



8.0 POLICY STATEMENTS

- Introduction
- Environmental
- Oases
- Land Use
- Transportation
- Public Open Space
- Urban Design
- Building Blocks
- Social
- Infrastructure
- Economic Development
- Continuous Planning

8.1 INTRODUCTION



The emphasis is on creating cool microclimates that seamlessly integrate pedestrians, transit and the private car.

Principles guide the formulation of the Urban Structure Framework Plan. Drawings express the elements of it and provide a geographic illustration of the principles. Policies focus intentions for implementation of both the principles and the elements of the Plan. Each policy is a directive to guide actions. There are many different kinds of directives. Some directives set guidelines or recommend standards to be adopted based on international best practices. Other directives outline further actions that need to be undertaken, including additional studies and reporting and the establishment of regulatory bodies or protocols. Some directives outline specific actions and practices to achieve aspects of the Plan.

The following policies are intended to be as comprehensive as possible, although they are by no means exhaustive. They cover all aspects of the Plan, including (but not limited to):

Environment, Oases, Land Use, Transportation, Public Open Space, Urban Design, Building Blocks, Social, Infrastructure, Economic Development, and Continuous Planning.

As an initial vision setting the direction and conceptual framework for a full Comprehensive Plan for Al Ain, the Urban Structure Framework Plan is meant to set an agenda for further planning. These policies provide that agenda in addition to actions that can be taken immediately.

8.2 ENVIRONMENTAL

- E-1** Establish the protection, enhancement and repair of the natural environment as a fundamental premise of Al Ain's planning and development.
- E-2** Undertake a full assessment to establish environmental parameters and carrying capacity of the dunes, wadis, oases, mountains and desert to accommodate new growth. From this assessment determine:
- protected environments;
 - urban development boundaries; and
 - limited development zones.
- E-3** Undertake an audit of all of Al Ain's water resources, including (but not limited to): rain water, storm water run-off, ground water, desalinated water, recycled industrial process water, recycled greywater, and recycled blackwater. Implement demand-side measures, such as water metering and true cost tariffs to conserve and protect this vital resource.
- E-4** Take the spring that gives Al Ain its name – Ain Al Fayda – into the public realm so that it may be enjoyed by all citizens of the UAE. Implement government measures to protect and manage this vital desert resource.
- E-5** Plan the city's expansion into the desert based on principles of environmental protection that preserve the most sensitive ecological areas while providing the appropriate level of access to the natural setting and the appropriate level of settlement in a desert context. Complete an environmental evaluation to define the specific parameters for this expansion.
- E-6** Implement the Estidama Program for design and construction of buildings and communities to respond to the local environment (e.g. solar orientation, alternative energy, xeriscaping, etc.).
- E-7** Pursue sustainable infrastructure technologies for managing energy, waste, and water. Develop sustainable wastewater and energy resource strategies.
- E-8** Pursue sustainable practices in all industrial activities.

- E-9** Promote Al Ain as a model environmentally responsible community, including its research, application of evolving best practices, eco-tourism, eco-business and education.

- E-10** Establish a network of environmental education programs and facilities throughout Al Ain (e.g. education centers, school programs, desert eco-adventure activities, sustainable building and living demonstrations, incentives for sustainable living choices such as public transit or photovoltaic installation).

8.3 OASES

I All Oases in Al Ain

- O-1** Restore the traditional method of intercropping 3 crop spheres in the oasis to ensure this vital strategy does not die out.
- O-2** Ban the use of synthetic pesticides and fertilizers in favour of traditional methods of integrated pest control.
- O-3** Complete a set of Design Guidelines for the Oases that permit cultural buildings around the perimeter, with a soft gradient of planting transitioning to the historic boundaries of the oases.

II Specific to Al Ain Oasis

- O-4** Remove the perimeter concrete walls that have been recently added to Al Ain Oasis and replace them with adobe walls built with the traditional technique and at the traditional scale.
- O-5** Surround Al Ain Oasis with cultural installations, including a traditional adobe brickyard to ensure ongoing maintenance of the oasis.
- O-6** To solidify the edge of Al Ain Oasis, introduce new buildings, cultural programs depicting significant aspects of Al Ain's natural surroundings, heritage, traditional agriculture, and royal character.

