Abu Dhabi Public Realm Design Manual

مجلس أبوظبي للتخطيط العمراني
ABU DHABI URBAN PLANNING COUNCIL

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MANDATE OF THE ABU DHABI URBAN PLANNING COUNCIL

The Abu Dhabi Urban Planning Council was created by Law No. 23 of 2007 and is the agency responsible for the future of Abu Dhabi's urban and regional environments, and the expert authority behind the visionary Abu Dhabi 2030 Urban Structure Framework Plan published September 2007. Chaired by His Highness General Sheikh Mohamed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi, Deputy Supreme Commander of the UAE Armed Forces and Chairman of the Abu Dhabi Executive Council, the Abu Dhabi Urban Planning Council defines the shape of human settlements in the Emirate, ensuring factors such as sustainability, infrastructure capacity, community planning and quality of life, by overseeing development in the cities and in the Emirate as a whole. The Abu Dhabi Urban Planning Council ensures best practice in planning for both new and existing settlements.

The Abu Dhabi Urban Planning Council's primary purpose is to deliver upon the vision of His Highness Sheikh Khalifa Bin Zayed Al Nahyan, President of the United Arab Emirates and Ruler of Abu Dhabi, for the continued fulfillment of the grand design envisaged by the late Sheikh Zayed Bin Sultan Al Nahyan, Father of the Nation, and the ongoing evolution of the Emirate of Abu Dhabi. By drawing on urban planning expertise from local Emiratis, throughout the Arab States of the Gulf, and around the world, the Urban Planning Council strives to be a global authority on the future of urban planning and design.

Building on the success of Plan Abu Dhabi 2030, the Abu Dhabi Urban Planning Council is pleased to issue the Public Realm Design Manual for the Emirate of Abu Dhabi the guidelines of which are contained within this document.

Part I

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Chapter 1.0 - INTRODUCTION

The Abu Dhabi Public Realm Design Manual (PRDM) was commissioned by the Abu Dhabi Urban Planning Council (UPC) to guide the development of a world-class public realm.

History's greatest cities have unique physical patterns that are defined by the relationships between buildings, streets, open spaces and landforms. These relationships form the public realm system and create destinations.

With the development of the PRDM, the Emirate of Abu Dhabi is actively planning for the public realm and building a world-class community.

The Public Realm Design Manual is an essential planning tool that will help the Emirate achieve its vision for the future.

1.0. Introduction

This Manual is part of the UPC's development regulations and is approved by the Emirate of Abu Dhabi Executive Council for use in all public realm designs across the Emirate, as defined by this Manual or otherwise by the UPC.

This Manual constitutes one of many related design initiatives in the Emirate of Abu Dhabi. It shall be used in conjunction with other adopted standards and guidelines as applicable. The PRDM integrates the needs of different agencies and shall be undertaken by multiple professionals, including urban planners and designers, transport planners, traffic engineers, and landscape architects.

The Manual shall be used by all agencies in the design and approval of all public realm designs in the Emirate of Abu Dhabi, and shall take precedence over all existing public realm design manuals.

The Abu Dhabi Public Realm Design Manual will be updated regularly as new data and experience with best practices become available. Please check the UPC website for the latest version before using this Manual.

The PRDM consists of three parts:

- Part I: The foundation for public realm planning.
- Part II: A step-by-step guide to developing a public realm project that is consistent with the public realm vision, principles and policies.
- Part III: Technical Appendices.

Each section focuses on how the public realm meets the needs of the future residents and visitors of the Emirate.

1.1. Public Realm Definition

The public realm includes all exterior places, linkages and built form elements that are physically and/or visually accessible regardless of ownership. These elements can include, but are not limited to, streets, pedestrian ways, bikeways, bridges, plazas, nodes, squares, transportation hubs, gateways, parks, waterfronts, natural features, view corridors, landmarks and building interfaces.

To simplify and plan for the Emirate, the public realm is organised into four categories: Parks, Streetscapes, Waterfronts and Public Places. Definitions for these categories are as follows:

- **Parks** – Public spaces within a community for recreational use. Parks may include natural areas such as mountain ridges and wadi systems.
- **Streetscapes** – The visual elements of a street including the road, sidewalk, street furniture, trees and open spaces that combine to form the street's character.
- **Waterfronts** – All land areas along the water's edge.
- **Public Places** – All open areas within a community visible to the public or for public gathering or assembly.

If a proposed public realm design falls into more than one category, other category guidelines may be applied per area of variance. Any conflicts between typology design guidelines revert to the Universal Design Guidelines (UDG). Any conflicts between Universal Design Guidelines revert to policies.

1.2. Manual Jurisdiction

For the purpose of this Manual, the public realm includes all areas within the existing and planned urban and settled areas of the Emirate. Urban areas are defined in the maps contained in Capital 2030, Plan Al Ain 2030 and Plan Al Gharbia 2030. Where ambiguity arises regarding the jurisdiction, consult with the UPC.

The PRDMI has developed Conceptual Public Realm Networks for three initial focus areas: Abu Dhabi Island, Abu Dhabi Mainland and Al Ain City. The Networks provide specific guidance based on the unique qualities of each focus area.

Conceptual Public Realm Networks will also be completed for Al Gharbia and the Al Ain in 2011.

1.3. Planning Context

The Emirate of Abu Dhabi is planning for the next generation. The PRDM is one piece of an Emirate-wide planning strategy. The PRDM builds on other planning documents in a continued effort to shape the future development of Abu Dhabi.

Central to the planning efforts in Abu Dhabi are the 2030 Plans which establish a vision for future development of the Emirate. The 2030 Plans include:

- Plan Capital 2030: Urban Structure Framework Plan
- Plan Al Ain 2030: Urban Structure Framework Plan
- Plan Al Gharbia 2030: Urban Structure Framework Plan

The 2030 Plans regulate the pattern of urban expansion to balance economic, social and environmental priorities in a sustainable manner. The plans emphasise human-scale development within a pedestrian-friendly environment. In particular, the 2030 Plans establish a framework for public open space that preserves the unique ecology of the Emirate and prevents sprawling community development. Using these plans as guides, the PRDM develops specific strategies for enhancing the public realm.

The PRDM also maintains the principles of one of the fundamental concepts of planning in Abu Dhabi: Estidama. The Arabic word for sustainability, Estidama is an initiative to incorporate sustainable principles into every aspect of planning in the Emirate.

More than just a sustainability programme, Estidama is the symbol of an inspired vision for governance and community development. It promotes sustainable principles in every aspect of our community and nurtures lifestyle-enhancing initiatives for the people of Abu Dhabi today, but also taking a longer term view for the next generations.

In addition to coordinating with the guiding principles of the 2030 Plans and Estidama, the PRDM incorporates the fundamental concepts of the following UPC initiatives:

- Abu Dhabi Development Code
- Estidama Pearl Rating System (PRS)
- Abu Dhabi Urban Street Design Manual (USDM)
- Interim Coastal Development Guidelines
- Neighbourhood Planning
- Consolidated Community Facilities Requirements for New Developments
- Abu Dhabi Mosque Design Regulations: Interim Design Guidelines & Standards

Public safety and security has also played an important role in the development of the PRDM. The safety and security element of the PRDM applies the principles of Crime Prevention Through Environmental Design (CPTED) and approaches the challenge of creating a defensible environment by addressing both the physical and psychological aspects of design.

Finally, the PRDM was developed in respect to the wide range of planning documents completed and compiled by the UPC, the Municipalities and other agencies to create a plan that appropriately addresses the public realm of the Emirate.

Figure 1.1: Plan Abu Dhabi 2030

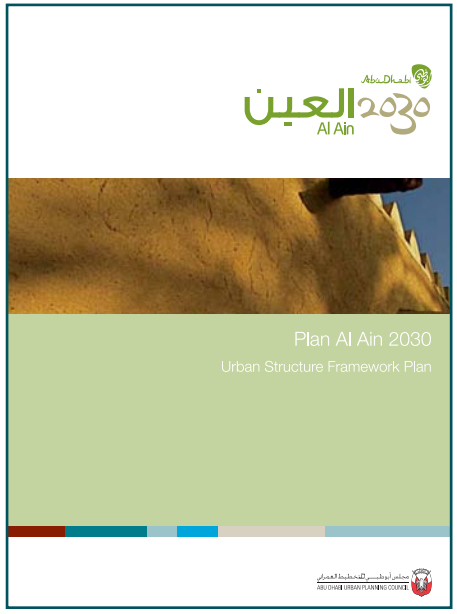

Figure 1.2: Plan Al Ain 2030

1.4. Planning Process

The PRDM is focused on providing a public realm that meets the needs of the people of Abu Dhabi. Key to fulfilling this objective is understanding how the community views the public realm. During the planning process, various stakeholder meetings and a public survey were held to address community and agency needs.

Stakeholder Meetings

In seeking to realise our vision and to improve the quality of the public realm, numerous stakeholder meetings and consultations were conducted with key agencies involved in public realm planning, including:

- The Department of Municipal Affairs (DMA)
- Abu Dhabi Municipality (ADM)
- Al Ain Municipality (AAM)
- Department of Transportation (DoT)
- Tourism Development and Investment Company (TDIC)
- Abu Dhabi Authority for Culture and Heritage (ADACH)

During each meeting, participants discussed current challenges in public realm planning, including best practice in the management and design of the public realm, and appropriate elements and tools to be utilised in the Manual. The outcome of these meetings was the development of the shared vision and principles outlined in Chapter 2.0.

Public Survey

As part of the PRDM, an opinion survey was conducted to gather input on the availability and use of parks. The survey gauged the public's opinion to help inform the policies and guidelines produced in the PRDM. The findings of the survey are presented in Table 1.1. The survey was completed as part of the PRDM and provided a preliminary assessment of residents' perceived needs for parks.

As the UPC was completing a project in parallel to determine the community facility needs of residents, a community facilities survey was completed. A total of 10,882 households were surveyed as part of this project. The overall objectives of this household survey provided:

- Focussed and up-to-date insights on the size, structure and characteristics of households throughout Abu Dhabi Emirate;
- Insights on the current patterns of use of community facilities in the Emirate and frequency of visits;
- Insights on community facilities that households perceived as missing or inadequately provided.

The Community Facilities Survey clearly showed that:

- 63% of the total households (6,907 households) said that there was one or more missing community facility from their local area;
- The top most cited missing community facilities were;
  - a shopping or eating premises
  - places of entertainment (gardens, parks and playgrounds);
  - healthcare (especially in rural areas);
- 2,663 households said that they were missing a park in their neighbourhood – the single, highest missing community facility that people specified;
- 30% of households visit parks – more than three times any other sports facility.

Table 1.1: Key Public Survey Responses

Key Qualities for Ideal Parks

- » Security
- » Family Seating Areas
- » Hygienic Restrooms
- » Game Areas for Children
- » Places to Buy Soft Drinks
- » Comfortable Seating
- » Shaded Areas
- » Diverse Play Equipment

Key Qualities for Ideal Streetscapes

- » Safety and Security for Families
- » Property Separation Between People and Vehicles
- » Adequate Seating
- » High-quality Paving Materials
- » Shopping and Dining
- » Cycling Opportunities

Key Qualities for Ideal Waterfronts

- » Proper Shading and Seating Along Pathways
- » Increased Access for Pedestrians and Cyclists
- » Naturalised Environment
- » Food, Drink and Restrooms

Key Qualities for Ideal Public Places

- » Safety and Security
- » Proper Separation to Ensure Family Privacy
- » Variety of Shopping
- » Shaded Areas
- » Food, Drink and Restrooms

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Chapter 2.0 - VISION

2.0. Vision

The public realm in Abu Dhabi expresses traditional Arab culture while serving the diverse, multicultural population. It is a fully accessible and engaging experience that includes diverse public parks and civic spaces; an interconnected system of public walkways, bicycle trails and public transit; a vibrant and active waterfront; and active mixed-use areas that are all enhanced through high-quality architecture, streetscape design and public art. It is safe, comfortable and responds to the climate and environment of Abu Dhabi.

2.1. Principles

Furthering this vision, nine principles expand on how the public realm addresses the following key themes:

- Liveability
- Identity
- Access
- Connectivity
- Placemaking & Design Excellence
- Environmental Stewardship
- Inclusivity
- Activation
- Shared Ownership & Implementation

The public realm principles support the decision-making process and the achievement of long-range and measurable results. They ensure that public realm development reflects the established vision.

2.2. Policies

The policies define and implement the nine public realm principles. These policies support and guide the decision-making process and should be used to inform the content of all public realm and development proposals from initial concept to implementation. Implementing public realm policies should result in a clear way forward to achieve quality outcomes.

Principle 1.0

Liveability – The public realm is a safe and comfortable space, where diverse activities can be experienced by all, contributing to people's physical and mental wellness, and providing a high-quality of life.

1.1 General Policy

1.1.1 The public realm promotes physical and mental health by providing an alternative to the urban environment.

1.1.2 The public realm contributes to a high-quality of life by providing space for relaxation and enjoyment.

1.1.3 Vegetation is located and grouped to increase the comfort of pedestrians through passive cooling and shading effects.

1.1.4 Trees and shade structures are used to create continuous shadeways.

1.1.5 High-quality materials that are easy to clean, maintain and repair are used in the public realm.

1.1.6 Lighting is scaled for pedestrians and provides the greatest safety benefit for vehicles and pedestrians.

1.1.7 The public realm is adequately maintained to ensure safety.

1.1.8 Crime prevention and security, through design principles, is used to create safe and secure places for the community. (CPTED)

1.1.9 Security features are designed and integrated in the public realm so they are physically and visually cohesive with other streetscape elements.

1.2 Park Policy

1.2.1 Parks provide ample space for activities, sports, fitness and organised play.

1.2.2 Parks are protected from development in perpetuity.

1.2.3 Play areas offer clearly separated amenities to accommodate different age groups.

1.2.4 Visibility is maintained throughout play areas so adults can supervise children.

1.2.5 Furnishings and amenities for adults are clustered adjacent to play areas.

1.3 Streetscape Policy

1.3.1 Streetscapes are designed for pedestrians first.

1.3.2 Streetscapes offer well-defined pedestrian routes, spaces and entrances to buildings for convenient movement.

1.4 Waterfront Policy

1.4.1 Waterfronts will include recreational activities such as swimming and boating.

1.4.2 Waterfronts include access to the water's edge using boardwalks, pathways and promenades for outdoor recreation.

1.5 Public Place Policy

1.5.1 Public places encourage social interaction.

1.5.2 Public places seamlessly connect with their surroundings.

Principle 2.0

Identity – The public realm will be a unique expression of Arab culture, heritage, values and traditions expressed throughout Abu Dhabi, the UAE Capital.

2.1 General Policy

2.1.1 Plant materials used in the public realm will reinforce the unique regional identity of areas within the Emirate.

2.1.2 The public realm incorporates a broad selection of public art based on the recommendations of the Public Art Master Plan and emerging policies.

2.1.3 The public realm enhances the urban environment and encourages the development of a positive identity for the Emirate.

2.1.4 Historic, cultural and natural resources in the public realm are preserved and enhanced.

2.1.5 The public realm provides an authentic experience and learning opportunity about Arab culture and tradition.

2.2 Park Policy

2.2.1 Parks will provide space for cultural and social activities.

2.2.2 Oases are the Emirate's signature attraction for visitors to Al Ain.

2.2.3 The interface with oases will be enhanced to highlight their unique characteristics as working farms.

2.3 Streetscape Policy

2.3.1 Streetscape and gateway design communicates entry and arrival.

2.3.2 Streetscape design enhances and preserves views of significant buildings, such as mosques, government or cultural facilities and natural areas such as coasts, deserts, mountains and oases.

2.3.3 Streetscapes promote the visual prominence of important circulation routes by eliminating unsightly signage clutter, utility and mechanical equipment and by implementing a lighting strategy.

2.4 Waterfront Policy

2.4.1 Waterfronts define the coastal identity of Abu Dhabi Emirate.

2.4.2 The Emirate defines and celebrates its relationship to the water through interpretive displays, signage and public art.

2.4.3 A variety of water-related signature features create a unique waterfront.

2.5 Public Place Policy

2.5.1 Public places serve as destinations highlighting the special attributes and attractions of the Emirate.

2.5.2 Public places are fully integrated with surrounding commercial uses to promote commerce and economic activity.

Principle 3.0

Access – The public realm ensures full access to Parks, Streetscapes, Waterfronts and Public Places.

3.1 General Policy

3.1.1 The public realm is visually and physically accessible.

3.1.2 Within the public realm, fountains and other water features will be accessible to the public.

3.1.3 Special features in the public realm are accessible to all residents and visitors by meeting the standards of universal design and accessibility.

3.1.4 The public realm includes a hierarchy of wayfinding signs such as maps, information kiosks and street signs.

3.1.5 The public realm incorporates pedestrian, bicycle and vehicle safety features including 'tactile' paving at crossings, appropriate lighting and signalised pedestrian crossings.

3.2 Parks Policy

3.2.1 By 2030, 90% of all residents in the Emirate will be within 350 m walking distance of a park.

3.2.2 Continuous public access will be provided along the edges of wadis above the flash flood level.

3.3 Streetscape Policy

3.3.1 Street furniture, walls, fencing and utilities are situated to minimise visual or physical obstructions for pedestrians and cyclists.

3.4 Waterfront Policy

3.4.1 Promote a multimodal transportation system that integrates ferries, water taxis and other waterborne transportation for pedestrians, bicycles and vehicles.

3.4.2 Views to the waterfront are protected in areas where physical access is limited.

3.4.3 Provide views and/or access points to the waterfront at a minimum of 1 every 500 m.

3.5 Public Place Policy

3.5.1 Public places incorporate gateways and wayfinding techniques to encourage access.

3.5.2 Commercial activities, such as markets and open-air souqs, extend along streetscapes to increase their visibility and accessibility.

Principle 4.0

Connectivity – The public realm is interconnected and enhances the mobility of people by providing continuous land and water access for pedestrians, cyclists and other modes of transport.

4.1 General Policy

4.1.1 The public realm is a continuous shaded pedestrian experience.

4.1.2 Wadis link elements in the public realm.

4.1.3 The public realm includes protected drop-off and pick-up areas to maximise safety, accessibility and connectivity to other modes of transportation.

4.1.4 Community facilities are co-located with parks and open spaces to improve efficiency and encourage shared facilities.

4.2 Park Policy

4.2.1 Parks include a network of accessible spaces with diverse uses for the existing and future populations.

4.2.2 Parks and oases are integral in the overall open space network of safe, attractive and legible links with residential and commercial areas.

4.3 Streetscape Policy

4.3.1 Streetscapes incorporate appropriate separation between pedestrian, bicycle and automobiles.

4.3.2 Streetscapes prioritise pedestrians over vehicles by including safe at-grade crossings and appropriate mid-block crossings.

4.3.3 Sikkak are used to connect neighbourhoods.

4.4 Waterfront Policy

4.4.1 Waterfronts are part of a continuous active transportation system for pedestrians, bicycles and waterborne transport.

4.4.2 Views are preserved by establishing sightlines down major street corridors.

4.5 Public Place Policy

4.5.1 Building landscapes are connected visually and thematically to the surrounding streets and neighbourhoods.

4.5.2 Walls surrounding government facilities are eliminated, or their heights reduced, to enhance visual linkages to the surrounding neighbourhood.

Principle 5.0

Placemaking & Design Excellence – The public realm is made up of high-quality, human-scaled and visually interesting places. The public realm includes multi-functional, flexible and climate responsive design solutions using high-quality, sustainably sourced materials.

5.1 General Policy

5.1.1 The public realm demonstrates high levels of design excellence and follows best practice maintenance procedures.

5.1.2 The public realm meets the needs of the community while enhancing the historic and/or multi-cultural context of the Emirate.

5.1.3 The public realm promotes safety and security by providing adequate lighting, sight lines into parks, and minimising secluded spaces.

5.1.4 Tree pruning is minimised to allow trees to grow naturally and assume their natural form.

5.1.5 Structures and amenities will be constructed of heat-resistant materials such as timber or molded plastic.

5.1.6 High-quality materials that are easy to clean, maintain and repair if damaged are used in the public realm.

5.2 Park Policy

5.2.1 The use of hedges around parks is minimised to ensure views remain open.

5.3 Streetscape Policy

5.3.1 Streetscapes reflect the scale, character and function of adjacent land uses and integrate with the surrounding natural and built environments.

5.3.2 Streetscapes vary in scale and the use of paving, curbs, trims, channels and landscaping to differentiate streetscape typologies.

5.4 Waterfront Policy

5.4.1 Waterfronts will be compatible with adjacent development.

5.4.2 The Abu Dhabi coastline includes world-class destinations in appropriate locations.

5.4.3 Waterfronts will highlight views both to and from the water.

5.5 Public Place Policy

5.5.1 The urban environment is enhanced with inviting and interactive public places.

5.5.2 High-quality landscape and plaza design contribute to the overall experience of the public realm.

Principle 6.0

Environmental Stewardship – The public realm is responsibly designed to achieve water and energy efficiency, and will respect important natural assets and native flora and fauna.

6.1 General Policy

6.1.1 Through temporary interpretive displays during, and permanent displays following construction, the public is involved with the design of the public realm.

6.1.2 Solar, light-emitting diode(LED) or wind-powered lighting is used, where practical, to reduce energy consumption.

6.1.3 The public realm design conserves water, preserves habitat and enhances biodiversity by using climate-appropriate plant materials.

6.1.4 A water budget will be used for all public realm development to comply with Estidama.

6.1.5 At least 80% of the total proposed landscaped areas in public realm projects consist of locally occurring, drought tolerant plant species.

6.1.6 Irrigation water is used efficiently and will balance the benefits of creating a green environment with the cost of irrigating the green landscape.

6.1.7 Irrigation water will be treated sewage effluent (TSE) and/or alternative water sources including harvested water from adjacent public sites, storm-water catchment, air conditioning condensate and ablution water from mosques.

6.1.8 Water features use grey water, TSE or salt water where feasible.

6.1.9 Water features function only in the early morning hours (before 9 AM) and in the early evenings (after 6 PM).

6.1.10 Mycorrihizal fungus and other beneficial microorganisms and fungi are added to planting soils to enhance plant health.

6.1.11 Water metres and leakage detection technology are employed to monitor irrigation and ensure that water is not being wasted and the water budget maintained.

6.2 Park Policy

6.2.1 Plants that produce food are encouraged.

6.2.2 Natural turf in parks is minimised on active recreation areas and sports pitches.

6.3 Streetscape Policy

6.3.1 Streetscapes are designed to minimise negative environmental impacts (heat island, excessive irrigation, etc.).

6.3.2 Medians with natural turf are replaced with drought resistant plants and hard surfaces to reduce the need for irrigation.

6.4 Waterfront Policy

6.4.1 Waterfronts are maintained in their natural state, where appropriate.

6.4.2 Alterations or work to waterfronts consider both terrestrial and marine habitats/ecosystems and in compliance with environmental policies and guidelines.

6.4.3 Water quality is protected for recreational uses such as swimming, diving and underwater recreation.

6.5 Public Place Policy

6.5.1 Archaeological sites are preserved and enhanced as educational or interpretive areas.

Principle 7.0

Inclusivity – The public realm will provide a safe and comfortable array of diverse places and activities for all people to enjoy.

7.1 General Policy

7.1.1 The public realm includes amenities for everyone including young, old, physically, visually and mentally challenged individuals and their families.

7.1.2 The public realm is inviting to people of all ethnicities.

7.1.3 Adequate, properly maintained universally accessible public restrooms are provided in the public realm.

7.2 Park Policy

7.2.1 Residents and park users are included in park programming decisions.

7.2.2 Universally accessible entertainment facilities, spaces for sports and leisure activities are developed to diversify parks and activate the landscape.

7.3 Streetscape Policy

7.3.1 The consistent use of Braille signage, 'tactile' paving materials, multi-lingual signage, audible street crossing signals and other techniques are employed to ensure universal accessibility.

7.4 Waterfront Policy

7.4.1 Universally accessible entertainment facilities, restaurants and cafés, spaces for sports and leisure activities are developed to diversify and activate waterfronts.

7.4.2 Access to the water's edge, and into the water, accommodates everyone regardless of age, physical, visual or mental ability.

7.5 Public Place Policy

7.5.1 Public places are designed to comfortably and equitably accommodate people of all ages and abilities.

Principle 8.0

Activation – The public realm will immediately be improved by ensuring activities and functions are appropriately integrated and programmed while also defining a clear operations and maintenance programme that ensures continued contribution to the identity of Abu Dhabi.

8.1 General Policy

8.1.1 A single agency to address Emirate-wide planning, development, operations and maintenance of the park and open space network should be formed.

8.1.2 An active partnership among Abu Dhabi Municipality (ADM), Al Ain Municipality (AAM) and Western Region Municipality (WRM) encourages communication and information sharing.

8.1.3 Regular maintenance will not disrupt park users during hours of peak use.

8.1.4 A mechanism will be established for citizens to report maintenance problems.

8.1.5 Landscapes within the public realm demonstrate low cost, environmentally effective maintenance techniques.

8.1.6 Activation encourages active ownership by including local institutions, business owners, and other stakeholders in future decision-making processes.

8.1.7 Activation includes flexible programming that accommodates a variety of uses.

8.2 Park Policy

8.2.1 A programme of continuous evaluation process for parks will be developed to ensure equipment, facilities, finishes, materials and treatments are maintained in good condition.

8.2.2 A public education campaign engages the community in helping to keep parks litter-free.

8.3 Streetscape Policy

8.3.1 Street cleaning, litter removal and minor maintenance tasks increase the Emirate's efforts to maintain and enhance the public realm and increase perceptions of safety and comfort.

8.3.2 Activation of streetscapes consider existing pedestrian and retail circulation patterns to strengthen their relationship to the streetscape and stimulate greater use.

8.4 Waterfront Policy

8.4.1 Specific operations and maintenance procedures maintain the unique conditions of waterfronts.

8.5 Public Place Policy

8.5.1 The interface of the public realm with public places provides a seamless link between activities.

Principle 9.0

Shared Ownership & Implementation – The public realm will be developed through a cooperative effort of government and/or private entities to ensure a high-quality resource that all stakeholders will contribute to and enjoy.

9.1 General Policy

9.1.1 Future public realm improvements are enhanced through mutual cooperation and information sharing.

9.1.2 Unhealthy practices, such as public cigar and cigarette smoking and spitting, are prohibited in the public realm.

9.1.3 Tourism and wayfinding materials and a corps of uniformed guides will be available in the public realm.

9.2 Park Policy

9.2.1 Civic and cultural groups are encouraged to 'adopt' parks and public places for group clean-ups, to increase a sense of ownership.

9.3 Streetscape Policy

9.3.1 Streetscape standards and regulations are consistently enforced for the enjoyment, safety and security of all and to increase the positive identity of the Emirate.

9.3.2 Construction and streetscape maintenance programmes do not encroach unnecessarily on the public realm, jeopardise pedestrian or traffic safety or create other hazards.

9.3.3 Building owners are encouraged to assist in identifying streetscape maintenance and security issues.

9.4 Waterfront Policy

9.4.1 Interpretive and communication programmes help people understand the value of maintaining clean and healthy waterfronts.

9.5 Public Place Policy

9.5.1 Public places are maintained and enhanced with the cooperation of both public and private entities.

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Chapter 3.0 – Level of Service

3.0 Level of Service

Generally, Level of Service (LOS) standards are used to quantify the amount of parks and/or open space which must be provided to meet a community's basic needs and expectations both now and in the future.

The standards also provide a benchmark for evaluating service deficiencies in existing communities and for monitoring progress towards meeting growth management and park provision goals.

For the purpose of the PRDM, Level of Service has been established by identifying a public realm hierarchy particular to the Emirate and a universal Level of Service derived from international best practice.

Further consideration has been given to the following in order to ensure the standards meet the specific requirements of the Emirate:

- **Quantity** – Targeting a total percentage of the defined urban areas to be set aside for parks, or protecting a total percentage of the land in any new development as open space;
- **Proximity** – Locating a park within a defined proximity of every resident;
- **Accessibility** – Ensuring parks are located to be physically accessible by foot, bicycle or public transit and visually accessible for the greater public;
- **Distribution** – Arranging park locations to ensure balanced services across geographical areas;
- **Equity** – Providing parks and open space evenly across diverse populations;
- **Coordination** – Combining park objectives with other development plans;
- **Balance** - Offering a mix of programming and activities throughout the park and open space system;
- **Shaping** – Identifying ways that the park and open space system can promote or contain growth;
- **Connections** – Identifying ways to link parks and open spaces and associated resources.

Note - The PRDM quantifies Level Of Service only as it is applicable to the Park and Waterfront categories of the public realm.

3.1. Public Realm Hierarchy

The Public Realm Hierarchy forms the basis for identifying Level of Service. The hierarchy consists of five classifications: Emirate, Municipality, City, District and Neighbourhood.

Each hierarchy classification defines the role the public realm plays in serving the population of the Emirate. Higher classifications of the hierarchy, such as Emirate, serve the entire Emirate and are used by all residents. The lower hierarchy levels, such as Neighbourhood, serve the local population and are integrated into daily routines with vital importance to the lives of local residents.

Table 3.1 defines the Public Realm Hierarchy. The hierarchy reflects traditional practices of public space planning found throughout the world and is refined to represent the levels of planning in Abu Dhabi.

Table 3.1 Public Realm Hierarchy Definition

PUBLIC REALM HIERARCHY	
Hierarchy	Definition
Emirate	The highest level of the hierarchy is the Emirate level which includes public realm elements that serve the entire Emirate of Abu Dhabi. The Emirate level public realm elements include the most important parks, civic spaces and natural landscapes in the Emirate.
Municipality	The Municipality level features public realm elements that serve an entire Municipality (Abu Dhabi, Al Ain and Al Gharbia) within the Emirate and includes significant attractions for a variety of users. The Municipality level public realm elements form the central building blocks of each region's public realm system.
City	The City level includes public realm elements that serve all residents of a City or community. This would include all of the mainland cities, Al Ain, Madinat Zayed and Mussafah for example. The City level public realm elements are often defined through master plans. These elements should be developed within the context of the Municipality-wide system.
District	The District level parks serve sectors within a City or small settlements such as Al Rahba, Al Saad or Liwa. The District level public realm elements serve multiple Neighbourhoods and are often the place where local events and festivals would occur.
Neighbourhood	The Neighbourhood level of the hierarchy encompasses the smallest planning area and can include subdivisions, blocks or high-rise residential developments. Public realm elements at the Neighbourhood level are highly integrated into the daily lives of local residents and are where the most publicly prominent activities of daily life occur.

3.2. Universal Level of Service

The Level of Service standards regulate the amount and location of public realm elements. Three universal standards are established for the Emirate. They include:

- A universal Level of Service for parks;
- A universal standard for open space;
- A universal standard for the maximum distance to a park.

The universal Level of Service for parks is the provision of 1.3 hectares of developed parks per every 1,000 residents (1.3 ha/1,000 pop.). Developed parks include all parks and usable/active Waterfronts. This standard is not inclusive of conservation and natural areas that have been defined and protected for public purpose.

The universal target for open space for each Municipality is to maintain 20% of developed areas as open space. Open space is defined as land or water that remains in an undeveloped, natural state as well as landscapes with low intensity development for public use, such as Parks, Streetscapes, Public Places and Waterfronts. This target will ensure a continued balance between the built urban environment and open space.

The universal standard for the maximum distance to a park is 350 m. With this standard, a minimum of 90% of the residents of Abu Dhabi Emirate should be able to access a public park within 350 m of their homes.

Table 3.2 Universal Standards

Criteria	Universal Standard
Park Level of Service	1.3 ha/1,000 population
Open Space	20% of Total Land Area
Maximum Distance to Nearest Park	350 m or 10 minute walk

3.3. Park Hierarchy

The Park Hierarchy organises parks according to their role in serving the population of the Emirate. Each park will fall into one or more of the hierarchy levels. The design, scale and role of each park will vary depending upon its level within the hierarchy.

Table 3.3, the Park Hierarchy, defines parks within each level of the hierarchy. The table identifies the targeted users of parks and general descriptions of the qualities common to parks at each level (major characteristics, features or activities and typical location). Parks in each hierarchy level will be developed to serve a certain population and draw users from a defined radius. Finally, the 1.3 ha/1,000 population standard is broken down, defining the proportions of each hierarchy level that will compose the entire Emirate-wide park system.

This table is a general guide for developing parks within each level of the hierarchy. Its purpose is to achieve a park system that functions for the entire Emirate.

Table 3.3 Park Hierarchy

Hierarchy	Description				Service Radius	Service Population	Level of Service (ha/1,000 Population)
	Users	Characteristics	Features / Activities	Location			
Emirate	Residents of the Emirate	» Spacious land areas of Emirate-wide significance » Natural, undeveloped landscapes » Preservation of important natural features » Emirate-wide important civic spaces	» Emirati significant public art » Areas for Emirate Day Celebrations » Passive Use	Dictated by natural landscapes, major historical landmarks and monumental central spaces within developed areas	100 km +	Emirate	N/A
Municipality	Residents of a Municipality	» Municipality-important public spaces » Historic and civic landmarks	» Major cultural events » Historic and civic landmarks » Monumental public art » Generally passive use » Suitable for Municipal-wide activities and gatherings	Dictated by major civic entities, landmarks or historic landscapes of Municipality-wide significance	25 – 150 km	Municipality	0.2
City	Residents of a City	» Important civic spaces » Preservation of unique and historic assets » Specialised destination sports facilities	» Public art » Performance space » Specialised sports facilities » Active and passive use	Locations of major civic spaces should be central within densely populated areas. Additional City parks should be located around civic facilities and assets (museums, institutions, governmental buildings, historic landmarks, etc.). Larger City parks designed for specific uses are located adjacent and accessible to population centres	2.5 – 25 km	10,000 - 20,000	0.4
District	Residents of a District	» Serves multiple Neighbourhoods » Mix of daily use and important district-wide public functions	» Smaller scale public art » Active and passive use » Large athletic fields for organised and informal activities	Focused around developed population centres and can be co-located with other public uses such as schools	0.3 – 2.5 km	1,000 - 10,000	0.4
Neighbourhood	Residents of a local Neighbourhood	» Integrated with daily lifestyles and activities » Provide Neighbourhood users with a variety of play areas and gathering areas	» Features designated areas design for outdoor children's play » Equipped playgrounds » Smaller sport pitches/courts » Abundant seating » Abundant shade » Active and passive use	Locations are within a maximum of 350 m of residents. Smaller typologies such as the baraha have a general distribution of 1/developed residential block	0.1 – 0.5 km	150 - 1,000	0.3
Total Developed Park Level of Service (ha/1,000 population)							1.3

3.4. Streetscape Hierarchy

Streetscapes play a central role in the formation of the public realm. They function both as important public space and as the network of linkages, connecting all public and private space throughout the Emirate. The character and function of streetscapes can vary depending upon where they fall within the public realm hierarchy

Table 3.4, the Streetscape Hierarchy, defines streetscapes of the public realm according to their role in serving the population within the overall transportation network. The table identifies the primary users of each hierarchy of streetscape, general characteristics and features/activities that are common to each hierarchy. The table identifies the typical location of each streetscape hierarchy. Size, Service Radius, Service Population and Level of Service are not applicable to streetscapes.

This table is a general guide for developing streetscapes within each level of the hierarchy. Its purpose is to achieve a system that functions to serve the entire Emirate.

Table 3.4 Streetscape Hierarchy

Hierarchy	Description				Service Radius	Service Population	Level of Service
	Users	Characteristics	Features / Activities	Location			
Emirate	Residents of the Emirate	» Contains routes and byways that connect Municipalities throughout the region » Primary corridor into the Municipality » Often contains Emirate attractions or unique environmental features » Often contains Emirate-wide important civic spaces	» Ceremonial events » Emirate significant public art » Areas for Emirate Day Celebrations	Dictated by connectivity to other Municipalities and presence of landmarks and places that are of Emirate-wide importance	N/A	N/A	N/A
Municipality	Residents of a Municipality	» Municipality-important streetscapes » Suitable for Municipal-wide activities and gatherings » Historic and civic landmarks	» Corridors for public transportation » Parking areas and pedestrian zones adjacent to Municipal buildings » Provides access to Municipality's most important areas and landmarks	Dictated by centralised urban location along corridors that carry users in and out of the Municipality and connect to major city-wide corridors	N/A	N/A	N/A
City	Residents of a City	» Principal corridors within a City » Provide access between Districts » Important civic spaces » Preservation of unique and historic assets	» Public art » Gateways » Shopping and business districts	Located centrally within the urban areas and around shopping areas, business centres, civic facilities and assets (museums, institutions, governmental buildings, historic landmarks, etc.	N/A	N/A	N/A
District	Residents of a District	» Accessible by individual Neighbourhoods located within the District » Mix of daily use and important district-wide streetscapes » Reflect the unique character of the District » Lower design speeds, narrower streets, and pedestrian-friendly character	» Pedestrian and transit connection to community facilities, business districts, and residential Neighbourhoods	Focused around developed population centres	N/A	N/A	N/A
Neighbourhood	Residents of a local Neighbourhood	» Streetscapes intended for use by residents within walking distance » Integrated with daily lifestyles and activities » Designed primarily for pedestrian/shared use and have limited to no vehicular access	» Activities are accommodated by paved pedestrian access between residences and community facilities » Abundant seating » Abundant shade	Integrated within residential communities along primary bicycle and pedestrian corridors	N/A	N/A	N/A
Total Developed Streetscapes Level of Service							N/A

3.5. Waterfront Hierarchy

The waterfront is one of the Abu Dhabi's greatest assets. To reach world-class status the waterfront must become a destination that is accessible to residents and visitors alike with high-quality, diverse public spaces that celebrate and strengthen local character and heritage.

Table 3.5, the Waterfront Hierarchy, defines waterfronts according to their role as a part of the entire Abu Dhabi coastline. The hierarchy defines the users, general characteristics, features/ amenities and the typical location along the coastline. The table also gives guidance for scale, the population size that is served and a radius in which each level of waterfront can expect to draw users. Finally, the Level of Service provides benchmarks for the percentage of the accessible coastline to be developed or protected under each hierarchy level.

This table is a general guide for developing waterfronts within each level of the hierarchy. Its purpose is to achieve a system that functions to serve the entire Emirate.

Table 3.5 Waterfront Hierarchy

Hierarchy	Description				Service Radius	Service Population	Level of Service (% of Accessible Waterfront Frontage)
	Users	Characteristics	Features / Amenities	Locations			
Emirate	Residents of the Emirate	» Preservation and conservation of the Emirate's most important natural waterfront features	» Limited waterfront development » Provides public access to important waterfront landscapes	Dictated by the presence Emirate significant waterfront features, natural landscapes and locations of Emirate importance.	100 km +	Emirate	40 – 60%
Municipality	Residents of a Municipality	» Municipally significant shorelines	» Large promenade » Iconic design » Focal point of the urban area » Passive recreation » Event space » Large gathering nodes » Major beach and conservation areas	Dictated by the presence of coastline adjacent to a major urban city centre.	40 km	Municipality	5 – 10%
City	Residents of a City	» City-wide important Waterfront	» Narrower promenade design than regional/Municipal level » Access to City's most important beach areas » Beach preservation and development » Passive recreation	Dictated by proximity to densely developed urban areas.	10 – 15 km	20,000 - 50,000	10 – 15%
District	Residents of a District	» Interpretive and educational opportunities » Passive enjoyment of the coast	» Trail access » District-oriented beach access » Smaller promenade/boardwalk design » Passive recreation	Dictated by proximity to medium density developed areas, centrally located along a District's edge.	5 – 10 km	2,000 – 20,000	10 – 15%
Neighbourhood	Residents of a local Neighbourhood	» Preservation and conservation of locally important landscapes	» Trails integrated into the Neighbourhood » Neighbourhood-oriented shoreline access » Small boardwalks in central areas » Passive recreation	Dictated by proximity to Neighbourhood centre.	0.5 – 2 km	150 – 2,000	10 – 15%
Total Developed Waterfront Level of Service							N/A

3.6. Public Place Hierarchy

Public places are the most diverse category of the public realm. They define the public space around important destinations and features of the Emirate. Public places are categorised into the public realm hierarchy according to their role and importance as space in the Emirate.

Table 3.6, the Public Place Hierarchy defines space surrounding public facilities, institutions and significant destinations. The table identifies the users and features/activities common to each level of the hierarchy. The typical location of public places is also provided. Because the development of public places is often tied directly to major landmarks, institutions or other pre-existing entities, scale, Service Radius, Service Population and Level of Service are not applicable within the hierarchy.

This table is a general guide for developing public places within each level of the hierarchy. Its purpose is to achieve a system that functions to serve the entire Emirate.

Table 3.6 Public Place Hierarchy

Hierarchy	Description				Service Radius	Service Population	Level of Service
	Users	Characteristics	Features / Activities	Location			
Emirate	Residents of the Emirate	» Public realm surrounding a special feature or natural area of Emirate importance » Often contains Emirate attractions or unique environmental features	» Emirate significant landmarks » Areas for Emirate-wide Day Celebrations	Dictated by presence of Emirate attractions and features	N/A	N/A	N/A
Municipality	Residents of a Municipality	» Regionally important public spaces established due their suitability for Municipal-wide activities and gatherings of significant cultural or historic amenities » Gatherings of significant cultural or historic amenities » Significant hotels, convention centres, theatres, museums and other destination sites	» Plazas and facilities that serve Municipal purposes » Regional hotels and visitor destinations » Historic and civic landmarks » Monumental public art	Dictated by the presence of regional shopping areas, business centres, civic entities, or landmarks	N/A	N/A	N/A
City	Residents of a City	» Public places intended for the use of entire City populations	» Accommodates important shopping areas as well as civic spaces » Civic spaces and historic/ cultural institutions that serve the City	Major public places centrally located within an urban area. Around business and retail areas, civic facilities and assets (museums, institutions, governmental buildings, historic landmarks, etc.)	N/A	N/A	N/A
District	Residents of a District	» Community features that serve multiple Neighbourhoods and provide a mix of uses (such as souqs, mosques, schools) » Mix of daily use and important district-wide public functions	» Shopping and residential pedestrian areas » Plazas and community open space	Focused around developed population centres and can be co-located with other public uses such as schools	N/A	N/A	N/A
Neighbourhood	Residents of a local Neighbourhood	» Integrated with daily lifestyles and activities » Provide Neighbourhood users with a variety of play areas and gathering areas	» Public places that accommodate daily Neighbourhood interests » Gathering spaces between residences and mosques » Abundant seating » Abundant shade	Locations are within a maximum of 350 m of residents	N/A	N/A	N/A
Total Developed Public Places Level of Service							N/A

3.7. Park Service Area Analysis

An analysis of the service area for each park shows that some portions of the communities are served by parks while others require additional parks. As the Emirate of Abu Dhabi continues to grow, so will the need for parks. The Service Area Analysis identifies the areas where parks exist or are currently planned. In addition, this analysis demonstrates areas that are not within the service range of a park. These areas are to be targeted for additional parks. In Abu Dhabi, 350 m is the maximum desired distance that any person would have to walk to a park. The Park Service Area Analysis identifies this distance as the Park Service Area.

Specifically, the Park Service Area includes the areas within the parks as well as all areas within 350 m of the park boundaries. The analysis assumes that all parks contain the minimal amenities necessary. By using Geographical Information System (GIS) to establish a buffer area around each existing or planned park, the analysis identifies the park service areas.

