material with the facade, preferable in timber;
- Pergolas integrated in the design, for shading;
- Balustrades following the openings design and the shading patterns details (related to the Arabic style);
- Solid parapets with depth elements to add interest to the facades composition.



Balcony - glass balustrade with organic shape



Screens integrated in the balustrade design



Projected balconies integrating landscape



Timber balustrade - cornering maintaining the modulation and the design



REF: LWRD-GDG- Sheet 6/21

SHADING AND PRIVACY STRUCTURES



Screen with Arab inspired geometric designs



Horizontal screens creating an identity skin facade design



Vertical screens used to hide parking areas while promoting natural ventilation



Screens integrated in the facade design can enhance landmark

Shading Structures

Shading structures are encouraged to provide shade and enhance the overall design of the building facade. They may be semi opened to allow/control varying amounts of sunlight to enter.

Shading devices to be permanent structures where possible. Pull out/rolling awnings are discouraged giving preference to a fixed system. Shading structure to reflect and complement the architectural language of the building.

If used, overhangs should be made from appropriate materials, including: >

- Wood;
- Canvas (with wood or metal framing) > as permanent structures;
- Metal: >

Solar shading, projection and overhangs are encouraged to provide solar protection and increase the 3 dimensional effect on a given facade.

Windows, especially those with a high amount of sun exposure, balconies, porches, courtyards and patios should be designed under measures to protect them from solar heat and prevailing winds.

Appropriate measures include:

- > Screens:
- > Shutters:
- > Overhangs or trellises.

Overhangs, trellises and other shading devices added to the building volume, should have a basic and simple colour that is compatible with the colour of the building facade, and in relation to the openings materiality/colour.

Materials should differ from the main building material and colour with the exception of white, which can only be used if the main building is also finished in white (refer to colour palette for specific white references).

Screening

Screens should have modern designs, Arabic architecture vernacular patterns are also accepted and geometric patterns are encouraged. Screen elements should be used to control privacy and views to the surrounding plots. The overlapping of planes/pieces is encouraged to control visibility.

The area of screening must comply with the sustainability considerations of shading and ventilation, maintaining the design used for visibility control.

The overlapping of planes/pieces allows to increase the ventilation and light permeability. Back lighting of screened walls is encouraged to create depth and interest in the facade during the hours of darkness.

Screens must be integrated in the arcade design as a identifiable element that produces sun control to the interior of the arcade and permits the application of the shop units logo. The screens must comply with the arcade design rules.

Key Principles

- > Vertical screens are preferred. Horizontal screens should only be used on pergolas, and should not connect with the building (should be independent structures).
- The patterns can relate to the Arabic > culture, with more traditional and geometrical designs.
- > Contrasting material with the facade, preferable in wood or metal (dark colour).
- The vertical screens should preferably be attached to the volume of the building as a continuity of the massing of the building, and not appear as isolated elements - the tectonic feeling should be maintained. They can be used in shutters for the windows.

REF: LWRD-GDG- Sheet 7/21

ARCADES

Arcades can be of special importance in the main facade that addresses the street. They can act as screens for parking podiums, while adding shade to pedestrians. They are also useful in controlling downward wind flows and provide pedestrians a choice of calm or more windy areas.

The design of arcades, including all supporting components, should be compatible with the overall style and form of the building. Arcades should not have a tacked-on appearance or look like they were and addition or afterthought. The openings of arcades should be orthogonal keeping consistency with the contemporary style

Screens can be added between the columns to provide shade and establish a more human scale. Openings should be equal and relate to the building size and should align with the primary facade.

Arcades are only allowed in the ground floor along the street. On the upper floors arcades are not allowed. Entrance Portals may be added to the arcade. These elements should follow the arcade design although with a higher vertical scale. Canopies may be added to enhance the entry feeling and provide shading.

Proportion columns for colonnades shall maintain a clear view of the uses behind, providing high levels of transparency and allowing easy pedestrian flow to and from the street.

Large extends of blank walls in the facade should be avoided even in the parking dedicated areas (this perception should be reduced) – architectural details should be included like screens and overlapping of different layers of materials or the use of landscaped areas as to provide relief.



Arcade linking the amenity spaces with the waterfront landscape area - privacy and shade



Lobby integrated into Arcade creates an open, ventilated and shaded entrance to the building



Arcade rhythm extends into the facade design



Arcade emphasizing the entrance and amenity spaces - covered space with more transparency

ROOF COMPONENTS

Roof Design

A variety of roof and plane lines shall be provided, especially in the tops, as this should be designed as feature elements that create a logical conclusion to the building's form.

Roof-top elements should have a formal integrity with the overall tower structure and not simply be arbitrary additions, and shall be consistent in material and visual quality to the rest of the development. Roof lines should be varied to reduce the apparent scale. Plinth tops provide ideal outdoor spaces for residential amenities and landscaping and thus can enhance the living conditions and the aesthetic of the buildings.

If plinth tops are not used for amenities such as pools or roof terraces, they should have surfaces and materials which are well designed, clearly ordered and visually pleasant when viewed from the above.

Roof components are considered but not limited to the following conditions:

- Parapets, Pergolas,
 Cornice and Chimneys;
- Flat roofs are mandatory with the use of parapets to conceal the roof (flat roofs may not be visible from the street).
- Gargoyles or other elements of facade ornamentation are not allowed.
- Pediments and other classical designs are not allowed.

Pergolas

Pergolas shall be timber or metal (or other contrasting material and colour to the main body of the building, as long as the material and colour guidelines are maintained).

Structure to be a lighter construction in terms of dimension than the rest of the building as to separate it from the main mass.

Screens should be added to provide shading and privacy.

REF: LWRD-GDG- Sheet 8/21

ROOF COMPONENTS



Pinnacles and poles can extend beyond the maximum height for enhanced expression



Landscaped rooftops add exclusivity and privacy to open leisure areas



Rooftop terrace screened with the facade design



Glass parapet in continuity of the facade design.

Spires, Pinnacles

Spires, pinnacles and other extended structures can surpass the maximum height allowed on the high rise element, subject to the approval off LREDC.

Skylights

Skylights must be in line with the architectural language of the building. In all cases solar protection should be provided, following the sustainability considerations of shading and ventilation. Skylights should not be visible from the exterior.

Parapets

Parapets are preferable in all roofs, should be simply detailed and in continuity of the facades. Decorative elements must follow the facade design. Cornice details below parapet are permitted, matching the main body colour and/or material of the facade. They may overhang the facade between 40 and 60cm with parapet.

Glass parapets are allowed as a continuation of the facade design (following the balustrade design in other parts of the facade where they must follow the **balustrade guidelines**). On accessible roofs with leisure activities, glass parapets are encouraged to maximize views.

Flat roofs shall have parapets to enclose and accommodate roof structures and mechanical equipment. Local regulations to prevail for safety height requirements, but they shall never be less than 1.20m high. The design of the parapet should be a continuation of the main facade plane and in the same materiality.

Equipment

All the Mechanical Equipment should be screened from public views from streets, walkways, sidewalks and outdoor spaces.

Appropriate methods of screening should be used like roof parapets, pinch roofs or screening elements. Noise levels of mechanical equipment should be minimized. All utility and telecommunication lines should be concealed.

Mechanical equipment, such as air conditioning units, should be located in shaded areas to increase the energy efficiency and reduce the chance of overheating the equipment.

Lift over runs should be integrated into the overall design of the building and not left as an afterthought protrusion. Water tanks or other mechanical plant placed on the roof or above stair towers must be fully screened and have always a minimum setback of 3m on at least 2 sides of the building edge.

Landscape

Accessible roofs, especially on mid and low rise elements should be landscaped and activated – used for recreation, entertaining or as an additional landscaped outdoor living space for the residents.

Leisure activities are encouraged with great potential to the design of pools, sitting areas, BBQs, common bars, open air gyms, planters, dining and lounging furniture as well as outdoor structures such as pergolas, etc.

All elements must respect maximum heights and be treated as penthouse components, adding to the GFA in case of being enclosed (bars, gyms). All fixtures should be made of durable and light materials (solar, wind and rain resistant), of easy maintenance and properly secured to the buildings, specially on mid-rise elements. Roof terraces require waterproofing, automated irrigation and lighting systems.

REF: LWRD-GDG- Sheet 9/21

LIGHTING DESIGN

All plot owners must refer to requirements of their plot under Lusail Nightscape Strategy.

Below is a brief excerpt that does not exclude the need to consult and oblige the referred document

Building Articulation:

Building Illumination and Lighting Design within the plots should follow the Lusail Nightscape Lighting Strategy, which defines the Lighting Design Guidelines and Parameters for each plot according to the Ambient Mood of each street.

All Sub-Developers have the responsibility to follow the parameters established for the designated Ambient mood.

The design should consider:

- Distinctive lighting design should catch the visitors attention.
- Luminance contrasts, colour temperature and lighting directions are some of the tools which can be applied > to enhance the architectural volumes.

Roof Tops:

- > The lighting of the landmark buildings' roof tops is one of the key aspects of their night image.
- The special crowning of the building becomes protagonist in the night skyline, giving reference and orientation to visitors from a distance,

becoming a distinctive element of the entire site.

Breaks and Setbacks:

- Breaks along the facade in the form of vertical building modulation and setbacks are important elements to be considered in the lighting project.
- > The use of light allows to make the characteristic volumetric composition of the facades readable at night.

Corner Treatments:

- Corner treatments are important elements to assist in building identification while they contribute to place making.
- Special lighting concepts should be applied in order to enhance these elements making them distinctive for that specific building.

Entrances:

- Pedestrian and vehicular entries should be easily identifiable along the facades.
- Appropriate luminance differences between the overall base of the building and the entrance areas mark the location of the access and catch the attention of the visitors.
- > Lighting should be applied to create an interesting and pleasant scene which will attract people by creating a welcoming atmosphere.
- Main entries should be lighted differently from individual unit entries.

Fenestration:

- Lighting deep recessed windows enhances the distinct pattern and the special rhythm of the building's architecture.
- Backlit illuminated windows communicate the positive impression of active spaces.

Building Shading:

- > Appropriate lighting design to shade fenestration should be adopted and be specific to the different configuration of the elements that enhance the special character of the building.
- Horizontal canopy covers, both at ground or top levels (tower or podium), become recognizable elements from the distance and must be properly illuminated at night.
- > The special interaction between the light and the different materials of the canopies requires specific study approaches

Colours, materials & fixtures:

- > Lighting fixture typology should be carefully chosen to minimize the visibility of fixtures.
- Maximum integration between fittings and architecture is highly encouraged.
 Different colours, shades and
 - Different colours, shades and properties of the materials should be taken into account in the overall lighting concept.
- Grazing light is recommended when special textures materials are present.



Lusail Nightscape Strategy - Landmark lighting in Waterfront Residential



For extended lighting guidelines please refer to Lusail Nightscape Strategy

REF: LWRD-GDG- Sheet 10/21

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REF: LWRD-GDG- Sheet 11/21

RATIONALE

The intent of the signage and wayfinding guidelines is to establish identification standards for retail/commercial establishments and housing complexes in the district. They are meant to promote creative and innovative approaches to signage that serve to enhance the overall character of the district while discouraging visual clutter and design incompatibilities.

