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1. Introduction

1.1. Regional context

The Coastal Region from Safaga to Qusair encompasses sites of special historical and ecological significance. These sites are valuable national assets and must be preserved. Foremost among these is Marsa Gawasis and its unspoiled sandy beachfront as well as the access to the pharaonic road crossing the eastern desert along Wadi El Gasus. This road ran in parallel to the Qift to Qusair crossing along Wadi El Hammamat. In addition to their archeological value, both sites have touristic potential. Designated paths with appropriate interpretation leading to key vistas or archeological remains would greatly enhance their attractiveness to a broad range of tourists.

There are also a few ecologically significant sites because of their unspoiled environment with natural vegetation containing specimens of the Red Sea mangrove. The larger two or three sites should be preserved as a nature reservation to prevent the total loss of the indigenous ecological features as the environment of the coastal zone is irreversibly altered by touristic and commercial development.

1.2 The City of Qusair

Qusair is experiencing profound transformation as its economy shifts from mining and shipping to tourism and services. In light of this change, municipal authorities have recently been focusing on improving the quality of life in the city. Two noteworthy initiatives were the improvement of the corniche and the solid waste collection effort including cleaning up of the beachfront.

The corniche has given Qusair's population a landscaped public space on the waterfront to which they come in summer evenings to enjoy the cool sea breezes. This category of public space is badly needed given the dense urban fabric of Egyptian cities. In general, paving and planting along the main streets and at key locations have improved their appearance and facilitated access to monuments, particularly the Ottoman fort. The solid

waste collection effort, including the cleaning up of the beachfront, has improved sanitary conditions in the city.

The Long Term Master Plan prepared by ASA consultants channels new development away from the coast to the plateau west of the present city. The plan aims to accommodate a target population of 250,000-about eight to 10 times the current resident population. Development of housing typologies suited to the climate and culture of the region is urgently needed, in view of the magnitude of the housing program. To support this pace of population buildup, the local economy has to generate no less than 20,000 new jobs. Achieving this ambitious plan will necessitate major upgrading of the city's infrastructure as well as forceful promotion of the city itself as a location for domestic and foreign investment. Valorizing its natural and cultural assets will help fulfill this objective.

Between the planned extension and the existing city, uncontrolled expansion is occurring primarily along the main roads. This informal and rather chaotic urbanization is bound to have a negative impact on the environment of both the Old and New Qusair. These settlements house families who lived previously in the older neighborhoods and should be included in future development and upgrading plans at the city scale.

1.3 Priorities and planning framework

The Old City of Qusair is an integral component of the whole city. Strategies for the preservation and revitalization of the historic core of Qusair can only be conceived within this broader context. Five instruments have been simultaneously used in the formulation of a strategy and an action plan for the preservation and revitalization of Qusair's old urban fabric. These are:

1. Development of an operational strategy for revitalization and preservation

The overarching priority when formulating an operational strategy for the revitalization of Qusair's old urban fabric is to ensure its integration within the official master plan for Qusair commissioned by the Governor and currently being completed by ASA

consultants. This integration is imperative in order to coordinate proposals dealing with Old Qusair and avoid conflicting actions among the different parties involved. Reaching a broad consensus among all parties at the central, gubernatorial, municipal, and community levels, is not only critical regarding the ultimate objectives of the plan, but more importantly on the operational strategies for its implementation.

An effective, well-implemented revitalization strategy will help Qusair's population and municipal authorities derive greater benefits from investments in tourism along the coast and open up new employment opportunities for the growing number of young entrants in the labor force.

2. Development of a master plan for the historic core and surrounding impact zone

The second important consideration is to look at the historic urban fabric and surrounding area as one zone where urban development activity is interlinked. As such, the study area encompasses the historic center and the surrounding impact zone, including the links between the older quarters and the new urban extensions. The impact zone defines the edge conditions and the transitional areas where the built environment must be planned in order to avoid potentially adverse impacts on the historical fabric.