This type of analysis should be carried out continuously while planning and prioritising the location of new parks.

Abu Dhabi Island

Figure 3.1 illustrates Park Coverage Gaps for Abu Dhabi Island. Currently, there is substantial park coverage for areas north of Zayed the First Street. This area is the most densely populated area.

Between Zayed the First Street and Al Saada Street, there is less coverage. In this area, there is a large population that is a considerable distance from parks. South of Al Saada Street, there are several parks that provide a greater service area then the central part of the Island.

Parks and playgrounds currently planned for Abu Dhabi Island, once completed, will fill in a significant portion of the service area gap in the central part of the Island. There is still a large gap near the Eastern Road Corridor. Planned parks increase the service area on the Island, but there are still areas where population is not within the Park Service Area.

Abu Dhabi Mainland

Figure 3.2, illustrates Park Coverage Gaps for the Abu Dhabi Mainland. Currently there are very few existing parks on the Mainland. Only three parks in Shahama and one in Ban Al Jesrain are located proximate to a population. The other parks are in remote locations where residents are required to drive to reach them. As a result, the park coverage is very limited on the Mainland.

Khalifa City A, Khalifa City B, North Shamkha, and Mohammad Bin Zayed City are settled areas with no parks serving their residents, although many are currently planned.

Planned parks in Khalifa City A and Mohammad Bin Zayed City leave roughly half the area outside of the Park Service Area. Mussafah, although an industrial area, also has a population that is not currently served by parks.

Many areas on the Mainland have planned or master planned park networks. North Wathba and South Shamkha are planned communities with extensive park networks. Park coverage includes the entire area. The Master Plan for the Capital District provides parks with a service area that covers the majority of the Capital District

Shahama, Bahia, Al Rahba, and Bani Yas have planned parks that cover the majority of the populated areas. Mussafah, north of 8th street, will be a new mixed-use community served extensively by parks.

Al Ain City

Figure 3.3 illustrates Park Coverage Gaps for Al Ain City. If considering the oases and the Hili Archeological Park as parks, the central area of Al Ain City has a generous Park Service Area. Aside from these, Al Ain has few existing parks. Existing parks are separated by large distances leaving unserviced areas in between. Parks that are planned according to the plot data create a widely distributed system of parks. Many of these parks are not centrally located within the neighbourhood and, due to the low density of development, are often more than a kilometre away from the residents they are serving. There are two neighbourhoods that are completely within a Park Service Area.

Service Area Analysis Findings

The review of the Park Service Areas in Abu Dhabi Island, Abu Dhabi Mainland and Al Ain City show that, while there may be limited park service, the communities are currently expanding their park network. Nonetheless, the analysis demonstrates that further public realm improvements are needed to serve the increasing population needs.

Figure 3.1 Park Coverage Gaps – Abu Dhabi Island

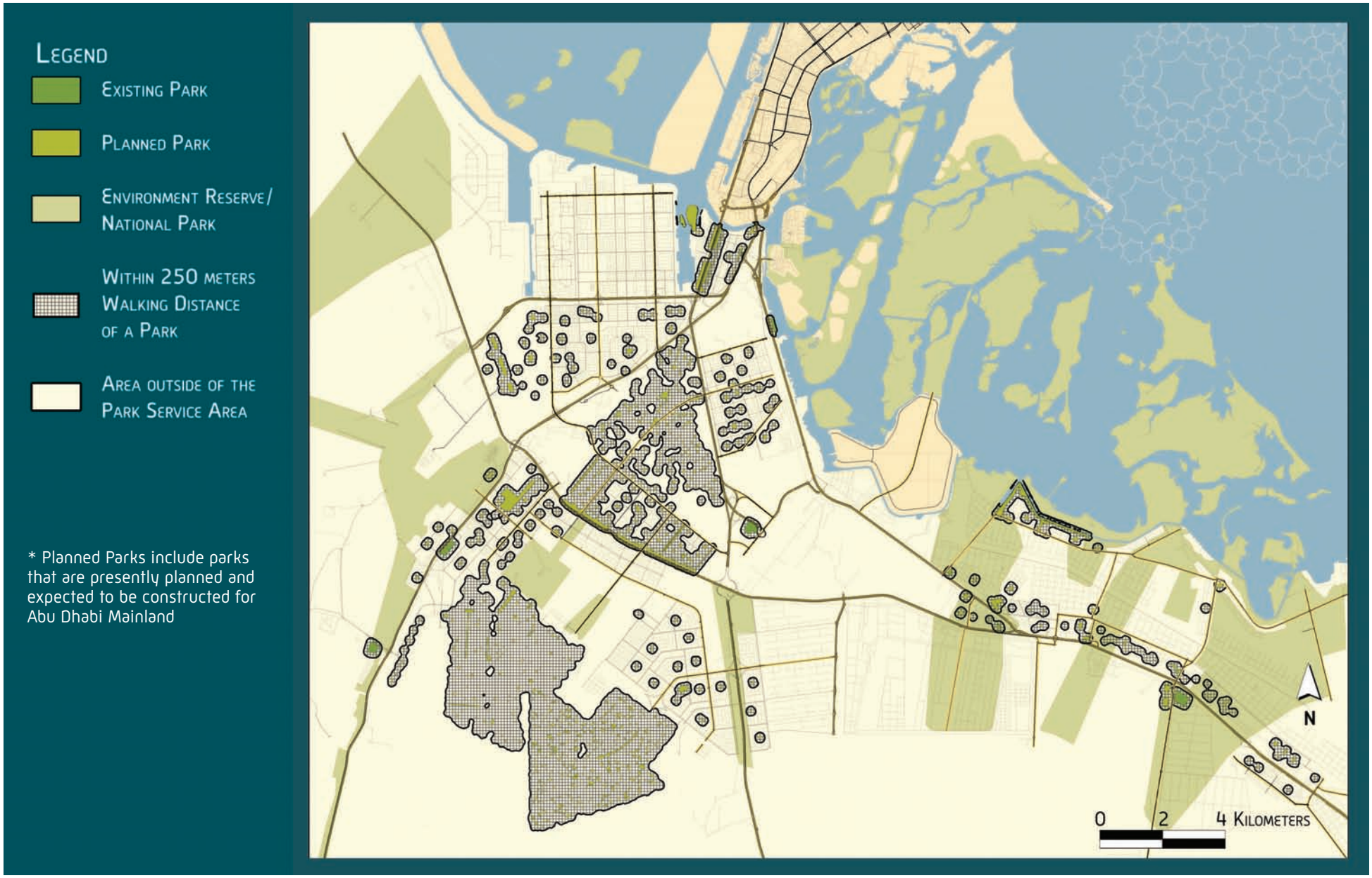

Figure 3.2 Park Coverage Gaps – Abu Dhabi Mainland

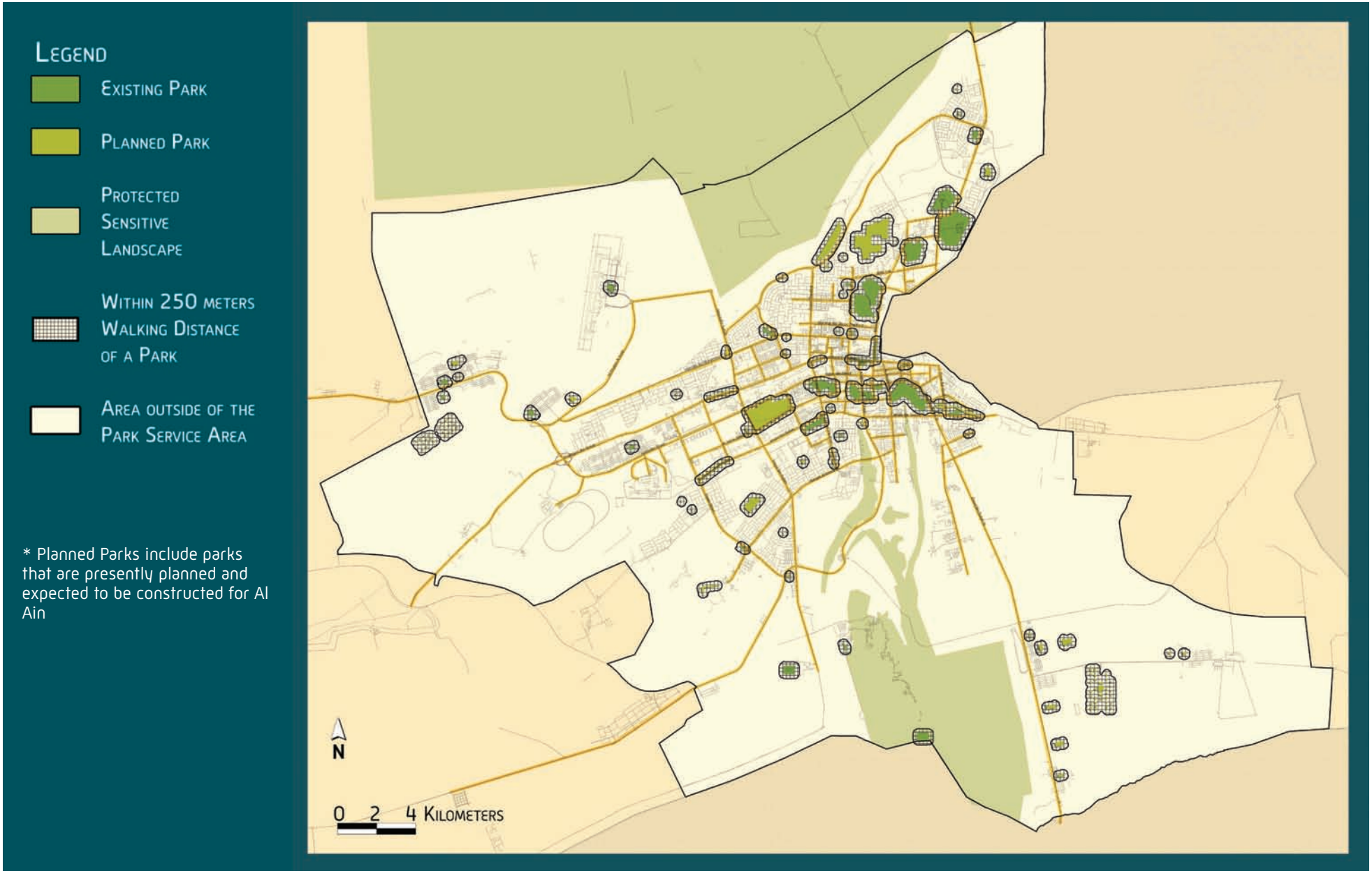

Figure 3.3 Park Coverage Gaps – Al Ain

3.8. Existing Park and Open Space Conditions

With the universal standards established for the Emirate, a review was conducted of the public realm in Abu Dhabi Island, Abu Dhabi Mainland and Al Ain City. The following is a description of the existing conditions identified.

The Abu Dhabi Municipality (ADM) has 531 hectares (ha) of developed parks that serve a population of approximately one million people (0.54 ha of parks for every 1,000 residents). Abu Dhabi Island has 386 hectares of parks (0.67 ha per 1,000 residents).

The Mainland has 145 hectares of parks (0.36 ha per 1,000 residents). When overall open space, defined to include parks, conservation areas and additional natural landscapes, is included, open spaces accounts for 12.7% of ADM's land area.

Al Ain City has 234 ha of developed parks, serving a population of nearly 340,000 people. For every 1,000 residents, there is 0.69 ha of parks. Of the City's total land area 1.7% of Al Ain City is public open space.

The review of the existing conditions in Abu Dhabi and Al Ain highlights the need for public spaces that are usable and accessible. Both Abu Dhabi and Al Ain City provide less than the universal standard of 20% open space recommended for the Emirate.

A review of world-class cities shows that New York City and Washington, DC, each have nearly 20% of their total land areas dedicated to public open space. The Solidere, Beirut's Central District, has master planned for 20% of the land area to be dedicated to open space, despite its location, land constraints and high density.

The City of Singapore, which is approaching build out, is one of the most densely developed cities in the world. It has 10% of its land area as open space.

Because Abu Dhabi and Al Ain are each projected to experience significant growth over the next 20 years, it is important that they designate land for open space as there is likely to be an increased demand for new parks and open spaces.

3.9. 2030 Park Level of Service

Anticipated park needs are provided by hierarchy in Table 3.8. The table identifies the expected parks for each hierarchy level that will be needed to fulfil the 1.3 ha/1,000 standard for the 2030 population.

Each hierarchy (below the Emirate level) has a defined Level of Service. This Level of Service, displayed in Table 3.8, identifies the quantity of parks that each Municipality needs to develop in order to adequately serve the 2030 population.

The standards for parks are established to provide a systematic approach to developing the public realm. These standards offer a significant improvement in park and open space levels when compared to the existing conditions in the Emirate.

As Parks, Streetscapes, Waterfronts and Public Places are evaluated, designed and developed, total space, typologies, facilities and access should all be considered in the context of these standards. Quantities of each should be continually reassessed as population changes to ensure the public realm is appropriately is developed to serve the residents of the Emirate.

Table 3.7 Existing Conditions of Parks and Open Space (2010)

	Abu Dhabi Municipality	Abu Dhabi Island	Abu Dhabi Mainland	Al Ain
Population	975,444	577,231	398,213	338,970
Total Land Area (ha)	181,617	15,718	165,899	103,030
Developed Parks (ha)	531	386	145	234
Developed Parks Level of Service (ha/1,000 pop.)	0.54	0.67	0.36	0.69
% Developed Parks of total land area	0.30%	2.50%	0.10%	0.20%
Existing Open Space (ha)	22,980	386	22,594	1,785
% Open Space of total land area	12.70%	2.50%	12.60%	1.70%

Table 3.8 Parks Allocation by Municipality

Service Area	Level of Service (ha/1,000 population)	Parks Required for Existing Population (ha)			Parks Required for 2030 Projected Population (ha)		
		Abu Dhabi Island	Abu Dhabi Mainland	Al Ain	Abu Dhabi Island	Abu Dhabi Mainland	Al Ain
Emirate	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Municipality	0.2	115	80	68	260	414	200
City	0.4	231	159	136	520	828	400
District	0.4	231	159	136	520	828	400
Neighbourhood	0.3	173	119	102	390	621	300
Overall Developed Park System	1.3	750	517	441	1,690	2,691	1,300

Part II

مجلس أبوظبي للتخطيط العمراني
ABU DHABI URBAN PLANNING COUNCIL

Chapter 4.0 - PUBLIC REALM NETWORK

4.0. Public Realm Network

Public realm networks identify an integrated and cohesive system of places and linkages for a community. The following describes the conceptual public realm networks for Abu Dhabi Island, Abu Dhabi Mainland and Al Ain.

Conceptual public realm networks will also be completed in due course for Al Gharbia, Al Ain Region and the Emirate of Abu Dhabi.

4.1. Abu Dhabi Island Conceptual Public Realm Network

The Conceptual Public Realm Network developed for Abu Dhabi Island embraces the Island's cosmopolitan nature by enhancing the urban grid pattern as the predominant organising element. The urban grid provides the foundation for developing an integrated system of Parks, Waterfronts and Public Places that combine to reinforce the Waterfront character and image of the Island. Streets are the primary links in the system that connect the Island's attractions and destinations.

Figure 4.1, identifies key gateways that announce arrival to the Island from the Mainland. These gateways provide orientation and reassert the image of Abu Dhabi as a world-class Waterfront community. Access to the central downtown and its primary Waterfront park – the Corniche – is provided through the centre of the Island and along the north and south shorelines. Arrival into the downtown is announced by a trio of gateways located at the intersections of Hazaa Bin Zayed Street.

Across the entire Island, a system of 'water to water connectors' reinforce the urban grid and unite the north and south shorelines. Key locations along the shore and a network of national, regional and city parks enhance waterfront access and provide diverse places and experiences.

The perimeter of the Island along the water's edge is envisioned to be public open space and ringed with a continuous and accessible pedestrian system. In areas where ownership or land use prevent this from occurring, connectivity is maintained with designated inland routes.

4.2. Abu Dhabi Mainland Conceptual Public Realm Network

The Conceptual Public Realm Network for Abu Dhabi Mainland focuses on creating a system of linear corridors that link future destinations and major public spaces. The continuity of accessible and connected public open space along the water's edge is preserved and enhanced through the creation of a series of parks at the shoreline. Each of these parks is the terminus of a system of 'desert to water' connectors which physically unite both elements of the natural landscape within the built environment. The 'desert to water' connectors pass through future conservation parks. A series of regional parks will function as the primary open space and organisational element of future communities and new cities.

The Capital District, and approach to the mainland from Al Ain and Dubai, are announced with formal gateway features.

4.3. Al Ain Conceptual Public Realm Network

The Conceptual Public Realm Network for the City of Al Ain focuses on creating a circular linked open space system. The system adopts a radial form with the downtown and a new ceremonial park at the centre.

Wadis and pathways become the spokes and a boundary pathway is the rim. The primary loop of the system surrounds downtown and links all of the oases and parks to create an inner city "greenway". The loop is completed by developing a series of parks and buffers along the border of Oman. This buffer creates both an attractive entry into the Emirate and aids security with increased visibility.

A secondary loop surrounds the City of Al Ain and defines the approximate development boundary of the City. The two loops are connected by Wadis and a radial system of pathways and corridors that links the desert to centre of the City. New regional parks are developed in areas surrounding the City near the junctions of the linear system. All of the main destinations in the City are linked within the system.

Gateways announce entry into the City and are located at the main streets from all directions including Oman.

4.4. Continuing the Process

The following are additional studies that should be prepared to support the Public Realm Design Manual and further develop the tools to implement a world class public realm.

1. Parks and Recreation Master Plans

A Parks and Recreation Master Plan is a plan that identifies existing parks and recreation programs, the Level of Services and supply, the needs and wants of the population, trends in recreation services and the deficiencies in supply. Master Plans should be completed for each of the Municipalities.

2. Public Realm Detailed Manuals

Public Realm Detailed Manuals identify, by typology, standard products and suppliers for all of the built components of the Public Realm including: paving and hardscape materials, play structures, coordinated groupings of street and park furniture, light fixtures, light poles, bollards, etc.

Figure 4.1: Abu Dhabi Island Conceptual Public Realm Network

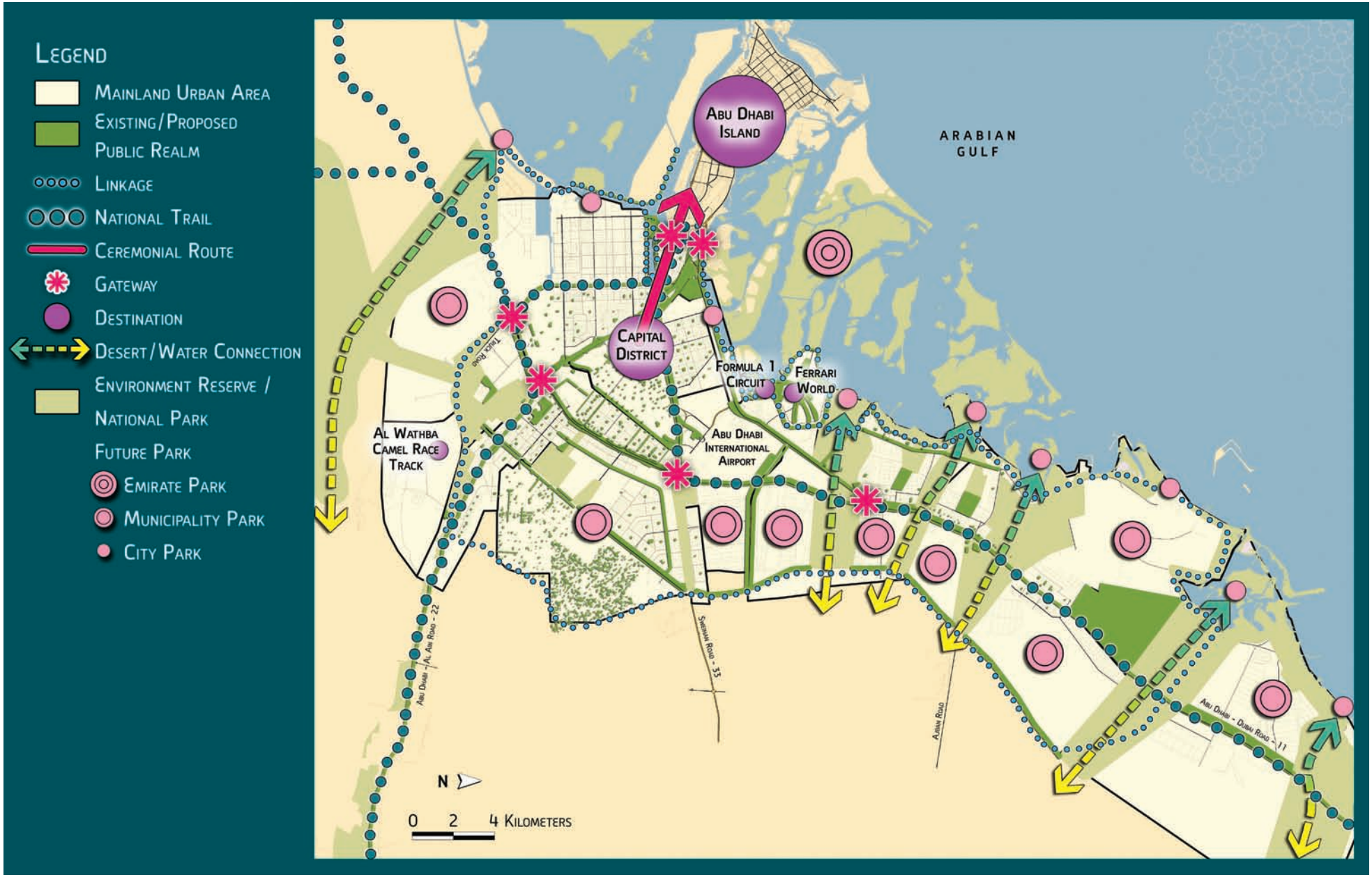

Figure 4.2: Abu Dhabi Mainland Conceptual Public Realm Network

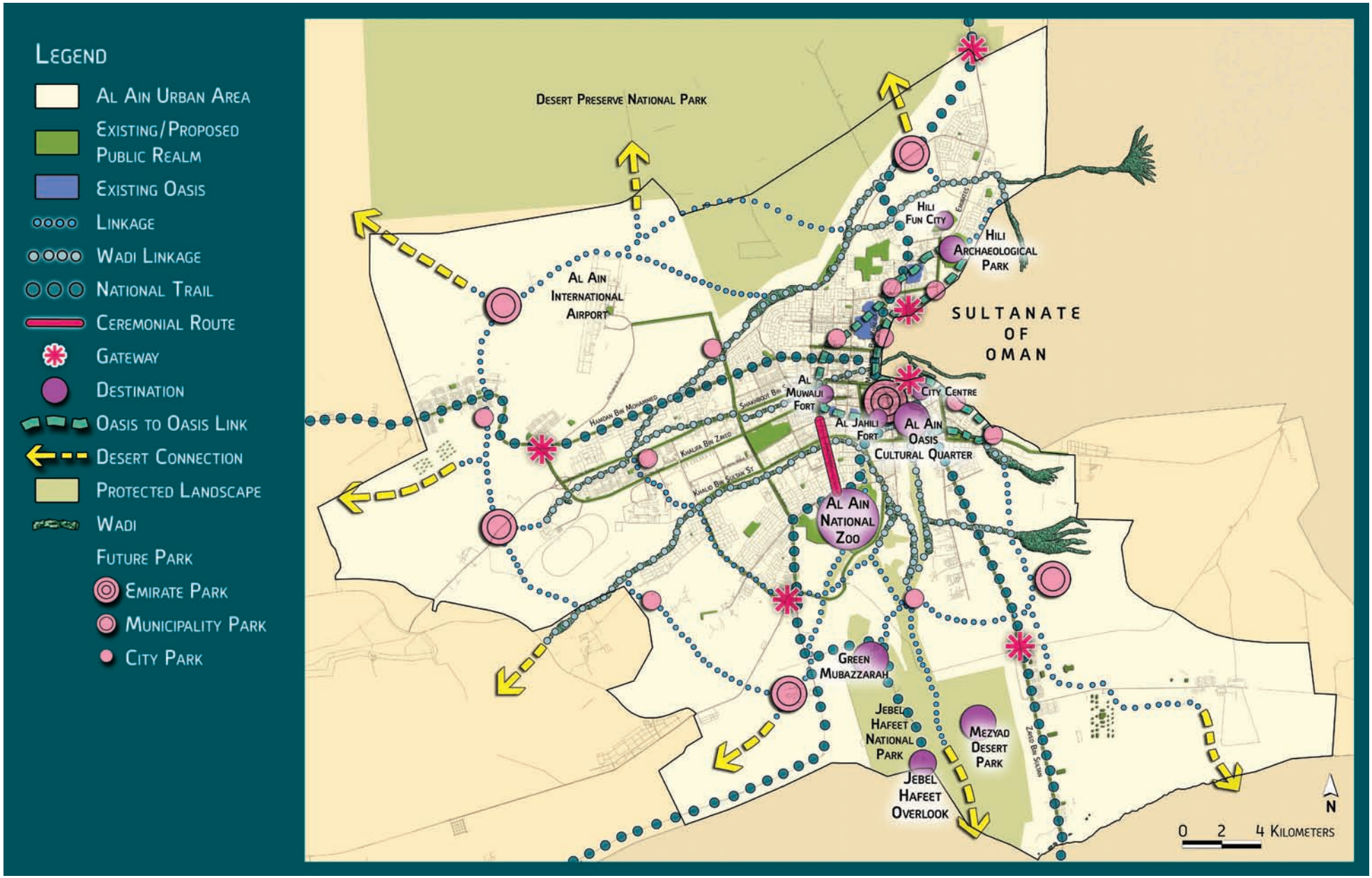

Figure 4.3: Al Ain City Conceptual Public Realm Network

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Chapter 5.0 - PARKS

5.0 Parks

As development occurs in the Emirate, the Public Realm Design Manual provides a shared direction that ties various public realm projects together to form a system.

Together with the vision, principles and policies, the Parks section of the PRDM is a step-by-step guide to developing parks that enhance the public realm system.

5.1. Park Planning Process

The steps to park development include: policy review, hierarchy application and typology application. This section describes the hierarchy and typology application process.

- **Hierarchy Application:** The hierarchy relates to a park's role in serving the population of the Emirate. Determining the appropriate hierarchy level informs the Level of Service determination. The Level of Service provides the amount of developed parks needed for a given population.
- **Typology Application:** The typology relates to a park's design purpose. Determining the appropriate typology informs the application of design guidelines. Universal and typology design guidelines provide the minimum standards for park development.

The planning process flowchart (Figure 5.1) illustrates the steps to prepare a park project.

5.2. Park Hierarchy

Table 5.1 Park Hierarchy, defines parks within each level of the hierarchy. The table identifies the targeted users of parks and general descriptions of the qualities common to parks at each level (major characteristics, features or activities and typical location). Parks in each hierarchy level will be developed to serve a certain population and draw users from a defined radius. Finally, the 1.3 ha/1,000 population Level of Service standard is broken down, defining the proportions of each hierarchy level that will compose the entire Emirate-wide park system.

This table is a general guide for developing parks within each level of the hierarchy. Its purpose is to achieve a park system that functions for the entire Emirate.

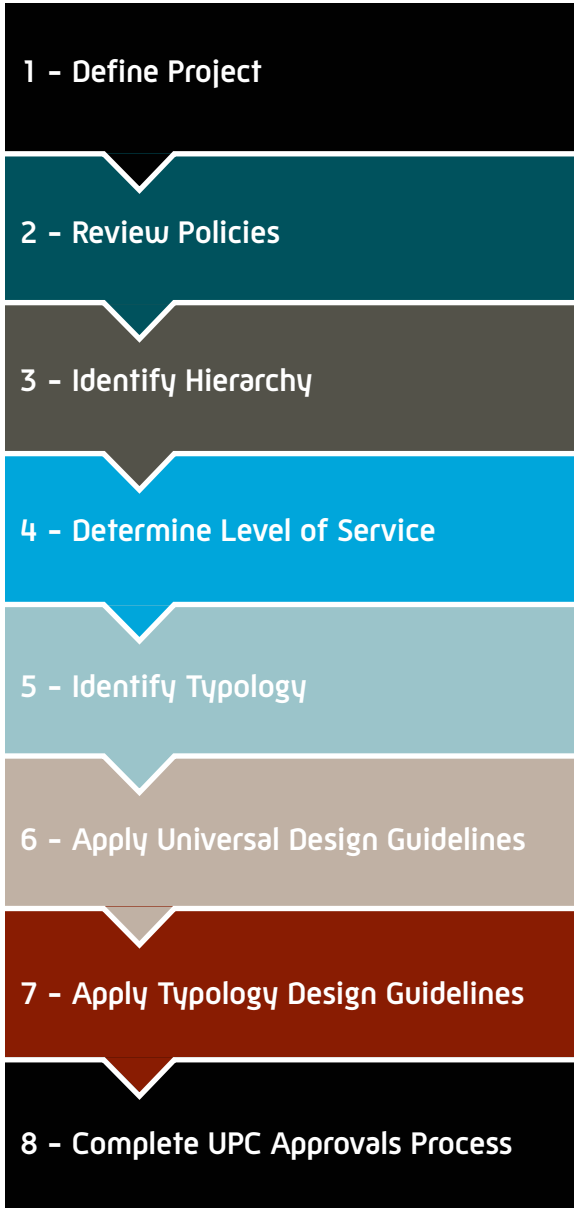


Figure 5.1: PRDM Planning Process

Table 5.1 Park Hierarchy

Hierarchy	Description				Service Radius	Service Population	Level of Service (ha/1,000 Population)
	Users	Characteristics	Features / Activities	Location			
Emirate	Residents of the Emirate	» Spacious land areas of Emirate significance » Natural, undeveloped landscapes » Preservation of important natural features » Emirate-wide important civic spaces	» Emirati significant public art » Areas for Emirate Day Celebrations » Passive Use	Dictated by natural landscapes, major historical landmarks and monumental central spaces within developed areas.	100 km +	Emirate	N/A
Municipality	Residents of a Municipality	» Municipality-important public spaces » Historic and civic landmarks	» Major cultural events » Historic and civic landmarks » Monumental public art » Generally passive use » Suitable for Municipal-wide activities and gatherings	Dictated by major civic entities, landmarks or historic landscapes of Municipality-wide significance.	25 - 150 km	Municipality	0.2
City	Residents of a City	» Important civic spaces » Preservation of unique and historic assets » Specialised destination sports facilities	» Public art » Performance space » Specialised sports facilities » Active and passive use	Locations of major civic spaces should be central within densely populated areas. Additional City parks should be located around civic facilities and assets (museums, institutions, governmental buildings, historic landmarks, etc.). Larger City parks designed for specific uses are located adjacent and accessible to population centres.	2.5 – 25 km	10,000 - 20,000	0.4
District	Residents of a District	» Serves multiple Neighbourhoods » Mix of daily use and important district-wide public functions	» Smaller scale public art » Active and passive use » Large athletic fields for organised and informal activities	Focused around developed population centres and can be co-located with other public uses such as schools.	0.3 – 2.5 km	1,000 - 10,000	0.4
Neighbourhood	Residents of a local Neighbourhood	» Integrated with daily lifestyles and activities » Provide Neighbourhood users with a variety of play areas and gathering areas	» Features designated areas designed for outdoor children's play » Equipped playgrounds » Smaller sport pitches/courts » Abundant seating » Abundant shade » Active and passive use	Locations are within a maximum of 350 m of residents. Smaller typologies such as the Baraha have a general distribution of 1/developed residential block.	0.1 – 0.5 km	150 - 1,000	0.3
Total Developed Park Level of Service (ha/1,000 population)							1.3

5.3 Park Design Guidelines

The Park Design Guidelines are intended to implement the policies covered in Part I of the PRDM. The Park Design Guidelines represent the minimum standards that guide all park development. They ensure that all parks provide the basic elements essential to a functional public space. The application of these guidelines will help to build a coordinated park system for the Emirate.

Design guidelines developed for parks include Universal Design Guidelines and Typology Design Guidelines. The Universal Design Guidelines are applicable to all parks. The Typology Design Guidelines are applicable to specific park typologies. There are 13 different park typologies that provide a variety of leisure and recreation opportunities.

Table 5.2 provides a brief description of all park typologies. Further descriptions are provided in the individual park typology sections.

Design Guideline Language

The design guidelines identify the language that defines various park elements. The topics addressed in the universal and typology design guidelines include:

- External Linkages
- Access
- Internal Circulation
- Parking
- Universal Access
- Buildings
- Special Features
- Shading
- Softscape
- Hardscape
- Furniture
- Water Features
- Public Art
- Lighting
- Fences/Walls/Screens
- Signage/Wayfinding
- Services/Infrastructure
- Safety/Security

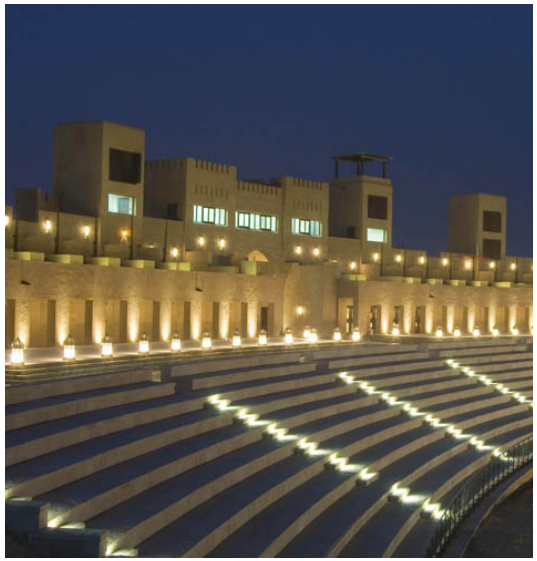
Guidelines on the minimum standards are provided for each topic. Compliance with the design guidelines is based on the form of the statement. Statements include:

- **Shall statements** – mandatory to comply with the design guideline;
- **Should statements** – recommended to comply with the design guideline;
- **May statements** – permitted in the park design; discretionary based on programming needs, park function, site conditions.

Table 5.2 Park Typologies

Park Typology	Description
	Purpose
Art Park	» To offer a space to interact with public art
Baraha	» To provide a small space for local passive use
Ceremonial Park	» To provide a facility for community-wide events and commemoration
Community Garden	» To provide a space for gardening activities, beautification, education, recreation and physical activity
Community Park	» To accommodate active and passive uses and community events
Conservation Park	» To preserve, rehabilitate or create natural features or areas
Desert Park	» To preserve or recreate the natural desert landscape
Family Park	» To accommodate local active and passive recreation
Heritage Park	» To preserve historic landmarks, sites or places
Linear Park	» To provide corridors for passive and active recreation
Meyadeen	» To provide a small central meeting area for passive use
Oasis Park	» To buffer the historic oases with a park for preservation and enhancement
Sports Park	» To accommodate sports activities and active uses.






These selected images illustrate the aspiration for the parks of Abu Dhabi

Park Universal Design Guidelines (UDG)

Design Guidelines

External Linkages

- Shall link to other major features and destinations
- Should link to the open space system
- Should extend to street edge
- Should maintain and relate to streetscape hierarchy
- Should link to public transit

Access

- Shall accommodate emergency vehicle access
- Should provide safe and direct access for pedestrians and cyclists
- Should create a hierarchy of entrances that reflects the streetscape hierarchy

Internal Circulation

- Should create a hierarchy of pathways
- Should provide a primary pathway as organising element
- Should provide secondary pathways to link features in the park

Parking

- Shall sufficiently setback parking from higher profile facilities and building elements such as bridges
- Should organise parking to limit impact on pedestrian circulation and park use

Universal Access

- Shall conform to international best practice in universal access
- Shall maintain a minimum unobstructed width of 1.8 m on the primary pathway
- Shall maintain a minimum unobstructed width of 1.5 m on all secondary pathways
- Shall locate lighting columns, signposts, refuse/recycling containers, trees, bollards, benches and other furniture or fixtures at or beyond the boundaries of pedestrian routes
- Shall create a clear distinction between pedestrian routes and adjoining surfaces using visual and audible indicators and tactile paving
- Shall use a maximum gradient of 1:20 on all pedestrian routes; gradients above 1:20 shall use steps with integrated ramping
- Shall provide a minimum of 10% reserved parking facilities for disabled access with minimum dimensions of 2.4 m x 4.8 m with a 1.2 m access zone
- Shall provide the international symbol of accessibility on disabled access reserved parking
- Shall provide accessible route from designated disabled access parking stalls to all accessible entrances
- Shall incorporate Braille in all signage elements in all public places
- Should locate disabled access parking near the primary circulation route
- Should design seating arrangements to allow mobility restricted users to sit alongside friends and family or in groups
- Should use well-defined edge treatments such as plant materials, change in texture or curbs to indicate extent or change in route

Buildings

- Shall design buildings to reflect the unique character of the typology
- Shall locate and screen maintenance buildings away from public use areas
- Should encourage a visual and connective interaction between interior and exterior space through outdoor classrooms, large windows and door openings and shaded outdoor terraces and arcades
- Should locate buildings to enhance sightlines and emphasise views
- Should design buildings to reflect the same architectural character as other site buildings as expressed through consistent use of materials, forms and colours

Special Features

- See Specific Typology

Shading

- Shall provide continuous shade for 80% of primary walkways based on a minimum 1.8 m width within the through zone.
- Shall provide continuous shade for 60% of secondary walkways based on a minimum 1.8 m width within the through zone.
- Shall provide a minimum 1 shaded rest area every 500 linear metres of primary walkway
- Shall provide a minimum 1 shaded rest area every 1000 linear metres of secondary walkway
- Shall provide a minimum 40% shade for all surface car parking
- Shall provide 100% shade coverage for all play structures
- Shall provide a minimum of 40% shade for informal play
- Shall provide a minimum of 80% shade for all gathering areas
- Shall provide a minimum of 40% shade for all informal gathering areas
- Should provide shade at limited access points, kiosks, viewing points and locations of interpretive displays
- Should locate shading to promote outdoor activities, increase social interaction and encourage outdoor lifestyles
- Should use various types of shade structures, softscape features or canopy trees to provide shade

Softscape

- Shall use PRDM plant list to determine appropriate plant materials
- Should provide a minimum of 1 tree per 50 m^2 of park area
- Should cluster trees in groups
- May provide open turf area for unstructured play

Hardscape

- Shall surround all water features with slip resistant materials
- Shall surround all play structures with light coloured impact material
- Should provide a variety of play surfaces, hard and soft, natural or synthetic
- Should alter hardscape materials to indicate space transition
- Should use permeable unit paving material of natural stone and at a scale that responds to the use of the area
- Should use good-quality compacted crushed natural stone or gravel on pathways
- Should use large format paving/motifs in primary gathering spaces and smaller format paving in small seating spaces

Furniture

- Shall group furniture together, leaving clear a minimum width of 1.5 m between furniture
- Shall use coordinated furniture designs that are contemporary, simple and appropriate to context
- Shall use high-quality designs and materials that withstand climatic conditions, heavy use and vandalism
- Should use light coloured and non-reflective furniture
- Should provide a variety of seating options arranged in clusters to maximise social and community interaction
- Should provide refuse/recycling containers at entrances and in gathering areas
- Should provide shaded bicycle racks at all park entrances

Water Features

- Shall locate water features in areas of high activity
- Should provide water features, rippled or flowing
- Should minimise the use of water and recycle water when possible
- Should use water features that are accessible to all park users
- Should use timed water features such as pop jets, spouts and mist
- May integrate public art within water features
- May use water play features adjacent to children's play areas

Public Art

- Shall use public art to enhance the public realm
- Should provide public art in primary gathering areas
- Should locate public art to accent view corridors and mark gathering areas
- Should locate smaller public art near entrances or gateways to help draw users into the space
- Should provide public art that is visual and tactile to generate interest and activity
- Should use public art constructed of durable and low-maintenance materials
- Should design public art to ensure public safety
- Should surround interactive sculptures designed for children with light coloured impact materials
- Should limit interactive sculptures designed for children to a maximum height of 1.8 m
- Should use public art that is sensitive in colour and material to the park design palette
- May provide interpretive public art that focuses on culturally, historically or environmentally significance

Lighting

- Shall use low-level or pedestrian lighting such as bollards, in-ground lights, step and wall lights
- Shall clearly illuminate treads, risers and any other level differences along primary and secondary pathways
- Shall prioritise the use of LED and high efficacy lighting
- Should provide light standards at park entrances and to define street edges
- Should highlight public art, landscape, foliage and water features

Fences/Walls/Screens

- Should use fences/walls/screens only to define use areas and restrict public access where appropriate
- Should minimise perimeter fencing
- Should use walls to a maximum height of 0.5 m to accommodate seating
- Should use fences/walls/screens that are constructed of the same or similar materials expressed in the park design
- Should use berms, low walls and dense, locally occurring plant materials for screening
- May use walls/fences/screens that do not restrict views to maintain park security and encourage safety of park users

Signage/Wayfinding

- Shall avoid placement of signage and wayfinding in locations that interfere with pedestrian or cyclist through zone or sightlines
- Shall provide a consistent hierarchy of signage and wayfinding elements
- Shall use a unified visual language for all signage and wayfinding materials, colours, scales and types
- Shall be durable, easily maintained and use a non-reflective matte finish on all signage
- Shall be placed to reinforce primary gateways and landmarks
- Shall integrate use of lighting in areas of high nighttime use
- Should provide a map or directory kiosk at street intersections, entrances and pathway intersections

Services/Infrastructure

- Shall locate utility and access boxes outside the pedestrian travel zone
- Shall design pedestrian access routes to be free of obstacles
- Should separate and screen maintenance facilities from public circulation routes and use areas
- Should provide a minimum of 1 drinking fountain

Safety/Security

- Shall employ Crime Prevention through Environmental Design (CPTED) principles
- Should strategically place emergency call boxes (i.e. help stations) throughout park
- Should locate amenities, such as playground equipment, picnic shelters, and sports courts, to provide visibility from adjoining streets
- Should maintain clear sightlines to toilets, concession facilities and playgrounds
- May use furnishing and landscaping to define and outline ownership of space to encourage natural surveillance and natural access control
- May limit access by use of gates, fences, walls and landscape screens to prevent or discourage public access to park in unmonitored areas
- May use security lighting with motion sensors in isolated and less frequented areas

Precedent: Outdoor Gallery

Precedent: Interactive Displays

Precedent: Contextual Public Art

Art Park

Context

Art Parks are areas programmed primarily to display public art for interactive, educational and recreational uses. They provide opportunities for artistic expression within the community.

Purpose

Art Parks provide an opportunity to integrate fine arts, visual arts, performance arts, music and dance into the community. These facilities diversify the open space system while providing essential park amenities.

The design of Art Parks focus on providing a distinct outdoor place for interaction, education and recreation. Art Parks also accommodate permanent and temporary art displays. All Art Parks have a distinct theme for unique and inspiring experiences.

Facilities

An interpretive centre is the focus of the Art Park. An art trail links a series of public art works with the interpretive centre, the primary entrances and other major attractions and features in the park. Active and passive recreation areas are located throughout the Art Park.

Access

Art Parks are accessible from primary streets, served by public transit and integrated into the pedestrian and cycling network.