The signage design for Waterfront Residential District will focus on aesthetics and branding along with clarity, simplicity and functionality. Signage type can vary according to different character areas or landuse of a district. Each area/zone illustrated in the signage location plan on the right should only use a set of mandatory categories of signage type described in the table below. These categories are described in detail in the following pages. The broad categories of signage types identified are -

- > Higher Level Building Signage
- > Wall Signage
- > Building Identification Signage
- > Awning and Canopy Signage
- > Projecting Signage
- > Hanging Signage
- > Free Standing Monument Signage
- > Boundary Wall Signage

SIGNAGE GENERAL GUIDELINES

The general signage guidelines to be followed for the whole district are -

- > Signage will always need to be designed to respect the proportion of the facade, building size, scale, mass, height, rhythm and sizes of openings.
- > Advertising signs for lease and/or product sales are not permitted within this district.
- Letter font styles and sizes should compliment the overall character of the building façade
- The type of sign used should reinforce the urban environment of residential / mixed use developments. Signs should be designed with similar aesthetic sensibilities as the architectural design, incorporating similar colours and compatible materials that reinforce the design and style of the project.
- > Signs on roofs are not allowed.
- On big box uses, signage guidelines will be alleviated to allow for brand expression. These uses must submit detailed signage information for approval.

All building signage elements are subject to LREDC review and approval. All approvals are subject to discretionary review by LCAC.



High level building signage



Sign integrated with facade design



Free standing monument signage

	Signage	No.	Туре	Definition
	HIGH LEVEL BUILDING SIGNAGE	1	High level Building Signage	> High level signs should always be located on the uppermost part of the building, generally on the main facade, to a maximum number of 2 sign per elevation. These are used on buildings with multiple floors.
		2	Wall Mounted signage	Wall signs are mounted flush and parallel to the building wall. It is fixed securely projecting not more than 30cm from the face of the wall. It is located on ground floor level of a building, easily seen by pedestrian and cars and not extending sideways beyond the building face.
		3	IDB (Building Identification Signage)	> Building identification signs are positioned on all buildings on the ground floor level. The key information on these plates is identical to that included on standard national addressing system plates (QARS) There are two sign types IDB and IDBN referring to Building Identification Plate and Number respectively, both installed near building entrances.
	LOW LEVEL SIGNAGE	4	Awning and Canopy signage	These signs are printed / painted or attached to an awning or canopy above a business door or window. They generally serve to bring shade and highlight the entrances of shopping and business environment and are oriented toward pedestrians
		5	Projecting signage	Projecting signs are affixed to the face of a building or structure and projects out perpendicular from the wall surface to which it is mounted. Projecting signs should not be mounted above the first floor window-sill in multi- storied buildings and should be mounted in the arcade zone wherever applicable.
		6	Hanging signage	Hanging signs are suspended below a marquee, arcade or under a canopy and are generally smaller than projecting signs due to their lower mounting height. Hanging signs shall be used only at ground floor locations except for upper floor businesses with covered entry porches and balconies.
		7	Free standing Monument	Free standing signs or monument signs refer to ground level signs located to compensate for buildings less visible to the viewer from the main access area.
		8	Boundary Wall signage	Boundary wall signage will be mainly used for plots with more private uses like school, hospital, police station etc to provide privacy and plot demarcation. Signage will be incorporated to ensure visibility from public spaces.

REF: LWRD-GDG- Sheet 12/21

SIGNAGE GENERAL GUIDELINES

LAND USE AND SIGNAGE TYPE DESIGNATION



The table below shows application of different signage category in different location/zones of the Waterfront Residential district illustrated in the plan above.

Location	Guidelines	Signage Category to be Applied
RESIDENTIAL	> Signages used in these plots should not overpower the building facade design. High quality materials, together with conservative designs will give a more calm feel and approach to this zone.	930
MIXED USE	> These plots are in privileged positions and will be dedicated to hospitality uses, affording high quality signage that will mark the brand of the building and contribute to the value of the district.	1 2 3 4 5 6 7 3
RETAIL	> Signage for retail plots should serve its purpose to promote the tenants and invite users to their facilities. Creative approaches to signage design are encouraged.	1 2 3 4 5 6 7 3
CIVIC FACILITY	> Civic facilities will have subdued and conservative signage according to their institutional character. Limited signage elements will be adequate for these uses.	0 2 3 7 3

REF: LWRD-GDG- Sheet 13/21

HIGH LEVEL BUILDING GUIDELINES

Signages are divided into 2 broader categories; high level and low level signages depending on its position on a building. Detail guidelines describing location, position and dimensional guidance of these signage categories are described below.

1 High Level Building Signage

High Level signs are large scale signs, intended to be visible from long distance, mounted on the uppermost section of a building and preferably illuminated.

Multiple brands are not allowed to be communicated at high level on any single building. No third party advertising is permissible. Only one 'business sign' is allowed that could show:

- The identity or a logo of the place or premises;
- > The particulars of any business or occupation carried on at the place or premises, including any logo or symbol that identifies the business or occupation;
- In situations where the accommodation is mixed use and is shared between a number of companies, either the principle tenant within the building is allowed to display their brand on the building or the building itself should have a name

Location and Dimensions

- > High level signs should always be located on the uppermost part of the building, generally on the main facades facing the major roads to a maximum of 2 facades.
- A maximum of 1 sign per facade is permissible with text height not exceeding 3.0m depending on height of the building.
- > Additional signs for very large buildings with multiple building entry points on street elevations may be considered subject to LREDC review and approval.
- > The sign should be located preferably off centred and occupying a maximum area of 12% of the building elevation measuring above the podium or arcade line, 7m above the ground level.
- The signage height should be of a maximum of 3m (under 10 storey buildings)
- > Placement should respect the design of the building, including arrangement of bays and openings.
- > The signage should preferably have individually wall mounted and face illuminated letters and or logos fixed directly to the skin or structure of the building.



Logo design integrated into facade metric



Preference for basic background and contrasting colours for increased legibility



Illuminated sign on the top - side alignment



Preference for basic background and contrasting colours for increased legibility



High Level Signage - Crown Top Signage location and dimensions

REF: LWRD-GDG- Sheet 14/21

LOW LEVEL SIGN TYPES



Fascias are accepted as part of logo and brand



Extruded lettering improves legibility and visibility





Low Level Signage

Low level signs assist with identification of the building at ground level and are helpful for visitors arriving on foot or by car. They are indispensable to the brand expression and identity of individual shopfronts.

- > Each shopfront will have a single projected wall sign for each elevation. And when included in an arcade setting, a secondary sign is to be attached to the arcade screen.
- On mixed use buildings, a sign is permitted on the main entrance to the upper floors. Mixed use buildings will have a number of signs determined by the number of retail units + main entrance to upper floors.
- Residential, Religious and Civic buildings will be allowed to have a single sign, on the main elevation. This sign should be cut out letters, no fascias are allowed.
- Individual letters mounted directly to the wall of the building (or the screens in case of arcades) are the preferred method of low level signing.
- > No third party advertising is permissible.

LOW LEVEL SIGN TYPES

Low level signage can assume a number of different solutions that are detailed further on this section. Architects/ Developer should follow all the guidelines stated below unless stated otherwise.

2 Wall / Screen Mounted Signage

Wall signs shall be placed within a clear signable area. Signable areas are defined as an architecturally continuous wall surface uninterrupted by doors, windows or architectural detail.

Location & Dimension

- > Wall signs are mounted flush and parallel to the building wall. They are fixed securely, projecting no more than 30cm from the face of the wall., with a minimum of 0.30m text size and a maximum of 1.0m. not extending sideways beyond the building face or above the highest line of the building to which it is attached.
- On residential, religious or civic buildings a single wall sign is allowed, that is

coordinated in balance with the designated IDB entry sign location with minimum gap of 0.25m. It is located on the main elevation, on the top or side of the main entrance to the building, with a maximum height of 1m to a maximum area of 3sqm.

- For each shopfront a single wall sign (per elevation) is allowed, located 0.25m over the shopfront, centred, with a maximum 1m height with minimum 0.3m text height
- Retail or mixed use plots having arcades could have a sign per screen, with a minimum gap of 0.25m from the bottom and sides, and designed to a minimum text height of 0.30m and maximum height of 1.0m. The bottom gap for all the signs should be kept same and text should be aligned with adjacent signs on the screens of the building



Arcade Screen Sign location and dimensions

REF: LWRD-GDG- Sheet 15/21

LOW LEVEL SIGN TYPES

3 IDB & IDBN (Building Identification Signage)

Building Identification Plate (IDB) and Numbers (IDBN) are positioned on all buildings. The key information on the plates is identical to that included on standard national addressing system plates QARS (Qatar Area Referencing System) being implemented across Qatar.

Location & Dimension

- Identification plates should be more legible than the standard QARS plates to clearly identify the building number from up to 26 meters away.
- Identification number A large building number should be mounted at the main entrance to all buildings. This is sized to be visible from up to 100m away. Positioning rules are shown here briefly, however for further details please refer to the latest signage drawings and specification from LREDC.
- > IDB Signage location should relate to the other wall mounted signages on the entrance of any building. The wall

mounted signages should be placed at a minimum distance of 0.25m from the IDB signages. They can be placed above, below or adjacent to the IDB signages.

Consistent positioning of the building identification plate and number is paramount as shown in the image below.

The IDB signage design has been developed and detailed in line with the rest of the wayfinding system by LREDC. Each Architect / Developer should abide to the colour, material, size and other design specifications. Refer to latest signage specifications from LREDC for further details.





IDB signage drawing showing position and dimension, Please refer to the latest technical drawings from LREDC for further details

REF: LWRD-GDG- Sheet 16/21

LOW LEVEL SIGN TYPES



Sign integrated into canopy



Solid colour awning with contrasting logo



Projected vertical sign expands brand visibility



Different sign forms are accepted as long as they respect the permitted area

4 Awning and Canopy Signs

Awning and canopy signs are printed, painted on, or attached to an awning or canopy above a business door or window. They generally serve to bring colour to the shopping environment and are oriented toward pedestrians from the opposite side of the street.

Location & Dimension

- Sign lettering and/or logo shall compromise no more than 30% of the total exterior surface of an awning or canopy. Awnings and canopies must be permanently attached to buildings. The minimum height of awnings shall be 2.5 meters from the lowest point to the sidewalk with a minimum letter/text size of 0.30m to ensure legibility
- > Open-ended awnings are preferred.
- > Awnings and canopies shall be mounted on the horizontal framing element separating the storefront window from the transom (a crosspiece separating a doorway from a window). Awnings shall be designed to project over individual window and door openings and not project as a single continuous feature extending over masonry piers or arches.
- > Awnings shall be mounted on the wood or metal framing within a door or window opening, not on the wall surrounding the opening.
- > Awning with back-lit graphics or other kinds of interior illuminations are not permitted. Matte finish canvas, glass or metal are appropriate materials for awning or canopies.
- > Lettering should be placed on the valance portion of the awning.
- Awnings with a solid colour are preferred. Striped awnings may be appropriate for some buildings without ornamental facades. Striped awnings with highly contrasting, bright colours may be visually jarring and inappropriate.



Awning Sign location and dimensions

6 Projecting Signs

Projecting signs are affixed to the face of a building or structure and project in a perpendicular manner out from the wall surface to which it is mounted.

Location & Dimension

- Projecting signs should not be mounted above the first floor window-sill in multistoried buildings.
- > The design of the sign should consider visually interesting elements such as square or rectangular shapes with painted or applied letters, two or three dimensional symbols or icons, irregular outlines, and /or internal cut-outs.
- Projecting signs shall be small in scale and provide a vertical clearance of 2.5m along pedestrian areas.
- Projecting signs shall be oriented to pedestrians passing on the sidewalk in front of the buildings rather than to automobiles or pedestrians on the far side of the street. This can be achieved by providing a minimum clearance of 0.3m between the building face and sign and maintaining a maximum projection of 0.1m. Projecting signs should fit within an imaginary rectangle with a maximum area of 0.5sqm. The minimum text height to be used for the primary signage is 0.30m.
- Mounting hardware should be an attractive and an integral part of the sign design. Simple round pipe brackets with plugged ends or added decorative elements are generally appropriate for signs.