3. Devising a concise regulatory framework 'Lex Old Qusair'

The critical objective in developing an effective regulatory framework for the Old city of Qusair is to devise simple controls that local authorities are able and willing to enforce. The effectiveness of these regulations is reinforced by their integration in an operational strategy framework as well as their articulation with a spatial development plan.

4. Concentrating on infrastructure and public space to be the catalysts for upgrading and revitalizing the built environment

The revitalization plan for the historic fabric focuses on infrastructure and public spaces including open space as a key to improve a degraded built environment. An important priority after linking the old city to primary infrastructure networks in Qusair is to build a small plant for the treatment of gray water for use in irrigation purposes. Settlements in

the Red Sea region should adopt this relatively low-cost environmentally sustainable solution that has been used successfully in the developing world (e.g. Villa El Salvador in Lima, Peru). The use of such a system in Qusair is needed to provide a sustainable water supply for landscaping of public spaces and the development of the proposed regional park.

5. Capitalizing on development opportunities in strategically located parcels to launch the revitalization process

Vacant land in public ownership and strategically located parcels offer opportunities to introduce projects including landscaped open spaces and other amenities that act as catalysts in reversing the dynamics leading to deterioration and loss of older buildings.

1.4 Methodology

In an effort to build a broad consensus among all stakeholders involved and at the request of the Governor, the Center worked in collaboration with different stakeholders. Several sessions were held in July and December 2000, and April 2001 with Governor Saad Abou Rida; Dr Samir Sombati, the Governor's advisor on planning and development; Mr Muhammad Amin Kharista, the mayor of Qusair; Mr Adel Ayesh of the Association for the Preservation of Qusair's Cultural Heritage, as well as Dr Nabil Saleh, principal of ASA consultants in charge of the Qusair master plan, and Rami El Dahan and Soheir Farid in charge of the architectural surveys in the old city. The Center also included a team of local representatives, Dr Tarek Wali, Afaf Makarem, and Mohamed Shawky Arafa, to ensure coordination.

The revitalization plan takes into account the dynamics affecting the old urban fabric and both local and regional priorities. This approach requires documentation and analysis of the three fundamental determinants of change and transformation of the historic urban fabric. These are:

1. *A thorough understanding of tenure patterns and development dynamics in the city as they affect the historic center.* The fragmented tenure due to inheritance

and the multiplicity of occupancy rights are two serious impediments to revitalization and redevelopment in the older quarters.

2. *The documentation of economic and socio-cultural changes and their impact on lifestyles, on housing, and commercial activity in the different zones of the study area.* The needs and aspirations for new housing are critical in understanding why families want to move out of the older housing stock. The formulation of a housing strategy can thus avoid potentially adverse impacts on the edge conditions and ultimately on the old core itself. The resettlement of drought-stricken Bedouins in Qusair is also an important local concern and requires appropriate housing prototypes.
3. *The identification of factors prompting property owners, shopkeepers, and households to invest in the improvement of their buildings, shops and dwellings.* This is critical when designing a set of incentives to promote rehabilitation in the historic district.

Two instruments have been used for this purpose:

- A survey of all properties that have received private investments in renovation to identify the reasons that encouraged property owners to invest and the modalities for rehabilitation works (See map in Atlas)
- Interviews in the different zones of the study area to understand housing conditions, the residents' needs and priorities, the motivations and impediments for undertaking repair works

2. Survey of housing conditions

A total of 15 in-depth interviews were conducted in the old city of Qusair to explore living conditions in the different housing typologies. 10 interviews focused on families living in the historic area, Zone A; of these, 6 were with residents in the 1931 historic fabric, Zone A1. The remaining 5 interviews took place with residents in Zone B, including one inhabitant of the southern sector, which is a relatively chaotic fabric. Finally, an additional interview was conducted in the public housing scheme north of the study area for comparative purposes to document the typology that many residents of the old core seek to move to. Identifying and interviewing these families was not an easy process: most residents of Qusair, as in most places in Egypt, are reticent to talk about their life and housing conditions to strangers, especially given the complex and unclear tenure and occupancy rights.