The entrance into the park is defined with gateways and provides direct access to the interpretive centre. An art trail is the primary organising element of the park.

Design Guidelines

External Linkages

- Should link to a minimum 2 streets
- Should incorporate streetscape elements into park entrances
- Should front a public street and be within or adjacent to a neighbourhood or commercial area

Access

- Should define primary entrances with formal gateway features

Internal Circulation

- Shall provide a primary pathway with a minimum width of 5 m
- Should design the primary pathway to link interpretive centre, event spaces, major displays and primary entrances
- Should provide secondary pathways a minimum width of 3 m

Parking

- Should provide shared off-site parking or underground parking if provided on-site
- Should provide parking for tour and school bus

Universal Access

- See Park UDG

Buildings

- See Park UDG

Special Features

- Shall provide play structures that are custom designed for the park
- May provide a media wall or LED display
- May provide an interpretive centre
- May provide an amphitheatre
- May provide outdoor classrooms

Shading

- Should use tensile shade structures in activity areas and interactive sculpture areas
- Should provide permanent shade structures at event spaces
- Should maintain air circulation in permanent shade structures
- May use sculptural mobiles as permanent shade structures

Softscape

- Should incorporate sculpted land forms to define space
- Should locate trees and low shrubs to define outdoor art and sculpture display space
- Should use trees, palms and shrubs to define pathways and park perimeter
- May use annuals and perennials to highlight or accent gateways, pathways and installations of public art

Hardscape

- Should design hardscape features to enhance the art function of the park
- Should use a simplified hardscape palette to unify and strengthen the role of public art in the overall park design

Furniture

- Should provide sculptural furniture unique to site
- Should calculate total seating area requirement based on:
  - 1 seating area per 20 linear metres of primary pathway
  - 1 seating area per 40 linear metres of secondary pathway
- Should calculate total picnic table requirement based on:
  - 1 picnic table per 60 linear metres of secondary pathway

Water Features

- Should provide unique water features with integrated public art

Public Art

- Should incorporate public art into all design elements
- Should provide interactive sculpture areas
- Should incorporate public art into infrastructure (lighting, street furniture, tree grates, fences, street signs, manhole covers, water fountains)
- May provide temporary exhibition space

Lighting

- Shall use customised lighting design to highlight public art and sculpture
- Should use artistic lighting to define gateways, the primary pathway and gathering areas

Fences/Walls/Screens

- See Park UDG

Signage/Wayfinding

- Should provide a park identification sign and an interactive wayfinding kiosk at park entrances
- Should provide interpretive displays at event spaces and gathering areas
- May use directional colour coding on pathways

Services/Infrastructure

- See Park UDG

Safety/Security

- See Park UDG

Design Guideline Illustration: Central Gathering Area

Design Guideline Illustration: Interactive Media Wall

Precedent: Shaded Play Area

Precedent: Shaded Gathering Area

Baraha

Context

Barahaat are spaces between homes that are located in a small number of key positions throughout the fareej. There are usually a small number of Baraha to create focal points for residents to come and interact with one another, ensure maximum use and provide a focus for a larger number of people.

Purpose

Each Baraha is designed to meet the needs of the people and facilities close-by and provide a pleasant environment for residents. For example, Barahaat near schools may contain a small playground for children and families, whereas Barahaat near mosques may contain a public majlis or 'berza' which are found outside mosques, for worshippers from the neighbourhood to meet and greet each other.

Facilities

Typical park facilities include small seating areas, play areas, shading and landscape elements.

Access

Barahaat are accessible from the surrounding residences and sikkak within the fareej. Access is limited to pedestrians.

Separation from private family areas is provided within the site. There is a well-defined transition of spaces from semi-public spaces to private spaces.

Barahaat link to local community facilities and larger gathering spaces or meyadeen.

Design Guidelines

External Linkages

- Should directly link to sikkak and immediately-adjacent residential units
- Should be a semi-private space that is within the fareej
- Should be visually separated from the street

Access

- Shall provide pedestrian access only

Internal Circulation

- Should provide a well-defined transition of spaces from semi-public to private

Parking

- Shall not allow parking

Universal Access

- See Park UDG

Buildings

- See Park UDG

Special Features

- N/A

Shading

- Should provide shade for a minimum 50% of the park area

Softscape

- Should provide small trees and/or palms
- May use low-maintenance groundcovers and low flowering shrubs

Hardscape

- Should use hardscape features that reflect and enhance the character of the surrounding architecture

Furniture

- Should provide coordinated site furniture that responds to the character of the fareej
- Should calculate the total seating area requirement based on:
  - 1 seating area per 5 linear metres of primary pathway
- Should calculate total picnic table requirement based on:
  - 1 picnic table per 10 linear metres of secondary pathway

Water Features

- See Park UDG

Public Art

- See Park UDG

Lighting

- Shall use low-level or pedestrian lighting such as bollards, in-ground lights, step and wall lights

Fences/Walls/Screens

- See Park UDG

Signage/Wayfinding

- See Park UDG

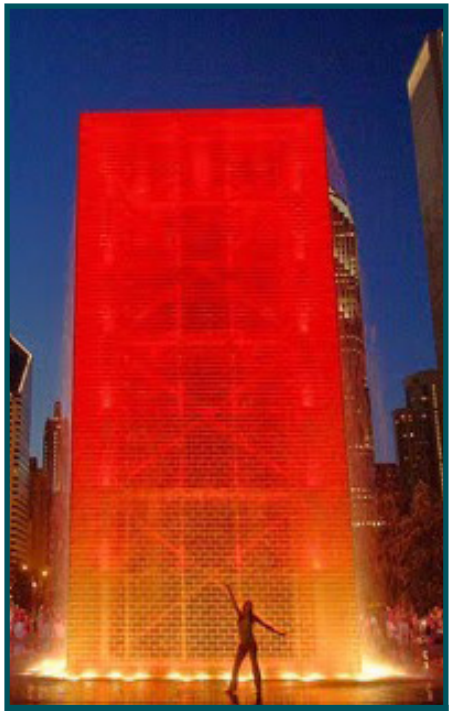
Services/Infrastructure

- See Park UDG

Safety/Security

- See Park UDG

Precedent: Amphitheatre



Precedent: Performance Space

Ceremonial Park

Context

Ceremonial Parks are large areas programmed primarily for public assembly and commemoration. They are the focal point of the community and support the identity of the place.

Purpose

Ceremonial Parks are facilities for events, celebrations and commemorations of great significance to the community. Creating an iconic place, Ceremonial Parks provide formal locations to welcome foreign leaders, dignitaries and other visitors.

Ceremonial Parks can host large, community-wide events. Their design focuses on providing monumental spaces for celebration.

Facilities

A large assembly space is a the focus of the park. A processional route leads to this space and is defined by gateways at the primary entrances. The park space is characterised by monumental public art. Picnic areas and interpretive displays are located outside of the assembly area to allow for large events in the park. When the park is not being used for an event it serves as a space for passive recreation and circulation, including picnicking, walking and cycling.

Access

Ceremonial Parks are accessible from all sides, served by public transit and integrated into the pedestrian and cycling network.

Gateways define the entrances to the park that connect to the processional route and the assembly space. The processional route is the primary pedestrian pathway and a feature in the park. Secondary routes link other areas of the park to the processional route. Views in the park frame the monumental public art. Views out of the park focus on distant sightlines and iconic features.

Security considerations include minimising surrounding building heights and visual access/sightlines into the park. Primary entrances link to the open space system.

Design Guidelines

External Linkages

- Should provide an open and accessible interface between the streetscape and park
- Should link to a minimum of 2 primary streets

Access

- Should be accessible from all frontages
- Should define entrances with formal gateway features

Internal Circulation

- Should provide a primary pathway a minimum width of 6 m
- Should design the primary pathway as the processional route through the park
- Should orientate processional route to maximise the cooling effects of prevailing winds and minimise solar gain

Parking

- Should provide shared off-site parking or underground parking if provided on-site
- Should not allow parking on street frontage

Universal Access

- See Park UDG

Buildings

- See Park UDG

Special Features

- Should provide an assembly space linked to a centralised processional route to accommodate ceremonial events

Shading

- Should use colourful canopies and ceremonial tensile shade structures
- Should use shade structures to define park perimeter and assembly space

Softscape

- Should use large canopy trees to reinforce the monumentality and ceremonial function of the park
- Should use strong vertical rows of palms flanked by lower contrasting foliage trees to define processional route
- Should use land forms to enclose large open spaces

Hardscape

- Shall design hardscape to reflect ceremonial function of the park
- Shall use high-quality natural stone

Furniture

- Should locate furniture along the perimeter
- Should calculate total seating area requirement based on:
  - 1 seating area per 20 linear metres of primary pathway
  - 1 seating area per 40 linear metres of secondary pathway
- Should calculate total picnic table requirement based on:
  - 1 table per 40 linear metres of secondary pathway

Water Features

- Should provide water features as a focal point of the park
- Should design water features in recognition of the scale and function of the Ceremonial Park

Public Art

- Should provide a public art that is an iconic symbol and a defining and organising element of the park

Lighting

- Should use custom-designed light standards that reflect the monumental and ceremonial function of the park
- Should provide light standards along the perimeter to a maximum height of 8 m
- Should provide perimeter pedestrian lighting with light standards a maximum height of 4 m
- Should provide low-level lights in park interior to a maximum height of 0.8 m

Fences/Walls/Screens

- Shall not allow perimeter fences or screens
- May use low walls along a maximum 15% of perimeter to a maximum height of 0.8 m

Signage/Wayfinding

- Should provide a media screen to a maximum size of 50 m^2
- Should provide interactive wayfinding kiosks along the perimeter and in central gathering areas
- Should provide interpretive displays located throughout the park

Services/Infrastructure

- See Park UDG

Safety/Security

- Should integrate security cameras along with perimeter light standards
- Should provide bollards on the perimeter
- Should use perimeter elements to enhance security
- Should be designed for crowd management and control

Design Guideline Illustration: Processional Route

Design Guideline Illustration: Central Gathering Space

Precedent: Community Garden Market

Precedent: Garden Plots

Community Garden

Context

Community Gardens support and encourage local food security and production in local communities. They contribute to community awareness, positive social interaction, community education and the ecological biodiversity in urban areas.

Purpose

Community Gardens go beyond the traditional allotment garden, which is dedicated to individual use, and includes common areas that can involve wider community initiatives including educational programmes that involve schools and youth groups in gardening activities.

Community Gardens can host educational programmes. Their design focuses on creating spaces to share gardening resources and experiences.

Facilities

Individual garden plots are the key facilities in the Community Garden. Plots are clustered around a central feature area. The feature area may be a market, a farm service building and/or a gathering area.

Access

Community Gardens are organised and maintained by local residents and other individuals who participate in gardening. They are accessible through controlled entrance gates and served by public transit.

The primary entrances are located along the primary street. There are a minimum of two secondary entrances to the park. A hierarchy of pathways define circulation and gardening plots. Vehicular access is limited. All entrances link with the surrounding neighbourhood.

Design Guidelines

External Linkages

- Should link to a minimum of 2 streets
- Should link the market square to the streetscape

Access

- Should define primary entrances with gateway features
- Should provide a single access point for service vehicles

Internal Circulation

- Should provide a primary pathway to accommodate vehicular, bicycle and pedestrian circulation with a minimum width of 6 m
- Should integrate the market square into the primary pathway
- May provide secondary pathways between all garden plots with a minimum width of 2 m

Parking

- Should locate parking outside the perimeter wall
- Should provide 1 parking stall per 3 garden plots

Universal Access

- See Park UDG

Buildings

- Shall not allow temporary structures on individual plots
- Should provide each garden plot with a storage facility to a maximum external size of 2.0 m in length, 2.0 m in width and 2.3 m in height
- Should provide a centralised storage building

Special Features

- May provide a publicly accessible market square at the entrance or in the primary gathering area
- May provide a central greenhouse for seed propagation

Shading

- Should provide a contiguous shade structure at the market square
- Should provide 1 shade structure per 4 garden plots
- Should use shade structures constructed of natural materials

Softscape

- Should use locally occurring species to define plot edges, primary routes and entrances

Hardscape

- Should use good-quality compacted crushed natural stone or gravel on pathways
- Should define central gathering areas and special features with permeable unit paving material

Furniture

- Should provide 1 refuse/recycling container per 4 garden plots
- Should provide 1 compost container per 4 garden plots
- Should calculate total seating area requirement based on:
  - 1 seating area per 40 linear metres of primary pathway
  - 1 seating area per 60 linear metres of secondary pathway
- Should calculate total picnic table requirement based on:
  - 1 table per 60 linear metres of secondary pathway

Water Features

- See Park UDG

Public Art

- See Park UDG

Lighting

- Should provide lighting along pathways located on the exterior of the garden walls
- Should provide lighting along garden plots located on the interior of the garden walls

Fences/Walls/Screens

- Should provide walls around all garden plots a maximum height of 0.8 m
- Should use walls constructed of natural materials

Signage/Wayfinding

- Should provide a park identification sign at entrances
- Should provide a regulations sign at the central storage building
- Should provide identification markers at each garden plot
- Should provide a garden plot key plan at entrance
- Should provide interpretive displays located throughout the park

Services/Infrastructure

- See Park UDG

Safety/Security

- See Park UDG

Design Guideline Illustration: Garden Plots

Design Guideline Illustration: Market Square

Precedent: Shaded Play Equipment

Precedent: Event Space

Community Park

Context

Community Parks range in size and are programmed for passive and active use. They are located near urban and rural areas to support the community environment.

Purpose

Community Parks are facilities that provide open space for active and passive recreation. These parks provide essential park amenities for residents and visitors. They are a meeting place in the community and provide space for local sports activities. Each Community Park provides wayfinding and public services for an enhanced community experience.

Community Parks can host local community events. Their design focuses on creating spaces for community experiences.

Facilities

The focal point of the park is a central gathering area. Play areas, picnic areas, private seating areas and active and passive recreation areas are located around the gathering area. Active recreation areas serve as informal sports field facilities.

All activity areas are defined by pathways and trees. Shade structures separate active and passive areas offering orientation to the park. The park also provides accessible public services, including toilets, that are located near the street.

Access

Community Parks are accessible from all street frontages, served by transit and integrated into the pedestrian and cycling network. The park is accessible at all hours.

The primary entrances to the park are defined by a formal gateway or public art that serves as a park identifier. A primary pedestrian pathway is the key organising element of the park. Secondary pathways connect to active and passive areas within the park.

The park links to the open space system and the surrounding community.

Design Guidelines

External Linkages

- Should link to a minimum 2 streets

Access

- Should define primary entrances with formal gateway features

Internal Circulation

- Shall provide a primary pathway with a minimum width of 3.5 m
- Shall design the primary pathway to have a unique character
- Should provide secondary pathways with a minimum width of 2.5 m
- Should design pathways to link primary use areas, define space and enhance views

Parking

- Should provide off-site parking or underground parking if provided on-site
- May provide on-street parking

Universal Access

- See Park UDG

Buildings

- See Park UDG

Special Features

- Should provide central space for community events
- Should provide play structures that accommodate all ages and abilities and are unique to each park
- Should locate adjacent to community facilities
- May include in-built BBQ areas
- May provide athletic fields

Shading

- See Park UDG

Softscape

- Should provide limited natural turf in passive recreation areas
- Should provide synthetic turf in active recreation areas
- Should locate large canopy trees adjacent to pathways to define circulation routes and activity spaces

Hardscape

- See Park UDG

Furniture

- Should provide clusters of seating at entrances, playgrounds, gathering area and adjacent to pathways
- Should calculate total seating area requirement based on:
  - 1 seating area per 20 linear metres of primary pathway
  - 1 seating area per 40 linear metres of secondary pathway
- Should calculate total picnic table requirement based on:
  - 1 table per 40 linear metres of primary pathway

Water Features

- May provide interactive children's water play area including pop jets and splash pad

Public Art

- Should provide public art that identifies the park
- Should be located near the primary entrances

Lighting

- Should provide light standards along the primary pathway to a maximum height of 4 m
- Should provide low-level lights on secondary pathways to a maximum height of 0.8 m
- Should provide interior lighting for picnic shelters
- May provide low-level lights at all entrances

Fences/Walls/Screens

- See Park UDG

Signage / Wayfinding

- Should provide a neighbourhood map/ directory at the primary entrances
- Should provide interpretive displays in gathering areas and points of interest

Services / Infrastructure

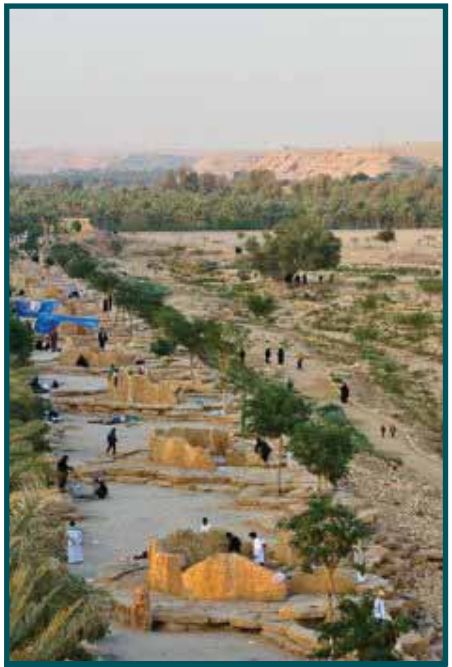
- See Park UDG

Safety / Security

- See Park UDG

Design Guideline Illustration: Amphitheatre

Design Guideline Illustration: Pathway



Precedent: Semi-private Family Spaces

Precedent: Controlled Access

Conservation Park

Context

Conservation Parks are areas primarily for the preservation, rehabilitation or creation of natural features or areas. They may be located to surround existing natural features to support environmental preservation.

Purpose

Conservation Parks are facilities primarily for environmental education and passive recreation. Creating these facilities preserves and enhances the unique environmental qualities of Abu Dhabi. Conservation Parks are predominantly natural in character and form, reflecting the landscape characteristics common to the Emirate.

Conservation Parks can host environmental education and interpretive programmes. Each park promotes a better understanding of Estidama. Their design promotes bio-diversity and habitat preservation.

Conservation Parks also accommodate tourists and diversify the appeal of Abu Dhabi as a destination. Conservation Parks have a unique theme based on the environmental resources within the sites.

Facilities

The natural environment is the focal point of the park. A pathway marked with interpretive displays throughout the site is the key facility in the park.

To maintain a natural environment, user services and amenities are restricted. Structures are restricted to those that enhance habitat, environmental quality and viewing of the natural environment.

Access

Conservation Parks have limited or controlled public access. They are accessible from local streets, served by public transit and integrated into the pedestrian and cycling network.

Entrances are well-integrated with the landscape. A staging area that links directly with the entrance is located near the parking areas. Pedestrian circulation through the space is limited to designated pathways and boardwalks.

Primary entrances connect to the open space system including streets, linear parks and natural corridors. View corridors and viewsheds towards Conservation Parks are preserved and enhanced.

Design Guidelines

External Linkages

- Should only provide linkages outside of park boundary and park setback

Access

- Shall not allow access in areas of high environmental sensitivity
- Should have a 100 m setback around park boundary
- Should define entrances with informal pedestrian scale features
- Should provide pedestrian access only

Internal Circulation

- Shall provide a primary pathway to a maximum width of 2.5 m
- Should provide secondary pathways to a maximum width of 1.8 m

Parking

- Should setback parking from park boundary
- Should integrate parking into the natural landscape
- Should provide parking that is 100% permeable

Universal Access

- See Park UDG

Buildings

- Should locate buildings off-site
- Shall design buildings to reflect the unique character of the Conservation Park

Special Features

- Should provide gathering areas that support education/interpretation, passive recreation and relaxation
- Should provide interpretive displays along pathways

Shading

- Should use shade structures constructed of natural materials
- May provide shade structures at entrances

Softscape

- Shall not allow natural turf or areas of open grass
- Shall incorporate and reflect the native landscape of the Conservation Park
- Shall use locally occurring, drought tolerant plant materials at natural densities
- Shall allow the natural ecosystem to be self-maintaining to the greatest extent possible
- Should incorporate sculpted land forms to define space
- Should group all plant materials into distinct hydrozones

Hardscape

- Should use hardscape that is permeable and has a natural desert colour palette
- Should use natural stone, tumbled glass, granular material, pea gravel, compacted or bound gravel and decomposed stone to stabilise sand areas and to assist surface water drainage

Furniture

- Should calculate total seating area requirement based on:
  - 1 seating area per 40 linear metres of primary pathway
  - 1 seating area per 80 linear metres of secondary pathway
- Should calculate total picnic table requirement based on:
  - 1 table per 60 linear metres of secondary pathway
- Should use furniture constructed of natural materials or an interpretation of the form, texture and colour of such materials
- Should use furniture with a colour palette similar to the natural tones of the Conservation park
- Should use furniture materials with minimal reflection

Water Features

- See Park UDG

Public Art

- See Park UDG

Lighting

- Shall use low-level lighting only

Fences/Walls/Screens

- See Park UDG

Signage/Wayfinding

- Should provide a park identification sign at entrances
- Should provide pathway markers at grade level
- Should support off-site education curriculum

Services/Infrastructure

- See Park UDG

Safety/Security

- See Park UDG

Design Guideline Illustration: Conservation Feature

Design Guideline Illustration: Pathway

Precedent: Landscape Feature

Precedent: Interpretive Display

Precedent: Performance Space

Desert Park

Context

Desert Parks showcase the unique biodiversity of the desert climate of the Emirate. Desert Parks also serve to preserve and enhance key natural areas and environments that act as a buffer between the natural desert or cultivated agricultural areas and developed urban and rural settlement areas.

Desert Parks are intended to be low-maintenance and have restricted water requirements.

Purpose

Desert Parks provide an opportunity for residents and visitors to experience and learn about native flora and fauna of the Arabian Desert. Programmed areas support gathering, education/interpretation, passive recreation and relaxation and include the potential for small performance spaces, public art and limited water features.

Desert Parks can host educational and interpretive programmes and may include visitor centres, greenhouses, bio-domes and conservatories. Their design focuses on emulating the natural desert landscape and topography and reinforcing traditional Emirati culture. This is achieved through low-impact sustainable design strategies and integrating high levels of native biodiversity. Desert Parks contain naturalised landscapes and terrain, pathways and limited water features to create a natural desert-like setting for walking, cycling and picnicking.

Facilities

The unique biodiversity of the natural desert environment is the focal point of the park. Pathways marked with interpretive and botanic displays are found throughout the park. Rock formations and desert landforms provide informal play areas for children.

To maintain a natural environment, user services and facilities are restricted to those which enhance the habitat, environmental quality and viewing of the natural environment.

Access

Entrances and pathways link to gathering areas. Each Desert Park links to the open space network of the surrounding area.

Design Guidelines

External Linkages

- Should link to adjacent public facilities, neighbourhoods, mosques, school parcels and commercial areas
- Should incorporate streetscape elements into the park entrances

Access

- Shall restrict vehicular access
- Should define primary entrances with formal gateway features
- Should define secondary entrances with enhanced landscape features

Internal Circulation

- Shall provide a primary pathway with a minimum width of 4.5 m
- May provide secondary pathways with a minimum width of 2.5 m
- Should design pathways to link to primary use areas, define space and enhance views

Parking

- Should provide on-street parking or shared off-site parking
- Should minimise visual impact
- Should provide parking that is 100% permeable

Universal Access

- See Park UDG

Buildings

- Shall design buildings to reflect the unique character of the desert landscape

Special Features

- Should provide gathering areas that support education/interpretation, passive recreation and relaxation
- Should provide interpretive displays along pathways
- May provide small performance spaces

Shading

- Should use shade structures constructed of natural materials or tensile fabrics

Softscape

- Shall not allow natural turf or areas of open grass
- Shall incorporate and reflect the native desert landscape
- Shall use locally occurring, drought tolerant plant materials at natural densities
- Shall allow the natural ecosystem to be self-maintaining to the greatest extent possible
- Should incorporate sculpted land forms to define space
- Should group all plant materials into distinct hydrozones

Hardscape

- Should use hardscape that is permeable and has a natural desert colour palette
- Should use natural stone, tumbled glass, granular material, pea gravel, compacted or bound gravel and decomposed stone to stabilise sand areas and to assist surface water drainage

Furniture

- Should use furniture constructed of natural desert materials or an interpretation of the form, texture and colour of such materials
- Should use furniture with a colour palette similar to the natural tones of the desert
- Should use furniture materials with minimal reflection
- Should calculate total seating area requirement based on:
  - 1 seating area per 40 linear metres of primary pathway
  - 1 seating area per 60 linear metres of secondary pathway
- Should calculate total picnic table requirement based on:
  - 1 table per 80 linear metres of secondary pathway
- May use furniture accent colours approximate to the desert in bloom, appropriate primarily in playgrounds

Water Features

- See Park UDG

Public Art

- Should provide public art that reflects or enhances the natural desert environment

Lighting

- See Park UDG

Fences/Walls/Screens

- Should not allow perimeter fencing

Signage/Wayfinding

- Should provide interpretive displays at gathering areas and unique features

Services/Infrastructure

- See Park UDG

Safety/Security

- See Park UDG

Design Guideline Illustration: Pathway

Design Guideline Illustration: Gathering Area

Precedent: Shaded Play Structure

Precedent: Water Play Feature

Precedent: Community Gathering Space

Family Park

Context

Family Parks are small areas programmed for active and passive recreation. They are located near residential developments to provide the local population with typical park amenities.

Purpose

Family Parks are facilities that provide space for active and passive recreation. Providing basic park amenities, Family Parks serve everyday recreational needs. They are local meeting places for residents and activity centres for children.

Family Parks can host local community events. Their design focuses on creating spaces for family experiences. Family Parks also accommodate community wayfinding and interpretation.

Facilities

All Family Parks include a play structure with adjacent shaded seating areas. Play structures provide the focus of the park. Water play features, multi-use courts and picnic areas are provided if space permits. The design of these parks should minimise maintenance.

Access

Family Parks are accessible from local streets, served by public transit and integrated into the pedestrian and cycling network. Family Parks are only accessible by pedestrians and cyclists.

Primary entrances link with the surrounding community. Entrances provide direct access to the feature play structure. A public art is located at the entrance of the park as a park identifier. Low seat walls are used to separate the park activities from the street but maintain direct visibility into the site.

Design Guidelines

External Linkages

- Shall provide open and contiguous frontage on a minimum of 1 street
- Should link to a minimum of 2 streets

Access

- Should locate primary entrances on primary street
- Should restrict vehicular access
- Should define primary entrances

Internal Circulation

- May provide pathways

Parking

- Should provide on-street parking or shared off-site parking

Universal Access

- See Park UDG

Buildings

- See Park UDG

Special Features

- Should provide central space for community events
- Should provide play structures that accommodate all ages and abilities and are unique to each park
- Should locate adjacent to community facilities
- May include in-built BBQ areas

Shading

- See Park UDG

Softscape

- Should provide limited natural turf in passive recreation areas
- Should provide synthetic turf in active recreation areas
- Should locate large canopy trees adjacent to pathways, picnic and play areas to define circulation routes and activity spaces

Hardscape

- See Park UDG

Furniture

- Should provide furniture at all play areas and entrances
- Should calculate total seating area requirement based on:
  - 1 seating area per 20 linear metres of primary pathway
  - 1 seating area per 40 linear metres of secondary pathway
- Should calculate total picnic table requirement based on:
  - 1 table per 40 linear metres of primary pathway

Water Features

- May provide interactive children's water play area including pop jets and splash pad

Public Art

- Should provide interactive public art aimed at children

Lighting

- Should provide low-level lights at entrances, play structures and shade structures to a maximum height of 0.8 m

Fences/Walls/Screens

- Should allow walls only at entrances and street edge
- Should provide screening for semi-private family areas
- May provide vegetative screens to a maximum height of 1.8 m

Signage/Wayfinding

- Should provide a neighbourhood map/ directory at entrance

Services/Infrastructure

- See Park UDG

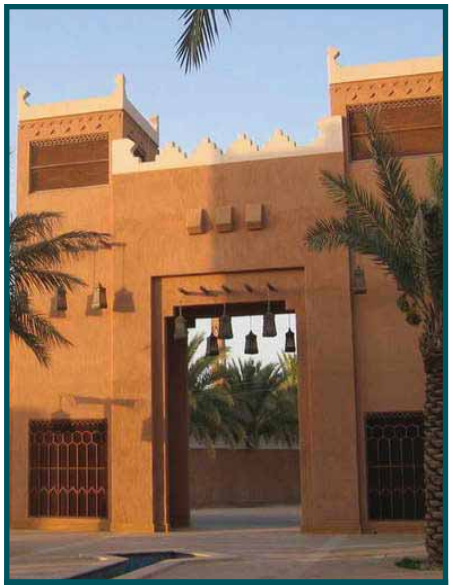
Safety/Security

- See Park UDG

Design Guideline Illustration: Primary Entrance

Design Guideline Illustration: Gathering Area

Precedent: Heritage Site Forecourt



Precedent: Heritage Feature Entrance

Heritage Park

Context

Heritage Parks are primarily for the preservation and enhancement of historic landmarks, sites or places. They surround heritage sites to support the historic and cultural identity of the Emirate.

Purpose

Heritage Parks are facilities for authentic, interpretive and educational experiences. Focusing on heritage resources, these parks provide places to learn about the unique culture and history of the Emirate.

Heritage Parks can host educational and interpretive programmes. Their design focuses on providing interesting educational experiences. Heritage Parks also accommodate tourists and diversify the appeal of Abu Dhabi as a destination. Heritage Parks have themes based on the heritage resources within each site.

Facilities

The heritage site is the focus of the Heritage Park. Park amenities and features are located outside the heritage site boundary. Park facilities include gathering areas, picnic areas and interpretive displays. A staging area is located next to the parking area to enhance arrival to the park.

Access

Heritage Parks are accessible from local streets, served by public transit and integrated into the pedestrian and cycling network. Heritage sites are accessible from Heritage Parks.

All entrances link directly to the Park. The heritage site is accessible from pathways within the park area.

The primary pathway links the park area, the gathering area and the heritage site. Secondary pathways extend into the park area and the heritage site. Primary entrances to the Heritage Park are connected to the open space system. Views to and from the heritage site are preserved.

Design Guidelines

External Linkages

- Should link to a minimum of 1 street
- Should link to other major features and destinations

Access

- Should be visually open

Internal Circulation

- Shall provide a primary pathway with a minimum width of 3.5 m
- Should provide secondary pathways with a minimum width of 2 m
- Should link the staging area to the parking and the heritage site
- Should reflect established circulation patterns in pathways

Parking

- Should define and separate parking from heritage site
- Should subdivide parking lots into shaded modules of a maximum 7 parking stalls per module

Universal Access

- See Park UDG

Buildings

- Should locate buildings outside of the heritage site landscape

Special Features

- Should provide a staging area
- Should provide interactive interpretive displays in staging area

Shading

- Should provide shade at staging area
- Should use shading features that complement the heritage site

Softscape

- Shall extend the heritage site landscape into the park
- Shall use 100% locally occurring species with a focus on native plant materials

Hardscape

- See Park UDG

Furniture

- Should calculate total seating area requirement based on:
  - 1 seating area per 20 linear metres of primary pathway
  - 1 seating area per 40 linear metres of secondary pathway

Water Features

- See Park UDG

Public Art

- Should provide public art consistent with heritage feature
- Should provide light standards along perimeter to a maximum height of 4 m
- Should provide lighting consistent with heritage feature
- Should provide feature lighting

Lighting

- See Park UDG

Fences/Walls/Screens

- Should allow walls only at staging area to a maximum height of 0.8 m
- May use vegetative screens to a maximum height of 1.2 m

Signage/Wayfinding

- Should provide heritage feature identification sign at entrance
- Should use bottom lit signs
- Should provide a wayfinding map in staging area
- Should direct visitors from parking area to heritage site
- Should provide interpretive displays

Services/Infrastructure

- Should locate services/infrastructure outside of heritage site landscape

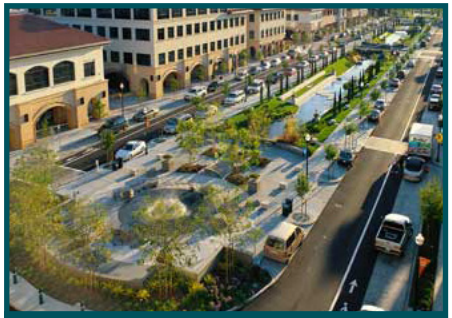
Safety/Security

- See Park UDG

Design Guideline Illustration: Staging Area

Design Guideline Illustration: Primary Pathway

Precedent: Multi-use Path



Precedent: Urban Linear Park

Precedent: Integrated Public Art

Linear Park

Context

Linear Parks are corridors for passive and active recreation. They are located along natural corridors, utility easements and other linear open spaces. They are located throughout the community.

Purpose

Linear Parks are facilities for walking and cycling that link the various elements, destinations and features in the surrounding community. Some Linear Parks can accommodate horse and camel riding. These parks provide opportunities for exercise and circulation within the community.

The design of Linear Parks focuses on promoting non-motorised circulation for recreation and commuter traffic. These parks support healthy living and promote physical activity. Linear Parks also provide habitat corridors for wildlife and serve as areas for storm water management and grey water recycling. Each linear park has a theme that is enhanced by the unique urban or natural characteristics of the corridor.

Facilities

Linear Parks vary in width and may follow existing natural or urban corridors. A pathway is located through the park linking each park entrance. Rest areas are provided along the pathway and feature benches, shade structures and wayfinding features. Interpretive displays are also located at rest areas to identify natural or cultural features of the park or surrounding area.

Access

Linear Parks are accessible from streets, public places or other parks in the open space system. The parks are served by public transit and are key components of the pedestrian and cycling network.

Entrances to the park are defined with a rest area, signage and wayfinding. Linear Parks link to the open space system and other various destinations within the community.

Design Guidelines

External Linkages

- Should maintain existing and provide new public amenities along park edges
- Should provide linkages to the park at a maximum of 200 m apart in urban areas or mid-block
- Should provide linkages to the park at a maximum of 800 m apart in rural areas

Access

- See Park UDG

Internal Circulation

- Should provide a shared use pathway with a minimum width of 4.0 m
- May design secondary pathways in sweeping curves and bends, avoiding straight lines and unnatural or tight curves

Parking

- Should be provided off-site

Universal Access

- See Park UDG

Buildings

- May provide small-scale retail kiosks

Special Features

- Should provide a rest area at path intersections and access points

Shading

- Should provide shade at all path intersections and access points

Softscape

- Should conform to and enhance the existing natural landform
- Should limit areas of natural turf
- May provide surface stormwater detention within the corridor
- May increase edge plant materials to minimise the visual impact of urban areas

Hardscape

- See Park UDG

Furniture

- Shall provide bollards at street intersections and access points
- Should calculate total seating area requirement based on:
  - 1 seating area per 60 linear metres of primary pathway
  - 1 seating area per 80 linear metres of secondary pathway

Water Features

- May create a more connected water system as a consistent piece that unifies the park

Public Art

- See Park UDG

Lighting

- May provide light standards to a maximum height of 4.0 m

Fences/Walls/Screens

- Should use bollards to define edges in urban areas
- May allow light coloured chain-link fencing to a maximum height of 0.5 m if required to define the corridor

Signage/Wayfinding

- Should provide a park identification sign at street intersections to a maximum size of 1 m^2
- Should provide a wayfinding map at street intersections
- Should provide interpretive displays at pathway intersections

Services/Infrastructure

- Should provide a drinking fountain at street intersections

Safety/Security

- Should integrate security cameras with street light standards at entrances
- May provide emergency call boxes at entrances

Design Guideline Illustration: Shared-Use Pathway

Design Guideline Illustration: Shaded Seating Area

Precedent: Central Meeting Area

Precedent: Central Meeting Area

Meyadeen

Context

Meyadeen are the larger neighbourhood level gathering spaces that tie together various community uses and are programmed primarily as central meeting areas. They are located as focal points in a traditional neighbourhood system or fareej.

Purpose

Meyadeen are facilities for meeting and gathering within the wider community. Their design focuses on providing safe and pleasant environments for residents.

Facilities

A central feature, such as a fountain or planting of palms, defines the formal gathering area in the Meyadeen. Seating areas, plant materials and shade structures are located around the site. Vegetated screens and small landscape features are used to allow women and children to pass privately around the site.

Access

A Meyadeen is accessible from surrounding residences and sikkak or small pathways within the fareej. Access is limited to pedestrians.

There are a minimum of two primary entrances, both with direct access to the central feature. Circulation around the site is open and obstacle-free to accommodate large gatherings.

Design Guidelines

External Linkages

- Should link to community facilities

Access

- Should provide pedestrian or shared-use access only

Internal Circulation

- See Park UDG

Parking

- Shall not allow parking

Universal Access

- See Park UDG

Buildings

- See Park UDG

Special Features

- May provide a semi-private family area

Shading

- See Park UDG

Softscape

- May use low-maintenance groundcovers and low flowering shrubs
- May utilise palms and trees in small bosque or grove configuration

Hardscape

- Should use hardscape features that reflect and enhance the character of the fareej
- May use colour and pattern to define the gathering area

Furniture

- Should provide coordinated site furniture that responds to local context

Water Features

- See Park UDG

Public Art

- See Park UDG

Lighting

- See Park UDG

Fences/Walls/Screens

- See Park UDG

Signage/Wayfinding

- See Park UDG

Services/Infrastructure

- See Park UDG

Safety/Security

- See Park UDG

Precedent: Traditional irrigation

Precedent: Primary Pathway

Precedent: Edge Treatment

Oasis Park

Context

Oases are historic sites for farming. An Oasis Park includes areas that surround the Emirate's historic oases for the preservation and enhancement of these unique places.

Purpose

Oasis Parks are facilities for education and interpretation. Their design focuses on creating spaces for passive recreation while providing learning experiences. Oases Parks also provide gateways to the oases.

Facilities

The park area is within a buffer zone around the Oasis. A gathering area is provided as an orientation and central hub in the park area. Interpretive displays are located in the gathering area.

Access

Oasis Parks are accessible from primary streets, served by public transit and integrated into the pedestrian and cycling network. All oases are publicly accessible, although treated as semi-private agricultural reserves, walled and have controlled access through gates.

There are a minimum two primary entrances to the park. A primary pathway links the parking area and staging area to the Oasis entrance. Secondary pathways loop around the park area.

The Oasis Park links to the open space system.

Design Guidelines

External Linkages

- Should link to a minimum of 2 streets
- Should link parking area and streetscape

Access

- Should define entrances with gateway features

Internal Circulation

- Shall provide a primary pathway with a minimum width of 3 m
- Should link the staging area to the parking area and the oasis entrance
- May provide secondary pathways with a minimum width of 2 m

Parking

- Should locate parking parallel to the street at a minimum of 30 m from the walled oasis perimeter
- Should minimise the visual impact of parking

Universal Access

- See Park UDG

Buildings

- Should locate buildings near parking
- Should be constructed from natural materials reflecting oasis context
- May provide an interpretive centre

Special Features

- Should provide a staging area near parking
- May provide informal performance space at central location

Shading

- Should use shading features that complement the oasis

Softscape

- See Park UDG

Hardscape

- Should use compacted crushed sand, natural stone or gravel

Furniture

- Shall provide bollards at street intersections and access points
- Should calculate total seating area requirement based on:
  - 1 seating area per 60 linear metres of the primary pathway

Water Features

- See Park UDG

Public Art

- See Park UDG

Lighting

- Should provide light standards along perimeter a maximum height of 4 m
- Should provide low-level and in-wall lighting along the primary pathway
- May up-light key landscape features

Fences/Walls/Screens

- Shall replace or repair walls using materials and design equal to original oasis wall

Signage/Wayfinding

- Should provide a park identification sign at primary entrances
- Should provide a park identification sign at secondary entrances
- Should use bottom lit signs
- Should provide a wayfinding map in staging area and central gathering area
- Should provide interpretive displays in staging area
- Should provide a minimum of 9 interpretive displays in oasis, clustered in groups around key features

Services/Infrastructure

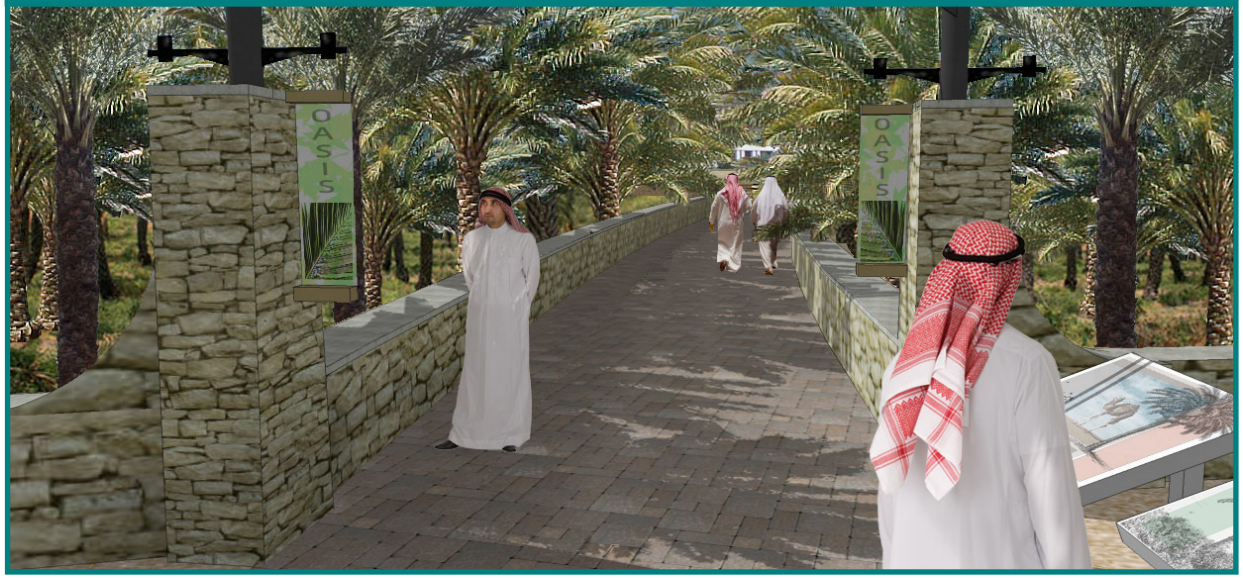
- See Park UDG

Safety/Security

- See Park UDG

Design Guideline Illustration: Staging Area

Design Guideline Illustration: Interpretive Display



Precedent: Shaded Play Equipment

Precedent: Shaded Event Seating

Precedent: Synthetic Surfacing

Sports Park

Context

Sports Parks are large areas programmed primarily for sport and active uses. They provide the recreational facilities for a variety of activities and are integral to all communities.

Purpose

Sports Parks are primarily for organised sporting events and active recreation. Consolidating these activities into a larger park promotes multi-use of the spaces and sharing of facilities and amenities. This leads to higher quality athletic facilities that are clustered in a common facility; other park typologies are then preserved for non-sporting activities.

Sports Parks host larger scale events that occur over a number of days in a single location. Sports Parks also accommodate more informal activities such as walking trails, picnic facilities and play areas for children. Sports Parks have a common theme or character no matter where they are located.