REF: LWRD-GDG- Sheet 17/21

LOW LEVEL SIGN TYPES



Projecting Sign location and dimensions



Hanging Sign location

6 Hanging Signs

Hanging signs are suspended below a marquee or under a canopy and are generally smaller than projecting signs due to their lower mounting height.

Location and Dimensions

- Hanging signs shall be used only at ground floor locations except for upper floor businesses with covered entry porches and balconies.
- Hanging signs shall be treated similar to projecting signs. These signs, excluding supporting rods, chains or similar hangers, shall fit within an imaginary rectangle with a maximum area of 0.5 square meters with a minimum text/letter height of 0.30m to ensure visibility.
- Hanging signs shall be oriented towards the pedestrian and impart a sense of creativity in their design.



Hanging sign on building entry



Hanging signs on arcades



Hanging signs on arcades



Creative hanging signs on arcades, retail or mixed use developments

REF: LWRD-GDG- Sheet 18/21

LOW LEVEL SIGN TYPES



Freestanding sign can work as wayfinding tool for users



Detailed tenant information on freestanding sign



Residential Freestanding Sign



Freestanding signs to be integrated into landscape design

Free Standing/ Monument Signage

Free standing signs or monument signs refer to ground level signs located to compensate for buildings less visible to the viewer. For example at the entrance to the ground of a large hotel, school or business park etc.

Typically in this situation, the building is set back from the road, partially obscured by trees or entirely invisible from the entrance to the premises. These identification signs bring the name of the destination to the roadside in order to facilitate wayfinding for potential customers.

The free standing identification sign must not contain advertising. These signs are intended to carry the name of the property and/or the brand identity of the relevant business and other wayfinding information such as 'entry' or 'exit'.

Low profile signs should be constructed from materials that compliment the building structure and its use and the landscape setting in which it is placed.

Architectural lines which compliment that of the building shall be incorporated, especially with respect to the top of the sign.

Location and Dimensions

- > Free standing identification sign must be located entirely inside the plot line, no projections into, on, or over the public realm are allowed. The sign must be setback a minimum 1.5m from the plot limit.
- > They are only permitted on buildings that are setback a minimum of 15m from the main access point.
- > On residential a single free standing sign is allowed, with a maximum dimension of 1.5m height to 2.0m width and a minimum of 0.8m height and 0.8m width.
- > On mixed use, religious and civic buildings a single free standing sign is allowed. On mixed use plots that face 3 or more streets, a maximum of 2 free standing signs are allowed provided they are located facing different streets. Stand alone retail plots located on highways can have a multiple sign totem with a maximum height of 8m
- Maximum dimensions for free standing signs on mixed use plots are 2.5m height to 1.5m width and minimum dimension of 0.8m height with 1.0m width
- No freestanding sign should be placed in a manner that obstructs the pedestrian walkway.
- > The minimum text size of the main sign should not be less than 0.25m to a maximum of 0.8m



Residential Freestanding Sign dimensions



Mixed Use Freestanding Sign dimensions

REF: LWRD-GDG- Sheet 19/21

LOW LEVEL SIGN TYPES

8 Boundary Wall Signage

Boundary wall signage is relevant and mainly used for civic plots with more private uses like schools, hospitals, police station etc. These plots are more likely to have boundary walls for demarcating plot boundaries and for privacy.

Location and Dimensions

- > Due to the residential nature of the district, signage is highly controlled to maintain a clear and uncluttered streetscape.
- > Advertising signs are not allowed.
- > IDB Identification number and name sign will be accepted, located on the main pedestrian entrance. This will respond to the standard national addressing system plates QARS (Qatar Area Referencing System) being implemented across Qatar. The sign design and location is detailed in the Lusail City wayfinding and signage system design document.
- > Besides the IDB sign, all plots could have one bigger name sign type (A) and / or

one small name sign type (B) near to the pedestrian entrance as shown in the graphic below. This sign should refer to the name or occupation of the plot.

- The bigger name sign (A) is allowed on the boundary wall and shall fit within an imaginary area of 0.50 square meters. This should be located at a minimum distance of 0.25m from the wall edge towards the main pedestrian entrance gate. The text height should be a maximum of 0.8m and minimum 0.15m to ensure visibility.
- > The smaller sign (B) shall fit within an imaginary rectangle with a maximum area of 0.15 square meters, should be placed 0.1m below the IDB signage plate if placed at the main pedestrian entrance. If required it can also be placed at the secondary entrance. The text height should be a maximum of 0.3m and minimum 0.07m to ensure visibility.
- > Lettering style should respect the architectural style of the project.
- > Signages should be coordinated and aligned with the adjacent plot signs.



Example of a boundary wall sign



Individually cut letters are preferred which can be placed on a backing panel or on the main wall



Creative approach to the boundary wall and signage design



 100mm
 250mm
 250mm

 340mm
 30mm
 30mm

 100mm
 100mm
 100mm

 100mm
 100mm
 100mm</

Continuity in signage dimension and positioning with adjacent plots

REF: LWRD-GDG- Sheet 20/21

SIGN MATERIALS & COLOURS

- > Exterior materials, finishes, and colours should be the same or similar to those of the building or structures on site;
- > Signs should be professionally constructed using high-quality materials such as metal, stone, hard wood, and glass. The selected materials should also contribute to the legibility of the sign.
- Individual letter mounted directly to the fabric of the building are the preferred method of signing for low level signage.
- > Sign materials should be durable and should withstand a hot, sunny, humid and windy climate.
- > The colours and lettering styles should compliment the building façade and harmonize with neighbouring businesses.
- > Excessively bright colours or overscaled letters shall not be used as a means to attract attention.
- > Projecting light fixtures used for externally illuminated signs should be simple and unobtrusive in appearance. They should not obscure the graphics of the sign.
- > Fixtures must be mounted in such a manner that its cone of light does not cross any property line of the site.
- Signs painted directly onto walls are prohibited.
- > Signs must be fixed to the building in a secure, permanent manner. Signs that move or rotate, either by mechanical or wind power, are not permitted.
- Blinking or flashing signs are not permitted.
- > Exposed neon signs are not recommended however if used should be restricted to retail and entertainment portions of the district, facing away from residential neighbourhoods and buildings. All signs using neon as a source must be visually subtle, restrained and not overbearing in implied motion or colour. Neon signs if used are subject to LREDC review and final approval will be at LREDC discretion.
- > Signs should be in good repair, clean and free of vegetative overgrowth, such as weeds and vines. Signs that have been designed to be illuminated should be fully operational.



Strong and Durable high quality materials



Finish and material similar to building structure



Sign cut out on high quality material



Materials and colours to stand out against facade

REF: LWRD-GDG- Sheet 21/21

SIGN ILLUMINATION

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Face Illumination



Halo Illumination



Flood Lighting



Light Boxes

Signage Illumination

- > Illumination should not interfere or distract from the message conveyed by the sign and should strive to avoid excessive light pollution.
- > For optimum efficiency, LED technology or equivalent should be used on all signage illumination.
- > Lighting for signs shall not create a hazardous glare for pedestrians or vehicles either in a public street or on any private premises.
- > Lighting for all exterior signs, whether lettering is internally backlit or light is cast onto the face of the sign, shall comply with the lighting standards established on the Lusail Nightscape Strategy.
- > Lighting colour shall preferably be white. Buildings should have lighting implemented in one consistent colour throughout all signage instances.
- Different colour selections will be considered and reviewed by LREDC.

Face Illumination

- > Face illumination is one of the most common methods for lighting signs and is the preferred solution for wall mounted letters. No interior light source shall be visible to the exterior.
- > On all internally illuminated freestanding, wall mounted and projecting signs, light shall be transmitted only through the material that comprise the letters located within the display area.
- > No sign shall contain copy which consists of illuminated bulbs or individual lights or light sources.

Halo Illumination

- > Back-lit, halo-lit illumination, or reverse channel letters with halo illumination are highly encouraged for lighting purposes. Such signs convey a subtle and attractive appearance and are very legible under moderate ambient lighting conditions.
- Halo illumination allows the sign letter to be opaque while lighting the sign from the

interior, making this the preferred solution for cut out letters.

- No interior light source shall be visible to the exterior.
- > Hallo illumination should not be used where the backing material is of reflective nature to avoid excessive glare.

Flood-lit Signs

- > Flood lighting of an area of a building which carries a brand identity is permitted and encouraged whenever it brings added value to the building facade and design.
- > The source of the flood-lit signs must be concealed from view as much as possible and should be focused directly at the sign it is intended to illuminate.
- > Flood-lighting should preferably be directed downwards on low level locations, and when close to pedestrian areas, be controlled to result in a gentle wash of light.

Light boxes

- Internally illuminated light boxes are only permitted when the light box shape is either the whole, or an integral part of the brand identity which the sign represents.
- Internally illuminated light boxes that are not an integral part of the brand identity are not permitted.
- Light boxes cannot exceed a maximum of 0.5m projection from the main facade.

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PLEASE ALSO SEE:

GLOSSARY OF TERMS

2.6.4 RESIDENTIAL DESIGN PRINCIPLES

EXPRESSION OF FORM

REF: LWRD-RDP- Sheet 1/4

RATIONALE

The Residential plots form a distinctive typology, consisting in High rise towers addressing the street, with low rise elements in direct link to the waterfront.

The design principles intent to regulate the architectural character of the district, improve the streetscape and create a uniform group with different architectural approaches.

The design principles can be separated in two levels of guidelines:

- > The COMPOSITION PRINCIPLES, defining the principles for the volumetric composition and massing, establishing the guidelines and considerations for the different aspects of building design and its relationship with the surrounding.
- > The ARCHITECTURAL DIVERSITY, illustrates different design approaches for the plots, with different tower compositions, architectural ideas and elements, maintaining the volumetric intent to form a coherent, although diverse, group.

These Regulations are to be read together with the Plot Sheet of each plot and the 'Residential Plot Typologies Section'.

Entrance visible from access street

- 2 Low-Rise Element, up to 14m, residential uses like townhouses apartments or amenities
- 3 Service access



- 4 Main tower up to the max. built height
- Secondary tower up to the medium rise level
- 6 Separation of the towers with min. 5m
- Penthouse volume as top element in the design - can be a continuation of the tower (with architectural details for privacy and shading) but not a solid element (3m setback on two sides)
- Bulkhead should be screened and differentiated from the facade
- Balconies should prevail on facades overlooking the waterfront

REF: LWRD-RDP- Sheet 2/4

KEY ELEMENTS



- Separated elements differentiates the building in two towers with a connecting element - less massive form
- 2 Different heights establishes hierarchy in the vertical elements
- Composition with different vertical elements to make the building more interesting and diverse - similar architectural design in the vertical elements
- Variations in the facade plan with recessed balconies and volumes - integration of landscape in the balconies
- Odium with major access lobby marking the entrance and activating the street
- Volumetric differentiation of the building following the architectural design of the openings - the modularity and proportion of the openings is the main design element of the facade
- Balconies differentiation projected in the waterfront side and recessed in the sides
- 8 Accentuation of the entrance with a separated element (canopy) to add sense of arrival same architectural design, with volumetric differentiation on the towers
- 9 Reduced massing on the top
- Podium roof with landscape and leisure uses
- Different depths in the vertical elements to add variety to the design

RESIDENTIAL DESIGN PRINCIPLES CONT.

REF: LWRD-RDP- Sheet 3/4

COMPOSITION PRINCIPLES

The Residential buildings are tower building typologies composed by the conjugation of different vertical elements (high-rise and mid-rise) working in conjunction with a low rise podium with rooftop terraces and amenity spaces in direct connection to the waterfront side.

The Podium:

The podium relates directly to the immediate public realm. It has the greatest influence on the pedestrian experience.

The podium provides a sense of enclosure, continuity and articulation at the pedestrian scale.