In general, family members living in the old city have spent most of their lives in Qusair (on average 45 years) and most were even born there. The average length of residency of heads of households in their current houses was 32 years. The typical pattern is for a person to spend their entire youth in the same family dwelling and undertake the only move of their lifetime to a new unit when they get married. New units are either vertical extensions of the family house or located close by.

Families within the old city are typically large and most live in extended arrangements in the same house. The average family size in the old city exceeds 6 inhabitants. In contrast, families living in public housing apartments are for the most part nuclear due to unit size constraints. The study area contains a significant aged population (the average household head age is 51 years old) and many are pensioners. The overall dependency ratio is very elevated: families are large yet they rely for their livelihood on one or two income earners at most. With few economically active persons and little or no assets, most families have very limited revenues that cover only basic necessities. As such, investments in housing improvements are only for urgent repairs and these are usually kept to the bare minimum. Even then, families go into financial difficulty, as they have to borrow the necessary sum.

For the most part, families inhabiting the historic district, Zone A, have lived in their houses since birth. They share the ownership of their properties, which they inherited, with their relatives. Of all interviewed household heads, residents in the historic district are among the oldest. Most are retired and live on pensions from Qusair's phosphate company or the mining company located in Marsa Alam. Most of the male active population works in the informal sector as casual laborers or fishermen, and the few females in the labor force are employed in the public sector.

Most residents in the historic district are dissatisfied with their housing situation because of shared ownership, poor structural condition (most houses are old and built of stone), inadequate amenities (bathrooms and kitchens), and the environmental problems within the area such as noise and pollution. Throughout the course of their residence, only a few have been able to afford housing improvements, and these have often been limited to basic repairs. Those who did not upgrade their homes lack the necessary funds or find the house's structural condition in a state of disrepair. All but one would move out of the historic district if they were able to afford a parcel in a land subdivision where they could build their own homes. Shared ownership is also a commonly reported impediment to housing improvements. The one head of household that does not want to move out of the historic area is, not surprisingly, the only sole owner. He spent 6 years building his house and plans on staying in his property in spite of his dissatisfaction with many aspects including amenities, housing space, and utilities, and his inability to afford urgently needed repairs.

Within the largely consolidated urban fabric of Zone B, most houses are built in cement blocks with reinforced concrete roofs. The older houses are in shared ownership due to inheritance and the relatively new ones remain in sole proprietorship. One owner reported building his house on squatter land after perceiving his tenure to be secure. Households in this zone share similar socio-economic characteristics with those living in the historic district. Residents are relatively old and include several pensioners from the

phosphate company. Family sizes are large with a particularly elevated number of dependents. All these factors contribute to the impoverishment of the households.

However, unlike the historic district, more factors pertaining to the neighborhood cause families to be dissatisfied with their living situation. These include poor road quality, inadequate public facilities, degraded environmental conditions, overcrowding, and frequent problems with neighbors. Families are also dissatisfied with housing conditions, especially space and amenities. The area contains a high incidence of family members that are free-lodged or renting out units in the family house. Over the years, it is common that an owner vertically expands his house by building one or two additional floor to accommodate his children when they get married and/or to generate rental income.

Similar to residents in the historic district, few residents in Zone B were able to afford housing improvements mainly due to lack of funds. All but one family want to leave the area either to public housing units or to land subdivisions so as to build their own houses.

However, the situation does not seem to be better in public housing. The one family interviewed that inhabits a public housing unit is equally dissatisfied. The unit size is too small with no possibility of expansion, its amenities are poor, and its cost elevated (monthly installments of LE85 as part of a lease-purchase arrangement). The only factors causing satisfaction are sole ownership and utilities. Although they moved into the unit a few years ago, the family has already been forced to do repair work including interior painting and the re-flooring of balconies, which suggests that construction quality is poor. Currently, the family needs to change the sanitary facilities and pursue further interior repairs once the necessary funds become available. Ultimately, the household wants to move to a more spacious unit.