Facilities

An activity centre is provided as an orientation and central hub in the park. Athletic fields are located to be quickly accessed from parking areas for those carrying equipment. Picnic facilities, walking trails and play structures are located near the organised sporting areas to allow easy access for spectators and children, but are spatially separated from streets.

Access

Sports Parks are accessible from the primary streets, served by public transit and integrated into the pedestrian and cycling network.

A primary pedestrian pathway is the key organising element of the park. Secondary loop pathways extend from the primary pathway to define the perimeter and knit together passive and active areas. Tertiary loops complete the system in a series of links within the park.

Primary entrances link to the open space system, define arrival and connect with the primary pathway. Secondary entrances, if required, link to the surrounding neighbourhood.

Design Guidelines

External Linkages

- Should link to a minimum of 2 streets
- Should maximise co-location and sharing opportunities between complementary sports and adjoining school facilities

Access

- See Park UDG

Internal Circulation

- Shall provide a primary pathway with a minimum width of 5 m
- Shall provide secondary pathways with a minimum width of 3.5 m
- Shall provide separation between sports pitches and pathways

Parking

- Shall provide a minimum 22 parking stalls per athletic field
- Shall provide a minimum 11 parking stalls per court
- Shall provide a maximum 88 parking stalls per parking lot
- Shall subdivide parking lots into shaded modules of a maximum 11 parking stalls per module
- May provide staging areas for coach drop-offs
- May provide overflow car parking

Universal Access

- Shall follow international best practice for sports facilities

Buildings

- Should locate public service building near gathering areas and entrances
- Should provide changing facilities, recreation management office and community facilities in public service building

Special Features

- Shall provide single tier, shaded spectator stands
- Should provide stands for medium and large pitches
- Should provide viewing mounds for smaller pitches
- Should provide 2 picnic shelters per gathering area with a minimum size of 40 m^2
- Should provide central play area
- Should provide a range of play structures

Shading

- Should provide shade structures adjacent to all sports pitches
- Shall orientate viewing positions away from the setting sun
- Shall orientate pitches to avoid low sun angles

Softscape

- Should define primary routes and gathering areas
- Should use permeable synthetic turf for athletic fields
- Should use groundcovers and shrubs only at the entrances to define the gateway

Hardscape

- Should avoid using loose gravel or materials which might adversely affect pitches

Furniture

- Should provide furniture at all play areas and entrances
- Should calculate total seating area requirement based on:
  - 1 seating area per 40 linear metres of primary pathway
  - 1 seating area per 60 linear metres of secondary pathway
- Should calculate total picnic table requirement based on:
  - 1 table per 60 linear metres of secondary pathway

Water Features

- May provide interactive children's water play area including pop jets and splash pad

Public Art

- May provide public art that references sports

Lighting

- Shall not allow flood lighting with an illumination level above 200 lux at pitch level
- Should provide light standards along the primary pathway to a maximum height of 4 m

Fences/Walls/Screens

- Shall provide chain-link fencing to enclose sports pitches with a minimum height of 1.2 m to a maximum height of 3 m
- May use Fences/Walls/Screens to buffer adjacent uses

Signage/Wayfinding

- Should provide a park identification sign at primary entrances to a maximum size of 5 m^2
- Should provide a park identification sign at the secondary entrances to a maximum size of 1 m^2
- Should use exterior lit signs

Services/Infrastructure

- Shall provide 1 toilet per 4 fields/courts

Safety/Security

- See Park UDG

Design Guideline Illustration: Athletic Fields

Design Guideline Illustration: Gathering Area

مجلس أبوظبي للتخطيط العمراني
ABU DHABI URBAN PLANNING COUNCIL

Chapter 6.0 -STREETSCAPES

6.0 Streetscapes

As development occurs in the Emirate, the Public Realm Design Manual (PRDM) provides a shared direction that ties various public realm projects together to form a system.

Together with the vision, principles and policies, the Streetscapes section of the PRDM is a step-by-step guide to developing streetscapes that enhance the public realm system.

Streetscapes play a central role in the formation of the public realm. They function both as important public space and as the network of pedestrian linkages and crossing points, connecting all public and private space throughout the Emirate. In the development of streetscapes, consideration is to be given to the scale and range of spaces created to ensure positive contribution to the public realm.

6.1. Streetscape Planning Process

The steps to streetscape development include: policy review, hierarchy application and typology application. This section describes the hierarchy and typology application process.

- **Hierarchy Application:** The hierarchy relates to a streetscape's role in serving the population of the Emirate. Determining the appropriate hierarchy level informs the character and function of the streetscape.
- **Typology Application:** The typology relates to a streetscape's design purpose. Determining the appropriate typology informs the application of design guidelines. Universal and typology design guidelines provide the minimum standards for streetscape development.

The planning process flowchart (Figure 6.1) illustrates the steps to prepare a streetscape project.

6.2. Streetscape Hierarchy

Table 6.1 Streetscape Hierarchy, defines streetscapes of the public realm according to their role in serving the population within the overall transportation network. The table identifies the primary users of each hierarchy of streetscape, general characteristics and features/activities that are common to each hierarchy. The table identifies the typical location of each streetscape hierarchy. Size, Service Radius, Service Population and Level of Service are not applicable to streetscapes.

This table is a general guide for developing streetscapes within each level of the hierarchy. Its purpose is to achieve a system that functions to serve the entire Emirate.

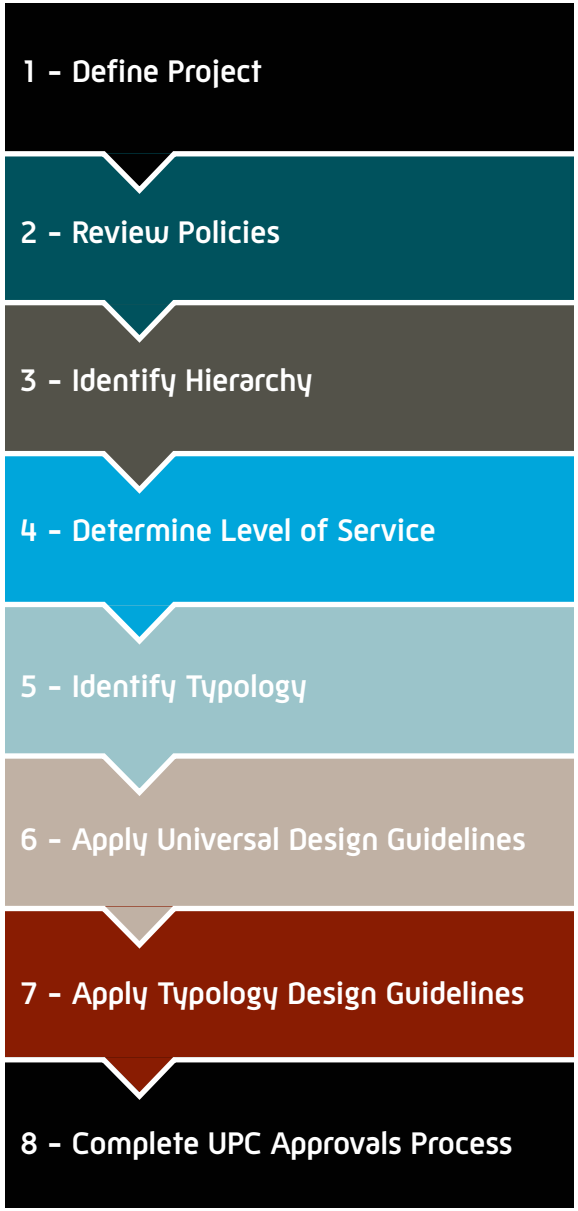


Figure 6.1: PRDM Planning Process

Table 6.1 Streetscape Hierarchy

Hierarchy	Description				Service Radius	Service Population	Level of Service (ha/1,000 Population)
	Users	Characteristics	Features / Activities	Location			
Emirate	Residents of the Emirate	» Contains routes and byways that connect Municipalities throughout the Emirate » Primary corridor into a Municipality » Often contains Emirate attractions or unique environmental features » Often contains Emirate-wide important civic spaces	» Ceremonial events » Emirate significant public art » Areas for Emirate Day Celebrations	Dictated by connectivity to other Municipalities and presence of landmarks and places that are of Emirate-wide importance	N/A	N/A	N/A
Municipality	Residents of a Municipality	» Municipality-important streetscapes » Suitable for Municipal-wide activities and gatherings » Historic and civic landmarks	» Corridors for public transportation » Parking areas and pedestrian zones adjacent to Municipal buildings » Provides access to Municipality's most important areas and landmarks	Dictated by centralised urban location along corridors that carry users in and out of the Municipality and connect to major city-wide corridors	N/A	N/A	N/A
City	Residents of a City	» Principal corridors within a City » Provide access between Districts » Important civic spaces » Preservation of unique and historic assets	» Public art » Gateways » Shopping and business districts	Located centrally within the urban areas and around shopping areas, business centres, civic facilities and assets (museums, institutions, governmental buildings, historic landmarks, etc.)	N/A	N/A	N/A
District	Residents of a District	» Accessible by individual Neighbourhoods located within the District » Mix of daily use and important district-wide streetscapes » Reflect the unique character of the District » Lower design speeds, narrower streets, and pedestrian friendly character	» Pedestrian and transit connection to community facilities, business districts, and residential Neighbourhoods	Focused around developed population centres	N/A	N/A	N/A
Neighbourhood	Residents of a local Neighbourhood	» Streetscapes intended for use by residents within walking distance » Integrated with daily lifestyles and activities » Designed primarily for pedestrian/shared use and have limited to no vehicular access	» Activities are accommodated by paved pedestrian access between residences and community facilities » Abundant seating » Abundant shade	Integrated within residential communities along primary bicycle and pedestrian corridors	N/A	N/A	N/A
Total Developed Streetscapes Level of Service							N/A

6.3 Streetscape Design Guidelines

The Streetscape Design Guidelines are intended to implement the policies covered in Part I of the PRDM. The Streetscape Design Guidelines are the minimum standards that will guide all streetscape development. They ensure that all streetscapes provide the basic elements essential to a functional public space. The application of these guidelines will help to build a coordinated streetscape system for the Emirate.

Design guidelines developed for streetscapes include Universal Design Guidelines and Typology Design Guidelines. The Universal Design Guidelines are applicable to all Streetscapes. The Typology Design Guidelines are applicable to specific Streetscape typologies. There are 10 different Streetscape typologies that provide a variety of circulation options.

Table 6.2 provides a brief description of all Streetscape Typologies. Further descriptions are provided in the individual Streetscape Typology sections.

Design Guideline Language

The design guidelines identify the language that defines various streetscape elements. The topics addressed in the universal and typology design guidelines include:

- External Linkages
- Access
- Internal Circulation
- Parking
- Universal Access
- Special Features
- Shading
- Softscape
- Hardscape
- Furniture
- Water Features
- Public Art
- Lighting
- Fences/Walls/Screens
- Signage/Wayfinding
- Services/Infrastructure
- Safety/Security

Guidelines on the minimum standards are provided for each topic. Compliance with the design guidelines is based on the form of the statement. Statements include:

Shall statements – mandatory to comply with the design guideline;

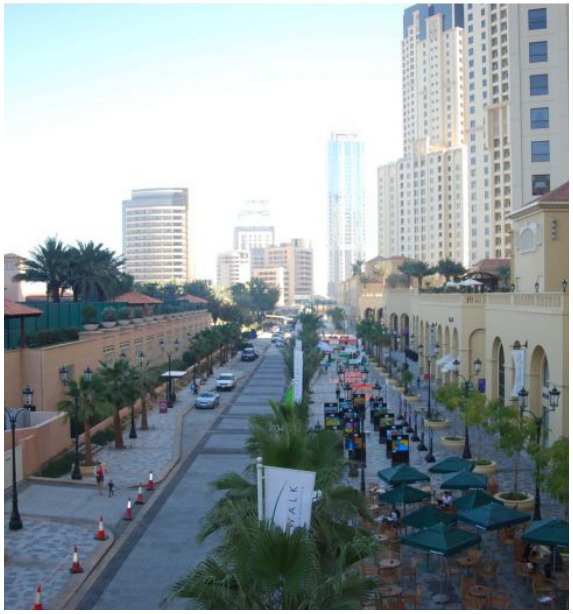
Should statements – recommended to comply with the design guideline;

May statements – permitted in the streetscape design; discretionary based on programming needs, streetscape function, site conditions.

Table 6.2. Streetscape Typologies

Typology	Description
	Purpose
Ceremonial Route	» To link residents and visitors to significant landmarks and serve as a processional space for ceremonial events
Gateway	» To define major intersections and provide visual identification and sense of arrival
Mushtarak (Shared-Use Access)	» To offer shared-use streets primarily for pedestrians that can accommodate vehicles at low speeds
Parking Areas	» To provide underground, surface, structural and overflow parking systems
Pedestrian First Corridor	» To serve as public open space and provide walkable communities
Pedestrian Crossing	» To provide safe and convenient pedestrian connections to the surrounding open space network
Scenic Route	» To frame views, vistas and scenic resources along corridors recognised for cultural, historic, natural and/or scenic qualities
Sikka (Paved Pedestrian Path)	» To provide pedestrian access to nearby homes, gathering areas and community facilities
Themed Corridor	» To connects heritage and cultural destinations and provide routes which contain features of a particular theme
Transit Corridor	» To prioritise multimodal transit options over vehicular use



These selected images illustrate the aspiration for the streetscapes of Abu Dhabi

Streetscape Universal Design Guidelines (UDG)

Design Guidelines

External Linkages

- Should link to the open space system
- Should maintain and relate to streetscape hierarchy
- Should link to public transit

Access

- Shall accommodate emergency vehicular access
- Should provide safe and direct access for pedestrians and cyclists

Internal Circulation

- Shall connect pedestrian crossings to adjacent sidewalks and be clearly designated for safety, with appropriate surface markings or variation in material, and signage
- Should provide mid-block pedestrian crossings with 'on-demand' signals on long blocks
- Should provide a buffer between the sidewalk and road, such as a planting strip, bicycle lane and/or on-street parking
- Should provide continuous sidewalk with direct connections between destinations to form an unbroken coordinated pedestrian network
- Should provide connectivity for pedestrian and bicycles
- Should create a hierarchy of pathways

Parking

- Shall sufficiently setback parking from higher profile facilities and building elements such as bridges
- Should organise parking to limit impact on pedestrian circulation and streetscape use
- Should provide a physical barrier, such as landscaping or bollards, where parking areas are situated against the sidewalk (e.g. existing retail forecourt parking)

Universal Access

- Shall conform to international best practice in universal access
- Shall maintain a minimum unobstructed width of 1.8 m on primary pathway
- Shall maintain a minimum unobstructed width of 1.5 m on all secondary pathways
- Shall locate lighting, signposts, refuse/recycling containers, trees, bollards, benches/furniture/fixtures at or beyond the boundaries of pedestrian routes
- Shall create a clear distinction between pedestrian routes and adjoining surfaces using visual indicators and tactile paving
- Shall use a maximum gradient of 1:20 on all pedestrian routes; gradients above 1:20 shall use steps with integrated ramping and be clearly identifiable and contrast visually with their surroundings
- Shall place gratings so that the long dimension is perpendicular to the dormant direction of travel
- Shall provide curb cuts at right angles to path of travel with flared non-slip sides
- Shall use curb cuts that are of a clearly different and detectable texture
- Shall construct traffic islands with materials and finishes that are easily distinguishable from the surrounding paving
- Shall use traffic islands that are a minimum width of 2.5 m to provide persons using mobility aids and seniors with safe resting zones
- Shall use audible signals that are a minimum 15 db louder than ambient noise
- Shall provide two different audible signals identifying when it is safe to cross the street
- Shall provide a minimum of 10% reserved parking facilities for disabled access with minimum dimensions of 2.4 m x 4.8 m with a 1.2 m access zone
- Shall provide the international symbol of accessibility on disabled access reserved parking
- Shall incorporate Braille in all signage elements in all public places
- Shall provide an accessible route from designated disabled access parking stalls to all accessible entrances
- Should locate disabled access parking near the primary circulation route
- Should design seating arrangements to allow mobility restricted users to sit alongside friends and family or in groups
- Should use well-defined edge treatments such as plant materials, change in texture or curbs to indicate extent or change in route

Buildings

- See Specific Typology

Special Features

- See Specific Typology

Shading

- Shall provide continuous shade on primary and secondary walkways
- Shall provide a minimum 1 shaded rest area every 500 linear metres of primary walkway
- Shall provide a minimum 1 shaded rest area every 1000 linear metres of secondary walkway
- Shall follow Estidama guidance for outdoor thermal comfort
- Shall provide a minimum of 80% shade for all formal gathering areas (includes picnic structures)
- Shall provide a minimum of 40% shade for all informal gathering areas
- Should provide a minimum 1 shaded rest area every 1000 linear metres of bicycle path
- Shall provide shade for a minimum 50% of on-site surface parking lots
- Should provide shade at access points, kiosks, viewing points and locations of interpretive displays
- Should use shading to reduce glare, intense solar and UV exposure
- Should locate shading to promote outdoor activities, increase social interaction and encourage outdoor lifestyles
- Should use various types of shade structures or softscape features to provide shade

Softscape

- Shall use PRDM plant lists to determine appropriate plant materials
- Shall avoid use of natural turf in medians
- Should preserve existing street trees wherever possible, as mature street trees create a greater sense of enclosure along roads
- Should locate street trees a minimum of 1.5 m from the curb edge

Hardscape

- Shall surround all water features with slip resistant materials
- Should alter hardscape materials to indicate space transition
- Should use permeable unit paving material of natural stone and at a scale that responds to the use of the area
- Should use good-quality compacted crushed natural stone or gravel on pathways
- Should use large format paving and or motifs in primary gathering spaces and smaller format paving in small seating spaces
- Should construct paved areas adjacent to trees to allow expanded root zones for enhanced growing conditions

Furniture

- Shall group street furnishings in a coordinated manner that does not obstruct pedestrian circulation on sidewalks, and vehicular circulation to driveways, parking, loading and service areas
- Shall use coordinated furniture designs that are contemporary, simple and appropriate to context
- Shall use high-quality designs and materials that withstand climatic conditions, heavy use and vandalism
- Should use light coloured and non-reflective furniture
- Should provide a variety of seating options
- Should provide refuse/recycling containers at entrances and in gathering areas
- Should provide shaded bicycle racks

Water Features

- Shall locate water features in areas of high activity
- Should provide water features, rippled or flowing
- Should minimise the use of water and recycle water when possible
- Should use water features that are accessible to all streetscape users

Public Art

- Shall use public art to enhance the public realm
- Should provide public art in primary gathering areas
- Should act as a centrepiece
- Should locate public art to accent view corridors and mark gathering areas
- Should provide public art that is visual and tactile to generate interest and activity
- Should use public art constructed of durable and low-maintenance materials
- Should design public art to ensure public safety
- Should surround interactive sculptures designed for children with light coloured impact materials
- Should limit interactive sculptures designed for children to a maximum height of 1.8 m
- Should use public art that is sensitive in colour and material to the streetscape design palette
- May provide interpretive public art that is culturally, historically or environmentally significant
- May provide public art developed and created by the community or through a significant member of the community
- May consider locations for temporary public art installations

Lighting

- Shall use energy efficient LED light technology
- Shall use low-level or pedestrian lighting such as bollards, in-ground lights, step and wall lights
- Shall clearly illuminate treads, risers and any other level differences along primary and secondary pathways
- Should provide light standards to define streetscape
- Should highlight public art, landscape, foliage and water features
- Should be human-scaled and aid accessibility
- May use security lighting with motion sensors in isolated and less frequented areas

Fences/Walls/Screens

- Shall use fences/walls/screens that maintain sightlines at intersections if provided
- Should minimise perimeter fencing
- Should use walls to a maximum height of 0.5 m to accommodate seating

Signage/Wayfinding

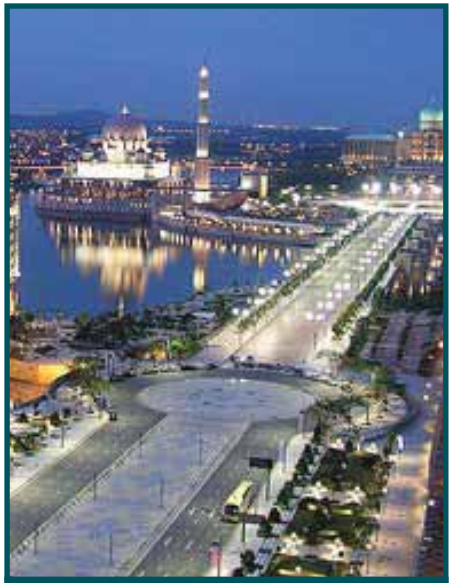
- Shall avoid placement of signage and wayfinding elements in locations that interfere with pedestrian or cyclist through zone or sightlines
- Shall provide a consistent hierarchy of signage and wayfinding elements
- Shall use a unified visual language for all signage and wayfinding materials, colours, scales and types
- Shall be durable, easily maintained and avoid deep colours
- Shall use a non-reflective matte finish on all signage
- Shall be placed to reinforce primary gateways and landmarks
- Shall integrate use of lighting in areas of high nighttime use
- Shall locate street names on all corners, perpendicular to the path of travel
- Should provide a map or directory kiosk at street intersections, entrances and pathway intersections
- May provide interpretive displays at pathway intersections

Services/Infrastructure

- Shall locate infrastructure underground
- Should separate and screen maintenance facilities from public circulation routes and use areas

Safety/Security

- Shall employ Crime Prevention Through Environmental Design (CPTED) principles
- Should strategically place emergency call boxes (i.e. help stations) throughout streetscape
- Should maintain clear sightlines along the Streetscapes
- May integrate video surveillance systems with emergency call boxes
- May use furnishing and landscaping to define and outline ownership of space to encourage natural surveillance and natural access control



Precedent: Processional Route

Precedent: National Day Celebrations

Ceremonial Route

Context

Ceremonial Routes are grand-scale streetscapes programmed primarily as processional space for ceremonial events. They are the feature corridor in the community.

Purpose

The Ceremonial Route provides a direct route to landmark destinations in the community. This corridor is the formal welcome route for foreign leaders, dignitaries and other visitors. The Ceremonial Route is designed to host major processionals for community-wide ceremonial events.

The Ceremonial Route is characterised by open views, uniform street trees, and ceremonial banners and flags. Streetscape features are consistent to give a unified appearance throughout the route.

Facilities

The Ceremonial Route is a linear, typically high volume corridor with defined starting and end points. The corridor accommodates large crowds and support facilities during ceremonial events.

The Ceremonial Route contains a section (minimum 1 km) to be staged for events within 24 hours and to include grandstands, retractable bollards, toilets and other facilities.

Access

The Ceremonial Route provides easy access for residents and visitors from transit hubs and resort areas.

The corridor intersects with other major corridors throughout the community. During parades, processionals and special events, vehicular traffic can be temporarily detoured to adjacent streets. Pedestrians are able to access the Ceremonial Route from the larger streetscape network.

Design Guidelines

External Linkages

- Should link to public transit
- Should link to major roadways
- Should link to transit hubs and resort areas
- Should accommodate event traffic on parallel streets

Access

- Shall provide security and emergency vehicle access
- Should provide drop-off facilities to serve attractions as required

Internal Circulation

- Should design streetscape to link landmarks, heritage features and public institutions
- Should accommodate large crowds during special events

Parking

- Should provide Park-and-Ride opportunities for special events

Universal Access

- See Streetscape UDG
- Shall provide an iconic streetscape to accommodate ceremonial events
- Should preserve and enhance views to significant landmark, cultural and heritage features

Buildings

- See Streetscape UDG

Special Features

- See Streetscape UDG

Shading

- Should provide temporary shade structures at grandstand areas
- Should provide shade structures along pedestrian corridor and transit stops

Softscape

- Shall design and maintain the median to preserve open views
- Shall limit the use of natural turf
- Should use softscape features with a high level of formality and visible pattern
- Should use large-scale matching trees and palms as street trees
- Should limit street trees or palms to two or three species to provide unifying elements
- Should use softscape features in the median that are simple, attractive and bold
- May use trees at the perimeter to define the corridor, provide a backdrop and screen undesirable views

Hardscape

- Should use decorative paving at grandstand and gateway areas
- Should use high-quality paving materials for curb, intersections and areas adjacent to landmarks

Furniture

- Should provide moveable seating and handrails for pedestrian comfort and accessibility
- Should provide retractable bollards and oversized planters to close down sections of the route required for ceremonial purposes
- Should calculate total seating area requirement based on:
  - 4 seating area per 250 linear metres of primary pathway

Water Features

- See Streetscape UDG

Public Art

- Should locate large-scale public art at gateways, gathering areas and destination points

Lighting

- Should provide decorative street lighting
- Should size and space light standards to reflect the monumental and ceremonial function of the route

Fences/Walls/Screens

- Should provide unobtrusive barrier fencing for use during ceremonial and processional events
- Should use Fences/Walls/Screens to visually hide undesirable views from ceremonial route

Signage/Wayfinding

- Shall not allow outdoor advertising unless directly related to an upcoming event
- Shall incorporate pavement markings and other strategies to minimise need for signs
- Should include ceremonial banners, flags and large speciality signage
- Should allow event signage
- Should limit signage to maintain views

Services/Infrastructure

- Shall have the ability to connect to electrical power for event-specific needs such as spotlights and public address systems
- Shall function as an effective roadway during daily use
- Should provide an additional water supply and lighting for special events
- May camouflage highly visible transformers

Safety/Security

- Shall use security cameras strategically placed along route for use during special events
- Should use traffic calming strategies

Design Guideline Illustration: Processional Route

Design Guideline Illustration: Shared Use Path

Precedent: Gateway Monument

Precedent: Gateway Feature

Gateway

Context

Gateways are programmed primarily to provide visual identification and sense of arrival to a unique section of roadway, announcing its beginning and end points.

Purpose

Gateways are features that define major intersections and entrances. These visual landmarks function as wayfinding elements in the community. They also contribute to the unique character of the roadway segment.

Often located near important tourist destinations, hotels and retail areas, Gateways welcome visitors to destinations and, when used at a residential scale, each neighbourhood.

The design of the Gateway reflects the identifiable features of the surrounding neighbourhood, such as the central business district, heritage features and natural areas.

Facilities

Gateways may incorporate signature focal points such as art installations, sculpture, monuments, fountains and unique landscape features.

Access

Gateways accommodate pedestrian and bicycle activity and connect it to the larger traffic circulation system.

Design Guidelines

External Linkages

- Shall identify the beginning or ending of a roadway segment
- Should incorporate the surrounding area's features and characteristics in design and construction details

Access

- Shall provide at roundabouts with single-lane crossing, pedestrian-actuated signals (HAWK, puffin, or similar)
- Shall provide at roundabouts with multi-lane crossings, a pedestrian activated signal
- Shall locate primary pedestrian crossings before yield line if the Gateway is a roundabout

Internal Circulation

- See Streetscape UDG

Parking

- See Streetscape UDG

Universal Access

- See Streetscape UDG

Buildings

- See Streetscape UDG

Special Features

- Should define major intersections and thoroughfares, landmarks and arrival points
- Should provide a sense of arrival and departure
- Should provide a visual landmark and wayfinding point

Shading

- Should provide shade at pedestrian crossings that does not interfere with sight lines

Softscape

- Shall use low-level plant materials at pedestrian crossings to maintain clear sight lines
- Should use low-maintenance and low impact softscape features

Hardscape

- May use decorative paving to identify gateway parameters and/or pedestrian crossings

Furniture

- See Streetscape UDG

Water Features

- Should not provide water features in roundabouts

Public Art

- Shall provide public art visible from outside the Gateway

Lighting

- Should provide lighting features that reflect the identity of the Gateway

Fences/Walls/Screens

- See Streetscape UDG

Signage/Wayfinding

- Shall use signage and wayfinding features that are clearly identifiable from outside the Gateway
- May provide wayfinding kiosks at pathway entrances that display a City map and indicate key landmarks, rest areas and features within walkable distance
- May use colour as an identifying element for separate districts

Services/Infrastructure

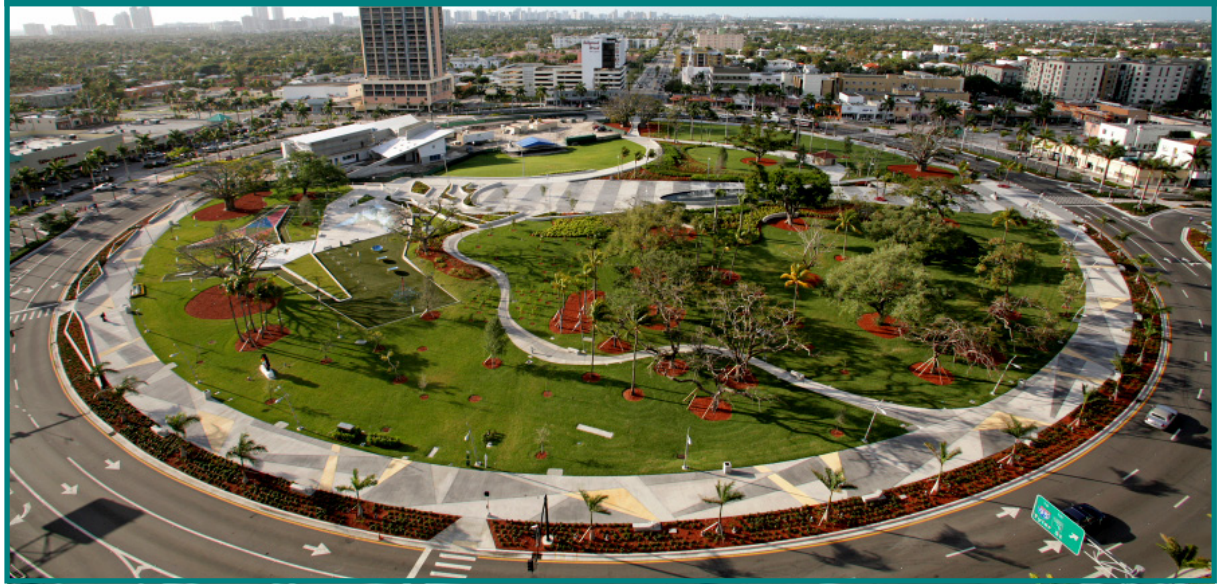
- See Streetscape UDG

Safety/Security

- See Streetscape UDG

Precedent: Gateway Sculptural Element

Precedent: Gateway Roundabout



Precedent: Shared Use Street

Precedent: Shared Use Street

Mushtarak

Context

Mushtarak are shared-use streets that are programmed to accommodate vehicular and pedestrian activity within the same space. Vehicle speeds are controlled to allow pedestrians and cyclists to safely share the street.

Mushtarak are appropriate in all types of residential areas, including suburban, urban and inner city locations; and for all dwelling types including high–rise flats, terraces and semi–detached or detached homes.

Purpose

The purpose of the Mushtarak is to create a safe, well-connected neighbourhood and reduce the impact of cars in residential areas. Even though cars are given access, the primary function of the street is social interaction and gives priority to people rather than cars.

Facilities

A key feature in the Mushtarak is signage and wayfinding that clearly identifies the rules of the road. There is no vertical separation between vehicular and pedestrian uses and no marked travel lanes. Lower vehicle speeds are enforced by alternative paving, narrow lane widths and signage.

Access

Mushtarak are integrated into the network of neighbourhood streets. Because they are intended for low speed travel, Mushtarak are not accessible from major roadways. Pedestrians are able to access the Mushtarak from the neighbouring residences.

Design Guidelines

External Linkages

- See Streetscape UDG

Access

- Shall accommodate neighbourhood access and discourage through traffic
- Shall provide emergency vehicle access
- Shall clearly indicate entrances and exits to the Mushtarak
- Shall include traffic calming measures on approach
- Should restrict length of individual Mushtarak streets to a maximum of 400 m

Internal Circulation

- Shall limit vehicle speed to 30 km/h
- Should balance the needs of pedestrians, cyclists and vehicles
- May use variations and deviations in the width and alignment of the vehicle path, through the positioning of car parking spaces, trees and street furniture

Parking

- Should arrange on–street parking so that it does not dominate views of the street or interfere upon other activities associated with Mushtarak
- Should provide designated on-street parking
- Should not be in blocks of more than 4–6 vehicles.

Universal Access

- See Streetscape UDG

Buildings

- See Streetscape UDG

Special Features

- Should use buildings, trees, planting and hardscape to define edges, rather than conventional kerb edges and carriageway widths
- Should segregate formal play spaces

Shading

- See Streetscape UDG

Softscape

- Should provide forward visibility through height and positioning of planting

Hardscape

- Shall use surface treatment of Gateways to clearly distinguish the Mushtarak
- Should use alternative paving surfaces to reduce vehicle speed
- Should use contrasting surface materials to delineate vehicle pathways, pedestrian zones and parking areas

Furniture

- Should provide limited amounts of seating in the pedestrian zone to avoid blocking access

Water Features

- See Streetscape UDG

Public Art

- See Streetscape UDG

Lighting

- Should use pedestrian-scaled-lighting
- Should use low-level at gathering areas
- May use a combination of wall brackets and light columns in mixed vehicular and pedestrian areas

Fences/Walls/Screens

- Should integrate Fences/Walls/Screens with surrounding architecture
- Should use screens to visually hide refuse/recycling containers

Signage/Wayfinding

- Shall use signage and wayfinding features to indicate entrance and exit of Mushtarak

Services/Infrastructure

- See Streetscape UDG

Safety/Security

- See Streetscape UDG

Design Guideline Illustration: Mushtarak Entrance

Design Guideline Illustration: Mushtarak Entrance from Main Thoroughfare

Precedent: Integrated Public Art

Precedent: Pedestrian Shadeway

Precedent: Photovoltaic Parking Shade

Parking Area

Context

Parking Areas are programmed primarily to accommodate transportation needs. Parking areas may include underground, surface, structured or overflow parking systems.

Purpose

Parking Areas accommodate parking needs for surrounding destinations while providing a safe and attractive landscape for pedestrians. Parking Areas take account of their impact on the overall character of a place and the contribution towards increased street activities.

Underground and above-ground parking conveniently connect to the pedestrian network. Underused parcels of land adjacent to Parking Areas may be used for overflow parking; when not in use, these parcels may serve as recreational spaces.

Facilities

Parking Areas provide shaded rest areas, bicycle racks and wayfinding kiosks for pedestrians. Shade structures and paving materials are light-coloured. Parking Areas may contain artistic features. These features are used to improve the overall appearance of Parking Areas and to increase pedestrian comfort.

Access

Parking Areas contain multiple entry points for pedestrians in order to reduce walking distances. Vehicle entrances and exits to parking areas are designed to prevent conflicts with pedestrians.

The area surrounding Parking Areas should be obstacle-free, shaded and provides convenient pedestrian connections to surrounding buildings and public transit stops.

Wayfinding signage should show the locations of nearby places and link pedestrians to the wider community and open space system.

Design Guidelines

External Linkages

- Should link to various commercial, recreational and cultural destination areas
- Should link to multimodal transit
- Should link to park and ride facilities

Access

- Should provide drop-off areas, access points and crosswalks from parking areas to facility entries
- Should locate surface parking behind or beside buildings, away from primary street frontages and street corners
- Should locate entrances and exits away from intersections
- Should provide access to surface parking lots from secondary streets whenever possible
- Should avoid locating parking between the front facade line of buildings and a street edge
- Should divide larger parking areas both visually and functionally into smaller parking courts
- Should design for low speed vehicular entry and exit

Internal Circulation

- Should provide at least 1 at grade pedestrian route that is uninterrupted by surface parking and driveways
- Should accommodate pedestrian, transit and bicycle circulation
- Should provide centrally-located shaded pathways for pedestrians

Parking

- Shall provide efficient, safe, attractive parking areas designed for shared use

Universal Access

- See Streetscape UDG

Buildings

- See Streetscape UDG

Special Features

- Should provide sheltered storage areas for bicycles

Shading

- Shall provide continuous shadeway to street edge
- Should provide shade along pedestrian paths, drive lanes and parking areas
- May use Photovoltaic Parking Shade

Softscape

- Should distribute softscape throughout the site to screen parking, reinforce circulation routes, create pleasant pedestrian conditions and maximise shade
- May include landscaped islands at the beginning and end of each parking row and to break up longer rows or highlight special features

Hardscape

- Should use decorative paving or a change in hardscape material/colour to emphasise edges, pedestrian routes and crossings, entrances, loading areas and other special features within the parking area
- Should use light-coloured materials, such as white asphalt or light-coloured pavers, in the hardscape to reduce urban heat island effect

Furniture

- See Streetscape UDG

Water Features

- Should not provide water features

Public Art

- See Streetscape UDG

Lighting

- Shall ensure all parking spaces and circulation routes are well-lit
- Shall direct light downward and avoid light overspill on adjacent properties, streets and open spaces
- Should use light standards maximum height of 6 m
- Should provide pedestrian-scaled lighting, such as bollards or lower-scale pole fixtures along pedestrian routes

Fences/Walls/Screens

- May use combination of screening, low decorative fence/wall to provide buffer to street edge

Signage/Wayfinding

- Should provide wayfinding kiosks that display a map of the City and indicate landmarks, rest areas and features within walkable distance

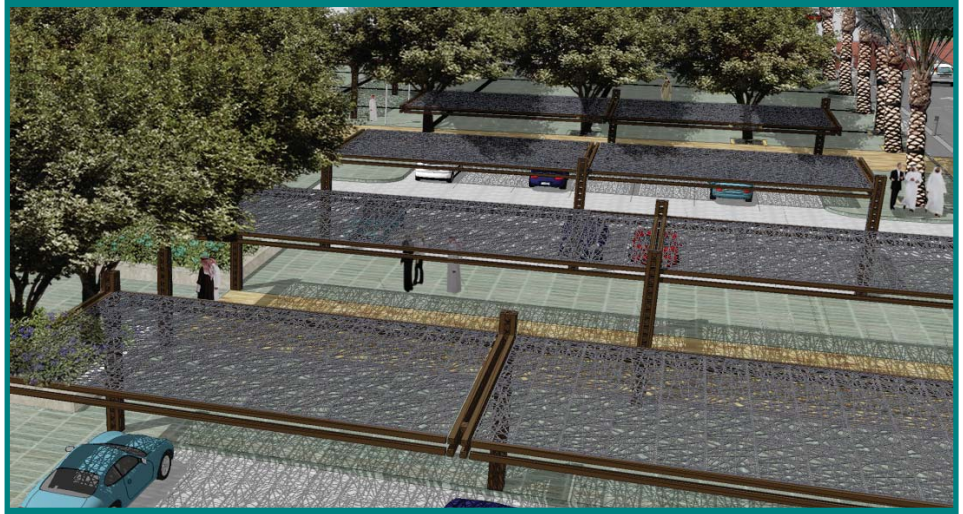
Services/Infrastructure

- See Streetscape UDG

Safety/Security

- May incorporate emergency call boxes
- May use security cameras to monitor parking structures and surface lots

Design Guideline Illustration: Shaded Parking



Design Guideline Illustration: Shaded Pathway and Informal Gathering Area

Precedent: Shaded Pathway

Precedent: Pedestrian Priority

Pedestrian First Corridor

Context

Pedestrian First Corridors are programmed primarily to accommodate pedestrian circulation. They have important pedestrian-oriented functions and/or connections to pedestrian destinations. Pedestrian First Corridors permit vehicular traffic at very slow speeds to discourage through-traffic and promote pedestrian priority.

Purpose

Pedestrian First Corridors have a mix of uses including highly animated uses with significant spill-out activities such as sidewalk cafés, street performances, concession stands, etc. They provide a safe route for daily use and access to public transportation, employment, shopping districts and hotels. These corridors provide a dedicated pedestrian space along a roadway. Prioritising pedestrians first, they provide a vital part of creating healthy, walkable communities.

Rights-of-way may be used to provide on-street parking, wide sidewalks and street furniture. Some corridors contain very wide landscape medians. These medians can be transformed into linear park-like pedestrian zones that feature walking paths, bicycle lanes and seating areas.

Facilities

Defining features of the Pedestrian First Corridor include: distinctive paving across the entire roadway extended to adjacent animated building faces; paving to appear as a plaza treatment without curbs; broadened sidewalks to enable continuous street trees; unique lighting, banners and furnishing; and fixtures that can close segments of the streets off from vehicular traffic for occasional street festivals, markets and other events.

Access

Narrow travel lanes, low speed limits, on-street parking and pedestrian/bicycle right-of-way allow for a safer mix of pedestrian and vehicular access. Medians and rights-of-way are wide enough to accommodate festivals without having to close the street.

Design Guidelines

External Linkages

- See Streetscape UDG

Access

- Should provide pull-over and drop-off areas designed to accommodate multimodal transportation
- Should accommodate service vehicle access and parking
- Should provide conveniently located transit stops
- Should provide access to pedestrian and bicycle pathways
- Should provide signalised mid-block pedestrian crossings

Internal Circulation

- Shall prioritise multimodal transit options over vehicular use
- Should accommodate pedestrian and bicycle circulation

Parking

- May provide on-street parking

Universal Access

- See Streetscape UDG

Buildings

- See Streetscape UDG

Special Features

- Should provide unprogrammed open spaces for special events such as carnivals and art shows

Shading

- See Streetscape UDG

Softscape

- Should use groundcovers and other strategies to protect trees from maintenance equipment
- Should use low impact and low-maintenance softscape features
- May incorporate sculpted land forms to define space

Hardscape

- Should vary surface materials in texture and colour to indicate rules of pathway

Furniture

- Shall provide shaded bicycle racks every 1000 m
- Should calculate total seating area requirement based on:
  - 2 seating areas per 150 linear metres of primary pathway
  - 1 seating area per 250 linear metres of secondary pathway

Water Features

- See Streetscape UDG

Public Art

- May provide public art as a navigation aid that is visible from long distances
- May provide small public art along the pedestrian pathways

Lighting

- Should use lighting to encourage nighttime use and safety

Fences/Walls/Screens

- Should limit fences/walls/screens to maintain views, open spaces and safety

Signage/Wayfinding

- See Streetscape UDG

Services/Infrastructure

- See Streetscape UDG

Safety/Security

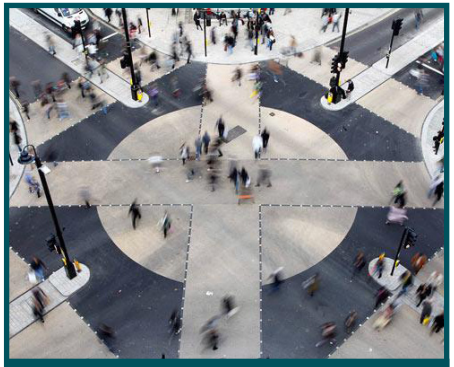
- Should locate emergency call boxes at intervals of 200 m

Design Guideline Illustration: Pedestrian Priority

Design Guideline Illustration: Pedestrian Priority

Precedent: Connected Destinations

Precedent: Underpass Media Wall



Precedent: Diagonal Crossing

Pedestrian Crossing

Context

Pedestrian Crossings provide a clear indication of a safe route for pedestrians to cross. Street-level Pedestrian Crossings also provide a traffic calming measure. Frequent crosswalks promote slower traffic speeds and cautious driving. Alternative types of Pedestrian Crossings include overpasses and underpasses.