8.4 LAND USE

- L-1** Shape and direct most growth to densify the Central District, and to create relatively dense, mixed use, transit supported corridors along the western (Khalifa Bin Zayed Street) and southern (Al Ain Street) corridors. Anchor the outer ends of these corridors with new district centres at Asharej and to the south at Sanaiya, and provide a series of smaller centres of various sizes related to expected transit stations and catchment areas for typical community services. Growth must be managed so as not to be detrimental to the pre-eminence of the Central Business District.
- L-2** Foster compact growth while satisfying the lower density neighborhood pattern preferred by many Emiratis.
- L-3** Before proceeding with the expansion at the urban edge, complete development of urban infill sites; and do not expand the urban edge beyond the dunes and mountain edge (except where plot allocations have already been made to Emiratis), so as to preserve desert fingers into the city and easy access to the desert.
- L-4** Manage new development to extend incrementally out from existing settlement areas or designated new nodes in line with market demands, rather than occurring randomly in the region.
- L-5** Structure the city into coherent, identifiable neighborhoods or districts with varying scale, character and clearly identified town centres.
- L-6** For every neighborhood or district, provide a neighborhood center of facilities, amenities and services that fosters a balance of jobs to housing and community support facilities.
- L-7** Complete a Neighborhood Plan for each new Emirati neighborhood and allocate housing plots to enhance the preferred extended family and religious-oriented lifestyle of Emirati households (see Building Blocks: Model Emirati Neighborhood).
- L-8** Complete a Comprehensive Development Plan for the inner city linear gateway.

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- L-9** Undertake an Area Revitalization Plan for the existing areas of the Central District and proceed with one or more block revitalization pilot projects (See Section 7.4: Al Mudheef Block). Identify specific areas for model pilot projects in the vicinity of the Al Ain University, in one of the new suburbs, and the area adjacent to the Tawam Hospital.
- L-10** In the existing city, until new Area Plans and Comprehensive Development Plans are completed or until the new citywide Comprehensive Plan is completed, existing use designations and densities shall generally prevail, unless special dispensation has been secured prior to beginning site planning. Development will generally be linked to availability of transit.
- L-11** Support development of the following special districts:
- the desert edge
 - linear gateway
 - university area
 - hospital area
- L-12** Undertake an industrial study to determine the appropriate relocation of industry to a new industrial area and determine specific uses to make the area mixed use. The study should also identify small pockets within residential areas for city-serving industries, such as auto body shops and warehouses.
- L-13** Complete a Comprehensive Development Plan for the districts around the Al Ain Airport, and manage development until the plan is complete, so that:
- new uses will be airport-supporting or –supported (industry and commerce);
 - uses that would be impacted by the airport, particularly regarding noise, will be avoided, i.e. residential;
 - uses that impact the airport will be avoided;
 - uses that generate disruptions to traffic for airport access will be avoided.
- L-14** Undertake a Retail Study to confirm retail allocation by city sector. Until the study is completed, consider retail proposals with regards to the following parameters:

- provide a traditional livestock market and souks for fish, vegetables, meats, flowers and crafts;
- provide adequate daily goods and services for each city district so that day-to-day shopping can be done with minimal travel;
- provide higher-order/destination shopping in a minimum number of region-serving retail malls located at appropriate intervals and spaced geographically in a balanced pattern across the region, with priority given to maintaining the historic souks and develop compatible and supportive uses adjacent to them;
- avoid random placement of regional-serving retail malls and minimize the addition of malls in areas with limited access; and,
- except for regional malls and as animated ancillary uses in mixed use developments, avoid separated networks of retail, opting instead to orient retail toward streets and public ways.

- L-15** Coordinate land use designations with Special Investment Zones created by government from time to time.
- L-16** Cluster new university and health care facilities to maximize synergies among them and to facilitate the interchange of business between them.
- L-17** Support the retention of heritage architecture and archaeological and cultural sites, such as the museum, palaces and forts.
- L-18** Support the rural quality of the residential areas that are dispersed with farms and forested areas.
- L-19** In the development of the major university lands, allocate density and a mix of uses along Khalifa Bin Zayed Street to reinforce the major node in the Asharej district.