In summary, the most frequently mentioned housing problems in the study area are joint ownership and the lack of funds to undertake necessary housing repairs. On the neighborhood level, inadequate infrastructure was the single most critical issue, including utilities, poor road quality, and environmental problems such as garbage collection, noise,

and pollution. All these reasons explain why most families want to move out either to a land subdivision to build their own house or to a public housing unit.

3. Zoning and action plan for the revitalization of Qusair's older urban fabric

The heterogeneity of the urban fabric in the study area necessitated its subdivision into 6 sub-areas. Different revitalization strategies, combining public interventions and incentives to residents to improve their dwelling and immediate environment, would apply for each sub-area. These sub-areas are delineated on a zoning map in the accompanying Qusair Atlas and the proposed action plan for each area, summarized below, is shown on the revitalization plan.

3.1 Sub-area A. The historic center

Labeled Zone A, the historic center encompasses Qusair's historic and architectural heritage. It is characterized by scattered historical structures, some of which are in ruin, interspersed by newer buildings and vacant lots. It currently suffers from deterioration and disinvestment mostly due to complex and unclear tenure and occupancy patterns. The center can be further subdivided to delineate a special zone, labeled A1, where rehabilitation strategies will be modulated to reflect the distinctive features of the urban fabric.

The historic core, Zone A1, should be designated as a historic district encompassing the 1931 urban fabric as well as a transition area to a depth of one block around the citadel. Development within the historic district must conform with special regulations to be enacted by the Governor and enforced by the municipal authorities. Design guidelines will ensure that infill construction and alterations of existing buildings within the district do not detract from its historic character. The special development regulations pertaining to this zone are given in Section 4.3.3. These regulations are provided to ensure that renovations and adaptive reuse of existing structures and new buildings blend with the desired preservation of the historic core's distinctive character. While touristic, commercial and residential activities are encouraged, the new regulations will prohibit workshops using vibration-causing heavy machinery, polluting chemicals, as well as activities producing noise and noxious wastes from locating in the district.

Three interlinked priorities should guide the rehabilitation of the historic district's urban fabric focusing on the revitalization of the area extending from the citadel to the waterfront:

1. To document the tenure and occupancy status of parcels and buildings, starting on a priority basis with properties fronting on the proposed tourist circuit routes linking the citadel to the corniche and to the wharf as well as properties fronting on the pathways branching off this link to a depth of 15 meters.
2. To structure an institutional framework enabling public authorities to partner with the Association for the Preservation of Qusair's Cultural Heritage to:
 - a. Foster the restoration, preservation, and adaptive reuse of historic buildings not listed as monuments by the Supreme Council for Antiquities (e.g. the Quarantine building, the old mosque, the old police station, etc);
 - b. Assemble and train a specialized team capable of assisting property owners and residents with technical and administrative matters related to the rehabilitation of buildings and premises and;
 - c. Set up a fund for extending small home improvement grants and assisted loans to owners wishing to rehabilitate their properties.
3. To strategically direct public investments so as to encourage property owners to invest in the rehabilitation of their structures and dwellings. The overriding priority of residents and public authorities is to service the area with adequate infrastructure (water supply, sanitary sewerage and drainage). Within the historic district, public funds should also be used to pave a network of pedestrian pathways to improve circulation, create inviting thematic circuits for tourists and visitors, and facilitate solid waste management, landscape public open spaces and install street lighting. Improvement of streetscapes should provide property owners with guidelines for façade elements and signage adapted to the historic character of the district. Additions or

alterations of buildings adjoining the citadel walls should be controlled and dilapidated structures acquired by eminent domain as necessary to protect the monument and open up and upgrade the pedestrian pathway around the citadel. The protection zone around this important landmark should be extended from its current limit of 2.5 meters, which is clearly insufficient, to a minimum of 10 meters. There are precedents for such action where conditions warrant a larger protection zone.