Purpose

Pedestrian Crossings provide convenient pedestrian connections to the surrounding open space network and are used for safe access. Street-level crossings are an integral component in the public realm, allowing pedestrians to safely travel across traffic lanes. Where street-level pedestrian crosswalks are unsuitable, particularly along high-speed or high-volume roadways, pedestrian bridges and tunnels are provided.

Facilities

Important crossings contain shade structures and other vertical wayfinding elements to indicate their location to pedestrians. All Pedestrian Crossings incorporate high-quality materials that enhance, rather than detract, from the overall streetscape character.

Access

Pedestrian Crossings have defined entry points to indicate their location to pedestrians and alert motorists of the presence of pedestrians. They are well-connected to the existing pedestrian network of sidewalks and pathways. Entrances to pedestrian overpasses, underpasses and significant crosswalks are identifiable from 200 m away and follow the pedestrian's natural line of travel as much as possible. Ramps and elevators provide universal access.

Design Guidelines

External Linkages

- See Streetscape UDG

Access

- Should be located away from conflict points at uncontrolled junctions
- Should be sufficient distance between the crossing and the priority marking for at least 1 waiting vehicle

Internal Circulation

- Should provide median refuge island where road widths exceed 15 m or more than four travel lanes

Parking

- See Streetscape UDG

Universal Access

- Shall have suitable curb ramps at each end of the crosswalk
- Shall not contain manhole covers, storm gratings and other obstacles that limit free movement
- Shall provide clearly identifiable push buttons (or other type of activation device) adjacent to the crosswalk at all pedestrian activated crossovers

Buildings

- See Streetscape UDG

Special Features

- See Streetscape UDG

Shading

- Shall provide shade structures at crossing areas
- May integrate public art into the design of shade structures

Softscape

- Shall use low impact and low-maintenance softscape features
- Shall use locally occurring plant materials
- Shall use low growing plant materials to maintain visibility
- Should use ornamental plant materials at crossing entrances
- May use softscape features to identify crossing areas and discourage pedestrians from crossing outside the identified area

Hardscape

- Should be paved continuously with decorative feature paving treatment
- Should vary hardscape features in colour and texture
- Should minimise grade changes
- Should use parallel pavement markings for signalised or stop-controlled crossings to delineate the outside edges of the crosswalk, parallel to pedestrian travel
- Should locate crossings to align as closely as possible with the through pedestrian zone of the corridor

Furniture

- See Streetscape UDG

Water Features

- See Streetscape UDG

Public Art

- See Streetscape UDG

Lighting

- Shall use lighting to increase safety and awareness
- Should use lighting to encourage nighttime use and safety
- May use accent lighting for special effects

Fences/Walls/Screens

- May use fences/walls/screens to increase safety by managing pedestrian circulation and preventing vehicle conflicts

Signage/Wayfinding

- Should incorporate pavement markings and other strategies to minimise the need for signs
- Should use back-lit street-level maps and directional signage
- May provide wayfinding kiosks that display and indicate landmarks, rest areas and features within walkable distance

Services/Infrastructure

- Should provide signalised pedestrian crossings where important destinations or significant walking traffic exists

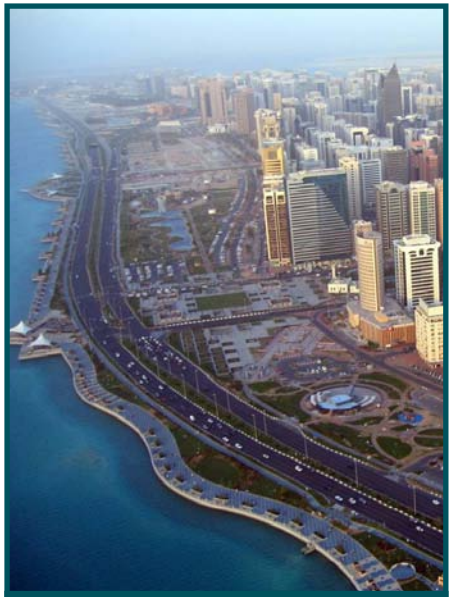
Safety/Security

- See Streetscape UDG

Design Guideline Illustration: Crossing Overview

Design Guideline Illustration: Central Reservation Public Art

Precedent: Scenic Route



Precedent: Scenic Route

Scenic Route

Context

Scenic Routes are programmed primarily to recognise, preserve and enhance a roadway for its cultural, historic, natural and/or scenic qualities. They allow residents and visitors to view, engage and connect with vistas and landscapes unique to Abu Dhabi.

Purpose

Scenic Routes enhance significant corridors by framing views, vistas and scenic resources and to provide interpretive and educational resources. Each corridor has an individual character built upon its topography, views, geographic presence and cultural features.

Scenic Routes provide access to and through the distinct regional landscape of the Emirate, from the waterfront of Abu Dhabi to the mountain ridges and dunes of Al Ain and Al Gharbia.

Facilities

Scenic Routes provide facilities to support active and passive recreation, such as sightseeing, hiking, cycling, picnicking, bird watching and landscape photography. Interpretive and educational centres may be provided to reinforce cultural, historic, natural and/or scenic qualities.

Access

Scenic Routes are characterised by distinctive gateway features that provide a sense of arrival and departure. They provide access for cars, bicycles and public transportation. Pull-over and drop-off areas are provided along Scenic Routes.

Each designated Scenic Route contributes to the overall road network through its distinct attributes.

Design Guidelines

External Linkages

- Should link to other scenic routes through various wayfinding strategies
- Should link to major roadways

Access

- Should provide pull-over and drop-off areas designed to accommodate multimodal transportation
- Should provide pedestrian crossings from adjacent areas

Internal Circulation

- Shall provide a shared-use pathway
- Should accommodate vehicle, transit and bicycle circulation

Parking

- Should provide parking at viewing areas
- Should provide on-street parking along sections of the corridor
- Should visually screen parking from the roadway

Universal Access

- See Streetscape UDG

Buildings

- See Streetscape UDG

Special Features

- Should provide roadside viewing areas
- Should provide interpretive educational centres at pathway entrances
- May feature environmental preservation and ecological restoration zones
- May provide opportunities for mountain biking and hiking
- May provide guided tours

Shading

- Should provide shade at viewing areas and pathway entrances
- Should provide continuous shade along pathways

Softscape

- Should use low impact and low-maintenance softscape features that do not detract from the natural landscape
- Should maintain softscape features to preserve views
- Should use softscape features to frame and enhance views and scenic qualities
- Should use visually-attractive medians with low impact softscape features that reflect the local landscape
- Should use softscape features in medians that allow for maximum cross-visibility
- Should protect the Scenic Route's environmental and ecological assets

Hardscape

- Shall use universal language pavement markings on shared-use pathway for directional guidance and rules of the pathway
- Should use contrast in material colour, texture, and scale to draw attention to important points along the highway route

Furniture

- Should provide furniture along pedestrian paths and viewing areas
- Should provide refuse/recycling containers at pull-overs/drop-off locations and viewing areas

Water Features

- See Streetscape UDG

Public Art

- Should provide public art that reflects and enhances the scenic area

Lighting

- Should provide light standards sized and spaced in scale with the route
- Should limit the size and number of light standards to minimise visual interference with natural environment
- Should use lighting that is programmed and designed using dark sky principles to prevent light spill into adjacent areas
- May use feature lighting to highlight natural features and landscape elements

Fences/Walls/Screens

- Should limit fences/walls/screens to maintain views to significant features

Signage/Wayfinding

- Should provide unique signage designating the scenic route
- Should provide directional signage to key geographic areas such as waterfronts, jebels, deserts and oases
- Should provide roadway directional signage to specific facilities, such as lookouts, parks, recreation areas, campsites and rest areas
- Should provide interpretive displays
- Should limit signage to maintain views and vistas

Services/Infrastructure

- May provide toilets and drinking fountains at viewing areas, pathway entrances and other public areas

Safety/Security

- See Streetscape UDG

Design Guideline Illustration: Overlook

Design Guideline Illustration: Overlook

Precedent: Shadeway

Precedent: In-built Shading

Sikka

Context

The smallest elements of public space, Sikkak are narrow streets that link the neighbourhood together.

In Emirati neighbourhoods, Sikkak provide a network of pedestrian priority routes to community services with traffic calming, safe crossings, and shade.

Purpose

Sikkak link each home both to neighbours and to community facilities. Shaded by the buildings they run along, Sikkak provide cool, safe, walkable routes to destinations.

Facilities

Sikkak are uncluttered pedestrian streets. They contain elements used to define entrances into the neighbourhood and passively cool the pathways. These elements are used to define entrances into the neighbourhood.

Access

Sikkak provide the internal access and linkages to the fareej traditional neighbourhood system. Access is defined through open gateways, adjacent structures and courtyard walls.

Design Guidelines

External Linkages

- Should directly link to barahaat, meyadeen, residential units and surrounding community facilities
- Should be separated from street edge

Access

- Shall not allow vehicular access

Internal Circulation

- See Streetscape UDG

Parking

- Shall not allow parking

Universal Access

- See Streetscape UDG

Buildings

- See Streetscape UDG

Special Features

- Should be designed to reflect the character and context of surrounding environment

Shading

- Should provide continuous shadeway
- May use overhead trellises or arbors to provide shade

Softscape

- May use low impact and low-maintenance plant materials that do not interfere with the pedestrian through zone

Hardscape

- Shall use unit paving
- Should use hardscape features that reflect and enhance the character of the surrounding architecture

Furniture

- May provide seating dependent on minimum width of 3 m

Water Features

- See Streetscape UDG

Public Art

- See Streetscape UDG

Lighting

- Shall provide low-level, pedestrian-scaled-lighting
- May provide mini spotlight-type lighting at doorway locations

Fences/Walls/Screens

- Should limit fences/walls/screens to architectural features of adjacent structures

Signage/Wayfinding

- May provide Sikka network map at entrance

Services/Infrastructure

- See Streetscape UDG

Safety/Security

- May use safety provisions to prevent children from leaving the area

Precedent: Linked Cultural Destination

Precedent: Coordinated Feature Lighting

Precedent: Public Art Theme

Themed Corridor

Context

Themed Corridors connect significant cultural and heritage destinations. They are located throughout the Emirate in both urban and rural settings.

Purpose

Themed Corridors provide connections to important features, such as forts, palaces, mosques and cultural institutions. Each corridor has an individually themed character that links destinations with similar attributes. It includes cultural assets as well as amenities of a particular theme, such as flowering trees or iconic art. Themed Corridors are a part of a tourism strategy that promotes featured landmarks.

Facilities

The character of each Themed Corridor is expressed through thematic streetscape elements and reflects attributes of adjacent landmarks.

Orientation areas with wayfinding kiosks educate pedestrians of the significance of landmarks or the themed subject along the route. Wayfinding elements along the corridor may incorporate distinctive symbols or paving patterns.

Access

A Themed Corridor has defined entrances along its route and is easily accessible from multiple points in the community. Entrances are enhanced with identifying features, such as gateway roundabouts, iconic sculptures, and monuments.

Sidewalks and pedestrian corridors connect the Themed Corridor to the surrounding pedestrian network. The Themed Corridor provides easy and safe vehicular, pedestrian and bicycle access to landmarks and amenities.

Design Guidelines

External Linkages

- Should directly link to public transit

Access

- Should provide pull-over and drop-off areas designed to accommodate multimodal transportation
- Should provide transit stops conveniently located and with direct access to pedestrian and bicycle pathways

Internal Circulation

- Shall prioritise multimodal transit options over vehicular use
- Shall provide continuous, obstacle-free pathways to allow uninterrupted and safe travel for cyclists and pedestrians
- Should limit vehicular turning and reduce vehicle speeds
- Should accommodate pedestrian, transit and bicycle circulation

Parking

- Should provide on-street parking along the length of the corridor

Universal Access

- See Streetscape UDG

Buildings

- See Streetscape UDG

Special Features

- Should provide interactive thematic streetscape elements that reflect attributes of adjacent landmarks
- Should integrate historic, cultural, and scenic themes into structural details of the streetscape
- May provide guided tours

Shading

- Should provide shade structures at seating areas and along pedestrian pathways
- Should use sculptural overhead trellises or arbors to provide shade

Softscape

- Should design softscape to reflect corridor theme
- Should use the colours, textures, material, and scale of adjacent features to design softscape
- Should use identifiable tree species to provide unifying elements
- Should use and maintain softscape to preserve and enhance views
- May use softscape features to develop a theme
- May use landforms and linear plant materials to frame/isolate key views

Hardscape

- Shall incorporate simple symbols or patterns in the hardscape features to provide directional guidance or to indicate of the theme of the corridor
- Should use contrast in material colour, texture, and scale to draw attention to important points along the highway corridor
- Should use the colours, textures, material, and scale of adjacent features to design hardscape

Furniture

- Should provide furniture along pedestrian pathways, transit stops pull-over/drop-off locations and gathering areas
- Should provide refuse/recycling containers at street intersections
- Shall provide shaded bicycle racks every 1000 m
- Should calculate total seating area requirement based on:
  - 1 seating area per 250 linear metres of primary pathway
  - 1 seating area per 450 linear metres of secondary pathway
- May use low walls and planters for informal seating area

Water Features

- See Streetscape UDG

Public Art

- Should use public art to support the corridor theme

Lighting

- Shall provide security lighting at destinations and transit stops
- Should provide decorative street lighting
- Should provide light standards a maximum height of 4 m

Fences/Walls/Screens

- Should limit fences/walls/screens to maintain views to significant features
- May use fences/walls/screens to visually hide unsightly views and prohibit trespassing onto private property

Signage/Wayfinding

- Shall not allow signage or wayfinding features to obstruct views and landmarks
- Should provide roadway and pedestrian directional signage identifying route, key landmarks, heritage features, cultural destinations and elements relative to the corridor theme
- Should provide interactive maps and kiosks for pedestrians that complement the corridor theme
- Should use signage and wayfinding features that are uniform in height and colour and relevant to the corridor theme

Services/Infrastructure

- See Streetscape UDG

Safety/Security

- See Streetscape UDG

Design Guideline Illustration: Shading and Gathering Areas

Design Guideline Illustration: Shared Path

Precedent: Multimodal Corridor

Precedent: Transit Shelter

Precedent: Integrated Transit Facilities

Transit Corridor

Context

Transit Corridors are programmed to prioritise multimodal transit over vehicular use. They provide separate travel lanes, which may or may not be physically segregated for rail, bus, taxi and bicycles as well as safe pedestrian access to transit hubs and car parking.

Purpose

Transit Corridors are streetscapes with periods of high traffic volumes that include a safe and comfortable pedestrian zone with minimal vehicular conflict. They provide separated travel lanes for rail, bus and bicycles as well as safe pedestrian access to transit hubs and parking.

Facilities

Transit Corridor facilities include a streetscape with sufficient space to accommodate pedestrian traffic and amenities, such as street furniture and street trees.

Transit elements, including shelters, toilets and platforms, are designed as public art in the overall streetscape. Individual station areas reflect the unique and identifiable features of the community.

Access

Multiple opportunities exist to access transit along the corridor. The Transit Corridor is integrated into the pedestrian network of surrounding office buildings and residences.

A range of parking strategies, including Park-and-Ride, surface parking, on-street parking and private parking, may be used in combination to increase opportunities to access and use the corridor.

Design Guidelines

External Linkages

- Should link to residential areas, commercial centres and hotel districts
- Should link to major transport facilities such as airports, high-speed rail and shipping ports
- Should link to major roadways

Access

- Shall provide access for security and emergency vehicles
- Should provide drop-off areas a minimum 400 m apart relative to transit stops

Internal Circulation

- Should prioritise multimodal transit options over private motor vehicle use
- Should design streetscape to easily link pedestrians to various forms of public transit
- Should allow pedestrians to access various forms of public transit
- Should provide separated bicycle lanes
- Should limit vehicle speeds
- Should accommodate pedestrian, transit and bicycle circulation

Parking

- Shall provide on-street parking when possible to allow motorists to access pedestrian circulation opportunities
- Should use various parking strategies including park and ride

Universal Access

- See Streetscape UDG

Buildings

- See Streetscape UDG

Special Features

- Should design streetscape features to reflect the character and identity of the local area

Shading

- Should provide shade structures at transit stops along the primary pathway, gathering areas, rental stations and destination points

Softscape

- Should use softscape features to frame primary entrances for transit stops and pathways
- Should use locally occurring and low-maintenance plant materials
- Should locate trees along pathways, rest areas
- Should group low shrubs and groundcover to define pedestrian areas

Hardscape

- Should use varied colour and texture materials or road markings to identify mode of travel

Furniture

- Should calculate total seating area requirement based on:
  - 2 seating areas per 250 linear metres of primary pathway
  - 1 seating area per 500 linear metres of secondary pathway
- Should locate refuse/recycling containers at transit shelters
- Should provide shaded bicycle racks at transit stations and stops

Water Features

- May use decorative fountains to lessen street noise

Public Art

- Should relate to and enhance the corridor theme
- May provide artist designed transit shelters

Lighting

- Shall provide low-level lighting for pedestrian areas
- Should reflect and enhance character of surrounding area and relate to corridor theme

Fences/Walls/Screens

- May use fences/walls/screens to manage pedestrian traffic flow

Signage/Wayfinding

- Should provide wayfinding kiosks at pathway starting points that display a map of the City and indicate landmarks and rest areas
- Should provide vehicular signage to indicate multimodal use

Services/Infrastructure

- See Streetscape UDG

Safety/Security

- See Streetscape UDG

Design Guideline Illustration: Multimodal Transit Options

Design Guideline Illustration: Urban Transit Corridor Overview

مجلس أبوظبي للتخطيط العمراني
ABU DHABI URBAN PLANNING COUNCIL

Chapter 7.0 - WATERFRONT

7.0 Waterfront

As development occurs in the Emirate, the Public Realm Design Manual (PRDM) provides a shared direction that ties various public realm projects together to form a system.

Together with the vision, principles and policies, the Waterfront section of the PRDM is a step-by-step guide to developing Waterfronts that enhance the public realm system.

The Waterfront is one of the Abu Dhabi's greatest assets. To reach world-class status, the Waterfront must become a destination that is accessible to residents and visitors alike with high-quality, diverse public spaces that celebrate and strengthen local character and heritage.

7.1. Waterfront Planning Process

The steps to Waterfront development include: policy review, hierarchy application and typology application. This section describes the hierarchy and typology application process.

- **Hierarchy Application:** The hierarchy relates to a Waterfront's role in serving the population of the Emirate. Determining the appropriate hierarchy level informs the Level of Service determination. The Level of Service provides the hierarchy's percentage of total accessible Waterfront frontage.
- **Typology Application:** The typology relates to a Waterfront's design purpose. Determining the appropriate typology informs the application of design guidelines. Universal and typology design guidelines provide the minimum standards for streetscape development.

The planning process flowchart (Figure 7.1) illustrates the steps to prepare a Waterfront project.

7.2. Waterfront Hierarchy

Table 7.1 Waterfront Hierarchy, defines Waterfronts according to their role as a part of the entire Abu Dhabi coastline. The hierarchy defines the users, general characteristics, features/amenities and the typical location along the coastline. The table also gives guidance for scale, the population size that is served and a radius in which each level of Waterfront can expect to draw users. Finally, the Level of Service provides benchmarks for the percentage of the accessible coastline to be developed or protected under each hierarchy level.

This table is a general guide for developing Waterfronts within each level of the hierarchy. Its purpose is to achieve a system that functions to serve the entire Emirate.

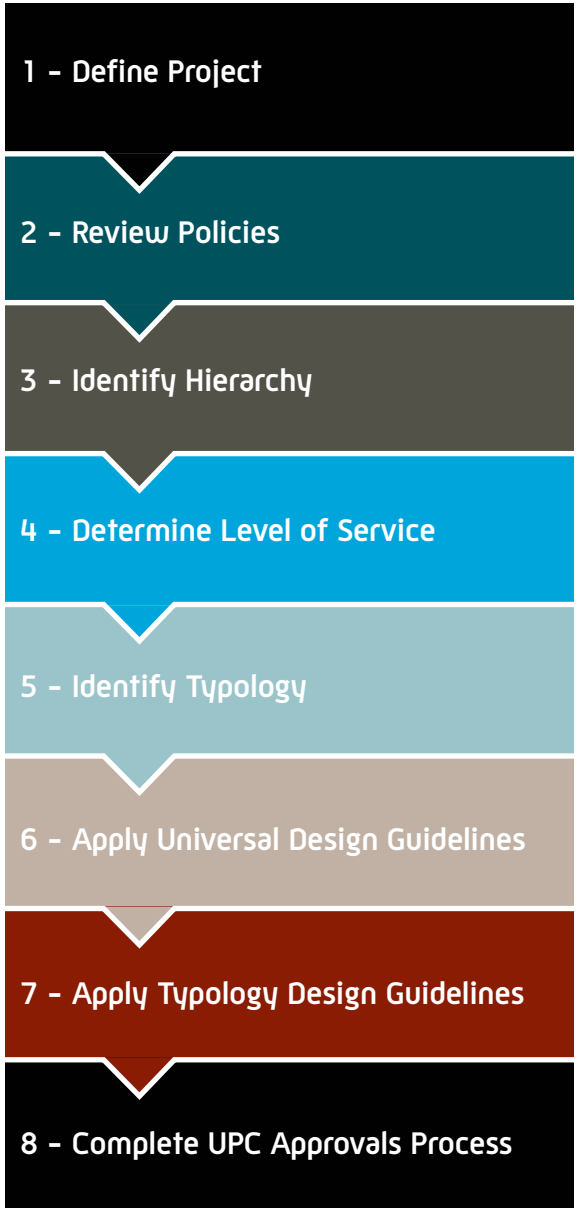


Figure 7.1: PRDM Planning Process

Table 7.1 Waterfront Hierarchy

Hierarchy	Description				Service Radius	Service Population	Level of Service (% of Accessible Waterfront Frontage)
	Users	Characteristics	Features / Amenities	Locations			
Emirate	Residents of the Emirate	» Preservation and conservation of the Emirate's most important natural Waterfront features	» Limited Waterfront development » Provides public access to important Waterfront landscapes	Dictated by the presence of Emirate significant Waterfront features, natural landscapes and locations of Emirate-wide importance	100 km +	Emirate	40 – 60%
Municipality	Residents of a Municipality	» Municipally significant shorelines	» Large promenade » Iconic design » Focal point of the urban area » Passive recreation » Event space » Large gathering nodes » Major beach and conservation areas	Dictated by the presence of coastline adjacent to a major urban city centre	40 km	Municipality	5 – 10%
City	Residents of a City	» City-wide important Waterfront	» Narrower promenade design than regional/ Municipal level » Access to City's most important beach areas » Beach preservation and development » Passive recreation	Dictated by proximity to densely developed urban areas	10 – 15 km	20,000 - 50,000	10 – 15%
District	Residents of a District	» Interpretive and educational opportunities » Passive enjoyment of the coast	» Trail access » District-oriented beach access » Smaller promenade/boardwalk design » Passive recreation	Dictated by proximity to medium density developed areas, centrally located along a District's edge	5 – 10 km	2,000 – 20,000	10 – 15%
Neighbourhood	Residents of a local Neighbourhood	» Preservation and conservation of locally important landscapes	» Trails integrated into the Neighbourhood » Neighbourhood-oriented shoreline access » Small boardwalks in central areas » Passive recreation	Dictated by proximity to Neighbourhood centre	0.5 – 2 km	150 – 2,000	10 – 15%
Total Developed Waterfront Level of Service							N/A

7.3 Waterfront Design Guidelines

The Waterfront Design Guidelines are intended to implement the policies covered in Part I of the PRDM. The Waterfront Design Guidelines are the minimum standards that will guide all Waterfront development. They ensure that all Waterfronts provide the basic elements essential to a functional public space. The application of these guidelines will help to identify Abu Dhabi's waterfront.

Design guidelines developed for Waterfronts include Universal Design Guidelines and Typology Design Guidelines. The Universal Design Guidelines are applicable to all Waterfronts. The Typology Design Guidelines are applicable to specific Waterfront typologies. There are five different Waterfront typologies that provide a variety of Waterfront access and recreation opportunities.

Table 7.2 provides a brief description of all Waterfront typologies. Further descriptions are provided in the individual Waterfront typology sections.

Design Guideline Language

The Design Guidelines identify the language that defines various Waterfront elements. The topics addressed in the universal and typology design guidelines include:

- External Linkages
- Access
- Internal Circulation
- Parking
- Universal Access
- Buildings
- Special Features
- Shading
- Softscape
- Hardscape
- Furniture
- Water Features
- Public Art
- Lighting
- Fences/Walls/Screens
- Signage/Wayfinding
- Services/Infrastructure
- Safety/Security

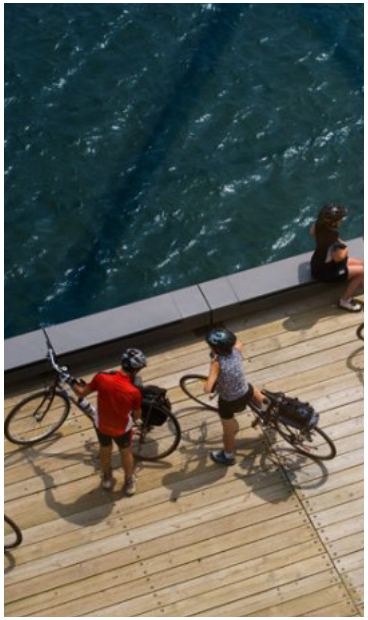
Guidelines on the minimum standards are provided for each topic. Compliance with the Waterfront Design Guidelines is based on the form of the statement. Statements include:

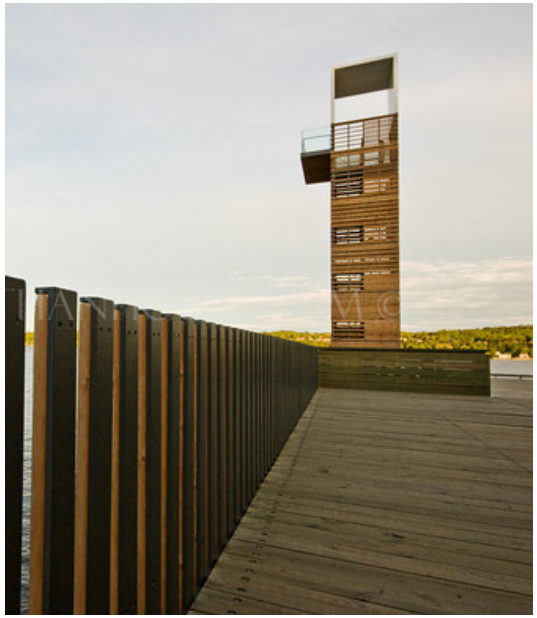
- **Shall statements** – mandatory to comply with the design guideline
- **Should statements** – recommended to comply with the design guideline
- **May statements** – permitted in the Waterfront design; discretionary based on programming needs, Waterfront function, site conditions

Table 7.2. Waterfront Typologies

Typology	Description
	Purpose
Waterfront Access	» To provide passive recreational use and environmental conservations
Preservation Area	» To protect ecologically significant waterfronts including mangroves, salt flats and sand dunes
Recreation Area	» To provide water or beach-based active and passive recreation opportunities
Urban Area	» To offer public access and activity centres along the waterfront



These selected images illustrate the aspiration for waterfronts in Abu Dhabi

Waterfront Universal Design Guidelines (UDG)

Design Guidelines

External Linkages

- Shall maintain/enhance physical and visual connectivity to waterfront
- Shall utilise access points to frame waterfront views
- Should link to the open space system
- Should extend to street edge
- Should maintain and relate to streetscape hierarchy
- Should link to public transit

Access

- Shall locate parking lots, storage areas and similar uses away from the waterfront edge and on unobtrusive sites
- Should provide safe and direct access for pedestrians and cyclists
- Should provide perpendicular connections between the waterfront and the street
- Should provide continuous access to the waterfront
- Should create a hierarchy of entrances that reflects the streetscape hierarchy
- Should allow for water-based recreation and related uses

Internal Circulation

- Should create a hierarchy of pathways
- Should provide a primary pathway as organising element
- Should provide secondary pathways to link features in the Waterfront

Parking

- Shall sufficiently setback parking from higher profile facilities and building elements such as bridges
- Should organise parking to limit impact on pedestrian circulation and Waterfront use

Universal Access

- Shall conform to international best practice in universal access
- Shall maintain a minimum unobstructed width of 1.8 m on the primary pathway
- Shall maintain a minimum unobstructed width of 1.5 m on all secondary pathways
- Shall locate lighting columns, signposts, refuse/recycling containers, trees, bollards, benches and other furniture or fixtures at or beyond the boundaries of pedestrian routes
- Shall create a clear distinction between pedestrian routes and adjoining surfaces using visual indicators and tactile paving
- Shall use a maximum gradient of 1:20 on all pedestrian routes; gradients above 1:20 shall use steps with integrated ramping and be clearly identifiable and contrast visually with their surroundings
- Shall provide a minimum of 10% reserved parking facilities for disabled access with a minimum dimensions of 2.4 m x 4.8 m with a 1.2 m access zone
- Shall provide the international symbol of accessibility on disabled access reserved parking
- Shall incorporate Braille in all signage elements in all public places
- Shall provide an accessible route from designated disabled access parking stalls to all accessible entrances
- Should locate disabled access parking near the primary circulation route
- Should design seating arrangements to allow mobility restricted users to sit alongside friends and family or in groups
- Should use well-defined edge treatments such as plant materials, change in texture or curbs to indicate extent or change in route

Buildings

- Shall design buildings to reflect the unique character of the typology
- Shall locate and screen maintenance buildings away from public use areas
- Should encourage a visual and connective interaction between interior and exterior space through outdoor classrooms, large windows and door openings and shaded outdoor terraces and arcades
- Should locate buildings to enhance sightlines and emphasise views to the water
- Should design buildings to reflect the same architectural character as other site buildings as expressed through consistent use of materials, forms and colours

Special Features

- See Specific Typology

Shading

- Shall provide continuous shade for 80% of primary walkways based on a minimum 1.8 m width within the through zone.
- Shall provide continuous shade for 60% of secondary walkways based on a minimum 1.8 m width within the through zone.
- Shall provide a minimum 1 shaded rest area every 500 linear metres of primary walkway
- Shall provide a minimum 1 shaded rest area every 1000 linear metres of secondary walkway
- Shall provide a minimum 40% shade for surface car parking
- Shall provide 100% shade coverage for all play structures
- Shall provide a minimum of 40% for informal play
- Shall provide a minimum of 80% shade for all formal gathering areas (includes picnic structures)
- Shall provide a minimum of 40% shade for all informal gathering areas
- Should provide shade at access points, kiosks, viewing points and locations of interpretive displays
- Should use shading to reduce glare, intense solar and UV exposure
- Should locate shading to promote outdoor activities, increase social interaction and encourage outdoor lifestyles
- Should use various types of shade structures or softscape features to provide shade

Softscape

- Shall use PRDM plant list to determine appropriate plant materials
- Should cluster trees in groups a minimum of 3 trees per group

Hardscape

- Shall surround all water features with slip resistant materials
- Shall surround all play structures with light coloured impact material
- Should alter hardscape materials to indicate space transition
- Should use permeable unit paving material of natural stone and at a scale that responds to the use of the area

- Should use good-quality compacted crushed natural stone or gravel on pathways
- Should use large format paving and or motifs in primary gathering spaces and smaller format paving in small seating spaces
- Should construct paved areas adjacent to trees to allow expanded root zones for enhanced growing conditions

Furniture

- Shall group furniture together, leaving clear a minimum width of 1.5 m between furniture
- Shall use coordinated furniture designs that are contemporary, simple and appropriate to context
- Shall use high-quality designs and materials that withstand climatic conditions, heavy use and vandalism
- Should use light coloured, non-reflective furniture
- Should provide a variety of seating options
- Should provide refuse/recycling containers at entrances and in gathering areas
- Should provide shaded bicycle racks at each Waterfront entrance

Water Features

- Shall locate water features in areas of high activity
- Should provide water features, rippled or flowing
- Should minimise the use of water and recycle water when possible
- Should use water features that are accessible to all users
- Should use timed water features such as pop jets, spouts and mist
- May integrate public art within water features
- May use water play feature adjacent to children's play areas

Public Art

- Shall use public art to enhance the public realm
- Should locate public art to accent view corridors and mark gathering areas
- Should locate smaller public art near entrances or gateways
- Should provide public art that is visual and tactile to generate interest and activity
- Should use public art constructed of durable and low-maintenance materials
- Should design public art to ensure public safety and avoid delicate or sharp protrusions that can be broken or harmful
- Should surround interactive sculptures designed for children with light coloured impact materials
- Should limit interactive sculptures designed for children to a maximum height of 1.8 m
- Should use public art that is sensitive in colour and material to the Waterfront design palette
- May provide interpretive public art that is culturally, historically or environmentally significant
- May provide public art developed and created by the community
- May consider locations for temporary public art installations

Lighting

- Shall design lighting levels and colour considering he overall affect on patterns, repetition, focal points, and rhythm within the panorama of the Waterfront
- Shall use low-level or pedestrian lighting such as bollards, in-ground lights, step and wall lights
- Shall clearly illuminate treads, risers and any other level differences along primary and secondary pathways
- Should be human-scaled and aid accessibility
- Should use down-lighting

Fences/Walls/Screens

- Should use fences/walls/screens only to define use areas and restrict public access where appropriate
- Should minimise perimeter fencing
- Should use walls to a maximum height of 0.5 m to accommodate seating
- Should use fences/walls/screens that are constructed of the same or similar materials expressed in the Waterfront design
- Should use earth berms, low walls and dense, locally occurring plant materials for screening
- Should design guardrails to allow maximum views
- Should design guardrails and handrails that relate to the architectural or landscape style of the public access area.
- May use walls/fences/screens that do not restrict views to maintain Waterfront security and encourage safety of users

Signage/Wayfinding

- Shall avoid placement of signage and wayfinding elements in locations that interfere with pedestrian or cyclist through zone or sightlines
- Shall provide a consistent hierarchy of signage and wayfinding elements
- Shall use a unified visual language for all signage and wayfinding materials, colours, scales and types
- Shall be durable, easily maintained and avoid deep colours
- Shall use a non-reflective matte finish on all signage
- Shall be placed to reinforce primary gateways and landmarks
- Should provide a map or directory kiosk at street intersections, entrances and pathway intersections
- May provide interpretive displays at pathway intersections

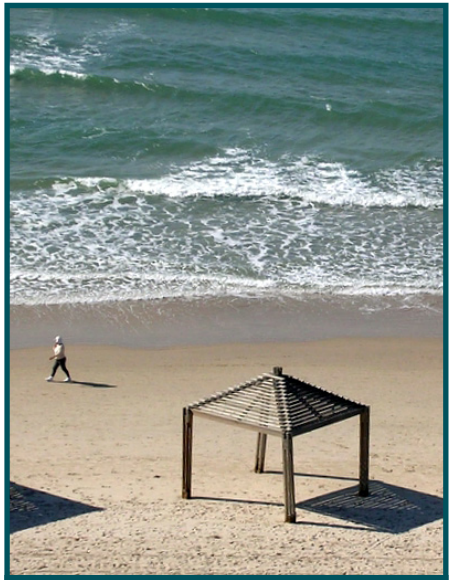
Services/Infrastructure

- Shall locate infrastructure underground
- Should separate and screen maintenance facilities from public circulation routes and use areas
- Shall provide a minimum of 1 drinking fountain at gathering areas

Safety/Security

- Shall employ Crime Prevention Through Environmental Design (CPTED) principles
- Should strategically place emergency call boxes (i.e. help stations) throughout Waterfronts
- Should maintain clear sightlines to toilets, concession facilities and playgrounds
- May integrate video surveillance systems with emergency call boxes
- May use furnishing and landscaping to define and outline ownership of space to encourage natural surveillance and natural access control
- May limit access by use of gates, fences, walls and landscape screens to prevent or discourage public access to Waterfront area via dark or un-monitored areas

Precedent: Beach Access



Precedent: Passive Recreational Use

Waterfront Access

Context

Waterfront Access is programmed primarily for passive recreational use and environmental conservation. These areas are located around undeveloped or redeveloped waterfronts to support the natural Abu Dhabi Waterfront.

Purpose

Waterfront Access supports the conservation or redevelopment of naturalised sand beach waterfronts for passive recreational use. Designating Waterfront Access maintains the continuity of public access to the water and provides an important link in the open space system. These areas also enhance environmental quality through appropriate beach regeneration techniques.

Waterfronts Access can host environmental and interpretive programmes. The design of this Waterfront is based on the natural historic identity of the Abu Dhabi Waterfront.

Facilities

Open views and vistas to the water and along the water's edge are the focal point of the Waterfront Access. To maintain a naturalised waterfront, recreational facilities are limited to those for passive water-based activities. In more natural areas, boardwalks, overlooks, observation platforms and interpretive displays are integrated to enhance public access and create interpretive opportunities.

Canoe and kayak launching, picnicking, and overnight camping may be provided in suitable areas. A public service building is located near the beach or camping areas, if provided. Parking areas are located near street entrances to minimise their impact and intrusion on the site.

Access

Waterfront Access has controlled access for low-intensity recreational use.

Informal entrances to the Waterfront Access orientate views and direct pedestrians to the water. Nature trails provide circulation within the site.

Design Guidelines

External Linages

- See Waterfront UDG

Access

- Should define arrival to the beach with an informal entrance
- Should limit vehicular access into the site

Internal Circulation

- Should direct views and circulation to the water
- Should provide pathways compatible to the natural landscape

Parking

- Should setback parking a minimum of 20 m from the water's edge

Universal Access

- See Waterfront UDG

Buildings

- May provide public service building at beach entrance and/or camping areas

Special Features

- Should minimise disturbance and impact to natural environment
- Should provide play structures in picnic areas and campgrounds only
- Should design boardwalks and viewing platforms to sensitively integrate with landscape

Shading

- Should locate shade structures along pathways at beach area a maximum of 200 m apart
- Should use shade structures constructed of natural materials

Softscape

- Should design softscape at natural densities

Hardscape

- Should use good-quality compacted crushed natural stone or gravel next to beach

Furniture

- Should provide furniture at all play areas and entrances
- Should calculate total seating area requirement based on:
  - 1 seating area per 100 linear metres of primary pathway
  - 1 seating area per 150 linear metres of secondary pathway
- Should calculate total picnic table requirement based on:
  - 1 table per 75 linear metres of secondary pathway

Water Features

- Should not provide water features

Public Art

- See Waterfront UDG

Lighting

- Should provide low-level lighting at the entrance to a maximum height of 1 m

Fences/Walls/Screens

- See Waterfront UDG

Signage/Wayfinding

- Should provide an identification sign adjacent to parking
- Should provide a site map at the entrance
- Should provide interpretive displays

Services/Infrastructure

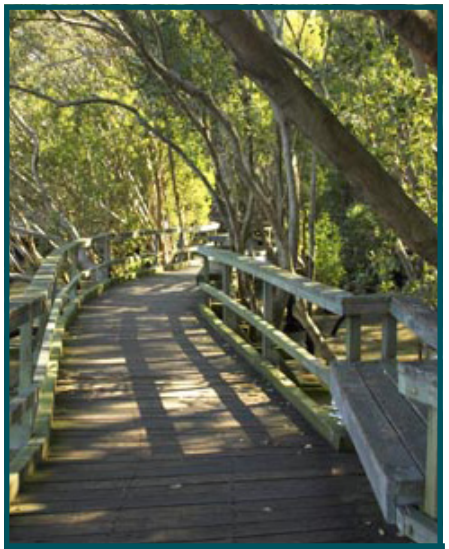
- See Waterfront UDG

Safety/Security

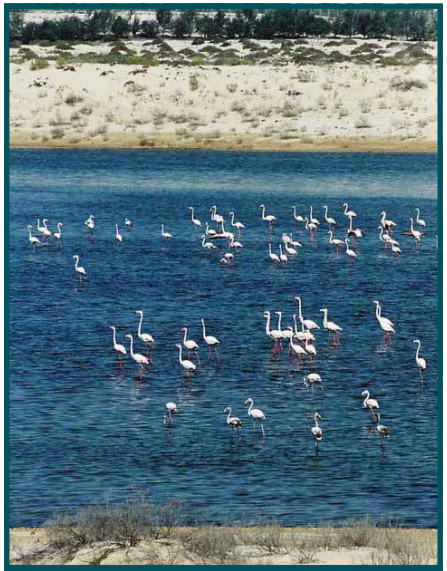
- See Waterfront UDG

Design Guideline Illustration: Landscape at Natural Densities

Design Guideline Illustration: Shaded Access



Precedent: Mangrove Forest Boardwalk



Precedent: Wildlife Preserve

Preservation Area

Context

Preservation Areas are for the preservation and enhancement of ecologically significant waterfronts. They are located around natural waterfront resources, including mangroves, salt flats, seagrass beds and other natural shorelines to support these environmental features.

Purpose

Preservation Areas are waterfront facilities for the protection of Abu Dhabi's natural waterfront environment. Recognising their ecological, scientific and aesthetic value, the Preservation Area serves to maintain and enhance these resources. No land development is permitted in Preservation Areas.

Preservation Areas can host environmental, interpretive and scientific programmes. Their design focuses on ensuring minimal impact to the natural resources. These areas can also diversify environmental function through naturalisation and water quality enhancements.

Facilities

The natural environment is the focal point of the Preservation Area. A wide buffer zone is established around Preservation Areas to secure environmental integrity and maintain adequate separation from developed urban areas.

Small parking areas are permitted within the buffer zone. Nature trails are a key feature within the Preservation Area. The trail links the parking areas to the natural environment. To maintain the natural environment, amenities are limited to those with minimal impact, such as overlooks, boardwalks and shade structures.

Access

Preservation Areas have limited or controlled public access. They are accessible from local streets.

Entrances are well-integrated with the landscape. Pedestrian circulation through the site is provided with a loop trail system.