I Special Designations

- L-20** Protect and conserve the farms in Al Ain as iconic open spaces integral to the cultural identity and lifestyle of the city.
- L-21** Preserve palace grounds for their long term open space potential.

8.5 TRANSPORTATION

- T-1** Ensure that land use planning and development are fully integrated with the provision of multi-modal transportation networks linked to the larger urban structure.
- T-2** Complete a City-Wide Transportation Plan as soon as possible for multiple modes, the introduction of transit, full arrangements for goods movement, and roads with a finely distributed pattern of streets and automobile access.
- T-3** Provide a variety of inter-connected transportation choices as alternatives to the automobile (transit, buses, bicycle and pedestrian pathways). This layered system should form a functional and efficient network measured by the total number of person trips.
- T-4** Design and retrofit the accessible public spaces in transportation networks to prioritize and enhance the pedestrian realm (e.g. short blocks, wide and shaded sidewalks, medians, shaded seating at bus stops, active streets).
- T-5** Retain roundabouts where traffic volumes and urban design allow as part of Al Ain's unique character. Implement measures to improve pedestrian comfort and safety.
- T-6** Avoid highway and freeway expansion by providing an inter-connected, multiple route street network, including:
- many smaller streets permitting more traffic, transit, and pedestrians than larger streets and larger blocks;
 - permitted turning movements and pedestrian crossings to reduce travel distance and congestion;
 - in higher-density areas, provide multiple mode connections at key transfer points to maximize inter-connectivity;
 - wherever possible, avoid grade-separated ramps, slip lanes, and other high speed links in urban areas; and
 - emphasize and improve the existing interconnected street grid rather than creating a ring road.
- T-7** Avoid closing or trading of existing streets. All existing streets should remain as public right-of-ways.
- T-8** Provide a layered, inter-connected public transportation network consisting of:

- a localized bus system that can evolve into a more layered tram system as the city grows;
- a localized bus system within the Central Business District, connecting neighborhoods to service areas;
- a fast passenger train link to Abu Dhabi city; and
- reservations (surface and underground, as required) for future extensions of the fast passenger train network.

Ensure that any new development areas have a bus system to connect to other parts of the city.

- T-9** Design and configure transit so it will be attractive to use by a variety of people, including all level income earners, women, tourists, etc.
- T-10** Apply Transportation Demand Management measures to reduce traffic pressure on key routes throughout the city.
- T-11** Complete Parking Requirements and/or a market parking arrangement for the entire city with required parking to be provided within each development site or plot, underground or covered where practical, with street-side metered surface parking reserved for short term public use.
- T-12** Complete a Parking Plan for the Central Business District and manage parking to ensure adequate availability and limit congestion (e.g. metering, varying parking standards, limits of stay, and other market measures). Replace general surface private parking with underground or structured private parking in intensively developed areas, and provide covered private parking elsewhere.
- T-13** Confirm suggested goods movement (auto and rail) routes to minimize the intrusion into the inner city, and manage the movement of freight on the roadway network so as to minimize rush hour and neighborhood impacts.

8.6 PUBLIC OPEN SPACE

- P-1** Complete a City-Wide Plan for parks and open space with an inter-connected hierarchy of spaces, including:
- wadis,
 - oases,
 - dunes,
 - mountains,
 - farms,
 - woodlands/shelter belts,
 - neighbourhood parks,
 - city parks, plazas and gardens, and
 - heritage sites.
- P-2** As the basis for the Plan, develop a set of parks and open space standards that respond to the Emirati lifestyle and Al Ain region. The standards should define the hierarchy, service area, facilities, and size of all public parks in accordance with international best practices. This should include regional, district, community, neighborhood and pocket park standards all interconnected via a public “green streets” program.
- P-3** Establish a desert and mountain conservation belt surrounding the city as a National Park, administered through a government commission.
- P-4** Establish mountain preservation zones to retain all mountains in public ownership and preserve them in their natural state.
- P-5** Protect and conserve the wadi edges as important pedestrian thoroughfares through the setback of development from the top of the wadi bank.
- P-6** Secure official park spaces from private development in perpetuity, including city parks in the care and custody of the Municipality.
- P-7** Design public open spaces and parks for active public use with hospitable provisions, including shade, sensitive use of water, xeriscaping, and public amenities such as places for prayers and public washrooms. Where possible, associate public open spaces with people-generating uses such as cafés and shops.