Several critical improvements in the waterfront area are needed to promote tourism and revitalize economic activity. Dredging works and the upgrading of the wharf, dock, and Jetty should be undertaken to allow passenger and cruise vessels operating in the Red Sea region to dock in the bay. Dumping waste by the Phosphate Company over years of operation currently fills the channel forcing larger vessels to moor in the bay. The required engineering works were discussed with the Governor and the mayor. In July 2001, the Governor gave his instructions to contact the responsible authorities and initiate the required procedures. The corniche should also be extended to the south to connect to the Marsa Alam and Qift highways and a public beach developed on the sandy shoreline to the south of the historic district.

The development of tourist activities should be encouraged along the corniche and along the spine linking the citadel to the waterfront. Finally, a parking area for tourist buses and other vehicles should be graded and landscaped at the intersection of the northern access road with the commercial street leading to the citadel and the historic core.

3.2 Sub-area B. Urban improvement zone

Zone B consists for the most part of a consolidated, densely built residential fabric that adjoins the historical center. The area started developing in the 1930s and is still densifying as a result of the move of old city residents to more modern accommodations. Buildings are 2 to 3 stories high and many houses have a third floor under construction. At the heart of the zone lies Qusair's institutional center, labeled B1, which includes the

main hospital, as well as educational and institutional facilities. Despite its density, the area still has some infill sites.

Extension of infrastructure networks to cover currently unserved areas and the completion of the utility lines will open up opportunities to improve the built environment of Zone B. These infrastructure investments can become catalysts for the upgrading and consolidation of the southern sector in Zone B. Landscaping public open spaces to articulate the different components of the institutional center, paving the roadbeds in this center, and providing street lighting along the primary and secondary street networks would greatly enhance the development potential in this sector.

The loop around the consolidated urban fabric should be completed and its intersection with the road leading to the planned urban extension to the north should be designed so as to provide a northern gateway to the historic city. Finally, the cemetery to the north of zone B should be relocated to an appropriate location beyond the boundaries of the urbanized area.

3.3 Sub-area C. Upgrading zone

Zone C stretches along the northern edge of the Wadi and represents the old city's southern façade. The zone consists for the most part of low-rise interspersed residential structures with the exception of a new four-story residential building with commercial uses in the ground floor.

Rerouting the planned regional highway to Qift to an alignment stretching along the northern edge of the Wadi will divert the through traffic away from the cornice. This rerouting was discussed with ASA consultants and approved by the Governor in April 2001. The intersection with the Qift and Marsa Alam highways should be designed to provide a southern gateway to the historic city.

The tenure of vacant parcels within the zone should be documented and infill housing projects should be encouraged with the possibility of converting ground floors to

commercial uses in properties abutting major roads. Servicing the zone with adequate infrastructure (water supply, sanitary sewerage and drainage) is a precondition to the development of well-designed, higher density housing conforming to height, bulk, and other controls specified in the regulations.

3.4 Sub-area D. Informal housing zone

Despite its informal nature, structures in Zone D are laid out on a grid pattern which anticipates the construction of an appropriate road network. Regularization will entail little demolition and infrastructure systems can be easily extended in the future. The documentation of the tenure and occupancy status of the different land parcels and structures in this zone is critical to facilitate the regularization. Access to adequate infrastructure (water supply, sanitary sewerage and drainage) and a paved primary road network will encourage densification. Finally, the loop road around the consolidated urban fabric should be completed.

3.5 Sub-area E. Replanning zone

Two typologies of informal development are found in this zone. The first in the southern fringe abutting the Wadi, labeled Zone E2, consists of an unplanned, densely built fabric. This informal settlement can be regularized and the alignments of vehicular roads and pedestrian pathways clearly defined. The second zone, labeled E1, consists for the most part of an environmentally and ecologically sensitive area, which is unsuitable for building purposes and should be declared non-edificandi. Households currently living in hazardous areas along the slopes of the “khour” should be relocated; they can receive building plots or resettlement units in the proposed infill housing sites.

This “khour” depression should be kept as an open space and landscaped as a “Red Sea desert park.” The park will be designed to display the Red Sea desert landscape and include exhibits showing local flora and fauna as well as a small museum interpreting the geology and morphology of this unique environment and its different ecosystems. The park is conceived to be a low maintenance amenity. Irrigation water will be provided through the treatment of gray water once the sewerage and drainage systems are in place.