The podium rooftop should be used as terraces for the amenity spaces, with shaded leisure areas, swimming pools and green chill out spaces..

The podiums should follow some basic guidelines as follows:

- To be designed to include human scale treatment of building mass, materials, texture and composition;
- > Weather protection to be provided,

particularly over entrances;

- Strategic setbacks are permitted to accommodate covered walkways and building entrances while creating architectural interest;
- Expression of entrance/lobby as a main street feature in the design composition to add a sense of arrival.
- Architectural and landscape treatment to be used to accentuate entrances;
- Locate access parking, loading, service areas and utilities primarily through one lane so as not to conflict with pedestrian oriented activities.
- >

The Tower:

The design, scale and orientation of the tower should reflect a contemporary design inspired in straight lines.

The design should follow the composition principles of verticality, expression of volumes, differentiation of massing and solid/void contrast expressed by recesses and projections.

Towers must also address matters of light. Sky views and privacy must be resolved to ensure the quality of spaces and living conditions. The tower volume should follow some basic guidelines as follows:

- Different heights to establish hierarchy in the vertical elements, including high and mid-rise vertical elements;
- Vertical lines to be expressed. One of the volumes should touch ground accentuating the tower;
- > Towers should be composed by different volumes, opening terraces to the waterfront side:
 - the main tower is higher (high-rise);
 the elements should have different proportions and/or orientation;
- > Less massing on the top.

ARCHITECTURAL DIVERSITY



Although design principles intend to create a coherent, uniform and continuous frontage, many possibilities are still open for the architect's creativity. Different approaches can be considered when designing a residential complex:





REF: LWRD-RDP- Sheet 4/4

ARCHITECTURAL DIVERSITY



















PLEASE ALSO SEE:

2.6.5 MIXED USE DESIGN PRINCIPLES

EXPRESSION OF FORM

REF: LWRD-MUDP- Sheet 1/4

RATIONALE

The Mixed Use plots consist of several high density residential, retail and services buildings, spread along the waterfront and placed at key points of urban interaction.

As for their inherent character of gathering people and attracting urban activity, these buildings are of extreme importance for the overall success of the new living areas.

The design principles intent to regulate the architectural character of the district, improving the streetscape and creating a uniform group within different architectural approaches.

The design principles can be separated into two levels of guidelines:

- > The COMPOSITION PRINCIPLES, defining the principles for the volumetric composition and massing, establishing the guidelines and considerations for the different aspects of the building design and its relationship with the surrounding.
- The ARCHITECTURAL DIVERSITY, illustrates different design approaches for the plots, with different tower composition, architectural ideas and elements, maintaining the volumetric intent to form a coherent, although diverse, group.

These Regulations are to be read together with the 'Plot Sheet' of each plot and the 'Section'.



Schematic example of a typical Mixed use plot

- Main tower up to the max. high-rise building height - Designed to create a landmark itself, creating visual references and special points of urban living attraction.
- Mid-Rise volume up to the max. midrise level - Designed to support the architectural character of the main tower. This volume is not mandatory, and should be considered as a design complement of the main tower, not a different building.
- Main Entrance and drop-off area

- Service access
- Podium designed to create interest to the streetscape, visual attraction and an overall landmark together with the tower building.
- Waterfront sides Lower levels to contain the public amenities as they relate to the main pedestrian corridors, where most outdoor living occurs.

 Flexible building setbacks, respecting a minimum of 3
 m. (as per specific plot sheet)

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GLOSSARY OF TERMS

REF: LWRD-MUDP- Sheet 2/4

KEY ELEMENTS





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- Separated elements differentiate the buildings into two towers with a connecting element - reducing the appearance of mass
- 2 Different heights establish hierarchy in the vertical elements
- 3 Composition with different vertical elements to make the building more interesting - similar architectural design in the vertical elements
- 4 Variations in the facade plan with recessed balconies and volumes
- 6 Podium integrating retail units expression as a detached element
- Olumetric differentiation of the building following the architectural design of the openings
- Balcony differentiation projected on the waterfront side and recessed on the sides
- 8 Accentuation of the entrance with a separated element (canopy) to add sense of arrival - same architectural design, with volumetric differentiation on the towers
- 9 Dynamic design Landmark

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- Podium rooftop with landscape and leisure uses;
 - Different depths in the vertical elements to add variety to the design.

MIXED USE DESIGN PRINCIPLES CONT.

REF: LWRD-MUDP- Sheet 3/4

COMPOSITION PRINCIPLES

The mixed use buildings are mainly composed by two different volumes working in conjunction to create unique pieces within the waterfront district streetscape:

The Podium:

The podium relates directly to the immediate public realm. It has the greatest influence on the pedestrian experience. The podium provides a sense of enclosure, continuity and articulation at the pedestrian scale.

The podiums should follow some basic guidelines as follows:

- To be designed to include human scale treatment of building mass, materials, texture and composition.
- Pedestrian weather protections to be provided, particularly over entrances.
- Strategic setbacks are permitted for covered walkways and building entrances to create architectural interest.

ARCHITECTURAL DIVERSITY

Although design principles intend to create a coherent, uniform and continuous frontage, many possibilities are still open for the architect's creativity. Different approaches can be considered when designing a mixed use complex:

- > The minimum height for graderelated retail or other non residential uses is 4,5m.
- > Architectural treatments and landscape to be used to accentuate entrances and to differentiate between residential and commercial access ways.
- To locate and access parking, loading, service areas and utilities primarily within a lane or at the rear of the building so as not to conflict with pedestrian oriented activities.

The Tower:

The design, scale and orientation of the tower affects the amount of sunlight and shadows that reach the street, sky views, and wind impacts. Towers also have direct impacts on one another and people living within them. Matters of light, sky views and privacy must be resolved to ensure the quality of spaces and living conditions. The tower volume should follow some basic guidelines as follows:

- > Different heights to establish hierarchy in the vertical elements.
- > Vertical lines to be expressed, and preferably one of the volumes to come to the ground.
- > When towers are composed by two different volumes:
 - the main tower is higher

- the two elements should have different proportions/orientation

- sides should never align
- it is possible to subdivide the volumes in smaller vertical elements.
- Composition with different vertical elements to add architectural interest.
- Accentuation of the entrance with a separated element (canopy) to add sense of arrival.
- > Less massing in the top.



REF: LWRD-MUDP- Sheet 4/4

ARCHITECTURAL DIVERSITY







ILLUSTRATIVE STREET ELEVATION



KEY CONSIDERATIONS

- Facades to be broken down into different volumes to mitigate bulkiness.
- > Promote different approaches to tower design, adding interest and variety to the district.
- > Glazing percentage to be a maximum of 50% to allow for flexibility in design, while avoiding excessive energy requirements.
- > Differences in height and width of volumes add rhythm and interest to the streetscape.
- > Towers to be designed to reach the ground floor, extending the verticality of the design and addressing the street.





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ILLUSTRATIVE WATERFRONT ELEVATION



KEY CONSIDERATIONS

- > Accentuation of the entrance with a separated element (canopy) to add sense of arrival.
- Strategic setbacks are permitted for covered walkways and building entrances to create architectural interest.
- Matters of light, sky views and privacy must be resolved to ensure the quality of spaces and living conditions.
- > Town houses or other low-rise typologies to face the waterfront, taking advantage of the views and orientation.
- Roof tops on waterfront side are encouraged to be filled with leisure uses.
- If the plot site fronts onto more than one street, the building is to be massed to address all frontages giving prominence to the corners.





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2.7 LANDSCAPE GUIDELINES

2.7.1 OBJECTIVE AND PURPOSE

These guidelines form the basis of a coherent landscape vision that will crucially improve the quality of the design concepts and ensure a high quality private landscape environment throughout Lusail

Landscape guidelines are defined based on the following Key Design Principles:

- Character articulates how the landscape presents a strong identity and sense of place;
- > Continuity and Enclosure ensure that public, private and semiprivate landscape spaces are easily distinguished with clear transitions from one to another;
- Ease of movement a place that facilitates pedestrian mobility;
- Legibility a place that people can intuitively navigate, read and move through;
- > Safety create open spaces that feel safe to walk or cycle through, due to their orientation, lighting and natural surveillance;
- > Quality apply best practice design principles adapted to the site, creating attractive outdoor spaces that reflect open space hierarchy;
- Durability use of resilient materials to ensure low maintenance and a permanent quality image over time;
- Sustainability maximize the conservation of natural resources (soil and water) and consider the use of local materials, including native, naturalized and adaptive plant species, to minimize maintenance and irrigation requirements.

Private Landscape Requirements:

MINIMUM DRAWING SUBMITTALS:
GENERAL ARRANGEMENT PLAN
GRADING AND DRAINAGE PLAN
HARDSCAPE PLAN
SOFTSCAPE PLAN
FIXTURES PLAN
LIGHTING PLAN
IRRIGATION PLAN
ELEVATIONS
SECTIONS WITH LEVELS
HARDSCAPE DETAILS
SOFTSCAPE DETAILS
FIXTURES DETAILS
LIGHTING DETAILS
IRRIGATION DETAILS

- > Landscape plans submitted to LCAC are to be prepared by a qualified Landscape Architect.
- > Landscape designer is to consult with LCAC landscape architect before preparing the concept of the private plot to receive drawings of the surrounding public landscape
- > Plot Owner / Consultant must consult and adhere to all Civil Defense Authorities and relevant Codes and Regulations which pertain to Fire Truck Access and Hardstanding requirements for each Plot.
- Landscape soil depths are to be shown on drawings, minimum depths of planting on slab is 1.2m for Palms and trees, 600mm for shrubs and 400mm for turf
- Materials and Topographic Elevation Levels of private plots are to match the public domain
- > Driveways in the private plots are to align with their exact location in the public domain

2.7.2 LANDSCAPE TREATMENT GUIDELINES

PUBLIC AND PRIVATE INTERFACE GUIDELINES

LANDSCAPE FRAMEWORK

General Remarks

Large areas of landscaped community open space are provided throughout the District. These areas are designed to provide a linked system of walkways and cycle tracks, with appropriate boulevard and street crossing points.

Boulevard Landscape and Streetscape

All streetscape areas such as road verges, medians, surfaces and planted areas must be carefully controlled and coordinated to meet an approved product selection and design standard.

These landscape elements include:

- > Street lighting;
- > Signage and way finding elements;
- > Water features;
- > Irrigation systems;
- Street furniture such as: Benches and seating; Litter bins; Bollards;
 - Cycle racks etc
- Waste collection points; and
- Road markings.

Landscaping should respond to various functions and levels of hierarchy.

For example:

A. Streetscape planting within the Residential Villa Communities should respond to the pedestrian environment.
B. Ornamental tree species should be selected to offer ample shade, and should be planted in tree pits within sufficiently wide sidewalks, to ensure safe and convenient passage of pedestrians, strollers and bicycles.

C. Sidewalks should be uniform in width and alignment. Water features, seating, and high-specification street furniture should be provided within or near plazas and sidewalks D. Softscape planting along local distributor roads should be designed primarily for viewing from a moving vehicle.

Public / Community Open Space Landscapes

All public open space landscaping must be carefully controlled and coordinated to meet the approved design standards, and shall be subject to approved product selection and design.

These landscape elements include:

- > Parks;
- > Promenades;
- > Hard and soft landscaping;
- > Walkways;
- > Cycle ways;
- > Playgrounds;
- > Sports pitches etc.

Public open spaces should provide a clear hierarchy of types and uses while creating unique places that facilitate pedestrian mobility and activity, and foster ease of movement.

The primary typologies forming the basis of the public realm & open space framework include:

- Parks (such as Linear Park and Pocket Parks);
- > Streetscapes; and
- > Public Places.