- P-8** Integrate Al Ain's oases into the Parks and Open Spaces Plan as an important part of the city's public realm and ensure these are sensitively managed to retain their unique character as the city's heart and soul.
- P-9** Develop a continuous network of "Green Fingers", emanating from the oasis, that connect the major green areas of the city. Ensure that the "Green Fingers" link enhance both physically and visually, the historic, cultural and natural assets of Al Ain in a planted pedestrian and cycle-oriented path.
- P-10** Integrate street rights-of-way, traffic-calmed crossings, planted courtyards of mixed-use inner-city blocks, and public parks as key components of the "Green Finger" network, with an aim to ensuring its continuity.
- P-11** In private development, create design guidelines and approval requirements. Include provisions for a landscaped interface between the private and public realm and its ongoing maintenance, as well as an allocation of private open spaces for every unit.
- P-12** Accommodate golf courses, where appropriate, as an integral part of private development.
- P-13** Implement landscaping with native desert and/or drought tolerant plants to reduce irrigation demands and water consumption.
- P-14** Outside of clearly defined green spaces, promote desert-scaping as a preferred alternative.

8.7 URBAN DESIGN

I Heights

- U-1** The maximum height of any new building in the city shall be the prevailing height of 20 metres, expressed in built form as a ground floor with a maximum of four floors above (including mezzanines, penthouses, architectural appurtenances, and mechanical), giving no more than five storeys above ground in total, with the exception of mosques.
- U-2** Complete a City-Wide Plan for building heights, and refine this plan on an ongoing basis with specific building heights below 20 metres confirmed as Comprehensive Development Plans and Area Plans are completed. Acknowledge that some districts may have lower maximum heights which can be confirmed through City-Wide and Area Plans.

II Views

- U-3** Complete an inventory of key public views (from viewpoints to be established) of the natural setting, dunes, oases, mountains, landmarks, special buildings, etc. Manage development to preserve these public views in perpetuity.
- U-4** Complete a protocol for private view protection and manage development to preserve priority private views or portions of views.

III Response to Climate

- U-5** Develop a program to create shaded north-south retail streets in the civic centre.
- U-6** Complete a protocol for maximizing cool shadowing and minimizing hot paving of public places and byways. Manage development to optimize sun and shadows and minimize reflected glare for best micro-climatic effect.
- U-7** Evaluate techniques, complete guidelines, and prepare a program to actively facilitate maximum natural cooling of public places through better public and private efforts.
- U-8** Complete guidelines for maximum natural cooling of buildings to augment and reduce pressure on mechanical systems.

IV Streetscapes

- U-9** Complete guidelines and undertake a program for urban design and embellishment of a hierarchy of streetscapes related to traffic management, pedestrian comfort, open space linkages, and visual coherence, extending the positive tradition of streetscaping already being practiced.
- U-10** Develop street configurations that enhance pedestrian comfort, safety and convenience while maintaining roundabouts where possible.
- U-11** Pursue a fine-grain and fine-scale pattern of public ways for optimal pedestrian and automobile access within the larger grid of commuter routes, and include pedestrian-only routes where practical.
- U-12** Minimize travel and parking lane widths, offer clearly marked pedestrian crossings, and where possible, use corner bulges to minimize pedestrian crossing distances and calm traffic.
- U-13** Maximize provisions for pedestrian comfort including footpaths on all streets (except limited access roads), attractive and consistent street furniture and pavings, level and safe surfaces, seating, shade provisions (e.g. trees, arcades, awnings, free-standing structures, transit shelters), animating adjacent at-grade uses, universal accessibility, light-colored surfaces to minimize heat absorption, and pedestrian-scale lighting.
- U-14** Plant trees as follows:
- with an emphasis on drought tolerant and desert species to minimize irrigation demands;
 - with a consistent block layout and species but varying patterns among areas for distinctiveness and species diversity;
 - with regard to the direction and arc of the sun, throughout the year, in each particular location;
 - with preference for planting along footpaths rather than center medians;
 - with close spacing for maximum shade;
 - within a healthy growing environment (generous tree wells or a continuous planting strip of properly prepared soil); and

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- with alignments for multiple modes along streets where possible.