As a regional amenity, the Park is expected to attract domestic as well as foreign visitors including guests at hotels in the region and passengers of cruise ships docking in Qusair. Governorate and city authorities should explore opportunities for public-private partnerships in the development of the Red Sea desert park.

3.6 Sub-area F. New housing zone

Zone F, currently undeveloped for the most part, stretches along the proposed alignment of the Qift highway. Publicly owned vacant land should be allocated for housing projects once the area is adequately service with infrastructure (water supply, sanitary sewerage and drainage). The design of these projects should follow typologies suited to the topography of this zone (e.g. terraced housing). The completion of the loop road around the consolidated urban fabric and the intersection of the loop road with the Qift highway should be designed to provide a second southern gateway to the city. The concrete embankment along the edge of the Wadi should also be improved to enhance its visual appearance.

4. Urban regulations and building code modifications

4.1 Purpose

The purpose of urban regulations is twofold:

- To provide guidelines for public authorities involved in the development and implementation of master plans, detailed plans, and sectoral plans and projects affecting the historic urban fabric of Qusair
- To guide the development and urban management processes by serving as a basis for issuing permits for construction, development, and renovation within the urban boundaries delineated in the master plan for the study area (Zone A1), as specified in the Gubernatorial decree establishing the historic district

The development of the suggested urban regulations for Old Qusair city takes into account national laws and decrees governing urban planning, urban settlements, development standards and building codes, as well as the regional plans prepared by the General Organization for Physical Planning (GOPP). The suggested urban regulations adapt and complement the requirements set forth in national laws, decrees, and regulations to reflect general conditions in Qusair and the specific character of the historic core.

4.2 Land development regulations

4.2.1 The dimensions and surface areas of land parcels allocated for different land uses should conform to the different official norms, standards, and development regulations specified for each use, activity, or zone.

4.2.2 Vehicular and pedestrian circulation networks, public and semi-public open spaces, and vehicular parking zones shall conform to the standards required for public safety and allow the passage of emergency vehicles of appropriate size.

4.2.3 Any parcel of land containing a number of attached or detached buildings on one parcel shall be referred to as “land subdivision.”

4.2.4 It is not permitted to subdivide parcels specified in approved land subdivisions or delineated in the master plan and the detailed plans.

- 4.2.5 The use of a land parcel or buildings erected on a land parcel cannot deviate from the use specified in the master plan. Vacant land parcels should not be used for any purpose prior to construction.
- 4.2.6 It is permitted to assemble two parcels of land for the development of a single building as long as the land assembly conforms to building laws and regulations and the executive and administrative decrees pertaining to the city.
- 4.2.7 Detached, semi-detached, and attached building typologies are authorized as long as the structures conform to building laws and regulations and respect property lines, rights of way, and building lines (“*Tanzim*” lines).
- 4.2.8 Development, construction, expansion, alteration or renovation of any structure requires the issuance of a building permit from the responsible municipal authorities specifying the nature, extent and cost of the approved works.
- 4.2.9 Each land parcel should front on a street, road, alleyway or pathway to ensure unimpeded access to the property.

4.3 General design and planning guidelines

4.3.1 Planning guidelines for residential uses

- 4.3.1.1 Urban upgrading zones are determined in conformity to the approved Old City master plan.
- 4.3.1.2 Urban upgrading, revitalization, and renovation strategies are outlined in the general master plan and must take into consideration the preservation of the natural environment and the conservation of archeological, historical, and cultural resources.
- 4.3.1.3 Urban upgrading programs shall conform to the technical specifications in the general master plan regarding gross and net residential densities, as well as road networks.
- 4.3.1.4 Local development programs implemented by public, non-governmental and/or community-based organizations shall take into consideration the social dimension of development and the needs of local communities.