Design Guidelines

External Linkages

- See Waterfront UDG

Access

- Shall restrict access in environmentally sensitive areas

Internal Circulation

- Should provide pathways, if appropriate, compatible with natural landscape with a minimum width of 1.8 m to a maximum width of 2.5 m
- Should create a loop system, if possible, to enhance experience and access to natural features

Parking

- Should setback parking a minimum of 30 m from the Waterfront
- Should subdivide parking lots into modules of a maximum 7 parking stalls
- May provide parking in buffer near and parallel to the street

Universal Access

- See Waterfront UDG

Buildings

- See Waterfront UDG

Special Features

- Shall minimise disturbance and impact to natural environment
- May provide interpretive centre

Shading

- See Waterfront UDG

Softscape

- See Waterfront UDG

Hardscape

- Should use good-quality compacted crushed natural stone or gravel

Furniture

- Should calculate total seating area requirement based on:
  - 1 seating area per 150 linear metres of primary pathway
- Should calculate total picnic table requirement based on:
  - 1 table per 150 linear metres of primary pathway

Water Features

- Shall not provide water features

Public Art

- See Waterfront UDG

Lighting

- See Waterfront UDG

Fences/Walls/Screens

- Should not allow fences/walls/screens

Signage/Wayfinding

- Should provide an identification sign
- Should provide a site map at entrances
- Should use unlit signs only
- Should provide interpretive displays

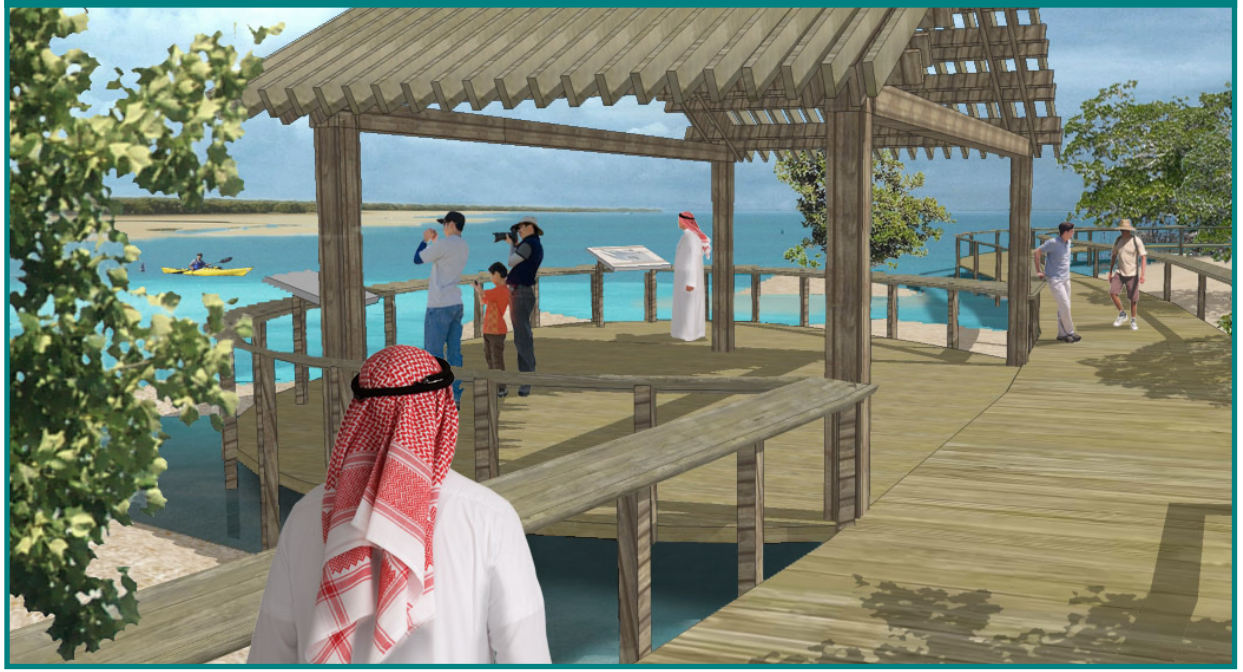
Services/Infrastructure

- See Waterfront UDG

Safety/Security

- See Waterfront UDG

Design Guideline Illustration: Boardwalk Overlook



Precedent: Beach Amphitheatre

Precedent: Beach Sports

Precedent: Public Art

Recreation Area

Context

Recreation Areas are programmed primarily for water or beach-based active and passive recreational uses. They are located as key destinations along the waterfront to support the recreational needs of residents and visitors.

Purpose

Recreation Areas are waterfront facilities for active and passive recreation and are key attractions along the Waterfront. The character of these areas vary and can include sand beaches, green spaces and marinas. Within the Recreation Area, the interface between land and water is focused on respecting natural processes, enhancing habitat, reducing shoreline erosion, and minimising impacts on water quality.

Recreation Areas can host water or beach-based sporting events. Their design focuses on providing recreational opportunities along the waterfront. Recreation Areas also accommodate social and cultural gatherings. Recreation Areas have a common theme regardless of where they are located.

Facilities

Marinas, developed in combination with useable park space, are key activity centres in the Recreation Area. Shade structures and canopies along the Recreation Area provide protection from the sun. Boardwalks on public beaches are integrated and define the sand edge.

Public service buildings, including showers and changing facilities, are incorporated at high use areas. Parking areas are integrated either on-site near entrances or at adjoining streets proximate to the water.

Access

Recreation Areas are accessible from all adjacent street ends, served by public transit and integrated into the pedestrian and cycling network. They provide access to the waterfront for both the physically and visually challenged.

Formal gateways announce entrances. Continuous access is provided across the waterfront. A hierarchy of pathways provide circulation within the area. Primary entrances link with the open space system.

Design Guidelines

External Linkages

- See Waterfront UDG

Access

- Should define arrival with a series of formal gateways
- Should provide access that is visually open both to and from the waterfront

Internal Circulation

- Shall provide continuous access to the waterfront
- Should design the minimum depth of waterfront access to no less than 12 m from the highest observable tide line to the curb line of the street
- Shall provide a primary pathway with a minimum width of 5 m
- Should provide a continuous boardwalk/promenade at beach areas
- Should design the primary pathway to link to the gathering area
- Should provide secondary pathways a minimum width of 2.5 m
- Should provide a separate pathway for cycling with a minimum width of 3.0 m

Parking

- Should provide parking on-site or at adjoining streets
- Should locate parking near and parallel to the street if on-site
- Should orientate parking for water viewing
- Should subdivide parking lots into modules of a maximum of 7 parking spaces
- Should separate parking lots a minimum 100 m apart
- Should setback parking a minimum of 20 m from water's edge

Universal Access

- See Waterfront UDG

Buildings

- Should provide a public service building
- Should setback the public service building a minimum 20 m from the water
- Should include showers and changing rooms in the public service building

Special Features

- Should use stone shore protection at marinas
- Should develop shore protection to enhance and protect marine habitat
- May include retail kiosks
- May include performance space and/or amphitheatre

Shading

- See Waterfront UDG

Softscape

- Should locate trees and palms in a linear pattern along the street edge
- Should provide continuous landscape buffer from street edge except for required vehicular access points and pedestrian circulation facilities
- Should use landscape to indicate transitions between the waterfront and the pedestrian network to which it is connected
- May use land forms to buffer street noise in urban areas

Hardscape

- See Waterfront UDG

Furniture

- Should provide seating area at all play areas and entrances
- Should calculate total seating area requirement based on:
  - 2 seating areas per 30 linear metres of primary pathway
  - 1 seating area per 60 linear metres of secondary pathway
- Should calculate total picnic table requirement based on:
  - 1 table per 60 linear metres of secondary pathway

Water Features

- May provide interactive children's water play area including pop jets and splash pad

Public Art

- Should use public art to define and enhance linear views to the waterfront

Lighting

- Should provide light standards at parking lots to a maximum height of 4 m
- Should provide low-level lights along boardwalk/primary pathway to a maximum height of 0.8 m

Fences/Walls/Screens

- Should use walls for grade change only to a maximum height of 0.8 m
- Should allow screening at women and children's and family beaches only

Signage/Wayfinding

- Should provide an identification sign
- Should provide interpretive displays

Services/Infrastructure

- See Waterfront UDG

Safety/Security

- See Waterfront UDG

Recreation Area Guideline Illustration: Pathways

Design Guideline Illustration: Boardwalk

Precedent: Distinct Waterfront

Precedent: Unique Site Furniture

Precedent: Contiguous Waterfront

Urban Area

Context

Urban Areas are programmed primarily for public access to the waterfront and as waterfront activity centres. They are located in urban areas and include areas such as the Corniche.

Purpose

Urban Areas ensure access to the waterfront and maintain the waterfront identity of Abu Dhabi in urban areas. These areas provide opportunities to experience this distinct waterfront location.

The design of Urban Areas focuses on preserving visual and physical access to the water's edge. Urban Areas can host cultural and entertainment events and may accommodate temporary public art exhibits. Urban Areas have a common theme based on Abu Dhabi's waterfront identity.

Facilities

Multiple shared use pathways are the key feature in the Urban Area. Piers and viewing platforms are provided along the water's edge. A variety of temporary and permanent facilities are provided in the area, including cultural and entertainment venues, public services, concession outlets, playgrounds, multi-use games and activity areas. Parking includes a variety of on- and off-site solutions including, where appropriate, underground and multi-level parking structures.

Access

Urban Areas link together activity nodes, parks, open spaces and gathering spaces at the water's edge through uninterrupted physical and visual connections. They are accessible from adjacent streets, served by public transit and integrated into the pedestrian and cycling network.

The primary entrances are announced with a gateway and frames the terminus of the most significant sightline and vista. A hierarchy of shared use pathways are provided within the Urban Area for pedestrians, bicycles and other non-motorized vehicles. Secondary entrances link with the open space system. Access also includes drop-off and pick-up areas, taxi stands and an alignment to local transit nodes.

External Linkages

- Shall preserve and enhance visual access, vistas and sightlines from intersecting primary and secondary streets
- Should use primary entrances and gateway to frame sightlines to the water
- Should maintain linear view corridors from street level to the water's edge

Access

- Should provide hard edged access with a minimum width of 5 m and a minimum depth of 2 m at appropriate locations to accommodate water transport access points
- Should provide strategic focal points at the water's edge

Internal Circulation

- Shall provide a hierarchy of pathways parallel to the water
- Shall provide a primary promenade pathway with a minimum width of 8 m
- Should provide secondary pathways with a minimum width of 2 m

Parking

- Shall provide a mix of on-site and off-site parking with direct and convenient access to the waterfront

Universal Access

- See Waterfront UDG

Buildings

- Should setback buildings a minimum of 20 m from the water
- Should use buildings to frame sightlines to and from the waterfront
- Should orientate buildings perpendicular to the waterfront
- Should provide public service buildings a minimum 1,000 m apart

Special Features

- Should provide play structures
- Should provide piers and viewing platforms
- Should provide direct access to the water's edge
- May provide an outdoor performance space or amphitheatre
- May include space for temporary pavillions
- May provide small-scale retail kiosks

Shading

- Should provide continuous shadeway

Softscape

- Should provide groundcovers and shrubs only to define entrance and special features

Hardscape

- Should use permeable synthetic turf on athletic fields

Furniture

- Shall orientate all furniture to water's edge
- Should provide seating areas at all play areas and entrances
- Should calculate total seating area requirement based on:
  - 2 seating areas per 30 linear metres of primary pathway
  - 1 seating area per 60 linear metres of secondary pathway
- May use raised planters for informal seating

Water Features

- See Waterfront UDG

Public Art

- Should use public art to define gateways and primary entrances
- May include temporary public art exhibition spaces

Lighting

- Should provide light standards on the primary pathway with a maximum height of 4 m
- Should provide low-level lights on secondary pathways to a maximum height of 0.8 m
- Should provide low-level lights in waterfront railing to a maximum height of 0.8 m

Fences/Walls/Screens

- Should not allow perimeter walls and hedges that obstruct sightlines or vistas
- Should allow walls along the perimeter to a maximum height of 0.8 m where appropriate
- Should allow screening at women and children's and family beaches only

Signage/Wayfinding

- Should provide an identification sign at primary entrances
- Should provide a Waterfront identification sign at secondary entrances
- Should provide interpretive displays in each gathering area
- Should provide public information and wayfinding kiosks at each public service building

Services/Infrastructure

- See Waterfront UDG

Safety/Security

- See Waterfront UDG

Design Guideline Illustration: Active Waterfront

Design Guideline Illustration: Viewing Platform

مجلس أبوظبي للتخطيط العمراني
ABU DHABI URBAN PLANNING COUNCIL

Chapter 8.0 - PUBLIC PLACES

8.0 Public Places

As development occurs in the Emirate, the Public Realm Design Manual provides a shared direction that ties various public realm projects together to form a system.

Together with the vision, principles and policies, the Public Places section of the PRDM is a step-by-step guide to developing public places that enhance the public realm system.

Public places are the most diverse category of the public realm. They define the public space around important destinations and features of the Emirate. Public places are categorised into the public realm hierarchy according to their role and importance as space in the Emirate.

8.1. Public Places Planning Process

The steps to public place development include: policy review, hierarchy application and typology application. This section describes the hierarchy and typology application process.

- **Hierarchy Application:** The hierarchy relates to a public place's role in serving the population of the Emirate. Determining the appropriate hierarchy level informs the character and function of the public place.
- **Typology Application:** The typology relates to a public place's design purpose. Determining the appropriate typology informs the application of design guidelines. Universal and typology design guidelines provide the minimum standards for public place development.

The planning process flowchart (Figure 8.1) illustrates the steps to prepare a public place project.

8.2. Public Places Hierarchy

Table 8.1 Public Place Hierarchy defines space surrounding public facilities, institutions and significant destinations. The table identifies the users and features/activities common to each level of the hierarchy. The typical location of public places is also provided. Because the development of public places is often tied directly to major landmarks, institutions or other pre-existing entities, scale, Service Radius, Service Population and Level of Service are not applicable within the hierarchy.

This table is a general guide for developing public places within each level of the hierarchy. Its purpose is to achieve a system that functions to serve the entire Emirate.

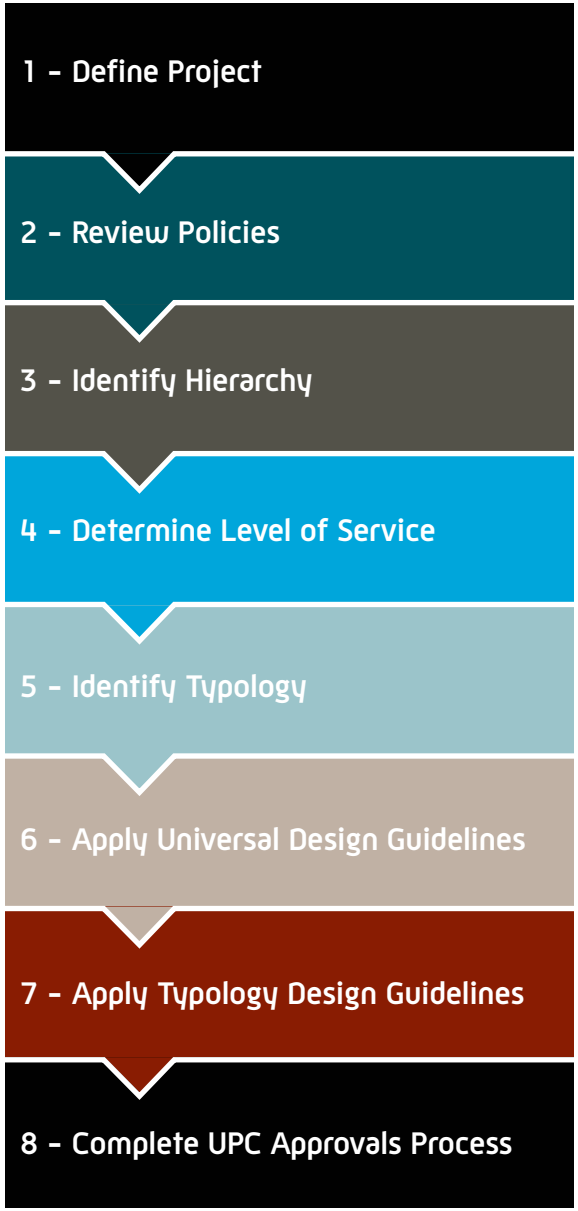


Figure 8.1: PRDM Planning Process

Table 8.1 Public Place Hierarchy

Hierarchy	Description				Service Radius	Service Population	Level of Service (ha/1,000 Population)
	Users	Characteristics	Features / Activities	Location			
Emirate	Residents of the Emirate	» Public realm surrounding a special feature or natural area of Emirate-wide importance » Often contains Emirate attractions or unique environmental features	» Emirate significant landmarks » Areas for National Day Celebrations	Dictated by presence of Emirate attractions and features	N/A	N/A	N/A
Municipality	Residents of a Municipality	» Regionally important public spaces established due their suitability for Municipal-wide activities and gatherings of significant cultural or historic amenities » Gatherings of significant cultural or historic amenities » Significant hotels, convention centres, theatres, museums and other destination sites	» Plazas and facilities that serve Municipal purposes » Regional hotels and visitor destinations » Historic and civic landmarks » Monumental public art	Dictated by the presence of regional shopping areas, business centres, civic entities, or landmarks	N/A	N/A	N/A
City	Residents of a City	» Public places intended for the use of entire City populations	» Accommodates important shopping areas as well as civic spaces » Civic spaces and historic/ cultural institutions that serve the City	Major public places centrally located within an urban area. Around business and retail areas, civic facilities and assets (museums, institutions, governmental buildings, historic landmarks, etc.)	N/A	N/A	N/A
District	Residents of a District	» Community features that serve multiple Neighbourhoods and provide a mix of uses (such as souqs, mosques, schools) » Mix of daily use and important district-wide public functions	» Shopping and residential pedestrian areas » Plazas and community open space	Focused around developed population centres and can be co-located with other public uses such as schools	N/A	N/A	N/A
Neighbourhood	Residents of a local Neighbourhood	» Integrated with daily lifestyles and activities » Provide Neighbourhood users with a variety of play areas and gathering areas	» Public places that accommodate daily Neighbourhood interests » Gathering spaces between residences and mosques » Abundant seating » Abundant shade	Locations are within a maximum of 350 m of residents	N/A	N/A	N/A
Total Developed Public Places Level of Service							N/A

8.3 Public Places Design Guidelines

The Public Place Design Guidelines are the minimum standards that will guide all public place development. They ensure that all public places provide the basic elements essential to a functional public space. The application of these guidelines will help to build a coordinated system of public places within the Emirate.

Design Guidelines developed for Public Places include Universal Design Guidelines and Typology Design Guidelines. The Universal Design Guidelines are applicable to all Public Places. The Typology Design Guidelines are applicable to specific Public Place typologies. There are six different Public Place typologies that provide venues for various public entertainment or interpretation.

Table 8.2 provides a brief description of all Public Place typologies. Further descriptions are provided in the individual Public Place Typology sections.

Design Guideline Language

The design guidelines identify the language that defines various public place elements. The topics addressed in the universal and typology design guidelines include:

- External Linkages
- Access
- Internal Circulation
- Parking
- Universal Access
- Special Features
- Shading
- Softscape
- Hardscape
- Furniture
- Water Features
- Public Art
- Lighting
- Fences/Walls/Screens
- Signage/Wayfinding
- Services/Infrastructure
- Safety/Security

Guidelines on the minimum standards are provided for each topic. Compliance with the design guidelines is based on the form of the statement. Statements include:

- **Shall statements** – mandatory to comply with the design guideline
- **Should statements** – recommended to comply with the design guideline
- **May statements** – permitted in the public place design; discretionary based on programming needs, public place function, site conditions

Table 8.2. Public Place Typologies

Typology	Description
	Purpose
Cultural Destination	» To enhance the character and scale of the area surrounding a cultural attraction
Heritage Feature	» To preserve the heritage site and provide authentic interpretive and educational experiences
Mosque	» To improve the accessibility and pedestrian character between the street and the mosque
Landmark Destination	» To reflect and enhance the character of the surrounding landmark venue
Plaza	» To provide a transitional open space between streets and prominent buildings, such as hotels and government offices.
Souq	» To enhance the pedestrian environment around these shopping areas






These selected images illustrate the aspiration for public places in Abu Dhabi

Public Place Universal Design Guidelines (UDG)

Design Guidelines

External Linkages

- Should link to the open space system
- Should extend to street edge
- Should maintain and relate to streetscape hierarchy
- Should link to public transit

Access

- Shall accommodate emergency vehicle access
- Should provide safe and direct access for pedestrians and cyclists
- Should create a hierarchy of entrances that reflects the streetscape hierarchy

Internal Circulation

- Should create a hierarchy of pathways
- Should provide a primary pathway as organising element
- Should provide secondary pathways to link features in the Public Place

Parking

- Shall sufficiently setback parking from higher profile facilities and building elements such as bridges
- Should locate disabled access parking near the primary circulation route
- Should organise parking to limit impact on pedestrian circulation and public place use

Universal Access

- Shall conform to international best practice in universal access
- Shall maintain a minimum unobstructed width of 1.8 m on the primary pathway
- Shall maintain a minimum unobstructed width of 1.5 m on all secondary pathways
- Shall locate lighting columns, signposts, refuse/recycling containers, trees, bollards, benches and other furniture or fixtures at or beyond the boundaries of pedestrian routes
- Shall create a clear distinction between pedestrian routes and adjoining surfaces using visual indicators and tactile paving
- Shall use a maximum gradient of 1:20 on all pedestrian routes; gradients above 1:20 shall use steps with integrated ramping and be clearly identifiable and contrast visually with their surroundings
- Shall provide a minimum of 10% reserved parking facilities for disabled access with minimum dimensions of 2.4 m x 4.8 m with a 1.2 m access zone
- Shall incorporate Braille in all signage elements in all public places
- Shall provide the international symbol of accessibility on disabled access reserved parking
- Shall provide an accessible route from designated disabled access parking stalls to all accessible entrances
- Should locate disabled access parking near the primary circulation route
- Should design seating arrangements to allow mobility restricted users to sit alongside friends and family or in groups
- Should use well-defined edge treatments such as plant materials, change in texture or curbs to indicate extent or change in route

Buildings

- See Specific Typology

Special Fetaures

- See Specific Typology

Shading

- Shall provide shade at all gathering areas
- Shall shade all play structures
- Shall provide continuous shade for 80% of primary walkways based on a minimum 1.8 m width within the through zone.
- Shall provide continuous shade for 60% of secondary walkways based on a minimum 1.8 m width within the through zone.
- Shall provide a minimum 40% shade for surface car parking
- Shall provide a minimum of 80% shade for all formal gathering areas (includes picnic structures)
- Shall provide a minimum of 40% shade for all informal gathering areas
- Should provide shade at access points, kiosks, viewing points and locations of interpretive displays
- Should use shading to reduce glare, intense solar and UV exposure
- Should locate shading to promote outdoor activities, increase social interaction and encourage outdoor lifestyles
- Should use various types of shade structures or softscape features to provide shade

Softscape

- Shall use PRDM plant list to determine appropriate plant materials
- Should cluster trees in groups a minimum of 3 trees per group

Hardscape

- Shall surround all water features with slip resistant materials
- Shall surround all play structures with light coloured impact material
- Should alter hardscape materials to indicate space transition
- Should use permeable unit paving material of natural stone and at a scale that responds to the use of the area
- Should use good-quality compacted crushed natural stone or gravel on pathways
- Should use large format paving and or motifs in primary gathering spaces and smaller format paving in small seating spaces
- Should construct paved areas adjacent to trees to allow expanded root zones for enhanced growing conditions

Furniture

- Shall group furniture together, leaving clear a minimum width of 1.5 m between furniture
- Shall coordinate furniture style, colour and siting
- Shall use furniture designs that are contemporary, simple and appropriate to context
- Shall use high-quality designs and materials that withstand climatic conditions, heavy use and vandalism

- Should use light coloured and non-reflective furniture
- Should provide a variety of seating options
- Should provide refuse/recycling containers at entrances and in gathering areas
- Should provide shaded bicycle racks at each public place entrance

Water Features

- Shall locate water features in areas of high activity
- Should provide water features, rippled or flowing
- Should minimise the use of water and recycle water when possible
- Should use water features that are accessible to all public place users
- Should use timed water features such as pop jets, spouts and mist
- May integrate public art within water features
- May use water play feature adjacent to children's play areas

Public Art

- Shall use public art to enhance the public realm
- Should provide public art in primary gathering areas
- Should act as a centrepiece
- Should locate public art to accent view corridors and mark gathering areas
- Should locate smaller public art near entrances or gateways to help draw users into the space
- Should provide public art that is visual and tactile to generate interest and activity
- Should use public art constructed of durable and low-maintenance materials
- Should design public art to ensure public safety
- Should surround interactive sculptures designed for children with light coloured impact materials
- Should limit interactive sculptures designed for children to a maximum height of 1.8 m
- Should use public art that is sensitive in colour and material to the public place design palette
- May provide interpretive public art that is culturally, historically or environmentally significant
- May provide public art developed and created by the community or through a significant member of the community or artist
- May consider locations for temporary public art installations

Lighting

- Shall use low-level or pedestrian lighting such as bollards, in-ground lights, step and wall lights
- Shall clearly illuminate treads, risers and any other level differences along primary and secondary pathways
- Should provide light standards at public place entrances and to define street edges
- Should highlight public art, landscape, plant materials and water features
- Should be human-scaled and aid accessibility
- May use security lighting with motion sensors in isolated and less frequented areas

Fences/Walls/Screens

- Should use fences/walls/screens only to define use areas and restrict public access where appropriate
- Should minimise perimeter fencing
- Should use walls a maximum height of 0.5 m to accommodate seating
- Should use fences/walls/screens that are constructed of the same or similar materials expressed in the public place design
- Should use earth berms, low walls and dense locally occurring plant materials for screening
- May use walls/fences/screens that do not restrict views to maintain public place security and encourage safety of public place users

Signage/Wayfinding

- Shall avoid placement of signage and wayfinding elements in locations that interfere with pedestrian or cyclist through zone or sightlines
- Shall provide a consistent hierarchy of signage and wayfinding elements
- Shall use a unified visual language for all signage and wayfinding materials, colours, scales and types
- Shall be durable, easily maintained and avoid deep colours
- Shall use a non-reflective matte finish on all signage
- Shall be placed to reinforce primary gateways and landmarks
- Shall integrate use of lighting in areas of high nighttime use
- Should provide a map or directory kiosk at street intersections, entrances and pathway intersections
- May provide interpretive displays at pathway intersections

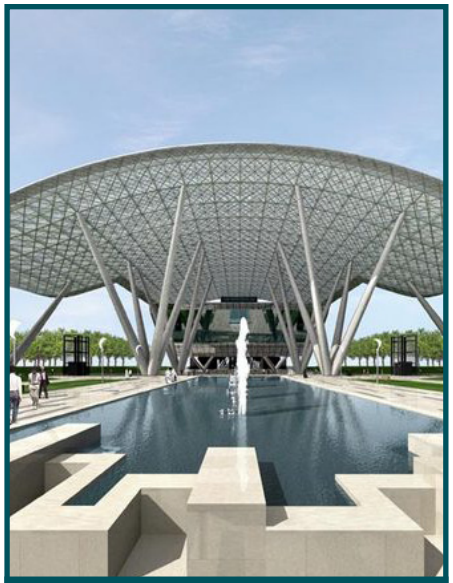
Services/Infrastructure

- Shall locate infrastructure underground
- Should separate and screen maintenance facilities from public circulation routes and use areas
- Should provide drinking fountains at major public gathering and waiting areas

Safety/Security

- Shall employ Crime Prevention Through Environmental Design (CPTED) principles
- Should strategically place emergency call boxes (i.e. help stations) throughout public place
- Should maintain clear sightlines into the public place
- Should maintain clear sightlines to toilets, concession facilities and playgrounds
- May integrate video surveillance systems with emergency call boxes
- May use furnishing and landscaping to define and outline ownership of space to encourage natural surveillance and natural access control
- May limit access by use of gates, fences, walls and landscape screens to prevent or discourage public access to public places un-monitored areas

Precedent: Performance Hall



Precedent: Cultural Attraction

Cultural Destination

Context

Cultural Destinations are primarily for the enhancement of museums, monuments, concert halls, theatres, libraries and other cultural attractions. They surround cultural attractions with public places that support the cultural identity of the Emirate.

Purpose

Cultural Destinations welcome visitors and frame the cultural attraction setting. Views to the cultural attraction are preserved so that it is easily identifiable from the street.

The design of Cultural Destinations carefully integrates elements that reflect the cultural attraction. They are primarily contemporary in nature, but can include historic features. The scale and character of the area may vary greatly depending on the location and cultural attraction.

Facilities

Facilities include seating, informal gathering areas, public art, water features and play structures. Wayfinding and educational signage are integrated into the area and appeal to a multicultural audience. Open and flexible areas are provided to accommodate special events. Public art encourages interaction with the cultural attraction. Other Cultural Destination facilities may include open-air cafés and retail areas.

Access

Cultural Destinations are accessible from streets, served by public transit and integrated into the pedestrian and cycling network. Sidewalks and pedestrian corridors connect the Cultural Destination to surrounding compatible uses, such as restaurants and shopping.

External Linkages

- See Public Place UDG

Access

- Should provide drop-off areas away from the primary entrances of the feature
- Should provide clear sightlines to the Cultural Destination

Internal Circulation

- See Public Place UDG

Parking

- Should provide special event parking areas
- May provide staging areas for coach drop-offs

Universal Access

- See Public Place UDG

Buildings

- See Public Place UDG

Special Features

- Should provide a central gathering area

Shading

- See Public Place UDG

Softscape

- Should design softscape to achieve an uncluttered and open appearance
- Should use linear planting to frame views of Cultural Destination
- Should provide softscape with colourful, scented and seasonal materials
- Should mass shrubs and groundcover to define seating, gathering and entrance areas
- Should use the colours, textures, material and scale of adjacent features to design softscape
- May use landforms and linear plant materials to frame/isolate key views

Hardscape

- Should use hardscape features that reflect the design, purpose and character of cultural destination
- Should define the central gathering area and special features with unit paving

Furniture

- Should provide shaded seating areas along pedestrian pathways and around central gathering area
- Should design furniture to compliment the Cultural Destination

Water Features

- See Public Place UDG

Public Art

- See Public Place UDG

Lighting

- Should provide decorative lighting to highlight special features
- May use up-lighters and spotlights integrated into the paving surfaces

Fences/Walls/Screens

- See Public Place UDG

Signage/Wayfinding

- Should provide interpretive displays that highlight the significance of the cultural attraction

Services/Infrastructure

- See Public Place UDG

Safety/Security

- See Public Place UDG

Design Guideline Illustration: Central Gathering Area

Precedent: Heritage Village

Precedent: Performance Space

Precedent: Archaeological Site

Heritage Feature

Context

Heritage Features are primarily for the preservation and enhancement of forts, palaces, archaeological sites and other heritage sites. They surround heritage sites with public places that support the historic and cultural identity of the Emirate.

Purpose

Heritage Features preserve and provide authentic interpretive and educational experiences. The overall character is understated to enhance, rather than detract, from the significance of the heritage site.

Facilities

Gathering areas provide key information and contain shade structures, drinking fountains, seating areas and softscape features. Wayfinding maps are provided to enhance connectivity by indicating locations of nearby heritage sites and other attractions. Heritage Features may contain commercial opportunities within or adjacent to the heritage site.

Access

Heritage Features are accessible from streets, served by public transit and integrated into the pedestrian and cycling network. Public transportation routes connect users to Heritage Features.

Design Guidelines

External Linkages

- See Public Place UDG

Access

- Should define the primary entrance using local and natural materials
- Should provide drop-off areas away from the primary entrances
- Should have direct connections to bicycle and pedestrian pathways

Internal Circulation

- See Public Place UDG

Parking

- Should provide on-site parking located away from front of the heritage site
- Should design on-site parking to minimise impacts
- May provide event parking areas
- May locate overflow parking in open areas

Universal Access

- See Public Place UDG

Buildings

- See Public Place UDG

Special Features

- May provide a central gathering area
- May identify optimum photographing vantage points for different times of the day and night
- May provide interactive guided tours
- May provide performance space

Shading

- Should provide a variety of shade structures
- Should use shade structures constructed of natural materials
- Should provide light coloured shade structures over seating
- Should locate shade structures next to water features such as fountains or misters

Softscape

- Shall use softscape features to frames views
- Should design softscape to be uncluttered and have an open appearance
- Should locate softscape to maintain street-to-feature visibility to allow for optimum viewing and photographing opportunities
- Should use locally occurring plant materials

Hardscape

- Should use hardscape features that reflect natural and traditional materials
- Should use hardscape to define primary entrances
- Should use hardscape features that are durable and low-impact and do not detract from the heritage site
- Should use hardscape features that reflect the design, purpose and character of the Heritage Feature
- May decorative paving to enhance the Heritage Feature

Furniture

- Should locate seating at the perimeter of the heritage site
- Should use furniture constructed of natural materials
- Should provide refuse/recycling containers near adjacent streetscape

Water Features

- May provide high-pressure water misting systems in gathering areas
- May use water features to lessen street noise

Public Art

- Should use public art that relates to the heritage site
- May provide mosaics, historical artefacts or re-creations of heritage elements

Lighting

- Shall use lighting that is appropriate in character to the heritage site
- Should provide pedestrian lighting along the primary pathway and at gathering area entrances and rest areas

Fences/Walls/Screens

- See Public Place UDG

Signage/Wayfinding

- Should use wayfinding to indicate location of other heritage sites or attractions

Services/Infrastructure

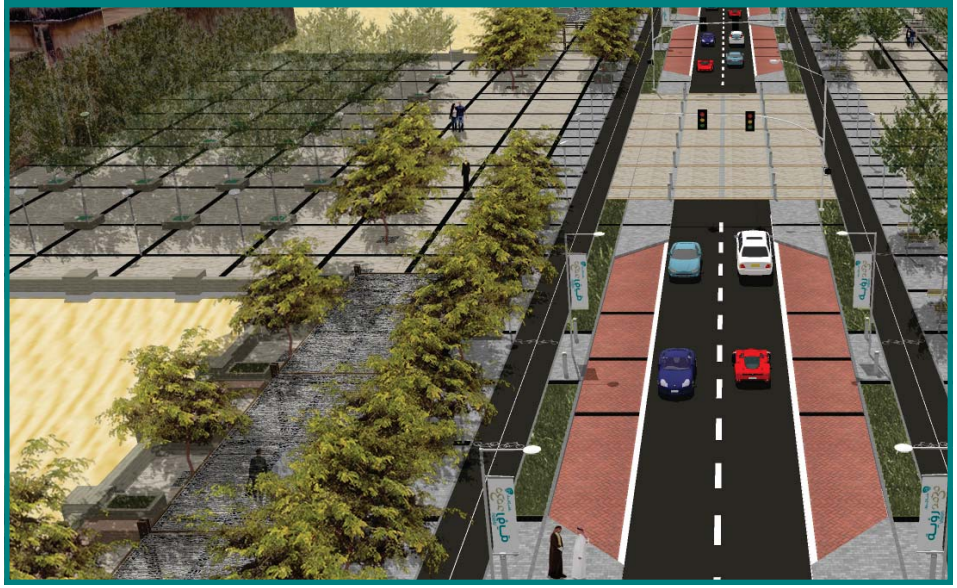
- See Public Place UDG

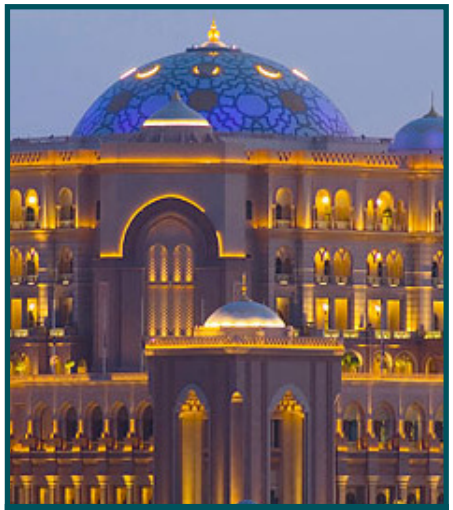
Safety/Security

- See Public Place UDG

Design Guideline Illustration: Central Gathering Area

Design Guideline Illustration: Heritage Site Separated from Street





Precedent: Landmark Destination

Precedent: Landmark Destination

Landmark Destination

Context

Landmark Destinations are primarily for the enhancement of large-scale venues that generate activity day and night such as hotels, convention centres and sports venues. They surround landmark venues with public places that support the Emirate as a tourist destination.

Purpose

Landmark Destinations reflect and enhance the character of the landmark venue. Views to the primary entrances of the landmark venue are preserved. Landmark Destinations are frequented by visitors and tourists and therefore require special design consideration.

Facilities

The Landmark Destination complements and reflects the architectural character of the landmark venue. A forecourt area in front of the feature frames the site and provides a space for gathering and photography. The public place is enhanced with unique softscape features and public art.

Lighting is used to illuminate the Landmark Destination and forecourt area at night to ensure the landmark venue is recognisable and usable at all times. Landmark Destinations that have ample open space may contain park features, such as open lawns, seating areas, shade trees, shade structures and water features. Other typical facilities include open-air cafés and bicycle rental and storage.

Access

Landmark Destinations are accessible from streets, served by public transit and integrated into the pedestrian and cycling network. Sidewalks and pedestrian corridors connect the Landmark Destination to surrounding compatible uses, such as restaurants and shopping.

Wide sidewalks with shade trees and wayfinding elements direct visitors from the street toward the Landmark Destination.

External Linkages

- Should be highly visible from all routes

Access

- Should define primary entrances with landscape, water features, public art and high-quality materials
- Should provide drop-off areas

Internal Circulation

- Should provide a well-defined transition of spaces from public to semi-public to private
- Shall provide a forecourt and arrival sequence

Parking

- Shall setback parking areas/vehicle circulation from primary entrances/ gathering areas
- Should provide on-street parking

Universal Access

- See Public Place UDG

Buildings

- See Public Place UDG

Special Features

- Should provide a central gathering area

Shading

- See Public Place UDG

Softscape

- Should use softscape to reinforce transition from public to private space
- May mass shrubs and groundcover to define seating and entrances areas
- May use small trees in raised planters

Hardscape

- Should use hardscape to define primary entrances
- Should use hardscape features that are durable and low-impact and do not detract from the Landmark Destination
- Should use hardscape features that reflect the design, purpose and character of the Landmark Destination
- May use decorative paving to enhance the Landmark Destination

Furniture

- See Public Place UDG

Water Features

- May provide fountain as a focal point of the public place
- May use water features to lessen street noise
- May provide a high-pressure water misting systems along the primary pathway and gathering areas

Public Art

- Should provide large-scale public art as a central feature
- Should provide public art that uses colour and lighting to create interest
- Should integrate public art into design elements, such as paving, seating, furniture and infrastructure

Lighting

- Should use accent lighting and up-lighting to enhance nighttime viewing
- Should use decorative lighting to enhance special features
- Should use lighting that is appropriate to the surrounding architectural context

Fences/Walls/Screens

- See Public Place UDG

Signage/Wayfinding

- Should provide interpretive displays that highlight the significance of the landmark venue

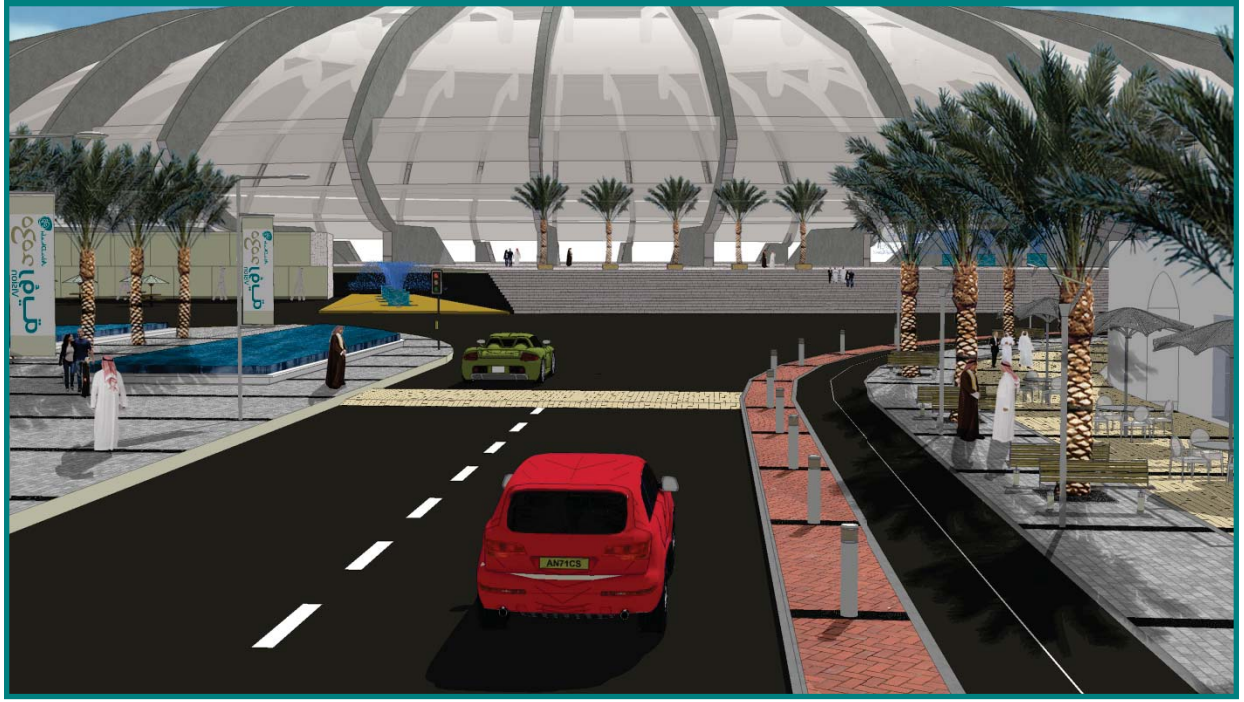
Services/Infrastructure

- See Public Place UDG

Safety/Security

- See Public Place UDG

Design Guideline Illustration: Destination View



Precedent: Men's Garden

Precedent: Decorative Paving

Mosque

Context

A Mosque is a place of worship and an important aspect of daily life in the Emirate. The size and scale of the Mosque varies according to function. The Masjid is a Mosque dedicated to daily prayer; the Jumaa Masjid is the larger Mosque for Friday sermon. Mosque design guidelines focus on the treatment of transitions from public spaces to semi-public spaces that surround the Mosque.

Purpose

The intent of this typology is to improve the accessibility to the Mosque and enhance the character and pedestrian experience of the surrounding outdoor space.

Facilities

Mosque spaces are unique in their site orientation and function in Islamic culture and customs. The unclean zone is the outer area of the Mosque and includes car parking and landscape buffers. The semi-clean area includes courtyards, landscaping, and ablution areas. Microclimates are improved by providing shade and water features.

Environmental strategies, such as water conservation, shade and low-maintenance areas, are combined with educational elements to enhance public understanding of the demonstrated strategy. Contemporary signage describing the process of water conservation may be used for education.

Access

The open space surrounding a Mosque offers a comfortable and purposeful transition. The Mosque is accessible to the surrounding street network, public transit and parking areas by way of shaded sidewalks. Neighbourhood Mosques are connected to the fareej network through sikkak.