U-15 In new developments, and where possible through renovation of existing areas, minimize utility reservations to levels of common efficiency and locate utility easements/corridors so as not to unduly impact the pedestrian realm. Maximize footpath furnishing and planting provisions while keeping right-of-ways at a narrow pedestrian scale.

U-16 Utilize differing street cross-sections and design standards to differentiate streets and to facilitate transit and pedestrian use, including:

- multi-way boulevards on major streets to reconcile local and through traffic while maximizing pedestrian areas;
- distinctive furniture and paving on commercial or primary streets; and
- narrow ways for pedestrian only alignments.

V Character

U-17 Finalize and implement a set of urban design and architectural guidelines which should be considered in the approval of all developments. These guidelines should facilitate the unique expressions of Al Ain culture and the unique climate and setting of the city.

U-18 Identify key existing or potential character areas throughout the city and develop urban design and architectural guidelines to maximize such character and manage development to provide character enhancement. Areas to be included would be the vicinity of the oases, the souk, the university area, etc.

U-19 Complete a set of guidelines and operational protocols to consolidate a positive city image for Al Ain in regard to:

- utility installations,
- garbage arrangements and tidy collection procedures,
- building maintenance, and
- the physical aspects of public realm civility.

VI Heritage

- U-20** Complete an inventory of historical and archaeological sites and pursue the designation of Al Ain as a UNESCO World Heritage Site, in coordination with the work already being overseen by the Abu Dhabi Authority for Culture and Heritage.
- U-21** Develop a policy to articulate and enhance the history of the royal presence in Al Ain with respect to the palaces and other historic sites.
- U-22** Maintain the Emirate's commitment to the designation and protection of key historic and archaeological sites in line with world standards and practices, in coordination with the work already being overseen by the Abu Dhabi Authority for Culture and Heritage.

VII Building Utilities and Services

- U-23** Develop guidelines for the placement of utility ducts, vents, transformers, HVAC, and other utility services to ensure they are architecturally screened or hidden and not placed within the public realm.
- U-24** Complete a set of guidelines to screen rooftop satellite dishes.

VIII Design for Safety

- U-25** Complete a set of guidelines for crime prevention through building and landscape design. Manage development to facilitate the safest of environments and maintain Al Ain's excellent record for safety.
- U-26** Formulate guidelines for illumination of public spaces which address safety and security while avoiding light trespass on adjacent residential sites.

VIX Public Art

- U-27** Establish and require a consistent standard of public art to be provided in every new development, over a pre-set value. This standard should build on the long tradition of public art in Al Ain and carry on with the tradition of public art in the roundabouts.

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X Signage and Addressing

- U-28** Complete a set of general guidelines for signage, including the need for significant signage to be approved. The guidelines should address:
- any City Image or Al Ain Municipality Studies or Policies;
 - how to manage development to moderate the impact of signage with priority given to identification and way finding; and
 - how to remove existing non-conforming signs and advertising structures.
- U-29** Implement a simple street addressing system, consistent with any City Image or Al Ain Municipality Studies or Policies.

8.8 BUILDING BLOCKS

B-1 In the process of completing Comprehensive Development Plans and Area Plans for various areas of the city, apply the following Building Blocks as a basis for development:

- neighbourhood centres for new Emirati neighbourhoods and when reconfiguring or revitalizing existing neighbourhoods, and
- block revitalization design strategies.

I Emirati Neighbourhoods

B-2 Apply the following general configurations to new Emirati neighbourhood subdivisions and, where possible, do a redesign of existing, newly subdivided but not yet occupied Emirati neighbourhoods, and revitalization of existing occupied neighbourhoods:

- a basic unit, or fareej, composed of a small cluster of housing and a common meeting and play space;
- a clustering of the fareej to support a local mosque and associated commercial and meeting space; and
- a further clustering of the fareej clusters to support a neighbourhood centre of services and facilities.

B-3 Allocate Emirati plots to facilitate the co-location of extended family households.