4.3.2 Planning guidelines for tourist developments

- 4.3.2.1 The location and types of tourist developments shall be specified in the general master plan. The nature and scale of such activities shall not be altered without obtaining the approval of the responsible authorities. Any significant developments should be incorporated in the master plan. The executive decree authorizing the change should clearly indicate the underlying rationale as well as measures taken to accommodate the approved changes and their implications.
- 4.3.2.2 Tourist developments shall respect the public right-of-ways specified in the master plan and these areas shall not be encroached upon or used for parking or other activities. Municipal authorities should clearly delineate the public right-of-ways, consolidate roadbeds, and landscape and plant sidewalks and median strips.
- 4.3.2.3 No structures shall be erected in areas earmarked for public facilities, public open spaces, rights of way, and non-buildable waterfronts. Landscaping works are permitted after obtaining the approval of the responsible local authorities.
- 4.3.2.4 Infrastructure services required by tourist developments shall be provided within the boundaries of the specified sites for such developments and activities.

4.3.3 Design guidelines for developments in Zone A (the historic core, particularly along the corniche)

- 4.3.3.1 Project design should respect the architectural and urban character, and use typologies and morphological elements that reflect the local character of the urban fabric.
- 4.3.3.2 Local and vernacular building materials should be used for morphological and structural components of buildings and building facades, as well as paving and landscaping of public and semi-public spaces. Designs should also be responsive to the local climate by drawing on local, traditional architectural and morphological elements.

- 4.3.3.3 Earth tone colors (yellow to sienna) should be used on building facades, particularly in buildings fronting on main thoroughfares and side streets.
- 4.3.3.4 Natural building materials (e.g. wood) should be used to reinforce the cultural heritage and link to the environment.
- 4.3.3.5 A set of simplified architectural design guidelines particularly as relates to windows, doors, balconies, projections, decorative elements, signage, and street lighting should be developed by the City, adopted by the City Council, and approved by the Governor. The guidelines and models should be made available to property owners and residents wishing to improve their buildings and dwellings.
- 4.3.3.6 Vehicular access within the historic core shall be restricted to limit pollution and preserve the old urban fabric without constraining the access of emergency vehicles for safety reasons (fire trucks and ambulances). Through traffic shall be diverted away from the urban core into the loop road and the ring road. Parking for tourist buses shall be identified.

4.4 General building regulations

4.4.0 Building regulations vary according to the different land uses (residential, services, public facilities, open spaces, circulation network, etc) and the nature of activities, their urban and environmental requirements, their economic feasibility and socio-cultural significance.

4.4.1 Building regulations for new and existing residential uses

- 4.4.1.1 It is permitted to build attached or detached structures that do not exceed three floors in height, including the ground floor, with a maximum height of 11 meters from the sidewalk level.
- 4.4.1.2 The maximum built area in the ground floor (the plot coverage ratio) for residential use is as follows:
- Developments within the historic core: 50% of the total land area.
 - Developments outside the historic core: 60% of the total land area.

- 4.4.1.3 The buildings shall conform with the character of the built environment in the Old City and existing residential zones. Bay windows, corbels and other projections on the front façade should not exceed 10% of the land area or exceed 1.5 meters in depth.
- 4.4.1.4 Exempted from the height regulation are the staircase, water reservoirs, and a service or storage room on the roof floor, if any, as long as these do not exceed 25% of the built area and their height does not exceed 2.5 meters above the top level of the roof slab.
- 4.4.1.5 Basement floors should not exceed the ground floor area and their ceiling level should not exceed 1.2 meters above the ground level.
- 4.4.1.6 Dimensional regulations for habitable rooms, amenities, ancillary spaces, as well as lighting and ventilation requirements shall conform to the stipulation of the building code.
- 4.4.1.7 Projections are not permitted on sidewalls giving onto minimum areas. Side yards must conform to the dimensional regulations as stipulated in the building code.
- 4.4.1.8 It is permitted to build up to the property lines without setbacks provided that the development conforms with the maximum buildable area regulation and that all inner units and rooms overlook inner courtyards that conform to the statutory dimensional regulations. If a building is erected without side setbacks, no openings are allowed on abutting properties.
- 4.4.1.9 The surface area of service courtyards, which provide light and ventilation to the building's amenities, shall not be less than one fifth of the squared height of the tallest façade overlooking the courtyard and not less than 12 square meters. The courtyard's width should not be less than one third of the height of the tallest façade overlooking the courtyard with a minimum of 3 meters.
- 4.4.1.10 External perimeter walls are permitted up to a height of 1.5 meters and the ratio of solid walls shall not exceed 50% of the wall surface. Boundary walls separating adjacent properties can be built entirely as a solid surface

up to a height of 2.2 meters so as to protect the privacy of ground floor residents.