Private Landscapes

The master developer (CAC) shall review and approve all landscape plans, proposed hardscape materials, softscape materials and site furnishings. These guidelines provide guidance for coordinating an appropriate landscape design within private plots. This includes direction regarding acceptable hard and soft landscape material palettes, irrigation systems, landscape lighting, provision of shading, strategies for creating landscape screens and buffers, boundary wall treatments and signage. The master developer shall provide appropriate guidance for coordinating the landscape design within private plots. This should include direction regarding acceptable hard and soft landscape palettes, irrigation systems, shading provision, landscape lighting,

screening and buffering strategies, boundary wall treatments and signage.

An example of a coordinated interface between the Public Realm and Private Plot Landscape is illustrated in the diagrams below.

MIXED USE



RESIDENTIAL



PLEASE ALSO SEE:

ARCHITECTURAL DESIGN

GLOSSARY OF TERMS

LANDSCAPE ZONING

GUIDELINES CONT.

LANDSCAPE TREATMENT

REF: LWRD-LZ- Sheet 1/6

RATIONALE

The key objective of the Landscaping Zoning is to influence overall, cohesive streets cape ambiance, providing privacy, and screening for the residents as well as the pleasant and quality streets. Landscape buffering solutions work as a secondary layer of privacy opportunity, by creating natural screenings.

Key objectives are to provide :

- > privacy,
- screening to avoid over viewing of the private gardens,
- > unifying streets cape through the control of private front buffers.

- A clear series of defined landscape zones respond to functional and privacy issues as well as aesthetic aspects;
- > All landscape proposals should reflect a sustainable design approach, employing water-sensitive design solutions and responding to the local climate by reinforcing the use of native materials and endemic plants. Plant palettes should be defined for all zones;
- Front Landscape buffers work as a secondary layer of privacy in addition to plot boundary walls, by creating natural screens;
- Both front and rear buffer planting zones must create a quality visual amenity – especially when fronting onto a park

or other public facility. The objective is to create a pleasant streetscape experience both for residents and visitors;

- Side and rear buffers should reinforce privacy and overlooking from other adjacent plots.
- Private gardens should be located within the most visually controlled part of plot, allowing for private outdoor living areas; and
- > Private gardens may include facilities such as: outdoor seating & dining areas, swimming pools and children's' play areas.

SUMMARY OF TYPICAL RESIDENTIAL PLOT LANDSCAPE ZONES

	Compounds	Guidelines and Controls
A	Front Buffer	Refer to mandatory plant pallet LWRD-LCG- Sheet 1-2/16
B	Side Buffer	Refer to indicative landscape pallet LWRD- LCG-Sheet 3/16
C	Semi-private Garden	Refer to indicative landscape pallet LWRD- LCG-Sheet 4/16 Refer to landscape guidelines for preferred landscape styles LWRD-LCT-Sheet 1-2/2
D	Private Rooftop Garden	Refer to indicative landscape pallet LWRD- LCG-Sheet 4/16 Refer to landscape guidelines for preferred landscape styles LWRD-LCT-Sheet 1-2/2



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REF: LWRD-LZ- Sheet 2/6

SUMMARY OF CLUSTER RESIDENTIAL PLOT LANDSCAPE ZONES

	Compounds	Guidelines and Controls
۵	Front Buffer	Refer to mandatory plant pallet LWRD-LCG- Sheet 1-2/16
B	Side Buffer	Refer to indicative landscape pallet LWRD- LCG-Sheet 3/16
C	Rear Buffer	Refer to indicative landscape pallet LWRD- LCG-Sheet 3/16
D	Private Garden	Refer to indicative landscape pallet LWRD- LCG-Sheet 4/16 Refer to landscape guidelines for preferred landscape styles LWRD-LCT-Sheet 1-2/2



SUMMARY OF MIXED USE PLOT LANDSCAPE ZONES

	Compounds	Guidelines and Controls
A	Front Buffer	Refer to mandatory plant pallet LWRD-LCG- Sheet 1-2/16, LWRD-LCG-Sheet 5-6/16
B	Side Buffer	Refer to indicative landscape pallet LWRD- LCG-Sheet 3/16 Not applicable to square mixed use plots with 0m setbacks
C	Private Garden	Refer to indicative landscape pallet LWRD- LCG-Sheet 4/16 Refer to landscape guidelines for preferred landscape styles LWRD-LCT-Sheet 1-2/2



LANDSCAPE TREATMENT GUIDELINES CONT.

LANDSCAPE ZONING: ILLUSTRATIVE LANDSCAPE SOLUTIONS

REF: LWRD-LZ- Sheet 3/6

RATIONALE

These guidelines serve as baseline information and design strategies that should inform the individual design of each plot's landscaped area. For greater clarity and understanding additional detail has been given to the illustrative designs created for each typology.

- > This is intended as an example to illustrate the spatial arrangements for a private garden and is a schematic guideline for information.
- > Massing & layout is illustrative.
- Owner must coordinate provision and requirements for utilities

	Elements
A	Hardscape surfaces
B	Seating areas and Shading Structures
C	Palm Trees marking Main Entrances and Access
D	Shrubs and Grasses
6	Ground covers
6	Canopy Trees
G	Private Pools (Beach Edge or Infinity Edge)



REF: LWRD-LZ- Sheet 4/6

OPTION A - Levelled access separated by hedges



OPTION B - Raised planter on the limit of the private garden



OPTION C - Low level boundary wall/seating area on the limit of the private garden



LANDSCAPE TREATMENT GUIDELINES CONT.

LANDSCAPE ZONING: ILLUSTRATIVE LANDSCAPE SOLUTIONS

REF: LWRD-LZ- Sheet 5/6

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TOWER ROOFTOP GARDENS



REF: LWRD-LZ- Sheet 6/6

HOTEL INTEGRATION AND AMENITY PODIUM



2.7.3 PREFERRED LANDSCAPE **CHARACTER TYPES**

REF: LWRD-LCT- Sheet 1/2

CONTEMPORARY STYLE

A contemporary interpretation of a classic or traditional style should reflect a refined opulence, utilizing the very highest quality materials in their most raw and simple forms. Contemporary gardens should rely on the hardscape and structural elements to achieve a minimalist look, with plant material used as accents to provide contrast and colour.

Key Design Elements:

- Use of art and sculpture as >
- > Lush vegetation and shading;
- > Integration of water and water features; and
- > forms, details or elements





Controlled use of Water



Boundary wall design articulated with public realm





Shading with structural elements





- focal points in the landscape;
- Minimal use of traditional



PLEASE ALSO SEE:

GLOSSARY OF TERMS

- > Extensive use of natural stone - dressed & honed as well as aggregates;
- > Bold, interpretive geometric patterns;
- > Well-crafted & sophisticated detailing;
- > Shading and outdoor thermal comfort achieved with canopies and structural elements more than trees and softscape; and
- > Controlled and subtle use of water and water features.



Elements enhanced with low level lighting

REF: LWRD-LCT- Sheet 2/2

TYPICAL SOFTSCAPE TREATMENT

- Trees and palms are utilized as focal points, and primarily for visual effects;
- Careful selection of plant materials for desired colour and textural effects;
- Softscape is typically lush and green, but restricted to limited areas for powerful contrast against hardscape; and
- Mature plant material utilized in limited areas to add an established character and timeless quality.



Mature trees as focal points



Contemporary Rooftop Gardens



Water sensitive planting



Raised Planters on podium gardens



Controlled use of Lawns and Ground covers



Textural planting effects



Mature trees feature uplighting

PLEASE ALSO SEE:

2.7.4 LANDSCAPE COMPONENTS GUIDELINES

REF: LWRD-LCG- Sheet 1/16

PLANTING PALETTES FOR KEY ZONES

- > This Softscape Material Palette is categorized by Landscape Zone Type, Plant Type, (trees, shrubs, groundcovers and grasses) and Water Requirement;
- > CAC may approve the use of alternative plant species if such materials would result in a superior design and/or improve the appearance of the overall district;
- > Proposed trees should provide adequate shade to the building, footpath and outdoor living spaces. Mature specimens with high, dense, evergreen canopies should be considered, and planted as early as possible in the development of the site;
- > The use of drought-tolerant, succulent or desert-adaptive plant material, requiring minimal maintenance and irrigation is strongly encouraged
- > All landscapes should be adequately maintained in a healthy and attractive state and, if necessary replaced by the property owner, to guarantee the overall quality image of the district;
- Extensive natural turf lawn areas should be avoided - but may be considered for approval as an exception, providing that there is a clearly defined use, purpose and efficient use of space;
- Irrigation demand is assessed as the peak, daily water requirement for plant material arranged in groupings;

Tress & Palms	Botanical Name	Common Name	Locally Occuring Species
	Albizia lebbeck	Lebbeck, Women's Tong	
	Delonix regea	Royal Poinciana	
	Eryrthrina caffra	South African Coral Tree	
	Milingtonia hortensis	Indian Cork Tree	
	Plumeria obtusa	White Frangipani	
	Punica granatum	Pomegranate	
	Tabebuia caraiba	Trumpet Tree, Yellow Tabebuia	

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GLOSSARY OF TERMS

REF: LWRD-LCG- Sheet 2/16

Irrigation Classification:

♦ △ △ △ Low Irrigation Required ♦ ● △ △ Medium-Low Irrigation Required

♦♦♦Ô Medium Irrigation Required ♦♦♦♦ High Irrigation Required

Indicative	Indicative	Indicative	Indicative	Indicative	Irrigation	Key Zones		Conoral Guidalinas			
(m)	(cm)	(m)	Spread (m)	per m2	Classification	Front Buffer	Side Buffer	Side Buffer	Rooftops	General Guidelines	
4-5	14-16	3	4	NA	♦♦♦♢	0	0	0	8		
4-5	14-16	3	4	NA	♦♦♦♢	0	0	0	8		
4-6	14-16	3	4	NA	♦♦♦♢	0	0	0	8	*	
4	14-16	2,5	3	NA	●●○○	0	0	0	8	Plant pallet considered to be located on Front Buffers is to be considered as	
4	12-14	2,5	3	NA	••••	0	0	0	0	mandatory; Trees the minum calliper indicated are to be full-bodied trees with a shape characteristic of the species; Minimum number of	mandatory; Trees th minum calliper indicated are to be full-bodied trees wit a shape characterist of the species; Minimum number c
3	12-14	2,5	3	NA	●●○○	8	0	8	0	trees to be considered are 3 - a minimum of 1 tree per 10m should be considered except for Mixed Use plots with arcade that should	
4-5	14-16	3	4	NA	♦♦♦♢	©	©	0	8	follow arcade guidelines; Miminum soil depth to be considered for planting is 1.0m	

REF: LWRD-LCG- Sheet 3/16

PLANTING PALETTES FOR KEY ZONES

- > Trees and Palms shall be installed with a surface layer of coco husk chips or gravel aggregate mulch to encourage soil water retention;
- Shrubs, accents and ornamental grasses shall be installed with gravel aggregate mulch or mulch mats to encourage soil water retention;
- Planting soil shall be amended with organic water-retaining soil additives;
- > All proposed plant species shall comply with the updated and CAC's approved plant material palette – specific to Lusail City. Any alternative plant species proposed, or suggested by consultants, should be reviewed and approved by CAC prior to planting design drawings are developed, to demonstrate adaptability to the local climate conditions;
- Proposed softscape designs shall zone planting areas, to group species with similar water demands, and should avoid combining high and low water demand species in the same irrigation zone;
- Quality of plants provided at installation shall comply with international best practice standards for nursery stock (e.g. European Technical & Quality Standards for Nursery Stock);
- > At the time of installation, trees shall have clear trunk height of 2.5m, and a minimum trunk circumference of 120mm, measured at 1m height above the root ball;
- > Trees shall be staked at installation, for initial support during establishment. Tree stakes shall have a minimum dimension of 100mm Ø x 3m, and shall be arranged in pairs at either side of the tree and fixed to the trunk at top and bottom.