B-4 Allow for Emirati housing plots to accommodate more than one housing unit where possible while preserving family privacy. Permit a variety of housing types (e.g. multiple villas, courtyard housing, and infill units).

B-5 Include in Emirati neighbourhoods a component of multi-family housing, particularly along commercial streets, and provide a range of housing options.

B-6 Develop guidelines for multi-family housing in Emirati neighbourhoods that maximize privacy, security, natural lighting, ventilation and reduction of solar heat gain, and limit building heights to reduce impacts on lower-scale Emirati housing.

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- B-7** Develop guidelines for Emirati neighbourhoods for a hospitable interface between housing and the public realm, where public and private spaces are well defined. Include a sustainable approach to landscaping and design strategies to address parking and fence configuration.
- B-8** In Emirati neighbourhoods, create a network of village clusters including a mosque, playground and kindergarten, ideally within a five minute walking distance (400 m) for residents, connected by footpaths and pedestrian pathways. With each mosque, include an exterior gathering place.
- B-9** In Emirati neighbourhoods, provide a network of pedestrian-priority routes (or *sikkas*) to community services with traffic calming, safe crossings, and shade.

II Neighbourhood Centres

- B-10** As part of the upcoming Comprehensive Plan, confirm standards for community supports related to population and catchment areas for (but not limited to):
- mosques;
 - open spaces, play spaces, parks;
 - schools and child care;
 - community centres, cultural centres, women's centres, youth centres and special services;
 - libraries; and
 - post offices, fire, civil defence and police stations.
- B-11** In new and existing neighbourhoods, where possible, develop mixed use Neighbourhood Centres. These should be located along an arterial high street, with gathering and people-generating uses and services based on population needs and the surrounding catchment area to serve children, youth and women.
- B-12** In addition to retail, accommodate traffic-generating institutional uses (e.g. clinics, high schools, libraries) and entertainment and recreational facilities on, or close to, the high street.

III Central Business District Revitalization

- B-13** Initiate a program of block revitalization in the existing inner-city, undertaking at least one pilot project to inform the detailed development of this program and pursue the following measures:
- intensification of large blocks,
 - incorporation of north-south retail streets,
 - clustering of parking in underground lots, and
 - relocation of the majority of surface parking to grade separated parking structures (with the exception of metered street parking) to serve short-term local retail and visitors.
- B-14** When revitalizing core area blocks, complete an inner block network of new streetscapes and pedestrian routes linked to open spaces and landscaped secondary spaces along streets that are shaded, fully accessible, activated by local retail (e.g. markets, restaurants, cafes) where possible, and efficiently accessed by transit.
- B-15** Develop consistent, robust shading devices to delineate pedestrian rights-of-way in the inner-city. Configure the shading devices so that they may employ integrated photovoltaics and protect from wind-born dust. Utilize the shading devices to narrow the streets of the inner-city, leaving enough space for the efficient movement of traffic.
- B-16** Develop three N-S streets emanating from the Al Ain Oasis as retail streets to create a concentrated, continuous retail zone in the downtown.
- B-17** In revitalized core blocks, utilize redevelopment opportunities to provide community facilities needed in the area.

8.9 SOCIAL

I Affordable Housing

- S-1 Develop a range of housing types and an adequate supply of affordable housing to meet the needs of Al Ain's diverse population and lifestyles.

II Social Services

- S-2 Where not already in place, complete a Comprehensive Plan and implementation program for community services (e.g. schools, health care, child care, seniors' services) including service standards and catchment areas in close coordination with relevant Government agencies.

III Guest Worker Housing

- S-3 Develop comprehensive policies for the location and size of expatriate worker accommodation taking into account workers' and employers' needs, and immediate and long-term economic trends in the service, construction and manufacturing industries.
- S-4 In its Labour and Human Resource Policy, the Government of Abu Dhabi has outlined the development of dedicated low-cost residences that meet or exceed international benchmarks for guest worker accommodation, including living and communal space, leisure facilities, hygiene and safety. The Government's guest worker housing policy, when applied to this Urban Structure Framework Plan, produces the following guidelines:
- Where possible, locate housing for permanent service workers (e.g. hotel, retail, business) close to where they work.
 - Avoid housing a large number of temporary or permanent construction and manufacturing workers in a limited number of settlements by establishing a maximum worker settlement population of 10,000 people.
 - Where possible, locate temporary construction worker housing on, or near, large construction sites with appropriate services and facilities.
 - Provide small, localized nodes of permanent worker housing on, or near, industrial and manufacturing sites

with appropriate services and facilities and with access to larger service areas and transportation.