4.4.2 Building regulations for non-residential uses

4.4.2.1 Non-residential uses shall comply with the standards and norms specified in the general master plan. Each land parcel zoned for non-residential use shall be connected to the vehicular transportation network.

4.4.2.2 The use specified in the master plan cannot be altered without the approval of the responsible authorities. Land parcels zoned for non-residential uses cannot be subdivided or used in part or in whole for any other use prior to construction.

4.4.2.3 The maximum buildable area (plot coverage ratio) for each non-residential use is as follows:

- Educational: 30% of the total land area.
- Health care: 40% of the total land area.
- Social services: 40% of the total land area.
- Cultural: 40% of the total land area.
- Commercial: 60% of the total land area.
- Religious: 50% of the total land area.
- Government and public facilities: 50% of the total land area.

4.4.2.4 The maximum height for non-residential uses is two floors, including the ground floor, not to exceed a total height of 8 meters from the sidewalk level unless otherwise specified in the master plan. Mosque minarets and domes are exempted from height restrictions, and it is permitted to build a maximum of two minarets per mosque.

4.4.2.5 Exempted from the height regulation are the staircases, water reservoirs, and ancillary spaces on the roof as long as these do not exceed 25% of the floor area and their height does not exceed 2.5 meters above the roof slab.

4.4.2.6 Side and rear setback areas should conform to the dimensional regulations of the building code and remain unaltered and clear of any encroachment.

- 4.4.2.7 Perimeter walls are permitted up to a height of 1.5 meters and the ratio of solid walls shall not exceed 50% of the perimeter wall surface.
- 4.4.2.8 All external wall finishes, including window shades, should conform to the specified earth tone colors.
- 4.4.2.9 Utility lines including sewerage pipes and air-conditioning units should not be exposed on external facades and should be treated in a way that preserves the architectural character of the old urban fabric.

4.4.3 Building regulations for tourist developments

- 4.4.3.1 The total built area shall not exceed 60% of the total developable land area.
- 4.4.3.2 Building heights shall not exceed three floors including the ground floor with a maximum height of 11 meters from the sidewalk level.
- 4.4.3.3 Parapets are allowed up to a height of 0.90 meter above the roof slab and are included in the total allowable building height.
- 4.4.3.4 Basements can cover up to the full surface of the ground floor. The height of basements above the ground level is counted towards the total allowable building height.
- 4.4.3.5 Building projections and protruding architectural features are permitted on facades provided they do not extend beyond property lines or encroach on public rights (“*Tanzim*” line) specified by the responsible authorities.
- 4.4.3.6 Front and rear setbacks, if any, are treated as a function of the projects’ nature. Rights of way should not be used for parking or other service activities but can be landscaped.
- 4.4.3.7 Shaded areas, pergolas, and open staircases are not included in the buildable area calculations. Shaded areas and pergolas shall not be subsequently altered or their use converted.
- 4.4.3.8 Perimeter walls are permitted up to a height of 1.5 meters and the ratio of solid walls shall not exceed 50% of the perimeter wall surface.
- 4.4.3.9 All external wall finishes, including window shades, are to conform to the specified colors. It is also recommended that the nature of natural building materials (e.g. wood, stone, etc), if any, be preserved.

4.4.3.10 It is recommended that utility networks including sewerage and air-conditioning not be exposed on external facades and that they be treated in a way that preserves the local architectural character.

4.5 Definition of technical terminology

The definition of all technical terms is based on the national laws and executive decrees governing urban planning and land development, and building codes.