Tress & Palms	Botanical Name	Common Name	Locally Occuring Species
	Tabebuia rosea	Pink Trumpet Tree	
	Bismarckia nobilis	Bismarck Palm	
	Phoenix dactylifera	Date Palm	*

REF: LWRD-LCG- Sheet 4/16

Irrigation Classification:

- ♦८८० Low Irrigation Required ♦♦८० Medium-Low Irrigation Required

Indicative	Indicative	Indicative	Indicative	Indicative	Irrigation		Key Z	ones		Conoral Guidelines
(m)	(cm)	(m)	Spread (m)	per m2	Classification	Front Buffer	Side Buffer	Side Buffer	Rooftops	General Guidennes
4-5	14-16	3	4	NA	♦♦♦♢	©	0	0	8	
6	30-32	3,5	3	NA	***	(only to be used as feature tree)	8	(only to be used as feature tree)	(only to be used as feature tree)	
6	30-32	3,5	3	NA	***	(only to be used as feature tree)	8	(only to be used as feature tree)	(only to be used as feature tree)	

REF: LWRD-LCG- Sheet 5/16

PLANTING PALETTES FOR KEY ZONES

- > All landscape plans submitted to CAC for review and approval shall be prepared by a qualified Landscape Architect.
- The standard list of drawings for approval shall include:
 General Arrangement Plan, showing the extent of the plot and proposed design, as well as the immediate public realm context;

-Site Plan illustrating proposed levels, as well as the interface with existing levels at the plot boundary;

- Site Sections through all key landscape zones, indicating depths of soil and all significant sub-grade conditions and constraints;

 Hardscape details including all built exterior elements, such as shade structures, walls, steps, water features and paving conditions; and
 Softscape plans and details including

a proposed plant material schedule and corresponding irrigation demand details.

Shrubs & Ornamental Grasses	Botanical Name	Common Name	Locally Occuring Species
	Agave americana	Century plant	
	Caesalpinia pulcherrima	Dwarf poinciana/ Peacock flower	
	Clerodendrum indicum	Tube flower / Turk's turban	
	Carissa macrocarpa	Natal plum	
	Dodonea viscosa	Desert hopseed/ hopbush	*
	Ficus microcarpa	Indian Laurel	
	Leucophyllum frutescens	Purple sage	
	Myrtus communis	Commun Myrtle	

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REF: LWRD-LCG- Sheet 6/16

Irrigation Classification:

- ♦ Ô Ô Ô Low Irrigation Required ♦ ♦ Ô Ô Medium-Low Irrigation Required
- ♦♦♦♦Ô Medium Irrigation Required ♦♦♦♦ High Irrigation Required

Indicative	Indicative	Indicative	Indicative	Indicative	Irrigation	n Key Zones		Conoral Cuidalinas		
(cm)	(cm)	(m)	(m)	per m2	Classification	Front Buffer	Side Buffer	Rear Buffer	Rooftops	General Guidelines
40-50	NA	NA	60-80	1	♦ ८८८	8	0	0	0	
40-50	NA	NA	40-50	3	♦ ♦♦◊	0	0	0	0	
40-50	NA	NA	40-50	3	♦ ♦♦◊	0	0	0	0	
20-30	NA	NA	30-40	8	***	٥	0	0	0	
40-50	NA	NA	40-50	5	●●○○	8	0	0	0	
40-50	NA	NA	40-50	2	♦ ♦♦◊	0	0	0	0	
20-30	NA	NA	30-40	8	♦♦००	0	0	0	0	Plant pallet considered to be located on Front Buffers is to be
40-50	NA	NA	40-50	4	♦♦♦♢	0	0	0	0	considered as mandatory; Minimum soil depth for planting 0,60m

REF: LWRD-LCG- Sheet 7/16

PLANTING PALETTES FOR KEY ZONES

Shrubs & Ornamental Grasses	Botanical Name	Common Name	Locally Occuring Species
	Phlomis chrysophylla	Golden-leaved Jerusalem sage	
	Tabernaemontana coronaria	Crape Jasmine	
	Pennisetum setaceum	African Fountain grass	*
	Pennisetum setaceum rubrum	Purple fountain grass	
	Yucca recurvifolia	Yucca / Adams needle	
	Zamia furfuraceae	Cardboard Cycad	

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REF: LWRD-LCG- Sheet 8/16

Irrigation Classification:

- ♦ △ △ △ Low Irrigation Required ♦ △ △ Medium-Low Irrigation Required
- ♦♦♦♦Ô Medium Irrigation Required ♦♦♦♦ High Irrigation Required

Indicative	Indicative	Indicative	Indicative	Indicative	Irrigation		Key Z		Concerct Cuidalines	
(cm)	(cm)	(m)	(m)	per m2	Classification	Front Buffer	Side Buffer	Rear Buffer	Rooftops	General Guidelines
50-60	NA	NA	50-60	3	♦♦♦	0	0	0	0	
40-50	NA	NA	40-50	2	••••	\bigotimes	0	0	0	
30-40	NA	NA	30-40	6	▲▲∆∆	0	0	0	0	
30-40	NA	NA	30-40	6	●●○○	0	0	0	0	
50-60	NA	NA	60-80	2	●●○○	0	0	0	0	
30-40	NA	NA	40-50	5	●●○○	٢	8	0	0	

REF: LWRD-LCG- Sheet 9/16

PLANTING PALETTES FOR KEY ZONES

Ground Covers	Botanical Name	Common Name	Locally Occuring Species
	Bougainvillea x sp.	Bougainvillea hybrids	
	Catharanthus roseus	Madagascar Periwinkle	
	Gaillardia grandiflora	Blanket flower	
	Heliotropium curassavicum	Monkey Tail Plant, Salt Heliotrope, Seaside Heliotrope	
	Lampranthus roseus	Rosy dew plant, Oxenbould daisy	
	Jasminum sambac	Arabian jasmine	
	Ruellia brittonia	Mexican petunia	

REF: LWRD-LCG- Sheet 10/16

Irrigation Classification:

- ♦ Ô Ô Ô Low Irrigation Required ♦ ♦ Ô Ô Medium-Low Irrigation Required
- ♦♦♦♦Ô Medium Irrigation Required ♦♦♦♦ High Irrigation Required

Indicative	Indicative Calliner @ 1m	Indicative Clear Trunk	Indicative	Indicative No Plants	Irrigation		Key Zones	1	General Guidelines
(m)	(cm)	(m)	(m)	per m2	Classification	Font Buffer	Side Buffer	Rear Buffer	General Guidelines
50-60	NA	NA	80-100	4	●●○○	0	0	0	
30-40	NA	NA	30-40	8	♦ ♦♦◊	0	0	0	
30-40	NA	NA	30-40	9	♦ ♦٥٥	\bigcirc	0	\bigcirc	
30-40	NA	NA	30-40	10	♦ ♦٥٥	0	©	\bigcirc	Plant pallet considered to be located on Front Buffers is to be
30-40	NA	NA	30-40	8	● ○○○	0	0	0	considered as mandatory; Minimum soil depth for planting 0,40m
30-40	NA	NA	30-40	8	♦ ८८८	0	0	©	
30-40	NA	NA	30-40	8	♦♦♦♢	\bigcirc	\bigcirc	\bigcirc	
•		•					•		•

REF: LWRD-LCG- Sheet 11/16

HARDSCAPE MATERIALS

Components	Guidelines	Reference Images	
Hard scape Materials			
	 Pavements for the Boulevard/ Arcade shall be selected from the indicative palette. 		
	 All other hardscape materials shall relate to paving selected for adjacent public areas. 		

STREET FURNITURE

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REF: LWRD-LCG- Sheet 12/16

Components	Guidelines	Referer	nce Images
Street Furniture	Street furniture for spill out spaces on the Boulevard/Arcade should		<image/>
	 be selected from the indicative palette. All other street furniture elements (benches, bollards, bins, etc.) should relate to street furniture selected for adjacent public areas. 		

REF: LWRD-LCG- Sheet 13/16

WATER FEATURES / POOLS

Components	Guidelines	Reference Images
Pools	 Pools shall be located within private plots. Pools located above ground should be screened for privacy and protected from overlooking. Careful consideration shall be given to swimming pool plant location as well as the control of noise for adjacent buildings. 	
Water Features	Water features are encouraged and beneficial to creating positive visual impacts and the ability to provide passive cooling.	

REF: LWRD-LCG- Sheet 14/16

SHADING STRUCTURES

Components	Guidelines	Reference Images
Shading	 > Whenever planting conditions make it possible, trellises should be covered with vines or climbers. > A minimum of 80% of continuous shade should be provided to all primary walkways. > A minimum of 60% of continuous shade should be provided to secondary walkways. > A minimum of 80% of car parking spaces within private plots should have shade structures. > A minimum of 90% of shade coverage should be provided to rall primary play areas. > A minimum of 40% should be provided to informal play areas. 	<image/>
Parasols	 Parasols on the Boulevard and spill-out spaces should be selected from the indicative palette. 	<image/>

REF: LWRD-LCG- Sheet 15/16

LIGHTING

Components	Guidelines	e Images				
	 External lighting should consider the following elements: > Driveways > Footpath and pedestrian connections inside the plot 					
	 > Outdoor living areas > Front entrances > Stairs, steps and low level walls > Specimen trees or feature landscape elements (i.e. textured walls, art & sculpture, furniture and water features); 					
Lighting	 > Lighting fixtures within private plots should comply with CAC's approved materials palettes; > Use of low-level or pedestrian lighting such as bollards, inground lights, steps and wall lights is encouraged; > Treads gives and envettee 					
	 Treads, risers and any other level differences within or adjacent to pathways should be adequately illuminated; and Treats, risers and any other differences of level along pathways should be illuminated Use of LED and high- 					
	efficiency lighting fixtures is encouraged and should be employed.					

REF: LWRD-LCG- Sheet 16/16

IRRIGATION

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Components	Guidelines	Reference Images
	 Automatic irrigation systems are required for all planting areas and must be fed by a dedicated supply tank All irrigation systems shall be operated by an electronic irrigation controller. 	
	Plans and proposals for utilising grey water, treated sewage effluent (TSE) or other non-potable water sources for landscape irrigation are encouraged, and should be included in the landscape design submitted to CAC for review and approval.	
	 Provision of irrigation water storage must be considered for all plots - preferably located underground. 	
Irrigation	Irrigation tanks should consider the collection of roof drainage, floodwater, and grey water from household waste systems. The quality of the water should be monitored, filtered and chemically balanced as necessary.	
	Irrigation water consumption must be kept to an absolute minimum, and controlled by the selection of appropriate plant materials and irrigation systems.	
	 Efficient drip irrigation systems should be employed and included as a part of the landscape design. 	
	The use of overhead, spray irrigation systems is discouraged, and should only employed for limited natural turf lawn areas, where drip and other water-efficient irrigation systems are proven not feasible. In such instances, the landscape architect must demonstrate that other systems are not feasible.	

2.8 SUSTAINABILITY GUIDELINES

2.8.1 OBJECTIVES AND PURPOSE

This section provides the basis of best practice environmental sustainability guidelines to the design of resource and energyefficient buildings and thermally comfortable outdoor spaces

Sustainability guidelines are defined based on the following design Principles:

This section provides best practice advice for the design of sustainable buildings. The advice given is indented to minimise the energy demand, CO2 emissions and the environmental pollution associated with building construction and operation.

It focuses primarily on the bioclimatic design of the architectural components that have the greatest impact on building energy efficiency and human thermal comfort, and secondly on the wider principles regarding selection of sustainable building materials, water conservation and waste management.