Design Guidelines

External Linkages

- See Public Place UDG

Access

- Should provide drop-off areas

Internal Circulation

- Shall provide a well-defined transition of spaces from public to semi-private to private

Parking

- Should provide on-street parking located away from primary entrances
- May locate overflow parking in open areas

Universal Access

- See Public Place UDG

Buildings

- See Public Place UDG

Special Features

- Should provide gathering areas located between mosque and parking
- Should use features that reflect the unique features and characteristics of the mosque

Shading

- See Public Place UDG

Softscape

- Shall use softscape to frame the entrance and maintain views
- May use softscape to help differentiate the areas surrounding the Mosque from the semi-clean courtyard areas
- May use softscape features with colourful, scented, edible and seasonal components

Hardscape

- Should use high-quality natural stone
- Should use hardscape features that are durable and low-impact and enhance the Mosque
- Should use hardscape features that reflect design, purpose and character of the Mosque
- May use decorative unit paving to enhance the Mosque

Furniture

- See Public Place UDG

Water Features

- Should provide water features in the semi-clean zone
- May provide water features that recycle wudu water into garden areas

Public Art

- See Public Place UDG

Lighting

- Shall use lighting that is appropriate in character to the Mosque
- Should provide pedestrian lighting along the primary pathway and at rest areas, gathering areas and entrances

Fences/Walls/Screens

- May use vegetative screens to visually hide undesirable views from central gathering areas

Signage/Wayfinding

- See Public Place UDG

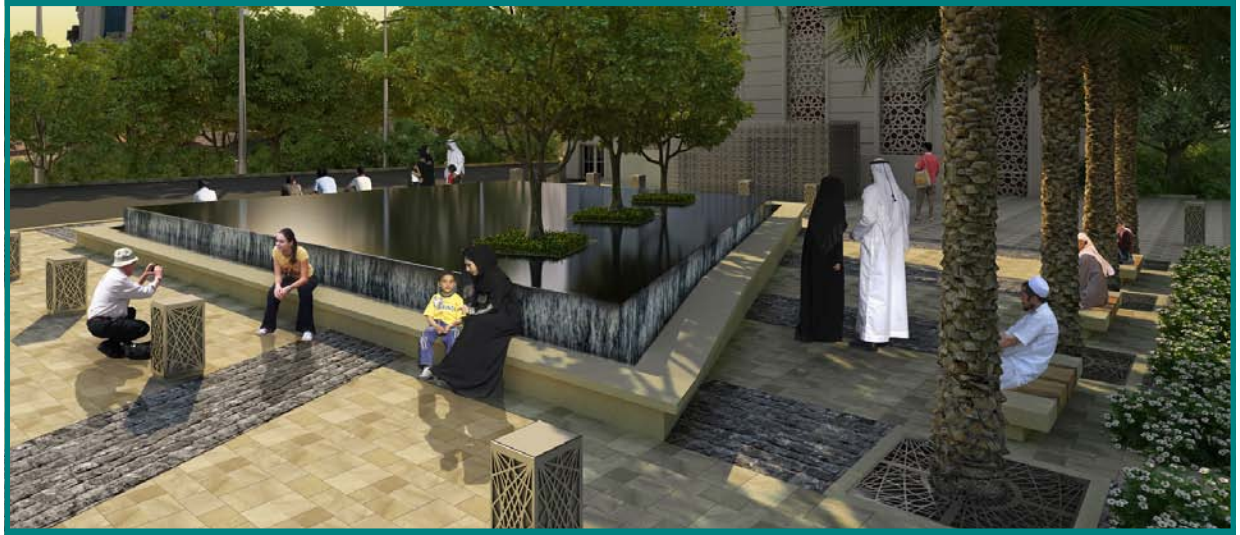
Services/Infrastructure

- See Public Place UDG

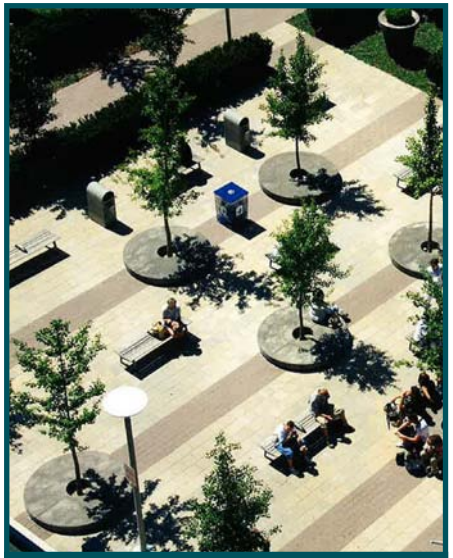
Safety/Security

- See Public Place UDG

Design Guideline Illustration: Gathering Area



Design Guideline Illustration: Lighting Features



Precedent: Centralised Gathering Space

Precedent: Vegetative Shade Structure

Plaza

Context

Plazas are the public space in front of a building available for civic purposes and commercial activities. Plazas are usually located at the intersection of important streets or other significant locations. Plazas can also be linear, following the path of the built environment.

Purpose

Plazas function as a transitional open space between streets and prominent buildings, such as hotels and government offices. Their primary function is to encourage diverse opportunities for social interaction and activities.

Plazas provide rest areas along a connected pedestrian system and serve as focal points with unique placemaking features within the urban and rural framework.

Facilities

Each Plaza has a specific programme of use. While some Plazas act primarily as pedestrian nodes, others function as viewpoints to enhance the setting of a building. Plazas reflect and reinforce the character of its location. Good street-to-plaza visibility signifies that the Plaza is a public space and allows users to watch street activity. Plazas provide a safe and comfortable open space and are well-lit and accessible both day and night.

Access

Plazas are accessible from streets, served by public transit, integrated into the pedestrian and cycling network and may be connected to interior spaces.

Design Guidelines

External Linkages

- Should maintain open views to the Plaza so that it is easily visible from the street

Access

- See Public Place UDG

Internal Circulation

- Should provide pathways between Plaza and street for accessibility to surrounding buildings and parking areas

Parking

- See Public Place UDG

Universal Access

- See Public Place UDG

Buildings

- See Public Place UDG

Special Features

- Should provide features that reflect the identity of the surrounding area

Shading

- Should locate shade structures at gathering areas
- Should provide light coloured shade structures that contain seating

Softscape

- Should use softscape with colourful, scented and seasonal components
- Should mass shrubs and groundcover to define seating and entrance areas
- May use trees in raised planters

Hardscape

- Should use hardscape features that reflect the design, purpose and character of surrounding context
- May use paving colour and pattern to define primary entrances and circulation patterns

Furniture

- See Public Place UDG

Water Features

- See Public Place UDG

Public Art

- Should integrate public art into design elements, such as paving, seating, furniture and shelters
- May use iconic sculpture or monuments as a central feature

Lighting

- Should use accent lighting and up-lighting on flags, banners and water features to enhance building entrances and streetscapes
- Should use lighting that is appropriate to the surrounding architectural context
- Should provide pedestrian lighting along the primary pathway and at rest areas and plaza entrances

Fences/Walls/Screens

- See Public Place UDG

Signage/Wayfinding

- Should provide wayfinding kiosk at the primary entrances that displays a City map and other plaza locations, landmarks, parks, features and transit within walkable distance

Services/Infrastructure

- See Public Place UDG

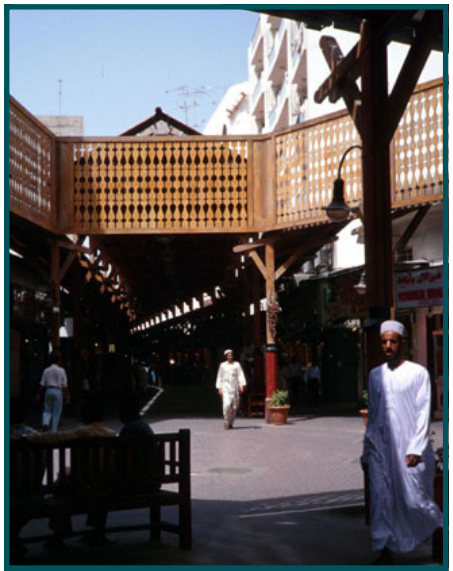
Safety/Security

- Should maintain street-to-plaza visibility to increase safety
- Should use perimeter elements to enhance security

Design Guideline Illustration: Gathering Space

Design Guideline Illustration: Separation from Street Edge

Precedent: Shade Structure



Precedent: Open Courtyard

Souq

Context

Souqs primarily serve as central market places and may be themed around a single commodity such as gold, fish or spices. The Souq typology enhances the pedestrian public realm around these shopping areas.

Purpose

Providing a wide range of shopping experiences. Souqs form a key part of Abu Dhabi's cultural landscape. Souqs also serve important social functions by providing informal gathering spaces where people can come together. Large Souqs provide a festival atmosphere and function as visitor destinations. The Souq typology functions as a transitional zone between the marketplace and surrounding streets and parking areas.

Facilities

In the traditional Souq, small seating areas are provided. Modern Souqs may incorporate open-air cafés. Pedestrian amenities are added to enhance the public realm.

Streetscape elements are coordinated to unify the different shopping areas and provide a common theme throughout the Souq.

The space around the Souq should be obstacle-free and designed to allow vendors to set up and sell goods easily. Continuous pedestrian access throughout the Souq provides linkages between different markets.

Access

A gateway or other architectural feature defines the street-level entrance to the Souq.

The Souq is an accessible and comfortable public space that connects to the pedestrian network of sidewalks and corridors. Public transit and conveniently-located stops connect the Souq to the larger multimodal transportation network. Pedestrian-scale signage indicates parking areas and entrances to the Souq. The space within and around the Souq is clearly defined and easy to navigate.

Design Guidelines

External Linkages

- See Public Place UDG

Access

- Should provide pull-over and drop-off areas designed to accommodate multimodal transportation
- Should provide service vehicle access and service truck parking
- Should provide direct access to pedestrian and bicycle pathways

Internal Circulation

- Shall be continuous and obstacle free to allow for safe, uninterrupted travel
- Should provide long, uninterrupted pathways that open onto small market squares and allow for special events such as small children's carnivals and art shows
- Should limit vehicular turning and reduce vehicular speeds
- Should accommodate pedestrian, transit and bicycle circulation

Parking

- See Public Place UDG

Universal Access

- See Public Place UDG

Buildings

- See Public Place UDG

Special Features

- Should provide unprogrammed open areas that are accessible to pedestrians and cyclists
- Should provide food courts, festival spaces and viewing areas that serve as destinations to enhance markets

Shading

- Should locate shade structures to maintain air circulation in the Souq

Softscape

- May use small softscape features, such as raised planters and vertical elements, such as palms
- Should use softscape features that reflect the design, culture and character of the Souq

Hardscape

- See Public Place UDG

Furniture

- See Public Place UDG

Water Features

- See Public Place UDG

Public Art

- Should use public art as central feature
- May use public art throughout the Souq as an identifying element to individual areas

Lighting

- See Public Place UDG

Fences/Walls/Screens

- See Public Place UDG

Signage/Wayfinding

- Should provide wayfinding kiosks at market pathway starting points that display a map of the Souq and indicate local attractions, rest areas and features

Services/Infrastructure

- See Public Place UDG

Safety/Security

- See Public Place UDG

Souq Guideline Illustration: Open Market Area

Souq Guideline Illustration: Central Gathering Space

Part III

مجلس أبوظبي للتخطيط العمراني
ABU DHABI URBAN PLANNING COUNCIL

APPENDIX A - GLOSSARY

Glossary

The following are definitions for key terms used in the Public Realm Design Manual.

Assembly Space – a generous and well-defined open space area that is paved to accommodate large public gatherings for special events and ceremonies

Baraha – small semi-private space located in a fareej (barahaat is the plural of baraha)

Biodiversity - the diversity of plant and animal life in a particular habitat (or in the world as a whole)

Bioswale – A wide, shallow, vegetated ditch that is designed to filter silt and sediment from surface storm water runoff

Buffer – A space and/or landscape feature designed to provide separation to reduce or mitigate impacts between conflicting uses; provides protection for environmentally sensitive areas

Bumpout - A widened sidewalk area at intersections where on-street parking is replaced by the sidewalk

Waterfront - All land areas along the water's edge

Commercial Pavilion – a primary structure that combines indoor space and covered outdoor space, used primarily for retail, commercial, entertainment purposes to stimulate activity and enhance the appeal/attraction of a place

Crime Prevention Through Environmental Design (CPTED) – strategic opportunities identified during project planning and design to enhance public safety by reducing the potential for crime; often includes eliminating concealment areas, maintaining open sightlines, locating activity areas in clear view, enhancing communication ability, providing adequate illumination, maximising public access/use of space

Fareej – A traditional neighbourhood system

Gathering Area – A feature area designed to accommodate groups of people; provides relief from the heat and sun; can include site furniture, shade structures, landscaping, fountain, drinking fountain, art/sculpture, interpretive displays

Hardscape – Ground plane surfacing material primarily used to accommodate circulation needs and public gathering/assembly; material is made from a manufacturing process

HAT - Highest Astronomical Tide

Heat Island - An area with consistently higher temperatures than surrounding areas because of a greater retention of heat from buildings, concrete, and asphalt

Hierarchy - A series of ordered groupings of elements within a system

Hydrozones - A distinct grouping of plants with similar water needs and climatic needs.

Intermodal Station – A centralised hub or station that integrates and unites various modes of transportation; can include air, rail, boat, public transit, vehicular, parking, bicycle, pedestrian

Kiosk – A small free-standing structure designed to provide information; can be interactive and used for interpretation, education, wayfinding

Level of Service - Relate to the amount provided of a particular service for a given population

LAT - Lowest Astronomical Tide

May statements – Permitted in the design; discretionary based on programming needs, function, site conditions

Media Wall – A graphic digital information/communication feature

Meyadeen – Small semi-public central meeting areas within a fareej

Multimodal – The movement of people by more than one method of transport

Mushtarak – Shared-use access streetscape

Natural Materials – Construction material that is from the earth or plants and retains the character and qualities of its original state; has undergone limited manufacturing or processing

Open Space System (Open Space Network) – An area of land or water that remains in an undeveloped, natural state as well as landscapes with low intensity development for public use, such as Parks, Streetscapes, Public Places and Waterfronts

Outdoor Classroom – A small outdoor educational space with organised or clustered seating designed to accommodate gatherings of approximately 30-40 people

Overlook – A design feature that provides a prominent viewing place

Parks - Public open spaces within a community for recreational use. Parks may include natural areas such as mountain ridges and wadi systems.

Park-and-Ride – a parking strategy to reduce private motor vehicle traffic in busy areas by providing a remote parking lot that links users to alternative transportation opportunities

Pathway – A track or route along which pedestrians and/or cyclists are intended to travel

Picnic Shelter – A permanent, open aired structure which houses picnic tables, benches and other facilities. Barbeques are not allowed in picnic shelters

Placemaking – the process of creating Parks, Streetscapes, Waterfronts and Public Places that will attract people because they are pleasurable or interesting

Public Places – All open areas within a community visible to the public or for public gathering or assembly

Public Realm Categories – This includes Parks, Streetscapes, Waterfronts and Public Places. Note: If a public realm space falls into more than one category, other category guidelines may be applied per area of variance. Any conflicts between typology design guidelines revert to the Universal Design Guidelines. Any conflicts between Universal Design Guidelines revert to policies

Public Service Building –A facility that includes public restrooms and could include showers, changing rooms, lockers, rental kiosk, first aid room or food concession; perimeter outdoor space includes shaded seating area, site furniture, drinking fountain;

Open Space Network – The parks, streetscape, waterfronts and public places – and all links that connect these spaces – in a Neighbourhood, District, City, Municipality or Emirate.

Recreation Area: Active – A defined outdoor space designed to accommodate organised/programmed sporting events or spontaneous and intense active play; constructed of synthetic turf

Recreation Area: Passive –A defined outdoor space designed to accommodate rest, relaxation, lounging; constructed of natural turf

Shall statements – Mandatory to comply with the design guideline

Should statements – Recommended to comply with the design guideline

Staging Area –A feature area designed to provide a transitory gathering space between parking lot and primary site feature or destination

Setback – The minimum distance between a property line or demarcated boundary and the location where a structure or facility can be built

Sikka – Paved pedestrian only path (sikkak is the plural of sikka)

Softscape –Elements of the landscape that comprised live, horticultural elements; may also include synthetic materials that exhibit similar characteristics and appearance

Special Features – Key design element(s) that are intended as primary attractions or places of activity in a public space

Stewardship – Refers to the responsibility to care for the world's natural resources – land, air, wildlife and water – sustainably so future generations can enjoy them.

Streetscape – The visual elements of a street including the road, sidewalk, street furniture, trees and open spaces that combine to form the street's character

Sustainability – Identifies a concept and attitude in development that considers a site's natural land, water, and energy resources as integral aspects of the development

Trail – A pedestrian and/or cycling circulation path

TSE – Treated Sewage Effluent used for landscape or plant irrigation

Typology – The systematic classification of types that have characteristics, traits or functions in common

Universal Access – The ability of all people to have equal and unobstructed opportunity to experience the public realm regardless of social status, ethnicity, or physical, mental and sensory ability

Universal Language Pavement Markings – internationally recognised traffic symbols applied to vehicular pavement surfaces to provide direction and instructions

Wadi – A valley or dry river bed.

Water Feature – A design focal point that emphasises the display of water; may include pools, fountains, cascades, spray jets

Water Play Feature – An amenity intended primarily for use by children that allows creative interaction with water for play purposes; includes water that sprays, mists, bubbles, cascades, showers, or employs other effects; does not include standing water; does not require lifeguards and eliminates/drastically reduces potential for drowning; life cycle and maintenance/ operation costs are typically significantly less than swimming pools

Wayfinding – The process by which people orientate themselves in space and navigate their way from place to place

WiMax – Wireless networking technology for long-range applications; coverage can extend several miles

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APPENDIX B - PLANT LIST

Plant List

A wide range of species have been identified for the public realm.

Types of plants identified include:

- Trees
- Palms
- Shrubs
- Groundcover and Ornamental Grasses
- Succulents and Perennials
- Climbers

Each plant identified for use in the public realm is listed in the matrix. The matrix provides the following information:

- Botanical Name
- Common Name
- Locally Occurring Species (✱)
- Exposure Group
  - A. Most tolerant of extreme conditions
  - B. Requires some wind shelter for best growth
  - C. Requires shelter from afternoon sun and strong wind
  - D. Requires partial shade all day during summer, full shade in afternoon and wind shelter
  - E. Requires total shade and shelter
- Irrigation Classification

  ♦ Low Irrigation Required

  ♦♦ Medium – Low Irrigation Required

  ♦♦♦ Medium Irrigation Required

  ♦♦♦♦ High Irrigation Required

  ≈ Wetland location
- Hazards (Plants that are serious hazards should be excluded from parks.)
- Inland Suitability
  - ■ Suitable for Inland Urban location
  - ● Suitable for a Desert location
- Waterfront Suitability
  - ■ Suitable for Urban Waterfront location
  - ● Suitable for a Non-Urban Waterfront location
- Public Realm Category

  Parks

  Streetscapes

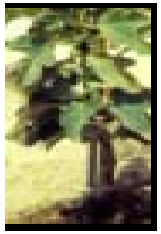
  Waterfronts

  Public Places
- Users Notes

In addition, please refer to the Irrigation Rate Matrix in Appendix C for detailed information regarding irrigation of each plant category according to its irrigation classification, maturity and season.

TREES	BOTANIC NAME	COMMON NAME	LOCALLY OCCURING SPECIES	EXPOSURE GROUP	IRRIGATION CLASSIFICATION	HAZARDS	INLAND SUITABILITY	COASTAL SUITABILITY	PARK CATEGORY	STREETSCAPE CATEGORY	COASTAL AREA CATEGORY	PUBLIC PLACE CATEGORY	USER NOTES
	*Acacia tortilis*	Samar	✱	A	💧	thorns	■		✓			✓	Samar is a tree that is an important part of the regional culture. It provides shade, light firewood and is a favorite for the wild bees. The classic inverted prism shape is its main feature. Suitable for heritage parks, desert parks and scenic roads but not for urban parks or streets.
	*Acacia arabica*	Babul	✱	B	💧💧		■●	■	✓	✓	✓	✓	Can be used as a street tree, park tree or for scenic routes but not for locations that depend on uniformity. Can also fit in with a heritage location.
	*Acacia nilotica*	Arabian Gum	✱	A	💧💧		■		✓				Use in desert parks and any location requiring low irrigation status.
	*Maerua crassifolia*	Sarh	✱	A	💧💧		■		✓				A very good hardy species for inland areas. Provides fodder for animals and is an endangered species. Should be used more as an urban and rural species along roadsides and in parks.

TREES	BOTANIC NAME	COMMON NAME	LOCALLY OCCURING SPECIES	EXPOSURE GROUP	IRRIGATION CLASSIFICATION	HAZARDS	INLAND SUITABILITY	COASTAL SUITABILITY	PARK CATEGORY	STREETSCAPE CATEGORY	COASTAL AREA CATEGORY	PUBLIC PLACE CATEGORY	USER NOTES
	*Olea europaea*	Olive	✱	C	💧💧		■	■	✓	✓	✓	✓	Best suited for inland areas away from humidity. Best used in themed landscape plazas but is outside its comfort zone.
	*Salvadora persica*	Toothbrush Tree	✱	A	💧💧		●	●	✓		✓		Hardy plant for highway landscape, best if allowed to grow without cutting.
	*Tecomella undulata*	Rohida, Desert or Marwar Tree	✱	A	💧💧		■●		✓	✓		✓	Hardy and colourful small tree native to the Hajar Mountains. Best suited to scenic highways, linear parks and desert parks.
	*Cordia myxa*	Lasura Tree	✱	B	💧💧💧		■	■	✓	✓	✓	✓	Well suited for Al Ain and Abu Dhabi as a street tree and park tree.

TREES	BOTANIC NAME	COMMON NAME	LOCALLY OCCURING SPECIES	EXPOSURE GROUP	IRRIGATION CLASSIFICATION	HAZARDS	INLAND SUITABILITY	COASTAL SUITABILITY	PARK CATEGORY	STREETSCAPE CATEGORY	COASTAL AREA CATEGORY	PUBLIC PLACE CATEGORY	USER NOTES
	*Ficus carica*	Fig	*	B	♦♦♦		■	■	✓	✓	✓	✓	Important tree for oases.
	*Ficus cordata*	Wadi cordata Salicifolia	*	B	♦♦♦		■	■	✓	✓	✓	✓	Good street and park tree providing dense shade in a climate where shade is critical.
	*Morus alba*	White Mulberry	*	B	♦♦♦		■	■	✓		✓	✓	Best limited to oases where the fruit can be harvested and not stain pavements
	*Boswellia sacra*	Frankincense Tree		B	♦♦		■	■	✓	✓	✓	✓	Culturally significant species as the source of Frankincense, although not native to the Arabian Gulf region. It grows succesfully on Sir Bani Yas and in Al Ain with low irrigation rates so has wide application.

TREES	BOTANIC NAME	COMMON NAME	LOCALLY OCCURING SPECIES	EXPOSURE GROUP	IRRIGATION CLASSIFICATION	HAZARDS	INLAND SUITABILITY	COASTAL SUITABILITY	PARK CATEGORY	STREETSCAPE CATEGORY	COASTAL AREA CATEGORY	PUBLIC PLACE CATEGORY	USER NOTES
	*Casuarina equisetifolia*	Ironwood, Coastal She-oak		A	♦♦			●		✓	✓		Globally distributed as a coastal, foredune species requiring low irrigation levels. Excessive water is counterproductive as the tree grows rapidly then declines and loses its shape.
	*Parkinsonia aculeata*	Jerusalem Thorn		A	♦♦	thorns	■	■	✓	✓	✓	✓	Wide usage, often spoiled by poor pruning and overwatering.
	*Prosopis cineraria*	Ghaf Tree		A	♦♦	thorns	■●	■	✓	✓	✓	✓	As significant as the Date Palm in UAE cultural history. Has application on highways and in urban parks and streets. Despite the view that it is a desert tree and therefore needs less water than other tree species, this is not the case. Ghaf can access water at great depths and appears to be surviving in the desert. Wherever such water has dried up, Ghaf have died. The tree will be sized according to the amount of water it receives.
	*Yucca brevifolia*	Joshua Tree		C	♦♦	sharp pointed leaves	■	■	✓		✓	✓	Best suited to inland areas.

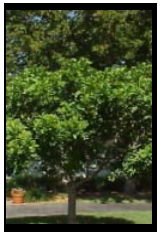
TREES	BOTANIC NAME	COMMON NAME	LOCALLY OCCURING SPECIES	EXPOSURE GROUP	IRRIGATION CLASSIFICATION	HAZARDS	INLAND SUITABILITY	COASTAL SUITABILITY	PARK CATEGORY	STREETSCAPE CATEGORY	COASTAL AREA CATEGORY	PUBLIC PLACE CATEGORY	USER NOTES
	*Zizyphus spina-christi*	Sidr Tree		A	♦♦ & ♦♦♦	thorns	■	■	✓	✓	✓	✓	Symbolic of Abu Dhabi, found in oases, along wadis, in parks, along highways, school grounds, urban parks and streets. It can survive with little irrigation or it can benefit from a higher level of irrigation and be a much larger tree.
	*Albizia lebbeck*	Women's Tongue		B	♦♦♦		■	■	✓	✓	✓	✓	Excellent street and park tree for urban areas.
	*Azadirachta indica*	Neem Tree		C	♦♦♦		■	■	✓	✓	✓	✓	Excellent urban tree for streets, public plazas and parks. Very succesful in Al Ain.
	*Bauhinia purpurea*	Purple Orchid Tree		D	♦♦♦			■			✓	✓	Shelter and west sun protection.

TREES	BOTANIC NAME	COMMON NAME	LOCALLY OCCURING SPECIES	EXPOSURE GROUP	IRRIGATION CLASSIFICATION	HAZARDS	INLAND SUITABILITY	COASTAL SUITABILITY	PARK CATEGORY	STREETSCAPE CATEGORY	COASTAL AREA CATEGORY	PUBLIC PLACE CATEGORY	USER NOTES
	*Bauhinia variegata*	Orchid Tree, Poor Man's Orchid		D	♦♦♦			■			✓	✓	Shelter and west sun protection
	*Bauhinia variegata* 'Alba'	White Orchid Tree		D	♦♦♦			■			✓	✓	Shelter and west sun protection
	*Bombax ceiba*	Silk Cotton Tree, Kapok Tree		C	♦♦♦			■	✓	✓	✓	✓	Best suited to more humid coastal conditions and sheltered locations, will not grow to even half the height of such species in their native SE and South Asia locations but will flower if kept relatively dry during the winter months.
	*Callistemon viminalis*	Weeping Bottlebrush		C	♦♦♦		■	■	✓	✓	✓	✓	Best suited to park use in Al Ain. Reduce water applications in winter months to achieve good flowering.

TREES	BOTANIC NAME	COMMON NAME	LOCALLY OCCURING SPECIES	EXPOSURE GROUP	IRRIGATION CLASSIFICATION	HAZARDS	INLAND SUITABILITY	COASTAL SUITABILITY	PARK CATEGORY	STREETSCAPE CATEGORY	COASTAL AREA CATEGORY	PUBLIC PLACE CATEGORY	USER NOTES
	*Calophyllum inophyllum*	Beautyleaf, Kamani		C	♦♦♦			■	✓	✓	✓	✓	Will grow best in coastal locations and is best in urban parks.
	*Cassia excelsa*	Crown of Gold Tree		C	♦♦♦		■	■	✓		✓	✓	Attractive small tree for urban use.
	*Cassia fistula*	Golden Shower Tree		C	♦♦♦		■	■	✓	✓	✓	✓	Good street and park tree but needs low irrigation level in cooler months to ensure effective flowering.
	*Cassia javanica* 'Nodosa'	Pink Shower, Pink Cassia		C	♦♦♦			■	✓	✓	✓	✓	Good street and park tree but needs low irrigation level in cooler months to ensure effective flowering.

TREES	BOTANIC NAME	COMMON NAME	LOCALLY OCCURING SPECIES	EXPOSURE GROUP	IRRIGATION CLASSIFICATION	HAZARDS	INLAND SUITABILITY	COASTAL SUITABILITY	PARK CATEGORY	STREETSCAPE CATEGORY	COASTAL AREA CATEGORY	PUBLIC PLACE CATEGORY	USER NOTES
	*Cassia roxburghii*	Ceylon Senna, Red Cassia		C	♦♦♦			■	✓	✓	✓	✓	Good street and park tree but needs low irrigation level in cooler months to ensure effective flowering.
	*Cassia surattensis (syn C.glauca)*	Scrambled Egg Bush		C	♦♦♦			■	✓	✓	✓	✓	Attractive fast growing small tree for coastal urban areas.
	*Chitalpa tashkentensis*	Pink Butterfly Bush		C	♦♦♦		■		✓				Best suited in the drier climate of Al Ain, where there are already a good specimens. Needs shelter from wind and afternoon sun.
	*Chorisia speciosa*	Silk Floss Tree		D	♦♦♦	Thorns	■	■	✓		✓	✓	Best suited in the drier climate of Al Ain, where there are already a good specimens. Needs shelter from wind and afternoon sun.

TREES	BOTANIC NAME	COMMON NAME	LOCALLY OCCURING SPECIES	EXPOSURE GROUP	IRRIGATION CLASSIFICATION	HAZARDS	INLAND SUITABILITY	COASTAL SUITABILITY	PARK CATEGORY	STREETSCAPE CATEGORY	COASTAL AREA CATEGORY	PUBLIC PLACE CATEGORY	USER NOTES
	*Coccoloba uvifera*	Seagrape		B	♦♦♦			■●	✓	✓	✓	✓	Excellent coastal tree with large round leaves and edible fruit, very tolerant of salt laden winds. Will also grow inland.
	*Conocarpus erectus*	Buttonwood, Button Mangrove		A	♦♦♦	pollen allergy source		●	✓	✓	✓		Although tolerant of harsh conditions it is best used along highways or in loations where the pollen will not aggravate allergy sufferers.
	*Conocarpus erectus* Silver form	Silver Buttonwood		A	♦♦♦	pollen allergy source		●	✓	✓	✓		Although tolerant of harsh conditions it is best used along highways or in loations where the pollen will not aggravate allergy sufferers.
	*Conocarpus lancifolius*	Ghatti Gum, Axle-Wood or Button Tree		A	♦♦♦	pollen allergy source		●	✓		✓		Although tolerant of harsh conditions it is best used along highways or in loations where the pollen will not aggravate allergy sufferers.

TREES	BOTANIC NAME	COMMON NAME	LOCALLY OCCURING SPECIES	EXPOSURE GROUP	IRRIGATION CLASSIFICATION	HAZARDS	INLAND SUITABILITY	COASTAL SUITABILITY	PARK CATEGORY	STREETSCAPE CATEGORY	COASTAL AREA CATEGORY	PUBLIC PLACE CATEGORY	USER NOTES
	*Cordia lutea*	Yellow Geiger, Muyuyo		C	♦♦♦			■	✓	✓	✓	✓	Prefers coastal locations, limited use due to medium water requirement.
	*Cordia sebestena*	Geiger Tree, Geranium Tree		C	♦♦♦			■	✓	✓	✓	✓	Widely used in Abu Dhabi, prefers coastal locations but in future its use needs to be limited.
	*Cordia subcordata*	Kou, Sea Trumpet		C	♦♦♦			■	✓	✓	✓	✓	Coastal location only – good small tree for waterfront parks and urban plazas near the sea.
	*Cupaniopsis anacardioides*	Carrotwood, Tuckeroo Tree		C	♦♦♦			■	✓		✓	✓	Coastal location only – good small tree for waterfront parks and urban plazas near the sea.

TREES	BOTANIC NAME	COMMON NAME	LOCALLY OCCURING SPECIES	EXPOSURE GROUP	IRRIGATION CLASSIFICATION	HAZARDS	INLAND SUITABILITY	COASTAL SUITABILITY	PARK CATEGORY	STREETSCAPE CATEGORY	COASTAL AREA CATEGORY	PUBLIC PLACE CATEGORY	USER NOTES
	*Delonix regia*	Royal Poinciana, Flamboyant		C	♦♦♦			■	✓	✓	✓	✓	Use only in humid coastal areas, excellent park, urban plaza and street tree but will not be uniform in character as they are grown from seed. Not attaractive during cooler months when leaves fall.
	*Dracaena draco*	Dragon or Dragon's Blood Tree		D	♦♦♦		■	■			✓	✓	Limited use as a park curiosity. Comes from Canary Islands which means climatically it needs protection from afternoon summer sun and is best used in Abu Dhabi.
	*Erythrina caffra*	Kaffir Coral, Kaffirboom Tree		C	♦♦♦	thorns		■	✓		✓		Limited use as a park tree, novelty but flowers poorly unless allowed very little water in winter months.
	*Ficus altissima*	Lofty Fig, False Banyan, Council Tree		B	♦♦♦		■	■	✓	✓	✓	✓	Good street and park tree providing dense shade in a climate where shade is critical.

TREES	BOTANIC NAME	COMMON NAME	LOCALLY OCCURING SPECIES	EXPOSURE GROUP	IRRIGATION CLASSIFICATION	HAZARDS	INLAND SUITABILITY	COASTAL SUITABILITY	PARK CATEGORY	STREETSCAPE CATEGORY	COASTAL AREA CATEGORY	PUBLIC PLACE CATEGORY	USER NOTES
	*Ficus benghalensis*	Indian Banyan Tree		B	♦♦♦		■	■	✓	✓	✓	✓	Good street and park tree providing dense shade in a climate where shade is critical.
	*Ficus infectoria*	Bo Tree		B	♦♦♦		■	■	✓	✓	✓	✓	Good street and park tree providing dense shade in a climate where shade is critical.
	*Ficus microcarpa*	Malayan Banyan		C	♦♦♦			■	✓	✓	✓	✓	Good street and park tree providing dense shade in a climate where shade is critical.
	*Ficus microcarpa 'Benjamina'*	Weeping Fig		C	♦♦♦			■	✓	✓	✓	✓	Good street and park tree providing dense shade in a climate where shade is critical.

TREES	BOTANIC NAME	COMMON NAME	LOCALLY OCCURING SPECIES	EXPOSURE GROUP	IRRIGATION CLASSIFICATION	HAZARDS	INLAND SUITABILITY	COASTAL SUITABILITY	PARK CATEGORY	STREETSCAPE CATEGORY	COASTAL AREA CATEGORY	PUBLIC PLACE CATEGORY	USER NOTES
	*Ficus religiosa*	Bodhi		B	♦♦♦			■	✓	✓	✓	✓	Good street and park tree providing dense shade in a climate where shade is critical.
	*Ficus salicifolia*	Willow leaf fig		C	♦♦♦			■	✓		✓	✓	Needs shelter from wind and best if sheltered from summer afternoon sun.
	*Hibiscus tiliaceus* 'Variegrata'	Tricolour Sea Hibiscus		B	♦♦♦			■●	✓	✓	✓	✓	Well suited to coastal areas, especially where there is salt laden air.
	*Hibiscus tiliaceus*	Beach, Sea or Linden Hibiscus		B	♦♦♦			■●	✓	✓	✓	✓	Well suited to coastal areas, especially where there is salt laden air.

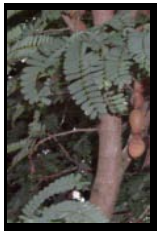
TREES	BOTANIC NAME	COMMON NAME	LOCALLY OCCURING SPECIES	EXPOSURE GROUP	IRRIGATION CLASSIFICATION	HAZARDS	INLAND SUITABILITY	COASTAL SUITABILITY	PARK CATEGORY	STREETSCAPE CATEGORY	COASTAL AREA CATEGORY	PUBLIC PLACE CATEGORY	USER NOTES
	*Kigelia africana*	Sausage Tree		C	♦♦♦		■	■	✓		✓		Best used as a curiosity in public parks and gardens.
	*Mangifera indica*	Mango Tree		B	♦♦♦		■	■	✓	✓	✓	✓	Important oasis species and also a good park tree. Not suited to street use. Has fragrant flowers and provides dense shade as well as very edible fruit
	*Millingtonia hortensis*	Indian Cork Tree, Tree Jasmine		C	♦♦♦		■	■	✓	✓	✓	✓	Very good urban park tree, highly scented but will sucker so not suitable for streetsbut can be used in souks
	*Moringa oleifera*	Horseradish, Drumstick, Ben-oil tree		A	♦♦♦		■●		✓				Good source of edible seed pods and suitable for community gardens and oases

TREES	BOTANIC NAME	COMMON NAME	LOCALLY OCCURING SPECIES	EXPOSURE GROUP	IRRIGATION CLASSIFICATION	HAZARDS	INLAND SUITABILITY	COASTAL SUITABILITY	PARK CATEGORY	STREETSCAPE CATEGORY	COASTAL AREA CATEGORY	PUBLIC PLACE CATEGORY	USER NOTES
	*Pandanus utilis*	Screw Palm		C	♦♦♦	leaf spikes		■●			✓	✓	Best in coastal parks and urban plazas but needs partial shade to avoid summer burning.
	*Pandanus veitchii*	Ribbon Plant		C	♦♦♦	leaf spikes		■●			✓	✓	Best in coastal parks and urban plazas but needs partial shade to avoid summer burning.
	*Peltophorum inerme*	Yellow Poinciana		B	♦♦♦		■	■	✓	✓	✓	✓	Excellent urban tree, preferably in coastal areas.
	*Pithecellobium dulce*	Madras Thorn, Manila Tamarind		B	♦♦♦	thorns	■	■	✓	✓	✓	✓	Hardy tree for urban streets.

TREES	BOTANIC NAME	COMMON NAME	LOCALLY OCCURING SPECIES	EXPOSURE GROUP	IRRIGATION CLASSIFICATION	HAZARDS	INLAND SUITABILITY	COASTAL SUITABILITY	PARK CATEGORY	STREETSCAPE CATEGORY	COASTAL AREA CATEGORY	PUBLIC PLACE CATEGORY	USER NOTES
	*Plumeria obtusa*	Singapore or White Frangipani		B	♦♦♦	sap allergy	■	■	✓	✓	✓	✓	Widely used in coastal areas, can tolerate full sun or partial shade. Tolerant of salt laden winds.
	*Plumeria rubra* 'Acutifolia'	Frangipani or Temple Tree, West Indian Jasmine		C	♦♦♦	sap allergy	■	■	✓	✓	✓	✓	Widely used in coastal areas, can tolerate full sun or partial shade. Tolerant of salt laden winds.
	*Polyalthia longifolia*	Mast Tree		C	♦♦♦			■	✓	✓	✓	✓	Must be grown where it has good shelter and protection from summer afternoon sun. Best for coastal regions.
	*Polyalthia longifolia pendula*	Weeping Mast Tree		C	♦♦♦			■	✓	✓	✓	✓	Must be grown where it has good shelter and protection from summer afternoon sun. Best for coastal regions.

TREES	BOTANIC NAME	COMMON NAME	LOCALLY OCCURING SPECIES	EXPOSURE GROUP	IRRIGATION CLASSIFICATION	HAZARDS	INLAND SUITABILITY	COASTAL SUITABILITY	PARK CATEGORY	STREETSCAPE CATEGORY	COASTAL AREA CATEGORY	PUBLIC PLACE CATEGORY	USER NOTES
	*Pongamia pinnata*	Pongam Tree		C	♦♦♦			■	✓	✓	✓	✓	Very good urban tree for streets, plazas, souks and parks. Best in coastal regions.
	*Psidium guajava*	Tropical Guava		C	♦♦♦		■	■	✓	✓	✓	✓	Guava is commonly found in oases, but can be useful as an urban small tree.
	*Psidium littorale*	Cattley Guava		C	♦♦♦		■	■	✓	✓	✓	✓	Guava is commonly found in oases, but can be useful as an urban small tree.
	*Saraca indica*	Ashoka		C	♦♦♦			■	✓	✓	✓		Colourful tree best suited to urban coastal areas.

TREES	BOTANIC NAME	COMMON NAME	LOCALLY OCCURING SPECIES	EXPOSURE GROUP	IRRIGATION CLASSIFICATION	HAZARDS	INLAND SUITABILITY	COASTAL SUITABILITY	PARK CATEGORY	STREETSCAPE CATEGORY	COASTAL AREA CATEGORY	PUBLIC PLACE CATEGORY	USER NOTES
	*Spathodea campanulata*	African Tulip Tree		C	♦♦♦			■	✓	✓	✓	✓	In its native habitat *Spathodea* grows to a very large tree, but this does not happen in the UAE. The few specimens in Abu Dhabi are medium sized trees enjoying shelter and shade from afternoon summer sun.
	*Spathodea campanulata* 'Scarlet'	Scarlet African Tulip Tree		C	♦♦♦			■	✓	✓	✓	✓	In its native habitat *Spathodea* grows to a very large tree, but this does not happen in the UAE. The few specimens in Abu Dhabi are medium sized trees enjoying shelter and shade from afternoon summer sun.
	*Tabebuia caraiba*	Yellow Tabebuia, Trumpet Tree		C	♦♦♦			■	✓	✓	✓	✓	Hardy but slow growing species, suitable for Abu Dhabi. Grows best in sheltered location in parks or urban plazas.
	*Tabebuia impetiginosa*	Purple Trumpet Tree		C	♦♦♦			■	✓	✓	✓	✓	Hardy but slow growing species, suitable for Abu Dhabi. Grows best in sheltered location in parks or urban plazas.

TREES	BOTANIC NAME	COMMON NAME	LOCALLY OCCURING SPECIES	EXPOSURE GROUP	IRRIGATION CLASSIFICATION	HAZARDS	INLAND SUITABILITY	COASTAL SUITABILITY	PARK CATEGORY	STREETSCAPE CATEGORY	COASTAL AREA CATEGORY	PUBLIC PLACE CATEGORY	USER NOTES
	*Tabebuia rosea*	Pink Trumpet Tree		C	♦♦♦			■	✓	✓	✓	✓	Hardy but slow growing species, suitable for Abu Dhabi. Grows best in sheltered location in parks or urban plazas.
	*Tamarindus indica*	Tamarind		B	♦♦♦		■	■	✓	✓	✓	✓	Hardy, well shaped and textured tree.
	*Terminalia arjuna*	Arjuna, White Marudah		C	♦♦♦		■	■	✓	✓	✓	✓	Very good shade tree for urban streets and parks.
	*Terminalia catappa*	Tropical Almond		C	♦♦♦			■		✓	✓	✓	Very good umbrella shaped shade tree for coastal areas including marinas and waterfront parks.

TREES	BOTANIC NAME	COMMON NAME	LOCALLY OCCURING SPECIES	EXPOSURE GROUP	IRRIGATION CLASSIFICATION	HAZARDS	INLAND SUITABILITY	COASTAL SUITABILITY	PARK CATEGORY	STREETSCAPE CATEGORY	COASTAL AREA CATEGORY	PUBLIC PLACE CATEGORY	USER NOTES
	*Thespesia populnea*	Portia Tree, Indian Tulip Tree		B	♦♦♦		■	■		✓	✓	✓	Very good shade tree for coastal areas and inland.
	*Trichilia emetica*	Natal Mahogany Tree		C	♦♦♦			■	✓	✓	✓		Good shade tree suited to Al Ain conditions.
	*Ziziphus jujuba*	Common Jujube, Chinese Date		B	♦♦♦		■	■	✓	✓	✓	✓	An oasis species producing edible fruit. Also can be used as an urban park, street or plaza tree.
	*Citrus limonum*	Lemon Tree		D	♦♦♦♦	Thorns and disease risk	■	■	✓		✓		Important oasis species but has suffered from a virus that has almost wiped it out.

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	*Neodypsis decaryi*	Triangle Palm		D	♦♦♦♦			■			✓	✓	Limited use in urban plazas where it is sheltered from wind and has shade from summer afternoon sun.
	*Pseudobombax ellipticum*	Shaving Brush Tree		C	♦♦♦♦			■	✓	✓	✓	✓	Unusual plant grown for interest only. Limited use in urban plaza or urban park.
	*Ravenala madagascariensis*	Traveler's Palm		E	♦♦♦♦			■			✓	✓	Strongly architectural, good plant for urban plazas but must be sheltered from wind and afternoon summer sun.