- In intensive job-generating areas, or to accommodate workers from remote construction sites or service industries, develop worker settlements of up to a generally preferred maximum of 5,000 people with a local service centre with religious, health, recreational and entertainment facilities.
- If larger worker settlements are developed, they should be located close to long-term job sites or on transportation routes and provide a full range of services and amenities (places of worship, health care, shops, entertainment, recreational facilities and emergency services).

8.10 INFRASTRUCTURE

- I-1** Make the following explicit goals in any and all infrastructure decisions: high user comfort; high flexibility for future expansion; efficient utilization of natural resources; minimal environmental impacts.
- I-2** Pursue the integration of energy, water and waste infrastructure to capitalize on synergies between the processes used and the services produced, such as through generating biogas and clean water from treated sewage effluent.
- I-3** Establish an infrastructure planning data base to enable a standardized evaluation of tailor-made infrastructure concepts for urban areas with different demand densities.
- I-4** Develop, implement and monitor demand-side measures to reduce the infrastructure needs of communities by implementing:
- Awareness campaigns and education;
 - Technical measures, such as motion detection lighting, and advanced drip irrigation;
 - Cost-real tariffs for water, power, cooling, sewage and waste handling; and
 - Net-metering for user-produced clean energy sold back to the grid.
- I-5** Pursue district cooling for community developments with high demand density based on larger more efficient chiller units. Test different technologies for chillers, including absorption chillers and high-efficiency electric chillers.
- I-6** Pursue water recycling in Al Ain, such that potable water is cascaded through a series of uses before returning to the water table. Greywater from sinks and baths should be cleaned and recycled for toilet flushing, blackwater toilets and the kitchen sink should be cleaned and recycled for irrigation.

- I-7** Pursue and implement effective measures to relieve the critical groundwater condition in the Al Ain region and reduce desalinated water demand such as: user awareness, reduction of demand in the agricultural sector and the transition from forestry to less water consuming plants with additional harvesting benefits.
- I-8** Work with utility providers to reconcile utility easements with urban design priorities. Explore opportunities to create service laneways to help reduce the widths of street right-of-ways.
- I-9** Implement a pilot project to demonstrate the above-mentioned sustainable infrastructure approaches, by selecting a project that is under development to establish as a showcase.

8.11 ECONOMIC DEVELOPMENT

- D-1** In releasing land for development and in approving development, calibrate growth with ongoing projections of market requirements for general stability.
- D-2** In approving development, base all decisions on end-user projections and requirements, and tie infrastructure requirements and community amenity contributions to end-user demands. Phase development approvals with the delivery of infrastructure and amenities so that services generally arrive before people. Prepare a Land Release Strategy and ensure it is well-coordinated with an Infrastructure Strategy.
- D-3** In releasing land for development and in approving development, give priority to key growth sectors identified as essential for Al Ain's economic vitality, including the health and education sectors.
- D-4** Create an Economic Development Strategy for Al Ain.

8.12 CONTINUOUS PLANNING

- F-1** Prepare an Implementation Strategy for this Urban Structure Framework Plan.
- F-2** Complete a Comprehensive Plan for Al Ain to specify the land use and built form controls necessary to implement this Urban Structure Framework Plan which can ultimately be used to firmly ascertain infrastructure requirements, amenity needs and transportation demands.
- F-3** Develop and implement a pervasive Urban Development Regulation Decree as soon as possible, consistent with this Urban Structure Framework Plan and future Comprehensive Plan, and develop appropriate guidelines to shape development within the regulations.
- F-4** Prepare more detailed area plans (e.g. major development areas, corridor, sector, district, local structure and master plans) consistent with the Al Ain Urban Structure Framework Plan and in accordance with the Implementation Strategy.
- F-5** Make all plans, guidelines, and regulations accessible in both hard copy and over the internet, including related background information and explanatory commentary.