The bioclimatic design advice is based on the analysis of Doha's local climate, using the available historical weather data to inform the building's thermal performance simulation.

The climate analysis includes the psychrometric chart, the solar trajectory, daily temperature variation, seasonal solar radiation intensity and wind frequency.

The design advice provided is intended to inform design solutions that reduce the thermal stress associated with solar radiation exposure, maximise the potential for natural lighting and ventilation of buildings and maximise thermal comfort in outdoor spaces using passive strategies.

The sustainability advice relating to building materials, water and waste is based on international building sustainability standards.

CLIMATE

General

The climate of Doha is hot and mostly dry with year-round solar radiation excess. There is significant need for active cooling from April to mid November and a mild need for heating from January through February. Average temperatures achieve levels above the comfort zone from mid-May to October. During this period shading of buildings and open spaces can greatly reduce the need for mechanical cooling and promote thermal comfort. During seasonal transitions, when the relative humidity rises above average for this location, natural ventilation can also partly offset the need for mechanical cooling. Wind direction is predominantly from Northwest year round. The southwesterly continental winds bring the highest temperatures.

Passive Design Strategies

There is a significant potential to use passive design strategies to offset the need for mechanical cooling in Doha. A degree of thermal mass combined with night time purge ventilation can be used to reduce indoor peak temperatures. This strategy is effective year round except during the hottest summer months (June - September). Natural ventilation can provide comfort during the seasonal transitions, mainly in March, April, May, October and November. Passive, solar heating is applicable in January and February. This strategy is effective if south-facing glazing combined with a degree of thermal mass for heat storage is provided.

Evaporative cooling - the reduction of the ambient temperature by the addition of water, can effectively increase comfort during the seasonal transitions particularly in April, May, June, October and November. Finally, the significant temperature difference between night and day, during seasonal transitions in Doha, may be used to promote night time radiative and convective cooling.

2.8.2 HOW TO READ THE SUSTAINABILITY GUIDELINES

DESIGN COMPONENT

This section describes design requirements and

practice energy and environmental targets..

strategies for an architectural component to meet best

IN COMFORT PASSIVE SOLAR GAIN EVAPORATIVE COOLING DEHUMIDIFICATION MECHANICAL COOLING MECHANICAL HEATING

Active and Passive cooling strategies for Doha

20

10

00

Jan

Feb

Temperature and shading requirements

Mar

This chart shows a summary of the psychrometric analysis, and illustrates that passive design strategies (shading of windows, passive solar gain and natural ventilation) can provide comfort for 40% of the year in this climate. Strategies such as evaporative cooling and dehumidification that can be provided by active or passive means can deliver comfort during



Illustrative diagram showing the design requirements and strategies for an architectural element.

DIAGRAM





Annual Wind Frequency in Doha

In Doha, the average temperature is above the comfort zone from March through November. Shading should be provided particularly when the maximum temperature is above the comfort zone (the critical period).

Jun

Jul

Aug

Sep

Oct

Nov

Dec

May

Apr

PLEASE ALSO SEE:

ARCHITECTURE DESIGN

LANDSCAPE DESIGN

GLOSSARY OF TERMS

2.8.3 SUSTAINABILITY GUIDELINES & CONTROLS

REF: LWRD-SG- Sheet 1/6

BUILT FORM

Orientation

> Building position and orientation within each plot is defined by plot size and by the architectural guidelines of this document.

Massing

- > Promote compact building forms, with low surface envelope to building volume ratio. (Fig.1).
- Courtyards, basements, pools and wind catchers can be used to provide passive precooling and reduce convective heat gains from ventilation.
- > Building form can be used to increase permeability to sea breezes, and provide protection of outdoor spaces from solar radiation, adverse winds and sand storms.

PLAN DEPTH

Daylight and natural ventilation

Typically, rooms can be naturally lit and naturally ventilated up to a 6m plan depth. To maximise daylight penetration and natural ventilation, the building's maximum plan depth should not exceed the plan depths recommended in Fig.2.

- > 9m -13m for double-sided buildings, and
- > 8m for single-sided buildings..

When the building plan depth exceeds the above values, consider creating a courtyard to increase the penetration of daylight and natural ventilation.

Examples of possible massing options for the recommended building's plan depth are provided in Fig.3

Plan depth for views out

In order to maximise the opportunity for views looking out, the highest percentage of regularly occupied floor space should be within the building's 7m perimeter zone (measured from the façade)...

FACADES

Building façades should be designed primarily to avoid solar gain at all times, for all building types.

Additionally, the façades of residential buildings should be designed to take advantage of the benefit of passive solar gain in wintertime.

- > Whenever possible, preference should be given to maximise south and southeast façade surface area and minimise west and southwest facade surface area.
- > Whenever possible, blind walls to prevent overlooking should be located west and/or north, to reduce overall building façade exposure to sun.

DIAGRAM





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Fig. 1 - Compact form.

DIAGRAM



Fig. 2 Recommended building's floor depth.

(Plan Views)









Fig.3 Possible massing options for recommended building's floor depth.



REF: LWRD-SG- Sheet 2/6

WINDOWS

Windows have a significant impact on the thermal, daylight and natural ventilation performance of buildings.

Percentage of window to wall

To reduce the need for mechanical cooling, the percentage of window to wall area should be defined based on the window glass properties and the presence of shading devices.

A smaller window area can have the same performance as a larger window area with a lower G- value (solar transmittance) and lower U- value (thermal transmittance). A smaller window area can also have the same performance as a larger window, as the later is protected by a shading device (Fig.4).

For this location, non-shaded window area should not exceed the following values, for a medium quality double-glass with a G-value of 0.4.

- > South = 35%
- > North = 40 %
- > West = 25 %
- > East = 35%

These percentage values can be used as a reference of best practice for Doha's local climate

Daylight and views out

When combined with the recommended building plan depths, the percentages of window glazing recommended above will allow reasonable levels of daylight.

Due to the coastal location of several of the Lusail districts, an increase of window area is expected to maximise views out. Shading of windows should be provided whenever the window area is increased above the levels recommended above

Table 1 provides information regarding the degree of shading required for different glazing percentages and the percentages of glazing to avoid, per façade orientation. For a building's maximum window area, maximum infiltration rate, window G-value and window U-value refer to the requirements established in GORD, 2014, Lusail City GSAS 2 Star Rating.

Orientation		Glazing Ratio																		
	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%	80%	85%	90%	95%	100%
North																				
Northwest																				
West																				
Southwest																				
South																				
Southeast																				
East																				
Northeast																				

Possible without shading Provide shading Provide higher degree of shading Avoid



DIAGRAM



Fig. 4 - Possible variations of window size for the same performance

SUSTAINABILITY GUIDELINES CONT.

REF: LWRD-SG- Sheet 3/6

SHADING DEVICES

DIAGRAM

Shading devices can greatly reduce the need for mechanical cooling of buildings in Lusail City.

Need for shading

- > Solar protection should be provided to all window orientations by shading devices or by window encroaching (balconies, loggias).
- All façades should have some degree of vertical shading, to protect from low sun angles.
- All façades, apart from north-facing, need horizontal shading.
 Exposed balconies are not recommended.
- > A degree of frontal shading (screens) should be provided when the vertical and horizontal shading devices, or the degree of encroaching of a window, can't provide adequate protection (Fig. 5).

Type and size

- East and west windows need detached frontal shading (screens, mashrabiyas or louvres etc.). These can be fixed or movable.
- South-facing windows need horizontal and vertical shading. Depth of horizontal elements should be 0.3H (min) to 0.5H (best), where H is the height of the window. Alternatively, provide frontal shading with movable screens and louvres.
- > North-facing windows should have vertical shading with depth of W/3, where W is the width of the window (Fig.6).

Daylight and natural ventilation

> All frontal-shading devices (screens) should be permeable to light and air. Porosity to light and air should be defined according to the size of any other shading elements and the room plan depth.



Fig.5 - Recommended shading device type per orientation





Fig.6 - Recommended shading device sizes

REF: LWRD-SG- Sheet 4/6

ROOFS AND ROOF TERRACES

Roof shading

Roofs are the building surfaces that are the most exposed to solar radiation, and for that reason they have a significant impact on the thermal performance of buildings and on the local microclimate.

Roofs also assist in the building's night time radiative cooling process by releasing long-wave radiation to the cold sky. Ideally rooftop surfaces should be protected from sun to prevent heat gain.

However, shading devices at roof level should also be permeable to allow for night time radiative cooling (e.g. pergolas, trellises) (Fig.7).

Materials and finishes

In order to minimize heat island effect, roof materials and finishes should be reflective, particularly in non-shaded areas (Fig.7). However, care should be taken to avoid glare, particularly in areas that are directly visible from other buildings.

The ground and rooftop surfaces reflectance should be higher than the reflectance of the building pre-development site condition (estimated as 29% for desert soil). This is generally achieved with light-coloured paints and finishes.

For roof U-values and absorption coefficients refer to the requirements established in GORD, 2014, Lusail City GSAS 2 Star Rating.

LANDSCAPING

Landscape design has a significant impact on the thermal performance and water consumption of buildings, and on the comfort of outdoor spaces.

Irrigation

Using of native plant species, low-water demand adaptive vegetation and limiting natural turf lawn areas significantly reduces irrigation demand and water consumption.

Shading

Landscape elements should be articulated along with the building massing, in particular, to assist in the protection of outdoor areas from sand movement, dust and solar radiation. Along with shade structures, broadleaf canopy shade trees should be planted responding to the solar trajectory in order to provide shading to pedestrian walkways and outdoor spaces, especially in spaces where some permanence is expected (Fig. 8).

Wind protection:

Whenever possible, the landscape design should be articulated to function as a barrier to the northwest prevailing wind direction.

DIAGRAM



DIAGRAM



(Plan Views)

Fig.8 Outdoor space: providing shading with Trees

SUSTAINABILITY GUIDELINES CONT.

REF: LWRD-SG- Sheet 5/6

MATERIALS

Building material extraction, manufacture, transport, maintenance and disposal have a significant impact on the environment. Materials selected and specified should not contribute to the depletion of natural resources, particularly of non-renewable natural resources.

Extraction and manufacture

- > Use regionally manufactured and assembled materials and building elements. Materials should be preferably sourced from within a 200 kilometre distance from project site (Fig.9).
- > Use responsibly sourced materials for primary infrastructure elements in order to minimize the depletion of non-renewable materials. Responsibly sourced materials follow the standards established in ISO 26000, originate from sources with ISO 9001 accreditation and adhere to the principles covered by ISO 14001. Aim at a minimum 20% (of the total materials cost) of responsibly sourced materials and at a desirable > 50%, for best performance
- > Use materials made from recycled content in order to reduce the need for virgin materials. Aim at a minimum 5% (of the total materials cost) of recycle content and at a desirable > 20%, for best performance.

DIAGRAM



Fig.9 - Regional Materials.



Fig.10 Responsible sourced material standards.
REF: LWRD-SG- Sheet 6/6

OTHER RECOMMENDATIONS

Other design recommendations to be considered during the design and planning of buildings that will promote sustainability include:

External Lighting

The design strategy for external lighting has an impact on the energy consumption of buildings and on the visual quality of the local night-sky.

External lighting fixtures should be oriented to the elements to illuminate and be of limited power density (w/m2).

Water

- Specify water efficient equipment and fixtures (e.g. low-flush and dual flush toilets).
- > Consider collection and re-use of non-potable water for irrigation.
- > Consider treating sewage on-site.
- > Use native & adaptive plant species for landscaping (with low to very low irrigation requirements).
- Minimise use of potable water for irrigation by recycling rainwater and/or grey-water, and by using water-efficient and low-water irrigation systems.

Waste

- > Provide capacity to compost or recycle on-site.
- Provide a location for composting/recycling facilities with adequate capacity.
- > Create and implement a waste collection system.