PALMS	BOTANIC NAME	COMMON NAME	LOCALLY OCCURING SPECIES	EXPOSURE GROUP	IRRIGATION CLASSIFICATION	HAZARDS	INLAND SUITABILITY	COASTAL SUITABILITY	PARK CATEGORY	STREETSCAPE CATEGORY	COASTAL AREA CATEGORY	PUBLIC PLACE CATEGORY	USER NOTES
	*Nanorrhops ritchieanna*	Zerbet	*	A	♦♦	leaf spikes	■●		✓			✓	Good species for scenic routes, urban plazas and parks where limited irrigation water is available.
	*Phoenix dactylifera*	Date Palm	*	B	♦♦♦♦	leak spikes	■	■	✓	✓	✓	✓	Date Palm is essential in both a cultural context and as urban shade. Does require higher water consumption than many tree and palm species but only at active growth periods. Over the 12 months of the year, would use no more than any palm or tree of similar stature. Needs little water in cooler months and little during fruit ripening.
	*Cycas circinalis*	Queen Sago Palm		D	♦♦♦			■	✓		✓	✓	Specimen plant best suited to humid coastal environments. Will burn in afternoon summer sun. Needs shelter and shade to grow best.
	*Cycas revoluta*	King Sago Palm		D	♦♦♦			■	✓		✓	✓	Specimen plant best suited to humid coastal environments. Will burn in afternoon summer sun. Needs shelter and shade to grow best.

PALMS	BOTANIC NAME	COMMON NAME	LOCALLY OCCURING SPECIES	EXPOSURE GROUP	IRRIGATION CLASSIFICATION	HAZARDS	INLAND SUITABILITY	COASTAL SUITABILITY	PARK CATEGORY	STREETSCAPE CATEGORY	COASTAL AREA CATEGORY	PUBLIC PLACE CATEGORY	USER NOTES
	*Livistona chinensis*	Chinese Fan Palm		D	♦♦♦			■	✓		✓	✓	Needs shelter and afternoon shade in this region.
	*Phoenix reclinata*	Senegal Date Palm		C	♦♦♦	leaf spikes	■	■		✓	✓	✓	Limited use as the Date Palm should be given priority as an integral part of community sustainability.
	*Phoenix roebelinii*	Pigmy Date Palm		C	♦♦♦	leaf spikes	■	■		✓	✓	✓	Good feature plant where it is away from people access – leaf spikes are a serious hazard.
	*Rhapis excelsa*	Lady Palm		E	♦♦♦			■			✓	✓	Needs shaded and shelterd location.

PALMS	BOTANIC NAME	COMMON NAME	LOCALLY OCCURING SPECIES	EXPOSURE GROUP	IRRIGATION CLASSIFICATION	HAZARDS	INLAND SUITABILITY	COASTAL SUITABILITY	PARK CATEGORY	STREETSCAPE CATEGORY	COASTAL AREA CATEGORY	PUBLIC PLACE CATEGORY	USER NOTES
	*Roystonea regia*	Royal Palm		D	♦♦♦			■			✓	✓	Not suitable for this region except where sheltered from wind and from afternoon summer sun.
	*Syagrus romanzoffiana*	Queen Palms		E	♦♦♦			■			✓	✓	Not suitable for this region except where sheltered from wind and from afternoon summer sun.
	*Washingtonia filifera*	California Fan Palm		B	♦♦♦	leaf stem spikes	■	■	✓	✓	✓	✓	Hardy palm for most urban conditions including waterfront, although salt laden winds do cause some leaf burn in summer.
	*Washingtonia robusta*	Mexican Fan Palm		B	♦♦♦	leaf stem spikes	■	■	✓	✓	✓	✓	Hardy palm for most urban conditions including waterfront although salt laden winds do cause some leaf burn in summer.

PALMS	BOTANIC NAME	COMMON NAME	LOCALLY OCCURING SPECIES	EXPOSURE GROUP	IRRIGATION CLASSIFICATION	HAZARDS	INLAND SUITABILITY	COASTAL SUITABILITY	PARK CATEGORY	STREETSCAPE CATEGORY	COASTAL AREA CATEGORY	PUBLIC PLACE CATEGORY	USER NOTES
	*Archontophoenix alexandrae*	Alexander Palm, King Palm		E	♦♦♦♦			■	✓		✓	✓	Shelter and west sun protection.
	*Bismarckia nobilis*	Bismark Palm		C	♦♦♦♦		■	■	✓	✓	✓	✓	Shelter and west sun protection
	*Wodyetia bifurcata*	Foxtail or Wodyetia Palm		E	♦♦♦♦			■			✓	✓	Not suitable for this region except where sheltered from wind and from afternoon summer sun.

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	*Acacia ehrenbergiana*	Samal	*	A	●	thorns	●		✓				Use in desert parks and any location requiring low irrigation status.
	*Aerva javanica*	Al Ara	*	A	●		●	●	✓	✓	✓	✓	*Aerva javanica* occurs widely throughout the UAE, does not requie irrigation after establishment but has maintenance needs (subtle trimming) and is yet to be tested in urban environments.
	*Arthrocnemum macrostachyum*	Hamadh	*	A	●			●	✓		✓	✓	Waterfront species, as yet not produced by nursery industry.
	*Leptadenia pyrotechnica*	Fire Plant, Merekh	*	A	●		●		✓	✓			Very hardy shrub best used as a wind break along highways where there is little or no irrigation.

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	*Lycium shawii*	Desert Thorn	✱	A	💧	thorns	●		✓	✓			Hardy plant – could be an excellent hedge plant but untested. Thorns restrict it's use to hedge planting.
	*Adenium obesum*	Desert Rose	✱	B	💧💧	sap allergy	■	■	✓	✓	✓	✓	*Adenium* occurs in mountain regions of Oman, Yemen and Ethiopia where it benefits from moist air. It cannot survive in Al Ain or Abu Dhabi without some irrigation. It is best used where it is not in direct contact with people.
	*Dodonaea viscosa*	Shahus	✱	A	💧💧		■	■	✓		✓	✓	Hardy locally occuring species in Hajja Mountains. Needs little water and frequent light trimming to produce a good sustainable hedge.
	*Senna italica*	Senna	✱	A	💧💧		■●	■	✓		✓	✓	Small hardy shrub commonly found along wadis beds.

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	*Vitex agnus-castus*	Chastetree, Vitex	*	A	♦♦		■	■	✓	✓	✓	✓	Useful hedge plant and wind break.
	*Lawsonia inermis*	Henna Plant, Mignonette Tree	*	B	♦♦♦		■	■	✓		✓	✓	Henna is commonly grown in oases and along mountain wadis. It is culturally significant so should also be associated with heritage sites and community gardens.
	*Calligonum comosum*	Abal		A	♦		●		✓	✓		✓	Good species for low irrigation water availability. It should be noted that all species need some water to survive. When new landscapes are installed there is a need for low irrigation application in order to increase or sustain a higher vegetation density than in natural context.
	*Haloxylon salicornium*	Rimth		A	♦		●	●		✓	✓		Best used inland , untested as a landscape plant and will need special skills to properly maintain, however well worth developing for highway landscape use.

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	*Heliotropium curassavicum*	Khashafa		A	♦		●	●		✓	✓		Can grow well in all areas including primary dune/ foreshore locations, some salt tolerance. Also untested as a landscape plant and will need special skills to grow properly.
	*Adenium obesum* 'Grumbly White'	Snowbell		B	♦♦	sap allergy	■	■	✓	✓	✓		*Adenium* occurs in mountain regions of Oman, Yemen and Ethiopia where it benefits from moist air. It cannot survive in Al Ain or Abu Dhabi without some irrigation. It is best used where it is not in direct contact with people.
	*Atriplex canescens*	Four-wing Saltbush		B	♦♦			●	✓	✓	✓	✓	Very good species for low water demand landscapes, meeting sustainable targets with ease.
	*Atriplex glauca*	Waxy Saltbush, Grey Saltbush		B	♦♦			●	✓	✓	✓	✓	Very good species for low water demand landscapes, meeting sustainable targets with ease.

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	*Atriplex halimus*	Sea Orach		B	💧💧			●	✓	✓	✓	✓	Very good species for low water demand landscapes, meeting sustainable targets with ease.
	*Atriplex nummularia*	Giant or Old Man Saltbush		B	💧💧			●	✓	✓	✓	✓	Very good species for low water demand landscapes, meeting sustainable targets with ease.
	*Gazania uniflora*	Treasure Flower		C	💧💧		■	■		✓	✓		Hardy species for coastal parks and roadsides.
	*Jatropha gossypifolia*	Bellyache Bush		C	💧💧	poisonous	■	■	✓	✓	✓		A hardy species but should not be grown in parks where contact with children is possible. Can use on highways and other contexts where human contact is less likely.

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	*Jatropha integerrima*	Peregrina, Spicy Jatropha		C	♦♦	poisonous	■	■	✓	✓	✓		A hardy species but should not be grown in parks where contact with children is possible. Can use on highways and other contexts where human contact is less likely.
	*Leucophyllum frutescens*	Texas Ranger, Texas Sage		B	♦♦		■	■	✓	✓	✓	✓	Very good hedge plant for most areas, low water demand and easy to maintain.
	*Punica granatum*	Pomegranate		C	♦♦ & ♦♦♦	thorns	■	■	✓	✓	✓		Commonly grown in oases but should be used as a small tree in urban areas.
	*Asclepias curassavica*	Blood Flower		C	♦♦♦		■	■	✓	✓	✓	✓	

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	*Caesalpinia gilliesi*	Bird of Paradise, Paradise Poinciana		B	♦♦♦		■	■	✓	✓	✓	✓	Very common species, widely used. Needs low water regime but is often overwatered.
	*Caesalpinia pulcherrima*	Red bird of paradise, Pride of Barbados		B	♦♦♦		■	■	✓	✓	✓	✓	Very common species, widely used. Needs low water regime but is often overwatered.
	*Caesalpinia pulcherrima* 'Dwarf'	Dwarf Poinciana		B	♦♦♦		■	■	✓	✓	✓	✓	Very common species, widely used. Needs low water regime but is often overwatered.
	*Caesalpinia pulcherrima* 'Dwarf Pink'	Pink Dwarf Poinciana		B	♦♦♦		■	■	✓	✓	✓	✓	Very common species, widely used. Needs low water regime but is often overwatered.

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	*Caesalpinia pulcherrima* 'Red'	Red Dwarf Poinciana		B	♦♦♦		■	■	✓	✓	✓	✓	Very common species, widely used. Needs low water regime but is often overwatered.
	*Caesalpinia pulcherrima* var. *flava*	Yellow Dwarf Poinciana		B	♦♦♦		■	■	✓	✓	✓	✓	Very common species, widely used. Needs low water regime but is often overwatered.
	*Carissa grandiflora*	Natal Plum		C	♦♦♦	poisonous berries	■	■	✓	✓	✓	✓	Widely used low growing shrub, ideal hedge.
	*Cestrum diurnum*	Inkberry, Day Jasmine		C	♦♦♦		■	■	✓		✓	✓	Fragrant shrub best located in background as plant is unattractive.

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	*Cestrum nocturnum*	Night Jasmine		C	♦♦♦		■	■	✓		✓	✓	Fragrant shrub best located in background as plant is unattractive.
	*Coccoloba grandiflora*	Seagrape		B	♦♦♦			■●	✓	✓	✓	✓	Excellent coastal tree with large round leaves and edible fruit, very tolerant of salt laden winds. Will also grow inland.
	*Cordyline fruticosa*	Ti Plant, Good Luck Plant		D	♦♦♦			■	✓	✓	✓	✓	Prefers coastal locations, use as an accent plant.
	*Dombeya wallichii*	Pinkball, Tropical Hydrangea		C	♦♦♦		■	■	✓		✓	✓	Semi herbaceous large shrub with attractive pink ball flowers. Needs to be in semi shade and shelter.

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	*Dombeya x seminole*	Pink Cloud		C	♦♦♦		■	■	✓		✓	✓	Semi herbaceous large shrub with attractive pink ball flowers. Needs to be in semi shade and shelter.
	*Duranta repens*	Blue Butterfly Bush		D	♦♦♦		■	■			✓	✓	Useful blue flowering shrub – needs afternoon summer shade.
	*Hibiscus rosa-sinensis*	Tropical Hibiscus, Rose of China		C	♦♦♦			■	✓		✓	✓	In recent years it has been badly damaged by insect attacks and will present a maintenance problem. It's use is not advised.
	*Hibiscus syriacus*	Rose of Sharon		C	♦♦♦		■	■			✓	✓	Hardy flowering shrub for urban plazas and parks.

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	*Malvaviscus arboreus*	Turk's Cap		C	♦♦♦		■	■	✓		✓	✓	Widely used in public gardens providing colour for most of year.
	*Malvaviscus arboreus* var *mexicanus*	Mexican Turk's Cap		C	♦♦♦		■	■	✓		✓	✓	Widely used in public gardens providing colour for most of year.
	*Murraya exotica*	Orange Jasmine, Satin Wood, Honey Bush, Chinese Box		D	♦♦♦			■	✓		✓	✓	Needs shelter and shade from summer afternoon sun
	*Murraya paniculata*	Orange Jasmine, Chalcas		D	♦♦♦			■			✓	✓	Needs shelter and shade from summer afternoon sun

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	*Myrtus communis*	True Myrtle		D	♦♦♦			■	✓	✓	✓	✓	Hardy shrub well suited to urban plazas and parks.
	*Peltophorum pterocarpum*	Copper Pod		B	♦♦♦		■	■	✓	✓	✓	✓	Similar to *P.inerme* but hardier and also suitable for inland areas.
	*Plumbago auriculata*	Blue Plumbago, Cape Leadwort		D	♦♦♦		■	■	✓	✓	✓	✓	Needs careful pruning to sustain good character and grows best in partial shade.
	*Plumbago auriculata* 'Alba'	White Plumbago		D	♦♦♦		■	■	✓	✓	✓	✓	Needs careful pruning to sustain good character and grows best in partial shade.

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	*Plumbago capensis*	Cape Plumbago		D	♦♦♦		■	■	✓	✓	✓	✓	Needs careful pruning to sustain good character and grows best in partial shade.
	*Plumeria acutifolia*	Frangipani Tree, Temple Tree		B	♦♦♦	sap allergy	■	■	✓	✓	✓	✓	Widely used in coastal areas, can tolerate full sun or partial shade. Tolerant of salt laden winds.
	*Plumeria rubra*	Frangipani		C	♦♦♦	sap allergy	■	■	✓	✓	✓	✓	Widely used in coastal areas, can tolerate full sun or partial shade. Tolerant of salt laden winds.
	*Pseuderanthemum atropurpureum*	Purple False Eranthemum		D	♦♦♦		■	■			✓	✓	Must have shade and shelter. A good plant for under tree locations in parks or urban plazas.

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	*Pseuderanthemum reticulatum*	Yellow-Vein Eranthemum		D	♦♦♦		■	■			✓	✓	Must have shade and shelter. A good plant for under tree locations in parks or urban plazas.
	*Rhodocoma capensis*	South African Restio		D	♦♦♦			■			✓	✓	Needs shaded and shelterd location.
	*Russelia equisetiformis*	Firecracker Plant		C	♦♦♦			■			✓	✓	Needs shelter and shade from afternoon summer sun.
	*Scaevola frutescens*	Beach Naupaka		B	♦♦♦			■●	✓	✓	✓	✓	Hardy waterfront species best suited to Abu Dhabi.

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	*Tabernaemontana corymbosa*	Flower of Love		D	♦♦♦	poisonous	■	■			✓	✓	Needs shade from afternoon summer sun and shelter, best used in private plazas.
	*Tabernaemontana divaricata*	Crepe Jasmine, Pinwheel Flower		D	♦♦♦	poisonous	■	■			✓	✓	Needs shade from afternoon summer sun and shelter, best used in private plazas.
	*Tecoma stans*	Yellow Trumpet Bush		B	♦♦♦		■	■	✓	✓	✓	✓	Hardy species with wide application, needs little water in winter months.
	*Tecoma x smithii*	Orange Bells		B	♦♦♦		■	■	✓	✓	✓	✓	Hardy species with wide application, needs little water in winter months.

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	*Tecomaria capensis*	Cape Honeysuckle		B	♦♦♦		■	■	✓		✓	✓	Hardy species with wide application, needs little water in winter months.
	*Thunbergia natalensis*	Dwarf Thunbergia, Natal Blue Bell		D	♦♦♦		■	■			✓	✓	Limited use in urban plaza or community garden context.
	*Acalypha wilkesiana*	Copper Leaf		D	♦♦♦♦		■	■	✓		✓		*Acalypha* is a herbaceous shrub that needs shade from afternoon sun. It also needs a moderate level of irrigation.
	*Acalypha wilkesiana* 'Hoffmani'	Hoffman Copper Plant		D	♦♦♦♦		■	■	✓		✓		*Acalypha* is a herbaceous shrub that needs shade from afternoon sun. It also needs a moderate level of irrigation.

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	*Acalypha wilkesiana* 'Yellow'	Yellow Copper Leaf		D	♦♦♦♦		■	■	✓		✓		*Acalypha* is a herbaceous shrub that needs shade from afternoon sun. It also needs a moderate level of irrigation.
	*Alocasia macrorrhiza* detail	Elephants Ear, Wild Taro		D	♦♦♦♦			■			✓	✓	Full shade.
	*Calliandra brevipes*	Pink Powderpuff		D	♦♦♦♦			■			✓	✓	Limited use in urban plazas or parks .
	*Gardenia augusta*	Gardenia, Cape Jasmine		E	♦♦♦♦			■	✓		✓	✓	Needs a very sheltered and shaded location with daily watering in summer, best excluded from public and commercial landscapes.

SHRUBS	BOTANIC NAME	COMMON NAME	LOCALLY OCCURING SPECIES	EXPOSURE GROUP	IRRIGATION CLASSIFICATION	HAZARDS	INLAND SUITABILITY	COASTAL SUITABILITY	PARK CATEGORY	STREETSCAPE CATEGORY	COASTAL AREA CATEGORY	PUBLIC PLACE CATEGORY	USER NOTES
	*Gardenia jasminoides*	Gardenia, Cape Jasmine		E	♦♦♦♦			■	✓		✓	✓	Needs a very sheltered and shaded location with daily watering in summer, best excluded from public and commercial landscapes.
	*Ixora casei*	Giant Ixora, Malay Ixora		D	♦♦♦♦			■		✓	✓	✓	Needs shelter from wind and from afternoon sun, restrict its use to Abu Dhabi where it has a humid climate. Extreme heat will cause leaf burn.
	*Ixora chinensis*	Prince of Orange, Chinese Ixora		D	♦♦♦♦			■		✓	✓	✓	Needs shelter from wind and from afternoon sun, restrict its use to Abu Dhabi where it has a humid climate. Extreme heat will cause leaf burn.
	*Ixora coccinea*	Jungle Flame, Jungle Geranium		D	♦♦♦♦			■		✓	✓	✓	Needs shelter from wind and from afternoon sun, restrict its use to Abu Dhabi where it has a humid climate. Extreme heat will cause leaf burn.

GROUNDCOVER & GRASSES	BOTANIC NAME	COMMON NAME	LOCALLY OCCURING SPECIES	EXPOSURE GROUP	IRRIGATION CLASSIFICATION	HAZARDS	INLAND SUITABILITY	COASTAL SUITABILITY	PARK CATEGORY	STREETSCAPE CATEGORY	COASTAL AREA CATEGORY	PUBLIC PLACE CATEGORY	USER NOTES
	*Crotalaria aegyptaica*	Nzah	✱	A	💧		●		✓			✓	Limited use given it has not been developed as a landscape plant. Will need a similar level of sensitive maintenance as *Haloxylon* and *Aerva javanica*.
	*Indigofera intricata*	Baysha	✱	A	💧		●	●	✓		✓	✓	Use in Al Ain, not suited to humid locations.
	*Boerhavia elegans*	Hamra	✱	B	💧💧		■		✓				A particularly beautiful perennial flower but one that has not been grown in urban context. Flowers in the winter months then virtually disappears so it has limited value in urban landscapes. The species would require specialist maintenance skills.
	*Capparis spinosa*	Caper Plant	✱	A	💧💧	thorns	■●	■		✓	✓	✓	Locally occuring species, survives where roots have access to moisture (mostly on Jebel Hafeet). Is suitable as a ground cover and has attractive flowers. Will need competent maintenance re trimming and minimum irrigation.

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	*Pennisetum divisum*	Bristle Grass	✱	A	♦♦		■●	■●	✓	✓	✓	✓	Widespread hardy grass species very suitable for highway landscapes and desert parks. Excellent for dune stabilizing.
	*Pennisetum setaceum*	Crimson or African Fountain Grass	✱	A	♦♦		■●	■●	✓	✓	✓	✓	Widespread use in urban areas, often overwatered.
	*Tephrosia apollinea*	Dhafra	✱	A	♦♦		■		✓			✓	Hardy small shrub for desert areas and low water demand urban landscapes. Untried as a urban plant.
	*Arundo donax*	Giant Reed	✱	B	♦♦♦♦		■	■	✓		✓		

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	*Cyperus laevigatus*	Hasal		A	♦♦		■	■			✓	✓	Hardy waterfront species – needs little water and tolerates salt laden winds.
	*Euphorbia milii*	Crown of Thorns		D	♦♦	thorns sap allergy		■			✓	✓	Thorns severely limit use, impossible to remove weeds from amidst them, low water demand and attractive flowers are the selling point but this is countered by maintenance issues.
	*Gazania hybrids*	Treasure Flower		C	♦♦		■	■		✓	✓		Hardy species for coastal parks and roadsides.
	*Pennisetum setaceum rubrum*	Purple or Red Fountain Grass		B	♦♦		■●	■●	✓	✓	✓	✓	Widespread use in urban areas, often overwatered.

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	*Pennisetum villosum*	Feathertop, White Fountain Grass		B	♦♦		■●	■●	✓	✓	✓	✓	Widespread use in urban areas, often overwatered.
	*Portulaca grandiflora*	Moss Rose		C	♦♦			■●			✓	✓	Widely used summer annual.
	*Saccharum ravennae*	Ravenna or Sugarcane Plume Grass		B	♦♦		■		✓				Needs to grow next to fresh water or receive higher irrigation rate during growing season.
	*Sesuvium portulacastrum*	Sea Purslane		A	♦♦		■●	■●	✓	✓	✓	✓	The best hardy ground cover requiring very low water and maintenance. *S. Portulacastrum* grows flat on the ground whereas *S. Verrcosum* is approx 150 to 200mm height.

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	*Sesuvium portulacastrum* Red Form	Red Sea Purslane		A	💧💧		■●	■●		✓	✓	✓	Rusty red version of *S.portulacastrum.*
	*Sesuvium verrucosum*	Rohama		A	💧💧			■		✓	✓	✓	Taller growing and frequently overwatered. Grows best on a low water regime. Should not be taller than 120mm.
	*Senecio cineraria*	Dusty Miller		D	💧💧 & 💧💧💧		■	■		✓	✓		Perennial suitable for urban street, plaza or park use as a low water demand ground cover.
	*Alternanthera bettzickiana*	Joyweed		C	💧💧💧		■	■	✓	✓	✓	✓	Needs partial shade to avoid burning in extreme summer conditions.

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	*Alternanthera flavescens*	Yellow Joyweed		C	♦♦♦		■	■	✓	✓	✓	✓	Needs partial shade to avoid burning in extreme summer conditions.
	*Alternanthera versicolor*	Rose Bush		C	♦♦♦		■	■	✓	✓	✓	✓	Needs partial shade to avoid burning in extreme summer conditions.
	*Carex hachijoensis*	Japanese Sedge		D	♦♦♦			■			✓	✓	Attractive grass but needs to be used sparingly
	*Carissa grandiflora* 'Green Carpet'	Dwarf Natal Plum		C	♦♦♦	poisonous berries	■	■	✓	✓	✓	✓	Widely used ground cover with low water demand.

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	*Carissa macrocarpa* 'Boxwood Beauty'	Compact Natal Plum		C	♦♦♦	poisonous berries	■	■	✓	✓	✓	✓	Widely used ground cover with low water demand.
	*Catharanthus roseus*	Madagascar Periwinkle		C	♦♦♦		■	■	✓	✓	✓	✓	
	*Clerodendrum inerme*	Seaside Glory-Bower		A	♦♦♦		■	■	✓	✓	✓	✓	Widely used as a hedge species, hardy but too often trimmed too hard and dies back leaving exposed woody branches and no leaf.
	*Cuphea hyssopifolia*	Mexican Heather, False Heather		D	♦♦♦			■	✓		✓	✓	Good ground cover for humid coastal locations.

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	*Dietes grandiflora*	Wild Iris, Fairy Iris		D	♦♦♦			■			✓	✓	Limitd use in private urban plazas.
	*Iresine herbstii*	Beefsteak Plant, Bloodleaf		C	♦♦♦			■	✓	✓	✓	✓	Useful ground cover where shaded from afternoon summer sun. Grows inland and in coastal urban locations.
	*Lantana camara*	Lantana		C	♦♦♦	seeds poisonous	■	■	✓		✓	✓	Commonly used colourful ground cover able to handle full sun. Overwatering is a common problem
	*Leonotis leonurus*	Lion's Tail, Lion's Ear, Wild Dagga		D	♦♦♦		■	■	✓		✓	✓	Perennial can be used amongst other planting in public gardens or private plazas.

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	*Rhoeo spathacea*	Oyster Plant, Moses-in-the-Cradle		D	♦♦♦			■	✓	✓	✓	✓	Needs shaded and shelterd location.
	*Ruellia caroliniensis*	Wild Petunia, East Tennessee Pinkroot		C	♦♦♦		■	■	✓	✓	✓	✓	Needs afternoon shade and shelter, can be invasive by seed distribution. Useful ground cover for urban park, street and plaza uses.
	*Saccharum officinarum*	Sugarcane		C	♦♦♦		■	■	✓		✓	✓	Oasis species with limited uses in community gardens.
	*Setcreasea purpurea*	Purple Heart syn Tradescantia purpurea		D	♦♦♦			■	✓	✓	✓	✓	Good ground cover for under shade trees or palms, burns if unshaded.

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	*Strobilanthes dyeranus*	Persian Shield		D	♦♦♦			■			✓	✓	Needs full shade and shelter useful for under tree planting but not until the tree provides full shade cover.
	*Tradescantia spathacea*	Oyster Plant, Moses-in-the-Cradle, Boat-Lily		D	♦♦♦			■	✓		✓	✓	Needs shaded and shelterd location.
	*Tradescantia virginiana*	Virginia Spiderwort, Lady's Tears		D	♦♦♦			■	✓		✓	✓	Needs shaded and shelterd location.
	*Verbena tenuisecta*	Moss Verbena		D	♦♦♦		■	■	✓	✓	✓	✓	Winter flowering perennial - very good source of mauve/blue colour.

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	*Wedelia trilobata*	Creeping Daisy, Yellow Dots		C	♦♦♦		■	■		✓	✓	✓	Due to its vigour it has limited applications.
	*Juncus socotranus*	Buchenau		B	≈		■		✓				Grows in shallow water. Good as a reed bed filtration species. Not suitable for saline or even slightly brackish water.
	*Phragmites australis*	Common Reed		A	≈		■●	■●	✓		✓		Salt tolerant reed.

SUCCULENTS & PERENNIALS	BOTANIC NAME	COMMON NAME	LOCALLY OCCURING SPECIES	EXPOSURE GROUP	IRRIGATION CLASSIFICATION	HAZARDS	INLAND SUITABILITY	COASTAL SUITABILITY	PARK CATEGORY	STREETSCAPE CATEGORY	COASTAL AREA CATEGORY	PUBLIC PLACE CATEGORY	USER NOTES
	*Aloe vera*	Aloe Vera	*	B	♦♦	leaf spines	■	■	✓	✓	✓	✓	Has been known to burn in full summer sun. Does best in partial shade from Date Palms.
	*Agave americana angustifolia*	Century Plant		B	♦♦	leaf spines	■	■		✓	✓	✓	Agave is a hardy genus however, plants have been burnt during periods of extreme heat. They present a problem for maintenance due to the sharp leaf tips.
	*Agave americana* 'Green'	Century Plant		B	♦♦	leaf spines	■	■		✓	✓	✓	Agave is a hardy genus however, plants have been burnt during periods of extreme heat. They present a problem for maintenance due to the sharp leaf tips.
	*Agave attenuata*	Swan's Neck, Fox Tails		B	♦♦	leaf spines	■	■		✓	✓	✓	Agave is a hardy genus however, plants have been burnt during periods of extreme heat. They present a problem for maintenance due to the sharp leaf tips.

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	*Agave* 'Blue Agave'	Blue Agave, Tequila Agave		B	💧💧	leaf spines	■	■		✓	✓	✓	Agave is a hardy genus however, plants have been burnt during periods of extreme heat. They present a problem for maintenance due to the sharp leaf tips.
	*Agave colorata*	Mescal Ceniza, Century Plant		B	💧💧	leaf spines	■	■		✓	✓	✓	Agave is a hardy genus however, plants have been burnt during periods of extreme heat. They present a problem for maintenance due to the sharp leaf tips.
	*Agave deserti*	Desert Agave		B	💧💧	leaf spines	■	■		✓	✓	✓	Agave is a hardy genus however, plants have been burnt during periods of extreme heat. They present a problem for maintenance due to the sharp leaf tips.
	*Aloe arborescens*	Krantz Aloe		B	💧💧	leaf spines	■	■		✓	✓	✓	Has been known to burn in full summer sun. Does best in partial shade from Date Palms.

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	*Aloe striata*	Coral Aloe		B	♦♦	leaf spines	■	■		✓	✓	✓	Has been known to burn in full summer sun. Does best in partial shade from Date Palms.
	*Crassula argentea*	Jade Plant		B	♦♦			■	✓	✓	✓	✓	Can be widely used as a low water requirement ground cover plant.
	*Yucca baileyi* 'Navajoa'	Navajo Yucca		C	♦♦	sharp pointed leaves	■	■	✓		✓	✓	Best suited to inland areas. All Yuccas present problems for landscape maintenace as the spikey leaves restrict access.
	*Yucca brevifolia*	Joshua Tree		C	♦♦	sharp pointed leaves	■	■	✓		✓	✓	Best suited to inland areas.

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	*Canna indica*	Indian Shot		C	♦♦♦		■	■	✓	✓	✓	✓	Widely grown but should be used sparingly to allow for greater use of lower water demand species.
	*Carica papaya*	Papaya or Paw Paw		D	♦♦♦		■	■	✓		✓		Important oasis species and may be grown in Community Gardens, but otherwise of limited use.
	*Crinum asiaticum*	Poison Bulb, Giant Crinum Lily		D	♦♦♦	skin irritant		■			✓	✓	Currently used extensively but burns in summer sun. Should only be used in semi shade or complete shade.
	*Crinum pedunculatum*	Swamp, River or Spider Lily		D	♦♦♦	skin irritant		■			✓	✓	Currently used extensively but burns in summer sun. Should only be used in semi shade or complete shade.

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	*Hymenocallis caroliniana*	Water Spiderlily		D	♦♦♦	poisonous		■		✓	✓	✓	Frequently used as a street and park understorey plant but wherever it is unshaded it will burn and spoil the plant's appearance. It is poisonous and should therefore be used where people are least likely to contact it.
	*Hymenocallis coronaria*	Shoals Spiderlily, Cahaba Lily		D	♦♦♦	poisonous		■		✓	✓	✓	Frequently used as a street and park understorey plant but wherever it is unshaded it will burn and spoil the plant's appearance. It is poisonous and should therefore be used where people are least likely to contact it.
	*Hymenocallis festalis*	Peruvian Daffodil, Spiderlily		D	♦♦♦	poisonous		■		✓	✓	✓	Frequently used as a street and park understorey plant but wherever it is unshaded it will burn and spoil the plant's appearance. It is poisonous and should therefore be used where people are least likely to contact it.
	*Hymenocallis latifolia*	Spiderlily		D	♦♦♦	poisonous		■		✓	✓	✓	Frequently used as a street and park understorey plant but wherever it is unshaded it will burn and spoil the plant's appearance. It is poisonous and should therefore be used where people are least likely to contact it.

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	*Pentas lanceolata*	Egyptian Star Cluster		D	♦♦♦		■	■	✓	✓	✓	✓	Useful shrub, handles open sunny locations in urban parks, plazas and streets.
	*Sansevieria trifasciata*	Mother-in-Law's Tongue		D	♦♦♦		■	■	✓		✓	✓	Hardy understorey for shade trees in urban context.
	*Strelitzia nicholii*	Giant Bird of Paradise		E	♦♦♦			■			✓	✓	Needs shade from afternoon summer sun and shelter, best used in private plazas.
	*Strelitzia reginae*	Bird of Paradise		E	♦♦♦			■				✓	Needs shade from afternoon summer sun and shelter, best used in private plazas.

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	*Yucca aloifolia*	Spanish Bayonet		C	♦♦♦	sharp pointed leaves	■	■	✓		✓	✓	Dramatically shaped plant for coastal locations. Best allowed to grow freely as a multistemmed specimen.
	*Yucca gloriosa*	Spanish Dagger		C	♦♦♦	sharp pointed leaves	■	■	✓		✓	✓	Leaves fold downward so less hazardous than other species of Yucca. Better suited to coastal locations in association with shade of palms.
	*Cyperus alternifolius*	Umbrella Plant		C	♦♦♦♦			■	✓		✓	✓	High water demand to grow properly, therefore limited application. Needs shelter and partial shade.
	*Cyperus involucratus*	Umbrella Sedge, Dwarf Papyrus		C	♦♦♦♦			■	✓		✓	✓	High water demand to grow properly, therefore limited application. Needs shelter and partial shade.

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	*Musa* x *paradisiaca*	Banana		D	💧💧💧💧			■	✓		✓		Important oasis species but limited use elsewhere due to requirement for semi shade and shelter as well as its high water demand.

CLIMBERS	BOTANIC NAME	COMMON NAME	LOCALLY OCCURING SPECIES	EXPOSURE GROUP	IRRIGATION CLASSIFICATION	HAZARDS	INLAND SUITABILITY	COASTAL SUITABILITY	PARK CATEGORY	STREETSCAPE CATEGORY	COASTAL AREA CATEGORY	PUBLIC PLACE CATEGORY	USER NOTES
	*Bougainvillea glabra*	Bougainvillea, Paper Flower		B	♦♦	thorns		■	✓	✓	✓	✓	Very common species, widely used. Needs low water regime but is often overwatered.
	*Bougainvillea hybrids*	Bougainvillea Hybrids		B	♦♦	thorns		■	✓	✓	✓	✓	Very common species, widely used. Needs low water regime but is often overwatered.
	*Bougainvillea spectabilis*	Bougainvillea, Paper Flower		B	♦♦	thorns		■	✓	✓	✓	✓	Very common species, widely used. Needs low water regime but is often overwatered.
	*Allamanda cathartica*	Golden Trumpet		D	♦♦♦		■	■			✓	✓	Vine best suited to sheltered, shaded environments.

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	*Antigonon leptopus*	Coral Vine		B	♦♦♦		■	■	✓	✓	✓	✓	Best where shaded from afternoon summer sun, otherwise very hardy.
	*Clitoria ternatea*	Butterfly Pea, Blue Pea Vine		C	♦♦♦		■	■	✓		✓	✓	Limited use in parks and urban plazas.
	*Clytostoma callistegioides*	Violet Trumpet Vine		C	♦♦♦		■	■	✓		✓	✓	Vigorous vine, very good for shade structures.
	*Ipomoea biloba*	Morning Glory		C	♦♦♦		■	■	✓		✓		Mainly used to hide unwelcome structures, walls and fences, will grow in most locations except foreshore.

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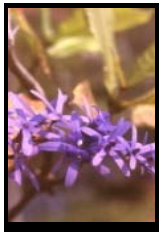
	*Ipomoea palmata*	Messina, Mile-a-Minute Vine		C	♦♦♦		■	■	✓		✓		Mainly used to hide unwelcome structures, walls and fences, will grow in most locations except foreshore.
	*Jasminum angulare*	South African Jasmine		C	♦♦♦		■	■	✓		✓	✓	Most jasmines are hardy but do best where shaded from afternoon summer sun and are sheltered from wind. Will grow in coastal or inland urban areas.
	*Jasminum azoricum*	Azores jasmine		C	♦♦♦		■	■	✓		✓	✓	Most jasmines are hardy but do best where shaded from afternoon summer sun and are sheltered from wind. Will grow in coastal or inland urban areas.
	*Jasminum grandiflorum*	Spanish or Royal Jasmine		C	♦♦♦		■	■	✓		✓	✓	Most jasmines are hardy but do best where shaded from afternoon summer sun and are sheltered from wind. Will grow in coastal or inland urban areas.

CLIMBERS	BOTANIC NAME	COMMON NAME	LOCALLY OCCURING SPECIES	EXPOSURE GROUP	IRRIGATION CLASSIFICATION	HAZARDS	INLAND SUITABILITY	COASTAL SUITABILITY	PARK CATEGORY	STREETSCAPE CATEGORY	COASTAL AREA CATEGORY	PUBLIC PLACE CATEGORY	USER NOTES
	*Jasminum nitidum*	Angelwing or Shining Jasmine		C	♦♦♦		■	■	✓		✓	✓	Most jasmines are hardy but do best where shaded from afternoon summer sun and are sheltered from wind. Will grow in coastal or inland urban areas.
	*Petrea volubilis*	Queen's Wreath		C	♦♦♦		■	■	✓		✓	✓	Limited use.
	*Pyrostegia venusta*	Flame Vine, Flaming Trumpet, Golden Shower, Flaming Trumpet		D	♦♦♦			■	✓		✓	✓	Limited use where walls need to be covered.
	*Quisqualis indica*	Rangoon Creeper		D	♦♦♦	seeds poisonous		■			✓	✓	Useful, fragrant vine suitable for urban plazas but not for parks.

CLIMBERS	BOTANIC NAME	COMMON NAME	LOCALLY OCCURING SPECIES	EXPOSURE GROUP	IRRIGATION CLASSIFICATION	HAZARDS	INLAND SUITABILITY	COASTAL SUITABILITY	PARK CATEGORY	STREETSCAPE CATEGORY	COASTAL AREA CATEGORY	PUBLIC PLACE CATEGORY	USER NOTES
	*Thunbergia alata*	Black-Eyed Susan Vine		D	♦♦♦		■	■			✓	✓	Limited use in urban plaza or community garden context.
	*Thunbergia battiscombei*	Blue Glory, Clock Vine, Scrambling Sky Flower		D	♦♦♦		■	■			✓	✓	Limited use in urban plaza or community garden context.
	*Allamanda cathartica* 'Cherries Jubilee'	Lavender Trumpet		D	♦♦♦♦		■	■			✓	✓	Vine best suited to sheltered, shaded environments.
	*Jasminum sambac*	Arabian Jasmine		C	♦♦♦♦		■	■	✓		✓	✓	*J. sambac* needs more water than other jasmines and is best used as a low growing shrub in semi shaded and sheltered locations.

CLIMBERS	BOTANIC NAME	COMMON NAME	LOCALLY OCCURING SPECIES	EXPOSURE GROUP	IRRIGATION CLASSIFICATION	HAZARDS	INLAND SUITABILITY	COASTAL SUITABILITY	PARK CATEGORY	STREETSCAPE CATEGORY	COASTAL AREA CATEGORY	PUBLIC PLACE CATEGORY	USER NOTES
	*Mandevilla amoena*	Pink Allamanda, Chilean Jasmine		E	♦♦♦♦			■	✓		✓	✓	Limited use in sheltered and partially shaded urban plazas and parks.
	*Mucuna bennettii*	Red Jade Vine, New Guinea Creeper		D	♦♦♦♦			■	✓		✓	✓	Very limited use in parks where there is adequate shade and shelter

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APPENDIX C - IRRIGATION RATES

Irrigation Rates

Irrigation Requirements	Plant Age	Season	Trees		Palms		Shrubs		Ground Covers & Grasses	
			Quantity (L)	Interval (Days)	Quantity (L)	Interval (Days)	Quantity (L)	Interval (Days)	Quantity (L)	Interval (Days)
♦♦♦♦ High	1 – 2 years	Jan – Mar	40	6	50	8	20	7	15	7
		Apr – May	40	4	50	3	20	3	15	3
		Jun – Oct	40	3	50	3	20	3	15	3
		Nov – Dec	40	5	50	5	20	4	15	5
	3 – 8 years	Jan – Mar	70	8	100	8	25	7	15	7
		Apr – May	70	4	100	4	25	3	15	3
		Jun – Oct	70	3	100	3	25	3	15	3
		Nov – Dec	70	5	100	5	25	5	15	5
	Mature	Jan – Mar	100	8	120	8	25	7	15	7
		Apr – May	100	4	120	4	25	3	15	3
		Jun – Oct	100	3	120	3	25	3	15	3
		Nov – Dec	100	5	120	5	25	5	15	5
♦♦♦ Medium	1 – 2 years	Jan – Mar	40	5	40	5	15	7	10	7
		Apr – May	40	3	40	3	15	4	10	4
		Jun – Oct	40	3	40	3	15	2	10	3
		Nov – Dec	40	4	40	4	15	5	10	5
	3 – 8 years	Jan – Mar	60	8	60	6	20	7	10	7
		Apr – May	60	4	60	3	20	4	10	4
		Jun – Oct	60	3	60	3	20	3	10	3
		Nov – Dec	60	5	60	4	20	5	10	5
	Mature	Jan – Mar	80	8	80	6	20	7	10	7
		Apr – May	80	4	80	3	20	4	10	4
		Jun – Oct	80	3	80	3	20	3	10	3
		Nov – Dec	80	5	80	4	20	5	10	5

Irrigation Requirements	Plant Age	Season	Trees		Palms		Shrubs		Ground Covers & Grasses	
			Quantity (L)	Interval (Days)	Quantity (L)	Interval (Days)	Quantity (L)	Interval (Days)	Quantity (L)	Interval (Days)
💧💧 Medium – Low	1 – 2 years	Jan – Mar	30	8	N/A	N/A	12	8	10	10
		Apr – May	30	4	N/A	N/A	12	4	10	5
		Jun – Oct	30	4	N/A	N/A	12	4	10	4
		Nov – Dec	30	5	N/A	N/A	12	7	10	7
	3 – 8 years	Jan – Mar	60	8	N/A	N/A	25	7	10	10
		Apr – May	60	4	N/A	N/A	25	4	10	5
		Jun – Oct	60	4	N/A	N/A	25	4	10	4
		Nov – Dec	60	5	N/A	N/A	25	7	10	7
	Mature	Jan – Mar	70	7	N/A	N/A	25	7	10	10
		Apr – May	70	4	N/A	N/A	25	4	10	5
		Jun – Oct	70	4	N/A	N/A	25	4	10	4
		Nov – Dec	70	5	N/A	N/A	25	7	10	7
💧 Low	1 – 2 years	Jan – Mar	50	14	N/A	N/A	12	20	12	20
		Apr – May	50	10	N/A	N/A	12	12	12	10
		Jun – Oct	50	7	N/A	N/A	12	7	12	7
		Nov – Dec	50	12	N/A	N/A	12	12	12	12
	3 – 8 years	Jan – Mar	100	20	N/A	N/A	25	20	12	20
		Apr – May	100	10	N/A	N/A	25	12	12	10
		Jun – Oct	100	7	N/A	N/A	25	10	12	7
		Nov – Dec	100	12	N/A	N/A	25	12	12	12
	Mature	Jan – Mar	100	20	N/A	N/A	25	20	12	20
		Apr – May	100	10	N/A	N/A	25	12	12	10
		Jun – Oct	100	7	N/A	N/A	25	10	12	7
		Nov – Dec	100	12	N/A	N/A	25	12	12	12

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