Rainwater

- Design all external pavement for improved drainage/ infiltration (including external parking).
- > Create and implement a rainwater drainage and storage plan.
- > Create and implement a rainwater treatment and reuse plan.

2.9 GLOSSARY OF TERMS & CHECKLIST

The Design Guidelines & Controls contain a number of diverse specialist terms the definition of which is clarified in alphabetical order below

ACCESS POINT

Place or way by which pedestrians and / or vehicles have a safe access ingress and egress to a Plot / Parcel.

ACCESSIBLE AREA

Accessible area/s are any built area whether internal or external that is intended for use and occupation by residents, workers or other users.

ARTICULATION

An expression given to architectural component/s (including windows, balconies, façades layering, height variations etc.) brought together to create a complementary & variety of massing, rhythm or pattern, modulation and detail of building façades.

ARCHITECTURAL FEATURE

An architectural component/s (including windows, balconies, façades, height variations or other devices) used for emphasising the landmark position or status of a building or structure subject to the satisfaction of LREDC.

ACTIVE STREET FRONTAGE

The portion of a building at ground floor that is occupied by visible active uses (such as retail, food & beverage, lobby areas, community facilities and other publicly accessible uses) and faces onto a public space and/or public street.

AMALGAMATED PLOTS

A group of individually purchased plots collected to form a single development plot.

ANCILLARY BUILDING

An ancillary building is a support building, such as: outside kitchen, Majlis, servant's quarters, storage, gate house etc. Please note: Different setback rules apply to varied ancillary buildings (see individual Guidelines Sheets).

AREA

The surface extent, measured in square units, of a building, a site or a neighbourhood. In residential design this term is used to indicate function, as work area, recreation area, etc.

ASPECT

Compass orientation of building or plot in relation to due south.

AUTHORITY

The local body having jurisdiction over the matter referred to.

BALCONY

An accessible open platform enclosed by a parapet wall or balustrade that extends out from a building elevation, with access from a door or window.

BASEMENT

A room or rooms or area, under a building, in part or wholly below ground level. Habitable room or rooms or area are permitted in a basement, subject to natural lighting and conditioning provisions. All habitable areas are included in the GFA unless stated otherwise (see GFA description).

BOUNDARY LINE (PLOT)

The line or plane indicating the limit or extent of the plot area.

BAY WINDOW

A window forming a bay, which projects outwards from the wall of the room.

BOUNDARY WALL

A structure that defines an area, demarcating the property line and providing security.

BUILDING ENVELOPE

The building envelope is the total 3-dimensional area in which the buildings are permitted and defined by the minimum setback lines and the maximum building height restrictions.

BUILDING HEIGHT

Building height is the vertical distance measured from the base of the elevation defined within each plot's regulation to the top of roof slab above the building's highest habitable level.

BUILDING LINE

The line formed by the main external face of the building, excluding any balcony or bay window projects.

BUILDING ROOF

Accessible and / or Non Accessible areas forming part of a structure that cover over the highest point of the building that is above any habitable area.

BUILDING SETBACK

The minimum required distance between a plot line and the furthermost projection of a building or a structure.

BUILD-TO LINE

An alignment established by a certain distance from the right-of-way line to a line along which a designated façade of a building must be built on.

BUILT-UP AREA (BUA)

Sum of horizontal area of each floor in a building above and below grade measured to exterior face of exterior façade walls. This differs from GFA calculations in that no exclusions are considered in the BUA calculation (see definition of GFA).

CANOPY

A roofed shelter projecting over an outdoor parking space, driveway, entry zone, window, or similar area that may be wholly or partially supported by columns.

COMMUNITY FACILITIES

Facilities provided either by government or non-government agencies for the benefit of, and use of, the community (such as schools, places of worship, hospitals and theatres).

DESIGN CONTROLS

Set of mandatory rules provided by Master Developer to Purchaser and their design team. These might be at overall Masterplan, District or individual Plot level.

DESIGN GUIDELINES

Set of guidelines provided by Master Developer to a Purchaser and their design team, to assist, guide and ensure development proposals meet best design practice in line with the highquality development vision of LREDC and whether at overall Masterplan, District or individual Plot level.

EASEMENT

A non-possessory right to use land owned by others for purposes of pedestrian, emergency or other access, providing publicly accessible open space, of providing utility equipment, reserves and access and any other provision required by the Master Developer, Utility Provider, and/or Government Agency.

FLOOR AREA RATIO (FAR)

Ratio used to determine the amount of Gross Floor Area permitted on a particular plot based on the plot's size. This ratio is represented as a percentage in Lusail City. For instance, on a 5.000 m2 plot with FAR of 200%, a building with a maximum Gross Floor Area of 10.000 m2 (5.000x2) would be permitted.

GLAZING RATIO

Is the percentage of the building facade taken up by glazing surfaces, including windows and translucent surfaces such as glass bricks. It does not include glass surfaces used ornamentally or as cladding, In general it should not exceed 50%.to limit full glazed curtain wall facades, not consistent with the architectural heritage of Qatar.

GROSS FLOOR AREA (GFA)

Sum of horizontal area of each floor in a building above and below grade measured to exterior face of exterior façade walls: Included in Gross Floor Area:

- > Any enclosed habitable space above or below finished grade that is used by residents, customers, or employees;
- > Enclosed habitable areas on rooftops, such as a penthouse or similar enclose space used by residents, customers, or employees;customers, or employees;
- > Balconies enclosed on three sides.

Excluded from Gross Floor Area:

- Projected balconies or terraces that are open on three exterior facing sides;
- > Parking areas above and below Grade;
- > Open Vent riser shafts;
- > Stairwells Elevator shafts;
- > Areas for mechanical or electrical services;
- > Garbage chutes;
- > Open Atrium floor openings.

For clarity please check schematic illustration of GFA exclusions and measurement line on image to the right.



 GFA measured from exterior face of exterior walls



GLOSSARY OF TERMS & CHECKLIST CONT.

GSAS

Global Sustainability Assessment System.

HABITABLE ROOMS

Any enclosed room, area or space intended for use and occupation by residents, workers or other users.

LATTICEWORK

A panel consisting of a crisscrossed pattern of strips of building material, typically wood, metal or stone. The main purpose of the latticework is ornamental as well as privacy screening.

MASHRABIYA

Type of projected bay window enclosed with carved wood latticework. It is a component of traditional Arabic architecture style, mainly associated with residential but also public buildings. The key objective of Mashrabiya is to provide the privacy.

MEZZANINE

An elevated, partial floor of a preferred maximum of 60% of the ground floor area immediately below; and, within whose volume it is fully contained. The Mezzanine should be set back a preferred minimum of 6m from the front façade, to orient the higher volume space outward. Counted as GFA, its allowable uses are same as ground floor.

Mezzanine floor heights are not limited, provided finished ceiling heights meet the minimum allowable by local code. A Mezzanine's means of egress and fireresistive construction must, at the minimum, comply to prevailing local building codes and best practice standards of life safety design.

PARKING SPACE

A physical space used exclusively for parking of vehicles.

PARTY WALL

A dividing partition between two adjoining plots that is shared by the tenants of each residence or business. The wall is positioned along a property line dividing two plots, so that one half of the wall's thickness lies on each property. This type of wall is usually structural

PENTHOUSE

An apartment built on a portion of the roof or top floor of a building. Typically, such units are larger and more luxurious than most apartments.

PIER (IN THE CONTEXT OF THE BOUNDARY WALL)

A pier is an upright support for a structure.

PLINTH (IN THE CONTEXT OF THE BOUNDARY WALL)

Plinth is the base or platform upon which a column or structure (panel) rests. The plinth usually rests directly on the ground.

PLOT

A single or multi-ownership parcel of land.

PLOT COVERAGE RATIO

Ratio used to determine the maximum total amount of area on a plot that can be occupied by a building(s) versus area open to the sky.

For example, a plot coverage ratio of 50% would permit the building(s), as viewed from above, to occupy no more than half of the plot area.

RIGHT OF WAY (ROW)

A strip of land that is granted, through an Easement or other mechanism, for transportation purposes. A right-of-way is reserved for the purposes of maintenance or expansion of existing services within the right-of-way.

REGULATIONS

Set of mandatory rules provided by Master Developer to Purchaser and their design team. These might be at overall Masterplan, District or individual Plot level.

SETBACK

Regulated, minimum required distance between a plot boundary line and the furthermost projection of a building or a structure.

SURFACE PARKING (WITHIN THE PLOT)

Parking spaces provided within a parameters of the plot at ground level

STREET FRONTAGE

The linear extent of the front of the buildings helping to visually definite street's edge

TERRACE

An accessible and purpose-built enclosed platform above ground level that is open to the air and accessible from a door or window.

UTILITIES

Public service infrastructure including the supply of: Electricity, telecommunications, potable water, chilled water for airconditioning, drainage, gas (if applicable), garbage clearance system (if applicable) or other similar services.

DESIGN GUIDELINES CHECKLIST

The checklist is to be used by any owner, developer and / or design team to review their proposals against the specific planning and design guidance in Section 2.

Before completing the Checklist, it is expected that the guidance will have been reviewed and, where required, adjustments made to the proposal to ensure compliance. If the proposal is compliant please "tick" the box, if non-compliant please provide a comment indicating the reason for not following the guidance.

This checklist should be submitted to the CAC Planning Review team in-accordance with the Proposal Review procedures indicated in Section 1.

PLOT REF:	
OWNER/DESIGN TEAM:	
PLOT DESCRIPTION:	
DATE:	
SIGNATURE:	



DESIGN GUIDELINES CHECKLIST

SECTION	GUIDELINE SHEET	COMPONENT	COMPLIES	
2.4	PLOT TYPOLOGY GUIDELINES & CONTROLS			
2.4.2	LWRD-RWPG- Sheets 1/8	GENERAL PARAMETERS		
	or LWRD-RCPG- Sheets 1/6	Set backs		
	or LWRD-MUPG- Sheets 1/6	Building Height		
		Built Up Area (BUA)		
		Plot Coverage		
		Site Levels		
		Access and Servicing		
		Basement and Parking		
2.4.3	LWRD-AG-Sheets 1-6	AMALGAMATION CONTROLS	_	
2.4.4	LWRD-LPG- Sheets 1/2	LANDMARK PLOTS		
		Height		
2.5	BOUNDARY WALL TREATMENT GUIDELI	NES & CONTROLS		
2.5.1	LWRD-PBT-Sheets 1-8	BOUNDARY TREATMENT	_	
		Street wall (height & appearance)		
		Side/Rear wall (height & appearance)		
		Highway Wall (height & appearance)		
2.6	PLOT ARCHITECTURAL GUIDELINES & C	ONTROLS		
2.6.1	LWRD-GDG-Sheets 1-21	GENERAL DESIGN GUIDELINES		
		Facades		
		Material & Colours		
		Openings		
		Projections		
		Shading & Privacy		
		Arcades		
		Roof Components		
		Lighting		
		Building Signage		
		ARCHITECTURAL CHARACTER	N/A	
2.6.2	LWRD-RDP-Sheets 1-4	Residential		
2.6.3	LWRD-MUDP-Sheets 1-4	Mixed Use		
2.7	LANDSCAPE GUIDELINES			
2.7.1	LWRD-LZ-Sheets 1-4	LANDSCAPE ZONING		
2.7.2	LWRD-LCT-Sheets 1-2	LANDSCAPE CHARACTER		
2.7.3	WRD-LCG-Sheets 1-16	LANDSCAPE COMPONENTS		
2.8	GLOBAL SUSTAINABILITY ASSESSMENT	SYSTEM (GSAS)		
2.8.1	LWRD-SG-Sheets 1-6	SUSTAINABILITY GUIDELINES		



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